Executive Summary

PROJECT DESCRIPTION

In May 2005, the District of Columbia (District) implemented the *Safe Passages* Information System (*Safe Passages*) to enable and facilitate collaboration among multiple disparate government agencies and private sector partners responsible for providing health and social services to the District's neediest children and families. An integration solution, *Safe Passages* provides automated, real-time data sharing across the organizational boundaries that separate District health and social services (Human Services Cluster) agencies and their external partners. *Safe Passages'* objective is simple: provide a quick, easy way for authorized caseworkers to determine whether their client has a history of receiving services from any other Cluster agency so that they can fully understand the scope of the client's issues and better address the client's needs. *Safe Passages* meets this objective by enabling hundreds of caseworkers to view consolidated client data through a single, web-based common interface. This interface, called the Common Client View (CCV), delivers secure data inquiry functionality that allows an authorized caseworker to view a concise history of client contacts with all District human services agencies.

SIGNIFICANCE TO THE IMPROVEMENT OF THE OPERATION OF GOVERNMENT

The four major agencies currently using *Safe Passages* to support case management activities are: the Child and Family Services Agency (CFSA), Department of Mental Health (DMH), Department of Health (DOH) – Addiction, Prevention and Recovery Administration (APRA), and the Department of Youth Rehabilitation Services (DYRS). External partners gaining access to this cross-boundary collaborative system through the four agencies are the independent organizations that are under contract to the agencies for the delivery of specific health and social services. Included among the external partners are: Family Court-sanctioned intervention groups, private medical and social services providers and elementary and secondary educational institutions.

Prior to *Safe Passages*, District agencies functioned as stovepipe operations that rarely interfaced with one another. For example, caseworkers from different agencies would provide services to the same client; however, none of the caseworkers would have knowledge of that client's relationship with any other agency. This inability to access client information across agencies often led to excess effort expended to develop an accurate client history, unknown duplication in the delivery of client services, and servicing decisions that may have been harmful to or not in the best interests of the client. Now, with the introduction of *Safe Passages* to the case management process, Cluster caseworkers who perform life-enhancing and life-sustaining tasks across the human services continuum are able to network together as one virtual team for the benefit of their common clients.

BENEFITS REALIZED BY SERVICE RECIPIENTS, TAXPAYERS, AGENCY OR STATE

Safe Passages has been designed specifically around the needs and responsibilities of caseworkers in the District's various Human Services Cluster agencies who are charged with coordinating and delivering services to children and families. Now, among other things, caseworkers are able to access sensitive, high-quality information available from other agencies and use a more informed process to assign services to clients. *Safe Passages* makes it possible for District residents with the greatest needs and most profound challenges to have access to higher quality care. Now caseworkers can more completely understand their needs and more carefully monitor their progress by collaboratively interacting with colleagues to make client servicing decisions.

RETURN ON INVESTMENT, SHORT-TERM/LONG-TERM PAYBACK

Safe Passages was designed, developed and implemented in less than two years, including the time required to obtain all required legal agreements, at a cost of less than $5 million. Since its May 2005 "go live" date, several *Safe Passages* upgrades have been completed in a seamless manner without interruptions in service in the agency case management systems that are linked through the *Safe Passages* integration engine. To date, the District has incurred a total cost of less than $7 million for *Safe Passages* development and enhancement. In a study performed by an independent consultant, the annual recurring financial benefits expected to result from the use of *Safe Passages* will grow to approximately $15 million within five years. Given this, within two years of the system "go live" date, the District will realize a 100 percent return on its investment in *Safe Passages*.

A. Project Description

In May 2005, the District of Columbia (District) implemented the *Safe Passages Information System* (*Safe Passages*) to enable and facilitate collaboration among multiple disparate government agencies and private sector partners responsible for providing health and social services to the District's neediest children and families. An integration solution, *Safe Passages* provides automated, real-time data sharing across the organizational boundaries that separate District health and social services (Human Services Cluster) agencies and their external partners. *Safe Passages'* objective is simple: provide a quick, easy way for authorized caseworkers to determine whether their client has a history of receiving services from any other Cluster agency so that he/she can fully understand the scope of the client's issues and better address the client's needs.

Safe Passages meets this objective by enabling hundreds of caseworkers to view consolidated client data through a single, web-based common interface. This interface, called the Common Client View (CCV), delivers secure data inquiry functionality that allows an authorized caseworker to view a concise history of client contacts with all District human services agencies. With guaranteed "always on" user access, *Safe Passages* offers the following:

- Provides secure access to real-time, cross-agency client and case data;

- Permits searches for client data against an integrated client database;

- Uses a unique Master Client ID# so that all agencies can keep track of the services they provide to any individual client and learn which clients they commonly serve;

- Facilitates the identification and correction of discrepancies in client and case data across multiple agencies;

- Limits access to client and case data in accordance with agency rules, Health Insurance Portability and Accountability Act (HIPAA) policies, Medicaid and Medicare regulations, and a host of other federal and District laws and regulations;

- Provides standard and ad hoc reports on client demographics and agency involvement.

Safe Passages uses an advanced data access control mechanism to implement the privacy policies established by each agency, ensuring that authorized caseworkers see only the client information that they have a need to see in order to satisfy their service delivery mission.

Safe Passages is built on a secure, scalable, service-oriented architecture that features the preservation, re-use and leveraging of legacy applications and modern citywide technology services; a high level of physical and network security; and a robust enterprise platform that enables rapid data transfer, reconciliation and mass storage.

Safe Passages Technical Architecture Components

Logical Component/Feature	Description
Collaboration Portal	Implemented as a set of JSF-based portlets in a BEA/Plumtree portal environment. Agency-based hierarchy of communities allows personalization, content control and a high degree of interactivity.
Data Access Control and Audit Logging	Implemented as an extensible framework based on SAML/XACML standards. Supports any degree of granularity in access control. Supports both role-based and instance-based control. Users are authenticated using centralized citywide Active Directory/LDAP and authorized to access data as described in agency-stipulated access control policies.

| Logical Component/Feature	Description
Data Exchange and Transformation Components	Implemented as a set of asynchronous components working on the data sources and asynchronous components at the Common Database--data destination. Process uses JMS message queue controlled by Websphere integration server. Allows real time incremental data transfers (e.g., for most agencies the latency does not exceed a few minutes). Supports multiple heterogeneous data sources including: Lotus Notes, Oracle, MS SQL Server, SOAP and other XML sources, and File Systems, including Mainframe VSAM files and Excel spreadsheets. Data transformations are implemented using non-procedural patterned data descriptors based on IBM/Rational UML tools with follow-up automatic code generation for extract procedures, EJBs, EJB descriptors and database DDLs.
Data Matching and Reconciliation	Implemented as a high-performance matching engine on the totality of personal data. Agency record closeness is calculated and used to establish two thresholds: definitive match (to be used to coordinate services across agency boundaries) and potential match (to be used to validate and clean up data). Reconciliation component identifies recommended values for client data in case of discrepancies between agency records and allows users to see original data values with their timestamps and agency ownership.
High Availability and Security	The system is deployed as a layered set of highly available components within a private VLAN within the DC Intranet, spanning geographically remote data centers. Web/portal layer is behind load balancers; the application layer is supported by multi-node and multi-instance distributed Websphere application cluster; and the database layer consists of Oracle replicating servers. During its 12 months of operations, *Safe Passages* has been available to users > 99 percent.

The *Safe Passages* solution has been implemented as an integral part of the District's citywide enterprise architecture. *Safe Passages* uses various web services provided by other District programs (e.g., DC Geographic Information System's Address Validation Services) and, in turn, provides useful web services to other programs (e.g., Client Identity Service). A number of solutions prototyped and implemented within *Safe Passages*, such as the Collaboration Portal, have evolved into citywide enterprise architectural standards.

B. Significance to the improvement of the operation of government

The four major agencies currently using *Safe Passages* to support case management activities are the Child and Family Services Agency (CFSA), Department of Mental Health (DMH), Department of Health (DOH) – Addiction, Prevention and Recovery Administration (APRA), and the Department of Youth Rehabilitation Services (DYRS). External partners gaining access to this cross-boundary collaborative system through the four agencies are the independent organizations that are under contract to the agencies for the delivery of specific health and social services. Included among the external partners are: Family Court-sanctioned intervention groups, private medical and social services providers and elementary and secondary educational institutions.

Prior to *Safe Passages*, District agencies functioned as silo, stovepipe operations that rarely interfaced with one another. As an example, caseworkers from different agencies would provide services to the same client; however, none of the caseworkers would have any knowledge of that client's relationship with any other agency. This inability to access client information across agencies often led to excess effort expended to develop an accurate client history, unknown duplication in the delivery of client services, and decisions that may have been harmful to or not in the best interests of the client.
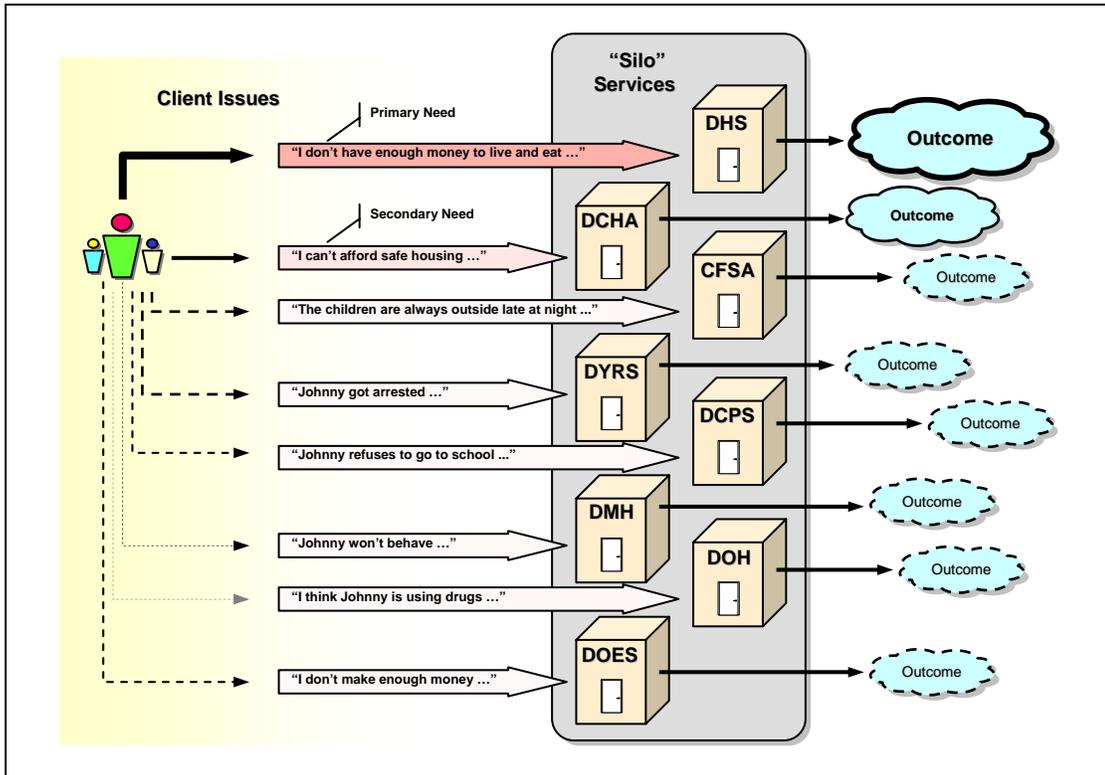
Before *Safe Passages*: Silo, Stovepipe Operations Impeded Intra-Agency Communications

Now, with the introduction of *Safe Passages* to the case management process, Cluster caseworkers who perform life-enhancing and life-sustaining tasks across the human services continuum are able to network together as one virtual team for the benefit of their common clients.
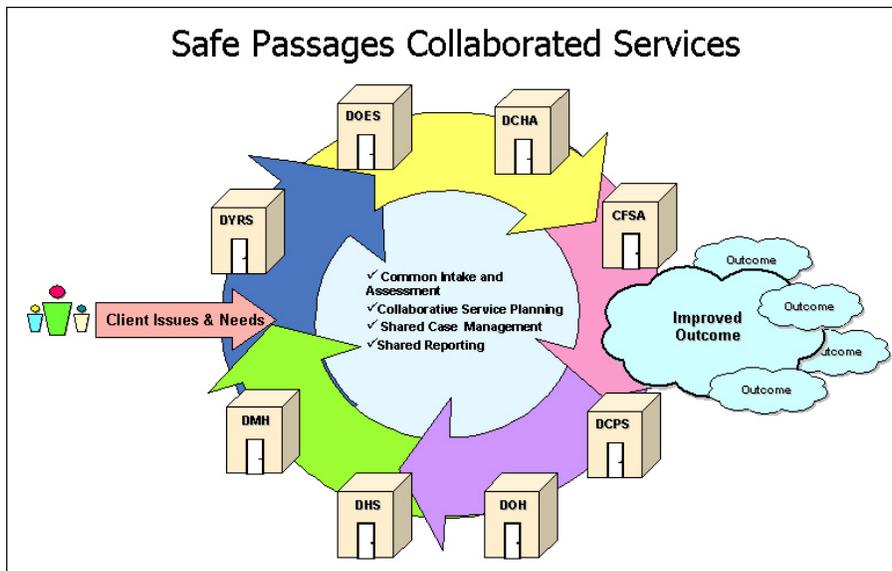
After *Safe Passages*: Collaboration Enabled

C. Benefits realized by service recipients, taxpayers, agency or state

Safe Passages has been designed specifically around the needs and responsibilities of caseworkers in the District's various Human Services Cluster agencies who are charged with coordinating and delivering services to children and families. For the first time ever, caseworkers are able to perform the following:

- Access sensitive, high-quality information available from other agencies;

- Access the same common interface, the Common Client View (CCV), to view consolidated client and case data;

- Freely exchange information with the assurance that only those who need to know and who are authorized to access the data can actually see the information in accordance with HIPAA and other privacy laws;

- Discover, in seconds, contact data for peers in other integrated agencies that serve the same client and/or family;

- Use a more informed process to assign services to clients.

Information searches that case workers once found very difficult to accomplish are now quite simple. A child and family caseworker who regularly uses *Safe Passages* stated in a response to a survey conducted recently: "It used to take days and weeks just to find out whom my counterpart in DYRS is and what is her phone number, and now I am just a few clicks away from this information!"

In addition, *Safe Passages* provides agency program managers with the ability to generate cross-agency aggregate reports useful for monitoring and improving overall caseworker performance. Program managers are able to better assess the level of services their caseworker staffs are providing and determine how resources should be allocated to meet critical needs. Agency managers are now able to perform the following:

- Receive basic intra-agency and cross-agency statistical reports about their client base to facilitate citywide analysis and decision-making on the types of services most needed;

- Generate reports regarding the number of cases handled by each caseworker to improve caseworker management;

- Analyze client demographic and case management information across agency boundaries to identify service overlaps and, potentially, reduce service costs; and

- Access legacy system and current data for review, research and decision support.

Safe Passages enables District-wide coordination of services for vulnerable persons, making it possible for caseworkers and others to do more than they were able to do before the inception of the system. As a result, District residents with the greatest needs and most profound challenges have access to higher quality care, since caseworkers now more completely understand their needs, more carefully monitor their progress and more collaboratively interact with colleagues. Ultimately, *Safe Passages* will be used to impact the way in which health and social services delivery decisions are made so that District residents can be assured that they are receiving the services to which they are entitled, that their families and neighborhoods are receiving the services they require, and that the best possible levels of service are provided cost-effectively and efficiently.

D. Realized return on investment, short-term/long-term payback (include summary calculations)

Many large enterprises seeking to change business processes or reengineer business operations to enable collaboration take a systems implementation approach that requires them to start from scratch. Entirely new information systems are purchased and installed to replace legacy systems that may meet the needs of an individual organization but cannot be adapted to meet the needs of all organizations. This is typically a very time-consuming and costly endeavor, requiring many years to complete successfully.

In its implementation of *Safe Passages*, the District quickly determined that the replacement of the myriad legacy systems that support the Human Services Cluster was not going to be the right approach. Instead of the "start from scratch approach," the District opted to re-use the best of its legacy systems, take advantage of powerful modern tools and ready-made components, and link them together through iterative prototyping and deployment processes. This approach has allowed the District to realize a high return on its investment in the legacy systems serving Human Services Cluster agencies, because this approach eliminated the need to spend millions of dollars replacing older, yet operationally and technically sound systems that three agencies invested a rough estimate of $55 million to purchase. In this way, *Safe Passages* has preserved and leveraged the millions of dollars District agencies have invested in legacy systems.

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To date, the District has incurred a total cost of less than $7 million for *Safe Passages* development and enhancement. In a study performed by an independent consultant, the annual recurring financial benefits expected to result from the use of *Safe Passages* by the four participating agencies will grow to approximately $15 million within five years, as shown in the following table. Given this, within two years of the system "go live" date, the District will realize a 100 percent return on its investment in *Safe Passages*.

Safe Passages Information System: Return on Investment

Benefit Area	Annual Benefit Amount				
	2006	**2007**	**2008**	**2009**	**2010**
I. Improved Staff Capacity • *Increased Social Worker Capacity* • *Reduced Overtime Costs* • *Reduced Turnover*	$1,370,840	$3,422,500	$4,448,330	$5,474,160	$6,845,000
II. Decreased IT Support Costs • *Leveraged Common Infrastructure*	$40,050	$100,000	$129,980	$159,900	$200,000
III. Improved Effectiveness of Resources • *Improved Utilization of Revenue Sources* • *Reduced Overpayments*	$1,157,550	$2,890,000	$3,756,220	$4,622,490	$5,780,000
IV. Improved Social Service Outcomes • *Reduced Risk Management Costs* • *Reduced DC Government Expenditures*	$411,560	$1,027,500	$1,335,470	$1,643,450	$2,055,000
TOTALS	**$2,980,000**	**$7,440,000**	**$9,670,000**	**$11,900,000**	**$14,880,000**

Source: Keane Worldzen Cost/Benefit Analysis Report - 2005