STATE OF KANSAS
DATA SHARING ASSESSMENT

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Principal Investigators
Duncan Friend, State of Kansas
Dr. Marilu Goodyear, School of Public Affairs and Administration, University of Kansas

Co-Investigator
Dr. Heather Getha-Taylor, School of Public Affairs and Administration, University of Kansas

Faculty Researcher
Dr. Holly Goerdel, School of Public Affairs and Administration, University of Kansas

Research Assistants, School of Public Affairs and Administration, University of Kansas
Jeannette Blackmar, Doctoral Research Assistant
Erin Borry, Doctoral Research Assistant
Emily Knight, Undergraduate Research Assistant
Adrian Rucker, Undergraduate Research Assistant
Liese Ridgeway Vanatta, Undergraduate Research Assistant
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INTRODUCTION

In the information age, data created and collected by government is a vital asset. Improvements in processes used to govern, collect, use, and dispose of data can directly drive improvements in the management of state government business. Better collection and use of data can improve efficiency, policy making, and performance measures that help decision makers understand what does – and doesn’t – work. Improving access to government data can also fuel economic development and provide citizens greater access to engage their government and make better informed decisions.

In considering how data might be used to improve outcomes, it is important to recognize that the delivery of government services is changing. And, this transformation is accompanied by powerful improvements in the information technology systems that support these new ways of doing business. Services may now be delivered based on partnerships that span multiple state agencies, and involve non-profits or private business partners who provide both systems and services. Delivery may also involve “vertical” relationships with the federal government and with local units such as cities and counties. Finally, within state agencies, new modes of working now frequently involve collaboration and project-based work that require information to be collected and used in new ways to provide integrated solutions. In each case, data and the technologies that support its collection and use have often become more flexible and distributed in nature, making use of the Internet and web services, email, and collaboration software to match tool to task.

While innovations in information technology have the potential to deliver big gains in productivity and responsiveness, those gains can only be realized if such investments support the data sharing needed to improve decision making and service delivery. In turn, non-technical barriers to collaboration and data sharing – policy, statutory, governance, or workforce training and incentives, must be considered as part of realizing the promise. In addition, it is important to educate the public, lawmakers and policy makers about the power of data sharing to make program improvements, as well as how private information (personal and organizational) can be protected.1 This report focuses on two fundamental aspects of data sharing: collaboration and data management. Successful collaboration is key to any cross organizational activity but is often overlooked in information technology projects. Chapter 1 outlines best practices and lessons learned in the development and growth of data sharing initiatives gained from an examination of two successful Kansas data sharing collaborations. Key success factors for these collaborations are identified in hope that they can serve as models for similar projects. Chapter 2 reports on a qualitative survey of workforce readiness for collaboration and data sharing and provides recommendations for collaborative competencies and training.

1 Other states have engaged in these activities. See Colorado’s summary document cited in Chapter 4 for an example (Colorado Governor’s Office of Information Technology, 2010).
Likewise, effective data management provides the foundation upon which the ability to share data across organizational boundaries depends. Chapter 3 provides an overview of the policy environment around data sharing in Kansas state government including an examination of statutory restrictions. The chapter includes a tool for criteria for making decisions on sharing data along with recommendations for organizing to support data sharing. Chapter 4 provides a high-level review of the state’s existing data sharing standards and adoption as well as recommendations for advancing the use of data standards based on successful experience in other states.

While this report focuses mainly on the “soft” side of data sharing, it also includes recommendations that support efforts to align the technical infrastructure of the state with expanded data sharing as outlined in Governor’s IT Initiative 18 Formalize and Enforce Data Sharing Standards.
CHAPTER I

Learning from Success: Key Elements from Kansas Data Sharing Collaboratives

By Holly Goerdel and Marilu Goodyear

APPROACH AND METHODOLOGY

The goal of the following case studies was to identify critical elements in the development and growth of data sharing initiatives in Kansas state government that have been recognized as successful by the IT community, agencies, and user groups. Our goal with this chapter is not to provide a comprehensive review of these projects, but instead highlight key elements which have contributed to, and at times challenged, their success. The first case is the geographic information systems (GIS) collaboration managed by the Data Access and Support Center (DASC), a statewide policy board, and its director. The second case is the Kansas Criminal Justice Information System (KCJIS) managed by a director, a policy committee and a leadership committee.

Data used in the study were collected from each collaboration through semi-structured, first-person interviews conducted in summer 2011 and review of documents relating to the history, governance, and technical structure of each data sharing collaboration. For the GIS Collaboration, eleven interviews were conducted with its Director and a variety of GIS Policy Board members, staff, and leaders who have been involved in the collaboration over time. For KCJIS, seven interviews were conducted with the Director and members of the KCJIS Committee. Each interview averaged one hour in length. Interview data were analyzed to examine themes related to: 1) the development of collaborative governance and leadership over time, 2) the contribution of information policies to collaboration, and 3) stakeholder views of collaboration.

This study identifies several critical elements which are common to successful state data sharing initiatives. These elements reflect the research on collaborative efforts within the field of public administration and information technology. The study found these success factors as predicted by the literature cited.

1. Experienced leaders who are technically competent and have strong collaborative skill sets are consistently present within the collaboration (Morse, 2008; McGuire, 2006).
2. A common framework exists to guide the collaboration through a common technology or common discipline/domain (Agranoff, 2006).
3. Those involved in governance are able to balance among orientations of technical, policy and strategy and develop trust-based relationships with participants (McGuire, 2006; Creswell, Pardo, et al., 2005).
4. Organizational structure which provides both connection and independence between operations and policy (Thomson & Perry, 2006).
5. A shared motivation is embedded in the collaboration that has two components: a “need to share” mentality and a “benefit to all” mentality (Dawes, Cresswell, & Pardo, 2009).

GEOGRAPHIC INFORMATION SYSTEMS DATA-SHARING: Leading Access across Agencies and Levels of Government

History

The GIS Collaboration in Kansas is based on two key elements. First, it is based on the historical need to develop management strategies for commonly shared statewide resources, beginning with water. Second, as strategies began to take shape it became clear that stakeholders shared a belief that GIS (geographical information systems) technology could make major contributions to governmental effectiveness, whether regarding statewide resource management or other key efforts. In 1981, Governor John Carlin formed the Kansas Water Office to address the issue of statewide resource management, of which Joe Harkins became head in 1985. Harkins then marshaled technical expertise and project management assistance from Kerry Wedel to lead the transitional effort from managing data using paper-based formats into then new GIS technology (Wedel, 2010).

During the inception period, spanning from 1985 to 1988, the Kansas Water Data Committee and Water Steering Committee provided the primary coordinating framework of the Kansas GIS Initiative. Several agencies represented on the committee were actively engaging in GIS and automated mapping technology for transportation, land appraisal and parcel mapping, natural resources and legislative redistricting. The participants recognized that all GIS applications relied on the availability of digital geographic data sets on which applications could be built. They also recognized that development of these ‘core’ datasets on a statewide basis was costly and could most efficiently be accomplished through a coordinated, multi-agency effort. Hence, the recognition of joint need and inability of individual agencies to afford the technology were two prime motivators for the collaboration (interviews 8-10-2011, 8-31-2011). The Kansas Water Office took a lead role in providing staff support for this effort as part of its State Water Planning & Coordination responsibilities (Wedel, 2010).

In 1988, the Kansas Water Data Committee issued a report outlining the Kansas GIS Initiative (Kansas Data Water Committee, 1988). Key components of the proposed initiative included:

- Establish a Kansas GIS Policy Board (local, state and federal agency heads)
- Establish a GIS Technical Advisory Committee
- Establish a State GIS Coordinator Position
- Develop a Core GIS Database and provide funding for Database Development
- Establish a Data Access and Support Center
These components established a degree of collaboration readiness early in the planning and inception process by specifying key actors, addressing a combination of technical and management demands for expertise, and by making the case for funding and coordination needs. Future planning and management builds on these components, contributing to the development of collaboration readiness over time. Two key building blocks were the creation of the GIS Policy Board and the establishment of the Kansas Data Access and Support Center (DASC).

The GIS Policy Board was established in 1989 by Governor Mike Hayden by executive order during a period of restructuring for the collaborative. The Policy Board was led by the director of the Kansas Water Office. The purpose of the board, and its first key committee, was to be a clearinghouse to coordinate technical advice and recommendations on GIS development and implementation issues. The first GIS coordinator for the board also came from among staff at the Kansas Water Office. This close historical relationship between the GIS Collaboration (and later, DASC) and the Kansas Water Office persists as annual funding was provided in subsequent years from the State Water Plan fund for development of the Kansas Core GIS Database in cooperation with other funding partners.

A second structural development during this period was the establishment of the Kansas Data Access and Support Center (DASC) in 1991. The purposes of DASC were to house core datasets of interest to the State and facilitate distribution of GIS data to local, state and federal users. Due to the obvious link between the GIS data needs of the state and similar needs of the Kansas Geological Survey (KGS) located on the University of Kansas campus, it was agreed that KGS would become the home of DASC. Thomas D. Mettille was the lead manager of DASC from 1991 to 1997, at which time Ken Nelson was hired as manager of the full operation. The concurrent development of the Policy Board and DASC during this period of history provides a strong rationale for their continued, close relationship today. An analysis of the current governance model of the GIS Collaborative demonstrates this point, as well as several structural features that contribute to effective collaboration in the present environment.

**Governance**

There are two key elements to the governance of the GIS Collaborative: DASC as the coordination organization for the collaboration and the GIS Policy Board as the overall governance body.

DASC is a part of a nationwide network of State Clearinghouses for GIS information. This network shows a variety of organizational structures currently utilized by the states but most within traditional state structures. The organizational structure of DASC at the time its formation offered a distinctive model of data sharing collaboration compared to most at the state level. DASC is not physically located in state government offices and was instead located within the Kansas Geological Survey (KGS) which is physically located on the University of Kansas campus in Lawrence. KGS is integrated into the research environment at KU providing normal elements of research support provided by a research university (grant support, IT

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support, library services, etc.) as well as academic environment access to other scholars. The physical and staff location of DASC within the Kansas Geological Survey (KGS), gives DASC the ability of being in the state, but not of the state. This ability to serve state needs while remaining separate from state agencies in Topeka is generally seen as strength for the collaboration. In particularly, being a part of the KGS has enhanced resource efficiency and provided the benefit of being in an academic environment (as opposed to a state government environment). The tradeoff has been potential loss of political support from state agencies (interviews 8-2-2011-1, 8-25-2011).

The placement of DASC within KGS has brought to the collaboration two important elements of resource efficiency. First, the ability to share staffing costs with KGS has provided staffing stability despite the ups and downs of funding, whether state funding or outside grants. Secondly, the ability to split funding for full time positions has enabled KGS management to keep staff that might otherwise have been lost, enabling the collaboration to take advantage of the technical skill sets and institutional knowledge of these staff (interviews 8-3-2011, 8-17-2011).

In addition, the academic environment has provided an atmosphere of more “innovation thinking” for DASC staff with access to scientists who utilize GIS tools in their research, while also staying in touch with colleagues at other universities and government research facilities dealing with advancements in the creation and use of GIS data and technologies (interview 8-17-2011, 8-25-2011).

The provision of university technical infrastructure, particularly a robust research network, has also been a distinct advantage for DASC as they contribute to formation and implementation of current and future goals held by the State (interview 6-29-2011, 8-3-2011-2). Furthermore, the perceived bureaucratic orientation common in many state agencies’ operating environments is not viewed as a productive atmosphere for daily GIS collaborative work.

Whereas attractive benefits may flow from resource efficiencies, as well as from being embedded in an academic environment, there is a perception that a key tradeoff is that a distant relationship with state agencies has resulted in less advocacy from state agencies and support for the collaboration (interview 6-29-2011; 8-11-2011; 8-17-2011). This has led to a number of differences in how certain collaborative efforts are valued by various stakeholders and elected officials.

The function and role of the GIS Policy Board was mostly recently outlined in Executive Order 06-08. It provided for a collaboration with a mechanism to consistently identify and serve agency needs, such as opportunities for agencies to participate in the coordination, review and use of GIS data. Another way the Board serves agency needs is by envisioning within their role the place for broader institutional values about use of technology and legitimacy.
The Board role was defined as follows:

1. The Board shall establish public and private partnerships throughout Kansas to maximize value, minimize cost, and avoid redundant activities in the development and implementation of geographic information systems.
2. The Board shall foster efficient and secure methods for data sharing at all levels of government.
3. The Board shall coordinate, review, and provide recommendations on geographic information systems programs and investments and provide assistance with dispute resolution among geographic information systems partners.
4. The Board shall continue to establish Kansas’ leadership role in the national effort to improve capabilities for sharing geographic information and ideas with other states.
5. The Board shall promote the use of geographic information systems technologies as tools to breakthrough structural and administrative boundaries to collaborate on shared problems and enhance information analysis and decision-making processes within all levels of government.
6. The Board shall be a standing advisory committee to the Information Technology Executive Council, and shall provide a copy of its annual report to the Council, as well as to the Governor and Legislature (Executive Order 06-08).

These defined roles reflect two important aspects of the collaboration. First, its mandate is broad and not limited to state government; the role is defined across levels of government and sectors. Secondly, the Board’s mission is to not just to coordinate the use of GIS in the state, but “promote” the use of the technology. This broad purpose provides the collaboration with legitimacy it needs to reach out to any user who finds the technology of great benefit.

During the 2012 Legislative Session, House Bill No. 2175 was passed moving the GIS Policy Board away from Executive Order and into Kansas Statutes. This bill defines a new governing body, the Kansas Geographic Information Systems Policy Board with very similar responsibilities to the former GIS Policy Board. The GIS Policy Board encompasses a variety of actors enhancing the legitimacy of the collaboration with the strength of the representation.

The members are defined as follows:

The board shall consist of 23 members:

(1) The governor shall appoint 11 members as follows: Five representatives of local government, including cities, counties or local government consortia of cities, counties, non-profit and private sector enterprises. Such members may include, but are not limited to, representatives from city and county commissions or planning councils, tribal government, law enforcement, county clerks, county appraisers and emergency planning divisions; two representatives of the board of regents institutions; and two executives representing the private sector. Members from the private sector may include, but are not limited to, representatives from the trucking industry, utilities, telecommunications, publishers, agriculturalists, oil and gas industry, chambers of commerce, aircraft and auto industry and the banking community; and two representatives from relevant statewide
businesses or professional organizations, such as statewide associations of groundwater management districts, emergency planning, law enforcement, licensed surveyors and other relevant technical professions or agriculture-related businesses.

(2) The remaining 12 members shall be:
   
   (A) The executive chief information technology officer of the office of information technology services or such officer’s designee;
   (B) the director of the Kansas water office or such director’s designee;
   (C) the state biologist of the Kansas biological survey or the state biologist’s designee;
   (D) the state geologist of the Kansas geological survey or the state geologist’s designee;
   (E) the executive director of the Kansas historical society or such executive director’s designee;
   (F) the secretary of agriculture or such secretary’s designee;
   (G) the secretary of health and environment or such secretary’s designee;
   (H) the director of legislative research of the legislative research department or such director’s designee;
   (I) the secretary of revenue or such secretary’s designee;
   (J) the secretary of transportation or such secretary’s designee;
   (K) the state librarian or such librarian’s designee; and
   (L) the executive director of the information network of Kansas or such executive director’s designee. (House Bill 2175)

The study interviews, conducted before the 2012 statute change, indicate both strengths and weaknesses of the governance process. Board members have a dual orientation towards both management/policy and technical issues. Technical sub-groups effectively supply additional expertise in keeping the collaboration current in its use and development of technology (interview 8-2-2011-2). However, some on the board believe that too much of the board discussion is focused on technical aspects of the collaboration as opposed to more strategic discussions (interview 8-3-2011-2), and that detailed technical discussions can overwhelm both new and continuing board members (interviews 8-2-2011-2, 8-3-2011-1, 8-8-2011). The evidence points to a need for the Board to focus less on the technology and more on the strategic use of GIS for effective government. It is interesting to note that too technical a focus might be a function of a collaboration based on a technology instead of other content areas. A more robust Board member orientation process was suggested as one solution to helping the Board understand its role in leading the state GIS effort (interview 8-11-2011).

The decision environment surrounding DASC’s collaborative efforts includes conflicting priorities and perspectives common to administrators working within political systems. However, the Board is seen as having a “neutralizing effect” when dealing with conflicts among priorities, especially with regard to funding decisions (interview 8-2-2011-1). This neutralizing effect comes from the Board’s ability to adapt its governance structure to ensure funding decisions are not made with a narrow focus by those proposing the project priorities (interview 8-17-2011) and effectively dealing with conflicts of interest in these decisions.
The size of the Board is also thought to compromise its effectiveness; some of the defined members are not strong participants even though their agencies could play a critical role in providing GIS data (interview 8-2-2011-2). A more strategic view of the role of the Board might also place a greater emphasis on key players in each agency that has or utilizes GIS data and participation from non-state players like the relevant federal agencies (interview 8-3-2011-2). The GIS Strategic Plan outlines a robust vision and goals for the collaboration as well as a SWOT analysis, but is in need of updating, particularly given the progress made in data sharing in other areas in the state (KITO, 2008). A strength of the plan is its ability to “speak to a diversified group” and emphasize outreach (interview 8-2-2011-1, 8-2-2011-2). Recognizing the importance of local knowledge in ensuring the accuracy of the data, the Board has been particularly effective in reaching out to local governments; by building relationships and providing a means for those local agencies to share and store their data (interview 8-2-2011-1; 8-2-2011-2; 8-17-2011).

The legislation passed in 2012 sought to raise awareness and broaden the acceptance of GIS technologies for decision support. The passage of House Bill 2175, known as the Kansas One Map Act, reflects many of the strengths and weaknesses noted in this study. In general, a smaller, but still broadly representational board will be tasked with continuing the successful data sharing initiatives already known, while focusing more on policy, strategy, and standards in moving state agencies toward more reliance on consistent, authoritative, available data and services from a single source and available to all.

In this section, an analysis of key aspects of governance reveal five features that contribute to effective collaboration for information-sharing like that performed by the GIS collaborative:

1. An organizational structure that provides both connection and independence between operations (DASC, located at KGS) and policy (Policy Board in Topeka).
2. Embedding roles with broader institutional values about use of technology and basis of legitimacy.
3. Managing for a balance between dual orientations of technical and strategy.
4. Governance models that can produce a neutralizing effect on conflicts around priorities, where appropriate, balancing stakeholder’s interests.
5. Institutionalize the capacity to integrate knowledge and perspectives from local stakeholders

Open Information Policies Drive Collaboration

Information policies hold implications for practical data sharing practices, attracting participation of key stakeholders, and for data quality. First, an important information policy decision was made at the beginning of the GIS collaboration: data would be paramount in the collaboration and shared freely (interview 8-10-2011). DASC chose to accept only data available to the public and to store data at no charge to users (interviews 6-29-2011, 8-25-2011). As GIS data became more important to the homeland security function, the Adjutant General’s Office became a central focus of non-public data, thereby providing means for managing both types of data (interview 8-2-2011-2, 8-25-2011). The decision to focus on public data relieved the collaboration from the privacy challenges that are a part of other data sharing initiatives. These
decisions had implications for practical data sharing practices going forward, as well as for attracting stakeholders to the collaboration given that their data would be open and usable.

Secondly, the decision to hold data without charge became a “key factor in getting stakeholders to participate” in DASC, particularly the local governments (interview 8-3-2011-2). DASC’s role as a data storehouse and back-up for GIS data from state and local agencies is a key component to the success of pulling in variety of GIS data from governmental entities (interview 6-29-2011, 8-3-2011-2, 8-3-2011-3). DASC has utilized a variety of strategies to gather GIS data including federal data obtained for free; use of funds from the Water Office to fund data gathering projects; and obtaining data from local governments. The DASC data sharing model has been somewhat compromised by two issues: 1) Some local government projects have claimed intellectual property rights, and 2) the approach by some federal agencies to outsource data development to private sector firms (interviews 8-2-2011-1, 8-3-2011, 8-25-2011). However, so far the collaboration has effectively side-stepped these issues, preventing them from becoming major barriers to the work.

Third, the open nature of the data also has resulted in improvements to its quality. An interviewee with substantial nationwide experience in accessing GIS data for providing services described how significant the Kansas experience is compared to other states:

“I’m not going to say they are not available in other states. But if they are, and I’ve looked for them, they’re pretty well hidden. …Where I have a similar kind of request or need, I don’t know where to go. I simply go out and start Googling and see what I come back with. And then it does seem like there are inconsistencies in the data, and sometimes we do find things that at least make us think twice about actually how valid the data are. But I do see Kansas being way ahead terms of data that’s available, accessible and reliable, and that’s not something that I’m seeing elsewhere….I would say, completely attributable to the work that the Policy Board has done.” (interview 8-8-2011).

The information policy values reflected in these decisions, therefore, contribute to practical data sharing practices, attracting participation of key stakeholders in collaborative data activities, and data quality. Chapter 3 outlines the information policy values of access, effective government, privacy and security. These values are reflected in the information policy choices made by the policy board and DASC. The collaboration’s strong emphasis on access to data has resulted in a clear path for information policy decisions concerning the promotion of data standards and free availability on the website. A strong belief in the importance of using data for government decision-making drives participants to emphasize broadly defined needs when making decisions about what data to collect and make available. When the homeland security environment changed, DASC and the policy board effectively incorporated security concerns in their work while at the same time remaining true to the focus on access.

From this review, three key observations can be made about the contribution of information policies to effective collaboration of information-sharing:

1. Initial determinations concerning the value of data sharing have a robust shelf life and continue to shape and inform the formation and interpretation of later policies,
standards, and practices. The decision to focus on publically available data continues to serve the collaboration well.

2. The practical use of data drives decisions on data collection, data standards, and easy access. Providing for the hosting of the data in a free-to-the-public web presence has enabled the collaboration to expand its reach with users.

3. A collaboration for information-sharing requires integrative thinking about information policies, values, standards, and practices and adaptation as environments change (Cresswell et al., 2005). The GIS collaboration chose an initial path, guided by insightful leaders, which enabled it to revise and adapt as the nature of the collaboration changed (interview 8-10-2011).

**Strong Base of Stakeholders**

Whereas there is diversity among participants (as discussed in previous sections), there is also marked convergence on key motivations for collaborating. First, motivation to participate in the collaboration is based upon jointly identified needs and an “ethos” of collaboration held by the GIS technical community. Collaborative ethos has two components in this case. The ethos is credited with a true “need to share” frame of mind, with participants emphasizing its role in “governmental efficiency” (interview 8-8-2011) and ability to leverage resources through the collaborative as "force multipliers" (interview 8-11-2011). Interview data point to the sharing mentality of the GIS technical community as a factor in the success of the collaboration (interviews 8-3-2011-1, 8-3-2011-2, 8-3-2011, 8-8-2011, 8-25-2011). The GIS community also felt “exceptional” and thereby developed professional networks based on the basis of sharing, rather than “need to know”, thus reinforcing the ethos and providing a firm foundation for ongoing collaboration.

The second component of collaborative ethos is evident through how the strong base of stakeholders provide to the Board an "enterprise frame of mind" (interview 8-25-2011), while deploying a "benefit to all" character when making funding decisions (interview 8-3-2011-1, 8-3-2011-2). One member notes:

“I’ve always been consistently impressed with the manner in which the meetings and the activities that they control are handled. I’ve been involved enough in internal development – at least from the user perspective – to know that it is difficult to corral groups. And although some of the discussions in the meetings are spirited, I think they’re always very effective; and in the end (achieve a) consensus – I mean in the strictest conventional definition of the word where nobody gets everything they want but everybody agrees to put their best foot forward.” (interview 8-8-2011).

Third, given the collaboration was born from the need to manage data related to statewide water resources, the collaboration has subsequently been strengthened by other needs for data anchored in spatial dimensions, such as those dealing with land use, property valuation, and emergency management needs at local, state, and federal levels (interviews 8-3-2011-1, 8-3-2011-2). Finding these uses combined with the joint vision has driven the collaboration forward. One Board participant noted:
“There’s hardly a meeting that goes by where someone doesn’t share a story about how valuable data was in an emergency or because of a system’s barrier and some tax records lost. I mean, there’s always something that comes up; and at least to me, these are kind of “aha” moments” (interview 8-8-2011).

Despite these stakeholder advantages, however, interview data point to how the stakeholder group has had less success gaining dependable political support and has linked that weakness to the lack of robust funding for ongoing collaboration (interviews 8-3-2011-1, 8-3-2011-2, 8-11-2011). Whereas the Water Office has provided a consistent stream of funding (interview 8-25-2011), the lack of funds to pursue more projects of mutual importance is systematically noted by participants. More financial support could allow the collaboration to move forward technically and at a faster pace to respond to demands for data with the potential for increased scope of impact, such as the recent LIDAR (Light Detection and Ranging) project, a technology which allows the measurement of distance with light (interview 8-3-2011-2). Recently, a more strategic direction has been defined with the new Kansas OneMap initiative. As noted previously, coming out of the 2012 legislative session, OneMap establishes a road map and strategic plan for the exchange of geographic information across government organizations (House Bill 2175).

In this section, key aspects of stakeholders reveal four insights about the contribution of stakeholder groups to effective collaboration:

1. When dealing with diverse stakeholders, identify converging sources of motivation as a starting place from which to engage.
2. An effective shared motivation is embedded with collaborative ethos, which has two components: a “need to share” mentality and a “benefit to all” mentality.
3. Professional networks among participants serve as institutions that can reinforce collaborative ethos.
4. Finding new uses for data can redefine the joint vision in productive ways.

**Leadership: Collaborative and Technical**

The success of the DASC and GIS Policy Board collaboration also echoes the elements of leadership outlined in Chapter 2. First, the stability of leadership at top levels provides administrative continuity for the collaboration, especially regarding sustainability of funding. Interview data credit GIS Director Ivan Weichert’s leadership as an important factor in holding together stakeholders and funding. Particularly important is the leadership experience at multiple levels of government – the state and local level – bringing credibility across the stakeholder base (interview 8-11-2011, 8-3-2011-3).

Second, the continued support from KGS as well as the long-term presence of DASC Manager Ken Nelson’s technical expertise are cited as important factors in the ability of DASC to provide leadership to the collaboration. Two key features are particularly notable. First is Nelson’s contribution to managing a culture of learning and experimentation, and second, the ability to foster leadership from places other than the top (interviews 8-22-2011, 8-25-2011).
An example of the last is the amount of relational, interpersonal aspects of data sharing that are managed by mid-level staff experts (interview 7-1-2011). The leadership by mid-level employees is demonstrated within efforts to develop and maintain trust between producers and users of data from various jurisdictions, by fostering the “two-way street” of reciprocity, and by “selling the value” of data sharing with direct and indirect stakeholders. In this way, leading the human relations side of data sharing reappears in interview data as the domain of employees in places other than top echelons (interview 7-1-2011; 8-2-2011-2).

Finally, technical leadership of the collaboration has also been a key factor of success. Regarding challenges, Ganapati (2011) notes, as the GIS technology has matured from a specialized technical desk-top technology to a web technology, many organizations have struggled to maintain support for the technology transitions. The robust DASC web site is a growing, visible demonstration of the steady technical leadership provided to DASC. An early emphasis on data standards and collaboration with the Environmental Systems Research Institute (ESRI), a private sector firm providing GIS software, has helped to advance the collaboration (interview 8-25-2011). See Chapter 4 for further discussion of the importance of data standards. The operation is currently known for its technical expertise; for example, one of the interviewees rated the DASC operation as “in the top 5 in the country” (interview 8-3-2011-1). One continuing technical challenge is the need to continually update data standards and adapt them for those stakeholders with limited ability to meet detailed standards (interview 8-2-2011-1, 8-3-2011-1). Competition for expert technical staff is also an ongoing risk factor for the collaboration (interview 6-29-2011, 8-17-2011).

Taken together, these highlights reveal three ways in which leadership contributes to effective collaboration for information sharing:

1. Leadership stability and intergovernmental experience bring credibility across the stakeholder base.
2. Leadership is not the exclusive domain of those at the top; mid-level employees exhibit leadership on the “human relations” side of data sharing.
3. Technical leadership involves support through technology transitions.

**Conclusion: Key Elements of Success**

Visionary leadership played the most significant role in the beginning of the GIS collaboration and has continued throughout its history. First, the insight of political appointee directors at the Kansas Water Office and strong managerial and technical leadership is credited for the consistency of the funding and the provision of important services by DASC. Second, the organizational marriage to KGS on the KU campus is credited with the ability of DASC to innovate as GIS technology has changed. The dual orientations of strategic and technical leadership played a significant role in success.
There were also other critical factors that resulted in this successful collaboration.

- A clear need for access to GIS data and technology for its effective use in a variety of governmental services, given the relevance of geospatial analysis to almost every governmental service.
- A governance model that produced a neutralizing effect on conflicts around priorities with appropriate balancing of stakeholders’ interests.
- A strong “need-to-share” attitude in the GIS professional community helped set policies emphasizing openness and sharing from the beginning.
- A strong diverse stakeholder group with a shared motivation consistently supported by a stable leader with credibility across the stakeholder groups.
- A link to local governments and to private sector users of GIS has provided the collaboration with a broader perspective (beyond state agencies) which has allowed it to ensure data quality through use and feedback by these expanded players.

While some of these factors are unique to both this collaboration and the technology (the need for geocoding of data for a wide variety of functions), there are important lessons to be learned from the success of this collaboration. These elements can be instructive in the design, implementation, and ongoing work of future data sharing initiatives in the state.

KANSAS CRIMINAL JUSTICE INFORMATION SYSTEM: Overcoming Boundaries to Pursue a Joint Mission

Collaboration Readiness: A Common Need and Stakeholder Investment

In 1989 the state instituted sentencing guidelines which primarily used criminal history to determine sentencing, creating an instant need for access to criminal histories by the courts. As the state began to use criminal histories for these purposes it became clear that collaboration across a wide variety of law enforcement and justice agencies was needed to ensure complete records. In 1994 the state legislature created the Kansas Criminal Justice Coordinating Council (CJCC) to focus executive leadership on the problem of incomplete and inaccurate criminal histories. (K.S.A. 74-9501). Leadership of the Council was itself a coordinated effort from the sitting director of the Kansas Bureau of Investigation (KBI), Chuck Sexton, with additional leadership from the Attorney General’s Office, and Neil Woerman in particular.

Early members of the collaboration reported a critical point in the early formation of the collaboration. The forward thinking KBI director reached out not only to criminal justice stakeholders across the state but also included key stakeholders from the education, health, and revenue domains. These noncriminal justice stakeholders were seen as key to the effective administration of the criminal justice system, public safety, and cost effective management of overall policy outcomes given the relationship of crime to social problems. Therefore, the initial vision of the collaboration as a “one stop shop” for electronic access to criminal justice records would include direct stakeholders such as law enforcement organizations, as well as supportive
stakeholders from noncriminal justice organizations such as health. The commitment to a more inclusive stakeholder environment was thus captured in the earliest mission of KCJIS:

“to create and maintain an accessible, and appropriately secured, criminal justice information repository with accurate, complete, and timely data on individuals and events for criminal justice and noncriminal justice users that supports effective administration of the criminal justice system, public and officer safety, and public policy management in a cost-effective manner within the state of Kansas.” (Courtney correspondence, 2012)

Key objectives emerging from the mission were also imbued with values of quality and timeliness, standards of appropriateness for sharing data, consideration of the public’s civil liberties, the strategic value of information sharing for future policy development in law enforcement, and adaptive character needed for the information environment. They included the following:

1. Develop and maintain the systems necessary to ensure an accurate, timely and comprehensive collection of criminal history information that meets local, state, and federal standards for data quality and timeliness;
2. Develop and maintain the system in such a way to ensure that it is compatible with the emerging national criminal justice information environment;
3. Increase utilization of the system by providing on-line access to the appropriate information for the system's primary and secondary customers;
4. Ensure the system's ability to migrate over time with technology advancements;
5. Increase cost effectiveness of the system by reducing the manpower associated with the inputs and outputs of the system at both the state and local level;
6. Ensure the state’s ability to manage and continue to expand the functionality of the system;
7. Increase public safety by developing and implementing a centralized criminal justice information repository;
8. Maintain an information resource that seamlessly supports the operation of the criminal justice system by providing operational, statistical and policy data to all authorized members of the criminal justice community;
9. Maintain a CJIS that respects the privacy rights of every citizen in Kansas. (Morton, 2001)

KCJIS approached their mission and objectives with a pilot approach, meaning they tested ideas and implementation within single units and then small groups of units before embarking on widespread application. For example, given that the KBI was the central repository for criminal history records, the initial focus of the project was to improve the core systems at the KBI. This provided information about how to create an integrated criminal justice system involving state and local agencies (Courtney correspondence, 2012).

The Council then leveraged its structure to form a subcommittee to pilot the idea of an incident-based reporting system among a subset of units. The subcommittee included representatives from Kansas’ four largest police departments (serving populations larger than 100,000 persons) and two smaller law enforcement agencies. The four major
agencies represented 75 percent of the incidents and arrests reported in Kansas. The key recommendation of the subcommittee was to support the continuity of existing state standards for collection of information, while supporting national standards for the reporting of information (i.e. National Incident Based Reporting System, NIBRS).

In this case, collaborative readiness is evidenced through an inclusive vision and stakeholder approach, as well as through a pilot approach to testing collaborative ideas and initiatives. Three approaches in particular contribute to effective information sharing:

1. As part of early leadership in collaboration, invest in a mission that includes nondirect stakeholders (e.g. noncriminal justice users) due to their role in supporting and potentially benefiting from the effective administration of a collaborative function engaged in by direct stakeholders (e.g. criminal justice users).
2. Imbue the mission’s objectives with values that serve collaborative information-sharing, such as quality and timeliness, standards of appropriateness for use, public privacy, the long-term strategic value of information sharing for future policy development, and adaptive character needed for the information environment.
3. Adopt a pilot approach to collaboration that allows stakeholders to test ideas in narrower implementation environments before initiating widespread application.

Governance and Leadership: Joint Mission, and Skilled Collaborative Leadership

The KCJIS Committee is the overall group providing governance for the KCJIS data collaboration. According to statute the Committee is:

“composed of the following persons or their designated representative: (1) The secretary of administration, who shall serve as chairperson; (2) the director of the Kansas bureau of investigation; (3) the superintendent of the Kansas highway patrol; (4) a sheriff as designated by the Kansas sheriff’s association; (5) a chief of police as designated by the Kansas association of chiefs of police; (6) the secretary of the Kansas department of corrections; (7) the commissioner of the Kansas juvenile justice authority; (8) the judicial administrator of the office of judicial administration; (9) a prosecutor as designated by the Kansas county and district attorneys association; (10) a court administrator or clerk as designated by the Kansas association of district court clerks and administrators; and (11) an administrator or director of a public 9-1-1 communications center as designated by the Kansas 9-1-1 providers association.” (KSA 74-5701)

The KCJIS collaboration came together based on a joint mission and need relating to access to criminal records. This joint mission along with the common framework of law enforcement has played an important role in allowing the collaboration to maintain its momentum (interview 9-23-2011). The trust built and maintained among the leadership is the most important factor in the success of the Committee (interview 9-23-2011-1).

The combination of an “obvious joint benefit” and voluntary action enables the committee to start from a place of trust (interview 9-23-2011). Participants report that there is little disagreement on direction, despite the potential for territorial interests playing a prominent role (interview 9-23-2011-2). The makeup of the Committee guarantees that the group remains
grounded in “the local agency needs” but sometimes mitigates the ability of the group to think more “strategically about the future” (interview 9-23-2011-2). Whereas the common law enforcement perspective is a strength of the collaboration, it has the potential to become a blind spot for identifying areas in improvement and pathways of engagement as the collaboration works with other noncriminal justice organizations (interview 9-23-2011; 10-6-2011).

Joint mission and need is further supported by the official role of the Committee, which was defined fairly broadly and included both technical and policy management aspects. First, it “shall establish, maintain and upgrade the criminal justice information system, by adoption and enforcement of a minimum standard of computerized database information exchange, to interconnect each county of the state into a unified electronic information system, with at least one designated outlet or terminal in each county.” Secondly, it was linked from a policy perspective to the Criminal Justice Coordinating Council in that the “committee shall inform the council and request its comments regarding proposed rules and regulations, policies and standards proposed by the committee and proposed projects which would expand or modify the criminal justice information system or its services.” (K.S. A. 74-5702)

The structure of the Committee along with its leadership definition has been a key element in the success of KCJIS (interview 9-26-2011, 10-11-2011). While all of the major stakeholders are at the table, the Department of Administration chair provides leadership that is not directly tied to any one of the criminal justice agencies. The chair appointments have varied over the years, some providing more technical perspectives, some with a legal perspective and some with a managerial perspective. It was reported by several participants that chairs that brought a broader perspective to the table were more successful in leading the group through difficult discussions about priorities (interviews 9-23-2011-1, 10-11-2011). This underscores the important contribution of leaders who bring perspective beyond technical point-of-view to the broader goals of the collaboration, as well as not having a direct stake in priority discussions. This is not to say that these individuals do not need an understanding of the technology or at least a willingness to listen to technical staff perspectives, but the weight of the contribution stands on two important skill sets: “the ability to be visionary” and “the ability to get along with others” (interview 10-11-2011).

The leadership of the collaboration also points out the significance of the “direction from the top.” Strong sponsorship from top executives and also clear directives from the legislature have both played a part in progress of KCJIS despite changing players at the agencies. It was noted that the value of “right person with the right directive” should not be underestimated (interview 10-11-2011). This observation also underscores the value of institutionalizing collaboration beyond individual participants.

Individuals interviewed for this study commonly pointed to the critical role of sustained professional collaborative leadership for the project. The consistent presence of Gordon Lansford in the director role has provided the needed “glue” for the project as leaders have changed in the agencies. Continuity in leadership has proven to allay potential negative consequences related to turnover by other participants in the collaboration. The Director has
provided vision when dedication to the collaboration has lagged, a “can do” attitude when challenges were faced, and steady professional leadership capable of finding resources across state and local government (interview 9-23-2011; 9-26-2011).

The authors believe that this consistent leadership presence is a key success factor in the development and growth of KCJIS and, in fact, for both of the data sharing collaborations we studied. Two key skill sets were identified as important to this leadership success. First, the leadership role has been grounded in a customer perspective, i.e. a dedication to making life easier for the line employee in criminal justice-related agencies. Second, the leadership skill set included collaboration skills; in the words of Gordon Lansford “the ability to get people together, ask questions about what keeps them awake at night and trying to help make their life better” (interview 10-11-2011). The provision of this experienced leadership clearly allowed KCJIS to move past the rough spots in the collaborative process; allowing a detailed evaluation of partner needs and motives and the ability to understand when reluctance was based on real issues and when it was resistance to change. This experience clearly points to the need to develop leaders with strong collaborative skill sets and provide experiences with collaborative projects that allow leaders to try out those skills (see Chapter 2).

Leadership outside of the collaboration has also played an important role in the history of success. Facilitated discussions of the technical design of the system by then state Chief Information Technology Architect, Bill Roth are credited for not only providing the technical base of the system, but providing a joint learning experience for the participants. The hard work of flow charting system elements resulted in strong relationships among the participants. “The relationships that were built during the work” and the “knowledge of each other’s environment gained during the process” were important side effects of the technical work, noted one interview (10-11-2011). The buy-in developed through such work is of great benefit to data sharing efforts. This experience points to the need for leaders to understand data sharing as a process which delivers more than one benefit as it evolves.

Taken together, these highlights on governance and leadership reveal five key elements of effective collaboration in this case:

1. A perception of joint benefits and voluntary actions enabled collaborators to start from a place of trust.
2. Designating a leadership position as unaffiliated with any participating agencies, especially when collaborative activities will be heavily directed towards prioritization and funding activities.
3. Sponsorship from top executives combined with clear legislative direction helps mitigate consequences arising from turnover of other personnel involved with the collaboration.
4. A common law enforcement framework was a positive force for building momentum among collaborators, but mitigated the collaborations ability to think more strategically and broadly.
Fiscal and Technology Approaches: Consistently Finding a Way to Make it Work

KCJIS for the most part remains funded through the participating agency budgets, creating uncertainty in the funding stream. An example of the uncertainty and instability surrounding collaborative funding deals with developing and maintaining a way to fund access to the Kansas Wide Area Information Network (KANWIN). KCJIS has built a system integrating access to data held by national, state, and local agencies through a message switch web portal that is accessed through this network, so a funding method is needed to support that ongoing cost. The KCJIS system provides searching across records through agency-based gateways. It deploys appropriate security mechanisms including firewalls, encryption, certificates and tokens. It also serves as the Kansas link to the National Crime Information Center (NCIC) and the National Fingerprint Identification System (IAFIS).

The system was initially built with Byrne grant funds from the Department of Justice. After those funds ran out the collaboration has been sustained by the regular agency budgets of the partners. This funding model has the advantage of keeping the partners engaged in the development of the system in the sense of “those that pay together, play together.” However, it also has the distinct disadvantage of forcing the partners to choose between internal needs and KCJIS needs (interview 9-23-2011-2).

A small step was taken toward direct legislative funding in 2010, when for the first time KCJIS was allocated a line item budget to support the criminal justice network funding connections to every Kansas county. The provision of these telecommunications links across the state “is KCJIS at its heart” according to Gordon Lansford (interview 10-11-2011). Members of the group recognize the importance of demonstrating the value of the collaboration to political leaders in order to gain increased support (interview 9-23-11-2, 9-26-2011, 10-3-2011).

This tension of managing internal needs and those of the group is also something the collaborative deals with as they look for ways to move forward the collaborative agenda while at the same time meeting the needs of the individual partners. The leaders of KCJIS state that “the agencies have to get something out of this; when we work through our list of priorities it is important that we make sure that everyone gets something” (interview 10-11-2011; 9-23-2011-2, 9-23-2011-2). While this approach ensures continued collaboration, it has the potential to work against the best approach to data sharing by paying more attention to the needs of the agency partners and compromising the overall strategy (interview 10-6-2011). This downside is readily recognized by several partners (interview 9-23-2011-1, 9-23-2011-2). The future funding model for the collaboration is yet to be determined and will undoubtedly affect the ability of the state to continue the progress made in this important area of data sharing.

Participants in the effort also recognize the risk of becoming overly dependent on technology-based partnerships with private sector vendors to provide software and support. IT was noted that these outside actors may be a source of instability for the partnership given dynamic business environments. Without leadership or a plan to buffer against such vulnerabilities, significant portions of technology systems can be lost (interview 10-1-2011). Several of the individuals interviewed for the study noted this issue which is further discussed in Chapter 2.
Since the completion of the study interviews, a planning grant was awarded to the State of Kansas from the National Governors Association (NGA) and the planning process funded by the grant will extend into 2013. Along with three other states (PA, MD, and MO) and Puerto Rico, Kansas is developing a gap analysis between state based integrated criminal justice systems as part of a national planning process. The long range goal is a national integrated justice system that would serve state and local criminal justice users but would significantly improve and broaden the sharing of information across the country and thus improving national safety and security. The national plan is called the Global Reference Architecture (http://www.it.ojp.gov/default.aspx?area=nationalInitiatives&page=1015). The plan includes use of the NIEM data standard (see Chapter 4) and Global Federated Identity and Privilege Management (GFIPM) an authentication system that will allows a single user authorized access to many systems with a single sign-on. Kansas already uses a similar system in collaboration with Nebraska, Wyoming, and Alabama. (see CONNECT http://www.connectconsortium.org/). (Lansford correspondence, 2012)

These highlights point to the somewhat unique fiscal aspects of technology-based collaborations. Our research has produced four observations that are relevant when to the consideration of the fiscal and technology aspects of effective collaboration on information sharing:

1. Line item budget allocations provide a measure of stability.
2. The risks inherent in collaborations with outside technology vendors to provide services and support must be managed.
3. Grant funding is a popular mechanism for supporting technology-based collaboratives in the beginning. However, the sustainability of this source of funding is suspect for mid- to long-term operations.
4. Building sponsorship and support among key administrative and political officials can help bring funding certainty to technology-based collaboratives.

Conclusion: Key Elements of Success

This study has identified a number of key success factors in the development and growth of the KCJIS project. They include:

- Common mission of the participants recognized in statute by state leaders
- Objectives that reflect values that support collaborative information-sharing practices
- Common framework and perspective from the law enforcement domain; ability to recognize the benefits and constraints of commonly held frameworks.
- Use of pilot approach to test ideas before initiating widespread application.
- Leadership from “possibility thinkers” that can balance vision and technical aspects.
- Independence of leadership to mediate challenges and provide objective direction for establishing priorities.
- Consistent skilled collaborative leadership from the Director
- Processes that build trust relationships between the participants
- Provision of technical capability from within state government and the private sector; planning for uncertainty and instability regarding both.
- Grant funds that were provided to begin the collaboration; recognition that the grant model is not a sustainable funding model over time.
- A governance model which provides a means for agencies to stay dedicated to their mission and at the same time support KCJIS.
- Support among key administrative and elected officials to stabilize operating and funding environment.

The future of KCJIS will ultimately depend on the ability of the participants to adapt to the new technologies needed to further their work, the ability to obtain a stable funding model that provides funds either directly to KCJIS or via funding within agency budgets, and the continuance of leadership that provides the essential stability for the group. Legislative and executive support is also a key to the ability of KCJIS to move to the next level and become a key participant in broader data sharing efforts so critical for the state.

Additionally, a more robust state capability (technical, policy, and administrative) is needed to bring the collaboration to the next step in sharing criminal justice data with other domains (interview 10-6-2011). As one interview put it the “The State of Kansas needs to facilitate the building of trusting relationships and technical capability” for data sharing for KCJIS to turn success with criminal justice data sharing into success with broader sharing across domains.

This example of a domain specific collaboration has much to offer the state as a model for future data sharing by a community with common activities and interests. The elements of success shown here can be instructive in the design, implementation, and ongoing work of future data sharing initiatives in the state.
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CHAPTER II

Human Resource Management Implications

By Heather Getha-Taylor, Jeannette Blackmar, and Erin Borry

OVERVIEW

To solve today’s “most vexing” public problems, organizations and individuals are working together in new ways (Agranoff, 2003). Partnership and collaboration must supplement (and in some cases, supplant) the management strategies of hierarchy and control that have characterized traditional management practice within organizations (Goldsmith & Eggers, 2004; Kamarck, 2003; Linden, 2010). No single organization or individual has all the information or resources to address shared problems independently (Kettl, 2005). Many of today’s problems do not neatly conform to jurisdictional, organizational, or even sector (private, non-profit, government) boundaries; therefore individuals must learn to work across these divides to share data, stretch resources, accomplish shared goals, and create public value (Bardach, 1998).

The State of Kansas is no exception. In one of the data sharing initiatives examined in this study, collaboration among 17 individual partner organizations is required to effectively coordinate traffic-related records (see Figure 1). This partnership represents a major transition: the traditional approach has been one in which individual agencies held a component record (a traffic ticket from an injury accident, for example) without sufficient links to other related component records (such as an ambulance report). To meet the strategic goals of data capture and repository creation for data exchange and reporting, these partners must work together (MTG Consultants, 2007). The goals of this initiative center on strengthening connections, identifying data gaps, and improving services overall. And, the success of this initiative and others like it rests on the willingness of partners to share information and collaborate across boundaries.

(See Figure 1 on next page)
While a number of elements must be in place to support collaboration in data sharing initiatives, the foundation for success in this area lies in the skills or “competencies” of individual line workers and managers that participate in these efforts. An emphasis on collaboration must exist in both individual employee skill sets and in organization culture to successfully organize and facilitate this process. To address this dimension of effective data sharing, this chapter considers collaboration through the lens of human resource management.

While contemporary problems require individuals who can effectively work across boundaries, an important and related question centers on whether and how organizations support such efforts. Collaboration requires competencies that may not have previously been emphasized to succeed within organizational boundaries (Getha-Taylor, 2008). Our first task, then, is to answer the question: Which competencies are most important for collaborative success in a state government environment? The answer to this question can help organizations develop and strengthen human resource management strategies to recruit for and reward such competencies, which, in turn, encourages individuals to collaborate across organizational and sector boundaries. To identify successful strategies, we must also investigate whether or not existing systems, including individual evaluation and reward mechanisms, support collaboration. Individuals behave as they are measured; therefore this individual-organizational alignment is important for achieving stated goals (Kerr, 1975). Finally, by engaging and learning from individuals who have been identified as collaborative leaders by their peers, we hope to inform our understanding of the individual experience in the collaborative process. This chapter will improve understanding of how organizations can support collaborative leadership and also

### Figure 1: Kansas Traffic Records Coordinating Committee Organizations

<table>
<thead>
<tr>
<th>Department of Administration</th>
<th>Kansas Criminal Justice Information System</th>
<th>Kansas Peace Officers Association</th>
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<tr>
<td>Emergency Medical Services</td>
<td>Kansas Department of Health and Environment</td>
<td>Kansas Sheriffs Association</td>
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<tr>
<td>Federal Highway Administration</td>
<td>Kansas Department of Revenue</td>
<td>Mid-America Regional Council</td>
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<tr>
<td>Federal Motor Carrier Safety Association</td>
<td>Kansas Department of Transportation</td>
<td>National Highway Traffic Safety Association</td>
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<tr>
<td>Kansas Association of Chiefs of Police</td>
<td>Kansas Highway Patrol</td>
<td>Office of the Judicial Administrator</td>
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<tr>
<td>Kansas Bureau of Investigation</td>
<td>Kansas Insurance Department</td>
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</tbody>
</table>

| DOA | KCJIS | KPOA |
| EMS | KDHE | KSA |
| FHWA | KDOR | MARC |
| FMCSA | KDOT | NHTSA |
| KACP | KHP | OJA |
| KBI | KID | |

While a number of elements must be in place to support collaboration in data sharing initiatives, the foundation for success in this area lies in the skills or “competencies” of individual line workers and managers that participate in these efforts. An emphasis on collaboration must exist in both individual employee skill sets and in organization culture to successfully organize and facilitate this process. To address this dimension of effective data sharing, this chapter considers collaboration through the lens of human resource management. While contemporary problems require individuals who can effectively work across boundaries, an important and related question centers on whether and how organizations support such efforts. Collaboration requires competencies that may not have previously been emphasized to succeed within organizational boundaries (Getha-Taylor, 2008). Our first task, then, is to answer the question: Which competencies are most important for collaborative success in a state government environment? The answer to this question can help organizations develop and strengthen human resource management strategies to recruit for and reward such competencies, which, in turn, encourages individuals to collaborate across organizational and sector boundaries. To identify successful strategies, we must also investigate whether or not existing systems, including individual evaluation and reward mechanisms, support collaboration. Individuals behave as they are measured; therefore this individual-organizational alignment is important for achieving stated goals (Kerr, 1975). Finally, by engaging and learning from individuals who have been identified as collaborative leaders by their peers, we hope to inform our understanding of the individual experience in the collaborative process. This chapter will improve understanding of how organizations can support collaborative leadership and also
develop leaders for the future by examining information sharing among state employees and their partners in the state of Kansas.

THEMES AND METHODOLOGY

This chapter focuses on collaboration at the individual level. To identify experienced collaborators for study interviews, we requested nominations from: 1) state agencies included in the study, and 2) leaders of notable boundary-spanning collaborative data sharing efforts. A total of 40 first-person interviews were conducted in Summer 2011 to examine collaboration and data sharing in the context of human resource management at the state level. Each interview averaged one hour in length. Interview data was analyzed to examine three related themes: 1) individual collaborative competencies, 2) organizational incentives/obstacles to data sharing, and 3) leadership practice in the context of collaboration.

From this analysis, we reached the following conclusions with regard to each theme:

- Four competencies emerge as key to effective collaboration: interpersonal understanding, teamwork/cooperation, team leadership, and flexibility. These findings build upon existing research and contribute to our shared understanding of what it means to be an effective collaborator.

- Opportunities exist to support collaborative efforts via human resource management. Hiring/retaining key personnel for data sharing, aligning rewards with desired data sharing outcomes, and enhanced training are three areas in which additional emphasis and investments could provide support for improved data sharing and collaboration.

- Collaborative leaders emphasize relationship building, focus on boundary-spanning goals, and prioritize citizen service. To develop collaborative leaders for the future, mentoring and experiential learning opportunities should be priorities today.

INDIVIDUAL COMPETENCIES

Introduction

If the state intends to place a priority on data sharing, especially across organizational boundaries, identifying the individual competencies to meet these needs will be critical. Competencies are those underlying individual characteristics, says Boyatzis (1982), that are “causally related to effective or superior performance in a job,” (p. 21). Competencies move beyond traditional knowledge, skills, and abilities (KSAs) to capture job-related motives, traits, and self-concepts (Daley, 2002; Hay Group, 2003).

Competencies focus on future development and potential for performance (Sanchez and Levine, 2009). Competency-based systems are beginning to take the place of more traditional human resource job analysis techniques to cover a broader range of occupations (Rodriguez, et al,
The contemporary emphasis on competencies reflects rapidly changing environments that require skills that extend beyond the boundaries of any one job and indicate an individual’s ability to adapt and learn (Rodriguez, et al., 2002). Ideally, competencies can guide a number of critical workforce functions, including hiring, development, and even evaluation (Hay Group, 1998). The expected benefits of competency-based systems (adapted from Marrelli, 1998, p. 8) are detailed below:

- Emphasizing human capital as essential to the organization,
- Moving away from narrowly defined functions to integrated processes,
- Creating the flexibility to quickly adapt to changing conditions,
- Creating a culture of continuous learning, and
- Providing employees with developmental opportunities.

As work demands evolve in response to changing needs and conditions, competencies can help us answer the important question: “how do we know good performance when we see it?” (U.S. OPM, 1999, p. 9). Competencies can also serve to highlight needs for the future, “raise the bar” on employee performance and serve as “vehicles for change,” (U.S. OPM, 1999, p. 8). The State of Kansas has already recognized the value of a competency-based approach to human resource management by defining and utilizing competencies in the state’s performance appraisal system. There is potential for the state in expanding this competency-based approach to emphasize and reward cross-agency collaborations. This study will provide information to support that activity.

**Research Approach**

This study employs a classic competency study approach (Boyatzis, 1982; McClelland, 1973; Spencer & Spencer, 1993), which included the following steps. First, performance criteria for data sharing and collaboration were identified from previous research. The second step was to identify comparison groups of employees in order to differentiate experienced and exemplary performers, and thus, the competencies that distinguish these groups. For this study, individuals known for successful collaboration within the state were asked to nominate individuals who were considered exemplary in their collaborative efforts. Then data was collected from these individuals through behavioral event interviews (McClelland, 1998). This interview approach examines the ways in which individuals worked through successful and challenging data sharing experiences. Next, the interview data was analyzed. Interviews were analyzed using a competency dictionary to examine indicators of interest, including: initiative, information seeking, interpersonal understanding, organizational awareness, relationship building, teamwork and cooperation, team leadership, analytical thinking, conceptual thinking, organizational commitment, self-confidence, and flexibility.

This state-level study replicates a federal level study (Getha-Taylor, 2008) of collaborative competencies. In that study, the most significant competencies for collaborative effectiveness were identified as: 1) interpersonal understanding, 2) teamwork and cooperation, and 3) team leadership. By replicating the federal study, we can determine if these results are generalizable (and apply at the state level). This will allow us to provide the state a clear path for assisting
employees in developing these skills and in rewarding collaborative activity. The findings section below provides detail for these competencies.

Results

Results from the Kansas interviews validate the federal study findings. As in that study, three competencies distinguish exemplary and experienced collaborators: 1) interpersonal understanding, 2) teamwork/cooperation, and 3) team leadership. In addition, a fourth distinguishing competency, flexibility, emerged as significant in this study. These competencies and their associated key indicators are presented in Table 1.

Table 1: Distinguishing Collaborative Competencies

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<thead>
<tr>
<th>Competency</th>
<th>Key Indicators (Spencer and Spencer 1993)</th>
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<tr>
<td>Interpersonal understanding</td>
<td>Understands emotion, content, meanings, and complex underlying issues</td>
</tr>
<tr>
<td>Teamwork/cooperation</td>
<td>Cooperates, shares information, expresses positive expectations, solicits input, empowers others, team-builds, resolves conflicts</td>
</tr>
<tr>
<td>Team leadership</td>
<td>Manages meetings, informs people, uses authority fairly, promotes team effectiveness, takes care of the group, positions self as the leader, communicates a compelling vision</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Adapts tactics to situation or other's response, adapts strategies, goals, or projects to situations</td>
</tr>
</tbody>
</table>

When considering the need for improved data sharing and collaboration, these findings remind us that while investments in technology and data sharing systems matter, they are not sufficient on their own (Dawes, et al., 2009). Rather, they must be combined with investments in the development of competencies at the individual level. As a 2011 U.S. Merit Systems Protection Board report notes, while public organizations typically focus on knowledge and skills training, social competencies (including interpersonal skills and teamwork) are also important and can be developed.

Competencies are a core component of the State of Kansas' Performance Management Process. The State's accompanying Competency Model includes teamwork as a core leadership competency, which is noted as related to collaboration (p. 12). This competency is defined by the State as achieving “team objectives by developing and sustaining cooperative relationships,” (Ibid.) It is important to note this definition recognizes the value of relationships in collaboration. Further, the behavioral examples provided in the document illustrate areas of overlap with the competency indicators in this study (the teamwork and cooperation dimension, specifically). For instance, State behavioral indicators for teamwork such as “provides expertise,” “recognizes contributions,” “resolves disagreements,” and “focuses on team goals” are all aligned with the indicators of teamwork and cooperation listed above. In
addition, flexibility is captured in the “adaptable” behavioral indicator for achievement orientation. Adaptation is also reflected as part of the communication competency.

While this illustrates some congruence with the current state defined competencies, interpersonal understanding, or the ability to grasp underlying emotions or meaning that drive behavior, seems to be missing from the State’s description of teamwork. Further, the State’s behavioral indicators seem to emphasize team participation rather than team leadership. The descriptions do not appear to emphasize using authority in collaborative settings, positioning as a leader, or communicating a compelling vision, which were identified as distinguishing competencies in this study. One potential explanation for these differences is the possible expected application of the state competency model to organizational settings rather than inter-organizational settings, in which different behaviors may be necessary to work effectively across organizational boundaries.

Recommendations

- The state should develop a specific set of collaborative competencies, with emphasis on both collaboration within agency work and cross agency and governmental sector activities. Mentoring and on-the-job experiential learning are two potential methods for enhancing these competencies (Ford, 2008). In addition, targeted training programs may also be used to develop competencies of interest (US Merit Systems Protection Board, 2011).
- Link the identified collaborative competencies to strategic human resource management functions, including succession planning (Marrelli, 1998) and performance reviews (Kessler, 2008) to align individual effort and organizational goals.
- Revisit state competency models and related documents periodically to evaluate whether these reflect changing workplace demands and conditions. Update behavioral indicators as needed based on competency studies (Getha-Taylor, 2008).

ORGANIZATIONAL HUMAN RESOURCE MANAGEMENT CONSIDERATIONS

Introduction

Individual-organizational alignment is critical to ensuring congruence between employee efforts and organizational outcomes (Gagnon, et al., 2008), enhancing employee engagement (Chalofsky & Krishna, 2009), and curtailing workplace dysfunction (Cartwright and Holmes, 2006). Organizational structures can facilitate desired outcomes and discourage undesirable ones (Kets de Vries & Miller, 1986) and both the formal and informal reward systems can have a powerful impact on the behavior of organizational members (Schein, 2004).

One way to frame this alignment is through expectancy theory (Vroom, 1964). This theory suggests that people are more motivated when their effort leads to an expected outcome that is valued. When there is alignment between individual effort and organizational rewards, for
instance, employees get what they expect and can see the value of their efforts (Northouse, 2012). This is not to say, however, that monetary reward is the only reward of interest for recognizing employee effort. Rather, studies indicate that informal recognition can serve as a powerful motivational tool for meeting organizational goals (Brun & Dugas, 2008; Nelson, 1993). This connection is noted in the State of Kansas’ Performance Management Process (2008). Recognition is noted as a tool to reinforce and reward past performance and encourage continued performance for the future (p. 10).

In the context of data sharing and collaboration, Agranoff (2003) highlights the inherent challenge: “most public executives today have been trained to deliver results via the traditional hierarchy. And they got to where they are by performing well within their own organizations. But to be successful tomorrow, government executives must increasingly be able to deliver through networks, partnerships, and the use of collaboration,” (p. 5). This suggests that in order to meet the new collaboration demands, organizational systems, structures, and even management practice should be adapted (as necessary) and aligned with anticipated outcomes.

When individual-organizational alignment is lacking, employee efforts may not be matched with organizational expectations. Potential results may include unfulfilled expectations (Rousseau, 1989), performance appraisals that do not accurately capture efforts (Ingraham & Getha-Taylor, 2008), employee dissatisfaction (Wanous, et al., 1992), and turnover (Shaw, et al., 1998). A necessary first step, then, is identifying any organizational issues that may prevent alignment.

Results

Overall, the study finds strong willingness among interviewees to collaborate and share data. There was consistency across interviews in noting the value and impact of effective data sharing for public service. Notable quotes include:

“Data sharing impacts me daily.”

“A day doesn’t go by without some kind of data sharing.”

“The more you know, the better off you are.”

“Data sharing is absolutely critical.”

“On a scale of 1-5, it’s a 6.”

While the importance of data sharing is clear, interviews with these experienced collaborators reveal that associated organizational resources could be enhanced to meet current and expected demand for data sharing in the future. Besides needed computer hardware and software to effectively share information, additional organizational resources are needed in three key areas.
1. **Data sharing focused IT staff**

   Interviews with experienced state collaborators reveal that even if individuals are willing and able to collaborate and share information, the expertise and involvement of information technology (IT) personnel in data sharing initiatives is critical. Through our interviews, we learned of an instance in which a data sharing project was threatened by the turnover of just one person. In this case, one individual controlled important components of the project. When this individual left, it became clear that there was no back-up plan. Fortunately, the project was salvaged despite this turnover, but it illustrates an important lesson: the loss of one person can serve as a destabilizing force in data sharing efforts.

   Several individuals we interviewed perceive that insufficient attention is given to in-house IT staffing and retaining IT personnel. The existence of IT expertise within the agencies is seen as an important asset to employees attempting to make data sharing projects successful. The state’s strategy of a combined internal and external approach to IT staffing is an issue for individuals interviewed for this study. While contracting out information technology makes sense in some contexts, exclusive reliance on external vendors is considered an unsuitable solution for providing the needed stability for long-term state data sharing initiatives.

   Further, the intense competition with the private sector for hiring information technology professionals is a broadly held concern. Identifying ways to retain IT personnel is a related challenge. As one supervisor noted, the public service organizational context can be a powerful retention tool. When workers see the ways in which their efforts contribute to bigger picture outcomes, it is expected this connection helps add meaning and value to their work.

   Another way experienced data sharers are working to retain key data sharing personnel is through management practice. By giving frequent feedback, offering autonomy, and empowering their staff members, they are working to create environments that are marked with high levels of job satisfaction. Attracting and retaining information technology professionals is expected to be an enduring priority in the years ahead.

2. **Rewards for engaging in data sharing activities**

   The issue of rewards elicited a diversity of responses from interviewees that together coalesced on three key themes: 1) rewards for data sharing are generally absent; 2) data sharing is expected but not captured in performance evaluations; and 3) alternative rewards (non-pay related) are not often employed to recognize excellence in data sharing. It was widely acknowledged among interviewees that current efforts to recognize excellence in data sharing are insufficient. This may be due in part to current State of Kansas competency definitions, which are used for performance management. The State of Kansas’ competency model includes information management and data interpretation as part of the *analytical thinking* competency, but these behavioral indicators are not linked to collaboration. Further, the *teamwork* competency, which serves as the proxy for collaboration, does not explicitly consider sharing of resources,
including data, as part of effectively contributing to collaborative efforts. This may help explain why some interviewees do not feel that their efforts are explicitly captured in performance reviews.

While the State guide for Rewarding Employee Performance emphasizes pay as “one of the strongest communicators of how much the State of Kansas values the contributions of an individual or group,” (p. 25) interviewees generally indicated that a variety of other (alternative) rewards would also be meaningful. Potential options suggested include providing resources for development (including travel to conferences, for instance) and appreciative feedback. For many, getting the job done is the reward in itself. For others, the opportunity to work with other committed public servants serves as a gratifying experience. Several interviewees shared their experiences with leaders who informally recognize their efforts: they said how valuable that praise has been for their motivation and satisfaction. While this does not involve an investment of additional funds, it rests on efforts of leaders to provide positive feedback in support of collaborative projects. Further, this is a practice that is supported by research (Brun & Dugas, 2008; Nelson, 1993) as well as by the State’s guide for Supporting Employee Development, which indicates that developmental opportunities can foster “maximum individual contribution in support of overall agency goals and direction,” (p. 26).

3. **Training in understanding data sharing technology and policy**

Particularly when addressing new expectations and systems, training is critical. Training needs in the context of data sharing include: managing technical aspects of the process, maintaining current understanding of relevant policies, and working collaboratively with others. Regarding technical training, interview data suggests that training on basic data sharing skills (managing computer programs or applications, for instance) may not be offered as regularly as needed to help employees remain up-to-date on evolving systems. This will continue to be a priority if reliance on outside experts grows due to insufficient in-house training/expertise in data management capabilities.

Further, training sessions could serve as an avenue for providing updates on relevant data sharing policies. This information is critical to helping employees understand the current boundaries for appropriate data sharing. Throughout the interviews, a recurring theme of protecting data was apparent. A key concern for data sharing is ensuring confidentiality and designing systems that allow for secure transfer of information. “I’m a real tyrant when it comes to confidentiality,” said one interviewee. This commitment can present challenges when it comes to sharing data. Understanding how best to balance the responsibility to protect data with the need to share information is a key concern addressed in Chapter 3.

Finally, training to help employees develop individual collaborative competencies (see Table 1) is expected to support data sharing efforts. Together, these training priorities represent an opportunity to further align human resource management activities and State outcomes of interest, namely improved data sharing. However, this is not a recommendation for human resource managers alone. The interview data indicated a
general consensus that training should be a shared ongoing priority. For instance, organizational leaders should serve as role models and mentors. Information technology staff members should also provide training sessions on an as-needed basis. And given the context of data sharing, innovative approaches, including web-based learning platforms, may also help meet the connected training goals of improved mastery and application.

**Recommendations**

- Recruit and retain information technology professionals by focusing on the unique features of the public service organization workplace, including the opportunity to contribute to addressing public challenges and the unique needs of cross agency and cross sector data sharing.
- Agencies and leaders should take steps to recognize collaboration and data sharing via both formal and informal reward systems and educate leaders on the potential of informal rewards for data sharing initiatives.
- Provide training to address the related components of data sharing, including technical skills, policy trends, and collaborative skills. The state should provide training in the policy and legal aspects of data sharing so that employees can understand exactly what is allowed to be shared according to data sharing protocols.

**COLLABORATIVE LEADERSHIP**

**Introduction**

The contemporary emphasis on working across boundaries to achieve shared goals redefines what it means to be an effective leader (Linden, 2010). In traditional settings, leaders worked through hierarchy and command-and-control systems to move individuals and organizations toward desired ends. In collaborative settings, leadership is more appropriately defined as a relationship and as an influence process (Northouse, 2012). Linden (2010, p. 78) summarizes collaborative leaders as those individuals who:

1. Feel driven to achieve the goal through collaboration, with a measured ego;
2. Listen carefully to understand others’ perspectives;
3. Look for win-win solutions to meet shared interests;
4. Use pull more than push;
5. Think strategically; connect the project to a larger purpose.

This changed perspective on leadership also reflects the changed reality of producing public value, which no longer rests on the efforts of a single organization or even single sector. As noted by Morse (2008), governance is today “viewed as a collective accomplishment of many actors – public and private – as opposed to a traditional view that equates governance with government,” (p. 80). To be successful in this context, public leaders will be expected to expand and adapt their leadership strengths to include a collaborative focus.
The contemporary emphasis on collaborative governance is a key force that is reframing the character, function, and jurisdiction of public leadership (Getha-Taylor, et al., 2010). Providing guidance on what it means to be an effective collaborative leader is critical for the success of data sharing efforts. For the purposes of this study, we are most interested in learning about effective leadership related to state-level information sharing and collaboration. Based on extensive research, Dawes, (et al., 2009) identified key leadership behaviors that are associated with success in knowledge networks, including:

- Mission focus;
- Emphasis on people and communication;
- Willingness to experiment; and
- Nurturing a culture of joint responsibility for success.

This study provides an opportunity to examine this outline of leadership behaviors.

Results

Interviews with experienced state collaborators support the noted leadership behaviors presented in Dawes, (et al., 2009) and are addressed in detail below.

1. **Mission focus**
   Interviews with experienced data sharers indicate that effective leaders are able to frame a mission for data sharing in order to help all partners answer the question: “why is this an important effort?” Connected to identifying the shared mission, effective leaders use needs assessments and strategic plans to together craft a vision that answers the collective question: “where are we going and what will it look like when we get there?” It is important to remember that most data sharing efforts require a significant investment of time and results may be delayed. In such cases, focusing on achievements and small wins can help keep momentum moving forward. Finally, effective leaders must embody the mission and vision: they serve as the “living model of the ideals and values articulated,” (Northouse, 2012, p. 121).

2. **Emphasis on people and communication**
   Interviewees repeatedly emphasize the importance of recognition of a job well done related to effective data sharing. Especially given the economic climate and associated impacts on performance awards, it is critical that leaders give positive feedback and recognize those individuals whose efforts have resulted in positive data sharing outcomes. These interviews identified a number of key communication strategies that effective leaders employ related to collaborative data sharing. First, through active listening, they are able to understand others’ perspectives and ask the important questions that frame the effort. They are persuasive: they can effectively “sell” data sharing initiatives across boundaries by convincing others of the greater good or mutual needs/gains involved. Effective leaders also ask the right questions about purpose and process. For instance, leaders can and should ask questions like: “why should we share this data?” And “where will the data go and why?” Above all, effective leaders engage in communication that is respectful and honest.
3. **Willingness to take appropriate risks and learn**

Data sharing and collaboration can involve some risk. For instance, when individuals have not worked together in the past, the associated uncertainties can stall progress. Often, it takes the risk-taking actions of one individual to move the project forward. By taking the first step (by sharing some resources, for instance) the leader communicates a powerful message that builds a foundation of trust between the two individuals and organizations. The willingness of individuals to take appropriate risks rests on an organizational culture that values learning. Senge (2006) notes that several key features characterize learning organizations, including personal mastery and team learning. These elements are demonstrated through specific activities like mentoring. In this study, when data sharers share stories of the ways in which they learned new behaviors, including collaboration, what becomes clear is the strong influence of mentors and role models on that process. Participants in this study benefitted from the guidance, support, and example of either a work supervisor or a colleague who illustrated effective collaborative leadership in action. Involving others in data sharing activities and sharing power in these examples communicates a message to those who are learning how to develop their own collaborative capacities. For leaders, it is important to identify and develop individuals who illustrate promise in this context and mentor them.

4. **Nurturing a culture of shared leadership**

Even if one individual is identified as the leader, it is not expected that any one person has all the answers for addressing the given collaborative challenge. In fact, experienced collaborators interviewed for this study indicate that they prefer when leaders invite feedback from the group and broker solutions that meet shared needs. These effective individuals thereby act as mediators who guide the process and empower others to contribute to decision-making. The interviewees repeatedly mentioned how important it is for leaders not to “reinvent the wheel” when it comes to effective data sharing. This requires that leaders reach out, build relationships, ask questions, and then identify those examples that offer fitting models for specific needs. This may be seen as a sharp contrast with traditional notions of leadership that emphasized individual action and control over processes to enact change. While contemporary needs reshape the practice of leadership, they in no way lessen the value of it. Interviewees together echo that data sharing starts at the top of organizations: it is the initiative of senior leaders that pushes projects forward, that provides the support necessary for others to get involved, and that builds a culture that values these efforts through integration in systems and processes.

**Recommendations**

- Reframe mission/vision from agency-centric to collaboration-focused to improve data sharing processes and outcomes.
- Focus leadership education on developing the communication skill set of learning to ask the right questions and engage in active listening processes.
- Build agency cultures that allow for appropriate risks and learning.
- Take specific steps to mentor emerging collaborative leaders today.
CONCLUSION: OBSTACLES AND OUTCOMES

In addition to responding to the leadership strategies discussed above, a key leadership need is to recognize obstacles moving forward and consider expected outcomes of data sharing initiatives. While obstacles generally stand in the way of effective data sharing, understanding those forces will help leaders adapt strategies and address issues for concern. As noted by one interviewee, obstacles aren’t impossible to overcome, but leaders need to figure out how to address them in ways that minimize fear and risk: “a lot of times it’s just easier not to take the risks,” said one interviewee. Second, keeping in mind the great potential that collaborative data sharing initiatives offer, championing the positive outcomes of data sharing initiatives may provide support for additional initiatives among Kansas state agencies in the future.

Obstacles

- Liability risks: In addition to being concerned for organizational liability in the event that information is shared inappropriately, some individuals are concerned that they will face personal liability in the event of improper data sharing (particularly related to personally identifiable confidential data). In that context, one interviewee noted that it is sometimes easier just not to share data.

- Uncertainty: Big questions remain for many individuals regarding how best to share information, including: what is appropriate to share? What are the legal guidelines for sharing confidential information? How do I know if the data I receive is accurate? How will the data be used? Who should I contact about sharing information? What is the most secure way to transfer data? And, am I divulging too much information?

- Fear of loss of control: When individuals or organizations have a sense of ownership over data, sharing it can be unsettling. Especially when there exists incongruence between data sharing partners related to their systems, expectations, priorities, or standards, these concerns are heightened. This obstacle highlights the interplay of technology, governance, and interpersonal forces. Trustworthiness is a key concept and can be enhanced by face-to-face communication as well as accountability mechanisms guiding the effort.

- Unrewarding processes: Several interview participants referred to the data “black hole” that exists when data is collected but never seen again. This is seen as a very frustrating process. In the case of law enforcement, this challenge is clear. Police officers submit information but may not be able to access it again once it has been submitted to national databases. One interviewee described the broader questions underlying these arrangements: "Why don't we trust the police officer with this information? They're going to give it to us and they're trusting us, why don't we trust them?" Particularly given the significant investment of time required for collaborative processes, failure to identify and ensure the appropriate incentives are in place for participation can undermine the end goals.
• Challenges within the change environment: Adopting new systems, engaging with new partners, and learning new technologies can be stressful experiences. Further, in the context of information sharing, the context and content changes so quickly, it can be difficult to keep up with change. As one interviewee summarized, “it’s like trying to change the tires on a moving car.” It is up to leaders to provide a supportive environment that allows for communication and participation in change processes. Leaders should keep in mind that individuals are most interested in how new processes and expectations will affect them, their work, and their organization. Understanding and responding to these concerns are key leadership tasks.

The state’s ability to address these obstacles will be an important component in crafting a successful data sharing strategy. Many of these obstacles are addressed in other chapters of this report.

**Outcomes of Improved Collaboration**

• Citizen service: The most frequently noted reason to engage in data sharing is citizen service. Meeting client/citizen needs is a top shared priority and can be assisted through effective data sharing. Data sharing initiatives can help address critically important boundary-spanning challenges ranging from trauma response to child services. When asked why data sharing was important, answers clearly connected to important citizen outcomes, including: saving lives, keeping kids from going hungry, and preventing fraud and abuse.

• Big picture thinking: It can be difficult to overcome “silo” approaches to addressing problems, but data sharing initiatives offer an opportunity to examine how goals are connected. One interviewee compared it to an instance when everyone is standing outside a house looking in: “everyone is looking in a window a different way and seeing something different to get the outcome they need.” Connecting those visions is important and can be done by connecting the various services as they apply to specific public problems. For instance, in the case of traffic incidents, an interviewee said it is important to connect the dots beginning with arrest, moving on to fingerprinting, then to prosecution, and finally to the courts system (and possibly corrections). Data sharing can help identify gaps in the system and also improve the speed of response. “Speed is of the essence. If you want to reduce…the number of victims, you have to get people identified as quickly as you can and get them off the streets.”

• Improved assessment: By identifying service patterns and gaps, service delivery can be improved. For instance, effective data sharing should allow us to follow public safety incidents such as traffic accidents from start to finish throughout related systems and evaluate outcomes while protecting individual privacy (see Chapter 3 for more detail). “We should be able to get a picture from birth to death, if you will, of the whole event,” said one collaborator. Further, this should allow us to answer the question: have we succeeded in meeting our goals? Data sharing should facilitate analyses of cost savings, improved efficiency, and overall improved performance and quality of services.
• Making connections: As one interview subject noted, there are two key ingredients in data sharing collaborations: opportunity and willingness. Success rests on the willingness of individuals to come together and identify solutions. “It’s not really data sharing we’re talking about, it’s collaborating – and how technology makes that happen.” Ideally, collaborative data sharing should improve communication and serve as a gratifying process.

• Continual improvement: Data sharing collaborations should allow Kansas state agencies to learn from experiences and use those learning opportunities to inform other efforts. Successful data sharing experiences can be seen as a positive way to encourage more data sharing and improve processes. Further, learning from those examples should elevate the status of these initiatives: “we share a lot more than we get credit for” said one participant. A number of key initiatives have set Kansas apart as a leader in information sharing and using data for decision-making. “We’ve come a long way in Kansas. We’re a front runner in a lot of areas by we’re not where we need to be. In fact, I fear we’ve fallen behind a bit because the money isn’t being allocated.” Improvement for the future rests on a foundation of mutual investment and continued commitment.
BIBLIOGRAPHY


APPENDIX I

Becoming a More Collaborative Leader

Description: This interactive training module focuses on the context and competencies needed to collaborate effectively. This module is intended to supplement additional training on relevant systems, processes, and policies that contribute to an effective data sharing environment.

Individual Goals: Understand the opportunities for and barriers to collaboration. Assess collaborative strengths and identify developmental needs. Apply training to collaborative experiences and opportunities. Develop cross-agency relationships.

Organizational Goals: Develop emerging collaborative leaders. Highlight collaborative successes. Identify areas of collaborative need and provide employees with time/space to consider solutions.

Evaluation: Conduct pre- and post-tests to examine changes in participant learning. Distribute reaction survey after training to determine value of content and approach. Follow up with participants at appropriate intervals to examine changes in individual behavior and examine training impact.

Outline:

I. Introduction to collaboration
   a. What is collaboration?
      i. Reflective writing exercise: what does collaboration mean to you?
      ii. Group discussion: think about the role of the individual in our definitions of collaboration.
         1. How do organizations/systems facilitate that involvement? What is the end goal of collaboration?
   b. Why collaborate?
      i. Collaborative success stories
         1. Ask participants to recall a successful collaborative experience…what made it a success?
         2. Consider State examples such as Traffic Records Coordinating Committee (guest speaker, if possible)
            a. How did individuals contribute to the collaborative success?
      c. Why not collaborate?
         i. Ask participants to recall a difficult collaborative experience…what made it a challenge?
            1. Using these examples, brainstorm the barriers to collaboration.
            2. Discussion: what is the role of the individual in working through these barriers?

II. Collaboration = changing context for leadership
a. Comparing and contrasting traditional and collaborative leadership
   iii. Discussion: is collaborative leadership replacing or supplementing traditional leadership practice?

b. Learning from the past
      1. What are some current opportunities for us to learn from the past and improve collaboration for the future?

c. The power of one person
      1. Do you have other examples of leaders who illustrated a collaborative mindset? How would you describe these individuals?
      2. Activity: Leadership Advice from Your Role Model (thiagi.com)

III. Considering your own leadership development
a. Considering competencies for collaborative leadership
   i. What are competencies? Why do they matter? What are the competencies of interest for effective collaboration?
      1. Background readings to inform discussion: Bingham, Sandfort, and O’Leary 2008; Getha-Taylor 2008; Morse and Stephens, 201x, Emerson and Smutko 2011.

b. Focus on: Interpersonal understanding

   ii. Assessment: Northouse, P.G. (2012). Task and Relationship Questionnaire

   iii. Activity and Discussion: Kat Koppett, Emotional Meeting (thiagi.com)

c. Focus on: Teamwork/cooperation


   iii. Activity and Discussion: Fight Right Conflict Management Roleplay (thiagi.com)

d. Focus on: Team leadership

   ii. Assessment: Turning Point’s Creating Clarity: Visioning and Mobilizing Assessment, or, Sharing Power and Influence Assessment (available at collaborativeleadership.org)

   iii. Activity and Discussion: Visioning or Problem Frames Activities in Bryson and Crosby chapter
e. Focus on: Flexibility
   ii. Assessment: Free trial version of Leadership Versatility Index online (http://www.perfprog.com/lvi/)
   iii. Activity and Discussion: White Water (thiagi.com)

IV. Moving forward
   a. Using the discussions, self-assessments, and experiential learning activities, create a personal developmental plan to expand your strengths and develop areas of interest.
   b. Continue relationships with those you met today. Identify a shared challenge that you can work on together.
   c. Identify additional opportunities for improved collaboration and model a collaborative mindset through your actions.
   d. Mentor others who need help developing their own collaborative strengths.
CHAPTER III

Legal Landscape: Balancing Public Policy Values

By Marilu Goodyear and Erin Borry

INTRODUCTION

The data that government creates and manages is a strategic asset. While simple, this statement has profound implications for government leaders and the citizens that they serve. Data provides the means to understand government services at the most basic level: the individual or organization being served. It is common to discuss the need for governments to put the citizen at the center of a service perspective; to design services not from an agency perspective but from the perspective of the individual being served. This report argues that this view of governmental service should be taken one step further. A cross-agency service perspective should focus on the use of government data to ensure effective service to the individual citizen and organizations in all sectors (private, non-profit, governmental) of society. Individuals served by the state should benefit from being treated as a whole person; a sum of the parts. Organizations should benefit from integrated governmental services providing one-stop customer service. For the State of Kansas to achieve this end, data must be shared between agencies in a consistent effective manner. In addition, sharing of data between agencies should be recognized as fundamentally different from sharing data publically.

It is common belief that there are fundamental legal and policy provisions that limit the sharing of data across agencies. In fact, almost all of the individuals interviewed in this study reported either personal experience with legal and policy barriers or believed that such barriers exist based on communication with others. A central argument of this Chapter is that the landscape of legal and policy issues relating to data sharing is nuanced and complex and, in fact, far from binary (share or not share) in nature. As a result, we believe that a broader look at this landscape may point to opportunities to utilize data in new ways. A number of laws and regulations exist at the federal and state levels that govern the use of data, ensure privacy protections, account for government’s need to withhold information from the public to function effectively, and fulfill security obligations. For the most part, this environment has grown through policy decisions that have been made in relation to individual types of data, and in reaction to specific situations, resulting in a patchwork of laws and regulations that lack an overall view of the data and its potential use. If the state’s goal is to effectively manage its data, a broader look at this legal and policy landscape is necessary. The advantage of a broader data management view is that provides the opportunity to understand the potential for data use beyond one service and one agency. It also opens up possibilities for sharing data effectively that might not been seen if a simple data category view is taken.
In this chapter the legal and policy dimensions of data sharing are explored along with a number of actions the state can take to address effective data sharing, including, the use of decision tools to encourage systematic thinking about data sharing, collaborative legal review of data sharing barriers, and the development of data sharing agreements.

APPROACH AND METHODOLOGY

As part of the initial introductory interviews conducted for the study, individuals were asked about barriers that stood in the way of sharing data across agencies and everyone interviewed (eleven interviews) identified legal and policy issues as a barrier to data sharing. Legal and policy constraints on the ability to share data across agencies and with other governmental units were discussed by individuals from twenty-five different organizations (nineteen state, three local, one federal, and one private sector firm). The concerns expressed in these interviews clearly showed the need to perform additional research concerning the legal and policy constraints on data sharing.

To provide further context, legal searches were conducted to identify federal laws which impact the ability of the state to share data.

Our analysis began by reviewing an informal list of about 300 statutes outside the Kansas Open Records Act that restricted access to records in some way. The list had been compiled by various state sources over time and, while not authoritative, we used this list as a starting point for researching existing exceptions, supplementing and validating it with two additional sources. The first came from an analysis of state and federal records restrictions listed on state agency records schedules obtained from the Kansas State Historical Society. The second source was through review of statutes identified as records restrictions as part of an annual review of such restrictions conducted by the Kansas Legislature. Approaches of other states and sectors were also reviewed to provide models for the issues considered when organizations are seeking to share data. Academic literature relating to governmental data sharing was reviewed to determine frameworks that might already exist for legal and policy issues relating to data sharing (Cresswell, et al., 2005; Cresswell, et al., 2008; Overman & Cahill, 1990; Weingarten, 1989).

Data were analyzed using defined information policy values from the discipline of public affairs (as defined in the following section). Based on the data gathered, a decision tool was developed for use by agency program managers to make decisions about sharing data. Recommendations were then developed for future actions to be taken by the state to improve the ability to share data across agencies.

INFORMATION POLICY VALUES

Information policy is the set of laws, regulations, policies, and rules that relate to the creation, use, storage, and distribution of information (Weingarten, 1989). Information policy researchers
point out that these policies reflect the value decisions made by legislators, government executives, and the courts; they are a reflection of decisions about what is desirable or worthwhile (Overman & Cahill, 1990). Overman points out that because these value decisions are made across time and by all levels of government, the process results in the lack of a coherent framework for managing government data. Decisions are made in relation to a specific context at a specific time when it is not possible to take into account the cumulative effect. In addition, policy makers must often weigh conflicting value propositions, like privacy and access, making consistency in the policy choices unlikely. The choices made by legislatures and executive branch policy makers vary depending on the type of data and the potential use; court decisions add an additional measure of complexity. Given this policy landscape it is understandable that there may be cases where the legal/policy status of data is unclear. One way of bringing more clarity to the policy environment is to understand information policy values and the potential tradeoffs involved when making decisions in relation to data sharing. This introduction to information policy values is provided in order to set the stage for understanding the policy choices that have been made in Kansas. Those choices appear in a number of pieces of legislation and reflect legislative intent at the time the choice was made. Understanding information policy values could assist law makers in Kansas as they seek to bring coherence to the legal and policy environment for Kansas records and data.

Access

Historically, information policy values were created from federal approaches to managing data (Overman & Cahill, 1990). Fundamental to democracy was the value of “access”: the right of citizens to know what was being done inside governmental organizations. Overman states, “It is one of our most cherished political norms, guaranteed primarily by interpretations of the first amendment, that freedom of information and access to and use of that information is an individuals’ presumptive right in a democratic government” (Overman & Cahill, 1990, p. 805). At the federal level, the cornerstone of the access information policy value is the Freedom of Information Act (FOIA). At the state level, this policy value is embodied in open records and open meetings legislation. These laws were both born out of a belief that governmental action should be open and through the advocacy of the press who sought consistent access to information about governmental decision-making. At the federal level, access also represented the view that government had a responsibility to actively disseminate information concerning its actions, not just passively respond to requests for information (OMB Circular A-130). This active view resulted in a number of laws relating to the distribution of government publications and, now that electronic information is prevalent, dissemination of information on government web sites. It is this active view of governmental information sharing that forms the foundation of governmental data sharing: the dissemination of information which provides value in a different context. While the traditional view of access to information relates to dissemination of information to the general public, another critical dimension of access involves sharing information within and between governmental organizations while withholding access to the general public.
Privacy

The Freedom of Information Act and open records laws provided a foundation for a second information policy value: privacy. Privacy, in the information policy context, is defined as “the control over information about the person” (Westin, 1967). However, because the Constitution lacked a clear unifying concept of privacy, the legal landscape has grown increasingly complex as legislative action has taken place on a case-by-case basis reinforced or contradicted by numerous court rulings. Decisions made in various information domains (health, education, criminal, etc.) have supported privacy of individual data, thereby setting up a clear conflict with the access information policy value. There is probably no greater change in information policy as it relates to electronic data than in the privacy area. When electronic data was married to easy network access, the ability of information to be shared increased exponentially. Previously, a de facto implementation of privacy values existed solely based on the difficulty of access to paper records. When those records migrated to a web environment, the increased access resulted in decreased privacy by default.

The concept that certain categories of information should be private formed the basis for exemptions to the laws that support access to governmental information, resulting in the Privacy Act of 1974 (5 U.S. C. § 552a) as well as a wide variety of laws restricting access on privacy ground for specific record types. These laws set up an inherent conflict between the needs of the individual (for privacy) and the need of government to function effectively in relation to the management of data (Overman & Cahill, 1990). In fact, in this study we found examples of privacy laws preventing the “common sense” sharing of information for the benefit of the individuals being served by government as well as the government. For example, lack of access to previous health records has the potential to compromise the ability of the corrections system to care for the prisoners under their care (interview 13). Our analysis found that the context for these laws is aimed at the public release of information, not sharing of that data within government. Nonetheless, they can seriously restrict the ability to share data within government.

State government also collects data from business organizations in its role as regulator of that activity. It is recognized that protection of this information, much of it trade secrets or other information of strategic value is another important part of privacy protection. This concept forms the basis of many federal and state laws with non-disclosure provisions.

Effective Government

Just as holding information private is necessary for individuals to function as free citizens, holding certain information private within governmental organizations allows the effective function of government business. This information policy value, while less well known, is an important part of understanding the policy aspects of governmental data. Governments routinely withhold information while decisions are in process so as to not disadvantage the standing of government in commercial transactions (such as the buying or selling of real estate). The need for candid advice from policy experts results in restrictions in open records laws that allow government leaders to process issues in draft form without being required to release this information to the public. While compromising the citizens’ right to know about certain
information related to governmental decision-making, these carefully circumscribed exemptions enable governmental leaders to ensure the most effective decisions can be made within the public’s interest.

**Security**

The privacy of individual data held by the government rests upon actions taken to ensure the security of that data from unintentional release. State governments have focused in building secure information technology environments to protect this confidential information, particularly individually identifiable information. Laws at the federal level have grown increasingly strong and complex as protection of information within the new technological environment has become a concern for citizens and policymakers.

Additionally, governmental data has traditionally been withheld in service of the overall security of the citizenry from attacks by a variety of institutional and non-institutional actors (foreign governments, terrorist organizations, as well as individual criminals). Concern for security has grown over the last thirty years, particularly after the 9/11 attacks. The current focus of concern brings together these two concepts: First, the security of IT systems and the data within them and concerns for citizen’s safety and, second, the consequent need to limit access to data which might provide opportunity for a bad actor. Cybersecurity focuses on ensuring that the information systems on which we depend are safe from those who would seek to compromise the basic functioning of society. However, an emphasis on security has the potential to compromise access. Legislators, courts, and executive branch decision makers are called upon to balance these two fundamental values as they seek to protect both society and democracy.

**Conclusion**

Information policy values provide a framework in which to view decisions about access to and sharing of governmental information. The legislative and judicial branches of government have attempted to balance the needs of government with the needs of the individual in the areas where conflicts might arise. These policy choices are reflected in a wide variety of legislative and judicial action based on the type of information in question and therefore the harm that might be done should information fall into the hands of individuals whose actions could harm individuals or society. However, it is clear that the context of information use is also important. A disclosure of data in one context might result in a privacy violation, but in another result in the ability to provide better service, reduce costs, or otherwise provide additional value to the citizen. One of the goals of this report is to encourage government policymakers to consider the broader context of data use when balancing these policy values.
FEDERAL LAWS THAT RESTRICT ACCESS TO PERSONALLY IDENTIFIABLE INFORMATION

There is a robust federal legal infrastructure that affects the ability of the state to make data publically available and to share between agencies and with organizations from the private and non-profit sector. An understanding of these laws is needed in order to interpret the Kansas landscape given that federal law takes precedent. In this report, we discuss the major pieces of federal legislation which were identified by the interviewees as important elements in determining the ability to share data within the state. Various other provisions relate to very specific record types and are tracked by the appropriate legal counsel of the agencies.

Health Insurance Portability and Accountability Act of 1996 (HIPAA)

The purpose of this act is to protect the privacy of personal health information. The U.S. Department of Health and Human Services (HHS) has set forth detailed regulations regarding the types of uses and disclosures of individuals’ personally identifiable health information. Privacy Rule defines or “personal health information” (PHI) a part of “individually identifiable health information,” including demographic data that relates to:

- the individual's past, present or future physical or mental health or condition,
- the provision of health care to the individual, or
- the past, present, or future payment for the provision of health care to the individual,

and that identifies the individual or for which there is a reasonable basis to believe it can be used to identify the individual (45 C.F.R. § 160.103).” While HIPAA is clearly weighted on the side of individual privacy, the rules do allow disclosure for “public interest and benefit activities” and the “research, public health or health care operations.” The public interest and benefit activities section covers public health; abuse and neglect or domestic violence circumstances; health oversight functions; judicial and administrative proceedings, law enforcement; serious threat to health and safety, and worker’s compensation.3

Also included in the law are provisions for disclosure for “essential governmental functions” which include:

“assuring proper execution of a military mission, conducting intelligence and national security activities that are authorized by law, providing protective services to the President, making medical suitability determinations for U.S. State Department employees, protecting the health and safety of inmates or employees in a correctional institution, and determining eligibility for or conducting enrollment in certain government benefit programs.” 45 C.F.R. § 164.512(k)

Research is also allowed, although the conclusion of a study by the Institute of Medicine of the National Academies found that the HIPAA rules both impede health research and also do not protect privacy as well as they should (Nass, Levit, & Gostin, 2009). While in the course of this

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3 See http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/index.html
study, some individuals have reported to us that HIPAA regulations have stood in the way of data sharing across state agencies, it appears that there are possibilities for sharing PHI across agencies for the individual services that are performed by a variety of state agencies. In addition, it appears that the state could, in a more comprehensive way, provide access to data decoupled from individual identification for health policy research.

**Family Educational Rights Privacy Act of 1974 (FERPA)**

The act, often known as the Buckley Amendment, protects the privacy of student records and became effective November, 19, 1974. The act prevents school officials from disclosing personally identifiable information about students and prohibits the inspection of their records without written permission (with some exceptions). Student records are covered after the student leaves the school but records of deceased students are not covered. Basic information about the student, commonly referred to as Directory Information is allowed to be disclosed unless the student has objected to the disclosure. A wide variety of other exceptions relate to law enforcement actions, VA benefits, and emergencies, etc. FERPA therefore limits the ability of Kansas educational institutions to share data (although the Kansas Board of Regents (K.S. A. 71-801, 76-711, and 72-4480) and the Kansas State Department of Education are authorized to collect and review education data.

**Social Security Numbers (SSN)**

One essential element of data sharing across agencies is to be able to match records of individuals so that a more integrated approach to service delivery can be taken and information can be gained to determine the effectiveness of government service. For example, matching data (that is then anonymized) from early childhood education programs through higher education and into the workforce can provide researchers and policy analysts data to understand the effects of education on life success. Increasingly, both federal and state organizations are asking agencies to document and account for the success of their programs. Being able to gain access to data across agencies has become a critical part of an agency’s ability to respond to these calls for accountability. Balanced with this need to account for the effectiveness of government services is the need to protect individual privacy based on the constitutionally-based value of an individual’s right to be free from governmental interference.

The use of social security numbers is at the center of this type of data sharing, given its defacto status as a national identifier. In recent years, the federal government has become more aware of the negative side of using this identifier across a number of governmental services, particularly given the increase in identify theft issues with electronic information (The President’s Identity Theft Task Force Report, 2008). In response, a number of federal and state agencies have taken action to limit the use of the SSN on identification records. New legislation is also spurring on such activity. For example, at the federal level the Social Security Number Protection Act of 2010 (S. 3789) - enacted in December 2010 - adds to the original Privacy Act provisions. And, at the state level, K.S. A. 75-3520 restricts the use of social security numbers in Kansas. Social security numbers still provide one means of identification in some governmental domains like law enforcement, but their use is limited in other domains.
Matching Records without Unique Identifiers

Given these restrictions, state agencies are utilizing a variety of alternate means of matching individual’s records so that they can serve users and provide data on the effectiveness of their services. The uses of name, address, date of birth, and gender are common means of matching records. There has been communication between agencies on this topic and some work has been done to provide standard guidance, based on statistical and mathematical principles, which agencies can use as a reference for "Probabilistic Matching" for linking records (interviews 3, 13). This study has also brought to light the needs of policy researchers to have access to data that “deidentifies” a specific individual, but provides characteristics and service data which can be utilized to determine trends and effectiveness of policy initiatives. We recommend that such guidance be formalized and shared broadly with agencies of state and local government.

STATE LAWS THAT RESTRICT ACCESS

State laws that restrict access take two different forms: 1) exceptions to the Kansas Open Records Act, and 2) specific statutory provisions which govern access to certain records. The Kansas Open Records Act (KSA 45-21545.223) defines both the policy for public records access for state and local records and some restrictions on such access. Many of the records exceptions included in this statute refer to the same category of records where the state also has a specific statute.

To determine the nature of restricting records our analysis included both open records exemptions and the specific statutes that restrict access to records. We began by reviewing an informal list by the state that had been compiled over time listing about 300 statutes outside the Kansas Open Records Act that restricted access to records in some way. We used this list as a starting point for researching existing exceptions, supplementing and validating it with two additional sources. The first came from an analysis of state and federal records restrictions listed on state agency records schedules obtained from the Kansas State Historical Society. The second source was through review of statutes identified as records restrictions as part of an annual review of such restrictions conducted by the Kansas Legislature. While neither list is definitive, it is adequate for the purpose of understanding, generally, the reasons why records are restricted. The purpose of this analysis is to determine if there are general trends in the development of state laws that should be considered when evaluating the state’s ability to share data. At the same time, it is important to remember that state data is also subject to federal restrictions (major ones noted above), and therefore the ability of the legislature to change state statutes is constrained.
As Table 1 indicates, 15 reasons for closure were identified that allowed us to classify the 268 statutory provisions in the catalog. The remaining statutory provisions related to the records definitions and/or included specific instructions for handling the records.

### Table 1: Reasons for Closure

<table>
<thead>
<tr>
<th>Reason</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access decided by board or government agency</td>
<td>1</td>
</tr>
<tr>
<td>Closed</td>
<td>71</td>
</tr>
<tr>
<td>Closed if requested</td>
<td>6</td>
</tr>
<tr>
<td>Closed unless authorized by agency</td>
<td>2</td>
</tr>
<tr>
<td>Closed with exceptions</td>
<td>52</td>
</tr>
<tr>
<td>Closed from government agency</td>
<td>3</td>
</tr>
<tr>
<td>Closed but open to agencies</td>
<td>2</td>
</tr>
<tr>
<td>Closed to public</td>
<td>32</td>
</tr>
<tr>
<td>Closed to public with exceptions</td>
<td>7</td>
</tr>
<tr>
<td>Closed to public unless authorized</td>
<td>1</td>
</tr>
<tr>
<td>Open to agencies or relevant parties</td>
<td>10</td>
</tr>
<tr>
<td>Open to public if requested</td>
<td>1</td>
</tr>
<tr>
<td>Open to public unless requested</td>
<td>2</td>
</tr>
<tr>
<td>Open to public after a certain time</td>
<td>1</td>
</tr>
<tr>
<td>Open to public with exceptions</td>
<td>7</td>
</tr>
<tr>
<td>Definitions and instructions</td>
<td>71</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>268</strong></td>
</tr>
</tbody>
</table>

Another option for analysis is to look at the reasons why the legislature would choose to limit access to records. Using the information policy values as a basis of analysis, the study identified reasons for the restrictions for the exceptions provided in Kansas Open Records Act (K.S. A. 45-221) and for the 198 statutory provisions which were not in the definitions and instructions category. Figure 2 provides data relating to the Kansas Open Records Act exemptions. Individual privacy is the focus of many of the provisions. Records that deal with the ability of government to be effective along with the protection of business records are another common reason for restriction. Most of the records relating to the other categories are well represented in the specific statute category and therefore may be less of a focus for the legislature in the open records statute.
Individual privacy is a common reason for restriction of access for records. Their records include:

- Medical records
- Personnel records, including letters of recommendation
- Library, archive, and museum records, including patron and circulation
- Donation records
- Correspondence between an agency and a private individual
- Census or research records that refer to individuals
- Utility records that refer to individuals
- Correctional records
- Records were disclosure would constitute a “clearly unwarranted invasion of person privacy”

Effective government:

- Testing and examination materials
- Appraisals or engineering estimates
- Software programs under certain conditions
- Notes, preliminary drafts and research data
- Proposed legislation, except when publically cited
- Legislative research, except when publically cited
- Bids and related documents and financial information of contractors

Keeping business records confidential was also common:

- Plan, designs, or drawings that are personal property
- Well samples, logs and surveys
- Prospective location of a business
- Intellectual property
- Financial data or traffic from a railroad company
- Tribal-state gaming compact

Investigations and security:

- Undercover agents
- Emergency or security plans and procedures
- Archeological site

Legal communications:

- Privileged under the rules of evidence
- Work product of an attorney

For the statutory provisions individual privacy was the primary reason for limits on access for fifty-three percent of the statutes, the next most common category was keeping private sector business records confidential (twenty-six percent of the statutes analyzed). The other categories were very small including investigations (13%), effective government (5%) and legal communications between clients and attorneys (3%). Individual privacy and business confidentiality are the areas relating to the confidentiality of record most often utilized. In both these cases, the legislative intent appears to be to protect these records from public release in
order to protect privacy. Sharing these records between governmental entities (without public release) potentially would not pose privacy issues and points to the need for legislative intent to be clarified in these cases.

Researchers also analyzed these laws by the functions of government. This analysis was consistent with our interpretation of the reason for closure of records. Table 3 provides counts of statutory provisions by function of government and reasons for closure. Personal privacy appears as an important reason in the Human Services area, which is to be expected. It is likely that most of the Human Services area data is also affected by HIPAA regulations from the federal level. Likewise in the area of business regulation, keeping business records and trade secrets from the public was the dominant reason and in the area of public safety individual privacy was the common reason for limiting access. These two areas are also the main reasons for closure in the general government category. The remainder of the categories are so small it is not possible to draw conclusions.

Table 3: Statutory Provisions by Function of Government

<table>
<thead>
<tr>
<th>Functions of Government Category</th>
<th>Reasons for Closure</th>
<th>Number of Statutory Provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources</td>
<td>Business Privacy</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Definitions and instructions*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Effective Government</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Investigations</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Legal/attorney Client</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Privacy</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>10</strong></td>
</tr>
<tr>
<td>Business Regulation</td>
<td>Business privacy</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Definitions and instruction*</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Effective Government</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Investigations</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Legal/attorney Client</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Privacy</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>56</strong></td>
</tr>
<tr>
<td>Education</td>
<td>Business privacy</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Definitions and instruction*</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Effective Government</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Investigations</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Legal/attorney Client</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Privacy</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>-------</td>
<td>---</td>
</tr>
<tr>
<td><strong>General Government</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business privacy</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Definitions and instruction*</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Effective Government</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Investigations</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Legal/attorney Client</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Privacy</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>71</td>
<td></td>
</tr>
<tr>
<td><strong>Human Services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business privacy</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Definitions and instruction*</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Effective Government</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Investigations</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Legal/attorney Client</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Privacy</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>84</td>
<td></td>
</tr>
<tr>
<td><strong>Professional Certifications</strong></td>
<td></td>
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</tr>
<tr>
<td>Business privacy</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Definitions and instruction*</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Effective Government</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Investigations</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Legal/attorney Client</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Privacy</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Public Safety</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business privacy</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Definitions and instruction*</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Effective Government</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Investigations</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Legal/attorney Client</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Privacy</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>36</td>
<td></td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>268</td>
<td></td>
</tr>
</tbody>
</table>

*Statutes that provide definitions for those records that are closed.

This analysis of state statutory restrictions provides the state summary information about the individual record decisions that have been made in the past. It shows that the state is making use of the commonly held information policy values to restrict access to the public. The analysis also shows that in some cases state statues make a distinction between access to the public and access by other state and governmental agencies, but in other cases statues are vague as to the
restriction. A renewed focus on sharing of data within government while maintaining restrictions on access by the public has potential to increase governmental effectiveness with data use.

ORGANIZING FOR DATA SHARING DECISIONS

As data sharing increases between state agencies and with local governments and other organizations it will be increasingly necessary for each agency to build a data sharing capacity within its organization. The data sharing function should become a part of a full data management program (see Chapter 4). Just as agencies have in place processes for managing financial and physical assets, a similar human and technical infrastructure will be needed to manage data.

An effective infrastructure for data governance should include three main elements: data stewards or owners who are responsible for a certain segment of data, a data governance body, and an information technology infrastructure. Data stewards are responsible for the maintenance of data definitions, access, use, retention, and disposition of the data under their control.

Potential roles for a data governance body include:

- Leading data initiatives within the agency
- Ensuring that data projects serve agency and customer needs
- Tracking changes in the legal environment that affect the agency use of data and develop and maintain policy
- Ensuring data quality and timeliness
- Seeking knowledge of “best practice” from other governmental agencies, professional associations, etc.
- Seeking data sources outside the agency which would enhance the effectiveness of services
- Participating in collaborative data sharing with other agencies and organizations (Electronic Records Management Initiative, 2005; Thomas; Educause)

The Kansas State Department of Education provides an excellent example of this type of data management system. As outlined in the KSDE Data Governance Program Handbook (2001) the agency data governance program is comprised of four elements: data owners, a data governance board, a data request review board, and a data steward workgroup. The program outlines role and areas of responsibilities for these groups as well as a defined process (with flowchart) for data requests. An important part of this infrastructure is an “escalation” process from data stewards and programmers upward through the data governance infrastructure to resolve data questions such as appropriateness for sharing. Additionally, the data request review board includes a representative from the Kansas Board of Regents to increase the effectiveness of sharing across the education agencies. Staff at KSDE report that the establishment of this infrastructure was driven by a dedication to “data use” as a fundamental part of the agency’s role (interview 3). The agency’s dedication to understanding the
educational landscape has motivated its emphasis on data use and made it a necessity to build such an infrastructure.

DECISION TOOL FOR DATA SHARING

Data sharing in this context means disclosure of agency held information to another agency of government or non-profit or profit sector organization for the purpose of improving governmental services. As part of the literature review and interviews conducted during the study, we have compiled the following list of elements that should be considered at the beginning of any data sharing project.

**Purpose of sharing**
- What will be achieved by sharing data?
- Assessment of benefits and risks

**Definition of information to be shared**
- Where did the data come from? (collected by the agency directly from the person/organization, given to the agency by a governmental agency (federal, state, local, quasi-), given to the agency by a contractor or another organization, given to the agency by an individual)
- Is the agency the custodian of the data? (is it collected and maintained for the agency’s purpose?)
- Does the data contain personally identifiable information? (yes or no)
- Level of detail: summarized data or detailed data (it if often possible to share summarized data when detailed data is not able to be shared)

**Legal status of data disclosure**
- Is there a legal obligation to share? Or an implied legal power to share?
- Is there legal power to permit disclosure within government or to the public?
- Is there a lack of legal clarity of disclosure status?
- Is there a lack of laws that apply to the data?
- Did the data subject give permission or consent for uses external to the agency? If so, in writing? Any limitation on usage?
- Are there any opt-in or opt-out provisions that data subjects were asked?
- Are there contractual agreements with other organizations that limit the use or disclosure of the data or give permission to share?
- Are there confidentiality agreements with other organizations relating to the data use or disclosure?
Timing of data sharing

- Continuous
- One-time

How data is to be shared

- Simple exchange between two parties;
- Providing data to a “data processing” organization who pools information and provides access to sharing parties and/or to others);
- Exceptional one-off disclosures of data in unexpected or emergency situations.

Data status

- Is the data in electronic format?
- What format is the data in? (National Information Exchange Model(NIEM) compliant, Other data standard format, Non-standard format)
- Are there statutory or administrative requirements that restrict or direct the storage of the data? (Location of storage on machine with internet access? Without Internet access? Location of storage by agency/entity or in the cloud?)
- Is the data current and accurate?

Technical provisions for sharing data

- Is the system where the data resides connected to an “enterprise service bus”? (Yes, No; if no ask: Is there already in use a data transfer protocol?)
- Are there statutory or administrative requirements that restrict the transmission of the data? Or the method of the transmission? (Simple File Transfer Protocol? Secure Sockets Layer? CD? DVD?)

DATA SHARING DECISIONS AND AGREEMENTS

As part of data gathering process for the study a literature review was conducted and sample data agreements were collected. In addition, interviews were conducted that provided information that employees who are involved in data sharing projects believe are important (interviews 2, 11, 35). From this research, we have compiled the following list of elements (interviews 2, 9, 11) that should be included in data sharing agreements between organizations.

- Identification of organizations involved in the agreement
- Purpose of sharing data
- Description of data to be shared (including metadata, accuracy, timeliness, format)
- Method of data access or transfer
- Identification of custodial responsibility (person or unit of organization)
- Identification of legal provisions relevant to the data
- Access and use protocols (who, how, when)
- Training of staff in relation to data definitions / parameters / use restrictions
- Security provisions
- Project cost agreements
- Time/length of agreement
- Retention protocols and provisions for return of data
- Data updating routines (Protocol for correction of inaccurate data)
- Time/length of agreement
- Review of effectiveness of the agreement/timeline defined
- Provisions for termination of the agreement
- Sanctions for failure to comply
- Signatures for both organizations

RECOMMENDATIONS

The following recommendations provide a way for moving forward with effective data sharing between state agencies and their organizational partners.

- **Legal Restrictions on Data Sharing:**
  a. Currently, interpretation of federal and state laws and regulations takes place within state agencies. While it was reported to the researchers that informal sharing of legal opinions on these issues does happen across agencies (interview 33), there is no formal mechanism to clarify and define the legal issues when data sharing is proposed. We recommend that a state body (potentially the Governor’s Office or the Office of Chief Legal Counsel in the Department of Administration) be designated to facilitate collaboration across agencies to resolve data sharing legal questions. Key issues to be considered include:
    i. The distinction between access to the public and access by other state and governmental agencies. A renewed focus on sharing of data *within* government while maintaining restrictions on access by the public has potential to increase governmental effectiveness with data use.
    ii. A focus on the most up-to-date interpretations of restrictions based on an understanding of legitimate service delivery needs of the agencies when serving one individual or organization across multiple agencies.
    iii. The potential for removing from records the data that identifies an individual while still retaining the record for decision-making, policy analysis and other types of research.

  b. The state legislature, in collaboration with appropriate state agencies, should perform a comprehensive review of state statutes that restrict access to records. The purpose of the review would be to determine if the reason for restriction is related to *public* release or whether the restriction also needs to apply to sharing across and within governmental agencies. Such a review should
seek to implement contemporary information policy standards in relation to privacy, access and security and to make clear distinctions between disclosure between government organizations and the public. Potentially such a review could also be included in the legislature’s annual review of statutes that restrict access to public records.

- Data Governance: All agencies should establish a data governance body. The body would be charged with understanding and promoting the use of the data both within the agency and with other governmental entities for governmental effectiveness.

- Unique Identifiers: The state seeks to serve each citizen in a more integrated manner across the various agency services that might be relevant to their current circumstance. The outcomes of state services are also of interest and require analysis of services across agencies. Being able to identify individuals and their use of services can serve both goals. Agencies report that they are using various means to match individuals between databases. We recommend that the state create a standard set of statistical and mathematical principles that agencies can use as a reference for "Probabilistic Matching" of individuals for linking personally identifiable records.

- Data Decision Tool: The state should establish a data sharing decision tool based on the tool provided in this report. Individual agencies should modify that tool to fit their specific needs. Such tools could play an important role in clarifying the specific path for decisions relating to data sharing, as well as improving consistency in the approach used for sharing similar types of data across state organizations.

- Data Sharing Agreements: The state should develop a template for data sharing agreement to be used by state agencies for data sharing projects. Other states have developed sample agreements between agencies.⁴

⁴ See http://www.oit.state.co.us/cto/cim/data-management for just one example.
BIBLIOGRAPHY


CHAPTER IV

Data Standards: Solution to Efficient Data Sharing

By Mitchell Ummel and Marilu Goodyear

INTRODUCTION

This chapter explores the evolution and the current stage of the adoption of data standards and sharing within State of Kansas government and sets forth a practical plan for the future. As part of this study, we performed a high level review of data standards currently used in the state. That review was conducted by using existing knowledge-stores, the FY2011 Information Technology Management and Budget Plan (ITMBP)\(^5\) report for state agencies and informal interviews with domain experts within Kansas government. In addition, the study assessed current policy and governance for data standards, which afforded a comparison of these efforts with those of a number of leading states. In assessing the “current state” of Kansas, our research efforts focused on four dimensions:

- **NIEM\(^6\) Core Elements**: Use of elements, such as Person, Location, Organization, and Event that form the “core” of the federal National Information Exchange Model (NIEM). These elements could form the basis for intergovernmental data sharing using NIEM.

- **Preparation of Agency Data for Sharing Activities**: Identifying priorities for changes in the way data is organized and stored which has potential for moving data sharing efforts forward.

- **Building on Current Technology Projects to Move Data Sharing Forward**: Recognizing opportunities for moving forward data standards and sharing within current technology projects.

- **Providing for a Governance Structure for Data Sharing Efforts**: Integrating efforts to provide a consistent infrastructure and policy framework for creation and adoption of data standards across the state enterprise.

\(^5\) The ITMBP is a report required to be filed annually by all state agencies in Kansas, and represents a snapshot of each agency’s information technology capacity, including current environment, major technology-related initiatives, and strategic 3 year plan for information technology.

\(^6\) NIEM is the National Information Exchange Model. [www.niem.gov](http://www.niem.gov)
BACKGROUND AND HISTORY

A Report on Data Sharing and Administration (1997)

In Kansas state government, the topic of data sharing and standards was first addressed in information technology policy well over a decade ago.

In 1997, the state commissioned The Ken Orr Institute (1997), an organization that had participated in the construction of the first State Information Management (SIM) plan, to study the subject of data sharing in Kansas state government (see Appendix I). The report examined the role of data sharing in the SIM plan, the needs and demands for data sharing, and discussed the need for a move away from point-to-point interfaces toward a common data sharing infrastructure. It included a review of data sharing requirements and obstacles, privacy and confidentiality considerations, and offered a set of recommendations to the Information Technology Advisory Board (ITAB), a group of state agency technology managers.

In framing its recommendations, the report addressed two data sharing-related issues (and supporting assumptions) identified in a 1994 document produced by the ITAB. Titled “Major Technology Issues in the State of Kansas”, the report outlined the issues as follows:

**Issue: Common Structure for information**
In the past, limited attention has been given to common definitions of data. This occurred since each agency defined their own data and there was little need to share information across agency lines. There is an increasing need to share information to be able to conduct an agency’s business. This is impeded if the data does not have the same structure and definition.

**Issue: Information Sharing**
Agencies have existing systems which were established to serve a particular purpose. These systems were agency specific and met the needs of that agency. There is now a greater emphasis on the sharing of data between agencies to conduct the business of the state. This sharing of information is often difficult since the data definitions may be different (i.e. In one location a name may be first name, middle initial, last name; in another agency system the name may be last name, initials) or the field lengths may vary (i.e. 20 or 15 characters for the last name). Each agency also has a significant investment in the creating and storing of this data.

In the discussion that followed, the report provided interesting insights into the assumptions underlying these issues. For example, despite the assertions that there was “an increasing need to share information to conduct an agency’s business”, and “There is now a greater emphasis on the sharing of data between agencies to conduct the business of the state”, the author found “little evidence to support these statements.” However, there were “instances stated in which increased sharing was perceived as necessary to more effective processing.”

The author also commented on the assumption that “This (information sharing) is impeded if the data does not have the same structure and definition.” While the author referenced emerging tools that could accommodate such inconsistencies to facilitate data sharing, they noted that:
The lack of data definitions and inconsistencies between different definitions of the same data is indeed a severe impediment. In fact, *the lack of data definitions at most Agencies is in clear conflict with the Open Records Act* (emphasis added). This statement is a reference to an earlier section of the report that looked at Kansas Open Records Act requirements related to data:

“K.S.A. 45-221: Certain records not required to be open; separation of open and closed information required; statistics and records over 70 years old open. (a) Except to the extent disclosure is otherwise required by law, a public agency shall not be required to disclose:

(16) Software programs for electronic data processing and documentation thereof, but each public agency shall maintain a register, open to the public, that describes:

(A) The information which the agency maintains on computer facilities; and

(B) the form in which the information can be made available using existing computer programs.”

Finally, the report addresses the assumption that “This sharing of information is often difficult since the data definitions may be different.” The author found that having different data definitions was not the main problem, but instead “the lack of data definitions was the basis for the most difficulty.” He points out that there may be little incentive to provide data definitions for existing legacy systems, and that this process is better performed in the analysis and design phases of system development. He also notes that “Agencies that have initiated projects that require substantial data sharing indicated to us in these interviews that these problems are quite solvable, given sufficient economic or political incentive.” (The Ken Orr Institute, 1997)

Among the specific recommendations from the 1997 study were to establish an ITAB data sharing Executive Committee to set forth the policy and governance framework, and a separate Meta-data Working Group (serving the Steering Committee) and charged with carrying out the required standards development for data sharing in state government. The report also recommends that “any relevant information developed as part of this framework should be incorporated into KIRC Policy #8000 on Data Administration.”

**Kansas Information Resource Council (KIRC) Policy 8000 “Data Administration Program”**

The Kansas Information Resource Council was established by K.S.A. 75-4740 in 1994 (repealed in 1998). The group can be considered a precursor to today’s Information Technology Executive Council (ITEC), a group that oversees technology policy and planning for the state. Besides laying the groundwork through completion of the first SIM plan, the group also coordinated the development of a number of IT policies that continue in effect today. KIRC Policy 8000, titled “Data Administration Program; was approved by the KIRC at their August 27, 1996 meeting. This policy (Appendix II) clearly demonstrates the recognition of the value of data to the enterprise (KIRC, 1996), as witnessed in the following excerpt:
“PURPOSE: To commit the state to the development of a formal Data Administration Program that recognizes and promotes the importance of data and information as valuable resources requiring management of their creation, use, storage, documentation, and disposition; encourages the management of data from both an agency-wide and state-wide view; improves data planning and access through the use of consistent methods, tools and technologies; identifies data that are critical to the mission of the state or that are common to multiple organizations within or among state agencies; and specifies the location of a central site for the development and maintenance of a statewide repository for metadata information, common data definitions, and ownership responsibilities in order to facilitate the exchange of information among agencies and the public.”

The policy set fairly aggressive deadlines for each agency to develop a data administration policy and program, along with naming an agency data administrator to “supervise or conduct the Data Administration activities of the agency”:

“7.0 PROCEDURES:
7.1 The Agency Data Administration Policy must be defined by March 1, 1997 and implemented by July 1, 1998.

7.2 Each agency shall, at least annually, beginning September, 1997, provide a copy of its existing Agency Data Administration Policy, report on the status of Data Administration implementation, and assess the percentage of agency data currently being covered by the Agency Data Administration Program. In addition, the agency shall identify the plans and goals to be achieved by its Data Administration Program during the planning period.”

ITEC Policy 8000 goes on to describe, in detail, the requirement for agencies to establish an effective data administration program, including (but not limited to) the establishment and maintenance of a “data dictionary”.

After the abolishment of KIRC and the creation of ITEC, Policy 8000 was adopted by the ITEC as of October 14, 1999 and continues in effect to this day. At the present time, data collected for the study indicates that a number of agencies do not have a formal data administration program, nor are copies of policies and reports on the status of implementation being filed by agencies. However, while the formal requirements of the policy do not appear to be being followed by the majority of agencies, we did find some progress in this area. For example, in a recent survey of agencies conducted in support of the State Information Technology Management and Budget Plan (ITMBP, 2011), approximately 24 percent of state agencies responding to the survey indicated that they currently maintain an enterprise Data Catalog or enterprise Metadata Repository within their agency. Extending the study’s analysis to the topic of data sharing, we find the most recent Strategic Information Management (SIM) Plan 2008-2013 describes the steps necessary to establish a more robust information sharing capacity.
within state government (State of Kansas, 2008). The plan (State of Kansas SIM Plan, 2008, 12) suggests that:

“Information sharing among governmental entities, branches, and local government is necessary for the achievement of improved services. Having the proper information available, shared, and integrated can lead to cost reduction, time efficiencies, and better decision making in government. Information from multiple sources should be integrated and available for seamless customer use. Information integration leads to enterprise agility. Access to enterprise wide information supports evolution and innovation. Information should be easy to locate, use, and analyze.”

Table 1 below outlines the goals and associated timelines for data standards and sharing included in the 2008 SIM plan.

**Table 1: SIM Plan Data Standards and Sharing Goals**

<table>
<thead>
<tr>
<th>Original Target Date</th>
<th>SIM Plan Goal</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>Agencies will use and adopt national and/or industry data standards in all IT projects</td>
<td>Incomplete</td>
</tr>
<tr>
<td>2008</td>
<td>State IT Leadership will be encouraged to work in national workgroups for the development of national data standards</td>
<td>Incomplete</td>
</tr>
<tr>
<td>2009</td>
<td>Agencies will document the data standards they use and submit them in their Three-Year IT Management and Budget Plans.</td>
<td>Incomplete</td>
</tr>
<tr>
<td>2010</td>
<td>Define a framework to map information exchanges for all agencies and projects.</td>
<td>Incomplete</td>
</tr>
<tr>
<td>2010</td>
<td>Inventory existing information exchange infrastructures, define a roadmap, and identify funding mechanisms for solutions.</td>
<td>Incomplete</td>
</tr>
<tr>
<td>2010</td>
<td>State Chief Information Technology Architect will provide leadership for initial information exchange infrastructure or will help to evolve a currently existing information exchange infrastructure.</td>
<td>Incomplete</td>
</tr>
<tr>
<td>2010</td>
<td>Use new large IT projects as a proof of concept for information exchange infrastructure.</td>
<td>Incomplete 8</td>
</tr>
<tr>
<td>2011</td>
<td>All IT projects use information exchange infrastructure.</td>
<td>Incomplete</td>
</tr>
<tr>
<td>2012</td>
<td>Make information exchange infrastructure available to local government and other partners.</td>
<td>Incomplete</td>
</tr>
</tbody>
</table>

Hindering past adoption of these goals, we find an atmosphere of highly constrained agency budgets and directives to “do more with less”. What results is tactical or reactive planning, with

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7 In the judgment of the authors of this report.
8 Although KEES is implementing technology to share/exchange data that may be reused.
investments in data sharing coming only as an outgrowth of new or existing projects, rather than as separate, funded initiatives. This most certainly has challenged Kansas agencies in their efforts to achieve meaningful progress in this area, resulting in a corresponding delay in achieving the strategic SIM plan vision outlined above.

Although there have been only pockets of progress on the goals to-date, the principles, guidance, and goals established in the 2008-2013 SIM Action Plan remain applicable and valid today.

Over the past few decades, the landscape for data sharing and standards across Kansas state agencies has evolved significantly.

**Figure 1**

**KANSAS DATA SHARING AND STANDARDS MATURATION 1970-2020**

Figure 1 illustrates the advancement of data sharing and standards over the past 40 years, within State of Kansas government, and the predicted course of standards maturation in the current decade. The figure shows the maturation cycle evolving from very limited sharing and standards in the 1970s-1980s, through the emergence in the 1990s-2000s of XML-based domain-specific standards, through today’s decade, where shared, cross-domain vocabularies and frameworks for organizing information (ontologies) are common, leading us to a shared semantic models that map to a set of jointly used terms for the purpose of data sharing. In more recent times, national industry, government, and/or de-facto standards within specific government domains
have become well-adopted and now are beginning to unify under newly promoted NIEM standards “exchange fabric” – where foundational architectures are put in place and leveraged across both intra- and inter-agency data realms. We find that promotion of this overarching standards framework at the federal level has had several consequences, including increasing requirements for adoption by states for federally-funded technology projects, and increased adoption by industries aligned with these domains, both of which are beginning to create a “critical mass” for adoption. This presents a compelling case for Kansas to move forward aggressively to adopt these national standards immediately.

**Twenty-five Information Technology Initiatives to Lower IT Costs or Improve State IT Efficiency**

On August 21, 2012, Kansas Governor Sam Brownback released a listing of twenty-five information technology initiatives the state is implementing through the Kansas Office of Information Technology Services (OITS) to lower IT costs and improve IT efficiency across state agencies (State of Kansas, Office of the Governor, 2012). The initiatives address shared services models, rationalization and consolidation of state applications, creating a transparent and efficient organization, improving access to state systems, improving portfolio management and governance, strengthening cybersecurity, and developing an efficient and skilled IT workforce.

Part of the portfolio management and governance initiative is to formalize and enforce data standards, as described in the following excerpt from the report.

**Initiative 18: Formalize and Enforce Data Sharing Standards**

Many of the business processes in state government rely, in some part, upon with the exchange of data between computer systems. The Office of Information Technology Services (OITS) is responsible to ensure that every process that is put into place to facilitate the sharing of data is done so securely and is efficient from the perspective of both the consumer and provider of the data. And while unique regulatory or mandated requirements around format and process will likely prevent us from reaching a completely efficient "design once" state, designing and instituting a quality data sharing standard will go a long way towards helping the provider of the data from having to spend resources to develop custom interfaces for each and every requestor of the same data.

**Recommended Action:** The state Chief Information Technology Architect (CITA), in conjunction with agency CIOs and agency subject matter experts, will begin work on drafting formal recommendations for ITEC consideration on the setting of and improvement of data sharing standards that are primarily focused on maximizing cost savings to the agencies and improving state efficiencies. The CITA and CITO will formalize plans for the formation of a new IT Operational Council made up of business
and tech leaders from multiple agencies that will provide guidance to OITS on operational and prioritization related issues”.

This report provides context and recommendations that can help inform the development of a strategy by OITS for moving forward with this initiative.

**The ITMBP 2011 Survey**

As part of the research for this report, a recent (Information Technology Management and Budget Plan, September 2011) was used as source data for a survey of state agencies. The results of the survey demonstrate the significant opportunity for improving data sharing and standards across Kansas State Government. A total of 43 agencies, including small, medium, and large agencies, responded out of 88 agencies surveyed, with 25 agencies responding to the specific questions related to Data Sharing and Standards. The questions, distributed as part of the annual, 3-year, IT Management and Budget (ITMB) reporting cycle for 2011, included:

1. Does your agency have a published data catalog?
2. Does your agency have a metadata repository?
3. What percentage of current automated interfaces are using standards-based data exchanges compared to proprietary data exchanges?
4. List the name of all current automated interfaces used for data exchange in your agency and classify them as internal or external data exchanges.

In summary:

1. Of the 58% (25) Kansas agencies responding only around a quarter maintain an enterprise Data Catalog (24%) or enterprise Metadata Repository (28%).
2. More than half (13) of Kansas agencies responding, indicated minimal compliance (less than 60% compliant) with standards in their external data exchanges.
3. In general, larger agencies and those who have recently replaced systems were more likely to have standards-based exchanges in place than small or medium-sized agencies.

After decades of work, the necessary environment for a more robust and effective standards-based data sharing in Kansas state government has not yet been realized. A significant opportunity to catalyze such a movement is possible now.

What is not clear by looking at the documentation available today is the systematic shift of data exchanges from large batch files moving daily, weekly or monthly between organizations toward more of a real time request/response data sharing. There are significant large file exchanges still occurring, however, due to process understanding/improvement and drive toward more efficient government and timely response to citizens there is a dramatic higher percent of real time or near real time exchanges occurring today, according to information collected by the author. These real time exchanges are mostly SOA or web services enabled using XML or similar format. While most federal agencies encourage large batch file exchanges today they are slowly moving their data exchange architecture toward being able to support real time
responses. The National Health Information exchange network follows this design as well as several other major federal exchanges.

The following section outlines a recommended approach to achieve the benefits of weaving the State of Kansas into a national information exchange framework.

**NIEM: Weaving Kansas into a National Information Exchange Framework**

This study finds that just as cross-organization collaboration is becoming a new standard for accomplishing government business, consolidated (and shared) IT services will offer up tools and services as part of the enterprise data sharing framework for agencies to leverage. Such tools and services should also provide for flexibility to allow individual agencies the necessary stewardship over their own data and IT services. As states, including Kansas, move toward a consolidated model, the opportunity is at hand for a renewed effort to implement common data standards and data sharing processes, along with the governance needed to ensure their success.

The means to achieve the Kansas vision for improved data standards and sharing can be found by expanding upon the success the state has already had in the NIEM Geospatial and Justice domains (see Chapter 1), leveraging the best practices of other states and embracing the principles and standards promoted as part of NIEM.

The National Information Exchange Model (NIEM) is an initiative supported and promoted by the Federal government. NIEM is a means of connecting communities of people who share a common need to exchange information in order to advance their missions. NIEM’s mission is to provide a commonly understood way to connect data that improves government decision-making for the greater good.9

In April 2011, the National Association of State Chief Information Officers (NASCIO) issued a strong position of support for NIEM and urged adoption across federal, state, and local governments in concert with a detailed call to action for state CIO’s (National Association of State Chief Information Officers, 2011a, 2011b).

The National Association of State Chief Information Officers (NASCIO) recommends the adoption of the National Information Exchange Model (NIEM) for enabling collaborative information exchanges across the state government enterprise. NIEM should be integrated into state government enterprise architecture and data management strategy specifically for planning and implementing inter-governmental information exchanges. NIEM provides a broad range of products and capabilities for planning and implementing enterprise-wide information exchanges. Government effectiveness and citizen centric government services require effective cross line of business collaboration and communication. Use of national standards will avoid redundant investment and unnecessary variation. What is needed is a common discipline for information sharing that is employed by all government lines of business. NIEM exists

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9 National Information Exchange Model at www.NIEM.gov
as that discipline for federal, state and local government. (National Association of State Chief Information Officers, 2011a, 1)

NASCIO remains committed to NIEM. In January, 2013 they released their 2013 Federal Advocacy Priorities which included support for the adoption and expansion of NIEM (NASCIO, 2013). NIEM represents an established base of core standards, related across a growing family of domains, allowing for rationalization, through a common or universal “core”, among previously well-adopted standards domains such as HL7\(^{10}\), GJXML\(^{11}\), and ASC X12\(^{12}\).

**NIEM Domains**

The NIEM web site defines a domain as “a business enterprise broadly reflecting the agencies, units of government, operational functions, services, and information systems which are organized or affiliated to meet common objectives.”\(^13\)

Table 2 provides a brief overview of each of the major domains. Additional domains will be added in future versions of NIEM\(^14\).

**Table 2 - NIEM Domain Descriptions**

<table>
<thead>
<tr>
<th>NIEM Domain</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biometrics</td>
<td>The Biometrics domain defines the XML representation for biometrics data such as facial images, fingerprints, iris scans, and DNA so that providers and consumers of biometrics information can exchange this data. Biometrics information is used extensively in different areas of government including homeland security, law enforcement, and defense, just to name a few.</td>
</tr>
<tr>
<td>CBRN</td>
<td>The CBRN (Chemical, Biological, Radiological, Nuclear) domain currently supports efforts to detect and interdict radiological and nuclear threats.</td>
</tr>
<tr>
<td>CYFS</td>
<td>The CYFS (Children, Youth, and Family Services) domain supports timely, complete, accurate, and efficient information sharing among the partners that can help improve outcomes for children and youth whose circumstances make them particularly vulnerable.</td>
</tr>
</tbody>
</table>

\(^{10}\) Health Level 7 – A well adopted standards set for medical diagnostic and clinical data exchange. [www.HL7.org](http://www.HL7.org)

\(^{11}\) Global Justice XML – A well-adopted standards set for justice and law enforcement data exchange, which has been assimilated into the NIEM standards initiative. [http://www.it.ojp.gov/default.aspx?area=nationalInitiatives&page=1013](http://www.it.ojp.gov/default.aspx?area=nationalInitiatives&page=1013)

\(^{12}\) The Accredited Standards Committee X12 – A well-adopted standards set for data exchange which includes health insurance and medical claims/enrollment/membership/payment transactions. [www.X12.org](http://www.X12.org)

\(^{13}\) [https://www.niem.gov/documentsdb/Documents/Overview/NIEM_Introduction.pdf](https://www.niem.gov/documentsdb/Documents/Overview/NIEM_Introduction.pdf)

\(^{14}\) NIEM Version 2.1, released in September 2009, represents the latest version known at the time of this publication. Work has recently begun on a NIEM 3.0 standard, scheduled for completion in late 2013. See [www.niem.gov](http://www.niem.gov) for more information.
<table>
<thead>
<tr>
<th>Domain</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyber</td>
<td>The Cyber domain supports the coordinated efforts to create a safe, secure, and resilient cyber environment.</td>
</tr>
<tr>
<td>Emergency Management</td>
<td>The Emergency Management domain supports community efforts to coordinate and integrate all activities necessary to build, sustain, and improve the capability to mitigate against, prepare for, respond to, and recover from threatened or actual natural disasters, acts of terrorism, or other man-made disasters.</td>
</tr>
<tr>
<td>Immigration</td>
<td>The Immigration domain supports immigration-related services and benefits, such as naturalization and work authorization. In addition, this domain supports information sharing and exchange to improve those services and law enforcement activities as well as foster better collaboration with external partners.</td>
</tr>
<tr>
<td>Infrastructure Protection</td>
<td>The Infrastructure Protection domain supports the collaboration of federal, state, tribal, local, and private-sector partners to strengthen not only the protection of critical infrastructure, but also its resilience.</td>
</tr>
<tr>
<td>Intelligence</td>
<td>The Intelligence domain is the standard of choice for exchanging intelligence among any federal, state, and local agencies on a foreign or domestic basis. Domain members identify the operational needs to exchange intelligence, as well as the opportunities to share information with other domains and functions in justice and homeland security. Domain members represent the full range of operations that deal with the gathering, analysis, fusion, and dissemination of intelligence, as well as the ability to act upon it.</td>
</tr>
<tr>
<td>International Trade</td>
<td>This NIEM domain supports the mission of protecting the movement of international trade across U.S. boarders by facilitating real-time exchange of information with state, local, international, and other partners.</td>
</tr>
<tr>
<td>Justice</td>
<td>The Global Justice XML Data Model (Global JXDM), created in March 2001, evolved from a reconciliation of data definitions into an XML-based framework that would enable the entire justice and public safety communities to effectively share information at all levels. In 2005, GJXDM 3.0.3 became the first domain in NIEM. The Justice domain continues to provide the criminal justice system with the data elements, objects, and properties it needs to share critical information between jurisdictions and levels of government.</td>
</tr>
<tr>
<td>Maritime</td>
<td>The Maritime domain supports the effective understanding of anything associated with the global maritime domain that could impact the United States' security, safety, economy, or environment. NIEM facilitates this understanding through effective, timely sharing of vital, secure information among many key partners.</td>
</tr>
<tr>
<td>Screening</td>
<td>The Screening domain supports, coordinates, and harmonizes the information needs of a number of homeland security mission areas that rely on accurate, timely information in support of a wide range of screening and credentialing activities.</td>
</tr>
</tbody>
</table>
State of Kansas Data Sharing Assessment

| Human Services | The Human Services concerns itself, at local, state, and federal levels, that with emergency and non-emergency communications that promote the economic and social well-being of families, children, individuals, and communities. |

A Starting Place for NIEM: U-Core Data Elements

At the heart of NIEM lies the Universal Data Elements or Universal Core (U-Core) which exist across all NIEM domains, and allow for relationships to be inferred across all NIEM domains. Furthering the U-Core, we find what is referred to as Common Data Elements or Common Core (C-Core), which are common across two or more NIEM domains, and allow for relationships to be inferred across two or more NIEM domains. Through this aforementioned construct of linking domain specific data elements across a universe of domains, the study finds the strength and power of the NIEM exchange model.

Figure 1 - NIEM Universal and Common Core

Within the NIEM U-Core, there are several data elements which seem particularly important for implementation of NIEM in Kansas.

Person (Individual)

Within eGovernment, an overwhelming majority of data sharing involves information about, or related to, people. The following excerpt is taken from an Executive Update from the IT advisory service Cutter Consortium (Ummel, 2010), which explores this topic in more detail:

“Looking across information realms for governmental healthcare, welfare, justice, law enforcement, social services, and myriad regulatory functions, we find a wide variety of

15 Source: www.NIEM.gov
entities that we regularly struggle to manage effectively. Let’s consider the example of a person as an entity in an information system. A person who is a subject of any number of government services can also be known as an individual, citizen, a constituent, a licensee, an operator, a provider, an actor, an accomplice, a witness, a contact for a regulated entity, a head of household, a family member, a claimant, client, a party, employee, suspect, an alleged perpetrator, a victim, an offender, an inmate, a parolee — to name just a few. From cradle to grave, personas are available for any and all states and conditions of human being. Multiple personas per individual, typically dozens, are more often the rule than the exception — and these personas are sprinkled across dozens of information system domains, with very little, if any, coupling at the level of individual.” (Ummel, 2010)

Clearly, the need to manage data by person is necessary for many governmental services, and that need is very likely to cross organizational boundaries.

**Organization Context**

An organization, within the context of information sharing and standards, is a unit (or entity, including a person) conducting business or an operation. Organizations may have individuals associated to them, and may be legal entities, government agencies, or less formally organized groups or teams which are created to carry out a specific business function or operation. Organizations may be subject of an investigation, or complaint, or the party to a government action. They may also be the holder of a license, permit, or authorization which has been granted by a government agency.

Organizations form an important part of the structure of government service delivery, with unique statutory functions. Because negotiating their boundaries is a key to data sharing, being able to develop standards around “organization” is critical.

**Event Context**

Events most often involve a person (or persons) as an actor or subject, and may also involve organizations directly, or by association, through individuals. Events are most effectively tracked through space (geospatial dimension) and time (temporal dimension), so metadata standards for location (including address or GIS coordinates) and time correlations are critical in managing associations across disparate domains.

Because events in some form often drive or comprise government actions, and may trigger processes across multiple organizations (agencies), they are an integral aspect of data sharing.

**NIEM Domains in Kansas State Government**

Each Kansas government agency can be mapped to one of the six general eGovernment groups/families shown in Table 3. These are categories defined by the Division of the Budget.\(^\text{16}\)

### Table 3 - Kansas Agency Groups by NIEM Domain Interest

<table>
<thead>
<tr>
<th>NIEM DOMAIN OF INTEREST</th>
<th>GENERAL GOVERNMENT</th>
<th>HUMAN SERVICES</th>
<th>EDUCATION</th>
<th>PUBLIC SAFETY</th>
<th>AGRICULTURE AND NATURAL</th>
<th>TRANSPORTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIEM UNIVERSAL CORE</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>NIEM COMMON CORE</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>X</td>
</tr>
<tr>
<td>BIOMETRICS</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEMICAL, BIOLOGICAL, RADIOPHYSICAL, AND NUCLEAR</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>CHILDREN, YOUTH, AND FAMILIES</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>CYBER</td>
<td>x</td>
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<tr>
<td>EMERGENCY MANAGEMENT</td>
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<td>x</td>
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<tr>
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<td>x</td>
<td>x</td>
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<tr>
<td>INFRASTRUCTURE</td>
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<td>x</td>
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<tr>
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<td>x</td>
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<tr>
<td>INTERNATIONAL TRADE</td>
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<td>x</td>
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<tr>
<td>JUSTICE</td>
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<td>x</td>
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<tr>
<td>MARITIME</td>
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<tr>
<td>SCREENING</td>
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<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

As shown in the table above, the NIEM U-Core and C-Core concepts and standards are cross-cutting (and applicable) to most state agencies in Kansas.

The few data exchanges in Kansas that involve NIEM core efforts include projects that had funding available included the KEES HHS eligibility system and the public Safety Traffic Records system. These are the projects with federal funding where the Federal agency is moving toward
NIEM for that domain. A similar effort will be occurring with the KCJIS public safety records for Federal/ state/ local exchanges of records.

The Federal Government is evolving the adoption of NIEM as states begin to use it. They identify a domain area that is likely to receive initiative funding and move that area toward NIEM based exchanges. It is expected that most fed-to-fed exchanges will take a multi-step evolution to NIEM adoptions:

- Identify the NIEM adoption plan
- Stand up a parallel NIEM channel with the traditional FTP/EDI channel
- Fund or mandate fed-to-fed exchanges to use new NIEM exchange
- Sunset traditional exchange

It is expected that the fed-to-state exchanges will take a similar path:

- Identify the NIEM adoption plan
- Stand up a parallel NIEM channel with the traditional FTP/EDI channel
- Find states to convert to NIEM channel
- Eliminate the traditional channel
- The traditional channel is eliminated

This is a very expensive approach due to the necessity of support multiple exchange patterns for conversion period, which might be as long as a decade. However, most federal agencies are reluctant to force the conversion since they are expected to pay the states cost of conversion and funding is limited. It is almost impossible for a state to move forward with a fed-to-state exchange until the Federal agency partner is ready. Even though some states are ready for NIEM and are converting to flat file to comply with current federal exchange standards.

The interesting part of NIEM adoption might be in the case where the audience is private, local government or citizens. In those cases the NIEM published standard is identified and a cutover date for all exchanges is made mandatory for all. An example of this is INS clearance. Almost any employer can provide information on a potential employee and the DHS can clear that individual through various checks with INS, FBI, IRS, SSA and state birth and death data sources. This is achieved all in a matter of seconds/minutes and all NIEM based.

Similar to the federal exchanges with locals it is likely that state to private, local, citizen exchanges might take on a NIEM flavor sooner due to the fact that most software available will be able to accept NIEM data sources easier than old format data sources. So it is recommended that agencies that exchange data with locals start with exchanges that support as well as old format exchanges. An agency or enterprise service bus can minimize the effort to support multiple exchange formats by automatically delivering one source to two format structures.

**Information Exchange Package Documentation**

While NIEM adoption may proceed in an incremental fashion, the state may want to adopt a standardized approach to its implementation. The NIEM program office recommends a six step
process for the creation of a NIEM Information Exchange Package Documentation, the building block of a NIEM implementation for an organization. Shown in the diagram on the next page (abstracted from www.niem.gov), the steps are:

1. Scenario Planning: Enables the identification of scenarios requiring the exchange of information, business requirements, and business context.
2. Analyze Requirements: Defines the business and data requirements associated with a NIEM information exchange.
3. Map and Model: Comprises of activities focused on creating the exchange model, then mapping it to the NIEM model.
4. Build and Validate: Focuses on the creation of a set of NIEM-conformant XML schemas that implement the document structure identified in the previous steps.
5. Assemble and Document: Concentrates on assembling all artifacts of the IEPD, and completing any remaining documentation.
6. Publish and Implement: Focuses on publishing the IEPD, and using it in a production mode.

HARMONIZING DATA-AT-REST WITH DATA-IN-MOTION

Information technology professionals tend to think of information standards in the context of sharing or exchange, differently than standards for storage or management. One might consider data that is stored in relational database structures, within our enterprise information systems as “data at rest” and with the interfaces which interconnect applications within our enterprise information systems as “data in motion”. While there are barriers in the reengineering of legacy data systems particularly given the constantly evolving landscape of information sharing and exchange standards, enterprises benefit in the harmonization of internal data management architectures with external influencing factors. In the long run, reengineering information systems to be information-sharing-ready is much less expensive than continual modification of legacy systems which are not natively enabled for information sharing purposes.

The natural reaction, unfortunately, for the adoption of data sharing or publishing standards, is for data architects to install overly complex layers of what can be referred to as “semantic duct tape”. While this layer serves to insulate internal systems from ever-evolving directions of data exchange, the “semantic duct tape” quickly becomes unmanageable over time. Additionally, it adds unneeded complexity, and quite often actually hinders, rather than helps, the enterprise in its goal to achieve full participation in a set of standards-based exchanges. Without an ongoing harmonization effort, risk is high for “impedance mismatch” to occur. This “impedance mismatch” requires additional layers of translation, and becomes problematic in the Extraction, Transformation, and Loading (ETL) of data among internal information systems.

Among the principles which could be adopted and promoted within Kansas, is that agencies shall consider both data at rest and data in motion, in the application and adoption of beneficial, standards-based, information exchange models and ontologies, and strive to minimize the layers of “semantic duct tape” needed in the services or ETL layers of the architecture. Figure 3
illustrates a model that could lead to integration maturity, increased agility, reduced complexity, and minimization of technical debt. The State of Kansas, as an enterprise, is currently operating at LEVEL 1 in the Harmonized Semantic Integration Capability Maturity Model (CMM), as there are no identified efforts to harmonize data at rest with data in motion.

**Figure 3**

Harmonized Semantic Integration

*Capability Maturity Model*

Best Practices from Other States

The development of a data sharing program can be a clearly structured and funding program but given the lack of state resources for both data management and technology programs such robust approaches are unlikely. However, actions taken in other states can be instructive to the State of Kansas as we seek to build a data sharing capacity within the state given limited resources.

A review of three states who exemplify best practice in data management and sharing (Colorado, Indiana, and Washington) indicate that the development of data standards, planning processes and governance structure.

Development of Data Standards

The State of Washington has provided two important tools to their agencies for the development of data standards. First, they created an Enterprise Data Standards Framework (2011) which outlines a specific process for the development of data standards. This framework was developed in answer to State of Washington Information Services Board (ISB) objective
originally adopted on January 8, 2009, to “develop a framework and guidelines for a repeatable governance model by which state agencies will work together to create and maintain enterprise data standards”.

The framework promotes the reuse of standards which are already well-adopted at the state or national level, and specifically encouraging agencies to consider NIEM in their planning for data standards. The state sets forth a formal sequence of activities in the development of standards, and emphasizes the roles and responsibilities associated with data administration, governance, and stewardship in their planning. The publication details the five high-level process steps involved in setting new data standards. A listing with brief description of each of the five process steps is included below:

- **Identify and Confirm Business Drivers.** Through this activity, a business case helps identify and communicate the value proposition for a proposed data standard. Prior to development of a business case, existing standards registries are scanned to understand whether there’s a need or gap for new standard development. Federal, state, and industry standards, including those promoted by NIEM, are also surveyed. Once the need for a standard is established, a business case is developed, sponsors are identified, and the business case is evaluated and (if favorable) approved.

- **Involve Stakeholders and Participants.** Stakeholder identification, participation, and endorsement are key portions of this activity. Following the identification of stakeholders, the business case is communicated more broadly across agencies, feedback received, and input added to strengthen the business case.

- **Set Data Sharing Standard.** Using state-provided templates and processes, more fully refine the data standard being proposed. High level usage scenarios, diagrams, implementation strategies, etc. are all developed at this time and included within an elaborated business case. Additionally, an impact analysis is conducted to determine the magnitude of effort associated with implementation of the standard, and the impact to the stakeholder agencies is well understood. At this time, approval may be considered by a steering committee.

- **Development Data Sharing Implementation Plans.** Upon approval of the elaborated business case, agencies impacted by the data standards should document how and when they will implement the new standard. The steering committee reviews the implementation plans for completeness and possible timeline risks.

- **Monitor Data Sharing Implementation.** Apart from status updates, communication, and project reporting processes, periodic reports will be provided to executive sponsors and the state EA program to understand, from an enterprise-wide perspective, long-range progress towards data sharing goals.
The State of Washington has also provided a data registry for the standards developed through this process (https://ocio.wa.gov/policies/1821020-data-registry).

**Planning Processes**

The exemplar states include two important elements in their planning processes: 1) the assignment of responsibility for planning and 2) specifically define the type of planning documents. For example, Colorado designated the Enterprise Architecture Office to lead data management programs and data standards policies (Colorado Governor’s Office of Information Technology, 2010) and Washington has put this office at the forefront of creating data standards (Enterprise Data Standards Framework, 2011).

Indiana has defined the type of planning documents which are needed for data sharing projects (Crowe Horwath, October 2011). These include:

- A strategic plan that defines purpose and the importance of the project
- An implementation plan which includes both short-term and long-term activities
- An architecture document which includes models and standards
- A design document which includes the technology components and who they will be implemented
- A return on investment document which includes cost savings and avoidance

Indiana also includes progress on the development of technical infrastructure for data management in its annual Technology Roadmap (State of Indiana 2011 Technology Roadmap).

**Governance Structures**

States analyzed have varied governance structures that include the following players within the state:

- State and agency CIOs
- State and agency data officers
- State and agency legal counsel
- Enterprise architect

Attempts at state-wide governance coordination can include advisory boards and reporting requirements. For example, the Colorado Government Data Advisory Board was established in 2009 and legislative establish in 2012 (C. R. S. 24-38.5-703) to advise the state CIO on best practices, policy and funding in relation to the data sharing program. The existence of this Board also ensures a consistent focus on data sharing through its annual report. For example, the 2011 report focused in efforts by the CIO in the areas of data matching, data merging, data cleansing and data exchange, the need for enhanced policy to protect data privacy and security, and a strong communication program in relation to data sharing (Colorado Data Advisory Board Annual Report, 2011). The 2013 report focuses on recommendations for the establishment of an operational governance model that “will help to facilitate both the alignment of the business with IT as well as to add substantial value to the organization.”
In addition, Colorado has identified agency decision-makers who take responsibility for agency collaboration with data sharing and technology leaders who participate in technology planning. (Colorado Governor’s Office of Information Technology, 2010).

RECOMMENDATIONS TO THE STATE

In addition to Initiative 18 discussed earlier in this Chapter, it is recommended that the state consider the following actions to move forward the use of data standards and exchanges.

- The state should incorporate an evaluation of the use of NIEM in the process of evaluation and approval of all system development projects over $250,000 in all three branches of government. This evaluation can be made part of the project planning process outlined in ITEC Guideline 2400a ([http://oits.ks.gov/kito/itec/Policies/ITECITPolicy2400A.pdf](http://oits.ks.gov/kito/itec/Policies/ITECITPolicy2400A.pdf)). See Appendix III for detail on questions that could be addressed.

- Systems should be classified within the next ITMBP submittal process if they contain U-Core or C-Core data elements.

- For any data that is shared/received with multiple sources 2-X agencies or multiple local government it is recommended that the system deliver data in dual formats. One of those should be NIEM. The other might be any format the community prefers, Flat file, comma delimited, excel, etc.

- For single agency-to-agency exchanges it is recommended that the data matches NIEM exchanges standards but the actual exchange can be whatever is most efficient, i.e. a flat file.

- For any data that is delivered via services (i.e. web services) it is recommended that the data be delivered in NIEM format, unless the service is strictly a system to system service between agencies. However if the services is designed or has evolved to support multiple systems it should be in NIEM format.

- Format conversion can be supported by an enterprise service bus (and multiple output formats), however the approach to funding an enterprise service bus has never been clarified. A true cost for exchanges is almost considered free since FTP servers are minimum cost. Capturing full activity cost for exchange design, development, extract logic, ongoing batch processing, operational support, formatting, security, and technology support will need to be captured consistently to fully understand what these exchanges are costing the state today and to adequately capture cost saved when an enterprise service bus is available to be designed into overall exchange architecture.

- Expand the Kansas IT Architecture in the following compliance areas:
  - Principles for Data Sharing and Standards: A listing of the principles which all agencies should follow when designing systems for data sharing and standards.
○ Enterprise Service Bus (ESB): Guidance to agencies in the consideration and use of the statewide ESB architecture. Use cases and examples should be provided in order to more fully express the benefits to agencies who are considering ESB services.
○ Master Person Index (MPI): Guidance to agencies in the consideration and use of the statewide MPI architecture. Use cases and examples should be provided in order to more fully express the benefits to agencies who are considering MPI services.

- Consider a revision and update of Policy 8000 – Data Administration Program consistent with recommendations in this report.

RECOMMENDATIONS TO THE AGENCIES

The experience of other states indicates that focus on agency level capacity is an important success factor in data sharing efforts (interview 6-27-2013). Therefore, the following recommends are aimed at agency action.

- Formally charter a data/information architecture, administration and governance program, in partnership with your business/program subject matter experts, within your agency. The Kansas State Department of Education program discussed in Chapter 3 is an example. Assign formal role (position) for data governance/stewardship, cross-cutting both business and IT disciplines, and reporting to the highest levels of the agency administration.
- Deliver education programs on data sharing for both technical and program staff, expand NIEM awareness and implementation training. Specifically, awareness of (U-Core and C-Core).
- Inventory agency metadata/data and identify the subset of that data which may be subject to intra-agency data sharing (U-Core and/or C-Core) exchanges.
- Update the system inventory of agency systems and clearly identify those that contain U-Core and C-Core data. Update exchange information that clearly identifies partners and exchanges that share/move this data and consider both data at rest and data in motion in the application and adoption of exchange models and ontologies.
BIBLIOGRAPHY


APPENDIX I

Ken Orr Report – See end of this assessment.

APPENDIX II

Current Information Technology Policy 8000 – Data Administration Program

1.0 Title: Development of a Data Administration Program

1.1 Effective Date: October 14, 1999

1.2 Type of Action: Reissue of KIRC policy

2.0 Purpose: To commit the state to the development of a formal Data Administration Program that recognizes and promotes the importance of data and information as valuable resources requiring management of their creation, use, storage, documentation, and disposition.

3.0 Organizations Affected: All Branches, Boards, Commissions, Departments, Divisions, and Agencies of state government, hereafter referred to as entities.

4.0 References:

4.1 K.S.A. 1998 Supp. 75-7203 authorizes the ITEC to: Adopt information resource policies and procedures and provide direction and coordination for the application of the state's information technology resources for all state entities.

5.0 Definitions:

5.1 Data. Representation of facts, concepts, or instructions in a formalized manner suitable for communication, interpretation, or processing by humans or by automatic means. Any representations such as characters or analog quantities to which meaning is, or might be, assigned.

5.2 Data Administration. An ongoing, centralized, administrative function that coordinates the design, implementation, and maintenance of an effective data structure of the entities and relationships that comprise the integrated enterprise-wide database(s), and makes this information available to a community of information resource users. Responsibilities typically assigned to this function include information strategy planning, data and process modeling (both conceptual and logical), and the development of standards, policies, and procedures to define, collect, and organize data to meet managers' and users' existing and future information needs.
5.3 Data Custodian. Guardian or caretaker; the holder of data; the agent charged with the data owner’s requirement for processing, communications, protection controls, access controls, and output distribution for the resource. The data custodian is normally a provider of services. The data custodian may be a central data center providing services to a number of entities which are data owners.

5.4 Data Dictionary. A source of information about entities, data elements representing entities, relationships between entities, their origins, meanings, uses, and representation formats.

5.5 Data Model. A description of the organization of data in a manner that reflects the information structure of an enterprise.

5.6 Data Owner. The business function manager or agent assigned ownership responsibility for the data resource.

5.7 Data Repository. A database of metadata stored in a manner that permits ease of access and reporting.

5.8 Enterprise View. Information needs of an entire entity, rather than the needs of a single application or business unit. The enterprise view can be derived from the business model produced through information strategy planning.

5.9 Information. Data that have been organized or prepared in a form that is suitable for decision-making.

5.10 Metadata. Information that describes the definitions, structures, formats, allowable values, and use of the data resource. Data about data.

5.11 Statewide Enterprise View. Information needs of the entire State of Kansas, rather than the needs of a single entity or business unit.

6.0 Policy:

6.1 It is the policy of the State of Kansas that each entity develops, implement, and maintain an Agency Data Administration Program.

6.2 Each entity shall produce an Agency Data Administration Policy statement that incorporates the recommendations of the Information Technology Executive Council (ITEC), and goals, objectives, and methods oriented toward accomplishing the objectives of this rule. To commit the state to the development of a formal Data Administration Program

6.3 The Agency Data Administration Program shall support both information systems strategy planning and the development and maintenance of application systems.
6.4 The Agency Data Administration Program shall be integrated with the entity information system development methodology.

6.5 The Agency Data Administration Program shall incorporate data policies that are consistent with public access and security policies.

6.6 The Agency Data Administration Program shall incorporate data policies that support the maintenance of an entity data repository for the storage of entity metadata. The entity repository should be consistent with the statewide repository so that metadata can be easily ported between them.

6.7 The Division of Information Systems and Communications (DISC) with the assistance of the Data Sharing Committee shall coordinate entities’ metadata and operate a central site for the development and maintenance of a distributed statewide repository to provide access to metadata information, common data definitions, and ownership responsibilities.

7.0 Procedures:

7.1 The Agency Data Administration Policy, as stated in the original policy, must have been defined by March 1, 1997 and implemented by July 1, 1998.

7.2 Each entity shall, at least annually, beginning September, 1997, provide a copy of its existing Agency Data Administration Policy, report on the status of Data Administration implementation, and assess the percentage of entity data currently being covered by the Agency Data Administration Program. In addition, the entity shall identify the plans and goals to be achieved by its Data Administration Program during the planning period.

8.0 Responsibilities:

8.1 Each entity shall designate and train an individual (the entity Data Administrator) to supervise or conduct the Data Administration activities of the entity utilizing the most appropriate information technology and methodologies. Written notification of Data Administrator appointments and changes shall be promptly sent to the Kansas Information Technology Office.

8.2 Each entity shall assure that Data Administration review and approval is incorporated into the entity information system development methodology to ensure consistency with the Agency Data Administration Policy and the enterprise view of data.

8.3 The entity Data Administrator shall clearly and consistently define and assign data administration responsibilities to data owners and data custodians.

8.4 The entity Data Administrator or a designated representative shall participate in interagency data administration activities organized by the central data repository staff.
within DISC with the assistance of the Data Sharing Committee, and approved by The Information Technology Board (ITAB) in order to identify state-wide Data Administration issues and make recommendations to the ITAB concerning, but not limited to:

1. Standards relating to data as an asset to the State of Kansas;
2. Data that are critical to the mission of the State, or common to multiple entities;
3. Policies that ensure the establishment of a statewide enterprise view of information;
4. Enhancements to the state Data Administration Program;
5. Minimum requirements for Agency Data Administration Programs; and
6. Data administration education and awareness.

8.5 The Chief Information Technology Officer is responsible for the maintenance of this policy.

9.0 Cancellation: None
To assist in evaluating RFP/RFI responses, below are some sample questions and considerations for evaluating the answers (Hoggard et al., 2009)

<table>
<thead>
<tr>
<th>Sample Questions</th>
<th>Evaluation Criterion</th>
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</table>
| 1. Describe your conformance with national data exchange standards – specifically the use of GJXDM/NIEM data exchange technology with respect to interoperability between disparate systems. | • Does the RFP response indicate that the provider's exchanges comply with NIEM NDR rules and/or are NIEM-conformant?  
• Does the RFP response describe the process the provider uses to validate their product's data exchanges conformance to NIEM?  
• Remember it is only the schema and XML instance to be shared with other systems that must be NIEM-conformant. A provider may have various methods of implementation or systems which do not impact NIEM and/or conformance. |
| 2. List the data exchanges provided with your solution that are NIEM-conformant. | • Are the exchanges listed by the provider in the IEPD Clearinghouse?  
• Do the entries indicate they are NIEM exchanges as opposed to GJXDM, or other XML models? |
<p>| 3. List the data exchanges provided with your solution that are not NIEM-conformant and enumerate any plans to make them NIEM-conformant. | • The intention of this question is to identify other non-NIEM exchanges that may be of value and to describe a plan to move them to NIEM in support of national information sharing initiatives. |
| 4. Describe any systems of note (federal, state, other CAD, other RMS, etc.) to which your proposed solution interfaces. Which of these systems or applications use NIEM-conformant exchanges? | • There are several national initiatives that include NIEM-conformant exchanges, such as N-DEx, Suspicious Activity Reporting (SAR), and the External Alarm Interface for example. Compare the responses to the IEPDs listed in the Clearinghouse. |
| 5. Describe your exchange development environment and it’s adherence to the IEPD Lifecycle. | • Does the response indicate a knowledge and adherence to the NIEM Lifecycle? |</p>
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| **6.** Describe when and how you use the NIEM Conformance Tool. | • The **NIEM Conformance Tool** is used by software developers for conformance verification. It assists developers by automatically identifying potential locations of non-conformance within IEPD artifacts (e.g., schemas, metadata, catalog, XML, etc.) using the latest published NIEM specifications.  
  - The tool is a dynamic work-in-progress. As of this writing, it automatically checks 78 out of approximately 180 NDR rules. It is not the authoritative source for NIEM conformance, and, therefore, cannot guarantee or be used to certify full NIEM conformance.  
  - Proposal responses should indicate at least an awareness of this tool; a better response would describe the actual usage of this tool. |
| **7.** Describe your participation and involvement with industry workgroups, national, regional, or state information sharing initiatives using NIEM, and memberships on standards committees. | • While not directly related to NIEM-conformance, these three questions seek to provide a measure of how involved the service provider is with standards development, national information sharing initiatives, and the like. Most public safety and justice thought leaders feel that involvement in activities such as these enable a provider to be more up to date on information sharing trends, technologies, and initiatives. |
| **8.** List which staff members have attended a NIEM Training course, when they attended, and how they are connected to the proposed project. |   |
| **9.** List any staff members that have served directly on NIEM-related activities to include instruction for the NIEM Practical Implementer’s course or other NIEM Training Curriculum, providing local or national level Technical Assistance, or contributed directly to implementation of NIEM in operational products and programs. |   |
CHAPTER V

Collaboration and Data Management: Keys to Improved Data Sharing in Kansas

By Marilu Goodyear

In the introduction to this report, two important concepts were put forward as essential to successful data sharing programs: Collaboration and Data Management. This study has found that successful data sharing partnerships in Kansas and individuals who successfully contribute to data sharing projects reflect the characteristics found to be successful in collaboration research. Likewise, the recommended elements of data sharing collaboratives are reflected in many Kansas projects.

Governments face three key challenges which drive them to collaborate with others: substantial change in technology, a growth of technical complexity of delivering government services, and a growth in both the complexity and interrelatedness of societal problems. As a result the role of the public leader has changed emphasis from internal organizational management to the facilitation and coordination of services in networks and collaborations (O’Leary, et al., 2009). Collaborating with others is held out as a way to increase efficiency and innovation while addressing complex problems in a holistic way (Graddy & Chen, 2009). While it is clear that collaborative efforts have benefits the cost-benefit relationship is not as clear. Huxham and Vangen (2005) report that the factors that contribute to good performance in collaborations include:

- Inclusion of stakeholders; partner selection; mutual trust; honesty and reliability; shared vision; mutual interdependence and open communication; appropriate distribution of power; political influence; appropriate governance structure; CEO support and skilled conveners (p. 10-11).

In this study we found that factors important to successful data sharing partnerships fell into two areas: leadership and collaborative functions.

LEADERSHIP

Leadership as a critical factor is discussed in the case studies and also as an individual factor in data sharing. The study found that leadership skills in two areas were important: technical and collaborative skill sets. This finding is reflective of research done on other types of collaborations. McGuire and Silvia (2010) in a study of local emergency management found that “technical skill is positively related to collaborative activity.” They note that “technical and program-oriented skills may become necessary for them to understand what is needed from
their collaborative partners” (2009). Getha-Taylor (2008) studied successful collaborations at the federal level and identified collaborative skill sets as an essential factor (see Chapter 2). Dawes, Cresswell and Pardo (2009) found that technology for data sharing was necessary – but not sufficient – for collaboration success and that lack of trust can be a “powerful inhibitor” to success. Our case study data describes the success of leaders who played an important role in the development and maintenance of trust through use of both technical and interpersonal competence.

COLLABORATIVE FUNCTIONS

Collaborative functions reflected in the research literature were also evident in the case studies. Fleishman (2009), in studying the EPA Estuary program, writes about how to motivate individual organizations to join in collaborations. There are five common theories that address collaborative motivation:

- Organizations don’t have all the resources they need to accomplish their goals.
- Organizations have common purposes or congruous goals
- Organizations have similar values and belief systems
- Organizations pursue political interests through collaborative linkages
- Leadership within organizations can be a catalyst for collaborative action

Fleishman (2009) found that “resource needs are important as an initial motivator to participate” for those who collaborate, but that it is not related to an active level of engagement. However, political interest and shared purpose and goals did correlate positively with high participation in collaborative efforts. In both of our case studies, the need to pool resources was an initial motivator for the data sharing projects. But, just as Fleishman found, it appears that it is the shared purpose and goals that have sustained the projects. Graddy and Chen (2009) also found that in selecting partners to collaborate with “the most important influence is on the achievement of client goals.” This goal achievement can offset the real costs of collaboration to the organization. Huxham and Vangen (2005) report that collaborative work is “a seriously recourse-consuming activity” and should only be considered when the stakes are really worth pursuing. We found in our case studies (Chapter 1) that goal achievement through joint effort resulted in both a “need to share” mentality and a “benefit to all” mentality. In addition, the individuals who were successful in data sharing reported that a culture of risk taking was an important value to be shared (Chapter 2).

Existing research on collaboration for data sharing is consistent with what we found in our case studies. The following factors were identified as important:

- A common framework (discipline/domain or type of technology)
- Balancing both technical and policy orientations
- Organizational structures that provide both connections and independence

The Center for Technology in Government, University of Albany-SUNY has provided a detailed plan for information-sharing in the justice domain (Cresswell, 2005). Appendix I is an outline of
the dimensions which the Center found to be critical to data sharing success. Our study found that while all of the areas outlined were factors, three of these areas were particularly important in the Kansas experience: governance, leaders and champions, and organizational compatibility. Interestingly the more business and technical aspects of data sharing appeared to come as the collaboration grew (business models, data assets, information policies, and project management). Therefore, we might conclude that while the more business and technical aspects of data sharing models maybe necessary for continued success it is the leadership and organizational aspects which bring the collaboration together and sustain it in the first critical time period.

While the funding models were a factor in our case studies, the lack of sustained funding did not prevent the collaborations from making progress. Use of one-time grant monies and existing agency allocations moved and sustained the collaborations through a number of years. This finding is consistent with more recent research on collaborative endeavors which shows purpose and mission to be more important than resource drivers (Fleishman (2009).

RECOMMENDATION SUMMARY FOR COLLABORATION

This study identified the following important factors in successful collaborative data sharing programs:

- Sustained leadership from “possibility thinkers” that can balance vision and technical aspects.
- A clear need for collaboration and a strong vision of what can be accomplished
- A governance model that produces a neutralizing effect on conflicts around priorities with appropriate balancing stakeholders’ interests.
- A strong “need-to-share” attitude
- A strong diverse stakeholder group with a shared motivation
- A common framework and perspective as well as the ability to recognize the benefits and constraints of commonly held frameworks.
- Use of pilot approach to test ideas before initiating widespread application.
- Grant funds provided to begin the collaboration
- Support among key administrative and elected officials to stabilize the operating and funding environment

To build this type of collaborative environment, the State of Kansas needs to invest in the human resources necessary to manage and staff data sharing projects. The human resources part of the study identified these steps as important in that process:

- The state should develop a specific set of collaborative competencies, with emphasis on both collaboration within agency work and cross agency and governmental sector activities
- The identified collaborative competencies should be linked to strategic human resource management functions, including succession planning and performance reviews to align individual effort and organizational goals.
• Revisit state competency models and related documents periodically to evaluate whether these reflect changing workplace demands and conditions.
• Recruit and retain information technology professionals by focusing on the unique features of the public service organization workplace, including the opportunity to contribute to addressing public challenges and the unique needs of cross agency and cross sector data sharing.
• Agencies and leaders should take steps to recognize collaboration and data sharing via both formal and informal reward systems and educate leaders on the potential of informal rewards for data sharing initiatives.
• Provide training to address the related components of data sharing, including technical skills, policy trends, and collaborative skills.
• Provide leadership education on reframing mission from agency-centric to collaboration-focused and on developing the communication skill set of learning to ask the right questions and engage in active listening processes.
• Build agency cultures that allow for appropriate risks and learning.

RECOMMENDATION SUMMARY FOR DATA MANAGEMENT

The study analysis identified the following recommendations which address needed improvements in the policy, legal, and technical environment for data sharing in the state.

• Create a state body (potentially the Governor’s Office or the Office of Chief Legal Counsel in the Department of Administration) that would be designated to facilitate the resolution of data sharing legal questions.
• The state legislature, in collaboration with appropriate state agencies, should perform a comprehensive review of state statutes that restrict access to records. The purpose of the review would be to determine if the reason for restriction is related to public release or whether the restriction also needs to apply to sharing across and within governmental agencies.
• Data Governance: All agencies should establish a data governance body and an individual responsible for data management. The body would be charged with understanding and promoting the use of the data both within the agency and with other governmental entities for governmental effectiveness.
• Unique Identifiers: We recommend that the state create a standard set of statistical and mathematical principles that agencies can use as a reference for "Probabilistic Matching" of individuals for linking personally identifiable records.
• Data Decision Tool: The state should establish a data sharing decision tool based on the tool provided in this report.
• Data Sharing Agreements: The state should develop a template for data sharing agreements to be used by state agencies for data sharing projects.
• Expand the Kansas IT Architecture to incorporate specific elements relating to data standards
• Incorporate NIEM into system planning and implementation
• Revise and update Policy 8000 to reflect the discussions in this document
• Deliver education programs on data sharing for both technical and program staff

CONCLUSION

This study has found that data sharing in Kansas is moving forward but in a piecemeal way. The development of a more organized and consistent program through the implementation of the recommendations in this report will help the state move toward its goals. Both cost savings and improvements in the delivery of services will be the result.
BIBLIOGRAPHY


APPENDIX I

Dimensions of Information-Sharing Capability *(adapted from Cresswell, page 14-15)*

<p>| <strong>Business Model &amp; Architecture Readiness</strong> | The degree to which the initiative has developed business models and enterprise architectures that describe the service and operational components of the enterprise, how they are connected to each other, and what technologies are used to implement them. |
| <strong>Collaboration Readiness</strong> | The degree to which relationships among information users and other resources support collaboration; these include staff, budget, training, and technology, and prior successes or failures in collaborative activities. |
| <strong>Data Assets &amp; Requirements</strong> | The extent of specification and identification of formal policies for data collection, use, storage, and handling, as found in documentation of databases and record systems; and in data quality standards and dictionaries. |
| <strong>Governance</strong> | The existence of mechanisms to set policy and direct and oversee the information sharing initiatives that are planned or underway. |
| <strong>Information Policies</strong> | The level of development of policies that deal with the collection, use, dissemination, and storage of information as well as with privacy, confidentiality, and security. |
| <strong>Leaders &amp; Champions</strong> | The involvement of leaders and champions. Leaders motivate, build commitment, guide activities, encourage creativity and innovation, and mobilize resources; they see the goal clearly and craft plans to achieve it. Champions communicate a clear and persuasive vision for an initiative, provide the authority and legitimacy for action, and build support in the environment. |
| <strong>Organizational Compatibility</strong> | The degree to which the work styles and interpersonal relationships, participation in decision-making, levels of competition and collaboration, and styles of conflict resolution support information sharing. Compatibility of cultures may be gauged by the degree of centralization, degree of conformity, deference to authority, adherence to rules, and symbols of status and power. |
| <strong>Performance Evaluation</strong> | The presence of the skills, resources, and authority necessary to observe, document, and measure: (1) how well the initiative itself is developed and implemented, (2) whether information sharing goals are achieved, and (3) how the performance of the justice enterprise is improved. |
| <strong>Project Management</strong> | The availability and use of methods for goal setting, scheduling development and production activities, analyzing resource needs, managing interdependencies among activities and goals, and provisions to anticipate and respond to contingencies. |
| <strong>Resource Management</strong> | The extent of effective use of financial, human, and technical resources through budgeting, strategic plans, financial analyses, and accepted financial management procedures and practices. |
| <strong>Secure Environment</strong> | The degree to which appropriate security protocols for data, systems, applications, and networks as well as systems, policies, training, and management practices are in place. |
| <strong>Stakeholder Identification &amp; Engagement</strong> | The extent of awareness of and interaction with the persons or groups with an interest in the information sharing initiative and capacity to influence it. This dimension is based on stakeholder analyses, staff experience and knowledge, records or reports of participants in making policy and decisions, and membership of advisory or constituent groups. |</p>
<table>
<thead>
<tr>
<th><strong>Strategic Planning</strong></th>
<th>The quality and comprehensiveness of strategic plans and strategic planning processes, including resources and integration of strategic planning with other elements of governance and management.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technology Acceptance</strong></td>
<td>The extent of talk and actions expressing positive or negative attitudes toward workplace changes, trust of new tools and techniques, success or failure stories that are widely shared and believed, and enthusiasm for innovations.</td>
</tr>
<tr>
<td><strong>Technology Compatibility</strong></td>
<td>The presence of agreed-upon standards, the extent of connectivity among the persons and organizations seeking to share information, and the experiences of staff with information sharing activities.</td>
</tr>
<tr>
<td><strong>Technology Knowledge</strong></td>
<td>The levels of knowledge about current and emerging technology for information sharing, including technical qualifications and experience of staff, records and documentation of technology assets, and the actions of staff in compiling, storing, and sharing such knowledge.</td>
</tr>
</tbody>
</table>
A Report on Data Sharing and Administration

Final Draft

Prepared for:
The State of Kansas

By: The Ken Orr Institute
December 12, 1997
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Executive Overview

Background
Approximately three years ago, a committee was established in the State of Kansas to investigate opportunities for data sharing. While some data sharing applications have been identified and implemented in the State, there has been some concern that there were additional data sharing requirements that were unknown. To that end, we were asked to look into data sharing requirements for the State.

The Study
For this study, we investigated the "requirements" for data sharing in the State of Kansas. Webster defines the word requirement as something demanded as necessary or essential. Therefore in looking for data sharing requirements we focused on two potential areas:

• Are there significant problems that are being caused by a lack of data sharing?
• Are there significant opportunities for improvement that could be realized by increased data sharing?

In both cases an important litmus test is one of funding: is either the problem or the opportunity great enough to interest someone in investing state funds to deal with it.

Conclusions and Recommendations
Many State Agencies do a credible job of data sharing and others whose data sharing activities could use improvement. Though we did not find any driving demand for increased data sharing, nor any insurmountable problems due to a lack of it, we did find that there are additional data sharing applications that bear further investigation. We recommend that the State continue to pursue policies which encourage data sharing, and continue to update guidelines and policies that further Agency participation in data sharing projects. There is potential to use recent "data warehousing" technology to facilitate access to public data while at the same time improving confidentiality and security protocols. One specific area that was identified as a potential data sharing project involves State administrative data that is collected via "Stars" and "Sharp." Several agencies expressed frustration at their inability to access information collected in these systems. We would therefore recommend that the State consider a project developing a "data mart" or "data warehouse" -type interface to these administrative systems. See the section of the report beginning on Page 6 entitled Developing Strategies, Architectures and Policies for Data Sharing.

The Kansas Open Records Act (K.S.A. 45-215 through 45-223) mandates that most data collected by the State be made available to the general public (See Appendix 3). In addition, the act requires each state agency to maintain an index of the information it keeps, and in what electronic form this data is available (K.S.A 45-221 16a-16b). As far as we have been able to determine, there is only one state agency which even comes close to complying with this statute: the Kansas Water Office. We therefore recommend that the Data Sharing Subcommittee of ITAB be reconstituted to develop policy frameworks and plans to implement them that will bring State agencies into compliance with the act.
Additionally, we recommend that the State of Kansas adopt a public policy framework concerning commercial access to government electronic records, similar to those adopted by the State of Washington (see the Recommendations section beginning on Page 17).

"Kansas government has an opportunity to take advantage of these (IT) trends, rather than being oven helmed by them."

-The Kansas SIM Plan (1996)
Background

A Strategic Vision for Information Technology (The SIM Plan)

In 1996, the State of Kansas commissioned a study to develop a Strategic Information Management Plan (SIM Plan). In that study, a number of fundamental ideas surfaced regarding the importance of Information Technology (IT) to the State of Kansas:

• Information technology is especially important to the State’s economic development and the quality of life for its citizens
• The State has the responsibility to use information technology wisely to improve services and provide citizens access to public information
• It should be easy to do business with the State-no mystery, no obstructions

From these fundamental ideas, a strategic vision was identified which encompassed the following concepts:

• Every Kansas citizen and business can access needed Kansas government information and services electronically
• Every branch and level of Kansas government is connected electronically (internally and externally)
• Every tax dollar is maximized through cooperation, coordination, and resource-sharing of Kansas government agencies, which are, in tum, supported by cost-effective information technology

In order to achieve these visions, four outcomes were identified:

• Providing a common view of the way IT should be utilized in the State
• Providing improved guidelines for agency development of information
• Reducing the barriers to cooperation and information sharing
• Optimizing the use of the State’s IT resources

In addition, the SIM Plan identified four technology trends that will affect IT in the next decade:

• Computers at all levels will continue to become more powerful and affordable
• Computer-based, multi-media networking will be the basis for all forms of communication and data access
• Electronic commerce will become the preferred mode of doing business
• Growing computer sophistication of the by children and adults of all ages

The Needs and Demands to Share Data

Over the past two decades, profound changes have occurred in the way government in the United States operates. For example, State governments are being called to take over more and more Federal government services while at the same time local/regional governmental organizations and private business are increasingly being given responsibility for operating what used to be State programs. Many of these new programs place increased emphasis on sharing of data between more and more agencies.

Technology has contributed to making data sharing an opportunity as well as a burden.
Computer/communication technology via the Internet now makes it possible to access computerized data from anywhere at any time. Citizens, businessmen and state employees are being exposed to intelligent data sharing in their private dealings with the Internet. With the appropriate safeguards, the public is learning that it should be possible to get at any computerized information and manipulate that information for a variety of purposes.

The creation and growth of the Information Network of Kansas (INK), for example, shows that there is a significant market for public information beyond the traditional forms of paper access. Professionals are willing to pay for on-line access to public information, and they are more than a little interested in doing all their business with the State electronically (electronic commerce). But, for the State of Kansas to leverage the productivity and improved services that advanced IT promises, state agencies will need, in the future, to do a much better job of sharing data with other organizations, both inside and outside the State. Currently, the State spends enormous amounts of money collecting and processing information about a whole range of subjects, and much of that expenditure is duplicated and wasteful because the same information is captured multiple times.

But data sharing is neither free nor without risk. Many organizations are reluctant to share data because they fear a lack of control. In addition, there is more and more concern about the issues of privacy, confidentiality and security of data (see Part 3). These fears are in some conflict with the American tradition of “open government” and “open records”. The move to the world of the Information Superhighway is fraught with significant difficulties.
Developing Strategies, Architectures and Policies for Data Sharing

Kansas, like most other state governments and many large organizations, treats the interaction with the outside world on a "one-to-one" basis. This tends to create an enormously complex, and expensive, web of interactions between all of the various parties (Figure 1).

Each time new information is required, the interested party is required to contact a specific agency or division and develop a singular interface with that data. This often requires that a new computer interface (link) must be developed. The next time information is required, a new interface must be developed. Not surprisingly, agencies are not eager to create new programs of this kind.

In recent years, large organizations around the world are moving increasingly to develop specialized "data warehouses" or "data marts" that are intended to promote data sharing. A framework such as the one shown in Figure 2 would identify a series of data marts or data warehouses that would be used as either a temporary or permanent data base for data sharing. By developing such an architecture, the State would protect its operational data from direct access, it could impose strict data quality and data security controls, and it could make the data available to all of those required to access the data via the Internet, or more likely, State controlled Intranets or Extranets.
A data sharing architecture such as the one above would make it possible for the State to expand its existing data sharing activities such as GIS and EMS expand activities as organizations and agencies become more experienced.
Part 1: Data Sharing Requirements

Introduction

The information in this report was collected via interviews with members of State government and other research. We interviewed many of the members of the ITAB committee itself to obtain an "insiders" view of the problems and opportunities. We also interviewed several current and former state legislators to obtain a more general perspective. We also spoke with a few business people working on various projects with the state. A complete list of interviewees and a list of the discussion questions appears in Appendix 1 on The Study Methodology.

In order to examine data sharing requirements, we had to define two fundamental issues: what is "data sharing" and what are "requirements." We assumed that data sharing was more than just the free flow of data from one state agency to another. In fact, we identified several areas of data sharing:

- State Inter-agency
- State and Local Government
- State and Federal Government
- Interstate
- Legislative
- Public
- Business

Webster defines the word requirement as something demanded as necessary or essential. Therefore in looking for data sharing requirements we focused on two potential areas:

- Are there problems that are being caused by a lack of data sharing?
- Are there significant opportunities for improvement that could be realized by increased data sharing?

In both cases an important litmus test is one of funding: is either the problem or the opportunity great enough to interest someone in investing state funds to deal with it? We have organized our findings into two categories: general data sharing requirements and specific data sharing requirements.

General Data Sharing Requirements

The State of Kansas Strategic Information Management Plan (SIM Plan) created in early 1997 defines several broad areas of data sharing requirements as long-term goals for the state. The vision for the SIM Plan has three points:

- Every Kansas citizen and business can access needed Kansas government information and services electronically.
Every branch and level of Kansas government can exchange and access information electronically, both internally within government and externally throughout the state, nation, and world.

Every tax dollar is maximized through cooperation, coordination, and resource sharing within Kansas government, supported by cost-effective information technology.

It is clear from this data sharing study that the state is still far from these long-term goals. We did find several issues that were germane however.

With regard to point one: electronic access by citizens and businesses. Through the Information Network of Kansas (INK) web site, the public and business community have access to a wide range of State data via the Internet. However, there are some interesting issues with making data available to the public in this manner.

Timeliness: While some of the premium services available for a fee from INK do a "data dip" directly into state files, most of the information available on INK is provided by the various agencies via tape or FTP weekly or monthly. This strategy has the potential to exacerbate the public’s perception of state data management. Without some kind of caveat attached to the data (i.e., "Deposits made after 3:00 pm are not credited until the next business day"), a member of the public viewing the data via INK may believe that the state has made an error in updating their data, or may not have updated their data at all.

Target Audience: Much of the information of value to the general public—job postings, benefit information, public announcements, and so on—are often targeted at the needy or indigent. Unfortunately, it is this segment of the population that is least likely to have access to the Internet.

Funding: INK management believes that it has "mined" a majority of the revenue-producing opportunities for state data. Whether this statement is true or not is problematic, but it does point out one interesting problem: where will the funding come from to implement all of the remaining non-revenue-producing applications needed for full electronic access?

Access: As with any new endeavor there are often unforeseen complications and problems. In addition to all of the normal privacy and confidentiality concerns that are inherent to an Internet presentation of state data, there is always potential for the use of state data in a manner detrimental to the state. For instance, a directory of state employees was removed from INK when it was discovered that recruiters were using the information to prospect for clients.

With regard to point two: electronic interchange with other governmental entities. While significant infrastructure is in place for electronic interchange and access, some challenges remain. Electronic access is most problematic in the rural counties far from the population centers of the state, but there are other issues closer to home.

Firewalls: Many of the big state agencies have branches outside of Topeka. However, Internet firewalls are often installed locally in Topeka, complicating access by remote
Network Access: While the Kansas backbone network KANWIN connects all 105 counties, not all state computers are connected. Additionally, many local agencies are incapable of transmitting information to the state electronically, either because of a lack of automation or because of a lack of connectivity. Although access to the Internet is improving, it is far from ubiquitous. Though many agencies have e-mail, not all employees of the state have e-mail. Further, e-mail is generally administered on an agency-by-agency basis instead of through a centralized state function. This has resulted in a hodge-podge of e-mail systems and addressing schemes.

Specific Data Sharing Requirements

In general, we found what one might have expected: Data sharing is good in areas where it makes economic and political sense, and poor in areas where there is little or no economic benefit and/or there is a high political risk. However, some common themes emerged.

Administrative Data: One of the most common problems mentioned during our interviews was a perceived inability to get good administrative data from the state personnel and general ledger systems: SHARP and STARS, respectively. Several members of the ITAB noted that it was difficult to obtain information from either of these systems for tracking or planning purposes. Further, since each of the agencies input a significant amount of data into those systems, they often perceive the information as "theirs" and are puzzled as to why they can't get summary information back from the systems. This seems to be a natural target for improved data sharing. It would benefit a wide audience and would not appear to involve "sensitive" data (since the spending and payroll information originates in the agency to begin with).

Legislative Data Needs: In talking to legislators, we found a common concern over the quality of the data available relating to education. While State spending on Education is a high-dollar item no one seemed satisfied with either the quantity or the quality of the data available on educational services. In part because this has to do with the fact that much of the critical data resides in local school districts and in various institutions of higher learning.

Legislative Systems: Another common theme from the legislative interviews was one of poor systems. The system used by the legislature for the management and tracking of bills is technologically obsolete and does not accept nor provide information in a format common to most current systems. However, at the same time, the legislature seems reluctant to authorize the funds for replacement of their system at this time.

Inter-Agency Sharing: Sharing between agencies is much better in some areas than others. Non-personal data, such as geophysical information, was very well shared across organizations. On the other hand, information about individuals, particularly health and public assistance information, was not very well shared. In many cases, the isolation of this data from other agencies (and from other systems within agencies) is mandated by federal law.
Open Records Act Requirement

The most stringent requirement for data sharing is mandated by the Kansas Open Records Act (K.S.A. 45-215 through 45-223). The Open Records Act basically states that all State data shall be open, with some exceptions. The exceptions are rather extensive, and somewhat obtuse, since buried deep in one of the exception clauses is the following:

"45-221: (a) Except to the extent disclosure is otherwise required by law, a public agency shall not be required to disclose: (...various exceptions omitted...)

(16) Software programs for electronic data processing and documentation thereof, but each public agency shall maintain a register, open to the public that describes:

(A) The information which the agency maintains on computer facilities; and

(B) the form in which the information can be made available using existing computer programs."

So while agencies are not required to disclose the software they use, they are required to make public a register describing the information that is kept and the electronic form in which it can be made available.

As far as we could ascertain, there are few, if any, agencies in the state which are in full compliance with this provision of the statute. The only agency which approaches having a full index of its public data is the Kansas Water Office, which has done an excellent job of developing and publishing a comprehensive meta-data repository on INK.

Beyond the obvious economic benefits of data sharing stated earlier, this statutory requirement seems the most compelling reason to recommend action on the part of state agencies.

Obstacles to Data Sharing

Multi-agency, multi-year: Experience has shown that multi-agency, multi-year projects are the most difficult to get funded in the State budgeting process. While there are exceptions the state budgeting process is tailored to deal with single agency, single year activities. The exception to this is capital expenses, which usually requires multi-year funding, but data sharing activities are often seen as fitting this financial model. But, to be successful, most data sharing projects require cooperation between multiple agencies spread over a number of years.

Loss of control: One of the underlying reasons that Legislators and budget analysts are reluctant to fund inter-agency activities is the need to hold someone responsible for projects. With multi-agency projects it is often difficult to assign responsibilities, even where there is clearly a lead agency.

Privacy, confidentiality, and security: Probably the most significant problem involved with data sharing, especially with respect to sensitive and/or personal data, is the issue of privacy and confidentiality. Privacy is primarily a question of the right to keep information private to the individual. Confidentially has to do with the agreement between the source of data and the agency collecting that data. Security involves making sure that the privacy and security
agreements are met.

While it can be argued that public data is no different when placed on a computer that it is when on a hand-written or type-written form, everyone understands that things are possible today with modern computers and communications that would not have even been possible just a few years ago. The publicity of the Internet and the fear of computer hackers has raised the awareness of any program that purports to integrate and share data about individuals or individual businesses. Not surprisingly, it is just in these areas that the most significant data sharing opportunities actually exist.
Part 2: ITAB Recommendations

The Data Sharing Committee

In late 1994 the ITAB produced a document titled "Major Technology Issues in the State of Kansas" that was presented to the KIRC (a copy of the document is included in Appendix 5 to this document). Although the majority of the document concerns issues unrelated to this study, two important issues were discussed that are germane, and were the basis for the formation of the current Data Sharing subcommittee of ITAB. The two issues concerned were Data Administration and Data Sharing. The report made the following statements:

"ISSUE: Common Structure for Information

In the past, limited attention has been given to common definitions of data. This occurred since each agency defined their own data and there was little need to share information across agency lines. There is an increasing need to share information to be able to conduct an agency's business. This is impeded if the data does not have the same structure and definition.

Through the activities of INK some of this data structure is being determined. In other cases this definition is being done on an agency by agency basis."

"ISSUE: Information Sharing

Agencies have existing systems which were established to serve a particular purpose. These systems were agency specific and met the needs of that agency. There is now a greater emphasis on the sharing of data between agencies to conduct the business of the state. This sharing of information is often difficult since the data definitions may be different (i.e. In one location a name may be first name, middle initial, last name in another agency system the name may be last name, initials) or the field lengths may vary (i.e. 20 or 15 characters for the last name). Each agency also has a significant investment in the creating and storing of this data."

In light of what was discovered during our study, we would like to address some of the assumptions that were stated in this report, and make some recommendations for the Data Sharing committee.

Assumptions: "There is an increasing need to share information to be able to conduct an agency's business." "There is now a greater emphasis on the sharing of data between agencies to conduct the business of the state."

From the interviews we conducted, we found little evidence to support these statements. In each of the interviews, we specifically asked for instances where State business was being impaired due to the lack of data sharing. The sentiment generally expressed was that no business functions were being prohibited or significantly impeded due to a lack of information sharing. There were, however, instances stated in which increased sharing was perceived as necessary to more effective processing.

Assumption: "This (information sharing) is impeded if the data does not have the same
structure and definition."

While this statement is generally correct, many new Data Warehousing tools have emerged since the writing of this report which ameliorate to some extent differences in data structures between two or more disparate data stores. The lack of data definitions, and inconsistencies between different definitions of the same data is indeed a severe impediment. In fact the lack of data definitions at most Agencies is in clear conflict with the Kansas Open Records Act.

Assumption: "This sharing of information is often difficult since the data definitions may be different"

What we found in most cases is that when data sharing opportunities were identified, inconsistency in data definitions was not the principal problem: once again the lack of data definitions was the basis for the most difficulty. Establishing data definitions is time consuming and costly unless it is done during the analysis and design phase of a system. Thus, the newer systems we looked at tended to have much better data definitions than older systems. There appears to be little incentive for agencies to document so-called legacy systems for which adequate meta-data is not currently available.

Agencies that have initiated projects requiring substantial data sharing indicated to us in these interviews that these problems are quite solvable, given sufficient economic or political incentive.

Given that the assumptions that led to the formation of the Data Sharing committee in 1994 may no longer be entirely valid, we recommend that the committee be slightly reorganized and its mission more focused. Specifically, we recommend that ITAB consider creating two committees instead of the single committee that exists today: an executive steering committee and a meta-data working group. The two committees would each have a different mission.

- The Executive Steering committee should be charged with developing Data Administration/Data Sharing policy framework for the State of Kansas and developing a business case to justify acting upon the policies. The steering committee should also oversee the activities of the working group and direct its efforts.

- The Data Sharing Working group should initially be charged with developing a meta-data standard for a high-level Government Information Locator Service (GILS) that agencies will use to meet the requirements of the Open Records Act. Subsequent work by this committee will be at the direction of the Steering committee, and will presumably involve the creation of statewide standards to implement the Data Administration/Data Sharing policies established.

The makeup and the responsibilities of each of these committees is discussed in the following section.

The Executive Steering Committee

Ideally, the executive steering committee should be composed of a small group (three or four) of senior members of ITAB. This group should initially draft a policy framework for Data Administration and Data Sharing. This plan should also include business case justifying the policy
framework to be established. This group should then develop a plan for a series of projects to implement the policy framework. The plan should identify the tasks that must be done by the state (such as global policy and procedure standards) and each of its agencies (such as a specific agency’s meta-data definition). Any relevant information developed as part of this framework should be incorporated into KIRC Policy #8000 on Data Administration.

While the specific policy framework will be established by the committee, a good check list for Data Administration policy has been established by the State of Florida, and is included as Appendix 2 to this document.

**The Working Group**

The Data Sharing Working group should be formed from the nucleus of current members of the Data Sharing committee. This group should develop a plan for the establishment of a Government Information Locator Service (GILS) type meta-data standard. This standard should be published and used by each State Agency to develop a high-level index of data kept by the Agency. This will bring the Agencies into compliance with the Open Records Act.

This group should also be given sufficient resources to publish and maintain the meta-data. This will likely require dedicated resources, both in terms of computer hardware, database management systems (DBMS) support, and personnel. In order to develop the meta-data repository and to maintain it, we would anticipate that a full-time Programmer/Analyst resource and a full time Technical Writer/Documentation Librarian would be required.

It would seem reasonable that the Executive Committee could be established and the Data Administration/Data Sharing plan could be completed during the current fiscal year. It would also seem reasonable that the Working Group could complete the meta-data standard within the current fiscal year. Funding and further development of the meta-data repository could then be scheduled for fiscal 1999.
Part 3: Privacy and Confidentiality Considerations

Introduction

There is a fundamental tension between data confidentiality and freedom of information. While citizens and businesses have a right to keep their data confidential, the State may also have a right to collect and share critical information. While the Open Records Act requires most State data to be public, this must be balanced against the cost of providing such data to citizens, to businesses, and to the media. Further, there is some perception that the State has a right to recoup some of its cost of collection data by selling that information to business concerns. This data is often extremely valuable to certain business enterprises, and this revenue can help ameliorate the tax burden to citizens and businesses.

Unfortunately, data sharing often involves using data for purposes other than for which it was collected. Further, one cannot always anticipate how data collected for one purpose will be used by third parties. The ability to link data from a variety of external data sources (credit bureaus, medical records, financial purchases, etc.) to assemble a comprehensive electronic dossier on an individual should be a sobering prospect.

Data Security and Privacy is currently a dynamic and controversial subject. This was magnified recently by the widespread publicity surrounding the "opt out" program implementation in September 1997. The Kansas Open Records Act, and many of the other statutes and regulations that define public access to data were written before Internet access to data became widespread. What were adequate safeguards and guidelines in the past are clearly inadequate for the electronic age.

The world is currently undergoing a monumental shift in the way it does business. The focus of business is shifting away from moving atoms (things) towards moving bits (data). It is also shifting away from doing business almost exclusively on paper to doing nearly all business electronically. Government at all levels will need to be much more responsive in this new environment. As of October of 1997, statistics indicate that 40% of American homes have a PC of some kind, while 19% are on-line with an ISP. Both percentages are increasing, but are today nowhere near the market penetration of television (93% of homes) or telephones (97% of homes). PC literacy is routinely taught in schools, and the Internet is rapidly becoming a basic communications infrastructure. The ubiquitous use of e-mail and electronic commerce will require new policies. Serious thought must be given to what constitutes an "open record" in the Internet age.

Trends

Despite the rapidly changing face of the privacy landscape, some trends are emerging.

- Personal access to personal data
Citizens expect that personal data collected by the State should be available to them without undue restriction and at low (or no) cost.

- Ability of the individual to challenge data is becoming easier

The "burden of proof" for validating data held on an individual is shifting to the data collector instead of the individual himself. Recent changes to credit reporting require that the credit bureaus validate disputed data or remove it from personal files. Legislation requiring the IRS to do the same has passed the U.S. House of Representatives and may be taken up by the Senate this spring.

- There is increasing awareness of the right of the individual to restrict the sale/distribution of personal data

The "opt out" program mandated by the Federal government requires States to give its citizens the right to restrict the sale of personal information held by the State. Since its implementation in Kansas this year, approximately 40% of drivers have "opted out," and legislators expect that percentage to ultimately peak as high as 80%.

- Towards criminalization of inappropriate institutional browsing

Recent changes were made to the IRS code to criminalize mere access of taxpayer data by IRS personnel. While this may be an extreme reaction to public sentiment, it seems clear that there should be a distinction between inappropriate and criminal access to personal data. There is however, no clear consensus on the ethics surrounding data access.

- Limitation of the use of data for purposes other than for which it was collected

Government is realizing that combining data from different data sources can yield information that has the potential to be abused. The case of a banker in Massachusetts who cancelled loans based on cancer patient records he obtained while serving on a State medical review board was cited in a Time magazine cover story recently.

- Data should not be used to discriminate

In addition to abuses such as the just given, there are concerns being raised over the fair use of genetic information, for instance. It is generally held that insurance companies should not be able to deny coverage based on a genetic predisposition to certain diseases.

**Open Issues**

While these trends are helpful in understanding some of the direction the State should take with respect to data privacy and confidentiality, there are still may open issues.

- What is "reasonable cost?"

While the Open Records Act provides for access to public data, there are no clear guidelines for what is a reasonable cost to "access" that data, especially in an electronic fashion. And while there is an argument that says that taxpayers have financed the collection of data and therefore should have access to that data at low (or no) cost, what about access to the data by non-
taxpayers (residents of other states or other countries)?

• Should the individual be allowed to defraud (lie to) the State?

There has historically been a viewpoint that, to some extent, an individual should be able to lie to the State. However, if the State is providing services to an individual, what measures can it take to validate the identity of the individual? Can the State, for instance, require a retinal scan to be given before services are provided? To what extent does the State have a right to be able to decrypt secure communications, and to what extent do citizens and businesses have right to secure such communication? These are issues that are currently being debated in Congress, and there are no easy answers.

Recommendations

In 1996, the State of Washington commissioned a working group to look at the issues surrounding public data. The entire report is included as Appendix 6. To summarize, the group developed 10 principles which formed the basic for a public data policy framework.

Principle 1: Digital technology changes the nature of public records themselves, bringing with it the prospect for greater governmental efficiencies and the need for additional safeguards to protect personally identifiable information.

Principle 2: Public records are a public trust. The ownership of those records should not be transferred to other parties. The universe of public records subject to disclosure is defined by statute.

Principle 3: The highest public benefit from public records is when they are used to further a public mission. The public-benefit test of remaining within their "original orbit" -that is, use that advances an agency's public mission -is useful in determining legitimate governmental or business uses of information.

Principle 4: Government has a duty to safeguard the personally identifiable information of ordinary citizens from abuse. The duty extends to the notification of individuals of the procedures in place for the inspection of information held about them.

Principle 5: Policies to safeguard personally identifiable information must balance business and government needs for access to information with an individual's expectations of privacy.

Principle 6: Government should not restrict access to information about the performance of public institutions or about public policy.

Principle 7: The public should not have to pay to inspect information collected by government at taxpayer expense.

Principle 8: Financial disincentives should not be used to restrict access to government information.

Principle 9: Cost recovery for commercial access should be based on providing
enhanced access, not the "selling" of public records.

Principle 10: Agencies should not be required to provide enhanced electronic delivery of information for commercial or business purposes unless they can charge fees to recover a reasonable portion of the costs of developing and maintaining information systems.

We would recommend that the State of Kansas consider these principles, and adopt something similar as a framework for public policy.
Appendices

Appendix 1: The Study Methodology

Our objective in this study was to obtain a broad cross-section of opinions regarding the state of data sharing by the State. We began with the ITAB committee itself to obtain an "insider's" view of the issues, and branched out to include several current and former legislators to try to get a feel for the "data consumer's" point of view. For the members of the ITAB committee and other IT professionals, we used the following series of questions as our basis for discussions:

**IT Professional Questions:**

- What is the demand for your data by the public? Business? Other governmental entities?
- Are there specific business functions that are being impeded due of a lack of data sharing?
- Are you providing any data for INK?
- Are you sending data to other organizations?
- Are you getting data from some other organizations?
- Are there any data sharing/data warehouse projects ongoing?
- Are there any specific statutes regarding privacy and your data?
- Do you have any high-level data models? If so, in what form are the models kept?

For legislators and other non-IT professionals, the questions were as follows:

- What is your perception of the state of "data sharing" within the State of Kansas? Does the State manage data effectively?
- In your opinion, where does the State need to improve its data availability? To the public? To the business community?
- Are you hearing any comments from your constituents regarding data availability, data collection, or data privacy?
- From a legislative perspective, what areas do you feel you receive inadequate or incomplete information?
- How would you rate your own computer literacy? Do you use the Internet at home or in your own business?
- Do you foresee the need for legislation to correct data availability and/or privacy issues within the State?
Interviews were conducted with the following people:

**ITAB Member Interviews:**

- Dave Schrader - Department of Revenue (with Glen Yancy)
- Ben Nelson - KDOT
- Hank Sipple - Department of Agriculture
- Don Heiman - DISC
- Rick Miller - Water Office
- Steve Tallen - Human Resources (with Wayne Thomas, Jim Ingerson)
- Jeff Fraser - INK
- Ron Rohrer - KBI
- Jon McKenzie - Kansas Corporation Commission
- Hugh Zavadil - Administrator for the Courts
- Jeff Lewis - Department of Corrections (with Cathy Clayton) Tim Blevins, Sandra Hazlett - SRS
- Jim Green - Health and Environment

**Data Sharing Committee Interviews:**

- Roberta Giovaninni - Department of Administration
- Preston Barton - Council on Developmental Disabilities

**Legislature:**

- Representative George Dean – 96th District
- Representative Jim Morrison - 121st District
- Senator Stan Clark - District 40
- Senator Rich Becker - District 9

**Other:**

- Kathleen Sebelius – Insurance Commissioner, former Legislator
- Dick Knowlton – Kansas Lottery
- Pete Kitch – Sedgwick County Health Dept Contractor
- Julian Efird - Legislative Research
Appendix 2: Florida Data Administration/Data Sharing Policy Framework Checklist

A complete copy of this document can be found on the State of Florida website at http://mail.irm.state.fl.us/pubs/dachklsthtml.

Data Administration Program Status and Planning Checklist

Agency Name: ____________________________________________________________

Part 1 - Policy Statement
Each agency shall produce an Agency Data Administration Policy statement that incorporates the recommendations of the Information Resource Commission (IRC), and goals, objectives, and methods oriented towards accomplishing the objectives of the state policy. The Agency Data Administration Policy shall address the development and implementation of standards and procedures for data administration (data elements, names, definitions, values, formats, and database constructs). 44-200.05.(1)(a)

Check one of the following:
Agency Data Administration Policy statement?  

<table>
<thead>
<tr>
<th>Currently Under Agency Review</th>
<th>Agency Head (Implemented)</th>
</tr>
</thead>
</table>

The Agency Data Administration Policy must be defined by March 1, 1996 and must be implemented by July 1, 1997. 44-200.05.(1)(b)

- Attach copy of current Data Administration Policy statement

Part 2- Data Administrator and Responsibilities
Each agency shall designate and train an individual (the agency Data Administrator) to supervise or conduct the data administration activities of the agency utilizing the most appropriate information technology and methodologies. Written notification of Data Administrator appointments and changes shall be promptly sent to the Information Resource Commission (IRC). 44-200.050(2)(a).

Has an agency Data Administrator been designated?

- Yes / No

If yes:

Title:
Phone:
Supervisor's Name:
Supervisor's Title:
Fax:
Email:
Does it clearly and consistently define and available responsibilities to data owners and data custodians. 44-200.050(21 (c)

Define the responsibilities of data owners and custodians
Assign the responsibilities to owners and custodians

The agency Data Administrator or a designated representative, shall participate in interagency data administration activities organized by the Information Resource Commission (IRC) in order to identify state-wide Data Administration issues and make recommendations to the IRC. 44-200.050(2)(e)

Check the inter-agency coordinating activities data administrator is willing to participate in:

- Standards relating to data as an asset to the State of Florida;
- Data that are critical to the mission of the State, or common to multiple agencies;
- Policies that ensure the establishment of a statewide enterprise view of information;
- Enhancements to the state Data Administration Program;
- Minimum requirements for agency Data Administration Programs; and
- Data administration education and awareness.

The agency Data Administrator or a designated representative shall, if applicable participate in data administration activities organized by the Florida Fiscal Accounting Management Information System.

Coordinating Council the Growth Management Data Network Coordinating Council and other statutory bodies created for the purpose of coordinating and sharing data resources. 44-200.050(2)(d)

Check the inter-agency coordinating activities data administrator is willing to participate in:

- Florida Fiscal Accounting Management Information System (FFAMIS)
- Growth Management Data Network Coordinating Council
- Association of Administration Service Directors
- Criminal and Juvenile Justice Information System Council (CJlJS)
Part 3 - The Objectives of the Data Administration Policy

Objective 1

Metadata content, definition, and format standards? Access consistently documenting data sources in order to provide a consistent source of information about data." 44-200.020(1)

• Develop a framework of metadata content standards
• Develop a framework of data definition standards
• Develop a framework of data format standards

Credibility, validity, precision, and integrity of data resources and the information derived from data resources." 44-200.020(2)

• Establish data quality objectives and standards
• Develop a methodology to ensure data quality
• Assess quality of data stores
• Develop a data quality assurance procedure for data collection
• Establish a consistent means of deriving decision support information

Objective 3

Uniformity within and among the state agencies." 44-200.020(3)

• Develop naming design standards
• Develop a means of linking legacy data to standard design
• Develop a data dictionary
• Develop an enterprise wide data model
• Establish legacy data conversion plan

| Collecting, processing, storing, and distributing data thereby reducing the cost of data acquisition and maintenance." 44-200.020(4) | Planning Process Yes/No? | Documents Available Yes/No? Start Finish Current % |
| Conduct a legacy data survey to assess conversion needs | |
| Incorporate consistency checks on new, re-engineered or legacy applications | |

Eliminate or streamline data processes that are duplicative and sharing within and among the State agencies, external user groups, and to the public." 44-200.020(5)

Planning Documents
Process Available? Yes/No? Yes/No? Start Finish Current %

• Research and identify data sharing opportunities within agency
• Research and identify data sharing opportunities with other agencies
• Incorporate data policies that are consistent with public access and security policies. 44-200.050(1)(f)
• Develop boilerplate data sharing agreements
• Educate and disseminate public access policies within agency and with public

Objective 6
Format policy and data modeling in order to develop an enterprise view of information from the perspective of its meaning and value to the individual agency and to the State of Florida." 44-200.060(6)

Planning Documents
Process Available? Yes/No? Yes/No? Start Finish Current %

• Support both information strategy planning and the development and maintenance of application systems. 44-200.050(1)(d)
• Integrate data administration program with the agency information system development methodology (ISDM). 44-200.050(1)(e)
• Incorporate data administration review and approval into the agency information system development methodology to ensure consistency with the Agency Data Administration Policy
and the enterprise view of data.44-200.050(2) (b)

Phone: ________________

Agency Head Signature: ___________________________ Date: __________

Appendix 3: Kansas Open Records Act

The Kansas Open Records Act, and all other Kansas statutes, can be accessed on-line through INK at http://www.ink.org/public/statutes/statutes.html.

Statute # 45-215
Chapter 45 – PUBLIC RECORDS, DOCUMENTS AND INFORMATION
Article 2 – RECORDS OPEN TO PUBLIC
Title of act:

K.S.A 45-215 through 45-223 shall be known and may be cited as the Open Records Act.

Statute # 45-216
Chapter 45 – PUBLIC RECORDS, DOCUMENTS AND INFORMATION
Article 2 – RECORDS OPEN TO PUBLIC
Public policy that records be open.

(a) It is declared to be the public policy of the state that public records shall be open for inspection by any person unless otherwise provided by this act, and this act shall be liberally construed and applied to promote such policy.

(b) Nothing in this act shall be construed to require the retention of a public record nor to authorize the discard of a public record.

Statute # 45-217
Chapter 45 – PUBLIC RECORDS, DOCUMENTS AND INFORMATION
Article 2 – RECORDS OPEN TO PUBLIC
Definitions:

As used in the Open Records Act, unless the context otherwise requires:

(a) "Business day" means any day other than a Saturday, Sunday or day designated as a holiday by the congress of the United States by the legislature or governor of this state or by the respective political subdivision of this state.

(b) "Criminal investigation records" means records of an investigatory agency or criminal justice agency as defined by K.S.A. 22-4701 and amendments thereto, compiled in the process of preventing, detecting or investigating violations of criminal law, but does not include police blotter entries, court records, rosters of inmates of jails or other correctional or detention facilities or records pertaining to violations of any traffic law other than vehicular homicide as defined by K.S.A 21-3405 and amendments thereto.
(c) "Custodian" means the official custodian or any person designated by the official custodian to carry out the duties of custodian of this act.

(d) "Official custodian" means any officer or employee of a public agency who is responsible for the maintenance of public records, regardless of whether such records are in the officer’s or employee’s actual personal custody and control.

(e) (1) "Public agency" means the state or any political or taxing subdivision of the state or any office, officer, agency or instrumentality thereof, or any other entity receiving or expending and supported in whole or in part by the public funds appropriated by the state or by public funds of any political or taxing subdivision of the state.

(2) "Public agency" shall not include:

   (A) Any entity solely by reason of payment from public funds for property, goods or services of such entity; (B) any municipal judge, judge of the district court, judge of the court of appeals or justice of the supreme court; or (C) any officer or employee of the state or political or taxing subdivision of the state if the state or political or taxing subdivision does not provide the officer or employee with an office which is open to the public at least 35 hours a week.

(f) (1) "Public record" means any recorded information, regardless of form or characteristics, which is made, maintained or kept by or is in the possession of any public agency including, but not limited to, an agreement in settlement of litigation involving the Kansas public employees retirement system and the investment of moneys of the fund.

(2) "Public record" shall not include records which are owned by a private person or entity and are not related to functions, activities, programs or operations funded by public funds or records which are made, maintained or kept by an individual who is a member of the legislature or of the governing body of any political or taxing subdivision of the state.

(3) "Public record" shall not include records of employers related to the employer’s individually identifiable contributions made on behalf of employees for workers compensation, social security, unemployment insurance or retirement. The provisions of this subsection shall not apply to records of employers of lump-sum payments for contributions as described in this subsection paid for any group, division or section of an agency.

(g) "Undercover agent" means an employee of a public agency responsible for criminal law enforcement who is engaged in the detection or investigation of violations of criminal law in a capacity where such employee’s identity or employment by the public agency is secret.

Statute# 45-218
Chapter 45 – PUBLIC RECORDS, DOCUMENTS AND INFORMATION
Article 2 – RECORDS OPEN TO PUBLIC
Inspection of records; request; response; refusal; when; fees.
(a) All public records shall be open for inspection by any person, except as otherwise provided by this act, and suitable facilities shall be made available by each public agency for this purpose. No person shall remove original copies of public records from the office of any public agency without the written permission of the custodian of the record.

(b) Upon request in accordance with procedures adopted under K.S.A 45-220, any person may inspect public records during the regular office hours of the public agency and during any additional hours established by the public agency pursuant to K.S.A 45-220.

(c) If the person to whom the request is directed is not the custodian of the public record requested, such person shall notify the requester and shall furnish the name and location of the custodian of the public record, if known to or readily ascertainable by such person.

(d) Each request for access to a public record shall be acted upon as soon as possible, but not later than the end of the third business day following the date that the request is received. If access to the public record is not granted immediately, the custodian shall give a detailed explanation of the cause for further delay and the place and earliest time and date that the record will be available for inspection. If the request for access is denied, the custodian shall provide, upon request, a written statement of the grounds for denial. Such statement shall cite the specific provision of law under which access is denied and shall be furnished to the requester not later than the end of the third business day following the date that the request for the statement is received.

(e) The custodian may refuse to provide access to a public record, or to permit inspection, if a request places an unreasonable burden in producing public records or if the custodian has reason to believe that repeated requests are intended to disrupt other essential functions of the public agency. However, refusal under this subsection must be sustained by preponderance of the evidence.

(f) A public agency may charge and require advance payment of a fee for providing access to or furnishing copies of public records, subject to K.S.A 45-219.

Statute# 45-219
Chapter 45 – PUBLIC RECORDS, DOCUMENTS AND INFORMATION
Article 2 – RECORDS OPEN TO PUBLIC
Abstracts or copies of records; fees.

(a) Any person may make abstracts or obtain copies of any public record to which such person has access under this act. If copies are requested, the public agency may require a written request and advance payment of the prescribed fee. A public agency shall not be required to provide copies of radio or recording tapes or discs, video tapes or films, pictures, slides, graphics, illustrations or similar audio or visual items or devices, unless such items or devices were shown or played to a public meeting of the governing body thereof: but the public agency shall not be required to provide such items or devices which are copyrighted by a person other than the public agency.

(b) Copies of public records shall be made while the records are in the possession, custody and control of the custodian or a person designated by the custodian and shall be made under the
supervision of such custodian or person. When practical, copies shall be made in the place where the records are kept. If it is impractical to do so, the custodian shall allow arrangements to be made for use of other facilities. If it is necessary to use other facilities for copying, the cost thereof shall be paid by the person desiring a copy of the records. In addition, the public agency may charge the same fee for the services rendered in supervising the copying as for furnishing copies under subsection (c) and may establish a reasonable schedule of times for making copies at other facilities.

(c) Except as provided by subsection (f) or where fees for inspection or for copies of a public record are prescribed by statute, each public agency may prescribe reasonable fees for providing access to or furnishing copies of public records, subject to the following:

(1) In the case of fees for copies of records, the fees shall not exceed the actual cost of furnishing copies, including the cost of staff time required to make the information available.

(2) In the case of fees for providing access to records maintained on computer facilities, the fees shall include only the cost of any computer services, including staff time required.

(3) Fees for access to or copies of public records of public agencies within the legislative branch of the state government shall be established in accordance with K.S.A 46-1207a and amendments thereto.

(4) Fees for access to or copies of public records of public agencies within the judicial branch of the state government shall be established in accordance with rules of the Supreme Court.

(5) Fees for access to or copies of public records of a public agency within the executive branch of the state government shall be established by the agency head. Any person requesting records may appeal the reasonableness of the fees charged for providing access to or furnishing copies of such records to the secretary of administration whose decision shall be final. A fee for copies of public records which is equal to or less than $2.25 per page shall be deemed a reasonable fee.

(d) Except as otherwise authorized pursuant to K.S.A 75-4215 and amendments thereto, each public agency within the executive branch of the state government shall remit all moneys received by or for it from fees charged pursuant to this section to the state treasurer in accordance with K.S.A 75-4215 and amendments thereto. Unless otherwise specifically provided by law, the state treasurer shall deposit the entire amount thereof in the state treasury and credit the same to the state general fund or an appropriate fee fund as determined by the agency head.

(e) Each public agency of a political or taxing subdivision shall remit all moneys received by or for it from fees charged pursuant to this act to the treasurer of such political or taxing subdivision at least monthly. Upon receipt of any such moneys, such treasurer shall deposit the entire amount thereof in the treasury of the political or taxing subdivision and credit the same to the general fund thereof, unless otherwise specifically provided by law.
(t) Any person who is a certified shorthand reporter may charge fees for transcripts of such person’s notes of judicial or administrative proceedings in accordance with rates established pursuant to rules of the Kansas Supreme Court.

**Statute# 45-220**

Chapter 45 – PUBLIC RECORDS, DOCUMENTS AND INFORMATION

Article 2 – RECORDS OPEN TO PUBLIC

Procedures for obtaining access to or copies of records; request; office hours; provision of information on procedures.

(a) Each public agency shall adopt procedures to be followed in requesting access to and obtaining copies of public records, which procedures shall provide full access to public records, protect public records from damage and disorganization, prevent excessive disruption of the agency's essential functions, provide assistance and information upon request and insure efficient and timely action in response to applications for inspection of public records.

(b) A public agency may require a written request for inspection of public records but shall not otherwise require a request to be made in any particular form. Except as otherwise provided by subsection (c), a public agency shall not require that a request contain more information than the requester’s name and address and the information necessary to ascertain the records to which the requester desires access and the requester's right of access to the records. A public agency may require proof of identity of any person requesting access to a public record. No request shall be returned, delayed or denied because of any technicality unless it is impossible to determine the records to which the requester desires access.

(c) If access to public records of an agency or the purpose for which the records may be used is limited pursuant to K.S.A. 21-3914 or 45-221, and amendments thereto, the agency may require a person requesting the records or information therein to provide written certification that:

1. The requester has a right of access to the records and the basis of that right; or

2. the requester does not intend to, and will not: (A) Use any list of names or addresses contained in or derived from the records or information for the purpose of selling or offering for sale any property or service to any person listed or to any person who resides at any address listed; or

   (B) sell, give or otherwise make available to any person any list of names or addresses contained in or derived from the records or information for the purpose of allowing that person to sell or offer for sale any property or service to any person listed or to any person who resides at any address listed.

(d) A public agency shall establish, for business days when it does not maintain regular office hours, reasonable hours when persons may inspect and obtain copies of the agency's records. The public agency may require that any person desiring to inspect or obtain copies of the agency's records during such hours so notify the agency, but such notice shall not be required to be in writing and shall not be required to be given more than 24 hours prior to the hours established for inspection and obtaining copies.
(e) Each official custodian of public records shall designate such persons as necessary to carry out the duties of custodian under this act and shall ensure that a custodian is available during regular business hours of the public agency to carry out such duties.

(t) Each public agency shall provide, upon request of any person, the following information:

1. The principal office of the agency, its regular office hours and any additional hours established by the agency pursuant to subsection (c).
2. The title and address of the official custodian of the agency's records and of any other custodian who is ordinarily available to act on requests made at the location where the information is displayed.
3. The fees, if any, charged for access to or copies of the agency's records.
4. The procedures to be followed in requesting access to and obtaining copies of the agency's records, including procedures for giving notice of a desire to inspect or obtain copies of records during hours established by the agency pursuant to subsection (c).

Statute # 45-221
Chapter 4S – PUBLIC RECORDS, DOCUMENTS AND INFORMATION
Article 2 – RECORDS OPEN TO PUBLIC
Certain records not required to be open; separation of open and closed information required; statistics and records over 70 years old open.

(a) Except to the extent disclosure is otherwise required by law, a public agency shall not be required to disclose:

1. Records the disclosure of which is specifically prohibited or restricted by federal law, state statute or rule of the Kansas supreme court or the disclosure of which is prohibited or restricted pursuant to specific authorization of federal law, state statute or rule of the Kansas supreme court to restrict or prohibit disclosure.
2. Records which are privileged under the rules of evidence, unless the holder of the privilege consents to the disclosure.
3. Medical, psychiatric, psychological or alcoholism or drug dependency treatment records which pertain to identifiable patients.
4. Personnel records, performance ratings or individually identifiable records pertaining to employees or applicants for employment, except that this exemption shall not apply to the names, positions, salaries and lengths of service of officers and employees of public agencies once they are employed as such.
5. Information which would reveal the identity of any undercover agent or any informant reporting a specific violation of law.
6. Letters of reference or recommendation pertaining to the character or qualifications of an identifiable individual.
(7) Library, archive and museum materials contributed by private persons, to the extent of any limitations imposed as conditions of the contribution.

(8) Information which would reveal the identity of an individual who lawfully makes a donation to a public agency, if anonymity of the donor is a condition of the donation.

(9) Testing and examination materials, before the test or examination is given or if it is to be given again, or records of individual test or examination scores, other than records which show only passage or failure and not specific scores.

(10) Criminal investigation records, except that the district court, in an action brought pursuant to K.S.A 45-222, and amendments thereto, may order disclosure of such records, subject to such conditions as the court may impose, if the court finds that disclosure:

(A) Is in the public interest;
(B) would not interfere with any prospective law enforcement action;
(C) would not reveal the identity of any confidential source or undercover agent;
(D) would not reveal confidential investigative techniques or procedures not known to the general public; (E) would not endanger the life or physical safety of any person; and
(F) would not reveal the name, address, phone number or any other information which specifically and individually identifies the victim of any sexual offense in article 3S of chapter 21 of the Kansas Statutes Annotated, and amendments thereto.

(11) Records of agencies involved in administrative adjudication or civil litigation, compiled in the process of detecting or investigating violations of civil law or administrative rules and regulations, if disclosure would interfere with a prospective administrative adjudication or civil litigation or reveal the identity of a confidential source or undercover agent.

(12) Records of emergency or security information or procedures of a public agency, or plans, drawings, specifications or related information for any building or facility which is used for purposes requiring security measures in or around the building or facility or which is used for the generation or transmission of power, water, fuels or communications, if disclosure would jeopardize security of the public agency, building or facility.

(13) The contents of appraisals or engineering or feasibility estimates or evaluations made by or for a public agency relative to the acquisition of property, prior to the award of formal contracts therefor.

(14) Correspondence between a public agency and a private individual, other than
correspondence which is intended to give notice of an action, policy or determination relating to any regulatory, supervisory or enforcement responsibility of the public agency or which is widely distributed to the public by a public agency and is not specifically in response to communications from such a private individual.

(15) Records pertaining to employer-employee negotiations, if disclosure would reveal information discussed in a lawful executive session under K.S.A 75-4319, and amendments thereto.

(16) Software programs for electronic data processing and documentation thereof, but each public agency shall maintain a register, open to the public, that describes:

(A) The information which the agency maintains on computer facilities; and

(B) the form in which the information can be made available using existing computer programs.

(17) Applications, financial statements and other information submitted in connection with applications for student financial assistance where financial need is a consideration for the award.

(18) Plans, designs, drawings or specifications which are prepared by a person other than an employee of a public agency or records which are the property of a private person.

(19) Well samples, logs or surveys which the state corporation commission requires to be filed by persons who have drilled or caused to be drilled, or are drilling or causing to be drilled, holes for the purpose of discovery or production of oil or gas, to the extent that disclosure is limited by rules and regulations of the state corporation commission.

(20) Notes, preliminary drafts, research data in the process of analysis, unfunded grant proposals, memoranda, recommendations or other records in which opinions are expressed or policies or actions are proposed, except that this exemption shall not apply when such records are publicly cited or identified in an open meeting or in an agenda of an open meeting.

(21) Records of a public agency having legislative powers, which records pertain to proposed legislation or amendments to proposed legislation, except that this exemption shall not apply when such records are:

(A) Publicly cited or identified in an open meeting or in an agenda of an open meeting; or

(B) distributed to a majority of a quorum of any body which has authority to take action or make recommendations to the public agency with regard to the matters to which such records pertain.

(22) Records of a public agency having legislative powers, which records pertain to research prepared for one or more members of such agency, except that this
exemption shall not apply when such records are:

(A) Publicly cited or identified in an open meeting or in an agenda of an open meeting; or

(B) distributed to a majority of a quorum of anybody which has authority to take action or make recommendations to the public agency with regard to the matters to which, such records pertain.

(23) Library patron and circulation records which pertain to identifiable individuals.

(24) Records which are compiled for census or research purposes and which pertain to identifiable individuals.

(25) Records which represent and constitute the work product of an attorney.

(26) Records of a utility or other public service pertaining to individually identifiable residential customers of the utility or service, except that information concerning billings for specific individual customers named by the requester shall be subject to disclosure as provided by this act.

(27) Specifications for competitive bidding, until the specifications are officially approved by the public agency.

(28) Sealed bids and related documents, until a bid is accepted or all bids rejected.

(29) Correctional records pertaining to an identifiable inmate, except that:

(A) The name, sentence data, parole eligibility date, disciplinary record, custody level and location of an inmate shall be subject to disclosure to any person other than another inmate;

(B) the ombudsman of corrections, the attorney general, law enforcement agencies, counsel for the inmate to whom the record pertains and any county or district attorney shall have access to correctional records to the extent otherwise permitted by law;

(C) the information provided to the law enforcement agency pursuant to the sex offender registration act, K.S.A. 22-4901, et seq., and amendments thereto, shall be subject to disclosure to any person; and

(D) records of the department of corrections regarding the financial assets of an offender in the custody of the secretary of corrections shall be subject to disclosure to the victim, or such victim’s family, of the crime for which the inmate is in custody as set forth in an order of restitution by the sentencing court.

(30) Public records containing information of a personal nature where the public disclosure thereof would constitute a clearly unwarranted invasion of personal privacy.
(31) Public records pertaining to prospective location of a business or industry where no previous public disclosure has been made of the business' or industry's interest in locating in, relocating within or expanding within the state. This exception shall not include those records pertaining to application of agencies for permits or licenses necessary to do business or to expand business operations within this state, except as otherwise provided by law.

(32) The bidder’s list of contractors who have requested bid proposals for construction projects from any public agency, until a bid is accepted or all bids rejected.

(33) Engineering and architectural estimates made by or for any public agency relative to public improvements.

(34) Financial information submitted by contractors in qualification statements to any public agency.

(35) Records involved in the obtaining and processing of intellectual property rights that are expected to be, wholly or partially vested in or owned by a state educational institution, as defined in K.S.A. 76-711, and amendments thereto, or an assignee of the institution organized and existing for the benefit of the institution.

(36) Any report or record which is made pursuant to K.S.A 65-4922, 65-4923 or 65-4924, and amendments thereto, and which is privileged pursuant to K.S.A 65-4915 or 65-4925, and amendments thereto.

(37) Information which would reveal the precise location of an archeological site.

(38) Any financial data or traffic information from a railroad company, to a public agency, concerning the sale, lease or rehabilitation of the railroad’s property in Kansas.

(39) Risk-based capital reports, risk-based capital plans and corrective orders including the working papers and the results of any analysis filed with the commissioner of insurance in accordance with K.S.A. 1996 Supp. 40-2c20, and amendments thereto.

(40) Memoranda and related materials required to be used to support the annual actuarial opinions submitted pursuant to subsection (b) of K.S.A 40-409, and amendments thereto.

(41) Disclosure reports filed with the commissioner of insurance under subsection (a) of K.S.A. 1996 Supp. 40-2,156, and amendments thereto.

42) All financial analysis ratios and examination synopses concerning insurance companies that are submitted to the commissioner by the national association of insurance commissioners' insurance regulatory information system.

(43) Any records the disclosure of which is restricted or prohibited by a tribal-state gaming compact

(b) Except to the extent disclosure is otherwise required by law or as appropriate during the course of an administrative proceeding or on appeal from agency action, a public agency or
officer shall not disclose financial information of a taxpayer which may be required or requested by a county appraiser to assist in the determination of the value of the taxpayer's property for ad valorem taxation purposes; or any financial information of a personal nature required or requested by a public agency or officer, including a name, job description or title revealing the salary or other compensation of officers, employees or applicants for employment with a corporation or agency, except a public agency. Nothing contained herein shall be construed to prohibit the publication of statistics, so classified as to prevent identification of particular reports or returns and the items thereof.

(c) As used in this section, the term "cited or identified" shall not include a request to an employee of a public agency that a document be prepared.

(d) If a public record contains material which is not subject to disclosure pursuant to this act, the public agency shall separate or delete such material and make available to the requester that material in the public record which is subject to disclosure pursuant to this act.

If a public record is not subject to disclosure because it pertains to an identifiable individual, the public agency shall delete the identifying portions of the record and make available to the requester any remaining portions which are subject to disclosure pursuant to this act, unless the request is for a record pertaining to a specific individual or to such a limited group of individuals that the individuals' identities are reasonably ascertainable, the public agency shall not be required to disclose those portions of the record which pertain to such individual or individuals.

(e) The provisions of this section shall not be construed to exempt from public disclosure statistical information not descriptive of any identifiable person.

(f) Notwithstanding the provisions of subsection (a), any public record which has been in existence more than 70 years shall be open for inspection by any person unless disclosure of the record is specifically prohibited or restricted by federal law, state statute or rule of the Kansas supreme court or by a policy adopted pursuant to K.S.A 72-6214, and amendments thereto.

Statute # 45-222
Chapter 45 – PUBLIC RECORDS, DOCUMENTS AND INFORMATION
Article 2 – RECORDS OPEN TO PUBLIC
Civil remedies to enforce act

(a) The district court of any county in which public records are located shall have jurisdiction to enforce the purposes of this act with respect to such records, by injunction, mandamus or other appropriate order, in an action brought by any person, the attorney general or a county or district attorney.

(b) In any action hereunder, the court shall determine the matter de novo. The court on its own motion, or on motion of either party, may view the records in controversy in camera before reaching a decision.

(c) In any action hereunder, the court may award attorney fees to the plaintiff if the court finds that the agency's denial of access to the public record was not in good faith and without a
reasonable basis in fact or law. The award shall be assessed against the public agency that the court determines to be responsible for the violation.

(d) In any action hereunder in which the defendant is the prevailing party, the court may award to the defendant attorney fees if the court finds that the plaintiff maintained the action not in good faith and without a reasonable basis in fact or law.

(e) Except as otherwise provided by law, proceedings arising under this section shall be assigned for hearing and trial at the earliest practicable date.

Statute# 45-223
Chapter 45 – PUBLIC RECORDS, DOCUMENTS AND INFORMATION
Article 2 – RECORDS OPEN TO PUBLIC
No liability for damages for violation of act.

No public agency nor any officer or employee of a public agency shall be liable for damages resulting from the failure to provide access to a public record in violation of this act.

Appendix 4: KJRC Policy #8000

This document can be found on-line at http://www.state.ks.us/publiclkirc/refug2.htm#BM8000.

POLICY # 8000 REVISION# 0

KANSAS INFORMATION RESOURCES COUNCIL

INFORMATION TECHNOLOGY POLICY# 8000 REVISION # 0

1.0 TITLE: Development of a Data Administration Program.

1.1 EFFECTIVE DATE:

1.2 TYPE OF ACTION:

2.0 PURPOSE: To commit the state to the development of a formal Data Administration Program that recognizes and promotes the importance of data and information as valuable resources requiring management of their creation, use, storage, documentation, and disposition; encourages the management of data from both an agency-wide and state-wide view; improves data planning and access through the use of consistent methods, tools and technologies; identifies data that are critical to the mission of the state or that are common to multiple organizations within or among state agencies; and specifies the location of a central site for the development and maintenance of a statewide repository for metadata information, common data definitions, and ownership responsibilities in order to facilitate the exchange of information among agencies and the public.

3.0 ORGANIZATIONS AFFECTED: All division, departments and agencies of the state.

4.0 REFERENCES:
4.1 K.S.A 75-4741 authorizes the Kansas Information Resources Council to approve policies for the management of the state's information resources.

5.0 DEFINITIONS:

5.1 Data. Representation of facts, concepts, or instructions in a formalized manner suitable for communication, interpretation, or processing by humans or by automatic means. Any representations such as characters or analog quantities to which meaning is, or might be, assigned.

5.2 Data Administration. An ongoing, centralized, administrative function that coordinates the design, implementation, and maintenance of an effective data structure of the entities and relationships that comprise the integrated enterprise-wide database(s), and makes this information available to a community of information resource users. Responsibilities typically assigned to this function include information strategy planning, data and process modeling (both conceptual and logical), and the development of standards, policies, and procedures to define, collect, and organize data to meet managers' and users' existing and future information needs.

5.3 Data Custodian. Guardian or caretaker; the holder of data; the agent charged with the data owner's requirement for processing, communications, protection controls, access controls, and output distribution for the resource. The data custodian is normally a provider of services. The data custodian may be a central data center providing services to a number of agencies which are data owners.

5.4 Data Dictionary. A source of information about entities, data elements representing entities, relationships between entities, their origins, meanings, uses, and representation formats.

5.5 Data Model. A description of the organization of data in a manner that reflects the information structure of an enterprise.

5.6 Data Owner. The business function manager or agent assigned ownership responsibility for the data resource.

5.7 Data Repository. A database of metadata stored in a manner that permits ease of access and reporting.

5.8 Information. Data that have been organized or prepared in a form that is suitable for decision-making.

5.9 Metadata. Information that describes the definitions, structures, formats, allowable values, and use of the data resource. Data about data.

5.10 Statewide Enterprise View. Information needs of the entire State of Kansas, rather than the needs of a single agency or business unit.

6.0 POLICY:
6.1 It is the policy of the State of Kansas that each agency develop, implement, and maintain an Agency Data Administration Program.

6.2 Each agency shall produce an Agency Data Administration Policy statement that incorporates the recommendations of the Kansas Information Resources Council (KIRC), and goals, objectives, and methods oriented toward accomplishing the objectives of this rule. The Agency Data Administration Policy shall address the development and implementation of standards and procedures for data administration (data elements, names, definitions, values, formats, and database constructs).

6.3 The Agency Data Administration Program shall support both information systems strategy planning and the development and maintenance of application systems.

6.4 Agency Data Administration Program shall be integrated with the agency information system development methodology.

6.5 The Agency Data Administration Program shall incorporate data policies that are consistent with public access and security policies.

6.6 The Agency Data Administration Program shall incorporate data policies that support the maintenance of an Agency Data Repository for the storage of agency metadata. The agency repository should be consistent with the statewide repository so that metadata can be easily ported between them.

6.7 The Division of Information Systems and Communications (DISC) with the assistance of the Data Sharing Committee shall coordinate agencies metadata and operate a central site for the development and maintenance of a distributed statewide repository to provide access to metadata information, common data definitions, and ownership responsibilities.

7.0 PROCEDURES:

7.1 The Agency Data Administration Policy must be defined by March 1, 1997 and implemented by July 1998.

7.2 Each agency shall, at least annually, beginning September, 1997, provide a copy of its existing Agency Data Administration Policy, report on the status of Data Administration implementation, and assess the percentage of agency data currently being covered by the Agency Data Administration Program. In addition, the agency shall identify the plans and goals to be achieved by its Data Administration Program during the planning period.

8.0 RESPONSIBILITIES:

8.1 Each agency shall designate and train an individual (the agency Data Administrator) to supervise or conduct the Data Administration activities of the agency utilizing the most appropriate information technology and methodologies. Written notification of Data Administrator appointments and changes shall be promptly sent to the Chief Information Architect’s Office.

8.2 Each agency shall assure that Data Administration review and approval is incorporated into
the agency information system development methodology to ensure consistency with the Agency Data Administration Policy and the enterprise view of data.

8.3 The agency Data Administrator shall clearly and consistently define and assign data administration responsibilities to data owners and data custodians.

8.4 The agency Data Administrator or a designated representative, shall participate in interagency data administration activities organized by the central data repository staff within DISC with the assistance of the Data Sharing Committee, and approved by The Information Technology Board (ITAB) in order to identify state-wide Data Administration issues and make recommendations to the ITAB concerning, but not limited to:

1. Standards relating to data as an asset to the State of Kansas;
2. Data that are critical to the mission of the State, or common to multiple agencies;
3. Policies that ensure the establishment of a statewide enterprise view of information;
4. Enhancements to the state Data Administration Program;
5. Minimum requirements for Agency Data Administration Programs; and
6. Data administration education and awareness.

8.5 The Chief Information Architect is responsible for the maintenance of this policy.

9.0 CANCELLATION: None

10.0 CONTACT PERSON: Chief Information Architect 913-296-3011

Appendix 5: Major Technology Issues Document (November 15, 1994)

Attachment follows. (Was not able to find attachment)

Appendix 6: Washington Privacy Statement

This document can be found online at http://www.wa.gov/dis/commaccess/report.htm.