

Fiscal Year 2016-17 Information Technology Request

Human Services

Child Welfare Case Management System Upgrade

PROGRAM PLAN STATUS and OIT BEST PRACTICES

2016-012

Approved Program Plan? Date Approved:

According to the Department of Human Services (DHS), it has worked with the Office of Information Technology (OIT) to develop costs and plans for the system upgrade. OIT staff have been in consultation with the department throughout the development of the request. DHS says all processes are in conformity with OIT best practices. The implementation will also align with OIT's enterprise health IT architecture model and will allow DHS and OIT to connect with the data systems of other agencies and health information partners. DHS says the project will create a single, comprehensive view of clients, allowing for a more efficient and cost effective program delivery.

PRIORITY NUMBERS

<u>Prioritized By</u>	<u>Priority</u>	
DeptInst	1 of 3	
OSPB	3 of 4	Prioritized and recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

<u>Fund Source</u>	<u>Prior Approp.</u>	<u>FY 2016-17</u>	<u>FY 2017-18</u>	<u>Future Requests</u>	<u>Total Cost</u>
CCF	\$4,648,707	\$4,709,617	\$4,709,617	\$0	\$14,067,941
FF	\$2,175,860	\$2,040,000	\$2,040,000	\$0	\$6,255,860
Total	\$6,824,567	\$6,749,617	\$6,749,617	\$0	\$20,323,801

ITEMIZED COST INFORMATION

<u>Cost Item</u>	<u>Prior Approp.</u>	<u>FY 2016-17</u>	<u>FY 2017-18</u>	<u>Future Requests</u>	<u>Total Cost</u>
Land Acquisition	\$0	\$0	\$0	\$0	\$0
Professional Services	\$3,148,588	\$3,379,012	\$3,379,012	\$0	\$9,906,612
Construction	\$0	\$0	\$0	\$0	\$0
Equipment	\$2,800,000	\$2,800,000	\$2,800,000	\$0	\$8,400,000
Miscellaneous	\$0	\$0	\$0	\$0	\$0
Contingency	\$324,979	\$306,105	\$306,105	\$0	\$937,189
Software Acquisition	\$551,000	\$264,500	\$264,500	\$0	\$1,080,000
Total	\$6,824,567	\$6,749,617	\$6,749,617	\$0	\$20,323,801

PROJECT STATUS

This is a continuation request. This three-year project was previously funded in FY 2015-16. This request is for Phase II funding.

PROJECT DESCRIPTION / SCOPE OF WORK

The Department of Human Services (DHS) is requesting a combination of state funds and federal funds spending authority to enhance and modernize the Trails case management system, which is the state's Statewide Automated Child Welfare Information System (SACWIS), and associated infrastructure. This request is for Phase II of a planned three-year deployment. The department says the project will modernize Trails to allow for faster implementation of system modifications and to accommodate changing child welfare practices. Critical requirements identified by DHS include:

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- mobile device compatibility and support to provide secure systems that meet industry standards;
- data integration to help promote the effective use and availability of data across multiple systems that influence child welfare, including the ability to add unstructured or external data; and
- profile-driven capabilities for data administration and ease of use by providing user-appropriate interfaces (agency-specific and/or job function related).

The department says new development activities for Trails will be defined by a dedicated team of internal employees and contractors using an agile methodology. For example, the Intake Module will be converted and implemented. While the Intake Module is implemented, the next module will be developed and converted. A contract development team will be located in the Governor's Office of Information Technology (OIT), consisting of one project manager, one technical architect, one half-time engagement/integration manager, eight application developers, four business analysts, and four technical analysts. DHS states that these employees will be involved with the project for three years and that the modernization project requires contract staff to assist with design and build activities. The infrastructure will include 20 IIS8 servers each with 16-GB of RAM, a 250-GB hard drive, and 4+ cores.

Federal funds for the project are a match from the Administration of Children and Families (ACF), and require ACF approval of the project's request for proposal (RFP) prior to posting to be eligible for federal matching funds.

PROJECT JUSTIFICATION

According to the DHS, Trails is a critical component to the county child protection practices. The benefit of augmenting an existing system leverages the previous investment, workforce familiarity, and existing working relationships with OIT. Changes and extensions to the system have been supported with consensus from DHS, OIT, and users. The group agrees that a more concerted, focused effort is required to enable better interfaces, reporting, and service outcomes. The department also says understaffed county departments of human services will benefit from improved case management efficiencies. The county staffs are struggling to input information into the Trails system even with state-provided modifications and improvements. Updating the Trails system will allow greater flexibility and faster data input.

DHS says Trails is 14 years old and is in desperate need of a major overhaul. It was originally purchased from another state and tailored to fit Colorado's needs. The system is used for the Divisions of Child Welfare, Youth Corrections, Early Childhood, and Administrative Review. It is also used by the Office of Child Protection Ombudsman, 64 county departments of human and social services, and other contract providers. The Trails system has been compliant with SACWIS since 2011.

Additionally, Trails integrates with 11 other systems with 87 unique interfaces within DHS and other state agencies. Limitations of the Trails system, identified by both internal and external stakeholders, include: outdated system architecture, limited mobile system access, redundant data entry, missing data interfaces, data integrity risks, inability to augment case data with attachments, and ad hoc reporting capabilities. Users are required to enter duplicate information on multiple pages and have difficulty navigating the complex system interface. DHS also says the system response time is slow due to a client-server based technology. The project includes a complete overhaul of the 11 state agency systems and 87 data entry interfaces. According to the department, standardization of the unique interfaces will improve timeliness of data entry, increase mobile access, and increase maintainability. The system will be better able to report measurements related to federal safety and permanency goals.

The department hired a consultant in FY 2013-14 to do an independent analysis of the Trails system. The consultant recommended modernizing the system. The department says this will be achieved through technology upgrades and enhanced data interfaces. Benefits include: a modern, effective, and elegant solution that is easy to navigate and supports common data views; greater reporting flexibility and data analytic capabilities; and greater system interoperability to facilitate data sharing and overall case management outcomes. Furthermore, DHS says Trails is critical to the Governor's Child Welfare Plan 2.0 and that modernizing Trails will result in greater efficiencies that allow caseworkers to make faster and better informed responses, leading to the improved safety and well-being of Colorado children.

Project alternatives. According to DHS, the proposed approach was compared to several other options, including leaving the existing system alone and doing nothing. The department says the do-nothing approach is not feasible

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given the current state of the Trails system. A full-scale replacement with a commercial off-the-shelf (COTS) solution was also considered, but the department deemed that the risks (cost, time, degree of organization change, customization, data conversion, and training) outweighed the benefits. According to vendor research, for other states that chose a full COTS replacement, costs ranged from \$26 to \$35 million, with annual operating costs between \$6 and \$7 million. Of the states that are currently enhancing an existing system, Wisconsin provided \$4.3 million annually for vendor services, and Washington, D.C. converted its system through a vendor contract for \$4.6 to \$5 million annually during its 18-month project.

PROGRAM INFORMATION AND IMPLEMENTATION PLAN

Operational since 2002, Trails is the child welfare case management system used by the Division of Child Welfare, Division of Youth Corrections, Division of Early Childhood, Division of Administrative Review, the Office of the Child Protection Ombudsman, 64 county human and social services departments, and certain contracted providers. The system provides case management, financial tools, and other resources to users of the program.

The department says it plans to use an agile/iterative continued improvement process to provide incremental system releases with maximum value to the organization. It also says that an "Improvements Wish List" will be prioritized after each iteration and that a new set of modifications will be updated into the project plan as needed. Iterations will be determined by considering both distinct and dependent business areas, and priorities will be documented within the project management plan. DHS says the project team will work in conjunction with program business partners and stakeholders to define the order of operations for design, development, and implementation.

COST SAVINGS / IMPROVED PERFORMANCE OUTCOMES

According to DHS, the system upgrade will provide easier use, adaptation, and maintenance. Improved performance outcomes will be designed to: allow faster implementation of system modifications to better reflect changing child welfare practices; allow users a more comprehensive view of children served across programs; enable caseworkers to be more effective and responsive; provide improved reporting capabilities; and improve caseworker time management and workload by being accessible through the Internet and mobile devices.

In August 2014, the Office of the State Auditor released a workload study of child welfare caseworkers. This study reported that 35 percent (16.1 hours each week) of a caseworker's time is devoted to documentation and administration, including documentation of required information in Trails. It cited that modernizing the system would create workflow efficiencies for Colorado caseworkers through easier navigation and simplified reporting, such as capturing data through document imaging technology, programming the system to automatically populate duplicate fields, and allowing remote access to the system through mobile devices.

DHS calculates that a conservative estimate of 5 minutes of increased productivity per caseworker across the child welfare system would result in an annual saving of \$476,667 of workforce productivity gain each year. DHS says that its target estimate of 25 minutes of productivity gain per caseworker per day would result in \$2,383,333 of workforce productivity gain each year. See question #5 in the Staff Questions and Issues section and Attachment A for more detail.

According to the department, the technology and architecture of the current Trails system is over 20 years old and is no longer supported by the manufacturers of the system. There are few experienced programmers available for development and maintenance in Trails, which means that higher compensation of more than \$100 per hour is required for their services. .NET programming resources are 30 percent less expensive to hire on average, costing roughly \$70 per hour. There are currently 12 development FTE on the Trails team and on average 3 additional OIT contractor resources each year. This equates to a total of 31,200 hours of programming resources annually. At current compensation levels, a 30 percent decrease in salary for 15 FTE would amount to \$936,000 in development savings annually. These potential savings would be realized in future years after the new Trails system is operational.

SECURITY AND BACKUP / DISASTER RECOVERY

According to the department, the infrastructure for the Trails application is housed in a CenturyLink Federated Cloud

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environment, which is designed to provide immediate response and recovery from any unplanned computing services interruption. The department says that there are defined protocols for security and backup that have been amended to ensure adherence to SACWIS requirements. The Chief Information Security Officer will review and approve the Backup and Recovery Plan for the project.

BUSINESS PROCESS ANALYSIS

The department says that the independent review of Trails produced a thorough and comprehensive view of the system and identified potential replacement alternatives, including:

- developing questionnaires for stakeholder interviews and vendor responses;
- conducting stakeholder and state interviews;
- soliciting vendor information;
- establishing a repository of reference materials;
- analyzing relevant information; and
- developing evaluation tools.

PROJECT SCHEDULE

	Start Date*	Completion Date
Contracting	N/A	N/A
Implementation	July 2015	January 2018
Equipment	July 2015	March 2018
Completion		June 2018

*The start date for this project has been delayed due to a federal requirement that the ACF approve the project's RFP prior to posting. In April 2015, a leadership team of county and State stakeholders was established to develop the project's RFP. ACF was informed of the progress toward developing the RFP. In October 2015, the final draft RFP was not approved by the ACF, which has requested additional documentation of business requirements in the RFP and for other documents to be submitted to the ACF. This delay could also impact the anticipated completion dates for the project.

OPERATING BUDGET

The department submitted an accompanying operating budget request to the Joint Budget Committee in 2014 for \$181,240 and 2.7 FTE in FY 2015-16, and \$167,131 and 3.0 FTE in FY 2016-17 and ongoing. This approved request provides a dedicated Trails team to modernize the Child Welfare Case Management System. The department says the ongoing cost for leased server capacity associated with the 20 new servers is unknown at this time.

STAFF QUESTIONS AND ISSUES

1. How much of Phase I funds have been encumbered at this point?

Phase I funds have not been encumbered. There are two major funding streams for this project; State General Fund (\$4.7 million) and Federal Title IV-E funds (\$2.0 million) annually. Federal funding is a match from the Administration of Children and Families (ACF), and requires ACF approval of the Request for Proposal (RFP) prior to posting to be eligible for federal matching funds.

A leadership team of county and State stakeholders was established to develop a request for proposals (RFP) in April 2015. ACF was informed of the progress toward developing the RFP. In October 2015, the final draft RFP was not approved by the ACF and they have requested additional documentation of business requirements in the RFP

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and a new Implementation Advanced Planning Document (I-APD) be submitted to the ACF.

2. The project's developer software, report needs, and database services costs have been entered into the CC-IT excel form as "Inflation for Construction", under the "Construction Costs" section. Why weren't these costs entered into the "Software" section?

This was mistakenly entered into the wrong line on the form. These costs should be entered under "software."

3. Why did Phase II and out year costs increase from the FY 2015-16 budget request estimates (\$6,428,206 vs. \$6,749,617 per year)?

The increase from SFY 2015-16 to SFY 2016-17 is due to the Governor's Office of Information and Technology's (OIT)'s need for an Independent Verification and Validation (IV&V) at a cost of \$321,411. The IV&V is a statutory requirement due to the risk and size of this project. While it was required in the 2015-16 request, it was not included in the request that was approved by all involved at that time.

4. Is the project on target? i.e., has the "High Level Design" step been initiated yet, as detailed in Table 2?

The project has been slightly delayed to meet federal appropriation requirements as outlined in question 1.

Project management planning and activities have been initiated and are on target.

High level design was initiated in July 2015 using the existing gap analysis and feasibility study that were conducted in 2012 and 2014 respectively. These are being augmented while completing the ACF required I-APD and RFP changes.

Detailed business requirement gathering has been delayed as this is part of the RFP and subsequent contract negotiation phase.

5. House Bill 15-1266 requires all information technology budget requests to identify and quantify anticipated administrative and operating efficiencies or program enhancements and service expansion through cost-benefit analyses and return-on-investment calculations. DHS has quantified some of the potential cost savings, but has not included any return on investment calculations or performed a cost benefit analysis. Please make a quantification about the assumptions stated in the cost-benefit analysis section of the CC-IT narrative.

Modernization of Trails will provide savings in the form of development and maintenance costs for the Governor's Office of Information and Technology as well as anticipated workload efficiencies for caseworkers across the State. The majority of savings will be in the form of cost avoidance by creating an IT environment that is easier to support, maintain and adapt to future needs.

In August 2014 the Office of the State Auditor (OSA) released a workload study of child welfare caseworkers. This study reported that 35% (16.1 hours each week) of a caseworker's time was devoted to documentation and administration, which includes documentation of required information in Trails (Colorado Child Welfare County Workload Study, ICF International Inc., 2014). It cited that modernizing the system would create workflow efficiencies for Colorado caseworkers through easier navigation and simplified reporting. This could include simplifying the capturing of data through document imaging technology, programming the system to automatically populate duplicative fields, and allowing remote access to the system through mobile devices. Even a conservative estimate (reduction of 5 minutes per day per each of the over 1100 caseworkers) equates to over 90 hours in productivity gain per day across the child welfare system. The chart in Attachment A calculates the value of increased caseworker productivity between a range of 1% and 5%.

6. Are the project plan, design/development, etc. details being shared across all other IT projects and initiatives?

The Department has and will continue to partner with OIT development and project management staff throughout this project. OIT management is included in the approval process and has had an active part in developing RFP requirements to be aligned with OIT enterprise architecture standards. Through these efforts the details are shared across other IT projects and initiatives.

Attachment A. Colorado Child Welfare County Caseworker Productivity Gains						
Potential Savings	Number of Case Workers	Minutes of Productivity Gain Per day	Gain as a Percentage of Work Day	Assumed Average Hourly Wage	Value per Case Worker	Total Value of Workforce Productivity Gain
Conservative	1100	5	1.0%	\$20.00	\$1.67	\$476,667
Target	1100	25	5.2%	\$20.00	\$8.33	\$2,383,333

Source: Department of Human Services