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King County

Law, Safety and Justice Integration Program Progress Status and 2008-09 Business Plan

September 7, 2007

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1.0 INTRODUCTION AND EXECUTIVE SUMMARY

King County re-initiated the Law, Safety and Justice Integration (LSJ-I) Program in 2002, producing a strategic plan to guide future efforts. That plan was adopted and endorsed by the LSJ agencies and stakeholders, other elected officials, and the county's technology governance, and was approved by the King County Council (Motion 2002-0550).

In 2006, the LSJ-I Program reported its status and lessons learned to the King County Council. At that time, the program had experienced challenges and difficulties associated with dependencies on outside agencies, and with the complexity of implementing changes across a regional, multi-agency environment. At the beginning of 2007, the LSJ-I Program – lead by the stakeholder agencies and program sponsors – re-wrote its charter based on three business objectives:

1. Complete the high-priority LSJ-I projects and realize the operational benefits of those projects.

2. Table or terminate any projects that involve development dependencies on outside agencies, especially the Washington State Department of Information Services, Administrative Office of the Courts, and Washington State Patrol.

3. Initiate analysis of new and emerging opportunities that supported inter-operational improvements for criminal justice agencies, which may include integrated document management and improvements to case management practices.

KEY FACTS AND FINDINGS

- The LSJ-I Program successfully implemented the core infrastructure and initial pilot projects in 2003-05.
- King County was recognized by CIO magazine in 2006 for the innovation of the LSJ-I Program.
- The largest LSJ-I project – Booking and Referral Filing – is currently in the implementation phase.
- Components of Booking and Referral Filing will go "live" October 1, 2007, with other components becoming operational by year-end.
- The "Consolidated Criminal History" project was completed in April 2007.
- On September 14, 2007, King County will launch a security gateway as the first aspect of the LSJ-I Portal project.
- Under the leadership of the county's elected officials, the LSJ-I Program charter was re-written in 2007.
- The LSJ-I Program has recently completed an assessment of integrated and interoperation document and case management processes and opportunities.
- After 25-35 years, the core criminal justice mainframe applications are at the end of their useful lifecycle and are not long-term candidate solutions for the future.
- The 2008 work plan for LSJ-I will focus on integrated document management within the county's criminal justice agencies.

At this time, the LSJ-I Program has made progress along all three of objectives. The progress includes the following results:

- The County has re-initiated the implementation phase of the Booking and Referral Filing Project. This includes the fact that the associated computer services will go "live" on October 1, 2007, and operational changes will be

implemented regionally in a phased plan between December 1, 2007, and March 31, 2008.

- In April 2007, the County delivered the Case and Criminal History Project. While the final deliverable did not meet all the objectives of the project, the County has provided an integrated service to criminal justice practitioners throughout King County that allows them to simultaneously query county jail history, state criminal conviction history, and state criminal case history for individuals.

- To support multiple regional initiatives and needs, the first component of a regional "portal" goes into production in September 2007. This component is a distributed security gateway, which allows criminal justice practitioners from agencies throughout the county to access King County information systems through a secured single-sign-on environment.

- The LSJ-I Program managed a preliminary effort to reassess the criminal justice workflow models, and determine if, where, and how improved document management practices may be brought to bear to improve operations.

- The program is working with an independent third party consultant to examine the long-term viability of the "legacy" case management systems operated within the County's mainframe environment, which may impact the strategic technical direction of specific criminal justice agencies in the future.

There are many changes occurring within the technical environment of criminal justice operations both locally and statewide. To address, these challenges, the criminal justice agencies and OIRM need to develop a new, comprehensive technology strategy.

As outlined in this report, the 2007 work program for the LSJ-I Program has been focused on completing the existing objectives of the program, and performing a preliminary business plan for the future. In light of the emerging changes at both the state and local level, the full LSJ technology strategy will be developed in 2008. Based on that strategy, a business case will be developed as necessary for delivering and justifying initiatives related to that strategy.

This report will review the status and accomplishments to-date of the existing LSJ-I Program, and define the Business Plan for the program in 2008 and 2009.

2.0 BACKGROUND AND HISTORY

KEY FACTS AND FINDINGS

- The LSJ-I Program successfully implemented the core infrastructure and initial pilot projects in 2003-05.
- King County was recognized by CIO magazine in 2006 for the innovation of the LSJ-I Program.

As previously reported, King County's LSJ-I Program has been actively working on projects and initiatives that were established by the approval of the LSJ Strategic Integration Plan. As historical background, the following is an overview of the results of that effort between 2003 and 2005.

2.1 INTEGRATION INFRASTRUCTURE

In 2003-04, King County successfully procured and deployed the "integration infrastructure" required to support all future integration initiatives within the LSJ-I Program. In addition, this infrastructure was developed and deployed within an "integration center of competency" within the Office of Information Resource Management (OIRM). The benefits of having developed a sound, functional, infrastructure following industry best practices are as follows:

- The technology is based on open standards, and can therefore be used to support data management integration between any systems in the county.
- The "center of competency" creates a core capability that supports the county's broader, enterprise strategy to have a universal integration capability.
- The investment in a production-quality hardware and software environment makes it immediately available and appropriate for any data integration initiative in the county. This production software, hardware, and support environment is well suited to support data integration projects outside the scope of LSJ-I.

In summary, this resulting infrastructure is capable of supporting all future technical work associated with the LSJ-I Program, of managing the technical components of such projects post-implementation, and of supporting other integration initiatives outside the scope of the LSJ-I Program, when such technology solutions are appropriate and required.

2.2 JAIL INMATE LOOK-UP SERVICE

The Jail Inmate Look-up Service (JILS) was initially implemented in April 2004. This project was the pilot project for the LSJ-I Program, and as such its three primary objectives were as follows:

1. Deliver a web-based application that provided a service whereby the general public could view the "jail register" for the King County jail facilities through the Internet.

2. Provide a more comprehensive and secure application that provides law enforcement officers and other criminal justice decision makers with the ability to obtain the "jail booking history" for individuals currently or previously booked into a King County jail facility.

3. Implement technical components of the "integration infrastructure" in a manner that proves the selected technology fulfills both the requirements of the county, and the warranties and statements of the vendor.

This project was completed on time, within the budget, and delivered all the required functionality of the project. Since going live, the JILS application has remained in constant operation, and is currently used by the public and every law enforcement agency in King County for the purposes intended.

2.3 OTHER PROGRAM ACTIVITIES

In addition to the defined projects associated with the LSJ-I Program, other activities have been performed to ensure the viability and integrity of the program. In brief, those activities are as follows:

- In 2003, the LSJ-I Program performed a full work flow modeling for criminal justice operations in King County.

- The program has twice voluntarily participated in a third party "independent verification and validation" (IV&V) audit of the program.

- In 2005, the LSJ-I Program created a benefit model, which has since been incorporated as the standard benefit realization model for all technology projects in the county.

- OIRM supported regional jail analysis efforts by performing an assessment of jail systems used by other municipal facilities within the region.

2.4 EXISTING PROJECT COST/BENEFIT ANALYSIS

As stated, in 2005, the LJS-I Program was the first large capital information technology project to adopt a comprehensive benefit analysis model. This model was later leveraged by OIRM to become a standard model to be used by other large projects. The key components of this model are as follows:

- Prior to the implementation of the Booking and Referral Filing Project, the affected agencies will identify those operations that will be impacted by the impending changes. They will define the nature of the planned operational impacts, and perform time-and-motion analysis of the existing state of those operations.

- Additionally, prior to implementation, the agencies will identify other metrics that may be impacted by project implementation, and collect pre-implementation measures for those metrics.

- After project implementation, the agencies will again collect post-implementation measure for both the metrics and the time-and-motion analysis of the operations. Post-implementation measures will be collected at a time after operations have had an opportunity to normalize from the change, like three to six months after the "live" date.

- The pre and post implementation measures will be reported to the Office of Management and Budget, and incorporated into the operational and budget plans for the agencies as applicable.

This approach to cost/benefit analysis remains the objective of the LSJ-I Program, and all work by the agencies associated with benefit analysis remains consistent with this approach.

2.5 LSJ-I FUTURE STRATEGY AND BUSINESS CASE

As documented in this and other reports, there are many changes occurring within the technical environment of criminal justice operations both locally and statewide. These changes include the AOC initiative to replace its core case management system, the state patrol's SECTOR and e-Trip projects, the JINDEX initiative, and county initiatives related to the sheriff, prosecutor, and jail systems. All these initiatives are still in development, and are not fixed and final.

To address these challenges, the criminal justice agencies and OIRM need to develop a new, comprehensive technology strategy. The development of this strategy will be a joint effort, managed under the governance and structure of the LSJ-I Program.

As outlined in this report, the 2007 work program for the LSJ-I Program has been focused on completing the existing objectives of the program, and performing a preliminary business plan for the future. In light of the emerging changes at both the state and local level, the full LSJ technology strategy will be developed in 2008. Based on that strategy, a business case will be developed as necessary for delivering and justifying initiatives related to that strategy.

2.6 PROGRAM RECOGNITION

In 2006 King County's LSJ-I Program was recognized by CIO Magazine as one of the 100 most innovative technology projects in the United States.

3.0 MAJOR LSJ-I PROGRAM SUB-PROJECTS

KEY FACTS AND FINDINGS

- The largest LSJ-I project – Booking and Referral Filing – is currently in the implementation phase.
- New computer systems for Booking and Referral Filing will go "live" October 1, 2007, with other components becoming operational by year-end.
- The "Consolidated Criminal History" project was completed in April 2007.
- On September 14, 2007, King County will launch a security gateway as the first aspect of the LSJ-I Portal project.

The original strategic integration plan defined six specific sub-projects to be performed within the scope of the LSJ-I Program. As reported to the King County Council in 2006, three of those projects will no longer be pursued by the program due to their external dependencies with Washington State Justice Information Network (JIN) Program. In conjunction with this decision, the stakeholders and sponsors of the LSJ-I Program modified the Program Charter in 2007.

The status of the three projects that have been performed by the LSJ-I Program are provided below.

3.1 BOOKING AND REFERRAL FILING PROJECT

King County's highest priority project within the LSJ-I Program is the Booking and Referral Filing Project. This project supports the electronic submission of data from all regional law enforcement officers throughout the region, for the purposes of both booking a suspect into a King County jail facility, and/or referring a felony criminal case to the King County Prosecuting Attorney's Office.

This is a large, complex project, with multiple components. It directly impacts the operations of four King County agencies, and approximately 30 other municipal and state agencies. This represents a change to the daily activities of over 4,000 criminal justice practitioners. The current status of the project is as follows:

- **King County re-launched the implementation phase of the Booking and Referral System (BARS) application on August 17, 2007.** In total, King County will host 20 regional training and orientation meetings, and will work with individual agencies as requested to support any unique needs.

- **The law enforcement interface for BARS will go "live" in production on October 1, 2007.** At that time, all regional law enforcement agencies will have access to the BARS "production" system for the purpose of analysis and training.

- **Operations will cut over – and BARS will become "operational" – on December 1, 2007.** On that date, all law enforcement agencies may begin using the application for booking individuals into the King County jail facilities, and/or referring a felony criminal case to the King County Prosecuting Attorney's Office. Agencies will have 120 days – until March 31, 2008 – to achieve 100 percent utilization of BARS.

- As part of the operational initiation of BARS, **on December 1, 2007, the Seattle Police Department will begin receiving digital data from King County for all of their jail bookings for import into their new Records Management System.** This increased scope to the project will improve operations and records management for the largest police agency in the region.

- **Also on December 1, 2007, the use of BARS for creating case files will become the operational standard in the Prosecuting Attorney's Office.** This includes the automated input of data into the PROMIS application for those cases submitted digitally.

- **The Department of Adult and Juvenile Detention (DAJD) will implement BARS into their operational practices during the first quarter of 2008,** pending final analysis of how charge data is edited by the systems and the completion of intake and booking officer training.

- Based upon pending legal analysis related to digital signatures, **the Prosecuting Attorney's Office will begin submitting digital Superforms for first appearance hearings into King County District Court in the first quarter of 2008.**

Between March 2006 and June 2007, King County OIRM actively worked with the Washington State Department of Information Services (DIS) to create a security solution that would support the BARS application. The goal was to leverage the state's investment in a digital certificate-based Public Key Infrastructure (PKI) to manage security. For both technical and business reasons, it was determined that the solution could not meet the County's requirements. As a result, the LSJ-I Program accelerated the development of a security gateway to support the BARS application (see the status on the "Public Information Portal" below for details).

As previously stated, the LJS-I Program remains committed to delivering the benefits associated with the Booking and Referral Filing Project. Operational metrics will be captured both prior to and after implementation, and those metrics used to determine both tangible and intangible benefits of the project. The stakeholder agencies will then work with the Office of Management and Budget to incorporate the benefits into the operational and budget plans for the agencies as applicable.

3.2 CASE AND CRIMINAL HISTORY

The Case and Criminal History Project was initiated in 2005 once the state committed to delivering the required service in its "JIN Program Blueprint". The original schedule for the JIN Program was to complete their Web Services in August 2005. Due to issues involving project staffing, requirements definition, and undocumented security restrictions, the JIN Program completed their portion of the project in March 2007, with a decreased level of scope and functionality.

King County implemented the Case and Criminal History Project on April 30, 2007. The resulting functionality was deployed as "version 2.0" of the Jail Inmate Look-up Service (JILS). As a result, authorized criminal justice practitioners can now obtain a consolidated view of an individual's King County jail history, Washington State Patrol criminal history, and Washington State AOC criminal case history, through a single online, web-based inquiry from any PC connected to the Internet.

3.3 PUBLIC INFORMATION PORTAL

The scope of the Public Information Portal is two-fold:

1. Provide a unified, online location on the King County Internet site for citizens to obtain information related to the county's criminal justice services, including a portal to any online services.

2. Create a collection of services, again accessible from a unified and secured interface, for regional criminal justice practitioners to access integrated data services and tools.

As previously noted, part of this project was developed as the JILS pilot project, delivered in April 2004, and JILS was further expanded in April 2007 to integrate state data. Since then, the project has created a comprehensive functional and technical design for delivering the full portal. It is expected that the project will be delivered in the second quarter of 2008.

One part of the portal design included a regional, distributed security requirement. The secured criminal justice portion of the portal requires the ability for regional agencies – both within and external to King County – to manage their agency's users and define access rights for those users. This effort of managing almost 5,000 users at approximately 45 regional agencies could not and should not be centrally administered.

As a result, this project developed the Ingress Distributed Security Gateway, which goes "live" on September 14, 2007. Ingress supports the following portal features:

- State, county, and municipal agencies establish "agency registrars", who have the authority and responsibility to create, delete, and otherwise manage all users of King County criminal justice web applications, within their agencies.

- Agency registrars request access to specific applications for users (or defined user groups).

- King County agencies that are responsible for criminal justice web applications may still manage and control individual access to applications by accepting or declining access requests.

- Ingress enforces SSL based encryption of all activity that passes through the gateway, including logon credentials and end-user identity management.

- Distributed users of applications log onto Ingress, and then have "single sign-on" access to all applications presented behind the Ingress gateway to which they have been registered and accepted.

- Since Ingress manages application access via a token-based exchange, any application developed in the future (whether or not it is hosted or operated by King County) can leverage Ingress as its security gateway.

The regional applications that will be presented behind Ingress by December 31, 2007, are the following:

- AFIS Name Index (ANI)
- Booking and Referral System (BARS)
- Detention Billing Information System (DBIS)
- Jail Inmate Look-up Service (JILS)

To ensure security, the project contracted with Anitian Corporation to perform a security audit of Ingress. Anitian performed both a hands-on analysis of the Ingress application, and also performed an external "penetration test" against Ingress. In both audits, Ingress was certified as secure by Anitian.

3.4 CURRENT LSJ-I PROGRAM BUDGET STATUS

The table below summarizes the current state of the budget for the broad LSJ-I Program.

Item	Budget	Actual	Program Balance
Appropriations – History-to-Date			$7,106,850
Projects 1997 – August 2007	$5,563,215	$5,585,775	$1,521,075
2007 Assessment Costs	$125,000	$97,735	$1,423,340
Outstanding 2008 Scope – Portal Project	$300,000	$297,552 (est)	$1,125,818
Totals	**$5,988,215**	**$5,981,062**	**$1,125,818**

Table 1: LSJ-I Program Budget Summary

4.0 LSJ-I BUSINESS PLAN

KEY FACTS AND FINDINGS

- Under the leadership of the county's elected officials, the LSJ-I Program charter was re-written in 2006.
- The LSJ-I Program has recently completed an assessment of integrated and interoperation document and case management processes and opportunities.
- After 25-35 years, the core criminal justice mainframe applications are at the end of their useful lifecycle and are not long-term candidate solutions for the future.
- The 2008 work plan for LSJ-I will focus on integrated document management within the county's criminal justice agencies.

As previously stated, at the beginning of 2007 the LSJ-I Program – lead by the stakeholder agencies and program sponsors – re-wrote its charter. The modified charter was approved at a meeting on November 1, 2006, attended by Hon. Ron Sims, Hon. Norm Maleng, Hon. Michael Tricky, Hon. Barbara Linde, and Sherriff Sue Rahr. Under the terms of the LSJ-I Program charter, this group was convened as the "Criminal Justice Elected Board" to review program status and provide direction.

The modified charter states that the mission of the LSJ-I Program is:

> [T]o assess current criminal case management activities within the county, develop a comprehensive technology strategy for addressing technical interoperability for disparate justice operations, and formulate and recommend tactical projects supporting improvements to criminal justice technology.

In addition to managing the completion of the existing and active LSJ-I projects, this program, therefore, functions as an "office of criminal justice interoperability", providing a collaborative program office for LSJ agencies to coordinate technology management practices and standards, and address challenges associated with technical interoperability, while remaining autonomous with regards to operational policies and procedures. Under the updated LSJ-I Program, the major efforts will include the following:

1. Detailed operational analysis of the overall criminal case information exchange functions of the King County LSJ agencies

2. Technology strategy development for PAO, DAJD, the Office of the Public Defender, and an update to the KCSO strategy, all of whom have recently initiated a project to assess their core technology systems or intend to do so within the next 18 months

3. Incorporation of electronic document management requirements for all LSJ agencies, concentrating on the needs of the Prosecuting Attorney's Office and the Office of the Public Defender, and enabling data exchange in existing systems (sheriff and courts)

4. Alignment of the county's case information management technology strategy to three major regional issues:
    - Washington State AOC's comprehensive court case management system replacement initiative
    - Seattle Police Department's record management system replacement
    - Regional issues associated with jail management
5. Evaluation of operational and technical alternatives to offer LSJ agencies planning core systems replacements
6. Development of the business case and cost/benefit analysis for solution procurement and implementation

The program charter explicitly calls for the development of the following deliverables and/or bodies of work:

1. Program Office procedures and guidelines – The Program Office will create procedures and guidelines related to reporting and communications, issue and scope management, and roles and responsibilities.
2. Comprehensive interoperability management models – Through detailed workflow and data analysis, the program will develop comprehensive models illustrating how business operations and requisite criminal justice information is currently managed, moved, and used throughout the LSJ operation, and how operations and information may be optimized to best support interoperability.
3. Mainframe Viability Assessment – The program will assess the operational and technical issues associated with the continued use of the King County mainframe for the operation of core criminal justice applications, and provide a detailed recommendation and alternatives analysis regarding the viability of the technology, and associated short and long term application strategies.
4. Solution requirements – The program will create initial solution requirements related to both the technical and business requirements/objectives of the LSJ-I Program.
5. Design and Prototyping – The program will develop technical designs, which may include various proof-of-concept prototypes, to support near-term interoperability projects identified during the prior analysis and assessment work (the full scope of such work is TBD based on the assessments).

The first four items listed have been developed during 2007. Items #2-4 are discussed below as the key drivers to the business plan.

4.1 CASE AND DOCUMENT MANAGEMENT ASSESSMENT

As defined in the modified program charter, in 2007 the LSJ-I Program worked with the criminal justice agencies to evaluate operations and technology related to case management. This evaluation was focused explicitly the handling of documents, and the opportunities and existing capabilities for handling those documents in digital formats. The evaluation yielding the following general observations findings:

- Since 2002, King County District Court has successfully developed and implemented a system to manage digital documents.

- The criminal justice operations of King County have not changed substantially since the prior analysis in 2002. However, the principle relevant change that has occurred is the development of the "Superform", which is now created as a data feed from law enforcement agencies, and produced as a digital document for viewing by municipal police, KCSO, DAJD, the PAO, and District Court judges.

- Additionally, Washington State has implemented a project called SECTOR, which produces digital traffic citations that are submitted to District Court. Use of this system is being adopted over a seven year period by regional law enforcement agencies.

- Several agencies have the ability to generate some documents that typically comprise a "criminal case file". However, no agency is able to fully produce all the associated documents and records that comprise a case file.

- Over the past two years, the King County Records Division has initiated an enterprise project to manage the digital storage of archive records.

- Case files typically include records that are not "traditional" document, some of which may traditionally exist in digital format. These non-traditional records include photographs, witness interview notes, surveillance film, and recorded conversations, as examples.

- In a survey of the prosecuting attorney / district attorney offices for the 25 largest counties in the United States, none of them currently use any digital document technology to manage open and active case files. Two of the 25 scan closed files into a digital document system for archive purposes.

Based on the analysis performed, and the objective of the county to pursue improvements to the criminal justice operations in a manner that is independent of outside data dependencies, the proposed course of action would be to examine and fill gaps associated with the handling of paper documents and case files within the criminal justice workflow. The options exist for pursuing such an initiative:

1. Rely upon an Electronic Document Management System (EDMS) for integration: Under this option, the county would acquire and implement an EDMS solution into the LSJ-I infrastructure, converting LSJ-I into a document-centric integration solution. The agencies would then be able to implement full document management capabilities, and share documents with other EDMS solutions. With such an option, agencies would be able to address data and operational records management functions as they currently do.

2. Rely on the existing data exchange model: With this option, the agencies would proceed with their status quo approach to integration. They would focus on data exchanges, and when necessary adjust their operational practices to either leverage the data (and eliminate true "documents") or convert the data to documents for presentation and management only. Documents are largely ignored with this option except with specific agency solutions.

3. Rely on the existing data exchange model, passing related documents as data elements: This option views documents as a data element to be managed as part of the data exchanges between agencies. The central premise is that the LSJ-I solution would be expanded to handle documents. However, the LSJ-I solution would not implement its own EDMS, but rather enforce exchange standards, policies, practices, and workflow, similar to the original LSJ-I data exchange model.

An independent consulting, MTG Consulting, has recommended that the LSJ-I Program pursue Option #3 as its 2008-09 work plan.

4.2 MAINFRAME-BASED CASE MANAGEMENT SYSTEMS

The LSJ-I Program assessment of case management applications focused on two core systems:

- The Prosecuting Attorney's Office PROMIS application
- DAJD's application environment centered around the systems SeaKing and Subject In Process (SIP).

These systems are both operated primarily on the King County mainframe, are both between 20-35 years old, and even though they are 'owned' by agencies under two separately elected officials share some common functionality.

4.2.1 Background on 2000 mainframe study

In September 2000, King County commissioned a study of the county's full mainframe platform and the applications running on the system. The study provided analysis centered around three potential options regarding the long-term use and viability of the mainframe platform:

- *Maintain the current status quo.* The county would maintain its current mainframe strategy, minimize up-front costs, and follow a reactive approach to problems.

- *Invest in the current environment.* The county would select the mainframe as its future platform and invest in developing new LSJ applications.

- *Migrate off the mainframe platform.* The county would develop a plan to migrate the mainframe applications to commercial off-the-shelf (COTS) software on distributed systems.

After reviewing the results of this study, King County elected to follow option one and maintain the status quo. This selection maintained low short-term costs, and deferred the long-term upgrade or migration decision.

The table below depicts the summary cost comparison of the study options. It is important to note that these figures include *all* the applications on the mainframe, including PROMIS, SIP, SeaKing, and several additional applications. The status quo option has the highest total cost and a high long-term operation and maintenance cost.

Cost in Millions (year 2000 dollars)	Invest	Migrate	Status Quo
Onetime Costs	$41.6	$42.9	$41.6
15-Year Operation and Maintenance Costs	$64.8	$47.1	$77.7
Total 15-Year Costs	$106.4	$90.0	$119.3
Net Present Value	$(9.1)	$(6.3)	N/A
Internal Rate of Return	-2%	0%	N/A
Long-Term Annual O&M Costs	$5.7	$4.3	$5.7

Table 2: Analysis of 15 Year Mainframe Costs

The investment and migration strategies proposed by the study are based on a coordinated plan for all mainframe applications. If independent projects migrate off of the mainframe, the burden of the above costs is shared by the remaining applications. The criminal justice, financial, and assessor applications are the three major types of systems left on the mainframe. The county's Accountable Business Transformation (ABT) Program is currently under way to migrate certain mainframe functions to Oracle Financials and PeopleSoft. Also, the Property-Based Systems (PBS) Project to replace the Department of Assessment's systems is in the requirements-gathering phase and plans to issue an RFP in the first half of 2008. These projects are moving forward independently and may leave the criminal justice agencies with increased operations and maintenance costs.

The results of the 2000 study are still valid, only the time frames for needed change have been reduced. The study was based on a 15-year time frame, and there have been no significant changes to the environment since the study was conducted.

4.2.2 Summary of PROMIS assessment

When PROMIS was implemented in 1984, the PAO processed 3,751 criminal case filings. The PAO now processes over 15,000 criminal case filings annually. This is an increase of over 300 percent from 1984. While both staffing and case filings have increased dramatically over the last 23 years, PROMIS has seen no major application upgrades.

The assessment of PROMIS identified the following high impact findings:

- PROMIS provides very limited reporting capabilities from both a technical and business perspective.
- The current application does not provide PAO management with the data necessary to make management and policy decisions.
- The current data structure of the application is inflexible. The PROMIS implementation of VSAM does not adhere to the concepts of active data, recent data, and archive data.
- The application does not provide tools for user ad hoc query capabilities. Because of the complex nature of the current PROMIS VSAM implementation, all information queries have to be developed by technical staff.

The summary table below shows the impact each finding has on current business operations, a measure of how complex it would be to modify the system to meet the business need, and the degree of change associated with the modification. The information provided in the table includes the following:

- *Finding* – The finding presented in the previous sections.
- *Business Impact* – A high, medium, or low assessment of the impact to the PAO and LSJ agencies.
- *Modification Ease* – An estimated simple, moderate, or complex level of difficulty of modifying or supplementing the existing application.
- *Degree of Change* – An estimate of the percentage of review, validation, or change to the PROMIS solution in increments of 10 percent.

Finding	Business Impact	Modification Ease	Degree of Change
Business Findings			
B-1 – Reporting capabilities are limited.	High	Complex	90%
B-2 – PROMIS does not provide adequate data for management and policy decisions.	High	Complex	90%
B-3 – Units have created workaround databases to meet their business and data needs.	Medium	Moderate	50%
B-4 – There are a limited number of expert PROMIS users.	Medium	N/A	50%
B-5 – PROMIS prevents the PAO from being more active in document and content management.	Medium	N/A	N/A
B-6 – PROMIS is difficult and cumbersome to use.	Low	Moderate	50%
B-7 – There is redundant data entry.	Low	Moderate	20%
Technical Findings			
T-1 – The current data structure is inflexible.	High	Complex	100%
T-2 – PROMIS provides limited query capabilities.	High	Complex	100%
T-3 – PROMIS data is being duplicated in several locations.	Medium	Moderate	50%
T-4 – Integration with other applications is complex.	Medium	Complex	100%
T-5 – The application will become increasingly difficult to support.	Medium	Complex	50%
T-6 – The programming language will become increasingly difficult to support.	Medium	Complex	50%
T-7 – Application maintenance is labor-intensive.	Low	Simple	20%
T-8 – Batch delivery processing is time-consuming.	Low	Moderate	20%

Table 3: Summary of all PROMIS Findings

The table reveals the following important observations:

- A large percentage of the findings have a high or medium impact on current business operations.
- Nearly all of the issues identified would require system modifications that are either moderate or complex.

- The findings with the high to medium business impacts and complex to moderate modification levels of difficulty translate to a high degree of change required. Therefore, most of the findings fall between 50 percent and 100 percent with regard to the degree of system change required.

The findings indicate that the current case management functions provided by PROMIS minimally support the basic business needs of its users. However, PROMIS has several serious limitations:

- The application does not provide advanced case management features that allow users to track all necessary data elements or managers to make decisions on how to allocate resources and cases. This level of functionality is demanded by management practices in the county and more generally by the public.

- Additional functionality could provide important benefits to the PAO and justice partner agencies in terms of process efficiency and staff effectiveness; however, those improvements are difficult to make without extensive business changes.

- It does not provide the reporting capabilities required by the PAO due to both technical capability and design reasons. Information is the currency of the justice system and PROMIS does not easily deliver that currency.

There is additional context beyond the business functionality discussed above. PROMIS uses technology that constrains improvements. Specific points were raised in the 2000 mainframe study, and as noted earlier in this document, these issues remain valid today.

Platform and data integration disparities will continue to grow as more criminal justice applications (both within King County and external within the overall criminal justice operations) move to newer distributed hardware and object-oriented software languages. PAO business needs have changed since the design and implementation of PROMIS. In addition, the workload of the PAO has increased along with the overall interest of the community in the cases handled by the PAO. These factors create a geometric increase in demand for information from PROMIS.

4.2.3 Summary of SIP/SeaKing assessment

DAJD performs approximately 60,000 bookings per year between the two adult facilities. The Subject In Process (SIP) and SeaKing applications are an integral part of the booking process; they are used primarily to track personal, booking, and release information for all individuals booked into jail. In conjunction with DAJD's classification (CLS), pre-trial management (PTM), temporary location (TempLoc), and Detention Billing Information System (DBIS) applications, these systems comprise most of the adult detention facilities' data and jail management functionality.

SeaKing was originally acquired and installed in the early 1970s as an online warrant application for subscribing police departments. The purpose of the application has changed over time to become the central demographic repository for King County's criminal justice systems.

The SIP application was internally developed in 1975 and implemented the following year. The system is primarily responsible for automated booking and release functions. SIP also provides batch and online reports, such as housing counts, jail rosters, interview sheets, and jail statistics.

The assessment of the SIP and SeaKing environment identified the following high impact findings:

- The current applications do not provide adequate ability to analyze outcome data. In some cases, workaround reporting has been developed to extrapolate statistics.

- The current data structure is inflexible. SIP currently consists of over 3,761,000 master file records, and SeaKing contains more than 4,570,000 master file records. The technical structure of the systems make using this data programming-intensive, and the development of management analytical capabilities complex.

- Over time, additional mainframe applications, such as CLS and PTM, have been created to supplement SIP and SeaKing because their design and file structure are not able to provide the functionality. Creating additional programs increases the integration complexity and places additional burden on the support team.

This final impact – while a technical issue – presents the most significant finding related to the DAJD applications. Over time, DAJD has created an application suite of approximately 15 applications, deployed over three computing architectures, using four different database languages and at least four different programming languages, and in some cases procured from outside vendors. Generally speaking, this complex application environment performs the functions of one contemporary Jail Management System (JMS).

Commercial off-the-shelf JSM solutions are available from numerous providers. These systems have several elements in common that add perspective to the SIP and SeaKing discussion. The table below presents common modules, an indicator of whether the modules are typically included in a JMS and available by themselves, and finally what King County uses for a solution. The table describes:

- *Common JMS Feature* – Depicts whether Most, Half, or Some of the COTS JMS solutions include this feature.

- *Available as a Separate Module* – Indicates whether the function can typically be procured as an optional module.

- *King County's Solution* – Annotates which existing King County system meets this functional need.

	Common JMS Feature	Available as a Separate Module	King County's Solution
Admissions and Intake	**Most**	No	SIP, SeaKing, BARS
Alerts	**Most**	No	Manual
Biometrics	Some	**Yes**	AFIS, Live-Scan, SIP
Case Management	Some	No	Manual
Classification	Some	**Yes**	CLS
Commissary	**Most**	**Yes**	Keefe
Complaint Resolution	*Half*	**Yes**	Manual, CLS
Counts	**Most**	No	SIP
Diets and Meals	**Most**	**Yes**	Manual
Event Tracking	Some	No	Manual
Gangs	*Half*	No	CLS
Housing	**Most**	No	SIP
Image Capture	Some	**Yes**	CRIMES
Integrated Word Processing	Some	No	None
Interfaces	**Most**	**Yes**	Various
Keep Separates	**Most**	No	CLS
Legal Cases	Some	No	CMIS
Line Ups	Some	**Yes**	CRIMES
Mail Monitoring	Some	No	None
Medical	*Half*	**Yes**	PEARL
Mittimus	Some	No	CMIS, SIP, BARS
Movements	*Half*	**Yes**	SIP, Manual
Offenses in Custody	*Half*	**Yes**	CLS, Manual
Programs and Services	*Half*	**Yes**	Manual
Property and Personal Effects	**Most**	**Yes**	Keefe, SIP
Release	**Most**	No	SIP, SeaKing
Risk Management Assessments	*Half*	**Yes**	CLS
Schedules	**Most**	**Yes**	PEARL, JAMMA

	Common JMS Feature	Available as a Separate Module	King County's Solution
Security Threat	*Half*	No	CLS
Sentence Calculation	**Most**	**Yes**	SIP
Transportation	Some	**Yes**	JAMMA, Manual
Victim Notification	Some	**Yes**	VINES
Visits	*Half*	**Yes**	Manual

Table 4: Common Features of Jail Management Systems

This table indicates that King County uses many applications to perform the functions of a typical JMS application. However, it also shows that, while SIP and SeaKing are considered the County's "core" jail systems, they do not provide a significant amount of the computer automation required to support the jail operations.

Overall, the SIP and SeaKing solutions provide the core functionality of service to DAJD as they were intended. However, the solutions do not meet:

- The need to match case processes or major event process with the SIP and SeaKing person processes.
- The reporting and other analytical needs of the department.
- The capability necessary to satisfy all of the current business needs facing the LSJ community of interest today.
- The needs of the county as it explores regional jail management strategies with other partners in the county and state.

The table below presents the business and technical findings and evaluates each finding in terms of several measures that enumerate strengths and weaknesses. The information provided in the table includes the following:

- *Finding* – The finding presented in the previous subsections.
- *Business Impact* – A high, medium, or low assessment of the impact to the DAJD and LSJ agencies.
- *Modification Ease* – An estimated simple, moderate, or complex level of difficulty of modifying or supplementing the existing applications.
- *Degree of Change* – An estimate of the percentage of change to the SIP and SeaKing solutions in increments of 10 percent.

Finding	Business Impact	Modification Ease	Degree of Change
Business Findings			
B-1 – The current applications do not provide the ability to analyze outcome data.	High	Complex	100%
B-2 – The systems currently lack quality-checking capabilities.	Medium	Moderate	50%
B-3 – SIP and SeaKing data is not in a useful form for analysis.	Medium	Complex	100%
B-4 – SIP and SeaKing are not user-friendly or intuitive systems.	Medium	Moderate	50%
B-5 – Existing systems lack historical tracking and audit capabilities for certain fields and events.	Medium	Complex	100%
B-6 – *Systems cannot support emerging jail management strategies.*	Medium	Complex	75%
B-7 – Data fields do not provide sufficient space to enter information.	Low	Moderate	50%
Technical Findings			
T-1 – The current data structure is inflexible.	High	Complex	100%
T-2 – SIP and SeaKing lack sophisticated query capabilities.	High	Complex	100%
T-3 – Additional applications have been created to provide functionalities not available through SIP and SeaKing.	High	Complex	100%
T-4 – The programming language is becoming increasingly difficult to support.	Medium	Complex	50%
T-5 – Integration with other applications is complex.	Low	Simple	100%
T-6 – The applications are becoming increasingly difficult to support.	Low	Simple	50%
T-7 – Application maintenance is cumbersome.	Low	Simple	20%
T-8 – Batch delivery processing is time-consuming and cumbersome.	Low	Moderate	20%

Table 5: Summary of all SIP/SeaKing Findings

The findings presented above indicate that the current functions provided by SIP and SeaKing minimally meet the basic business needs of their users. Most system deficiencies are in relation to data analysis problems and the inability to conduct real-time statistical reports. DAJD staff has created workaround processes and employed an external vendor to compensate for the data shortcomings. Even still,

DAJD remains unable to accommodate many of the requests for statistics received by the department due to limitations of the data.

In terms of the technology, the SIP and SeaKing applications are stable, but are based on older mainframe technology. Industry standards have developed newer methods using object-oriented languages, relational databases, and distributed systems. Partially due to the operational shortcomings of the system, King County has developed a very complex technical application suite to support DAJD operations.

There is additional context beyond the business functionality discussed above. SIP and SeaKing use technology that constrains improvements. Specific points were raised in the 2000 mainframe study, and as noted earlier in this document, these issues remain valid today.

4.2.4 Overall conclusions

Given these findings, it is clear that the core criminal justice mainframe applications are at the end of their useful lifecycle and are not long-term candidate solutions for the future. That being said, these applications have served the county very well. It is rare to find computer systems anywhere in the country that are still in operation after 25-35 years.

Moving the criminal justice agencies to new solutions will be a complex effort. No single solution on the market provides all of the needs of the county. It may be possible for the County to acquire a JMS that supports a large portion of jail operations, and improves analytical reporting, and then integrating other system modules to support certain operations. It is unlikely that a single application can be found to support the PAO operational requirements. The most likely solution will be a core system with additional modules purchased or developed to meet the specialized needs of PAO specific operations.

A final note about the LSJ mainframe applications is that, even if they are left alone, other efforts to update solutions and operations may impact the systems. Any effort by criminal justice agencies to migrate their core applications off the mainframe should mitigate risk associated with the operational integrity and technology cost structure of the agencies as well as other justice partners. Existing, active technology projects in King County completely independent of criminal justice operations may impact the future cost structure of these systems. Any criminal justice agency changes should always be made strategically, with consideration to all of the partners.

4.3 2008-09 BUSINESS PLAN

Consistent with MTG's recommendations for the LSJ-I Program, the county will pursue a 2008-09 work program for establishing governance oversight and standards for document exchanges. Additionally, the LSJ-I Program will provide the collaborative environment for agencies to further the analysis of the long-term use of the mainframe platform. The major components of the work program will be as follows:

1. Initiate a work program and establish a governance structure, both of which may leverage the existing LSJ-I Program.

2. Under this governance, create the policies and standards for managing and sharing digital documents, which may include document management best practices, data exchange standards, document exchange standards, and technical standards.

3. Develop an enterprise analysis of the costs and benefits of broadly managing digital documents across the criminal justice operations of the county.

4. Again under the shared interagency collaboration and governance structure of the LSJ-I Program, coordinate the efforts of DAJD and the Prosecuting Attorney's Office as they develop long-term strategies for addressing their application environments, including resource coordination for issues pertaining to mainframe viability and modifications to shared systems.

5. Incorporate the agency application strategies, along with other emerging changes at both the state and local level, into a full LSJ technology strategy. Include with that strategy a business case as necessary for delivering and justifying initiatives related to that strategy.

To support this scope, OIRM will develop a work plan that is funded from the current balance of the LSJ-I Program capital project. No new 2008 funding is required to support this effort.

5.0 CONCLUSION

As previously reported, King County has become the regional leader in the area of criminal justice integration. This is a dramatic improvement in the status of King County's ability to provide public safety and criminal justice services through the innovative use of technology. Evidence of this improvement is exhibited by the success in leading regional change, in the active participation of King County leaders in regional and state integration initiatives, and in the acknowledgement of the county's progress by organizations outside the county.

By the end of 2007, the county will have implemented the majority of the high-priority projects associated with the original strategic integration plan for this program.

Through the proven oversight and structure of the stakeholder community, the expertise of the program office, and the technical capabilities already in place, King County is well positioned to succeed with future initiatives. Those future initiatives include the completion of the top LSJ-I Program priorities, and addressing operational challenges associated with both document management within criminal justice operations, and the viability of the core computer systems that have reached end-of-life.

APPENDIX A: ASSESSMENT REFERENCE DOCUMENTS

The documents supporting Section 4 of this document are either included with this report, or will be transmitted when finalized. Those documents are as follows:

- MTG Updated LSJ-I Work Flows: This document updates the workflow analysis originally performed by the LSJ-I Program in 2003.

- MTG Document Management Discussion Paper: This report assesses county operations related to document management specifically within the context of criminal case management, and provides recommendations for how to proceed.

- MTG PROMIS Assessment: This report documents the independent assessment of the PAO's PROMIS application, looking at both the operational and technical capabilities and condition of the system, and comparing its performance to industry standards.

- MTG SIP and SeaKing Assessment: This report documents the independent assessment of DAJD's SIP/SeaKing computing environment, looking at both the operational and technical capabilities and condition of the systems, and comparing its performance to industry standards.

APPENDIX B: PROGRAM ORGANIZATION AND GOVERNANCE