



November 1, 2023

The Honorable Kevin Priola
Chair, Joint Technology Committee
State Capitol Building
Denver, CO 80203

RE: OSPB Submission of the state-funded FY 2024-25 IT Capital Construction Requests

Dear Chair Priola,

As required by Section 24-37-304 (1) (c.5) (I), C.R.S., the Governor's Office of State Planning and Budgeting (OSPB) is providing the Governor's FY 2024-25 IT capital recommendations to the Joint Technology Committee (JTC). The package includes a prioritized list of recommended IT capital projects for all state departments. The 14 recommended IT capital projects cost a total of \$136.2M TF, \$65.4M GF, \$13.6M CF, and \$5.5M FF.

The Department of Higher Education (CDHE), along with the Commission on Higher Education, reserve the ability to submit a prioritized list to the JTC that may include projects not recommended by OSPB. The department will submit these requests directly to JTC.

Thank you for your consideration of the attached requests. Please contact me with any questions or concerns.

Sincerely,

Adrian Leiter

Adrian Leiter
Deputy Director for Budget

CC:

Representative Brianna Titone, Vice Chair, JTC
Senator Mark Baisley, JTC
Representative Jennifer Lea Parenti, JTC
Senator Chris Hansen, JTC
Representative Ron Weinberg, JTC
Vanessa Reilly, JTC Staff
Samantha Falco, JTC Staff
Craig Harper, Joint Budget Committee Staff Director
Scott Thompson, Joint Budget Committee Staff
Anthony Neal-Graves, Chief Information Officer
Keith Jacobi, Office of State Planning and Budgeting Staff

FY 2024-25 IT Capital Requests, Recommended for Funding, in OSPB Prioritized Order					
Agency	Project Name	FY 2024-2025			
		TF	CCF/GF	CF	FF
DPA	Payroll Modernization	\$17,203,705	\$17,203,705	\$0	\$0
HCPF	Medicaid Enterprise Solutions Reprocurement	\$36,865,695	\$4,239,554	\$0	\$32,626,141
CDHS	OCFMH Information Management Systems and Data Reporting	\$2,205,218	\$2,205,218	\$0	\$0
DOR	Licensing and Case Management	\$9,000,000	\$9,000,000	\$0	\$0
HCPF	CBMS Re-Procurement	\$1,705,158	\$318,028	\$0	\$1,387,130
CDPHE	WIC Systems Upgrade	\$1,456,092	\$500,000	\$0	\$956,092
CDPS	Sex Offender Registry	\$3,250,000	\$3,250,000	\$0	\$0
OIT	Modernizing Aging IT Systems Phase III	\$15,000,000	\$15,000,000	\$0	\$0
CDHS	Leveraging Technology for Seamless HS Delivery	\$16,516,500	\$3,716,625	\$0	\$12,799,875
HCPF	OeHI Social Health Information exchange (SHIE)	\$11,031,650	\$1,539,359	\$0	\$9,492,291
IHE/MSU	Reimagining the Campus Digital Experience	\$9,256,163	\$8,406,163	\$850,000	\$0
BHA	Behavioral Health Infrastructure Investment Continuation	\$0	\$0	\$0	\$0
DOR	Seed to Sale Tracking	\$4,080,000	\$0	\$4,080,000	\$0
CDLE	CoCo Department of Workers Compensation Project	\$8,626,812	\$0	\$8,626,812	\$0
Total OSPB Recommendation Prioritized Projects		\$136,196,993	\$65,378,652	\$13,556,812	\$57,261,529

CC-01 Medicaid Enterprise Solutions Re-Procurement
Appendix A: Assumptions and Calculations

CC-IT: CAPITAL CONSTRUCTION INFORMATION TECHNOLOGY REQUEST FOR FY 2023-24								
Department	Health Care Policy & Financing	Signature Department Approval:		<i>Er Doby</i> 20-Sep-23				
Project Title	Medicaid Enterprise Solutions (MES) Re-Procurement	Signature OIT Approval:		Rus Pascual 20-Sep-23				
Project Year(s)	FY 2023-24, FY 2024-25	Signature OSP Approval:		<i>Adrian Leiter</i> Date: 10/30/23				
Department Priority Number	1	Name and e-mail address of preparer:		Lindsey Cookson; lindsey.cookson@state.co.us				
Five-Year Roadmap?	No							
Revision? X-Yes No If yes, last submission date: __11/1/2022__	Total Project Costs	Total Prior Year Appropriations	Total Request	Year 2 Request	Year 3 Request	Year 4 Request	Year 5 Request	
(1) OIT Contracted Program Manager	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2) Quality Assurance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3) Independent Verification and Validation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4) Training	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(5) Leased Space (Temporary)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6) Feasibility Study	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7a) Inflation for Professional Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7b) Inflation Percentage Applied	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(8) Other Services/Costs	\$ 25,938,448	\$ 4,862,000	\$ 21,076,448	\$ -	\$ -	\$ -	\$ -	\$ -
(9) Total Professional Services	\$ 25,938,448	\$ 4,862,000	\$ 21,076,448	\$ -	\$ -	\$ -	\$ -	\$ -
(1) Software COTS Purchase	\$ 7,154,752	\$ 6,063,111	\$ 1,091,641					
(2) Software Built	\$ 52,067,001	\$ 39,124,904	\$ 12,942,097					
(3a) Inflation on Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3b) Inflation Percentage Applied	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4) Software COTS Purchase Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(5) Total Software	\$ 59,221,753	\$ 45,188,015	\$ 14,033,738	\$ -	\$ -	\$ -	\$ -	\$ -
(1) Servers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2) PCs, Laptops, Terminals, PDAs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3) Printers, Scanners, Peripherals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4) Network Equipment/Cabling	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(5) Miscellaneous	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6) Total Equipment and Miscellaneous Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(1) 5% project contingency	\$ 4,258,010	\$ 2,502,501	\$ 1,755,509	\$ -	\$ -	\$ -	\$ -	\$ -
Total Budget Request [A+B+C+D]	\$ 89,418,211	\$ 52,552,516	\$ 36,865,695	\$ -	\$ -	\$ -	\$ -	\$ -
GF	\$ 10,283,095	\$ 6,043,541	\$ 4,239,554	\$ -	\$ -	\$ -	\$ -	\$ -
CF/RF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FF	\$ 79,135,116	\$ 46,508,975	\$ 32,626,141	\$ -	\$ -	\$ -	\$ -	\$ -



RY- Department IT Capital Construction Project: CC-IT-01 Medicaid Enterprise Solutions Reprocurement

Summary of Request	Total Funds	CCF-IT	Cash Funds	Reappropriated Funds	Federal Funds
FY 2024-25	\$36,865,695	\$4,239,554	\$0	\$0	\$32,626,141
FY 2025-26	\$0	\$0	\$0	\$0	\$0
FY 2026-27	\$0	\$0	\$0	\$0	\$0

Categories of IT Capital Projects

System Replacement (costs escalating, failing technology, software or vendor support ended, or new technology, e.g., DRIVES, CHATS)	System Enhancement Regulatory Compliance (new functionality, improved process or functionality, new demand from citizens, regulatory compliance, e.g, CBMS)	Tangible Savings Process Improvement (conscious effort to reduce or avoid costs, improve efficiency, e.g., LEAN, back office automation)	Citizen Demand “The Ways Things Are” (transformative nature of technology, meet the citizens where they are, e.g., pay online, mobile access)

Request Summary:

The Department requests \$36.9 million total funds, including \$4.2 million Capital Construction Fund (CCF) and 0.0 FTE in FY 2024-25 for continuation funding for a *Systems Enhancement Regulatory Compliance IT project* to comply with state procurement regulations and the Center for Medicare and Medicaid Services (CMS) procurement requirements for the Department’s Medicaid Enterprise Solutions (MES). This funding request is for year two of the MES reprocurement project and the fiscal year request is the remaining funding needed for the project, taking into consideration appropriations made in FY 2023-24.

The goal of this request is to provide the funding that allows the Department to add or replace MES vendor(s) without being disruptive to Medicaid members, providers, stakeholders, and Department staff. In order to meet this goal, the Department has estimated the costs it would take to transition between vendors in the event a new vendor is selected to manage a current or future MES module. This request includes funding for the procurement of the MES and covers the core MES and the 14 modules that fit within the core MES. In addition to the costs directly related to procurement of the MES and its modules, the Department also requires contractor resources to provide transition and implementation support.

Project Description:

The Department's request falls under the *System Enhancement Regulatory Compliance* category. The Department is requesting funding to comply with the state of Colorado contract term limits and CMS federal funding requirements.

The Department is required to procure contracts related to the MES at a maximum term of ten years under state procurement rules. CMS recommends eight years but allows Colorado to follow state procurement rules for the Colorado MES. In addition, CMS requires that MES contracts be procured in a modular format. Federal regulations no longer permit these systems to be procured as a single vendor solution. This request would provide funding to ensure the continual operation of the Department's MES during a transition to new module vendor(s). The Department's modular approach to procurement ensures that the MES and modules provided by multiple vendors meet the Department's evolving needs. All contracts must be competitively bid, and the requested funding would be used to transition the core MES modules and additional required modules from one vendor to another. This would include funding to pay a new vendor to transfer the Department's data into their system, operationalize the module to meet Department needs, and facilitate changes to the vendor's technology to fit the needs of the Department.

Additionally, the funding would be used for the procurement of the commercial off-the-shelf (COTS) systems, licensing agreements and custom system builds for the MES core and modular solutions. These costs include funding to transition the Medicaid Management Information System (MMIS), the Pharmacy Benefits Management System (PBMS) and the Business Intelligence Data Management (BIDM) vendors as well as additional modules required to operate a state MES enterprise. The modular systems will be required to integrate with the core MES. Within the current MMIS, there are modules for the Care and Case Management tool, Third Party Liability and Electronic Visit Verification modules. There are seven modules within the MMIS, three within the BIDM and four within the PBMS. This request would also fund contractor resources to provide implementation support and ensure the Department stays on track and meets state and federal deadlines.

Updates to Request

This request is a continuation of a project funded during the FY 2023-24 legislative cycle. The request is an overall decrease of \$13,806 TF from the estimated funding that the Department received in FY 2023-24. As the Department gathered information from other states on the costs of transitions, in addition to information gathered from the solicitation process, it became apparent that some estimates were too high while some were too low; the net effect being an overall reduction. The Department has updated the costs estimates based on the most up-to-date information.

As the Department has progressed through the solicitation phase of this procurement effort, additional resource needs have been identified. Specifically, the Department identified an increased need for both administrative (e.g., business analysts, project managers, etc.) and enterprise level system testing resources. The Department has several major competing projects, which creates an overallocation of current Department staff. Based on transition timelines and effort required to transition modules successfully and effectively, the Department has identified the need to bring on additional contract resources to ensure the

Department FTE can maintain the current project workload. The additional resources can ensure a successful transition of modules while not disrupting services to members.

Additionally, the Department is requesting funding for an enterprise testing vendor to provide automated testing tools and experienced staff that will ensure that any vendor transitions integrate with all modules, are coordinated with each module (new and existing), and coordinate testing and release management across multiple MES projects, platforms, solutions, and methodologies. Industry best practices suggest that standing up a centralized test management framework results in highly successful vendor transitions, which typically happen over shorter timelines. After consulting with several states that used similar procurement strategies to the Department, a centralized enterprise testing vendor proved critical to execution of transitioning modules on time.

Further, the Department is also requesting four term-limited FTE, including three Administrator IIIs and one Program Manager I. These FTE would serve as Department subject matter experts (SMEs) to provide support for the program and operations offices during the transition period, to provide documentation and communications for members and providers, update operational manuals and documents, and support vendor communications and escalations across the modules. As the Department has continued to negotiate scope and requirements with vendors, the Department identified the additional need to have term-limited, non-technical FTE to ensure a successful transition from an operational and program side. These term-limited FTE are non-technical support staff who would work with the Department's systems technical resources, operations, and program teams to ensure that all system changes occurring throughout the transition are well documented for operational processes, including communications to stakeholders, members, and providers. The three administrators would each serve a core system (e.g., MMIS, Data Warehouse, PBMS) and associated modules, while the program manager would be responsible for overseeing the administrators.

Systems Integration Opportunities

Well-designed modular system architecture is interoperable, allowing the ability for different systems, applications, or products to connect and communicate in a coordinated, non-disruptive manner. This Services Integration (SI) is increasingly important as CMS guidance trends away from large, single-system implementations in favor of smaller interoperable, interchangeable modular implementations. CMS requires systems to provide seamless coordination, integrations and interoperability with exchanges, public health agencies, human services programs, and community organizations providing outreach and enrollment assistance. The Department is currently under negotiations with an SI vendor to perform this role for Colorado. This vendor will play a vital role in ensuring the integration and interoperability of the current and future modular system architecture.

Risks and Constraints

Due to CMS regulations and state procurement rules, the Department must procure the MES vendor(s) before the current contract term dates end. The MMIS, BIDM and PBMS contracts are near their contract term length and the Department must negotiate and implement new contracts with vendors prior to the current contract end dates to ensure smooth transitions to new modules. Additionally, to receive federal funds on Medicaid and Children's Health Insurance Program (CHIP) programs, the Department must follow CMS procurement and the CMS standards and conditions regulations to receive an enhanced federal match. CMS requires that

the Department procure the MES through a modular approach. If the Department does not procure MES vendors following CMS regulations, then the Department is at risk of losing federal financial participation (FFP) on all Medicaid and Children's Health Insurance (CHIP) programs.

Operating Budget Impact

Currently, all core and module solutions have a maintenance and operations (M&O) budget within the Department's appropriation. Currently, the Department is not submitting an additional M&O budget request because the bidding process for each core MES and module is not complete. The Department does not yet know if the current appropriation for each core MES and module would be enough to cover the new contracts. If M&O funding is either higher or lower than current appropriations, the Department would submit an M&O true-up request in a future budget cycle.

Background of Problem or Opportunity:

The Medicaid Enterprise Solutions (MES) currently consists of four core MES solutions and 14 additional vendor solutions which are provided through sub-contractors in the core contracts or contracted directly with the Department. The core MES include the Medicaid Management Information System (MMIS) or Colorado interChange, supporting the core MMIS functions (e.g., claims processing) and Fiscal Agent services; the Business Intelligence and Data Management (BIDM) system, which provides data analytics services; the Pharmacy Benefit Management System (PBMS), which provides pharmacy management services; and the Colorado Benefits Management System (CBMS), which provides eligibility determination services. Each of these core MES consists of several modules which require Department evaluation and oversight through the procurement process. The CBMS system operates separately from the MMIS, BIDM and PBMS and is not included in this request.

CMS requires states to follow a modular approach in their development of new or replacement systems and evaluates each state's MES procurement planning and process to ensure that the procurement of each MES solution has been effectively evaluated by the state as the most cost-effective long-term solution for meeting business needs. This includes completing an external alternatives analysis with other states and modular solution providers. Additionally, the Department must complete an internal alternatives analysis to identify MES needs that have evolved since the last procurement in 2012 with a system that went live in 2017. This process must be completed prior to the procurement beginning and may result in the selection of new MES vendors. In 2012, the Department began the procurement project known as Colorado Medicaid Management Innovation and Transformation (COMMIT) and selected three vendors to manage the claims processing, data warehousing and payment components of the MES. Hewlett Packard (HP) was selected to operate the MMIS, Truven was selected to operate the BIDM, and Magellan was selected to operate the PBMS.

The Department is currently in the process of procuring the MES core and modular solutions as the PBMS contract term end date is October 2025, the MMIS contract term end date is April 2025, and the BIDM contract's end date is June 2024. The procurements for the MES are currently underway, with the PBMS expected to complete in July 2025 and the BIDM and MMIS scheduled to be completed in June 2025. The Department is required to select the most compelling and cost-effective vendor for the work, which could result in multiple core or modular solutions being transitioned to a new vendor. An individual MES transition from one

vendor to another would result in the need for funding to transition data, data models and operational processes from the old vendor to the new vendor. The Department does not have the funds to transition to a new vendor within the current MMIS appropriation. Without additional funding, the Department would not be able to fund transition activities for a new vendor if one is selected during the upcoming procurements.

Justification:

The Department is required by state procurement regulations and CMS guidelines to progress through a competitive procurement process for the MES. In order to receive enhanced federal matching funding for development, maintenance, and operations, the MMIS as well as other core MES and modules must meet all applicable standards and conditions, including modularity. Depending on the outcome of the MES core and modular procurement, the Department may select a new vendor(s). If a new vendor is selected, then the Department would be required to fund two separate vendors at the same time; one to maintain current operations, paid with existing appropriations, and one to enhance the new solution to meet the Department's needs prior to the transition of data and operations from the current vendor. The Department is only appropriated enough funds to operate the MES core and modular solutions. This request would pay for the cost to transition to new vendors if a new vendor is selected through the procurement process. Without dedicated transition funding, the Department would be unable to transition in a timely manner, which would not be in compliance with CMS and state procurement requirements. Not complying with CMS regulations puts the Department at risk of losing federal financial participation (FFP) and the Department would be at risk of having to pay back CMS for any federal funding received while being out of compliance.

Business Process Analysis

Under the federal modularity rule, CMS requires states to follow a modular approach that supports timely, cost-effective projects. The broadened definition was also refined to support an enterprise approach where individual modules and services are interoperable and work together seamlessly to support a unified Medicaid Enterprise. CMS has established the expectation that a modular approach provides the most efficient and cost-effective long-term solution for meeting states' business needs. This funding request is not addressing an operational problem, it is to remain compliant with state and federal regulations.

Cost-Benefit Analysis and Project Alternatives

In 2020, the Department completed an internal and external environmental scan as well as an alternatives analysis with current staff and other states to identify potential models, new approaches, and strategies for the procurement of the Colorado MES ecosystem. The environmental scan included interviews with other states to understand their models within their existing and conceptual MES. The Department interviewed SMEs internally as well as in other states to understand the challenges, strategies and models that can be addressed through the future Colorado MES ecosystem. The environmental scan and alternatives analysis were used to guide the modular procurement approach, which has received approval from CMS. Without this funding, the Department would be unable to complete the transition activities within the required timeframes which would put the Department out of compliance with CMS and state procurement requirements.

Per 45 CFR § 95.635, if the Department fails to comply with the requirements, payment of FFP to Colorado's Medicaid and CHIP programs can be disallowed.

Success Criteria and Improved Performance Outcomes

All MES projects that receive enhanced FFP through CMS require outcome-based measures. These measures will be reviewed and approved by CMS prior to the start date of this project. CMS requires the Department to continue to meet the approved outcomes and metrics on an ongoing basis to continue to receive enhanced funding.

Assumptions for Calculations

- Transition cost estimates were derived from other state contracts and vendor estimates.
- The Department assumed that the MMIS core system would need minimal transition funding as the only bid received was from the current vendor. The Department is including \$3.5M in transition funding to account for updates or upgrades the new system may need to meet all CMS requirements.
- BIDM and PBMS estimates were based on estimates from vendors for their core solutions.
- The Department assumes that these funds would only be needed if a new vendor takes over any of the core or modular solutions or if a current vendor is required to make changes due to updates in law or CMS requirements. The Department would use a future budget cycle to true up any changes with new cost estimate information.
- The Department included a 5% contingency buffer to the total estimate for FY 2023-24 and FY 2024-25 per the template instructions.
- The Department assumes it would take two fiscal years to transition all MES core and modular solutions from one vendor to another. The two-year timeline is a CMS best practice as well as a lesson learned during the COMMIT project implementation.
- Detailed timeline assumptions for each core and modular solution are provided in the table below, but subject to change due to unforeseen contingencies.
- The Department assumes it would need dedicated, Medicaid experienced, contractor resources to assist with transition management if a new vendor or module is selected. The Department assumes that it will need a variety of roles for all core systems. Examples of roles include project managers, business analysts, contract managers, contract managers, and pharmacists. Those roles would be needed until the transition from the current vendor to the new vendor is complete. The Department had requested similar resources with the year-one request, but after discussing the overall workload with other states, it became clear that the Department would require significantly more contract resources to ensure it can remain on projected timelines.
- The Department used a weighted average to calculate the federal financial participation (FFP). The Department allocates costs across both Medicaid and Children's Health Insurance Program (CHIP) based on the caseload recorded on June 30th of the prior year. The pre-pandemic allocation was 94% of the population in Medicaid and 6% in CHIP.
- The Department assumes that it would receive a 90% FFP on all transition costs including systems and contractor support related to the Medicaid allocation and 65% FFP for costs related to the CHIP allocation. As a result, the weighted average FFP is 88.50%.

- The Department assumes it will have all Advanced Planning Documents (APD) submitted and approved by CMS prior to incurring any expenditure, allowing the Department to receive the enhanced weighted FFP on all transition costs.
- The Department assumes that the four State term-limited FTE would be required for 2-3 years and that any ongoing permanent need would be requested through an operating request. These staff would provide documentation and communications for members and providers, update operational manuals and documents, and support vendor communications and escalations across the modules.
- The Department will also contract with a vendor to help coordinate enterprise-wide testing across all platforms and modules to ensure a seamless integration.
- The Department has also updated its timeline on module transition dates. The table below shows the most updated estimate on when specific modules would transition. Some modules have shifted their timelines out. This is primarily the result of negotiations with vendors taking longer than initially anticipated.

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Consequences if not Funded

Without funding, the Department would have inadequate resources to transition all of the core and modular solutions to new module vendors, which would put the Department out of compliance with CMS and state procurement requirements. As mentioned above, per 45 CFR § 95.635, if the Department fails to comply with CMS requirements, payment of FFP may be disallowed.

Implementation Plan

Change Management

Change Management is a requirement for all Department projects. The Department has a robust internal change management process and requires all vendors to deliver a change management plan, which includes: the approach to change management, a scope control process, process to monitor and measure scope, testing strategy, training plan, and operational readiness plans.

The Department follows CMS MES testing guidance framework, which outlines actions and deliverables states are required to demonstrate or provide as evidence. These include:

- contract requirements for system testing;
- definition of defect severity;
- defect resolution;
- master test plans;
- test execution; including units, system integration, regression, user acceptance, performance and load testing, parallel and data migration testing;
- incident response handling;
- requirements traceability;
- deployment plan; and
- on-going testing after production to validate any system changes.

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Alignment with OIT Best Practices and Standards

The Department collaborates with the Office of Information Technology (OIT) to ensure that all MES systems and vendors are in compliance with OIT’s best practices and standards.

Procurement

The Department is the single state agency for the Medicaid program and is wholly responsible for ensuring that its programs and systems meet federal requirements.² As a result, OIT staff are members of the MES evaluation team involved with the procurement of these systems.

Disaster Recovery and Business Continuity

All implementations would be compliant with all existing state and federal IT architecture, security and business continuity requirements and guidelines, and state cybersecurity policies set forth by the Office of Information Security. Additionally, all OIT project gating would be closely followed to ensure adequate risk assessments are conducted and all necessary actions are taken as a result. The Disaster Recovery Plan is a requirement of gate four and the authorization to operate would not be granted without the required documentation and planning.

Accessibility Compliance (Must be addressed)

The Department, in collaboration with OIT, is in the process of developing an accessibility compliance program for current and future vendors.

ADDITIONAL REQUEST INFORMATION	
Please indicate if three-year roll forward spending authority is required.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is this a continuation of a project appropriated in a prior year?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If this is a continuation project, what is the State Controller Project Number?	2024-017123
If this request affects another organization, please provide a comfort letter.	
Please attach a letter from OIT indicating review and approval of this project	See Attached OIT Letter of Approval

CONTINUATION HISTORY				
	FY 2023-24 Appropriated	FY 2024-25 Appropriated	FY 2025-26 Appropriated	Total Appropriations
Total Funds	\$52,552,516	\$0	\$0	\$52,552,516
Capital Construction Funds	\$6,043,541	\$0	\$0	\$6,043,541
Cash Funds	\$0	\$0	\$0	\$0
Reappropriated Funds	\$0	\$0	\$0	\$0
Federal Funds	\$46,508,975	\$0	\$0	\$46,508,975

	FY 2023-24	FY 2024-25	FY 2025-26	Total
Amount Spent	\$0	\$0	\$0	\$0
Amount Encumbered	\$0	\$0	\$0	\$0
Total Funds Available	\$52,552,516	\$0	\$0	\$52,552,516

ESTIMATED PROJECT TIME TABLE		
Steps to be completed	Start Date	Completion Date
Core MMIS	February 2024	June 2025
EDI Module	February 2024	June 2025
Provider Call Center	January 2024	June 2025
TPL Module	February 2024	June 2025
CCM DDI	December 2023	June 2025
Claims Editing Solution	February 2024	June 2025
Electronic Visit Verification	May 2024	June 2025
CMS Interoperability and Patient Access	May 2024	June 2025
Enterprise Data Warehouse	December 2023	June 2025
Provider Performance and Quality Management	March 2024	June 2025
Recovery Tracking	March 2024	June 2025
Program Integrity	January 2024	June 2025
Core PBMS	December 2023	July 2025
Rebate Administration	December 2023	July 2025
Preferred Drug List Purchasing	December 2023	July 2025
RTBI	December 2023	July 2025
Opioid Risk Metric Tool	December 2023	January 2024



COLORADO
Governor's Office of
Information Technology

07/15/2022

Lauren Larson
Director
Office of State Planning and Budgeting
111 State Capitol
Denver, Colorado 80203

RE: FY 2023-24 Dept. of Health Care Policy and Financing - Medicaid Enterprise Solutions Re-Procurement

Dear Director Larson:

Pursuant to OSPB instructions, this letter is to confirm that the Office of Information Technology (OIT) has been informed of the development and submission of this proposed FY 2022-23 request for the Department of Health Care Policy and Financing - Medicaid Enterprise Solutions Re-Procurement requests \$52.6 million total funds, including \$6.0 million Capital Construction Fund (CCF) and 0.0 FTE in FY 2023-24 for a Systems Enhancement Regulatory Compliance IT project to comply with state procurement regulations and the Center for Medicare and Medicaid Services (CMS) procurement requirements for the Department's Medicaid Enterprise Solutions (MES).

OIT has completed an internal review to ensure the project aligns with statewide IT goals and has collaborated with HCPF and we are in agreement with most of the request, except for the following:

OIT assumes this work being proposed is consistent with the Delegation of Authority and any OIT specific work should be reappropriated to OIT through the payments of OIT line.

Sincerely,

Rus Pascual

Kristi LaBarge

Rus Pascual, OIT Budget Director


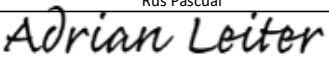
Kristi Labarge, OIT HCPF IT Director



Signature: Rus Pascual - OIT
Rus Pascual - OIT (Jul 15, 2022 10:43 MDT)
Email: rus.pascual@state.co.us

Signature: Kristi LaBarge
Kristi LaBarge (Jul 15, 2022 11:10 MDT)
Email: kristi.labarge@state.co.us

CC-02 Colorado Benefits Management System (CBMS) Re-Procurement
Appendix A: Assumptions and Calculations

CC-IT: CAPITAL CONSTRUCTION INFORMATION TECHNOLOGY REQUEST FOR FY 2024-25								
Department	HCPF	Signature Department Approval:		 <div style="text-align: right;">20-Sep-23</div>				
Project Title	Colorado Benefits Management System (CBMS) Re-Procurement	Signature OIT Approval:		Rus Pascual <div style="text-align: right;">20-Sep-23</div>				
Project Year(s)	FY 2024-25	Signature OSP Approval:		 <div style="text-align: right;">10/30/23 Date</div>				
Department Priority Number	2	Name and e-mail address of preparer:		Lindsey Roe; lindsey.roe@state.co.us				
Five-Year Roadmap?	No							
Revision? Yes x No If yes, last submission date: _____	Total Project Costs	Total Prior Year Appropriations	Total Request	Year 2 Request	Year 3 Request	Year 4 Request	Year 5 Request	
(1)	OIT Contracted Program Manager	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2)	Quality Assurance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3)	Independent Verification and Validation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4)	Training	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(5)	Leased Space (Temporary)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6)	Feasibility Study	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7a)	Inflation for Professional Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7b)	Inflation Percentage Applied	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(8)	Other Services/Costs	\$ 1,623,960	\$ -	\$ 1,623,960	\$ -	\$ -	\$ -	\$ -
(9)	<i>Total Professional Services</i>	\$ 1,623,960	\$ -	\$ 1,623,960	\$ -	\$ -	\$ -	\$ -
(1)	Software COTS Purchase	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2)	Software Built	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3a)	Inflation on Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3b)	Inflation Percentage Applied	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4)	Software COTS Purchase Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(5)	<i>Total Software</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(1)	Servers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2)	PCs, Laptops, Terminals, PDAs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3)	Printers, Scanners, Peripherals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4)	Network Equipment/Cabling	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(5)	Miscellaneous	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6)	<i>Total Equipment and Miscellaneous Costs</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(1)	5% project contingency	\$ 81,198	\$ -	\$ 81,198	\$ -	\$ -	\$ -	\$ -
Total Budget Request [A+B+C+D]		\$ 1,705,158	\$ -	\$ 1,705,158	\$ -	\$ -	\$ -	\$ -
	GF	\$ 318,028	\$ -	\$ 318,028	\$ -	\$ -	\$ -	\$ -
	CF/RF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	FF	\$ 1,387,130	\$ -	\$ 1,387,130	\$ -	\$ -	\$ -	\$ -



Department IT Capital Construction Project: FY 2024-25 CC-IT-02 CBMS Re-Procurement

Summary of Request	Total Funds	CCF-IT	Cash Funds	Reappropriated Funds	Federal Funds
FY 2024-25	\$1,705,158	\$318,028	\$0	\$0	\$1,387,130
FY 2025-26	\$0	\$0	\$0	\$0	\$0
FY 2026-27	\$0	\$0	\$0	\$0	\$0

Categories of IT Capital Projects

System Replacement (costs escalating, failing technology, software or vendor support ended, or new technology, e.g., DRIVES, CHATS)	System Enhancement Regulatory Compliance (new functionality, improved process or functionality, new demand from citizens, regulatory compliance, e.g, CBMS)	Tangible Savings Process Improvement (conscious effort to reduce or avoid costs, improve efficiency, e.g., LEAN, back office automation)	Citizen Demand “The Ways Things Are” (transformative nature of technology, meet the citizens where they are, e.g., pay online, mobile access)

Request Summary:

The Department requests \$1,705,158 total funds, including \$318,028 Capital Construction Fund (CCF) and 0.0 FTE in FY 2024-25 for a Systems Enhancement Regulatory Compliance IT project. The Department requests this funding in order to comply with state procurement regulations and the Center for Medicare and Medicaid Services (CMS) procurement requirements for the Colorado Benefits Management System (CBMS).

The Department is requesting the first phase of a multiphase project for the CBMS re-procurement effort. The request includes contractor funding to start the pre-work for the re-procurement of the CBMS and its modules. The contractor funding includes both business analysts and project managers who will prepare and coordinate departmental resources during the solicitation period. The contractor work consists of creating vendor requirements and aiding in drafting the solicitation for the eligibility system and future modules.

Project Description:

The Department’s request falls under the *System Enhancement Regulatory Compliance* category. The Department is requesting funding to comply with Colorado contract term limits and CMS federal funding requirements. The Department is required every 10 years to procure contracts related to the CBMS both under state procurement rules and CMS regulation. CMS requires that CBMS contracts be procured in a modular format because federal regulations no

longer permit IT eco-systems to be procured as a single vendor solution. This request would provide funding to assist with the re-procurement work and ensure the Department stays on schedule. The contractor resources will operate as subject matter experts (SME) who can draft necessary solicitation documents and procurement requirements. The contractors' work will ensure that the solicitation of the CBMS and its modules is done accurately and stays on schedule within the confines of both the state and federal timelines.

Systems Integration Opportunities

A well-designed modular system is interoperable, allowing the ability for different systems, applications, or products to connect and communicate in a coordinated, non-disruptive manner. This services integration (SI) is increasingly important as CMS guidance trends away from large, single-system implementations in favor of smaller interoperable, interchangeable modular implementations. CMS guidance for IT systems requires that the Department's CBMS data and functionality coordinate between the health exchanges, public health agencies, human services programs and community organizations providing outreach and enrollment assistance. Coordination between SI and the proposed CBMS modules will be managed by the Project Manager with assistance from the Business Analysts during the requirements gathering phase of the solicitation drafting. This is to ensure a seamless transition to the new vendor(s).

Risks and Constraints

Due to CMS regulations and state procurement rules, the Department must finish the procurement process for possible new CBMS vendor(s) before the end of the current contract term date of June 30, 2027. The Department must negotiate and implement new contracts with vendors prior to the current contract's end date to ensure smooth transitions to new modules and avoid potential CMS penalties. Additionally, to receive federal funds on Medicaid and Children's Health Insurance Program (CHIP) programs, the Department must follow CMS procurement guidelines and the existing CMS standards and conditions regulations to receive an enhanced federal match. CMS requires that the Department procure the CBMS through a modular approach. If the Department does not procure CBMS vendors following CMS regulations, then the Department is at risk of losing federal financial participation (FFP) on all Medicaid and Children's Health Insurance (CHIP) programs.

Operating Budget Impact

Currently, CBMS has a maintenance and operations (M&O) budget within multiple departments: Health Care Policy and Financing (HCPF), Colorado Department of Human Services (CDHS), Colorado Department of Public Health and Environment (CDPHE), Department of Early Childhood (DEC) and Regional Transportation District (RTD). At this time the Department is not submitting an additional M&O budget request because the bidding process for the CBMS and modules are not complete. If M&O funding is either higher or lower than current appropriations, the departments would submit an M&O true-up request in a future budget cycle once procurement reaches the vendor negotiation phase.

Background of Problem or Opportunity:

CMS regulation requires that each state follow a modular approach in their development of new or replacement systems and evaluates each state's IT to ensure that the procurement of each IT solution has been effectively evaluated by the state as the most cost-effective long-term solution for meeting business needs.

The CBMS is an integrated eligibility system (IES) that has been meeting Colorado's needs since its implementation 19 years ago. The system is managed by HCPF, CDHS, CDPHE, DEC, RTD and supported by OIT [collectively, the State]. Eligibility for medical (Medicaid), food (Supplemental Nutrition Assistance Program-SNAP), cash (Temporary Assistance for Needy Families-TANF), energy, and childcare assistance is determined by the CBMS integrated system. Currently, the CBMS is a custom IT solution that is hard to update and is missing necessary training documentation. The system is complex and requires county workers to understand and be experienced in each program's rules to ensure that eligibility is determined correctly. In 2013 a client/member portal for self-service access called PEAK (Program Eligibility and Application Kit) was implemented. Recent improvements to CBMS include the Transformation Project, which transitioned the system to Amazon Web Services (AWS) and the Salesforce platform from the State Data Center. The State contends that CBMS will remain in use and serve as the State's eligibility engine and that a new vendor will be responsible for a take-over transition as opposed to building a new CBMS system. The Roadmap strategy considers how certain functions can be modularized to support best of breed approaches and contracting efficiencies documented in the Environmental Scan of other states' IES enterprises.

Justification:

The Department is required by state procurement regulations and CMS guidelines to perform a competitive procurement process for the CBMS. In order to receive enhanced federal funding for development, maintenance, and operations, the CBMS and its modules must meet all applicable standards and conditions, including modularity. The Department is only appropriated enough funds to operate the CBMS and this request would allocate funds to contract staff who would provide day-to-day assistance during the procurement process. The State is currently operating at capacity and is unable to reallocate resources to this effort. Without dedicated vendor funding the Department would be unable to transition in a timely manner, which would put the State out of compliance with CMS and state procurement requirements. Not complying with CMS regulations puts the Department at risk of losing federal financial participation (FFP) as the Department would be at risk of having to pay back CMS for any federal funding received while being out of compliance.

Business Process Analysis

Under the federal modularity rule, CMS requires states to follow a modular approach that supports timely, cost-effective projects. Currently, the CBMS system does not comply with the CMS requirement of modularity. The broadened definition was also refined to support an enterprise approach where individual modules and services are interoperable and work together seamlessly to support a unified Benefits System. CMS has established the expectation that a modular approach provides the most efficient and cost-effective long-term solution for meeting states' business needs. This funding request is not directly addressing an operational problem; rather, the funding is required in order for the Department to remain compliant with state and federal regulations.

Cost-Benefit Analysis and Project Alternatives (per H.B. 15-1266)

In 2022, the Department completed an internal and external environmental scan and an alternatives analysis with current staff and other states to identify potential models and new approaches and strategies for the procurement of the CBMS. The environmental scan included interviews with other states to understand their models within their existing and conceptual eligibility systems. The Department interviewed subject matter experts (SMEs) internally as

well as in other states to understand the challenges, strategies and models that can be addressed utilizing the future CBMS ecosystem. The environmental scan and alternatives analysis will be used to guide the modular procurement approach, which will be sent to CMS for approval. Without this funding, the Department does not have the necessary SMEs or technical knowledge to ensure that the CBMS vendor solicitation is drafted and posted. Without accurate and timely solicitation documentation, the Department would be unable to complete the transition activities within the required timeframes. This would put the Department out of compliance with CMS and state procurement requirements. Per 45 CFR 95.635, if the Department fails to comply with the requirements, payment of FFP to Colorado's Medicaid and CHIP programs can be disallowed.

Success Criteria and Improved Performance Outcomes

All projects that receive enhanced FFP through CMS require outcome-based measures. These measures will be reviewed and approved by CMS prior to the start date of this project. CMS requires the Department to continue to meet the approved outcomes and metrics on an ongoing basis to continue to receive enhanced funding.

Assumptions for Calculations:

- The Department assumes that the contractor staff will work full time for 40 hours a week, 52 weeks a year for a total of 2080 hours.
- The Department assumes it will have all Advanced Planning Documents (APD) submitted and approved by CMS prior to incurring any expenditure, allowing the Department to receive the enhanced weighted federal financial participation (FFP) on all transition costs.
- The Department is required by CMS to allocate CBMS activity costs among the different departmental partners (HCPF, CDHS, CDPHE, DEC and RTD). The cost allocation ensures that all federal partners who are benefiting from the system are sharing in the cost. The total costs of this project have been allocated to both HCPF and CDHS based on the CBMS activities being requested. The Department assumes that transition costs would be covered at a 90% federal match for Medicaid related costs. Based on the allowable federal participation for the other non-Medicaid programs, the weighted FFP is 81.35%.
- The Department included a 5% contingency buffer to the total estimate for FY 2024-25 to account for potential cost overruns as large-scale IT projects have a propensity to come in over budget by the time the project is finished. ¹

Consequences if not Funded

Without the contractor funding, existing Department staff would need to complete the solicitation work. Current Department staff do not have capacity to complete re-procurement work and denial of funding could lead to delayed timelines causing the Department to miss the overall June 30, 2027 deadline. Missing the deadline would put the Department out of compliance with CMS and state procurement requirements. As mentioned above, per 45 CFR 95.635, if the Department fails to comply with CMS requirements, payment of FFP may be disallowed.

1

<https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/delivering-large-scale-it-projects-on-time-on-budget-and-on-value>

Implementation Plan:

Change Management

Change Management is a requirement for all Department projects. The Department has a robust internal change management process and requires all vendors to deliver a change management plan, which includes: the approach to change management, a scope control process, process to monitor and measure scope, testing strategy, training plan, and operational readiness plans.

The Department follows CMS MES testing guidance framework, which outlines actions and deliverables states are required to demonstrate or provide as evidence. These include:

- o contract requirements for system testing;
- o definition of defect severity;
- o defect resolution;
- o master test plans;
- o test execution; including units, system integration, regression, user acceptance, performance and load testing, parallel and data migration testing;
- o incident response handling;
- o requirements' traceability;
- o deployment plan; and
- o on-going testing after production to validate any system changes.

Alignment with OIT Best Practices and Standards

The Department collaborates with the Office of Information Technology (OIT) to ensure that the CBMS and its vendors comply with OIT's best practices and standards.

Procurement

The Department and CDHS, with support from OIT, are engaged in the procurement and collaboratively are responsible for ensuring that its programs and systems meet federal requirements. As a result, OIT staff are members of the procurement team involved with the re-procurement of CBMS and its future modules.

Disaster Recovery and Business Continuity -

All implementations would be compliant with all existing state and federal IT architecture, security and business continuity requirements and guidelines, as well as state cybersecurity policies set forth by the Office of Information Security. Additionally, all OIT project gating would be closely followed to ensure adequate risk assessments are conducted and all necessary actions are taken as a result. The Disaster Recovery Plan is a requirement of gate 4 and the authorization to operate would not be granted without the required documentation and planning.

Accessibility Compliance

The Department, in collaboration with OIT, is in the process of developing an accessibility compliance program for current and future vendors.

ADDITIONAL REQUEST INFORMATION	
Please indicate if three-year roll forward spending authority is required.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is this a continuation of a project appropriated in a prior year?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If this is a continuation project, what is the State Controller Project Number?	N/A
If this request effects another organization, please provide a comfort letter.	
Please attach a letter from OIT indicating review and approval of this project	See Attached OIT Letter of Approval

ESTIMATED PROJECT TIMETABLE		
Steps to be completed	Start Date	Completion Date
Core CBMS	9/1/2023*	10/28/2025
PEAK/PEAK PRO Module	9/1/2023*	10/28/2025
Correspondence Module	6/30/2024*	10/28/2025
Workflow Management Module	9/1/2023*	10/28/2025

*Estimated start dates as SOW and Purchase Orders are in review as of the date of this budget request.



COLORADO
Governor's Office of
Information Technology

September 29, 2023

Mark Ferrandino
Director
Office of State Planning and Budgeting
111 State Capitol
Denver, Colorado 80203

RE: FY 2024-25 Dept. of Health Care Policy & Financing and Dept. of Human Services
CC-02 CBMS Re-procurement

Dear Director Ferrandino:

Pursuant to OSPB instructions, this letter is to confirm that the Office of Information Technology (OIT) has been informed of the development and submission of this proposed FY 2024-25 request for the Department of Health Care Policy & Financing (HCPF) and Department of Human Services CC-02 CBMS Re-procurement. The Department requests \$1,705,158 total funds, including \$318,028 Capital Construction Fund (CCF) and 0.0 FTE in FY 2024-25 for a Systems Enhancement Regulatory Compliance IT project. The Department requests this funding in order to comply with state procurement regulations and the Center for Medicare and Medicaid Services (CMS) procurement requirements for the Colorado Benefits Management System (CBMS).

OIT has completed an internal review to ensure the project aligns with statewide IT goals and determined that OIT has the capacity to deliver and meet the requirements of the project.

Please note: OIT, HCPF and CDHS are in agreement that a security review will be completed as part of the project itself, when applicable. Also, any OIT specific work should be reappropriated to OIT through the payments of OIT line, where applicable.

Sincerely,

Rus Pascual


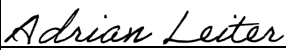
Rus Pascual, OIT Budget Director

Kristi LaBerge

Kristi Labarge, HCPF IT Director
Rita DeFrangé, CDHS IT Director



CC-01 Medicaid Enterprise Solutions Re-Procurement
Appendix A: Assumptions and Calculations

CC-IT: CAPITAL CONSTRUCTION INFORMATION TECHNOLOGY REQUEST FOR FY 2023-24								
Department	HCPF	Signature Department Approval:		 20-Sep-23				
Project Title	Social Health Information Exchange Project	Signature OIT Approval:		Rus Pascual 20-Sep-23				
Project Year(s)	FY 2024-25	Signature OSP Approval:		 Date: 10/30/23				
Department Priority Number	1	Name and e-mail address of preparer:						
Five-Year Roadmap?	No							
Revision? X-Yes No If yes, last submission date: __/__/2022__		Total Project Costs	Total Prior Year Appropriations	Total Request	Year 2 Request	Year 3 Request	Year 4 Request	Year 5 Request
(1)	OIT Contracted Program Manager	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2)	Quality Assurance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3)	Independent Verification and Validation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4)	Training	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(5)	Leased Space (Temporary)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6)	Feasibility Study	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7a)	Inflation for Professional Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7b)	Inflation Percentage Applied	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(8)	Other Services/Costs	\$ 22,115,220	\$ -	\$ 10,506,333	\$ 7,751,754	\$ 3,857,132	\$ -	\$ -
(9)	Total Professional Services	\$ 22,115,220	\$ -	\$ 10,506,333	\$ 7,751,754	\$ 3,857,132	\$ -	\$ -
(1)	Software COTS Purchase	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2)	Software Built	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3a)	Inflation on Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3b)	Inflation Percentage Applied	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4)	Software COTS Purchase Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(5)	Total Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(1)	Servers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2)	PCs, Laptops, Terminals, PDAs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3)	Printers, Scanners, Peripherals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4)	Network Equipment/Cabling	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(5)	Miscellaneous	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6)	Total Equipment and Miscellaneous Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(1)	5% project contingency	\$ 1,105,762	\$ -	\$ 525,317	\$ 387,588	\$ 192,857	\$ -	\$ -
Total Budget Request [A+B+C+D]		\$ 23,220,982	\$ -	\$ 11,031,650	\$ 8,139,342	\$ 4,049,989	\$ -	\$ -
	GF	\$ 3,487,117	\$ -	\$ 1,539,359	\$ 1,203,920	\$ 743,838	\$ -	\$ -
	CF/RF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	FF	\$ 19,733,864	\$ -	\$ 9,492,291	\$ 6,935,422	\$ 3,306,151	\$ -	\$ -



Kim Bimestefer, Executive Director
 Department of Health Care Policy & Financing
 November 1, 2023

RY- Department IT Capital Construction Project: CC-IT-03 OeHI Social Health Information Exchange (SHIE) - Prescriber Tool Phase II

Summary of Request	Total Funds	CCF-IT	Cash Funds	Reappropriated Funds	Federal Funds
FY 2024-25	\$11,031,650	\$1,539,359	\$0	\$0	\$9,492,291
FY 2025-26	\$8,139,343	\$1,203,920	\$0	\$0	\$6,935,423
FY 2026-27	\$4,049,989	\$743,838	\$0	\$0	\$3,306,151

Categories of IT Capital Projects

System Replacement (costs escalating, failing technology, software or vendor support ended, or new technology, e.g., DRIVES, CHATS)	System Enhancement Regulatory Compliance (new functionality, improved process or functionality, new demand from citizens, regulatory compliance, e.g, CBMS)	Tangible Savings Process Improvement (conscious effort to reduce or avoid costs, improve efficiency, e.g., LEAN, back office automation)	Citizen Demand “The Ways Things Are” (transformative nature of technology, meet the citizens where they are, e.g., pay online, mobile access)
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Request Summary

The Office of eHealth Innovation (OeHI), in partnership with the Department of Health Care Policy and Financing (HCPF), the Office of the Lieutenant Governor, and the Behavioral Health Administration (BHA) requests \$11,031,650 total funds, including \$1,539,359 in Capital Construction Funds (CCF), and 5.5 HCPF FTE, and 2.0 Office of Information Technology (OIT) FTE in FY 2024-25; \$8,139,341 total funds, including \$1,203,918 CF, and 5.5 HCPF FTE, and 2.0 OIT FTE in FY 2025-26; and \$4,049,989 total funds, including \$743,838 CF, and 5.5 HCPF FTE, and 2.0 OIT FTE in FY 2026-27 to support the continued expansion and implementation of a technical infrastructure that enables prescribers and community partners to facilitate access to health improvement supports and Social Health information Exchange (SHIE). NOTE: The name of this technology infrastructure will evolve, as the term SHIE doesn't fully capture the comprehensive nature of this infrastructure innovation. Others may recognize this budget request as Prescriber Tool Phase II, as has been referenced in a number of strategic documents and presentations.

This request directly addresses efforts to improve member health, close disparities, and improve affordability by:

- Enabling clinicians to prescribe health improvement programs to Medicaid members provided through Regional Accountable Entities today (as well newly evolving programs in the future) to improve member health and outcomes and prevent disease escalation thereby improving affordability (e.g., prenatal programs, diabetes management, nutritional counseling, living healthy classes like weight management, healthy eating, tobacco cessation and more).
- Enable clinicians to prescribe - and vendor/community partners to better coordinate, provide access to and deliver - social determinants of health support programs like SNAP or WIC to Medicaid members. This advances Colorado's ability to support whole person care and support, while improving member health and outcomes, closing disparities, and improving affordability.
- Enable provider access to innovative tools that help them improve quality care and outcomes, close disparities, and improve affordability thereby achieving these critical shared goals associated with Medicaid's approved value-based payment models (e.g., maternity bundle, hospital transformation program payments and APM2 primary care).

Ultimately, this system will facilitate assessments and referrals for members to improve the ease of connecting members to public benefits programs (e.g., Supplemental Nutrition Assistance Program (SNAP), Special Supplemental Nutrition Program for Women, Infants and Children (WIC), housing assistance, etc.), health improvement programs (diabetes management, prenatal supports, etc.) and community-based services as well (homeless shelters, foodbanks, etc.). This request directly supports the Governor's quest to save people money on health care, facilitate behavioral health transformation, ease access to public programs that support Coloradans in need, propel the health system's payment system from volume to value (value-based payments) and propel the Wildly Important Goals (WIGs) set forth by the Governor's Working Group on Health and Governor's Working Group on Homelessness.

This request is for continuation of the project after being initially developed through a \$15,000,000 Home and Community-Based Services (HCBS) cash fund investment.

Project Description

The Department's request falls under the *Citizen Demand* category. The Department is requesting funding in response to increased data indicating that effective social care delivery has significant impacts on individuals' health and the cost of their care. Currently, the provision of social care services and health improvement programs is fragmented and burdensome to providers and care coordinators. In alignment with the Department's quest for health improvement and better outcomes, closing disparities, improving whole person care, and reducing health care costs, this request will build upon existing architecture and serve as a "network of networks," connecting technology platforms used by Community Based Organization (CBOs), physical and behavioral healthcare providers, RAEs, and other organizations that deliver quality care and community supports to Coloradans.

To ensure that individuals with diverse needs are served by SHIE, HCPF and OeHI identified the need for a two-pronged hub-and-spoke approach to implementation: one focused on statewide data sharing and large-scale infrastructure (the hub) and one focused on the needs of individual communities (the spokes). A regional approach to SHIE allows communities and CBOs to leverage existing relationships and investments and enable access to the programs and supports available to individuals through Medicaid and through their local communities, creating momentum and engagement that can support other use cases as the infrastructure grows and matures. Key activities that will be pursued as a component of this request include:

- ***Statewide Unifying Architecture:*** Continued implementation and expansion of the flexible data sharing ecosystem that facilitates technical connectivity between SHIE users such as Regional Accountable Entities (RAEs)/Managed Care Organizations (MCOs), Colorado's Health Information Exchanges (HIEs), behavioral health providers, CBOs, state agencies, and other organizations that deliver whole-person care to Coloradans.
- ***Data Governance:*** Implementation of a formal data governance structure to ensure equitable, community-led decision-making that supports the SHIE priorities and needs of all Coloradans. Governance will support the processes and procedures that govern the onboarding of health improvement and social data into SHIE and ensure that CBOs can access and utilize clinical data, where appropriate, and send standardized referrals to clinical and non-clinical partners.
- ***Consent Management:*** Development and expansion of an integrated consent management solution to ensure Coloradans' consent to share data in the SHIE ecosystem is appropriately obtained and freely given. Consent management is critical to the secure transfer of information within the SHIE model and is especially critical for communities that have historically been disenfranchised who may experience high levels of distrust with the medical system and government. Current systems lack the tools needed to not only properly manage and track client consent, but to store and share data appropriately based on federal and state regulations.
- ***Resource Directory:*** One of the essential tenets of effective SHIE is real-time access to accurate, updated information for health care providers. Today, this resource information is fragmented across multiple systems, and physical and behavioral provider data is stored separately from community resources, while providers are often unaware of programs and supports available to their patients. OeHI intends to leverage and expand upon existing work by the Behavioral Health Administration (BHA) to improve the accuracy, consistency, and availability of resource information. This initiative will ensure data surfaced by state agencies is consistent and ensure that CBOs and providers need only update their facility and service information in one location.
- ***Expansion of Regional Investments:*** Building upon regional priorities and successes is critical to increasing uptake and buy-in of SHIE data sharing. This component of the SHIE funds community-driven infrastructure development, which aims to leverage existing

networks and innovations for social care data sharing within communities across Colorado. The goal of this component is to ensure the systems and health improvement support programs most often used by regional organizations including RAEs/MCOs, safety-net health systems, and CBOs who support members are prioritized for SHIE integration. The requested funding would expand across additional regions and use cases to ensure continued SHIE technical infrastructure is developed in a way that prioritizes and reflects the diversity of needs and experiences of Coloradans.

SHIE efforts are well aligned with a number of other initiatives across the state and nation, including the [BHA's 2023-25 Strategic Plan](#)¹, the 2025 launch of the next iteration of Colorado's Accountable Care Collaborative (ACC), the advances and uptake of the Prescriber Tool (already used by 47% of Medicaid prescribers), the evolution into Value Based Payments that reward quality improvement, closing disparities, and affordability. It further aligns with the federal government's investments into both a healthcare-oriented data fusion center and the Office of the National Coordinator for Health IT (ONC)'s rollout of the Trusted Exchange Framework and Common Agreement (TEFCA) model to update and further integrate our national HIE infrastructure.

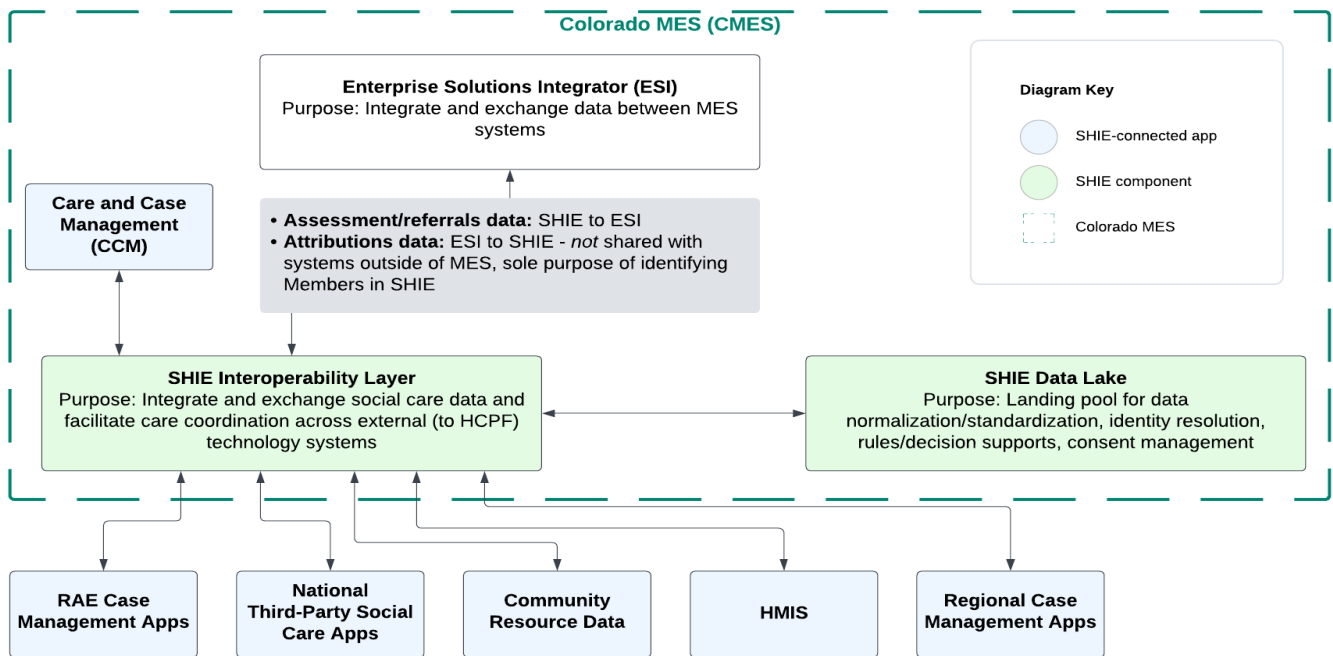
With the guidance of the eHealth Commission, OeHI's SHIE approach is the result of several years of consultation and collaboration with other state agencies and community partners, including HCPF, the BHA, Colorado Department of Human Services (CDHS), Colorado Department of Public Health and Environment (CDPHE), Colorado Department Of Corrections (CDOC), Local Public Health Agencies (LPHAs), CBOs, clinicians, and other stakeholders to build on successes and lessons learned, and to avoid duplicative efforts across the complex social care landscape. OeHI will continue to leverage the partnerships it has built with other state agencies and community partners to ensure the SHIE evolves to meet the needs of the continually changing state health IT landscape. Colorado is the first state to have approval from CMS to build SHIE within a state's Medicaid Enterprise Systems (MES) framework and leads the nation in leveraging technology to improve access to health improvement programs and social care services.

Systems Integration Opportunities

The Social Health Information Exchange (SHIE) infrastructure, procured through the SHIE Invitation to Negotiate, is designed to be an MES module that can be fully integrated into the MES landscape, as shown in the figure below. SHIE will act as an integrator to bridge the gap between third-party social care platforms outside of the secure MES, and other MES and state systems. It will integrate with the Department's Care and Case Management (CCM) tool to exchange assessments and referral data between CCM, and the tools used by the RAEs. Since Medicaid members with complex needs may interface with a number of case management agencies, care coordinators, and community-based service providers, SHIE provides the ability

¹ https://drive.google.com/file/d/1EZXHhWtgoL_E7kp7g0gJ0QJ0w33bqdSd/view

to interoperate any number of external systems to facilitate seamless care coordination services without directly interfacing these systems with sensitive MES systems. This allows SHIE to maximize data exchange and RAE program access functionality, without introducing unnecessary security risks.



Risks and Constraints

Funding through the HCBS cash fund in FY 2022-23 initiated an unprecedented opportunity to build an interoperable SHIE ecosystem intended to transform our care delivery and member health improvement support model. The development of SHIE has been a primary goal of OeHI since the first Health IT Roadmap was launched in FY 2017-18, with OeHI and HCPF making incremental progress with our state-designated Health Information Exchanges (HIEs) and community partners. It has also been a core component of HCPF’s care delivery vision and strategy since 2018, known as Prescriber Tool Phase II. (Note that Phase I of the Prescriber Tool, which included two parts: Opioid Module and Affordability Module), is already active, operational, and successfully achieving its quality improvement and affordability goals. Funding through HCBS cash fund has allowed OeHI and HCPF to harness lessons learned from previous projects to develop a meaningful approach to leverage existing community efforts across Colorado. This funding would ensure that expanded development continues after the HCBS cash fund has expired on September 30, 2024.

Operating Budget Impact

At this time, the Department is not submitting an additional maintenance and operations (M&O) budget request because the procurement process for the SHIE is ongoing; although estimates have been secured for ongoing funding as a part of the negotiations process, the Department will gather significant additional information about the scope and scale of M&O

after the contract has been executed and the discovery process has begun, within the first year of implementation. The Department plans to submit an M&O request in a future budget cycle.

Background of Problem or Opportunity

Research has demonstrated that social determinants of health (SDoH), defined by the World Health Organization (WHO) as the “conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life,” more significantly impact an individual’s health than direct medical care. Current estimates by the US Department of Health and Human Services estimate that nationally, SDoH are more than twice as impactful on health outcomes than clinical care.² SDoH factors affect communities differently, and people of color, those living in rural areas, LGBTQ+ individuals, and individuals with disabilities are most impacted. Structural inequities are recognized as key SDoH factors themselves³, and individuals from these communities experience worse health outcomes when all other factors are held constant. SDoH factors build upon one another and worsen an individual’s health and wellbeing over time. For example, redlining, a common racially discriminatory housing policy in the mid-20th century, enforced the housing of communities of color in neighborhoods considered “undesirable.” Redlining has resulted in the continued under-resourcing of these neighborhoods that have had significant impacts on residents’ health outcomes; historical redlining is strongly associated with poor stroke outcomes⁴, increased exposure to environmental pollutants⁵, asthma⁶, and poor HIV outcomes⁷, among others. Addressing SDoH while easing access to health improvement programs are critical to achieving Colorado’s goal of becoming one of the healthiest states in the nation.

Alongside direct investment in communities to improve the availability of services, technology supports more effective delivery of SDoH services and access to health improvements programs. CBOs that deliver a significant proportion of SDoH supportive services have historically been separate from the healthcare system and ineligible for associated investments from the state and federal government aimed at upgrading technology⁸. Concurrently,

² Whitman A, De Lew N, Chappel A, Aysola V, Zuckerman R, Sommers B. “Addressing Social Determinants of Health: Examples of Successful Evidence-Based Strategies and Current Federal Efforts.” Department of Health and Human Services, Office of Health Policy Report. 2022 Apr. [Link](#).

³ Johnson T. “Intersection of Bias, Structural Racism, and Social Determinants with Health Care Inequities.” *Pediatrics*. 2020 Aug, 146:2. [Link](#).

⁴ Jadov B, Hu L, Zou J. “Historical Redlining, Social Determinants of Health, and Stroke Prevalence in Communities in New York City.” *JAMA Network Open*. 2023 Apr, 6:4. [Link](#).

⁵ Mehdipanah R, McVay K, Shulz A. “Historic Redlining Practices and Contemporary Determinants of Health in the Detroit Metropolitan Area.” *American Journal of Public Health*. 2023 Jan. [Link](#).

⁶ Jones B, Hoffman M, Kane N. “‘Redlining’ to ‘Hot Spots’: The Impacts of a Continued Legacy of Structural and Institutional Racism and Bias on Asthma in Children.” *The Journal of Allergy and Clinical Immunology In Practice*. 2022 Apr, 10:4. [Link](#).

⁷ Logan J, Crepaz N, Luo F, Dong X, Gant Z, Ertl A, Girod C, Patel N, Jin C, Balaji A, Sweeney P. “HIV Care Outcomes in Relation to Racial Redlining and Structural Factors Affecting Medical Care Access Among Black and White Persons Living with Diagnosed HIV.” *AIDS and Behavior*. 2022 Mar, 26. [Link](#).

⁸ Roels N, Estrella A, Maldonado-Salcedo M, Rapp R, Hansen H, Hardon A. “Confident futures: Community-based organizations as first responders and agents of change in the face of the Covid-19 pandemic.” *Social Science and Medicine*. 2022 Feb, 294. [Link](#).

providers most often don't have optics into the health improvement support programs available to their patients, which is contradictory to evolving value-based payment models, our quest to improve health and close disparities while also improving affordability. Today, CBOs vary significantly in technology access and capacity, and organizations that serve historically marginalized communities often have the most significant gaps in connectivity and technology⁹. Concurrently, provider access to electronic medical/health records (EMR/EHR) has significantly expanded, creating new opportunities to leverage, as is the case with the Prescriber Tool Phase I, which enables access to information like the Opioid Model and the Affordability Module through the EHR/EMR. An effective, connected SHIE has the opportunity to address the following problems:

For individual Coloradans:

- Lack of connection between systems leads to two opposing challenges: some Coloradans receive duplicative screening and services, while others do not receive any. Coloradans may need to repeat their personal and health history information or restate traumatic experiences repeatedly to different organizations before they receive the help they need, while others may never receive help.
- Coloradans may have difficulty understanding what resources and health improvement programs are available in our fragmented systems. They may know what their needs are, but may not be aware that resources exist in their communities or health improvement programs are available under their insurance coverage program to support them, leading to further gaps in care, poor health outcomes and increases in costs.

For healthcare teams:

- Providers lack the information they need to deliver effective care, leading to duplicative or missed screenings, costing additional money, and draining already-overtaxed resources.
- Providers who have adopted a social care or referrals platform into their workflow frequently lack the ability to connect with other systems. This requires providers to access multiple uncoordinated tools or follow manual, time-consuming, and unrealistic processes to understand their patients' needs¹⁰.
- Providers understand and value the importance of programs that address a member's health and health disparities as an alternative or in conjunction with prescribing medication but are often unaware of the resources and programs that exist in communities or within the patient's health plan. They may also be unaware or unable to leverage or access those resources and programs to improve their patients' health or mitigate disease exacerbation. SDoH programs may include

⁹ Walker, E, McCarthy J. "Legitimacy, Strategy, and Resources in the Survival of Community-Based Organizations." *Social Problems*. 2010 Aug, 57:3. 315-40. [Link](#).

¹⁰ Bleacher H, Lyon C, Mims L, Cabuhar K, Begum A. "The Feasibility of Screening for Social Determinants of Health: Seven Lessons Learned." *Family Practice Management*. 2019 Oct, 26:5. [Link](#).

support and advice on physical activity, loneliness, social networking, job hunting, housing, financial hardship, debt, learning new skills, legal issues, opportunities to participate in creative activities, and parenting¹¹. Health improvement programs may include diabetes management; nutrition counseling and support; prenatal high-risk screenings, education, and support; tobacco cessation and more to be developed as exists in commercial, such as Asthma, COPD, cardiac, lifestyle management programs like weight or stress management and resilience, etc.

- Utilizing the SHIE provides Medicaid providers the tools and technology to incorporate programs and supports that achieve our shared goals of improving patient health and outcomes, easing access to public support programs, closing disparities, and improving affordability. This enables Medicaid providers to earn the value-based payments designed to reward them for achieving these shared goals to the betterment of Medicaid members as well as the state's budget. The SHIE can be leveraged to promote programs that increase health outcomes and have related payments through HCPF's maternity bundle, hospital transform program payments, primary care APM2 and other value-based payments to providers.

For state and local government programs:

- State and local governments that provide funding for community services lack accurate information about resource utilization and true community need¹².
- As the largest health insurance payer in Colorado (serving 1 in 4 Coloradans), including many of our most vulnerable neighbors, Colorado's Medicaid program is operating under an increasingly strained budgetary landscape. Improvements to care coordination, health improvement program access and SDoH supports can position Health First Colorado to tackle health disparities, improve quality and reduce disease escalation, acute care, and emergency room visits, while better caring for those with chronic conditions.
- Public benefits programs (e.g., SNAP, WIC, housing assistance) are often underutilized^{13,14}. Eligible individuals may face barriers to enrollment, including difficulty attending required appointments, language barriers, and challenges navigating the enrollment and recertification processes¹⁵. Improvements to digital referrals can help care coordinators identify community supports that can streamline access to needed programs.

¹¹ Mofizul Islam M. "Social Prescribing - An effort to apply common knowledge: Impelling forces and challenges." *Frontiers in Public Health*. 2020 Nov, 9. [Link](#).

¹² Thorpe L, Chunara R, Roberts T, Pantaleo N, Irvine C, Conderino S, Li Y, Hsieh P, Gourevitch M, Levine S, Ofrane R, Sport B. "Building Public Health Surveillance 3.0: Emerging Timely Measures of Physical, Economic, and Social Environmental Conditions Affecting Health." *American Journal of Public Health*. 2022 Oct. [Link](#).

¹³ US Department of Agriculture. National and State Estimates of WIC Eligibility and Program Reach in 2020. [Link](#).

¹⁴ Center on Budget and Policy Priorities. "A Closer Look at Who Benefits from SNAP: State-by-State Fact Sheets - Colorado." 2023 Feb. [Link](#).

¹⁵ Code for America. "In Their Own Words: Parents Help Us Understand Barriers to Accessing WIC." 2022 Apr. [Link](#).

Justification

Colorado's initiative is supported by CMS' recognition of the critical importance of addressing SDoH as outlined in [State Health Official \(SHO\) letter # 21-001](#)¹⁶ and [State Medicaid Director \(SMD\) Letter #16-003](#),¹⁷ which both outline the need for SDoH and programs supports, and enable states to address challenges through the Medicaid program.

Extensive research has demonstrated the connection between unmet social needs and suboptimal health outcomes, such as cardiovascular disease¹⁸, childhood asthma¹⁹, and substance use disorder²⁰. Despite an acknowledgment of the need to address SDoH to improve patient outcomes, progress in integrating social services and health improvement supports with medical care has been slow from a technology perspective. Lack of data has been frequently cited as a barrier to the integration of social care into medical practices, as providers report [lack of optics] when it comes to addressing their clients' social care needs, as they "lack data on both their patients' social needs and the capabilities of potential community partners."²¹ OeHI's SHIE approach seeks to address this barrier by improving access to the data needed to deliver social care services for all members of the care team.

Leveraging technology to address SDoH and health improvement program support is an emerging and highly innovative and promising practice across the nation. While Colorado is the first state to receive approval for funding through CMS to build an interoperable SHIE ecosystem, OeHI has identified lessons learned and best practices through four years of OeHI-funded pilot projects and from other state and local approaches to managing SDoH technology, including projects in North Carolina, San Diego, CA, and King County, WA.

Business Process Analysis

According to the 2021 Colorado Health Access Survey²², about one in four (23.9%) residents of Colorado have an income at or below 200% of the federal poverty level. Among them, 14.7% experience food insecurity and 10.5% lack stable housing – with rates even higher in some communities throughout the State. This has a clear impact on health: for example, among

¹⁶ chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.medicaid.gov/sites/default/files/2022-01/s
ho21001_0.pdf

¹⁷ chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.medicaid.gov/sites/default/files/federal-p
olicy-guidance/downloads/SMD16003.pdf

¹⁸ Parekh T, Desai R, Pemmasani S, Cuellar A. "Impact of Social Determinants of Health on Cardiovascular Diseases." *Journal of the American College of Cardiology*. 2020 Mar, 75 (11_Supplement_2):1989. [Link](#).

¹⁹ Federico M, McFarlane II A, Szeffler S, Abrams E. "The Impact of Social Determinants of Health on Children with Asthma." *Journal of Allergy and Clinical Immunology in Practice*. 2020 Jun, 8:6. [Link](#).

²⁰ Sulley S, Ndanga M. "Inpatient Opioid Use Disorder and Social Determinants of Health: A Nationwide Analysis of the National Inpatient Sample (2012-2014 and 2016-2017)." *Cureus*. 2020 Nov, 12:11. [Link](#).

²¹ Murray G, Rodriguez H, Lewis V. "Upstream with a Small Paddle: How ACOs Are Working Against the Current to Meet Patients' Social Needs." *Health Affairs*. 2020 Feb, 39:2. [Link](#).

²² Colorado Health Institute (CHI). Colorado Health Access Survey. Denver, Colorado: 2021. [Link](#).

Colorado residents reporting unstable housing, nearly half report poor general (45.1%), and oral health (44.5%), while over half report poor mental health (60.0%).

These inequities are also compounded by Coloradans' intersecting identities such as race, ability, gender identity, etc. A statewide SHIE would allow Coloradans to be connected to the health resources they need quickly and easily. Low-income Coloradans would be able to search for and be referred to resources, health improvement programs or providers that meet their needs. Research^{23,24,25} strongly suggests that addressing social determinants of health in low-income individuals may reduce avoidable hospital utilization, including ER use, delayed discharges, and readmissions. Additional benefits to SHIE may have wide-ranging ROI that is difficult to quantify - for example, improved care coordination can improve individuals' relationship to the healthcare system^{26,27}, which makes them more likely to seek preventive care earlier, improving chronic disease management²⁸ and reducing the cost of complex care²⁹. Rural Coloradans have less access to physical, behavioral, and social health resources compared to Coloradans that live in urban areas. The impact of SDoH challenges are compounded by the barriers that already exist for rural Coloradans - fewer resources in general and longer distances to reach the resources they need, as well as limited public transit options and few choices available to purchase healthy foods or access housing that meets their needs. OeHI's approach includes a regional focus that allows communities to integrate into the SHIE ecosystem using established networks that work for them. An integrated SHIE network not only allows members of the care team to understand what resources are available within their community, but also identify gaps between community need and accessible resources while providing access to health improvement programs available through Medicaid and supports through public programs (SNAP, WIC, etc). Data captured in the SHIE technical infrastructure can also provide invaluable information to social care providers in rural communities that can inform future funding requests or grant applications that can bolster resources available in rural Colorado. SHIE technical infrastructure can also better incorporate non-clinical provider

²³ Hatef E, Ma X, Rouhizadeh M, Singh G, Weiner J, Kharrazi H. "Assessing the Impact of Social Needs and Social Determinants of Health on Health Care Utilization: Using Patient- and Community-Level Data." *Population Health Management*. 2021 Apr, 24:2. [Link](#).

²⁴ McCarthy M, Zheng Z, Wilder M, Elmi A, Li Y, Zeger S. "The Influence of Social Determinants of Health on Emergency Departments Visits in a Medicaid Sample." *Annals of Emergency Medicine*. 2021 May, 77:5. [Link](#).

²⁵ Yan A, Chen Z, Wang Y, Campbell J, Xue Q, Williams M, Weinhardt L, Egede L. "Effectiveness of Social Needs Screening and Interventions in Clinical Settings on Utilization, Cost, and Clinical Outcomes: A Systematic Review." *Health Equity*. 2022 Dec, 6:1. [Link](#).

²⁶ Mohottige D, Boulware L. "Trust in American Medicine: A Call to Action for Health Care Professionals." *The Hastings Center Report*. 2020 Feb, 50:1. [Link](#).

²⁷ DeCamp M, DeSalvo K, Dzung E. "Ethics and Spheres of Influence in Addressing Social Determinants of Health." *Journal of General Internal Medicine*. 2020 Jun, 35. [Link](#).

²⁸ Ochieng J, Crist J. "Social Determinants of Health and Health Care Delivery: African American Women's T2DM Self-Management." *Clinical Nursing Research*. 2020 Apr, 30:3. [Link](#).

²⁹ Shankar K, Dugas J, Flacks J, Brahim M, Morton S, James T, Mitchell P. "High touch, high trust: Using community health advocates and lawyers to address ED high utilizers." *The American Journal of Emergency Medicine*. 2022 Oct, 60. [Link](#).

types, such as Local Public Health Agencies (LPHAs) who may have access to different resources, into clients' care teams.³⁰

Individuals experiencing homelessness experience higher rates of chronic illness and, on average, have a life expectancy of 12 years less than the average American.³¹ Poor health outcomes are both a cause and a result of homelessness. Homelessness services are fragmented, as providers of housing-related services encompass federal, state, county, and municipal governments, non-profit organizations, healthcare delivery organizations, faith-based organizations, and others, each with their own preferred data system. Even where connections between these data systems exist, collecting holistic client data can be especially difficult among clients with a higher rate of behavioral health concerns, distrust for service providers, and frequent interactions with law enforcement. Homelessness is a priority use case for SHIE implementation. The infrastructure can improve care coordination of clients experiencing homelessness by integrating the state Homeless Management Information System (HMIS), local shelter data, and other resource information alongside information about clients' physical and behavioral health to ensure their needs are accurately understood. These data can be used to support the connection of individuals with available housing resources and can promote the use of other styles of services (e.g., eviction prevention or rental assistance) so individuals are connected with services *before* they experience homelessness. This could contribute to better public safety and alleviate the strain of law enforcement and other first responders to this population.

The impacts of incarceration on individuals' health is well established in research - incarceration is associated with poor birth outcomes³² and preventable maternal death, high rates of physical limitations and depression in older adults³³, and poor mental health.³⁴ Emerging research suggests that incarceration not only impacts the individual, but also has wide reaching impacts on communities and families.³⁵ People re-entering the community after incarceration tend to experience poor physical and behavioral health, especially in the first months following their release from prison or jail - these individuals' risk of premature death is almost 13 times higher than other individuals during the first two weeks following release.³⁶ In

³⁰ Feeser K, Mayer M, Eminston A. "A Rising Tide: Increasing Rural Local Health Department Capacity to Address the Social Determinants of Health." 2019 Jul. NACCHO. [Link](#).

³¹ National Health Care for the Homeless Council. "Homelessness and Health: What's the Connection?" 2019 Feb. [Link](#).

³² Jahn J, Chen J, Agenor M, Krieger N. "County-level jail incarceration and preterm birth among non-Hispanic Black and white US women, 1999-2015." *Social Science and Medicine*. 2020 Apr, 250. [Link](#).

³³ Latham-Mintus K, Deck M, Nelson E. "Aging with Incarceration Histories: An Intersectional Examination of Incarceration and Health Outcomes Among Older Adults." *The Journals of Gerontology: Series B*. 2022 Jun. [Link](#).

³⁴ Porter L, DeMarco L. "Beyond the dichotomy: Incarceration dosage and mental health." *Criminology*. 2018 Dec, 57:1. [Link](#).

³⁵ Gifford E. "How Incarceration Affects the Health of Communities and Families." *North Carolina Medical Journal*. 2019 Nov, 80:6. [Link](#).

³⁶ Binswanger I, Stern M, Deyo R, Heagerty P, Cheadle A, Elmore J, Koepsell T. "Release from Prison - A High Risk of Death for Former Inmates." *New England Journal of Medicine*. 2007 Jan, 356. [Link](#).

Colorado, individuals exiting incarceration are typically eligible for Health First Colorado.³⁷ However, fragmented systems and supports with limited data sharing reduce individuals' ability to easily connect with healthcare services, behavioral health, and needed medications upon reentry. The SHIE infrastructure can improve outcomes for justice-involved Coloradans by integrating the care coordination platforms used by Colorado's Regional Accountability Entities (RAEs), which provide care coordination services to Medicaid members, alongside the tools used by case managers at our prisons and jails, our parole system, and by CBOs who focus on supporting the reentry population. These data can ensure that Coloradans reentering the community are not only successfully enrolled in Medicaid but have the information and support they need to access needed physical, behavioral, and social healthcare services and supports. Improved access to SDoH supports can improve Coloradans' ability to be successful post-incarceration and can reduce recidivism. Use of Medicaid services post-incarceration is associated with a reduced risk of reincarceration *and* improved employment prospects.³⁸

HCBS programs help to support low-income Coloradans and people with disabilities in living everyday lives in the community. There are roughly 45,000 HCBS-enrolled individuals in Colorado, the majority of whom are living with an Intellectual and Developmental Disability (IDD).³⁹ People living with IDD experience high rates of hospitalization, and studies have shown that individuals with high social care needs are much more likely to be hospitalized or to visit the ER.⁴⁰ People with disabilities and HCBS-eligible individuals must navigate complex eligibility requirements for services and experience long wait times due to HCBS staffing challenges.⁴¹ These challenges may result in delays in care. Many HCBS providers lack access to Health IT, and where digital solutions exist, fragmented systems make it difficult for providers to coordinate their clients' care. The SHIE infrastructure can improve outcomes for those enrolled in HCBS by integrating the HCBS program's case management system with the RAEs' care coordination and health improvement program platforms to reduce duplication of efforts across agencies. The SHIE infrastructure can also allow HCBS case managers to view referrals their clients have received from other providers so they can follow up on the status of those referrals; the infrastructure will also eventually enable self-referrals so clients can feel empowered to drive their own care, which HCPF Office of Community Living staff have identified as a priority. With the existence of chronic conditions significantly higher than non-LTSS Medicaid members, the SHIE will also enable providers to more readily prescribe health improvement and condition management programs available through Medicaid to these members and all Medicaid members.

³⁷ Colorado Department of Health Care Policy and Financing. "Health First Colorado and Criminal Justice Involved Populations." [Link](#).

³⁸ Badaracco N, Burns M. "The Effects of Medicaid Coverage on Post-Incarceration Employment and Recidivism." Health Services Research. 2021 Sep, 56:52. [Link](#).

³⁹ Watts M, et al. "Medicaid Home and Community-Based Services Enrollment and Spending". KFF. 2020 Feb. [Link](#).

⁴⁰ Friedman C. "Social determinants of health, emergency department utilization, and people with intellectual and developmental disabilities." Disability and Health Journal. 2021 Jan, 14:1. [Link](#).

⁴¹ Watts M, et al. "Ongoing impacts of the pandemic on Medicaid Home & Community-Based Services (HCBS) programs: Findings from a 50-state survey". KFF. 2022 Nov. [Link](#).

Individuals experiencing substance use disorder (SUD) are more likely to also have other health conditions such as lung and heart disease, mental health conditions, and cancer.⁴² Managing multiple health conditions requires effective and efficient care coordination. SUD services are fragmented, and data sharing is difficult due to protections for SUD data under [42 CFR Part 2](#)⁴³ regulations. A lack of data sharing makes it more difficult for individuals experiencing SUD to find the care they need. Additionally, according to the 2021 Colorado Health Access Survey, 80,000 Coloradans did not seek substance use treatment due to stigma (72.3%), concerns about health insurance coverage (36.6%), concerns about cost (55.9%), and difficulty booking an appointment (22.8%).⁴⁴ Finding treatment should not be a barrier to care in Colorado. The SHIE infrastructure will have strong privacy and confidentiality protections that act in accordance with state and federal laws. These protections, in addition to the ability to enhance care coordination efforts, will enable the SHIE to connect people to the SUD treatment they need to thrive, as well as SDoH services needed for people experiencing or recovering from SUD to be successful in their communities. Connection to necessary services will also reduce morbidity and mortality related to drug use and overdose.

Cost-Benefit Analysis and Project Alternatives (per H.B. 15-1266)

The Department’s planning activities to date, including business and technical requirements gathering, resulted in the Department’s decision to pursue a competitive Invitation to Negotiate (ITN) process, rather than a standard Request for Proposal (RFP). The ITN process allowed the Department to carefully assess vendor proposals based on both technical merit and cost, and to allow the vendor community to propose their best solutions without being artificially constrained by any requirements the Department may have chosen either arbitrarily or out of a lack of knowledge as to the potential solutions available. Throughout the development of the ITN, Colorado has examined other state and community models, including North Carolina, California, Washington, and Michigan. The Department also conducted interviews with county and local governments, all of Colorado’s RAEs, and a multitude of CBOs to understand their technology needs and current workflows. Based on this extensive qualitative and quantitative research, the Department is satisfied that this approach is the best fit for Colorado and that the resulting contract represents the most effective technology solution.

Without this funding, the system would remain at the base development level achieved through stimulus funds, and progress would stall. The vision of including additional state systems such as the SNAP and WIC, or health improvement programs offered through Regional Accountable Entity and other potential benefits will not be achieved.

⁴² National Institutes of Health, U.S. Department of Health and Human Services. “Addiction and Health.” 2022 Mar. [Link](#).

⁴³ <https://www.ecfr.gov/current/title-42/chapter-I/subchapter-A/part-2>

⁴⁴ CHI. Colorado Health Access Survey. [Link](#).

Success Criteria and Improved Performance Outcomes

OeHI's SHIE efforts support broader efforts to make a transformative impact on the way healthcare is delivered in Colorado by fully engaging communities, community-based resources, and health improvement programs to provide whole-person, equitable care that improves quality and reduces costs. OeHI will be tracking the following metrics to understand the impact of SHIE implementation:

- Number of organizations accessing data through the SHIE infrastructure, by organization type.
- Number of individual users accessing data through the SHIE infrastructure or through connected applications/programs, by user type.
- Number of unique Medicaid members who have data being shared through SHIE (covered lives).
- Number of third-party applications/platforms integrated with the SHIE infrastructure.
- Number of referrals exchanged through the SHIE infrastructure.
- Number of SDoH screenings/assessments exchanged through the SHIE infrastructure.
- Number of unique Medicaid members with at least one SDoH screening/assessment exchanged through the SHIE infrastructure.

Assumptions for Calculations

Systems costs are based on vendor estimates for implementation in alignment with the Department's initial priority use cases, collected through the ITN process.

The following assumptions were made:

- Cloud storage rates were estimated to increase 10% per year in alignment with inflation
- Staffing costs were estimated to increase 3% per year
- The Department assumes it would receive a 90% federal match on all Medicaid implementation costs (Phase 1), and 75% federal match for Medicaid costs related to maintaining (Phase 2) the portions of SHIE developed for the initial priority use cases as they are implemented. The Department assumes a continued 90% federal match on Medicaid enhancements of the system that would support other use cases that are prioritized after the initial implementation is complete and certified. Based on the allowable federal participation for the other non-Medicaid programs, the weighted federal match is 86.05%
- The Department assumes it will have all Advanced Planning Documents (APDs) submitted and approved by CMS prior to incurring any expenditure, allowing the Department to receive the enhanced weighted federal match on all costs.
- The Department assumes that the 5.5 State term-limited FTE would be required for 2-3 years and that any ongoing permanent need would be requested through an operating request.
- The Department assumes that the OIT Staff will work full time for 40 hours a week, 52 weeks a year for a total of 2080 hours.

- The Department included a 5% contingency buffer to the total to account for potential cost overruns as large-scale IT projects have a propensity to come in over budget by the time the project is finished.⁴⁵

Consequences if not Funded

Without continued funding, the social care and health improvement program landscape will continue to be fragmented, and the State will not optimize its ability to improve health and quality outcomes, close disparities and improve affordability. Additionally, progress in development of the SHIE will be halted, resulting in a system with a narrow focus and limited ability to improve equity for all Coloradans. This would also impede Colorado's ability to reduce costs for patients, providers, and the community and be misaligned with the Governor's priorities of saving people money on health care, closing disparities, transforming the behavioral health system, and evolving our health care payment system from volume to value.

Implementation Plan

Change Management

Change management is a requirement for all Department projects. The Department has a robust internal change management process and requires all vendors to deliver a change management plan, which includes: the approach to change management, a scope control process, process to monitor and measure scope, testing strategy, training plan, and operational readiness plans.

The Department follows CMS MES testing guidance framework, which outlines actions and deliverables states are required to demonstrate or provide as evidence. These include:

- Contract requirements for system testing
- Definition of defect severity
- Defect resolution
- Master test plans
- Test execution; including units, system integration, regression, user acceptance, performance and load testing, parallel and data migration testing
- Incident response handling
- Requirements' traceability
- Deployment plan
- On-going testing after production to validate any system changes

Alignment with OIT Best Practices and Standards

The Department collaborates with the Office of Information Technology (OIT) to ensure that all SHIE vendors comply with OIT's best practices and standards. Additionally, this advances the

⁴⁵
<https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/delivering-large-scale-it-projects-on-time-on-budget-and-on-value>

OIT goal and Governor’s priority to Advance Digital Government Services particularly through the pillar to “design around the life experiences of Colorado residents”.

Procurement

The SHIE ITN was a highly collaborative cross-agency negotiations effort. Subject-matter experts (SMEs) were included from across the Department, OIT, CDHS, BHA, and CDPHE. OIT staff have been highly involved with the procurement process.

Disaster Recovery and Business Continuity

All implementations would be compliant with all existing state and federal IT architecture, security and business continuity requirements and guidelines, as well as state cybersecurity policies set forth by the Office of Information Security. Additionally, all OIT project gating would be closely followed to ensure adequate risk assessments are conducted and all necessary actions are taken as a result. The Disaster Recovery Plan is a requirement of gate 4 and the authorization to operate would not be granted without the required documentation and planning.

Accessibility Compliance

The Department, in collaboration with OIT, is in the process of developing an accessibility compliance program for current and future vendors. The SHIE Contract contains explicit accessibility provisions to ensure compliance with these emerging requirements, as well as with federal and state accessibility legislation.

ADDITIONAL REQUEST INFORMATION	
Please indicate if three-year roll forward spending authority is required.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is this a continuation of a project appropriated in a prior year?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If this is a continuation project, what is the State Controller Project Number?	N/A
If this request effects another organization, please provide a comfort letter.	
Please attach a letter from OIT indicating review and approval of this project	See Attached OIT Letter of Approval

ESTIMATED PROJECT TIME TABLE		
Steps to be completed	Start Date	Completion Date
SHIE Contract Phase 1: Planning and Discovery	11/1/2023*	6/30/2024
SHIE Contract Phase 2: DDI	3/1/2024	3/31/2027
SHIE Contract Phase 3: Maintenance and Operations	4/1/2027	6/30/2033
Implementation of Regional Proofs of Concept	7/1/2023	9/30/2026
Consent Management Proof of Concept	11/1/2023*	6/30/2025

* Estimate; dependent on execution date of SHIE Contract



COLORADO
Governor's Office of
Information Technology

September 20, 2023

Mark Ferrandino
Director
Office of State Planning and Budgeting
111 State Capitol
Denver, Colorado 80203

RE: FY 2024-25 Office of eHealth Innovation IT Capital request for Social Health Information Exchange (SHIE)/Prescriber Tool Phase II

Dear Director Ferrandino:

Pursuant to OSPB instructions, this letter is to confirm that the Office of Information Technology (OIT) has been informed of the development and submission of this proposed FY 2024-25 request for the Office of eHealth Innovation IT Capital request for Social Health Information Exchange (SHIE)/Prescriber Tool Phase II. The Office of eHealth Innovation (OeHI), in partnership with the Department of Health Care Policy and Financing (HCPF), the Office of the Lieutenant Governor, and the Behavioral Health Administration (BHA) requests \$11,031,650 total funds, including \$1,539,359 in Capital Construction Funds (CCF), and 5.5 HCPF FTE, and 2 Office of Information Technology (OIT) FTE in FY 2024-25; \$8,139,342 total funds, including \$1,203,920 CCF, and 5.5 HCPF FTE, and 2 OIT FTE in FY 2025-26; and \$4,049,989 total funds, including \$743,838 CCF, and 5.5 HCPF FTE, and 2 OIT FTE in FY 2026-27 to support the continued expansion and implementation of a technical infrastructure that enables prescribers and community partners to facilitate access to health improvement supports and Social Health information Exchange (SHIE).

OIT has completed an internal review to ensure the project aligns with statewide IT goals and determined that OIT has the capacity to deliver and meet the requirements of the project.

Please note: OIT and the Office of eHealth Innovation are in agreement that a security review will be completed as part of the project itself, when applicable. Also, any OIT specific work should be reappropriated to OIT through the payments of OIT line, where applicable.

Sincerely,

Rus Pascual

Kristi LaBarge

Rus Pascual, OIT Budget Director

Kristi Labarge, HCPF IT Director



CC-IT: CAPITAL CONSTRUCTION INFORMATION TECHNOLOGY REQUEST FOR FY 2024-25

Department	Department of Human Services		Signature											
			Department Approval:	Christina Beisel		29-Sep-23								
Project Title	Leveraging Technology for Seamless Human Services Delivery		Signature											
			OIT Approval:	Rus Pascual		28-Sep-23								
Project Year(s)	FY 2024-25, FY 2025-26, FY 2026-27		Signature	<i>Adrian Leiter</i>		Date: 10/30/23								
			OSP Approval:											
Department Priority Number	1													
Five-Year Roadmap?	Yes		Name and e-mail address of preparer:	Mike Auran michael.auran@state.co.us										
Revision? Yes x No			Total Project Costs	Total Prior Year Appropriations	Request Year (FY 2024-25) Request	Year 2 Request	Year 3 Request	Year 4 Request	Year 5 Request					
If yes, last submission date: _____														
A. Contract Professional Services														
(1) Contract Staffing	\$	6,275,000	\$	-	\$	3,000,000	\$	2,750,000	\$	525,000	\$	-	\$	-
(2) Quality Assurance	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
(3) Independent Verification and Validation	\$	450,000	\$	-	\$	150,000	\$	150,000	\$	150,000	\$	-	\$	-
(4) Training	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
(5) Leased Space (Temporary)	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
(6) Feasibility Study	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
(7a) Inflation for Professional Services	\$	163,750	\$	-	\$	-	\$	137,500	\$	26,250	\$	-	\$	-
(7b) Inflation Percentage Applied				5.00%		0.00%		5.00%		5.00%		0.00%		0.00%
(8) Other Services/Costs	\$	6,400,000	\$	-	\$	4,000,000	\$	1,650,000	\$	750,000	\$	-	\$	-
(9) Total Professional Services	\$	13,288,750	\$	-	\$	7,150,000	\$	4,687,500	\$	1,451,250	\$	-	\$	-
B. Software Acquisition														
(1) Software COTS Purchase	\$	18,761,500	\$	-	\$	8,580,000	\$	10,181,500	\$	-	\$	-	\$	-
(2) Software Built	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
(3a) Inflation on Software	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
(3b) Inflation Percentage Applied	\$	-	\$	10.00%	\$	0.00%	\$	0.00%	\$	0.00%	\$	0.00%	\$	0.00%
(4) Total Software	\$	18,761,500	\$	0	\$	8,580,000	\$	10,181,500	\$	-	\$	-	\$	-
C. Equipment														
(1) Servers	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
(2) PCs, Laptops, Terminals, PDAs	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
(3) Printers, Scanners, Peripherals	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
(4) Network Equipment/Cabling	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
(5) Miscellaneous	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
(6) Total Equipment and Miscellaneous	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
D. Project Contingency														
(1) 5% project contingency	\$	1,602,512	\$	-	\$	786,500	\$	743,450	\$	72,562	\$	-	\$	-
E. Total Request														
Total Budget Request [A+B+C+D]	\$	33,652,762	\$	0	\$	16,516,500	\$	15,612,450	\$	1,523,812	\$	-	\$	-
F. Source of Funds														
GF	\$	7,548,122	\$	-	\$	3,716,625	\$	3,490,788	\$	340,709	\$	-	\$	-
CF/RF	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
FF	\$	26,104,640	\$	-	\$	12,799,875	\$	12,121,662	\$	1,183,103	\$	-	\$	-
check (should = E)		\$33,652,762		\$0		\$16,516,500		\$15,612,450		\$1,523,812		\$0		\$0



Michelle Barnes, Executive Director
 Department of Human Services
 November 1, 2023

RY- Leveraging Technology for Seamless Human Services Delivery: [IT Capital-01]

Summary of Request	Total Funds	CCF-IT	Cash Funds	Reappropriated Funds	Federal Funds
FY 2024-25	\$16,516,500	\$3,716,625	\$0	\$0	\$12,799,875
FY 2025-26	\$15,612,450	\$3,490,788	\$0	\$0	\$12,121,662
FY 2026-27	\$1,523,812	\$340,709	\$0	\$0	\$1,183,103

Categories of IT Capital Projects

System Replacement (costs escalating, failing technology, software or vendor support ended, or new technology, e.g., DRIVES, CHATS)	System Enhancement Regulatory Compliance (new functionality, improved process or functionality, new demand from citizens, regulatory compliance, e.g, CBMS)	Tangible Savings Process Improvement (conscious effort to reduce or avoid costs, improve efficiency, e.g., LEAN, back office automation)	Citizen Demand “The Ways Things Are” (transformative nature of technology, meet the citizens where they are, e.g., pay online, mobile access)

Request Summary:

The Department of Human Services (DHS, Department) requests a one-time Capital IT appropriation of \$33,652,762 total funds (\$7,548,122 General Fund, \$26,104,640 federal funds) in FY 2024-25 and spent across the 3 year period, to build a high-quality, unified, county-driven, data system to provide business process, data, and document management. This system will increase efficiencies for our county partners who administer many of Colorado’s human services programs and improve the customer experience of our clients. This will allow state systems (CBMS, ACSES, CHATS and Trails), to talk to one another, which will result in better connecting clients to safety net benefits and services, starting with Medicaid, Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), Child Care Assistance, Child Support and Child Welfare, using an agile approach. The ultimate goal is for clients to receive the services and benefits they need without realizing they are in different systems or programs so that their government is supporting their needs by the ‘right hand talking to the left hand.’

The Joint Agency Interoperability Program (JAI) aligns with the State’s commitment to leverage technology and implement efficient and effective processes as reflected in the [Interoperability Strategic Plan](#) which are:

- Enhance Benefit and Care Coordination Delivery
- Build a Secure, Data-Driven Ecosystem to Accelerate Analytics for Policy, Research, Reporting and Innovation
- Promote Strong Health, Safety, and Wellness Outcomes
- Connect Service Providers with Social Health and other Data

The JAI team, in partnership with counties, is currently completing valuable discovery work that is being used for design, development and implementation in an unprecedented and highly successful approach, prioritizing state-county alignment throughout the process, including direct staffing in the project teams. A technical solution decision has not been made as we are following agile principles. However, a conceptual future state is broadly understood and will serve as a foundation to broader statewide goals while aligning with other current State efforts. This approach currently has four modules identified as refinement continues:

- Business Process Management (BPM) (Module 1)
- Data & Document Management (EDMS) (Module 2)
- Integration between BPM & EDMS (Module 3)
- Integration with State Systems (Module 4)

The current focus (loosely referred to as “Unified County Auxiliary System”) will consist of two primary subsystems: Modules 1 and 2 identified above. These two subsystems will be tightly integrated to serve business processes and will be critical in leveraging technology to accomplish our programmatic and business outcomes that serve our clients. The state vision for Unified County Auxiliary System is Software as a Service (SaaS); meaning that the user interface will be provided via Hypertext Transfer Protocol Secure (HTTPS) and accessed with commonly used web browsers. This will allow the system to be accessed using a wide array of hardware and operating system software. The software and databases for both subsystems and the overall system will be stored on a cloud service compliant with state regulations and standards for cloud computing. Documents will be ingested in the EDMS using desktop scanners, by uploading electronic documents, or directly being transferred by existing or future state systems. The Unified County Auxiliary System will also take advantage of Representational State Transfer Application Programming Interfaces (RESTful APIs) to interface with existing and future state systems.

The most critical stakeholders are county leadership, management and users as they are directly involved, significantly impacted (both positively and negatively) and have significant influence on the project. Equally critical are State programmatic teams. Other key stakeholders include technical teams supporting the in scope solutions and the Governor’s Office of Information Technology (OIT).

In scope expenditures include the Business Process Management (BPM) (Module 1), Data (& Document) Management (EDMS) (Module 2), Integration between BPM & EDMS (Module 3), Integration with State Systems (Module 4). Out of scope are activities that are not directly required by the system and/or dependencies to complete the work.

Project Description:

Colorado's health and human services systems are committed to providing a whole person, whole family, whole community approach to service delivery for all Coloradans. High-quality service delivery can only be achieved by coordinating across the complex array of local, state and federal programs, so that an individual or family receives the services they need in a timely, accurate manner no matter where they enter the system. ***Standardization of Business Process Management and Document Management are critical steps*** in achieving interoperability for a client-centered, holistic service delivery model.

Last year, the State partnered with the counties and an outside contractor to assess current technology solutions for business process and document management, including the county built systems. The State and counties agreed with the contractors recommendation to leverage existing work done by the different county systems to move into one unified system for all counties and clients to benefit from. Building a unified business process and document management system for counties across Medical Assistance, Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), Child Support, Child Care Assistance and Child Welfare services is the cornerstone of reaching the JAI's goals.

Previous capital funding expired 6/30/2023. The Department spent \$14.7m total (\$3.7m CCF-IT funds) over a seven year period. The Department reverted \$1.8m in CCF-IT funds 6/30/2023 that went unspent as the project followed agile principles and adjusted the scope and solution as we learned more about the underlying issues (business process and data standardization) to achieve interoperability goals.

Similar to the findings and recommendations of SB22-235, the focus and investments have been in key and valuable foundational work. Change management has been the biggest focus to ensure that we are planning for and building a solution that is valuable to counties and the Departments. Further, we have created the pathway to interoperability by creating APIs for counties, a consent pilot with PEAK, a performance management dashboard and data governance policies and procedures using our data governance tool. The examples demonstrate tremendous agile progress in Foundational interoperability.

The Departments have continued focusing on an agile approach to change management activities with counties since launching a full kick-off with statewide county partners on February 15, 2023 and building necessary foundational pieces. The resulting work from the activities over the last few years as well as recent activities have helped the State to flush out the value of the work in three areas: operational improvements through execution of benefits and services, strategic policy and decision making, and client experience improvements.

The client experience will most visibly improve by reducing the barriers that clients face in getting the services they need resulting from the complex navigation of multiple and disparate systems and programs and lessening the traumatic burden of telling their stories multiple times. Further, they are often required to provide overlapping and/or duplicative information and documentation in order to receive the services they need. Additional barriers caused by the complexity of navigating the systems are exacerbated by transportation, housing and other factors strongly correlated with social determinants of health.

Operationally, this interoperability work increases:

- efficiency and effectiveness through performance metrics such as accuracy and timeliness;
- execution of services improves with the ability to share appropriately across programs, counties, states and, in some rare cases, internationally;
- reduction of replication of information, ways of maintaining information and methods of using the information;
- improvement of referral capabilities;
- workforce metrics, tracking and reporting capabilities not currently available and thereby enables process improvement as well as demand and resource management;
- speed to file and retrieve information and documents as well as reducing loss of documentation;
- ability to manage staffing capacity and demands both within counties and across counties;
- ability to maintain single client records, authoritative source and other data governance functionality; and,
- improved audit results and reduction of fraud.

Strategically, the work enables policy and decision making through analytics and reporting. Trend analysis, predictive behavior, and other tools significantly improve outcomes. We have benefited from previous JAI investments in this workstream by building the Tableau Performance Management dashboard which we demoed to Centers for Medicaid Services (CMS), Food Nutrition Services (FNS) and Administration for Children & Families (ACF) in September of 2021 and for which we have continued to iterate with additional data and use cases. This has been valuable and necessary foundational work.

Systems Integration Opportunities -

The project will prioritize building upon the existing IT environment and infrastructure as well as experience, knowledge, and success of systems built and managed by counties to deliver the best product(s). Throughout the project but specifically within Module 4, we will integrate with existing state systems, including: Automated Child Support Enforcement System (ACSES), Colorado Benefits Management System (CBMS), Child Care Automated Tracking System (CHATS), and Trails. Additional opportunities include a single client record, authoritative source and data governance (partially currently handled by SIDMOD) or Master Data Management (MDM) capabilities, in order to most effectively integrate these systems for improved business and programmatic processes and outcomes. This work will also require data cleansing and matching to further enhance interoperability and allow for more seamless workflow management functionality. In order to support future information sharing, the Department is also planning to align with existing tools such as the Program Eligibility Application Kit (PEAK), PEAK Health mobile application, and the Shared Eligibility System (SES).

Risks and Constraints -

The project is constrained to Federal rules and regulations as well as funding restrictions. The cost allocation methodology is highly complex due to the nature of contribution of multiple Federal partners and grants with a varying range of time constraints and other limiting factors. Additionally, Federal, state and other rule constraints can hamper ability to share data and be interoperable. Finally, an additional significant risk is the complex and critical need for County Change Management - both organizational and IT change management. The lift to move from potentially 64 different ways (not counting variations in programs and subprograms) into a

singular approach requires a multi-year effort that requires change management plans for each individual county.

Operating Budget Impact -

The Department has an operating appropriation for IT Systems interoperability of \$5.5M (\$2.1M General Fund). The resources necessary to maintain and operate the system upon completion of the capital project may change. Until the specifics of the completed system are known, it is difficult to determine whether the current operating appropriation will be sufficient. Any increase in operating costs would largely be attributable to software licenses and support.

Background of Problem or Opportunity:

Colorado's health and human services departments are committed to providing a whole person, whole family, whole community approach to benefits and service delivery to improve health and social outcomes for all Coloradans. Colorado is a state-supervised, county-administered health and human service state, with 64 counties administering the programs on the ground using disparate and disjointed state systems. The State does not have a centralized, unified system for business process and document management to properly support this work. As a result, counties have built their own auxiliary systems (a broad term to describe any system that works in parallel to state systems leveraging a variety of data integrations while serving operational needs), resulting in up to 64 disparate approaches and processes in managing data. Further, every county varies in levels of technical advancement, standardization and adoption, leading to potential replication of work, data, effort and cost. The counties may even vary across and within the execution of their programs even though our health and human services programs are by and large serving the same population. The progress made by county work has laid the foundation for both improving the client experience and business and programmatic outcomes.

These challenges grow significantly when looking at them from a state-wide perspective as opposed to just a county perspective. Due to gaps in access to additional technology services between counties, equity becomes increasingly problematic with access to these resources. Absent a singular statewide system, clients must usually restart the process when moving between counties, creating additional burdens for clients and county offices.. Although county systems have proved to be successful and valuable, we know that the needs of clients can only be fully met at a statewide level.

To achieve the high-quality, holistic service delivery Coloradans deserve, the interoperability program work currently focuses on the four largest and highest impact Health and Human Services systems with the vision of serving as the foundation for a larger state vision in upcoming years. Those four systems include:

- CBMS, Colorado's integrated eligibility and enrollment determination system. CBMS supports economic security programs such as Medicaid, SNAP, and the various Cash Assistance programs;
- Colorado's Child Care Assistance system, known as CHATS;
- Colorado's Child Support system, known as ACSES; and,
- Colorado's Child Welfare system, known as Trails.

The [assessment reports and recommendations of SB22-235](#) identified similar issues; “currently, the lack of a single, statewide document and work management system is frustrating to clients and eligibility workers. For clients, this can potentially mean increased administrative steps and burden if they move to another county and must resubmit their paperwork. For eligibility workers, this can mean having trouble accessing client files, and information, and the inability to provide a quality level of service.”

Justification:

The Unified County Auxiliary System the department is proposing to build is a large, bold undertaking. Over the last three years, CDHS has built the needed county buy-in through a formal state and county governing body, the Interoperability Leadership Council. Counties and state agencies agree that if we do not undertake this work now, Coloradans and county workers will continue to face the same challenges of siloed, duplicative, and inefficient service delivery.

This work will streamline access to benefits for Coloradans and provide tangible improvements to coordinate benefits to meet each Coloradan’s unique needs to achieve self-sufficiency. Examples include:

- Client outcomes improve because all services are aligned around common goals. For example, Child Welfare caseworkers and TANF case managers would be prompted to coordinate on case plans to avoid developing duplicative or conflicting plans, and support child welfare kin placements more thoroughly.
- Client and staff time are optimized by reducing repeat conversations, document submissions and data entry. Client trauma is reduced by removing the need to repetitively share their story with multiple parties during a time of crisis.
- Staff expertise is optimized because staff coordinate between each other to jointly and seamlessly manage client interactions, allowing them to concentrate most on the areas they know best.
- Adults and children are protected by enabling staff to communicate risk of abuse or neglect, identify unmet needs and refer for prevention services.
- Clients will receive services quicker and more accurately with a system that automates needed data across programs. For example, when individuals submit a TANF application that requires a child support application or when submitting a renewal application, application processes should be streamlined, including pre-populating applications with information already submitted and reusing documents already submitted.
- Fraud cases can be prevented and/or researched more quickly and thoroughly when information on services that a family is receiving is shared between programs.
- Allowing for the blending and braiding of funding which ultimately optimizes limited resources to serve clients needs best. For example, determining whether a family in child welfare is TANF eligible allows counties to maximize TANF dollars appropriately. Being able to show this on shared clients allows better coordination of the service and reimbursement allocation process.

This auxiliary system will also provide the tools needed for counties to manage their workload. Human services staff across Colorado are responsible for eligibility determination, supporting client resource navigation, answering client inquiries, processing change documents, complex case management, identifying and addressing client and provider fraud, and adhering to strict

timeliness goals, all while providing high quality, coordinated service. This is only possible with county software tools, which analyze the caseload data from state databases to optimize staff time through features such as automated alerts, automatic work generation, and intelligent queuing and load balancing that matches staff profiles to specific application, case and due date data. These features will be fully realized for all counties and all programs through system integrations with the creation of the Unified County Auxiliary System.

Business Process Analysis -

In response to feedback the Department heard from counties regarding the need to align with interoperability work while also prioritizing good stewardship of previous state funds, significant commitments were made in the last few years to understand the current landscape of needs for a unified (and interoperable) auxiliary system for counties and change management. This effort commenced with a report from an objective third party, Slalom, who identified 26 core capabilities, inventoried 9 different solutions, and outlined 16 impact assessment findings. The report findings indicated that not one system met all the needs and recommended leveraging the valuable work that has been done in order to arrive at a shared approach.

Cost-Benefit Analysis and Project Alternatives (per H.B. 15-1266) -

The Interoperability Leadership Council (composed of State, County and Community Executive leaders) voted to move forward with working together (State and counties) to implement a singular, unified system at the recommendation of Interoperability Advisory Committees. Additionally, a commitment was made to stop investing in siloed approaches in alignment with the unified system motivated by significantly increased operational efficiency and effectiveness, decreased audit and other compliance risks by streamlining documentation and client data, and increased strategic opportunities and access by uplifting data availability and reliability. A defined scope of work has not been completed. As described above and resulting from the Invitation to Negotiate Process (ITN) process, this will be an output of the procurement process.

Success Criteria and Improved Performance Outcomes -

Program Objective	Increase operational efficiency and effectiveness to improve client and/or family outcomes
Outputs being measured	<ul style="list-style-type: none"> ● Number of referrals (expected increase) ● Number of paper files (expected decrease) ● Number of electronic files (expected increase) ● Processing time for information retrieval (expected decrease) ● Business development metrics for tracking and reporting process improvements and resource management such as number of workflows standardized and process steps
Outcomes being measured	<ul style="list-style-type: none"> ● Improved accuracy and timeliness of benefits processing ● Improved audit results and reduction of fraud ● Staffing efficiencies gained and cost savings

	<ul style="list-style-type: none"> • Development of analytics for policy, research, reporting and innovation • Reduction in client complaints
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Assumptions for Calculations:

In alignment with agile principles, the Department is requesting support for a new and innovative staffing model by creating state-county blended project and product teams. The teams will drive business and programmatic outcomes to ensure that the technology build is achieving the outcomes that are needed to best serve our clients. Highly skilled and specialized expertise is needed to be successful to solve these extremely complex systemic challenges in the most efficient and effective way. Further, the program is requesting funding that will enable sustainability for ongoing success. Costs are broken down into three general categories with a contingency of 5% of the total project added in.

Contract Staffing

Contract Staff include staff in the eight classifications listed on table 3. Rates are at or below the costs as listed on the FY 2022-23 OIT Common Policy Rate sheet. Rates below the OIT Common Policy rate are based on current or past experience in filling similar positions within the Department (market rates). Contract Staffing costs include a 5% annual inflationary adjustment, based on actual experience with contract staff of this type. Specific rates and position descriptions are in Table 1 and the section below.

Vendor Services

Vendor Services (Table 3) are based on similar projects completed or in progress on the Joint Agency Interoperability project or other Business Innovation, Technology & Security (BITS) projects. Costs are considered for a single contract and do not include any inflationary adjustment.

Software Licenses

Software License costs (Table 4) are based on current license costs for products already in use. The Unified County Auxiliary System costs are based on similar products used by several of Colorado’s counties. Software license costs include an inflationary adjustment of 10% per year based on an industry standard approach and historical experience.

Table 1

Contract Staffing Cost Calculations			
Role	Hourly Rate	Source	Annual Cost
Project Manager	\$75	OIT Common Policy Rate	\$150,000
Business & Testing Analyst	\$75	OIT Common Policy Rate	\$150,000
Legal/Compliance Analyst	\$100	OIT Common Policy Rate	\$200,000

County Bus Strategist Lead	\$100	OIT Common Policy Rate	\$200,000
County Bus Analyst	\$75	OIT Common Policy Rate	\$150,000
IT System Analyst	\$100	OIT Common Policy Rate	\$200,000
System Architect	\$125	OIT Common Policy Rate	\$250,000
Developers	\$125	OIT Common Policy Rate	\$250,000

Positions above are full-time contract employees hired through an agency and assume 2,000 hours for the year. The 2,000 hours is consistent with agency history with contract staff, who do not receive paid leave or paid holidays.

Further definition of the roles is provided below:

- Project Managers: Responsible for project scope, schedule, budget and quality, creates and maintains the project plan.
- Business and Testing Analysts: Provides Subject Matter Expert (SME) level knowledge on various parts of the system development, including business process, data and reporting needs. Integral to system requirements, and data migration.
- Legal Analyst: Provides legal & policy expertise on all parts of the project to ensure compliance with Federal and State regulations
- Lead County Business Analyst & Strategist: Provides Subject Matter Expert (SME) level knowledge on county relations, business process and insight for strategic county planning needs. Integral to system requirements, county relationships and strategic engagement initiatives.
- County Business Analyst: Provides Subject Matter Expert (SME) level knowledge on various parts of the system development, including business process, data and reporting needs. Integral to system requirements, and data migration.
- OIT Systems Analysts: Ensures that systems, infrastructures and computer systems are functioning as effectively and efficiently as possible. System analysts carry the responsibilities of researching problems, finding solutions, recommending courses of actions and coordinating with stakeholders in order to meet specified requirements.
- Architect: Translates business requirements into databases, data warehouses, and data streams. Creates procedures to ensure data accuracy and accessibility. Analyzing, planning, and defining data architecture framework, and master data across systems.
- Developers - Develops, codes and implements, Supports applications with an understanding of system integration, test planning, scripting, and troubleshooting, Provides cross-team support through various types of testing.

Cost/Funding Detail

Table 2

Total Fund Use by Category				
Activity	FY 2024-25	FY 2025-26	FY 2026-27	Total

Contract Staffing	\$3,000,000	\$2,887,500	\$551,250	\$6,438,750
Vendor Services	\$4,150,000	\$1,800,000	\$900,000	\$6,850,000
Software Licenses	\$8,580,000	\$10,181,500	\$0	\$18,761,500
Total Costs	\$15,730,000	\$14,869,000	\$1,451,250	\$32,050,250
5% Contingency	\$786,500	\$743,450	\$72,562	\$1,602,512
Total Request	\$16,516,500	\$15,612,450	\$1,523,812	\$33,652,762

Table 3

Contract Staffing Resources					
Role	#	FY 2024-25	FY 2025-26	FY 2026-27	Total
Project Manager x 2	2.0	\$300,000	\$315,000	\$0	\$615,000
Business & Testing Analyst x 2	2.0	\$300,000	\$315,000	\$0	\$615,000
Legal/Compliance Analyst	1.0	\$200,000	\$210,000	\$0	\$410,000
County Business Strategist Lead	1.0	\$200,000	\$210,000	\$0	\$410,000
County Bus Analyst (5 x .2 FTE)	1.0	\$150,000	\$157,500	\$0	\$307,500
IT System Analyst x 3	3.0	\$600,000	\$630,000	\$0	\$1,230,000
System Architect	1.0	\$250,000	\$0	\$0	\$250,000
Developers x 2	2.0	\$500,000	\$525,000	\$551,250	\$1,576,250
Developers Mulesoft/Tableau x 2	2.0	\$500,000	\$525,000	\$0	\$1,025,000
Total Contract Staffing	15.0	\$3,000,000	\$2,887,500	\$551,250	\$6,438,750

Table 4

Vendor Managed Services				
Description	FY 2024-25	FY 2025-26	FY 2026-27	Total
2 Factor Authentication	\$0	\$150,000	\$0	\$150,000
Unified County Aux System	\$750,000	\$750,000	\$0	\$1,500,000
Analytics & Reporting	\$750,000	\$750,000	\$750,000	\$2,250,000
IV & V	\$150,000	\$150,000	\$150,000	\$450,000
Identity Management	\$2,500,000	\$0	\$0	\$2,500,000

Total Vendor Managed Svcs	\$4,150,000	\$1,800,000	\$900,000	\$6,850,000
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Table 5

Software Licenses				
Description	FY 2024-25	FY 2025-26	FY 2026-27	Total
Erwin DG	\$80,000	\$0	\$0	\$80,000
UCAS	\$8,000,000	\$8,200,000	\$0	\$16,200,000
Tableau	\$165,000	\$0	\$0	\$165,000
Analytics & Reporting	\$335,000	\$1,831,500	\$0	\$2,166,500
2 Factor Authentication Ping	\$0	\$150,000	\$0	\$150,000
Total Software Licenses	\$8,580,000	\$10,181,500	\$0	\$18,761,500

Federal Fund Appropriations Needed

Source	FY 2024-25	FY 2025-26	FY 2026-27	Total
TANF*	\$556,606	\$526,140	\$51,352	\$1,134,098
Medicaid **	\$9,106,290	\$8,630,250	\$842,333	\$18,578,873
CCDF***	\$125,525	\$118,654	\$11,581	\$255,760
Other****	\$3,011,454	\$2,846,618	\$277,837	\$6,135,909
Total	\$12,799,875	\$12,121,662	\$1,183,103	\$26,104,640

* Shall be from the Temporary Assistance For Needy Families Block Grant

**Shall be from non-appropriated Medicaid funding earned from CMS and transferred from the Department of Health Care Policy & Financing

***Shall be from non-appropriated CCDF funding earned from Child Care and transferred from the Department of Early Childhood

****Various Sources of Federal Funds

Consequences if not Funded -

If not funded, Colorado counties will continue to be left to manage replicative and duplicative work; and the Colorado safety net clients will continue to carry the burden of these inefficient and ineffective processes.

Implementation Plan -

The Implementation Plan will be refined during the procurement ITN process with the vendor.

Change Management -

Change Management Planning has identified the following steps for a successful implementation that will be refined during the procurement ITN process with the vendor:

- Training may include: (1) business process training due to changes as a result of the technology; (2) system training; and (3) technical training for resources supporting the system.
- Testing types may include: (1) user-acceptance testing; (2) unit testing; (3) system integration testing; (4) performance testing; and (5) data migration testing.
- Regarding key stakeholder management, a well defined engagement and governance process has been critical to success by engaging stakeholders throughout the process and all decisions.

Alignment with OIT Best Practices and Standards -

OIT engagement has been critical throughout the process starting with Executive Sponsorship working alongside agency Executive Sponsors to align the vision with the program and project work. Further, OIT has been engaged at all levels to ensure alignment with the agencies’ Five Year Roadmap as well as the Office of eHealth Innovation.

Procurement -

As stated above, OIT has been engaged at multiple levels throughout the process. Specifically for procurement, the work will follow an ITN with OIT serving in multiple roles such as Executive Sponsorship, advisory committee representation and selection committee roles. Currently for OIT gating, the work is in Gate 0 review during this Discovery period.

Disaster Recovery and Business Continuity -

Disaster Recovery and Business Continuity have been planned for the Implementation portion of the work. Further details will be refined during the ITN procurement process while working with the vendor team.

Accessibility Compliance (Must be addressed) -

Accessibility has been identified as a requirement and will be addressed during the procurement process.

Impact to IT Common Policy (For Statewide OIT Projects Only) -

- N/A

ADDITIONAL REQUEST INFORMATION	
Please indicate if three-year roll forward spending authority is required.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is this a continuation of a project appropriated in a prior year?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If this is a continuation project, what is the State Controller Project Number?	
If this request affects another organization, please provide a comfort letter.	
Please attach a letter from OIT indicating review and approval of this project	OIT Letter of Approval

ESTIMATED PROJECT TIME TABLE		
Steps to be completed	Start Date	Completion Date
Business Process and Document Management System Requirements Gathering Discovery	February 2023	June 2023
Requirements Refinement, Invitation To Negotiate (ITN) Drafting	July 2023	October 2023
Federal Approval	November 2023	January 2024
Solicitation: Procurement, Finalize contract	January 2024	June 2024
Multi-phase Implementation	June 2024	June 2025
Migration & Retention Period for completion	June 2025	June 2027
Analytics & Reporting: Expanded Discovery System Requirements Gathering	October 2023	October 2024
Security Increases Using One Identity Manager: One Identity Manager Automated Integration with CBMS & Trails	June 2023	December 2023
Security Increases Using Two-Factor Authorization (one program, Child Welfare, remains for completion and is on hold until next Federal Fiscal Year)	TBD	TBD
Identity Management Integration and Data Cleansing	July 2024	June 2025



COLORADO
Governor's Office of
Information Technology

8/8/2023

Mark Ferrandino
Director
Office of State Planning and Budgeting
111 State Capitol
Denver, Colorado 80203

RE: FY 2024-25 Dept. of Human Services Leveraging Technology for Seamless HS
Delivery IT Capital Project

Dear Director Ferrandino:

Pursuant to OSPB instructions, this letter is to confirm that the Office of Information Technology (OIT) has been informed of the development and submission of this proposed FY 2024-25 request for the Department of Human Services Leveraging Technology for Seamless HS Delivery IT Capital Project.

OIT has completed an internal review to ensure the project aligns with statewide IT goals and determined that OIT has the capacity to deliver and meet the requirements of the project.

Please note: OIT and the Department of Human Services are in agreement that a security review will be completed as part of the project itself, when applicable. Also, any OIT specific work should be reappropriated to OIT through the payments of OIT line, where applicable.

Sincerely,

Rus Pascual

Rus Pascual, OIT Budget Director

Leslie A Crandall

Leslie Crandall, CDHS IT Director



CC-IT: CAPITAL CONSTRUCTION INFORMATION TECHNOLOGY REQUEST FOR FY 2024-25

Department	Human Services	Signature Department Approval:	Christina Beisel	29-Sep-23				
Project Title	OCFMH Information Management Systems and Data Reporting	Signature OIT Approval:	Rus Pascual	28-Sep-23				
Project Year(s):	FY 2023-24 to FY2025-26	Signature OSPB Approval:	<i>Adrian Leiter</i>	Date: 10/30/23				
Department Priority Number	2	Name and e-mail address of preparer:						
Five-Year Roadmap?	Yes							
Revision? Yes x No		Total Project Costs	Total Prior Year Appropriations	Request Year (FY 2024-25) Request	Year 2 Request	Year 3 Request	Year 4 Request	Year 5 Request
If yes, last submission date: _____								
A. Contract Professional Services								
(1) Program Manager	\$ 412,000	\$ 206,000	\$ 206,000	\$ -	\$ 206,000	\$ -	\$ -	\$ -
(2) Quality Assurance	\$ 260,000	\$ -	\$ 250,000	\$ -	\$ 10,000	\$ -	\$ -	\$ -
(3) Independent Verification and Validation	\$ 659,991	\$ 429,994	\$ 219,997	\$ -	\$ 10,000	\$ -	\$ -	\$ -
(4) Training	\$ 135,000	\$ 45,000	\$ 45,000	\$ -	\$ 45,000	\$ -	\$ -	\$ -
(5) Leased Space (Temporary)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6) Feasibility Study	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7a) Inflation for Professional Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7b) Inflation Percentage Applied		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(8) Other Services/Costs	\$ 3,126,705	\$ 992,235	\$ 1,142,235	\$ -	\$ 992,235	\$ -	\$ -	\$ -
(9) Total Professional Services	\$ 3,126,467	\$ 1,673,229	\$ 1,863,232	\$ -	\$ 1,263,235	\$ -	\$ -	\$ -
B. Software Acquisition								
(1) Software COTS Purchase	\$ 593,972	\$ 384,722	\$ 281,986	\$ -	\$ 311,986	\$ -	\$ -	\$ -
(2) Software Built	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3a) Inflation on Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3b) Inflation Percentage Applied	\$ -	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(4) Total Software	\$ 593,972	\$ 384,722	\$ 281,986	\$ -	\$ 311,986	\$ -	\$ -	\$ -
C. Equipment								
(1) Servers	\$ 96,000	\$ 36,000	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ -
(2) PCs, Laptops, Terminals, PDAs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3) Printers, Scanners, Peripherals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4) Network Equipment/Cabling	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(5) Miscellaneous	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6) Total Equipment and Miscellaneous	\$ 96,000	\$ 36,000	\$ 60,000	\$ -	\$ 72,000	\$ -	\$ -	\$ -
D. Project Contingency								
(1) 5% project contingency	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
E. Total Request								
Total Budget Request [A+B+C+D]	\$ 3,816,439	\$ 2,093,951	\$ 2,205,218	\$ -	\$ 1,647,221	\$ -	\$ -	\$ -
F. Source of Funds								
GF	\$ 5,946,390	\$ 2,093,951	\$ 2,205,218	\$ -	\$ 1,647,221	\$ -	\$ -	\$ -
CF/RF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
check (should = E)	\$5,946,390	\$2,093,951	\$2,205,218	\$0	\$1,647,221	\$0	\$0	\$0

Project/System	FY 2023-24	FY 2024-25	FY 2025-26	Assumptions	Category Placed In
1* RL Datix Configuration/Integration to DW	\$25,000	\$15,000	\$15,000	Integration to DW and then enhancements and maintenance costs	B.1
2* REDCap Configuration/Integration to DW	\$20,000	\$10,000	\$10,000	Used MARS AI (Application Programming Interface FY21/22 project) for estimation of costs as the MARS API uses Mulesoft Integration platform.	B.1
3 REDCap Reporting Add Ons contractor	\$10,000	\$10,000	\$10,000	Contractor to assist in adding RedCap extensions for reporting	A.3
4* MuleSoft API development	\$17,576	\$17,576	\$17,576	Current pricing is 8,788 (expect we will have potential of 2 more APIs)	B.1
5* Power BI or Tableau Dashboards and DW integration	\$85,000	\$60,000	\$60,000	Depending on level of work, Power BI Enterprise is \$4,995 per month; project will need to include data source connection	B.1
6* Servers	\$36,000	\$60,000	\$72,000	\$500 per month for 12 servers (includes development, testing and production servers for both MHI and FSDV (6 servers for FY 2023-24, 10 for FY 2024-25, 12 for FY 2025-26)	C.1

7*	Silver Data Encryption	\$15,000	\$45,000	\$75,000	Data Encryption at Silver Level which is 250 per database per month (we are estimating with MHIs and FSDV there will eventually be 25 databases over the 3 years developed (5 Databases FY 2023-24, 10 FY 2024-25, 10 FY 2025-26). Please note price will increase or decrease if level is change to gold or bronze) Costs are cumulative per each database added so final FY is 25 DBs	B.1
8	External Consultants - Agile Expertise	\$419,994	\$209,997	\$0	Agile expertise for FSDV module development - product owner and scrum master consultants full time for year one and 50% time for year two	A.3
9*	Document Management Tool	\$100,000	\$42,000	\$42,000	FY 2023-24 Implementation costs in year 1. Annual license costs \$35 per user per year in years 2 and 3. (After the project, license costs would shift to operational)	B.1
10*	QA tool	\$0	\$250,000	\$10,000	Open source contractor 1 year to set up, train, and hand off in year 2; maintenance in year 3	A.2
11	FSDV Notifications	\$0	\$150,000	\$0	Infrastructure from OIT exists this would be developing this into the module	A.8
12	FSDV Project Management	\$206,000	\$206,000	\$206,000	Project Management per year	A.8
13	FSDV Business Analyst Support for full time	\$264,000	\$264,000	\$264,000	Business Analyst per year	A.8
14	MHI Project Management	\$206,000	\$206,000	\$206,000	Program/Project Management	A.8
15	MHI Business Analyst Support for full time	\$264,000	\$264,000	\$264,000	Business Analyst per year	A.8
16	FSDV Development Hours	\$149,500	\$149,500	\$149,500	Development at 115 per hour for average of 260 development hours per module (expecting 15 modules)	A.8
17	MHI Development Hours	\$79,734	\$79,734	\$79,734	Development at 115 per hour for average of 260 development hours per module (expecting 8 modules)	A.8
18	FSDV Solution Engineering	\$19,334	\$19,334	\$19,334	Solution Engineering for 4 projects at 116 per hour estimate of 500 hours over the four projects	A.8
19	MHI Solution Engineering	\$9,667	\$9,667	\$9,667	Solution Engineering for 2 projects at 116 per hour estimate of 250 hours over the two projects	A.8
20	Tableau Creator and viewer license Licenses	\$37,410	\$37,410	\$37,410	Increase from 5 to 10 licenses 5 licenses currently cost \$18,705 - and 200 viewer licenses	B.1
21	Qualtrics/Survey Monkey	\$5,000	\$5,000	\$5,000	Survey Tools (Qualtrics is priced at \$5,000 per year	B.1
22	BEHR Data Analytics	\$75,000	\$50,000	\$50,000	Cerner Data Analytics module pricing is \$50,000 to \$75,000 per year	B.1
23	IM Staff Training	\$45,000	\$45,000	\$45,000	Tableau training is the past was \$25,000; will also need DAX training, .Net Training, CJIS Training, Scrum Training, Agile Training	A.4
24	IM Staff Licensing - visual studio licensing	\$4,736	\$0	\$0	FHIR Training, PowerBI Training Current pricing is \$2,368 for 4 and would like to move to 8 for 3 years starting in FY 2023-24	B.1
	Totals	\$2,093,951	\$2,205,218	\$1,647,221	\$5,946,390	



RY- Department IT Capital Construction Project: OCFMH Information Management Systems and Data Reporting [IT Capital-02]

Summary of Request	Total Funds	CCF-IT	Cash Funds	Reappropriated Funds	Federal Funds
FY 2024-25	\$2,205,218	\$2,205,218	\$0	\$0	\$0
FY 2025-26	\$1,647,221	\$1,647,221	\$0	\$0	\$0
FY 2026-27	\$0	\$0	\$0	\$0	\$0

Categories of IT Capital Projects

System Replacement (costs escalating, failing technology, software or vendor support ended, or new technology, e.g., DRIVES, CHATS)	System Enhancement Regulatory Compliance (new functionality, improved process or functionality, new demand from citizens, regulatory compliance, e.g, CBMS)	Tangible Savings Process Improvement (conscious effort to reduce or avoid costs, improve efficiency, e.g., LEAN, back office automation)	Citizen Demand “The Ways Things Are” (transformative nature of technology, meet the citizens where they are, e.g., pay online, mobile access)

Request Summary:

The Department of Human Services (DHS, Department), Office of Civil and Forensic Mental Health (OCFMH, Office) requests \$2,205,218 General Fund in FY 2024-25 and \$1,647,221 General Fund in FY 2025-26 for the continued purchase, development, and enhancement of OCFMH data and information systems. The project represents a System Replacement for current technology that is not meeting the needs of the Office and applications that are becoming obsolete.

This Information Technology capital request is for outyear funding for a continuation project that received initial funding of \$2,093,951 General Fund in FY 2023-24, including multiple sub-projects which will be more effective if they can be developed as part of a coherent strategic IT plan for the Office. Since this funding just became available July 1, 2023, \$0 has been encumbered as of July 13, 2023. Additional funding is needed over the next two fiscal years to implement a strategic, comprehensive approach that enhances current systems, builds new systems, and integrates them both as applicable.

This project would provide direct and critical business functionality for programs within the Office consisting of the Office’s Forensic Services Division (FSDV), the Colorado Mental Health Hospital in Pueblo (CMHHIP), and the Colorado Mental Health Hospital in Fort Logan (CMHHIFL). By enhancing OCFMH’s information management systems, this project will facilitate access to client information used by medical and behavioral health staff to provide appropriate care to those clients. With shared

information, medical and psychiatric staff will also be able to communicate more effectively in caring for clients as a team. Enhanced information management systems will also improve the Office's knowledge of its client population and make it easier to comply with appropriate requests for information that do not warrant privacy protections.

Key expenditures for this project are:

- Integration efforts of the incident management system, RL Datix, into the Data Warehouse (DW);
- Data analytic capabilities within the Behavioral Electronic Health Record (BEHR, EHR); and
- Microsoft Access database modernization into web-based platforms.

These efforts have paid-for costs associated with project planning, development, programming and testing hours. All expenditures are within the scope of the project.

Project Description:

Currently OCFMH has insufficient data tools for information management. The Office frequently relies on time-intensive manual processes to fill the gaps and meet critical business needs. The current systems are outdated and recent modernization efforts do not address the need for new operability. The manual processes and disparate systems are inadequate for developing program strategies, providing data for government reporting requirements, or for meeting daily operational needs for serving clients.

For FY 2023-24, OCFMH received \$2,093,951 General Fund for initial system development and staffing for a three-year System Replacement project to modernize, create, and integrate information management systems including development and maintenance. The funding for ongoing FTE and for the first year of this capital development project was granted and the Office has just begun work. Requesting funding now for the other two years of the project is necessary to ensure that the many disparate and important elements of the project will come together in an integrated way. OIT submitted their project plan and details related to the staffing hours for specification gathering, programming, development of the databases, and testing and implementation for FY 2023-24. Their project plan estimates utilization of all funding allocated in FY 2023-24. Funding for the remainder of the project is necessary to meet current priorities, proceed to new builds, and to integrate the systems as they are built. Funding for FY 2024-25 and FY 2025-26 will be crucial to continue the momentum of the system development efforts to ensure the needs are met of the users within the Forensic Services Division (FSDV) and at the state Mental Health Hospitals (MHH).

Background of Problem or Opportunity:

OCFMH operates CMHHIFL, CMHHIP, and FSDV. CMHHIFL and CMHHIP are both state-run mental health hospitals (MHHs) that serve civil and forensic patients, and FSDV serves forensic patients requiring competency evaluation, competency restoration, and outpatient community-based supervision. The two MHHs and FSDV collect highly sensitive information, including data related to criminal proceedings and personal health information (PHI). Currently, this information is collected and stored in various unintegrated systems, which has resulted in problems with communication, affecting patient care, compliance with legal and treatment requirements, and data reporting. Without an adequate database, staff spend extensive time manually entering, retrieving, and validating data.

The Department was sued in 2011 for failure to provide timely competency evaluations and restoration treatment to pretrial detainees, which violates their constitutional rights as defendants. The Department has been subject to requirements resulting from the lawsuit since that time and is currently under court oversight per a 2019 Consent Decree. The Department continues to experience ongoing increases in the number of individuals referred by the courts for competency services. The Consent

Decree also included a recommendation to improve the data infrastructure for OCFMH. In response, S.B.19-223 provided funding for the initial build of the Data Warehouse (DW) to house data related to reporting requirements in the Consent Decree. The Data Warehouse is used by the staff who oversee clients tracked for the Consent Decree, which includes clients served by both the MHHs and FSDV.

The Data Warehouse is a custom database that combines data from the patient's EHR and other various sources to facilitate reporting and analysis that requires a combination of medical, legal, and other ancillary information. Unfortunately, the Data Warehouse only includes data required for the Consent Decree and does not integrate all data relevant to caring for these patients. Patient information that does not cross from the EHR to the Data Warehouse includes diagnoses, conditions that impact potential for restoration (e.g. intellectual and developmental disabilities), race and ethnicity, housing status, and information related to prescribed medications. In particular, FSDV relies on such data to assist with transition planning and preventing regression when patients are returned to jail following competency restoration or moved to a lower level of care. Presently, staff must manually locate this information in each patient's EHR and cannot access aggregate information for reporting beyond that stored in the Data Warehouse.

While the Data Warehouse aggregates data and produces reports for data visualization, it lacks functionality needed for everyday use by MHH and FSDV staff in their work with clients. In the past, OCFMH has used Microsoft Access (Access) to build custom databases and reports not available through the Data Warehouse. However, Access provides insufficient security for PHI and Microsoft is currently phasing out all support for Access.

Because of the limitations of the Data Warehouse, FSDV, which does not have an EHR, lacks a client information database to manage information needed for daily work with clients. FSDV is responsible for complying with court orders for forensic evaluations and providing forensic services statewide. FSDV coordinates data and documents with internal and external sources including providers, District Attorneys' offices, and court systems. Without a client information database, FSDV stores records on multiple shared drives and exchanges them by email as there is no centralized application or database that all FSDV teams reference, update, or use for reporting. This lack of centralization reduces data accuracy and results in duplicate data in multiple systems. As a result, FSDV staff spend an extensive amount of time manually entering, retrieving, validating, and analyzing data.

Aggregating and centralizing data and documents currently stored in disparate systems and locations with add-on dashboards, notifications, and enhanced reporting functionality would address many of the administrative inefficiencies and correctly shift focus back to activities that directly benefit clients. The Data Warehouse created a foundation for a better system but it needs major enhancements to meet existing and evolving needs. Addressing each of these problems in isolation would perpetuate duplication, system incompatibility or overlap, and data security and integrity problems. Instead, OCFMH needs a comprehensive, strategic approach to meeting its data needs.

Justification:

OCFMH has undertaken the following analyses that indicated the need for the FY 2023-24 budget request and this request for continuation funding in FY 2024-25 and 25-26:

Needs analysis for FSDV

FSDV brought in Steadman Consulting to perform a discovery and assessment needs analysis in May 2021 to identify the challenges and potential solutions.¹ The analysis reflects that FSDV staff spend significant amounts of time entering, retrieving, and validating data elements. To give examples of the findings:

- Each member of the Forensic Services Team estimates that they spend one hour per day going through spreadsheets manually seeking out updated court orders for their clients. This administration effort is equivalent to 2.5 FTE per year. Centralizing the data and allowing the team to view a dashboard of changes would reduce administrative time manually searching for new court orders and increase team capacity for conducting client support activities.
- The Outpatient Restoration Team coordinators spend a combined 80 hours during the first week of each month manually tracking the receipt of monthly provider assessment reports and submitting them to the courts. Enhancing the system will save time by enabling automatic notifications and file uploading for legal records.
- Functionality supporting the provider assessment reports would save 0.5 FTE per year and increase the team's capacity to provide programmatic technical assistance and support to the providers.
- The Court Services team spends more than thirteen (13) hours per week on manually intensive and redundant data entry, including ten hours logging collateral information requests, three hours entering report due dates, and more time ensuring there are no blank fields on the report. With the proposed functionality, data validation would prevent blank fields in the data, or error reports could be generated automatically for blank fields, reducing the number of pages required for review from 700 to 100.

Overall, the FSDV Needs Analysis determined many manual processes that will improve efficiency when using a system to capture data. Current inefficiencies result in clinical staff spending hours manually inputting and reporting data. For example, the analysis found that centralizing data would save the equivalent of 2.5 FTE per year in administrative time for clinical staff on a single team. Similar inefficiencies to those seen in FSDV exist at the Mental Health Hospitals, so benefits can be extrapolated to those programs although a similar study has not been done to help quantify the enhancements at the hospitals with precision. Without a change to these disparate and inefficient systems, OCFMH would eventually need to request additional FTE for manual data entry and support. Creating a more efficient system would eliminate this future need.

Recommendations from Chartis (formerly Greeley Consulting)

The MHHs have leveraged analyses done by Chartis (formerly Greeley Consulting) that have informed the types of systems needed to support hospital operations. Based on this analysis and that of Steadman Consulting, the following enhancements and systems are required:

1. **Improved and enhanced system capabilities:** The approach defined here delivers functionality incrementally to the MHH Clinical, MHH Administrative, and FSDV teams. This rollout approach builds on each delivery. A centralized application and database are foundational to the approach. Data integrity would be preserved by requiring data input and maintenance standards along with security protocols built into the tools to allow and restrict the ability to add, modify and delete data by roles. Leveraging that foundation, dashboards such as My-Tasks, Metrics, Capacity Tracking, and Patient Status can be built to deliver on-demand access to important information, increasing team productivity. Reporting and system generated notifications can be developed concurrently, leveraging the centralized database, reducing manual efforts to research updates to client case files from internal and external sources.

¹ [Steadman Consulting. "Forensic Services Data System Needs Analysis." June 2021](#)

2. **Document Repository:** Implement a proven document repository tool that can organize, store, and provide the appropriate access and security to those individuals who need to read, create, or update the documents.
3. **Automated Testing:** Implement an automated testing tool, which would be used on in-house developed forensic systems to playback pre-recorded and predefined test cases, compare the results to expected behavior, and report pass/fail. Once the test cases are created, they can be executed repeatedly with minimal effort, reducing testing time from days to minutes. The automated testing tool will also support regression testing needed for new functionality deployment. The use of automated testing tools allows for extensive testing with minimal user intervention once the test cases are developed, which is exponentially more efficient and effective than manual testing.
4. **Enhanced Information Management Team Staffing:** The current delivery team of two members splits its focus between production support and new development implementation. While much progress has been made, the rollout of functionality and solutions to the current problems could be accomplished more quickly with additional team members, who would be contracted only for the duration of the three-year project. The Information Technology team uses a scaled down version of the Agile methodology due to its small team size. As a result, each team member must support multiple Agile roles, splitting their focus and productivity.

The standard size of an Agile Delivery team is five to nine members, made up of developers, testers, and business analysts. To round out the team, a product owner and scrum master have distinct and separate roles. The consultants recommend building out an Agile team consisting of the following staff roles:

- **Product Owner:** responsible for defining the direction of a project, rooted in a clear understanding of what the business and users need from the product being developed, and communicating these needs to the scrum team;
- **Scrum Master:** responsible for ensuring that the team follows Agile best practices and addressing and removing any productivity blockers team members may experience;
- **.Net Software Developers:** senior and junior developers to handle both ongoing maintenance and new development; and
- **Business Analyst:** responsible for documenting business requirements, coordinating between the customer and the product owner to define criteria for acceptance tests, performing acceptance testing, and building out automated testing scripts.

To expedite delivery of functionality to the business teams, a defined engagement with consultants with specialized expertise in Agile information technology development will fill the roles of product owner and scrum master during the first two years. This will allow the analysis to begin quickly after the start of the fiscal year while development and business analyst resources are recruited and onboarded. The scope of work of the consultant team would be staff augmentation for the product owner and scrum master roles. During the analysis phase, consultants will work with the current OCFMH delivery team and those onboarding to build and groom the functionality backlog. This includes documenting business requirements and facilitating development team conversations about transforming the identified business needs into IT deliverables within OIT and OCFMH IT standards.

Additionally, consultants will build a solid Agile foundation within the team, establishing team norms, building repeatable practices, and increasing team productivity. Agile training will take place in a hands-on environment with a clearly defined plan to transition the product

owner and scrum master roles back to the OCFMH delivery team. Once transitioned, the OCFMH Delivery team will rotate the roles of scrum master and product owner, further strengthening their Agile expertise.

Objectives and Performance Outcomes

Because implementation of this project has just commenced, OCFMH has just begun measuring its progress. The prior request had the following information:

- Program Objective: Efficient data systems that meet the needs of staff providing direct client services and management in performing systemic analysis.
- Outputs being measured: Staff time spent manually processing data.

In reviewing these objectives and outputs, the Office has identified that these measures of success could be detailed further. OCFMH developed the following performance measures:

Program Objective: To integrate OCFMH’s information management systems and data reporting to enable relevant client data to be accessible in a single, secure place for MHH and FSDV staff. This change would also facilitate access to client information pertinent to mental health treatment and help improve communication between and within the Office, the MHHs, and FSDV.

Outputs being measured:

- Staff time spent manually processing data
- Categories of data accessible through the new information management system
- Number and purpose of Access databases replaced
- Number of MHH and FSDV staff with appropriate access to the new information management system
- Utilization rates of the new information system

Outcomes being measured:

- Satisfaction levels reported by MHH and FSDV staff in using the new information management system.
- Percentage of staff time spent on patient care relative to other responsibilities.
- Satisfaction levels reported by MHH and FSDV staff regarding communication within the Office and within their programs.

Table 1 lays out the functions, needs and solutions that fall within the scope of the project

Table 1: System Needs, Status, and Solutions			
Function	System Name (if any)	Current Status & Need	Proposed Solution
Critical Incident Reporting System	RL-Datix	OCFMH does not have an adequate critical incident reporting system. The RL-Datix system has been selected and is in the contracting phase for remote hosted Incident Management.	This system will allow critical incidents to be reported and securely added to the Data Warehouse.

Patient Electronic Health Record	BEHR Clinical Modules, including Cerner Discern Reporting	OCFMH has an electronic health record (EHR) system, but users of the patient EHR have requested additional functionality above our current implementation. Furthermore, there are regulations that are passed that require additional functionality.	There are modules that we have not purchased within our Cerner contract that are necessary for patient care, such as “Population Management” which will assist our clinicians with patient care and administrative reporting. Some modules are newly added to BEHR while others were premium options not selected in the original contract.
Performance Dashboard	Excel/ Tableau	The MHHs’ administration and quality management staff need dashboards on a variety of metrics to inform program strategy. Currently, metrics are tabulated manually by a consulting firm using Excel.	OCFMH will investigate automated options to integrate information into a dashboard. This will replace or minimize manual processes.
Observation tracking for Safety/Regulatory Compliance	The Joint Commission Tracers with AMP, Qualtrics, Red Cap, etc.	Safety and regulatory compliance requires that MHHs track data elements related to observation of patients and reports. Currently, staff must complete several manual processes, reviews of disconnected data systems, and compile these to meet this requirement.	OCFMH will investigate available software tools to purchase. Incident management may be used for some tools. Other options need further research. These tools will require integration with the patient EHR and/or other systems.
Research data collection, staff feedback, survey tracking, post-discharge surveys	RedCap, Qualtrics, Survey Monkey	MHIs have data collection, analysis, and reporting needs for daily operations. Currently there is not a mechanism in place for research data collection, including staff surveys and post-discharge surveys.	OCFMH will investigate current tools to determine if they can be enhanced to meet the needs or if additional software needs to be purchased.
Staff skill competency tracking/ Integrated online learning	TBD	Regulations require that staff competency be tracked.	The proposed solution is to investigate if Cornerstone can be enhanced to track this information or if there is software that can be purchased to address this need.

Physician performance & staff credentialing tracking	TBD	Regulations require OCFMH to track staff credentialing, focused professional practice evaluations, and ongoing professional practice evaluations. This is currently done manually.	OCFMH will purchase software to address this need or enhance existing systems.
Operational analysis dashboards and combining data	Power BI/Tableau	The current data warehouse is focused on data required for the consent decree. There is a need to determine if there should be additional data points to be added to it or another solution for operational analysis and dashboards.	Data collection will need to be integrated into current systems (BEHR, Legacy Cube or there may be a need for new development). Power BI is a Microsoft tool that can be used with various data sources. Alternatively, OCFMH may enter information into Data Warehouse or directly into Tableau. OCFMH will investigate and build/purchase what is needed.
Risk management/ reserves/ Litigation tracking	TBD	Currently, these items are tracked manually.	OCFMH will explore purchasing software to track this data.
Asset tracking	TBD	Currently MHI assets are either tracked manually.	The proposed solution is to investigate if CDHS has a tool that would track assets or if a system should be purchased. Certain classification of assets may result in needing multiple systems. ServiceNow may be a potential solution for some of the assets.
Pharmacy tracking systems	TBD	Currently pharmacy inventory is tracked manually.	OCFMH will explore options and purchase a central supply and inventory system.
Employee health data	TBD	OCFMH uses RedCap for immunizations and this needs enhancements. Currently, Employee health data is collected on paper with the exception of	OCFMH will enhance RedCap and investigate if there is a software solution for other employee health data.

		immunizations. Some of this data is reportable to regulatory agencies.	
Financial Applications/ databases for position tracking	TBD	There are three databases as part of the MS Access modernization that include financial information and position tracking. The scope of modernization is limited to current functionality and limited new priorities, but there are additional enhancements needed to maximize these systems.	OCFMH will enhance the functionality of these modernized systems.

Assumptions for Calculations:

This request consists of the total amount for estimated costs and assumptions for FY 2024-25 and FY 2025-2. Amounts for FY 2023-24 were included in the long bill (SB23-214). Costs for hardware and interfaces were estimated using OIT FY 2021-22 rate cards and billing invoices. Estimates for software pricing were created by researching industry resources. Information from the FSDV needs assessment provided estimates for Agile specific resources. Cerner also provided quotes for specific Cerner BEHR functionality. Costs for training Information Management staff were estimated based on the costs of similar trainings that have previously been provided to the team.

The calculation and assumptions for this project can be found in [OCFMH Information Management Systems and Data Reporting - RY_CC-IT FY 2024-25](#) spreadsheet.

Consequences if not Funded -

Without continued funding for the capital project designed to address these issues, updates to OCFMH's information systems will ultimately be left unfinished, which adds to the disorganization, inefficiency, and lack of alignment in the Office's information systems. Rather than increasing the amount of time that MHH and FSDV staff can spend on serving clients and responding to caseload increases, they will continue to spend time manually searching for and processing needed data. If nothing further is done with this project after FY 2023-24, MHH and FSDV staff will continue to use the Data Warehouse, the Access databases, and identify other manual workarounds. However, these staff will be less efficient and productive, which makes it more difficult to provide appropriate care over time and reduce the waitlist for competency restoration. If funding for the project is delayed for a year or two, support from Microsoft is ending for remaining Access products, which makes them less functional and more susceptible to bugs and other security risks over time. Additionally, the Data Warehouse will become increasingly outdated and less useful for MHH and FSDV staff. The need for an integrated system that brings together health data, criminal records, and demographic data will continue to grow. Funding the remainder of this project will ensure that new systems have the integrity and integration to help staff carry out their work as efficiently as possible.

Implementation Plan

Change Management -

The Information Management Division conducts change control meetings weekly for any changes to the Behavioral Electronic Health Record (BEHR). The division also adheres to Cerner change management processes for changes to the system initiated by Cerner, who provides remote hosting. For systems developed in-house, the division follows OIT's change management processes. Further information about the [technical change management process](#) and the [standard operating procedure](#) can be found via these hyperlinks.

Alignment with OIT Best Practices and Standards -

- The system enhancements and recommendations to cease utilization of Microsoft Access databases were issued by OIT in 2019 due to data security concerns.
- All systems will also become current and align with modern security standards and comply with current Colorado Information Security Policies (CISP).
- This project aligns with the [OIT Five Year IT Roadmap](#) for CDHS by continuing the work under the "Electronic Health Record (EHR) Systems/Applications; Electronic Health Record (EHR) Data Warehouse, and Databases and Registries" under "Critical & Essential Systems and Major Priority Initiatives."

Procurement -

OIT has been involved in the project planning and design for these efforts. The Department shall partner with OIT on the planning, design, programming, testing and implementation of the system upgrades. Any and all contracts implemented shall include OIT approval.

Disaster Recovery and Business Continuity -

Disaster Recovery and Business Continuity plans will be incorporated into the launch of each step. Because the data warehouse and other aspects of the system contain PHI, ensuring backup plans for system failures is critical to this system restoration project. All data hosting agreements will require disaster recovery contingencies within the scope of work. Business continuity plans will be developed and maintained during the business requirements gathering phase of development, or any other development stage for each application or database.

Accessibility Compliance (Must be addressed) -

All new applications and interfaces will meet the standards set under HB21-110 and federal regulations. CDHS will work with OIT to ensure these standards are met prior to deployment of any user interfaces.

Impact to IT Common Policy (For Statewide OIT Projects Only) -

This project does not impact other state agencies.

ADDITIONAL REQUEST INFORMATION			
Please indicate if three-year roll forward spending authority is required.	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/> No
Is this a continuation of a project appropriated in a prior year?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/> No

If this is a continuation project, what is the State Controller Project Number?	N/A
If this request affects another organization, please provide a comfort letter.	N/A
Please attach a letter from OIT indicating review and approval of this project	OIT Letter of Approval

CONTINUATION HISTORY (DELETE IF NOT APPLICABLE)				
	FY 2023-24 Appropriated	FY 2024-25 Appropriated	FY 2025-26 Appropriated	Total Appropriations
Total Funds	\$2,093,951	\$0	\$0	\$2,093,951
Capital Construction Funds	\$2,093,951	\$0	\$0	\$2,093,951
Cash Funds	\$0	\$0	\$0	\$0
Reappropriated Funds	\$0	\$0	\$0	\$0
Federal Funds	\$0	\$0	\$0	\$0
	FY 2023-24	FY 2024-25	FY 2025-26	
Amount Spent	\$0	\$0	\$0	\$0
Amount Encumbered	\$0	\$0	\$0	\$0
Total Funds Available	\$2,093,951	\$2,093,951	\$2,093,951	\$2,093,951

ESTIMATED PROJECT TIME TABLE		
Steps to be completed	Start Date	Completion Date
Power BI or Tableau Dashboards and DW integration	November 2023	September 2024
Server updates	January 2024	July 2024
Silver Data Encryption	July 2024	September 2024
External Consultation- Agile Expertise	September 2023	Ongoing
Document Management Tool	TBD based on server implementation timeline	TBD
QA tool	July 2023	July 2024
FSDV Notifications	July 2023	July 2024
FSDV Project Management	July 2023	Ongoing
FSDV Business Analyst Support for full time	July 2023	Ongoing
BEHR Data Analytics	September 2023	Ongoing



COLORADO
Governor's Office of
Information Technology

9/29/2023

Mark Ferrandino
Director
Office of State Planning and Budgeting
111 State Capitol
Denver, Colorado 80203

RE: FY 2024-25 Dept. of Human Services OCFMH Continuation IT Capital Project

Dear Director Ferrandino:

Pursuant to OSPB instructions, this letter is to confirm that the Office of Information Technology (OIT) has been informed of the development and submission of this proposed FY 2024-25 request for the Department of Human Services IT capital requests \$2,205,218 General Fund in FY 2024-25 and \$1,647,221 General Fund in FY 2025-26 for the continued purchase, development, and enhancement of OCFMH data and information systems. The project represents a System Replacement for current technology that is not meeting the needs of the Office and applications that are becoming obsolete. This Information Technology capital request is for outyear funding for a continuation project that received initial funding of \$2,093,951 General Fund in FY 2023-24, including multiple sub-projects which will be more effective if they can be developed as part of a coherent strategic IT plan for the Office. Since this funding just became available July 1, 2023, \$0 has been encumbered as of July 13, 2023.

OIT has completed an internal review to ensure the project aligns with statewide IT goals and determined that OIT has the capacity to deliver and meet the requirements of the project. Please note: OIT and the Department of Human Services are in agreement that a security review will be completed as part of the project itself, when applicable. Also, any OIT specific work should be reappropriated to OIT through the payments of OIT line, where applicable.

Sincerely,

Rus Pascual

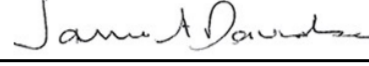
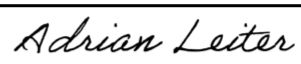
Rus Pascual, OIT Budget Director

Leslie A. Crandall

Leslie Crandall, CDHS IT Director





FY23-24 CAPITAL INFORMATION TECHNOLOGY PROJECT REQUEST- COST SUMMARY (CC_IT-C)*								
(A)	(1) Funding Type (Cash, CCF, Cash & CCF):	CCF and CF		(2) Intercept Program Request? (Yes/No):				
(B)	(1) Institution:	Metropolitan State University of Denver		(2) Name & Title of Preparer:		Nick Pistentis, Deputy Chief Information Officer		
(C)	(1) Project Title:	Reimagining the Campus Digital Experience		(2) E-mail of Preparer:		npistent@msudenver.edu		
(D)	(1) Project Phase (_ of _):	4 of 4		(2) State Controller Project # (if continuation):				
(E)	(1) Project Type (IT):	Capital IT		(2) Institution Signature Approval:				23-May-23
(F)	(1) Year First Requested:	FY 2021 - 2022		(2) CDHE Signature Approval:				Date
(G)	(1) Priority Number (Leave blank for continuation projects):	_____ of _____		(2) OSPB Signature Approval:				10/30/23 Date
(1)		(a) Total Project Costs	(b) Total Prior Year Appropriation(s)	(c) Current Budget Year Request	(d) Year Two Request	(e) Year Three Request	(f) Year Four Request	(g) Year Five Request
Land /Building Acquisition								
(2)	Land Acquisition/Disposition	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3)	Building Acquisition/Disposition	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4)	Total Acquisition/Disposition Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Professional Services								
(5)	Consultants/Contractors	\$ 10,196,516	\$ 5,435,000	\$ 4,761,516		\$ -	\$ -	\$ -
(6)	Quality Assurance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7)	Training	\$ 227,000	\$ -	\$ 227,000		\$ -	\$ -	\$ -
(8)	Leased Space (Temporary)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(9)	Feasibility Study	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(10)	Other Services/Costs	\$ 2,715,618	\$ 656,837	\$ 2,058,781		\$ -	\$ -	\$ -
(11)	Inflation Cost for Professional Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(12)	Inflation Percentage Applied		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(13)	Total Professional Services	\$ 13,139,134	\$ 6,091,837	\$ 7,047,297	\$ -	\$ -	\$ -	\$ -
Software Acquisition								
(23)	Software COTS	\$ 2,720,790	750,000	\$ 1,970,790		\$ -	\$ -	\$ -
(24)	Software Built	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(25)	Inflation on Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(26)	Inflation Percentage Applied		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(27)	Total Software	\$ 2,720,790	\$ 750,000	\$ 1,970,790	\$ -	\$ -	\$ -	\$ -
Equipment								
(28)	Servers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(29)	PCs, Laptops, Terminals, PDAs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(30)	Printers, Scanners, Peripherals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(31)	Network Equipment/Cabling	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(32)	Other (Specify)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(33)	Miscellaneous	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(34)	Total Equipment and Miscellaneous Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Project Costs								
(35)	Total Project Costs	\$ 15,859,924	\$ 6,841,837	\$ 9,018,087	\$ -	\$ -	\$ -	\$ -
Project Contingency								
(36)	5% for New	\$ 238,076	\$ -	\$ 238,076		\$ -	\$ -	\$ -
(37)	10% for Renovation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(38)	Total Contingency	\$ 238,076	\$ -	\$ 238,076	\$ -	\$ -	\$ -	\$ -
Total Budget Request								
(39)	Total Budget Request	\$ 16,098,000	\$ 6,841,837	\$ 9,256,163	\$ -	\$ -	\$ -	\$ -
Funding Source								
(40)	Capital Construction Fund (CCF)	\$ 14,056,163	\$ 5,650,000	\$ 8,406,163		\$ -	\$ -	\$ -
(41)	Cash Funds (CF)	\$ 2,041,837	\$ 1,191,837	\$ 850,000		\$ -	\$ -	\$ -
(42)	Reappropriated Funds (RF)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(43)	Federal Funds (FF)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TOTAL	16,098,000	6,841,837	9,256,163	-	-	-	-

*Should match CC_IT-N Form



FY 2023-24 CAPITAL IT PROJECT REQUEST- NARRATIVE (CC_IT-N)	
Capital Construction Fund Amount (CCF):	\$ 8,406,163
Cash Fund Amount (CF):	\$ 850,000
Intercept Program Request? (Yes/No):	No
Institution Name:	Metropolitan State University of Denver
Project Title:	Reimagining the Campus Digital Experience
Project Phase (Phase _of_):	4 of 4
State Controller Project Number (if continuation):	
Project Type:	<input type="checkbox"/> Technology Hardware
	<input checked="" type="checkbox"/> Technology Software
Year First Requested:	FY 2021 - 2022
Priority Number (Leave blank for continuation projects):	Continuation
Name & Title of Preparer:	Nick Pistentis, Deputy CIO, Metropolitan State University of Denver
E-mail of Preparer:	npistent@msudenver.edu
Institution Signature Approval:	5/23/23
OSPB Signature Approval:	Date
CDHE Signature Approval:	Date

A. PROJECT SUMMARY/STATUS:

Provide a brief scope description of the project and explain the status of the prior appropriated phases. See instructions for further detail.

Executive Summary

Metropolitan State University of Denver is pleased to present our Student Information System Transformation proposal, the culmination of a multi-phase digital transformation program that has been generously supported by the State of Colorado to date.

Building upon our successful, on-time, and on-budget implementation of the Workday Human Capital Management/Finance Enterprise Resource Planning (ERP) platform, MSU Denver seeks to move forward with an equally impactful implementation of a transformative Student Information System (SIS), delivering a world-class, modern, accessible, mobile-friendly, and cloud-based digital experience for the MSU Denver student community.

By replacing our legacy solution, MSU Denver will enable our students, faculty, and staff to leap ahead with intuitive tools, modernized business practices, on-demand analytics, and enhanced security. This project, which closely aligns with the objectives outlined in “Building Skills for an Evolving Economy”, will position MSU Denver for success in the next decade and beyond, reducing administrative barriers for our students, enhancing student engagement, bolstering retention, supporting equity initiatives, streamlining innovative educational pathways, delivering a positive return on investment for the institution, and blazing a trail for our State of Colorado peers who will benefit from the tailwinds we create.

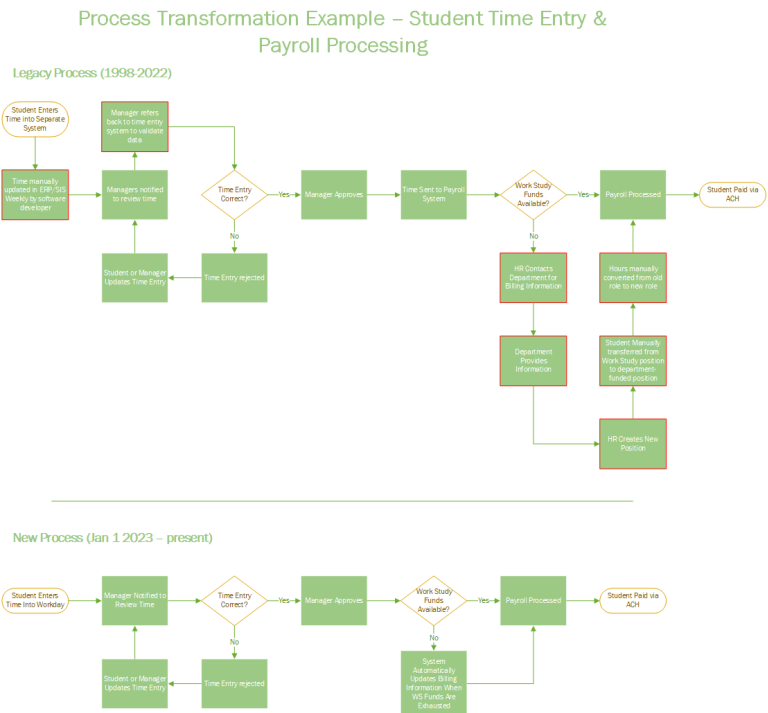
Project Status

Metropolitan State University of Denver (MSU Denver) first presented this multi-year initiative in FY 21-22 and remains grateful for the support that our project has received. The funds allocated in prior years have revitalized core systems and have demonstrated the state’s commitment to driving technological innovation and efficiency within higher education.

MSU Denver launched Workday’s Enterprise Resource Planning (ERP) platform in January 2023, delivering dramatic improvements in the employee experience, financial reporting, and institutional analytics.

Further, the system advances our equity initiatives by supporting inclusive language for applicants and employees and providing clear metrics regarding campus diversity, equity and inclusion (DEI) achievements and growth areas.

As part of the implementation, the University has redesigned and automated numerous critical business processes, yielding measurable efficiencies. The adjacent illustration is an example of one process that has been transformed, reducing the time and manual effort required to compensate student employees with Federal and State Work Study awards by over 50%. This one process change has positively impacted over 2,000 community members and is complemented by dozens of similar successes.



By empowering MSU Denver to lay this strong foundation, the State of Colorado has positioned the University to move forward with a Student Information System (SIS) transformation, a critical step toward effectively serving modern learners in Colorado. A more efficient, user-friendly SIS will have immediate and tangible benefits for the University and its students by supporting enrollment, registration, retention and graduation:

- A streamlined interface will reduce frustration and barriers to completing the registration process, yielding increases in student enrollment.
- A mobile-friendly application will meet modern students where they are, providing ease of access on the go and empowering students who use their mobile devices as their primary means of online communication¹ to register and persist at MSU Denver.
- A modern tool with automated business processes will allow staff to focus on student success instead of manual process, creating more meaningful staff-student interactions, improving advising outcomes, and supporting our students through graduation.
- Improved, on-demand analytics will help identify students in need of extra support for earlier intervention, allowing MSU Denver to engage with struggling students proactively and decrease stop-outs among at-risk student populations.

¹ 15% of U.S. adults presently are “smartphone-only” internet users. “Mobile Fact Sheet”, Pew Research Center, 2021.

Ultimately, these enhancements will benefit the State of Colorado in the form of more graduates entering the workforce.

The University aims to begin planning and design of this platform in early 2024 in anticipation of a project launch on July 1, 2024 and a planned go-live in October 2026. The funding requested in this fiscal year would be allocated entirely in support of this implementation effort.

MSU Denver continues to collaborate closely with Colorado university peers, both formally and informally, to align enterprise system strategies and deliver measurable improvements for students at institutions across the state. Our collaborative approach has yielded a net software licensing savings of over 13%, and we anticipate implementation savings of approximately 20% resulting from our cooperative work. The total projected efficiencies resulting from this collaboration are estimated at over \$9.75 million:

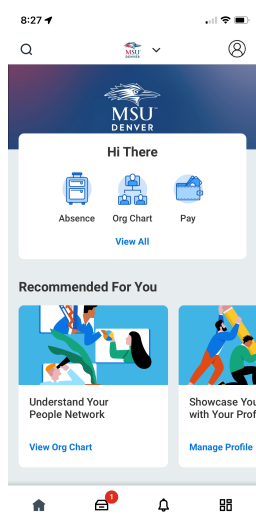
Savings Source	Amount	Description
ERP Contract Terms	\$ 977,812	7% savings on extended contract for MSU + CSM
Letter of Intent Pricing	\$3,000,000	13% savings from initial quoted pricing over 10 years
Aligned Contract Terms	\$ 60,000	estimated 500 hours saved in contract negotiations
Integration Strategy	\$3,000,000	20% savings against direct implementation costs for all participating schools.
Long Term Savings – MSU Denver	\$2,713,297	anticipated net savings over life of contract versus current system; savings begin to accrue in YR5. Gross savings of \$4.4mn+
Total	\$9,751,109	

B. SUMMARY OF PROJECT FUNDING REQUEST:

Funding Source	Total Project Cost	Total Prior Appropriation (Y1 + Y2 + Y3)	Current Budget Year Request (Y4)	Year Five Request
Capital Construction Funds (CCF)	\$14,056,163	\$5,650,000	\$8,406,163	\$0
Cash Funds (CF)	\$2,041,837	\$1,191,837	\$850,000	\$0
Reappropriated Funds (RF)	\$0	\$0	\$0	\$0
Federal Funds (FF)	\$0	\$0	\$0	\$0
Total Funds (TF)	\$16,098,000	\$6,841,837	\$9,256,163	\$0

C. PROJECT DESCRIPTION/SCOPE OF WORK/JUSTIFICATION:

Provide a detailed description of the project, phases, funding and any other information relevant to the project. Include information on best practices. Describe how the project fits in with the Higher Education Master Plan goals.



MSU Denver completed a comprehensive external analysis of our ERP/SIS landscape, which was based on best practice comparisons, constituent interviews, and a market review of available solutions. The summary provided by our external partner can be distilled into the following excerpt: ***“The overall message is that the current state of Ellucian’s Banner system is not meeting the needs of the institution.”*** Further, MSU Denver evaluated the campus climate and appetite for comprehensive change, with roughly two-thirds of survey respondents favoring significant transformation of the Student Information System.

Following extensive requirements gathering and a formal solicitation process, Workday’s ERP solution was selected in 2020, with contracting, design, and implementation following in 2021 and 2022. The platform launched to campus in January 2023, and the University is presently finalizing work on post-production value-add implementation components.

In parallel, MSU Denver launched a similarly rigorous evaluation of the Student Information System market, initially considering three market leading vendors and completing deep review and analysis for two finalists. The evaluation included numerous live demonstrations (25 individual sessions, for a total of 73 hours and over 1,000 hours of cumulative staff time), attendance at conferences (an aggregated investment of \$60,000 and roughly 800 hours), multiple reference calls, and countless internal working sessions.

Ultimately, the 30-member MSU Denver SIS Evaluation Committee recommended transitioning to a modern Student Information System by a 2-to-1 margin. The committee based their recommendation on myriad factors, including:

- A modern, mobile-friendly, secure, and cloud-based environment
- The opportunity to transform student-facing business processes
- Confidence in the platform’s ability to support MSU Denver students
- Efficiencies offered by implementing a unified solution
- Compelling built-in on-demand analytics capabilities
- Pace of platform innovation driven by an agile-based development methodology

Including strategic planning, system design, architecture, data transformation, and migration, MSU Denver estimates that this implementation will take approximately 30 months to complete, at a projected cost of \$9.26 million. Based on the schedule provided in Section H below and pending availability of the requested funds, the new platform would be commissioned in time to support registration for Spring 2027 courses at MSU Denver.

*“Increased institutional agility, flexible access to solutions, and lower costs ...
Cloud-based solutions enable effective information delivery to students and efficient management of business processes, resulting in improved stakeholder collaboration, data protection, and ease of access.”
- Verified Market Research*

“Student Information System Market Size and Forecast.” Verified Market Research, 2022

Alignment with the Higher Education Master Plan

By supporting this transformative initiative, the State will be investing in an institution which directly supports “Building Skills for an Evolving Economy,” Colorado’s Strategic Plan for Higher Education.

Metropolitan State University of Denver is an innovative institution which generates over \$700 million in economic impact within the state each year. A designated Hispanic-Serving Institution, the University serves an undergraduate community that includes nearly 54% students of color. Over 95% of MSU Denver students are from Colorado, and nearly 80% remain in Colorado long-term after graduation, the highest rate in the state. With an average age of 25 years old, 87% of our students work full- or part-time while pursuing their degrees.

While this is a small sample of the University’s attributes, in aggregate it serves to illustrate how closely our mission and values align with the Colorado Commission on Higher Education’s vision for the State writ large. MSU Denver:

- Educates a high percentage of Coloradans, creating pathways for professional growth and advancement.
- Intentionally focuses on improving access to postsecondary education among students of color.
- Offers flexibility across a range of degree and certificate programs to support learners of all ages and experience.
- Contributes directly to the state’s economic vitality, offering a quality education and proven outcomes at an affordable rate.

This project will support the University’s efforts directly in the following ways:

- Provide trusted data, on-demand reporting, and enhanced analytics capabilities that are not presently available to the University community.
 - Transitioning to a modern, cloud-based Student Information System will improve data availability, streamline report generation, and align MSU Denver reporting architecture with other State peers who have already adopted this platform.
 - Simplify results-based analysis, ensuring that academic programs are providing a positive return on investment for both the institution and the individual student, and allowing us to identify and invest in proven approaches.
 - Increase transparency for learners about expected outcomes from educational pathways.
- Reduce ongoing administrative costs related to maintaining a legacy, on-site Student Information System
 - In transitioning to a cloud-based platform, the University will reduce inefficiencies inherent to outmoded architecture, and realize business process efficiencies that will yield near-immediate financial benefits.²
- Modernize certificate/credential-driven academic pathway delivery.
 - The legacy system in place was not designed to support non-traditional students and results in a cumbersome and often manual experience for certificate-seeking students and staff alike. A transformed system will offer a streamlined, “shopping cart-type” experience for students to rapidly engage in online and innovative learning programs.
- Support continued public-private partnerships and career pathway programs.
 - MSU Denver partners closely with some of the state’s largest employers, educating students who are career-ready at graduation. Implementation of a modern SIS will streamline the data gathering and progress tracking necessary to validate the efficacy of these partnerships.

² Financial benefits are outlined in Sections G and J below.

Lastly, MSU Denver's comprehensive baccalaureate and master's programs directly support virtually all of the most in-demand occupations³ in Colorado, including Nursing, Social Work, Management, Accounting, Software Development, Education, Speech Pathology, Addiction Counseling, Aviation, and Cybersecurity.⁴

D. PROGRAM INFORMATION:

Provide a description of the programs within the institution that will be impacted by this request.

Transforming the SIS ecosystem at our university directly and positively impacts the entire MSU Denver community. This initiative positions our institution to adapt with the higher education industry as it shifts over time, and presents an opportunity to differentiate ourselves from institutions who will continue to rely on outdated technology:

- Our students will enjoy access to a cloud-based, mobile-friendly system that increases efficiency and accessibility for course registration, financial aid processing, and potentially academic advising and career counseling.
- Faculty will use the system to perform core administrative functions of their job such as submitting student grades, reviewing course rosters and administering grant awards.
- Staff will utilize modern interfaces to admit new students, award financial aid, and advise current students.

E. CONSEQUENCES IF NOT FUNDED:

Provide a description of consequences if this project is not funded. See instructions for further detail.

While the higher education technology landscape continues to evolve, our institution continues to rely on outdated and cumbersome infrastructure, based on technology older than many of the students who we serve. The Ellucian Banner system currently in place was first deployed in 1998 at MSU Denver. While we have deployed numerous upgrades over the intervening years, student-facing departments have come to increasingly rely on third-party systems and manual workarounds to support students accustomed to seamless use of contemporary, mobile technology in their daily lives. Such a disparate, patchwork approach leads to ineffective knowledge management, negatively impacting student retention and graduation

Further, recruiting skilled labor to support the dated, on-premises Ellucian Banner platform is challenging; in the past five years, MSU Denver has struggled to fill open positions for Banner Developer and Banner Administrator roles, leading to an increased reliance on contract labor at a higher annual cost than in-house resources. As the solution continues to age, this challenge has only increased.

The financial support provided to date has been hugely valuable, permitting us to transform the systems that our talented faculty and staff use each day and freeing them to focus on delivering services to our students.

The funds requested in this fiscal year will directly support transformation of our Student Information System, the most visible and impactful digital tool available to MSU Denver students.⁵ Following implementation, our students will manage their academic careers on mobile devices from virtually anywhere in the world with just a tap, reducing technological barriers (and the financial barriers of computer access) that many of our students face at present.

³ Top 10 Occupations with the Highest Projected Job Openings by Typically Required Education Level (Published September 2022, Bureau of Labor Statistics) – provided by CDHE, April 2023

⁴ <https://www.msudenver.edu/graduate-studies/>

⁵ In 2022, students logged over 1.5 million sessions in the Banner Self-Service system.

F. ASSUMPTIONS FOR CALCULATIONS:

Describe the basis for how the project costs were estimated. Include inflation assumptions. See instructions for further detail.

As part of our assessment engagement and in collaboration with Colorado peers and service providers, we have produced implementation estimates based on historical trends in this type of project and included a 10% contingency in our estimate to account for unanticipated variations.

G. OPERATING BUDGET IMPACT:

Detail operating budget impacts the project may have. See instructions for further detail.

In total, MSU Denver commits roughly \$2.5 million annually to support our on-premises ERP solution, including licensing, infrastructure, staffing, and ancillary systems.

By comparison, following the initial implementation, the annual cost of the proposed alternative solution is projected at less than \$2 million in total, resulting in a gross cost savings of approximately \$5 million over the contract term.

In addition, addressing current inefficiencies in our business processes would provide cost avoidance and savings throughout our institution. Optimizing and automating these processes will allow individual departments to better leverage their existing staff, providing a much higher level of service to the university community without needing to continually increase headcount.

H. PROJECT SCHEDULE:

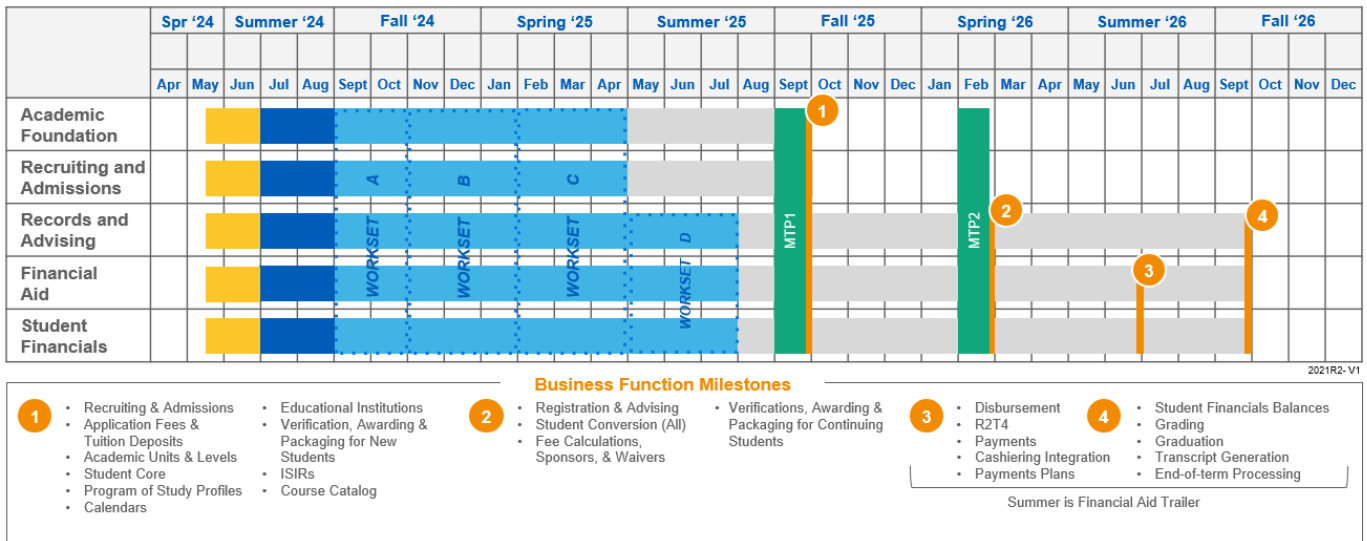
Identify project schedule by funding phases. Add or delete boxes as required for each phase. See instructions for further detail.

Phase 1 of 4	Start Date	Completion Date
Pre-Design	7/1/2020	10/01/2020
Design	10/02/2020	12/31/2021
Implementation	01/01/2022	06/30/2022

Phase 2 of 4	Start Date	Completion Date
Implementation: ERP	07/01/2022	06/30/2023
Pre-Design: SIS	01/01/2023	06/30/2023

Phase 3 of 4	Start Date	Completion Date
Post Implementation: ERP	07/01/2023	12/15/2023
Design: SIS	01/05/2024	06/30/2024

Phase 4 of 4	Start Date	Completion Date
Implementation: SIS	05/15/2024	10/15/2026



I. ADDITIONAL INFORMATION:

Three-year roll forward spending authority is required:	Yes
Request 6-month encumbrance waiver:	Yes
Is this a continuation of a project appropriated in a prior year:	Yes
State Controller Project Number (if continuation):	TBD

J. COST SAVINGS / IMPROVED PERFORMANCE OUTCOMES:

Describe the cost savings or improved performance outcomes as a result of this project. Please clearly identify and quantify anticipated administrative and operating efficiencies or program enhancements and service expansion through cost-benefit analyses and return on investment calculations.

Through a purely financial lens this project will yield measurable cost savings over a 10-year period (as outlined in Section G). These savings are compounded by gains in drastically increased efficiency for all student-facing departments, which presently rely on cumbersome SIS solutions for critical business functions. Based on modeling performed by outside consultants, we estimate the net benefit in efficiency offered by simplifying business processes and implementing a more efficient system is equivalent to 12 full time employees distributed throughout the organization.

We collectively identified over 20 third-party applications which are used today across MSU Denver and may be eliminated if a modern system is deployed. This alone will yield significant efficiencies for staff members who today must bounce between disparate interfaces to complete their work; the operating costs of these systems exceed \$500,000 per year, but further investigation is required before these numbers are included in our official financial projections. These financial gains are bolstered by myriad performance gains, including:

- Agile, innovative solutions that are ready to support a changing higher ed technology landscape
- Technology that meets the expectations of 21st century learners
- Unified, accessible data that can effectively support data informed decisions
- Reduced risk and greater system reliability.
- Ability to transform staff focus from operational to strategy and innovation.

K. SECURITY AND BACKUP / DISASTER RECOVERY:

Describe the data protection and disaster recovery considerations factored into the plan. Indicate any cybersecurity implications if applicable.

While MSU Denver boasts a robust information security program and backup strategy today, migration to a cloud provider would offer increased resiliency. Reasons for this include:

- As the present SIS is hosted on-premises, it is dependent upon campus network services; if internet access to our campuses is disrupted, access to our SIS environment is interrupted as well. This can be particularly impactful during periods of high demand, such as class registration dates, grade submission deadlines, or financial aid disbursement windows. By contrast, a cloud provider would offer a geographically distributed, fully redundant infrastructure, delivering a level of availability that would be impractical to replicate on campus.
- Ransomware has emerged as one of the top security threats faced by organizations, and the education sector has become the most-targeted industry in recent years following a 49% increase in attacks in 2022. Regardless of security protocols in place, on-premise data storage remains vulnerable to this type of security incident. Transitioning to a true cloud provider mitigates this risk.
- A move to a modern solution will offer enhanced data encryption protocols that exceed the current security capabilities of MSU Denver's on-premises solution.
- Any provider under consideration has documented alignment with the ISO 27000 Family of Standards and regular completion of Service Organization Controls Type 1 and 2 reports. This level of rigor indicates a prioritization of reliability and availability from any of the candidates.

L. BUSINESS PROCESS ANALYSIS:

Describe alternatives analyzed, cost-benefit analysis, and measures in place to prevent time and cost overruns. Articulate how the proposed project fits in with the institution's strategic IT plan.

Alternative Paths Considered

As noted above, MSU Denver began this journey by soliciting an external, independent assessment of current posture and potential paths forward. The consulting team presented three potential paths:

1. Status quo with minor adjustments (*not recommended*)⁶
2. Reimplementation of Ellucian Banner
3. Selection and Implementation of new SIS

The consultants' report outlined pros and cons for three candidate solutions, encompassing points two and three above.

Managing the Change

Guiding a large, diverse organization through a change of this magnitude is never simple, and doing so will require thoughtful, engaged management, inclusive leadership, and strong institutional support. To that end:

⁶ While the consultants initially advised against this path, the need to move away from existing architecture becomes more acute as time passes with several million dollars of hardware and facility upgrades required no later than CY 2027.

- We have chartered cross-functional Steering Committees for this project, ensuring that all constituent voices are heard and included in the planning and implementation phases.
- We have made significant organizational adjustments in preparation for a project of this scale, including augmentation of existing Software Project Management and Business Analysis resources and ongoing revision of internal project and portfolio management practices.
- To prevent time and cost overruns, we have secured experienced project management resources to support the effort and ensure that adequate attention is given to the effort throughout the organization.
- We have chartered a broad Change Champion Network, engaging staff throughout the organization to build grassroots support for the project.

Strategic Alignment

MSU Denver's 2030 Strategic Plan emphasizes several key pillars regarding Student Access; Academic Excellence; Civic Engagement and Partnership; Diversity, Equity and Inclusion; and Community Engagement.

This project will positively impact these objectives by providing an improved student experience, by reducing barriers to academic success, by enhancing our DEI efforts through streamlined analytics, and by providing a stable, scalable, reliable system that supports all University operations.

When evaluating and selecting new solutions, we seek transformative opportunities throughout campus – situations where the right technology can be applied to deliver massive results. This project, if funded, would fit that mold. We look forward to the opportunity to further discuss this proposal with State leaders and hope to proceed with a plan to transform the SIS experience, benefiting MSU Denver's students, faculty, and staff – and by proxy, tens of thousands of Coloradans.

CC-IT: CAPITAL CONSTRUCTION INFORMATION TECHNOLOGY REQUEST FOR FY 2024-25

Department	Office of Information Technology		Signature					
			Department Approval:	Julia Richman 29-Sep-23				
Project Title	Modernizing Aging IT Systems - Phase III		Signature					
			OIT Approval:	Rus Pascual 29-Sep-23				
Project Year(s):	FY 2024-2027		Signature					
			OSP Approval:	<i>Adrian Leiter</i> Date 10/30/23				
Department Priority Number	1		Name and e-mail address of preparer:					
			Rus.Pascual@state.co.us					
Revision? Yes x No								
If yes, last submission date: _____								
	Total Project Costs	Total Prior Year Appropriations	Request Year (FY 2024-25) Request	Year 2 Request	Year 3 Request	Year 4 Request	Year 5 Request	
A. Contract Professional Services: Audit Findings and Tech Debt Remediation Support								
(1)	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	
(2)	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	
(3)	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	
(4)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
(5)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
(6) Feasibility Study (Security Audit Findings and Remediation)	\$ 3,600,000	\$ -	\$ 3,600,000	\$ -	\$ -	\$ -	\$ -	
(7a)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
(7b) Inflation Percentage Applied		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
(8)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
(9) Total Professional Services	\$ 3,600,000	\$ -	\$ 3,600,000	\$ -	\$ -	\$ -	\$ -	
B. Enterprise Identity (SSO, MFA, and Proof of Identity)								
(1) Enterprise Identity Project Funding Gap	\$ 8,900,000	\$ -	\$ 8,900,000	\$ -	\$ -	\$ -	\$ -	
(2)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
(3a)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
(3b) Inflation Percentage Applied	\$ -	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
(4) Total Enterprise Identity	\$ 8,900,000	\$ -	\$ 8,900,000	\$ -	\$ -	\$ -	\$ -	
C. Technical Debt Remediation: Network Equipment and IT Products/Applications								
(1)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
(2)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
(3)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
(4) Agency Network Equipment and Cabling Needs	\$ 2,500,000	\$ -	\$ 2,500,000	\$ -	\$ -	\$ -	\$ -	
(5)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
(6) Total Equipment and Miscellaneous Costs	\$ 2,500,000	\$ -	\$ 2,500,000	\$ -	\$ -	\$ -	\$ -	
D. Project Contingency								
(1) 5% project contingency	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
E. Total Request								
Total Budget Request [A+B+C+D]	\$ 15,000,000	\$ -	\$ 15,000,000	\$ -	\$ -	\$ -	\$ -	
F. Source of Funds								
	GF	\$ 15,000,000	\$ -	\$ 15,000,000	\$ -	\$ -	\$ -	
	CF/RF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	FF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	

check (should = E) \$15,000,000 50 \$15,000,000 50 50 50 50 50



Anthony Neal-Graves, CIO
 & Executive Director
 Office of Information Technology
 November 1, 2023

RY - OIT Modernizing Aging IT Systems Cont. Investment Phase III: [CC-IT 01]

Summary of Request	Total Funds	CCF-IT	Cash Funds	Reappropriated Funds	Federal Funds
FY 2024-25	\$15,000,000	\$15,000,000	\$0	\$0	\$0
FY 2025-26	\$0	\$0	\$0	\$0	\$0
FY 2026-27	\$0	\$0	\$0	\$0	\$0

Categories of IT Capital Projects

System Replacement (costs escalating, failing technology, software or vendor support ended, or new technology, e.g., DRIVES, CHATS)	System Enhancement Regulatory Compliance (new functionality, improved process or functionality, new demand from citizens, regulatory compliance, e.g, CBMS)	Tangible Savings Process Improvement (conscious effort to reduce or avoid costs, improve efficiency, e.g., LEAN, back office automation)	Citizen Demand “The Ways Things Are” (transformative nature of technology, meet the citizens where they are, e.g., pay online, mobile access)
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Request Summary:

The Governor’s Office of Information Technology (OIT) requests \$15,000,000 in IT capital funding for FY 2024-25 as another round of investment for agency network equipment remediation needs, security audit finding remediation support, and for the remaining funding gap for the enterprise identity project from our Modernizing Aging IT Systems phase II request. OIT is requesting for these IT capital funds to be directly appropriated to OIT and to be allowed to prioritize which projects the funds are used on to reduce tech debt based on the amount of funding approved.

Project Description:

Agency Network Equipment Remediation

One of OIT’s main priorities is to reduce years of technical debt accumulated across the state agencies we support. This request specifically addresses existing agency network remediation needs based on criticality and overall health scores as assessed within the technology planning workbooks (TPWs). These types of efforts hit agency operating lines and do not usually rise to

the level of a full budget request. Establishing a pool of funding and a standards based process for allocating resources is critical to addressing this need.

Approval of these IT capital funds from the legislature will enable the state to advance transformation of technology, by implementing new, secure and supported technologies, improve security, and accelerate the use of digital services all in alignment with all of OIT's Wildly Important Goals (WIGs).

Security Audit Remediation

Significant risks exist around system controls, multi factor authentication, awareness training, asset management, incident response, logging and monitoring, risk management, user account management, and vulnerability and patch management. These unremediated security audit findings cross 12 major areas covering over 50 findings. Efforts have been underway in several of these areas, however dedicated resources to actually drive to resolution have not existed. Risks exist for agencies as well as OIT due to these audit findings remaining unresolved.

Enterprise Identity

Consolidation of identity has not been completed. Creating a modern approach to identity is critical to advancing digital government services and to meeting the evolving needs of the modern state government workforce. Modernized platforms and reductions in critical security vulnerabilities, operating costs and barriers to service excellence are the key goals of this effort implementing a standard statewide solution providing common outcomes across agencies and programs.

Last year's funding request for Enterprise Identity within the Technical Debt Phase II was reduced in the final approved in the long bill (SB23-214) to \$15M in IT Capital funding. After further scope of work (Single sign-on, Multi-factor Authentication, and Proof of Identity) and cost assessment of this project needs, we have identified and confirmed the need of an additional \$8.9M towards fully developing, implementing and supporting this solution as part of this Phase III IT capital funding request.

Operating Budget Impact -

The IT Security audit finding remediation request is a new request for Modernizing Aging IT systems phase III.

The Enterprise identity portion of this IT capital request is a continued request from last year's Modernizing Aging IT systems phase II request.

The funding request to replace or upgrade existing network needs identified in agency TPWs are one-time requests that would utilize any approved funding for remediation work between FY 2024-25 through FY 2026-27.

OIT and agencies are aware IT capital funds are one-time appropriations available for use over 3 years and any ongoing funding needs for personnel, maintenance or support needs associated with these projects after the initial 3 years must be submitted by each agency, as a separate decision item as part of the normal budget request cycle.

Background of Problem or Opportunity:

The Governor's Office of Information Technology (OIT) partners with customers to support agency-led decision-making for future technology investments and is uniquely positioned to identify common technology needs that— when coordinated together— benefit Coloradans with a more cost-effective, connected, user-centric digital experience. In accordance with C.R.S. 24-37.5-105, OIT is responsible for providing governance to all state agency information technology projects.

In previous years OIT worked with agencies to prepare information technology plans known as IT Roadmaps, which included information about their critical and essential applications, major IT projects, and common policy services consumption. Currently, OIT is providing more in-depth information about the health of agency applications (Technology Health Score), providing a view into all major IT capital projects across all agencies, and sharing monthly common policy consumption in a dynamic dashboard.

- **Technology Health Score.** In this view, detailed data is gathered from OIT systems, customer surveys, employee feedback, and other inputs and processed to generate a letter grade for each IT application. This grading scale provides a non-technical, at-a-glance view of applications that have accumulated the most technical debt leaving them most in need of funding and/or resources for upgrade or replacement.
- **Major IT Capital Projects.** This view provides an overview of all major IT capital projects statewide. Readers can dynamically sort by agency and view the status of major IT projects including overall, scope, schedule, stakeholder, and resources.
- **Financial Summary.** Total IT expenditures on vendor-provided IT goods and services across executive branch agencies. Amounts include hardware, software (including lease costs, purchases, maintenance, support and licensing) and IT professional contractor services.

We believe these dashboards are a meaningful and essential step in our journey to provide a more comprehensive and timely view of project metrics and analytics for our customers. You can review the dashboards [here](#).

Network Equipment and Cabling

For this IT capital request, OIT and agencies are requesting funding to remediate network equipment and cabling needs, which creates risk for all agencies. As a state, we are not willing to maintain this risk long term. Oftentimes these IT projects are not funded ahead of higher priority initiatives. It costs more to maintain older technology. Technical debt in the form of less secure systems can increase the probability of successful cyber attacks and costs thousands each hour an impacted system is unavailable.

- 22% of state servers are currently at end of life meaning they are not automatically receiving the most critical security patches.
- 70% of OIT's Hosting Infrastructure is at the end of life.
- 45% of applications have been recommended for decommissioning.
- 60% of OIT staff time is allocated to keeping legacy systems operational.

In our Modernizing Aging IT Systems Phase I analysis, OIT identified over \$450 million in technical debt. Consistent annual investment in both dollars and process improvements are required to mitigate this challenge. Phase I and II requests addressed core systems that support statewide operations. This Phase III request includes gap funding to complete the first two phases along with remediating agency specific network equipment needs. Looking toward the future, OIT and the agencies are gathering data on hardware and software refresh technical debt and will request funds for implementing an approach in that area next budget cycle.

Audit of Cybersecurity Resiliency at the Governor's Office of Information Technology

The audit was conducted by Eide Bailly, LLC pursuant to Section 2-3-103, C.R.S, which authorizes the State Auditor to conduct audits and assess the security practices of information technology systems of all departments, institutions, and agencies of state government. The findings from this security audit represent areas needing improvement in our operational accountability and authority. The findings identified ongoing risks under the following categories:

- Governance & Oversight
- SAT Role-Based Training
- Asset Management
- Contingency Planning
- Identification & Authentication
- Incident Response
- Logging & Monitoring
- Physical Controls to Implement Authentication
- Risk Management
- Security Planning
- User Account Management
- Vulnerability & Patch Management

Based on the public report of these findings, OIT now has the opportunity to create a program within our IT transformation to have an effective and holistic approach for the prioritization of information systems across the State's IT enterprise to ensure these audit findings are remediated and closed out. Beginning to close these results out will be our number one area of focus this year.

Enterprise Identity

One-time IT capital for Enterprise Identity solution is being requested this year, due to the funding gap/shortfall OIT observed from the Technical Debt Phase II IT capital budget request in last year's session.

Justification:

Currently, OIT’s agency customers are responsible for planning and allocating or requesting funds to refresh and replace legacy or out-of-compliance IT systems or assets. Budgeting for this work often falls behind immediate funding needs for the programs that serve Coloradans resulting in technical debt accrued from the extra staff hours and money needed to keep older and unsupported technology running. By reducing the amount of time and money spent on maintaining legacy technology, we can spend more time innovating for a future of delivering digital government services.

Remediation of the security audit findings identified is critical for OIT and this investment in remediation tools and contractor support services is needed to close out these ongoing risks as soon as possible. Without this continued investment, network and application vulnerabilities remain unaddressed, and audit findings increase along with technology debt.

Consolidation of identity has not been completed. Creating a modern approach to identity is critical to advancing digital government services and to meeting the evolving needs of the modern state government workforce. Without this continued investment, OIT will not be able to successfully develop and implement our Enterprise Identity solution for the state and will continue to request funds for this project during each budget cycle.

Assumptions for Calculations -

Significant pressure on the General Fund, combined with the General Assembly funding large multi-phase projects and uncertainty in construction material and labor costs, and supply chain issues, will put pressure on available funds for new capital and IT capital projects. Due to overall budget constraints and knowing the amount for new capital projects is likely to be only \$30-50M, less than half of last year’s request, this funding request for new IT projects (TPW informed technical debt remediation and audit remediation support for network equipment) have been scaled to represent the minimum investment estimated to remediate and support these critical projects.

IT Capital Projects	FY 2024-25	FY 2025-26	FY 2026-27
Network Equipment and Cabling Needs	\$2,500,000	\$0	\$0
Enterprise Identity Project Funding Gap	\$8,900,000	\$0	\$0
Security Audit Findings and Remediation	\$3,600,000	\$0	\$0
TOTAL	\$15,000,000	\$0	\$0

Network Equipment and Cabling - minimum investment

- \$2,500,000 to replace agency network equipment and cabling needs over FY 2024-25 thru FY 2026-27
 - Network remediation initial cost estimates sheet [here](#)
- Maximum cost investment would include network equipment, IT application and platform remediation and term-limited/vendor support needs have been estimated to be \$67M
- Based on the current budget constraints for available IT capital funding, OIT will coordinate with Agencies on utilizing the Technology Risk Prevention and Response

(TRPR) fund established in [SB21-287](#) to begin to address the one-time IT product/business application remediation project needs identified within their TPWs that were not funded in this initial IT capital request

Security Audit Findings and Remediation - minimum investment

- \$3,600,000 for IT Security Audit Finding remediation support with carry forward spending authority until FY 2026-27. These funds would be invested into vendor/contractor support resources and remediation tools.
- Maximum investment for remediation is currently estimated to be \$6M+

Enterprise Identity - Required investment

- \$8,900,000 for Enterprise Identity (Single sign-on, Multi-factor Authentication, and Proof of Identity) funding gap/shortfall from Phase II IT capital budget request in past year's session with carry forward spending authority until FY 2026-27. These funds would be invested in system development, implementation and related support services for Enterprise Identity management.

OIT is requesting these IT capital funds be directly appropriated to OIT and for OIT to be allowed to prioritize which projects the funds are used to reduce technical debt, the work to support the Enterprise Identity, and audit finding remediation based on the amount of funding approved.

Implementation Plan

Technical Debt Remediation Plan for TPW Informed Projects

As part of OIT's Executive Director's Office, the Enterprise Project Management Office (ePMO) gating process includes rating the overall application and system classification (Essential, Critical, Business Priority) in the Discovery phase of project gating. The Technology Planning Workbook (TPW) process involves prioritizing information systems, which is a partnership with the agency business owners and technical offices of OIT. Also, OIT is transitioning from: Three Levels Critical, Essential and Business Priority to four tiers: Tier 1, Tier 2, Tier 3, Tier 4.

- Essential + --> Tier 1
- Essential --> Tier 2 (life and limb takes highest priority)
- Critical --> Tier 3
- Business Priority --> Tier 4

For this funding request and based on these prioritizations, OIT would then be able to identify which network related projects that need to be replaced or upgraded and establish a realistic timeline for completion. Accessibility compliance for each of these TPW informed projects would also be assessed as part of the prioritization process.

Security Audit Findings

The scope and methodology of this cybersecurity resiliency audit utilized the National Institute of Standards and Technology (NIST) Cybersecurity Framework (CSF) to assess the effectiveness of OIT's cybersecurity practices. The audit focused on OIT's ability to identify, protect, detect, respond to, and recover from cybersecurity events. For this request, any approved funding would be prioritized to immediately correct unresolved IT risks, associated with IT governance and security of the State, by further establishing a program within our IT transformation to

have an effective and holistic approach for the prioritization of information systems across the State’s IT enterprise. This will help ensure these audit findings are remediated and closed out.

Enterprise Identity

Creating a modern approach to identity is critical to advancing digital government services. Modernized platforms and reductions in critical security vulnerabilities, operating costs and barriers to service excellence through the following projects and technical debt goals:

- Enterprise Identity Migration-improves access, secures Colorado (4 yrs to implement)

From last year’s Technical debt phase II request, only \$15M was approved to fund the initial design and a portion of the expected implementation phase for the Enterprise Identify project. The additional \$8.9M being requested in this year’s phase III ask would allow for a successful completion of the implementation phase (Single sign-on, Multi-factor Authentication, and Proof of Identity) that is required of this project.

ADDITIONAL REQUEST INFORMATION	
Please indicate if three-year roll forward spending authority is required.	X Yes <input type="checkbox"/> No
Is this a continuation of a project appropriated in a prior year?	X Yes <input type="checkbox"/> No
If this is a continuation project, what is the State Controller Project Number?	2023-034122
If this request effects another organization, please provide a comfort letter.	N/A
Please attach a letter from OIT indicating review and approval of this project	N/A

CONTINUATION HISTORY (DELETE IF NOT APPLICABLE)				
	FY 2022-23 Appropriated	FY 2023-24 Appropriated	FY 2024-25 Appropriated	Total Appropriations
Total Funds	\$53,284,560	\$15,103,996	\$0	\$68,388,556
Capital Construction Funds	\$53,284,560	\$15,103,996	\$0	\$68,388,556
Cash Funds	\$0	\$0	\$0	\$0
Reappropriated Funds	\$0	\$0	\$0	\$0
Federal Funds	\$0	\$0	\$0	\$0
	FY 2022-23	FY 2023-24	FY 2024-25	Total
Amount Spent	\$12,843,666	\$0	\$0	\$12,843,666
Amount Encumbered	\$20,313,115	\$0	\$0	\$20,313,115
Total Funds Available	\$20,127,779	\$15,103,996	\$0	\$35,231,775

ESTIMATED PROJECT TIME TABLE		
Steps to be completed	Start Date	Completion Date
Modernizing Aging IT Systems - Phase I	7/1/2022	6/30/2024
Modernizing Aging IT Systems - Phase II	7/1/2023	6/30/2026
Modernizing Aging IT Systems - Phase III	7/1/2024	6/30/2027



FY- Department IT Capital Construction Project: CC-IT-XX

Summary of Request	Total Funds	CCF-IT	Cash Funds	Reappropriated Funds	Federal Funds
FY 2024-25	\$17,203,705	\$17,203,705	\$0	\$0	\$0
FY 2025-26	\$15,461,933	\$15,461,933	\$0	\$0	\$0
FY 2026-27	\$0	\$0	\$0	\$0	\$0

Categories of IT Capital Projects

System Replacement (costs escalating, failing technology, software or vendor support ended, or new technology, e.g., DRIVES, CHATS)	System Enhancement Regulatory Compliance (new functionality, improved process or functionality, new demand from citizens, regulatory compliance, e.g, CBMS)	Tangible Savings Process Improvement (conscious effort to reduce or avoid costs, improve efficiency, e.g., LEAN, back office automation)	Citizen Demand “The Ways Things Are” (transformative nature of technology, meet the citizens where they are, e.g., pay online, mobile access)
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Request Summary:

The Department of Personnel & Administration (the Department or DPA) requests [IT Capital Construction funds of \\$17,203,705 in FY 2024-25 and \\$15,461,933 in FY 2025-26](#) to fund the creation and implementation of a payroll modernization on a statewide basis. The Department received \$6 million (one-year funds) in FY 2022-23 and \$14,249,288 in FY 2023-24. This request is the third request of an Agile-phased approach to modernize the State’s payroll system. This request to modernize the existing payroll system is anticipated to span four years for implementation. This request supports DPA’s Employer of Choice Wildly Important Goal (WIG) as well as the State’s Partnership Agreement with Colorado Workers for Innovative and New Solutions (COWINS).

The new payroll system will replace the State’s existing 36-year-old legacy system with a modernized payroll system, allowing the State to standardize processes while incorporating industry best practices.

As of June 2023, \$5,990,858 has been spent or encumbered for this project against the FY 2022-23 \$6 million appropriation with \$9,142 not spent or encumbered. Since the entire \$6 million was part of the Department’s budget request for a new payroll system, the Department also requests that the FY 2022-23 appropriation be modified to a standard three year funding

for capital IT projects. If the Legislature approves this request, any of the \$6 million not spent by June 30, 2023 would be available until June 30, 2025 rather than reverting in 2023.

Project Description:

Currently, human resources (HR) and payroll systems within the State rely on more than 80 individual systems, including a 36-year-old payroll system. These systems require significant manual entry, do not provide consistent data, and are supported by a small team of agency and IT professionals whose skills are increasingly difficult to find in the job market due to the age of the applications.

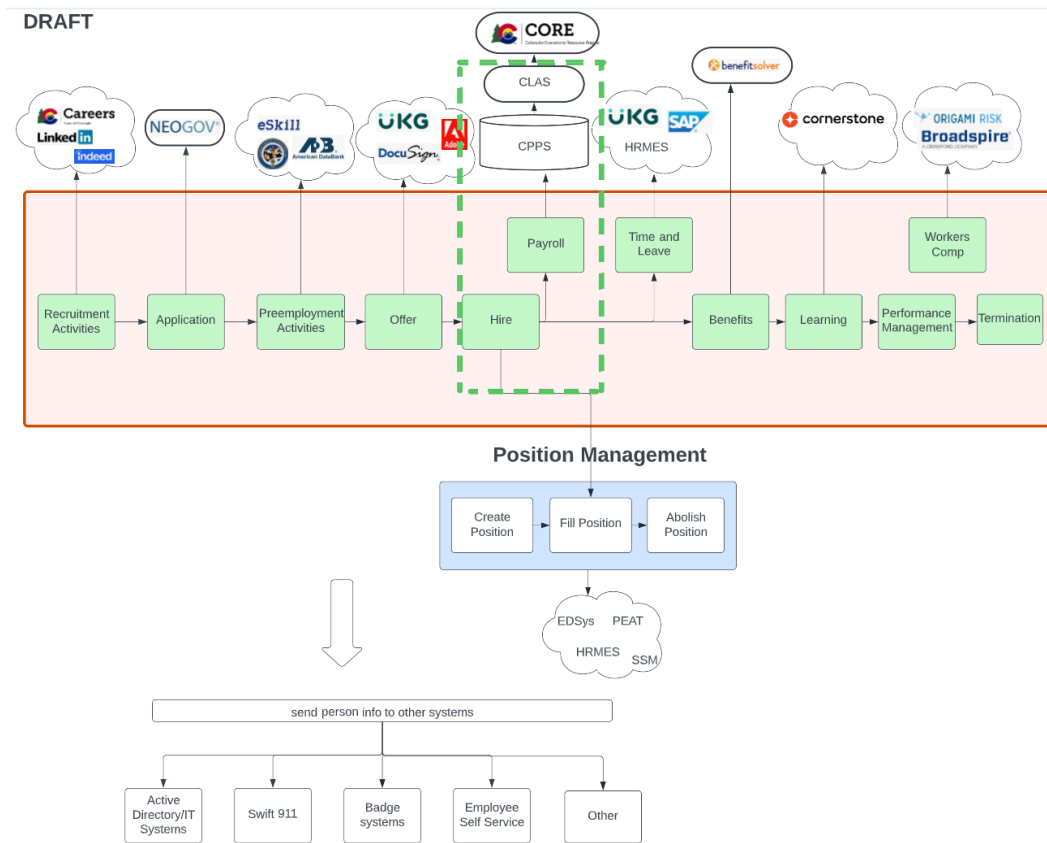
The Department created a new Enterprise Resource Planning (ERP) Governance Structure in 2021 to assess the options and determine the best path forward for a new HR and/or Payroll system. The new Governance Structure consists of a Human Resources Information System (HRIS) Strategy Group, an ERP Steering Committee, and a Statewide Functional Lead and User Group. The strategy group is tasked with creating the overall strategy and recommending resources, the Steering Committee approves the strategy and resources, and the Statewide Functional Lead, and User Group is tasked with implementing the systems, creating standardizations, and requesting resources. The functional areas of the HRIS and Governance Structure representation include: benefits, new employee onboarding, learning management systems (LMS), human capital management (HCM), payroll, time and leave, and the financial system (CORE).

During the first half of 2021, the Department completed a series of internal assessments with HR Directors, Information Technology (IT) Directors, Business Product Directors, and Payroll Professionals/Controllers. Based on these assessments, the primary challenges within the current HR systems include, but are not limited to:

- Reporting/Data Accuracy and Consistency - Currently there is no single source of truth, processes are very time-consuming, and there is an inability to run ad-hoc reports. Most data reporting is extremely manual and challenging due to inconsistencies.
- Lack of integrations across multiple platforms, systems, and with Colorado Personnel Payroll System (CPPS) - Due to the lack of integrations, there are several tasks requiring manual data entry, duplicate entries, and processing.
- Electronic Records Management System (Personnel Files) - Many agencies currently maintain paper filing systems. Agencies may have onboarding solutions that work well for them, but still require multiple manual entries.
- Timekeeping - Some agencies are currently unable to move to a biweekly payroll due to their timekeeping solution limitations, some agencies are still using paper timesheets, and agencies employing personnel in 24/7 workcenters have challenges with existing timekeeping systems.
- Personnel/Position/Performance Management Systems - Existing systems require manual data entry and duplication of entries, and existing systems lack a workflow and approval process.

In addition to this outreach, staff conducted a high-level assessment of the stability of current HRIS applications. While most existing applications need to be upgraded or replaced, some are more critical than others. Critical needs include CPPS, EDSYS (HCM), Human Resources Data Warehouse (HRDW - reporting), several agency-specific time and leave management systems,

and certain versions of Kronos (time and leave). Lower priority applications for upgrade or replacement include BenefitSolver (benefits), NeoGov (onboarding), certain versions of Kronos (time and leave), and most learning management systems (LMS). This request focuses on the most critical need for the State - a modern payroll system. It is important to note that this request represents the third request in a phased modernization of a full-scale HRIS. The proposed scope of payroll modernization is illustrated via dashed green lines in the graphic below:



The Department estimates that implementation of a new payroll system with a total requested budget of \$52.9 million will cover the following:

- term-limited Staffing for the Payroll Agile Development Team;
- operating expenses for the new staff, including: telephone expenses, laptop, docking station, monitors, office suite software, and office furniture;
- an API/Integration Architect Consultant to help with the integration aspects;
- a Payroll/HCM Consultant to assist with the selection and negotiation of the platform;
- platform usage costs;
- independent Verification and Validation (IV & V);
- payroll and Platform specific training;
- foundational activities, including: Project Management Office (PMO), Organizational Change Management (OCM), strategy development and execution, business and procurement alignment, and enabling IT strategies;
- vendor implementation activities, including configuration and deployment of the payroll replacement;
- inflationary costs; and
- a 10% contingency.

While this request includes the full estimated vendor expense for the payroll solution, the implementation will be done incrementally using an Agile methodology. The staffing resources needed to implement additional functionalities, once the Payroll system is complete, will be requested through subsequent operating or capital decision items. In addition, licensing and subscription costs and other maintenance costs are not contemplated in this decision item. Based upon market scans, ongoing licensing and subscription costs are anticipated at \$3.5 million annually following system implementation.

Ongoing Operations

Following the completion of the payroll implementation, the Department will utilize a common policy methodology to allocate all of the expenses related to the ongoing operations of the new system to user agencies. The budget request to develop the payroll system common policy will be submitted as a decision item in an upcoming fiscal year, when the resources and projected expenses are known. The Department notes that the current staffing levels requested cover the Agile development and the Payroll functions. When additional functionality is developed and deployed in an HRIS, additional staffing will be requested through the normal budget process.

Systems Integration Opportunities

The enterprise-wide payroll system will simplify integration of systems statewide. There are as many as 80 different legacy systems that impact one or more areas encompassed by this request currently in use across the Executive Branch. The Department's proposal is to create a single focal point for payroll business processes.

Risk and Constraints

Risks associated with this project include system malfunction, a potential for data-entry error, or a loss of some legacy functionality in the implementation of the new system. To mitigate these issues, the Department continues to work closely with the Governor's Office of Information Technology (OIT) to understand the security needs, system integration needs, and data protection requirements. OIT has been involved in this project and is partnering with the Department in the design and implementation of the system.

Additionally, the Agile methodology reduces risk incrementally with every iteration completed. With the traditional waterfall method, the risk remains high until the project has been completed. The Agile methodology has several parts of its framework that promote risk mitigation.

Operating Budget Impact

In order to most efficiently and effectively manage statewide payroll data, the Department and OIT identified a need for review and refinement of existing payroll data. Additionally, the Department believes that training the human resources and payroll community on standardized data entry will allow for the most effective tracking of personnel data. Due to the nature of this request being an IT Capital Construction project, ongoing annual maintenance will be necessary to ensure the vitality and stability of the system and will be requested through a future operating decision item.

Background of Problem or Opportunity:

The State's current payroll system is 36+ years old and based on COBOL mainframe technology. The system is not flexible to meet the current data needs of the state and the system is supported by a small team of agency and IT professionals whose skills are increasingly difficult to find in the job market due to the age of the programming language.

Justification:

Payroll System

The State is at risk of its antiquated payroll system, CPPS, failing. The state currently relies on CPPS to pay 33,000 + employees. CPPS processes \$180 million in employee payroll each month which is \$2.2 billion annually. These employees work in all branches of Colorado State Government.

The CPPS system has not been supported by a vendor since 2014, and is an unreliable system; CPPS is down on average ten percent of all working days. In July 2022, the tape backup of the payroll system failed, and mainframe storage was fully depleted. OIT and DPA were able to recover the system functionality. If the issue was not resolved in time for payroll, it would have required the Department to pay employees via CORE GAX, overnight checks to employees, and would not have met documentation requirements for federal reimbursement.

If the CPPS system experiences a significant unrecoverable failure, the State will be left with no alternative to pay employees, which will create significant hardship for many, place the State in violation of state and federal laws, and jeopardize federal participation in many state programs. Significant staff time and funding would be needed to recover system data or implement a new system on an emergency basis. The implementation of this payroll modernization project is vital to ensuring the State can continue to pay employees, as it is unknown how long CPPS will continue to be functional.

As detailed below, a primary payroll system functions include:

- position record and associated Chart of Accounts (COA);
- org structure (tied to positions);
- employee record including demographics, and tie to position;
- employee classification and compensation tied to statewide structures;
- time/Payroll schedule information;
- time and Leave inputs for Payroll (including COA overrides);
- deductions and Benefits inputs for Payroll (including associated accounting);
- time and Leave accrual (calculated by system);
- leave requests and absence history;
- payroll Gross and Net (calculated by system);
- ancillary earnings;
- payroll Accounting distribution;
- W2 info; and
- self-service access to all of the above deemed appropriate to share with the employee.

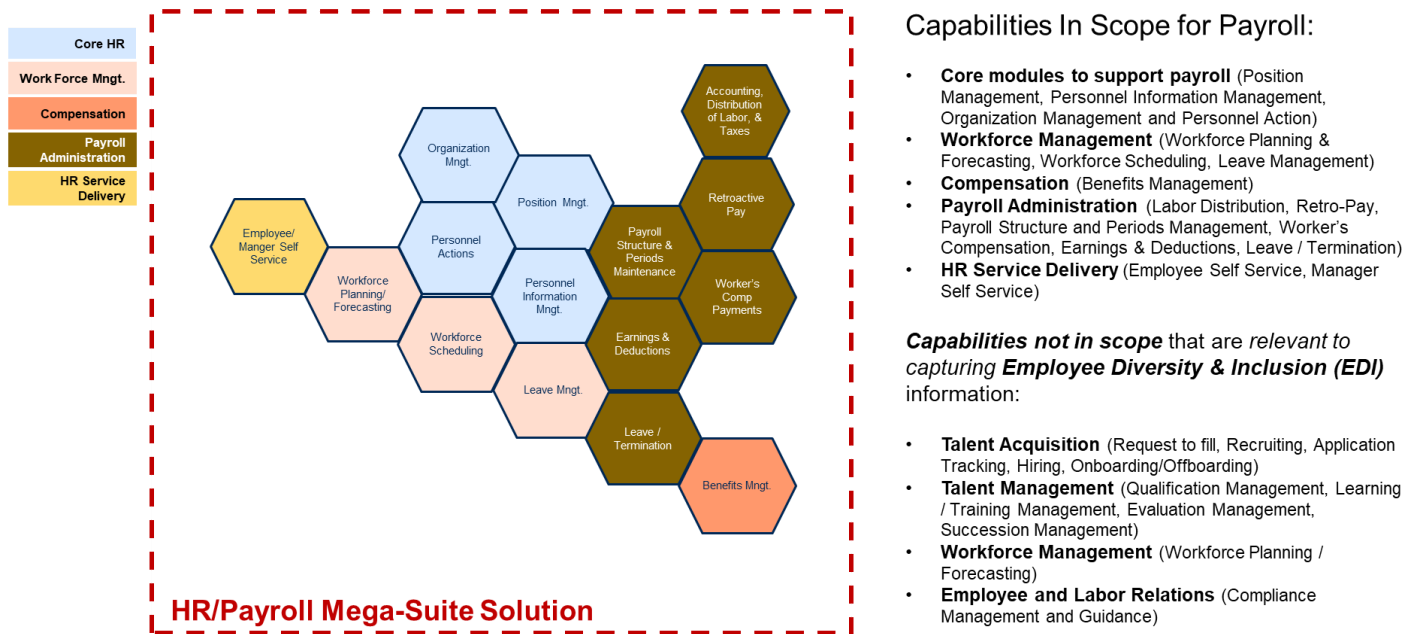
Some examples of data that will not be included are as follows:

- talent Acquisition: Recruiting, Onboarding with associated demographics; and
- talent Management: Performance, Evaluation, Learning.

Additionally, information needed to support EDI efforts such as salaries, promotions, title changes, training and development opportunities, overtime, and certain demographic data would not be captured by the payroll system as they are part of an HRIS system. The deployment model and the following figure represent the concept for in-scope payroll modernization components, as well as a data warehouse.

Payroll Functional Deployment Model

Colorado's In Scope capabilities for implementation of Mega-Suite Application



Business Process Analysis

The Department, in coordination with OIT, engaged in a significant due diligence process prior to the development of this request. The HRIS Governance Structure was created and the team worked with consultants to review what was done in HRWorks and determine the best path forward. The Department reached out to Executive Branch agencies to conduct a needs assessment and determine the most critical needs; the needs assessment identified current tool and application pain points, prioritized needs, and current work within HRIS across agencies. The information from the needs assessment was shared with the consulting partners to detail the available options and different models for ongoing HRIS integration and ownership. The information gathering from brainstorming activities and assessments identified key themes:

- access to data is a primary concern across agencies;
- the Department should provide consistent processes, services, and data governance;
- agency HR teams can be the stewards of data to facilitate accuracy; and

- it is critically important for a payroll system to support the unique needs of agencies.

Cost Savings and Performance Outcomes

The Department anticipates that the implementation of an updated payroll system will reduce the reliance on technologically out-of-date systems and will significantly reduce inefficiencies statewide. While several State agencies rely on legacy systems with complicated interfaces, other state agencies utilize paper forms and spreadsheets to track human resource information. Elimination of these practices will not only improve data integrity, security and reporting, but will also streamline business processes across the Executive Branch resulting in time savings for many State agencies. The Department anticipates that this request will enable efficiencies and more complex system interdependencies will be eliminated.

Success Criteria and Improved Performance Outcomes

Success criteria and improved performance outcomes include, but are not limited to:

- the ability to decommission CPPS, and move away from paper systems;
- improve the data quality and reporting capabilities on a statewide basis; and
- reduce the duplication of work and manual processes performed.

Project Alternatives

As noted above, the Department and OIT evaluated the outcomes associated with replacing disparate legacy systems with a single source of statewide human resource information. An alternative to the implementation of a statewide solution is to continue the practice of disparate systems and paper-based tracking of human resources information. The results of the evaluation indicate that the non-pecuniary benefits of a transition to an enterprise solution are significant, and include the streamlining of business processes and greater ease of reporting statewide information.

During the market scan phase, the Department analyzed multiple scenarios to determine the most cost beneficial method for procuring a new HRIS system. This was also considered in context of the CORE upgrade to determine whether the combination of payroll, HRIS, and a new financial system might possibly yield a lower total cost of ownership for these combined functions. Cost assumptions were developed for:

- 1) a smaller scale HRIS system that would include a basic or “stock” time and leave module for data entry;
- 2) a payroll only system; and
- 3) an integrated enterprise resource planning (ERP) system that would have combined payroll, other HRIS functionality, and contemplated a new financial system to replace the CORE system.

Assumptions for Calculations

The Department worked with a contractor to review and vet cost estimates for a statewide payroll system. The contractor conducted a market scan specifically focused on how other states and large, complex municipalities are handling HR and Payroll modernization, resulting in a rough order of magnitude (ROM) to determine feasibility of funding. The figures provided in Table 2 were determined based on the ROM, combined with the State's assessment of payroll needs and adjusted for appropriations for FY 2022-23 and FY 2023-24. The contractor developed a cost/benefit analysis with which the State could compare among the options indicated above. DPA reduced these costs to:

1. exclude costs covered within existing functions;
2. exclude costs of ongoing operating; and
3. crosswalk vendor assumptions of \$150,000 per term-limited employee into actual FTE costs as determined by the FTE template.

The [FTE template](#) serves as the crosswalk between the contractor provided costs, and has been adjusted since the initial FY 2022-23 request. In addition, the vendor provided assumptions have been adjusted to reflect inflation to the midpoint, similar to the process used in the physical capital construction process. This process was used to avoid costs of revising the initial vendor scan.

Table 2: Summary of Payroll Cost Components

Categorization	2022-23	2023-24	2024-25	2025-26	Total
Business Management Activities	240,000	0	0	0	240,000
Organizational Change Activities	1,597,059	1,497,059	1,122,794	0	4,216,912
Orchestration Activities Total	4,162,941	3,721,166	586,555	0	8,470,662
Implementation	0	3,424,530	11,807,767	8,394,364	23,626,661
Implementation Subtotal	6,000,000	8,642,755	13,517,116	8,394,364	36,554,235
Term Limited Operating Expenses	0	356,473	186,589	100,969	644,031
New Software Subscription Fees	0	5,250,000	3,500,000	3,500,000	12,250,000
Contingency	0	0	0	3,466,600	3,466,600
Total	6,000,000	14,249,228	17,203,705	15,461,933	52,914,866

Consequences if not Funded

If this request is not approved, disparate applications across departments will continue to be used for critical human resource functions, making it difficult or impossible to track and report information. The lack of a modern enterprise payroll system results in inconsistent, and sometimes erroneous, data including time and leave tracking, performance data and payroll data. Such inconsistencies increase the risk of violations for state and federal policies.

While the technological imperative to replace the legacy payroll system has long existed, the legal and statutory framework has become more pressing in recent years. The State's Partnership Agreement with COWINS states in Article 8.2 that the Parties will "seek funding for a statewide HRIS for Agencies that includes such functionality that will capture the demographic data about employees in order to analyze equity in hires, rewards and recognition, promotions and training opportunities." While this request does not request funding for a full HRIS system, it does provide the foundational first step in this effort so that the state may ultimately meet the objectives of the Partnership Agreement. In addition, the State also recently passed S.B.19-085, the "Equal Pay for Equal Work Act" that requires specific actions by employers to demonstrate pay equity.

Implementation Plan

Change Management

Change management for the implementation is critical to the ongoing success of the program and project efforts. In partnership with OIT, efforts are underway to define necessary project change management for each functional area that will be impacted by the implementation of the new payroll system. Additional change management and technical assistance and training for statewide users is necessary to ensure a smooth transition and to ensure users adopt the new technology in a meaningful way.

The implementation of the new payroll system will be managed according to the standards of OIT's Project Management Office. Training on this project will be developed as the system is developed, and will include in-person training, virtual webinars, technical training for the staff supporting the systems, and end-user training. Testing will occur at various stages of the Agile development process to ensure each sprint is successful before moving on to the next sprint; testing will include user-acceptance, system integration, performance, and data migration. Stakeholder management will include engagement of all levels within the Governance Structure, as well as maintaining executive awareness of the project's progress.

Alignment with OIT Best Practices

OIT will continue to partner strategically and tactically to create a comprehensive, accurate project assessment and budget estimate for the implementation of the new payroll system. These steps include creating an existing system applications inventory, a business process inventory and review by agency, and the development of business requirements to be considered in the development / implementation of the new system.

Procurement

The Department engaged OIT and agency partners in a rigorous procurement process. In the summer and fall of 2022 DPA met individually with over 20 agencies representing about 96% of the state workforce. These Agency Listening sessions identified gaps in the current environment and articulated the goals each agency hopes to achieve with a new system.

In July 2022 DPA published a [request for information \(RFI\)](#) to gather vendor input in an equitable manner, gain additional insight before the formal solicitation process, and outline

broad State requirements and parameters. The RFI confirmed DPA's scope and budget were in alignment with payroll systems available in the marketplace.

DPA then enlisted a procurement consulting contractor to help develop the procurement package. The Department held nine sessions with over 90 participants from 23 agencies across all three branches of government. The workshops produced business scenarios that were incorporated into the procurement.

In January 2023 the Department posted an Invitation to Negotiate. The solicitation closed in late March. In April, an evaluation committee reviewed the written proposals. Passing vendors advanced to demos and technical discussions. The Department also partnered with the Colorado Digital Services to facilitate a software trial evaluation component to have end users test potential software and evaluate usability, including accessibility for visually impaired users.

As of June 2023, the Department is planning to start vendor negotiations and contracting with potential vendors and make final vendor selection by summer 2023. Contract negotiations will be completed in the fall, with implementation beginning in winter 2023.

Security and Backup/Disaster Recovery

All technology projects follow the project management process prescribed by OIT. This process requires a detailed review and plan for data security and disaster recovery. These considerations are required as a part of the project implementation process.

Accessibility Compliance

The Department will ensure compliance with Section 24-85-103, C.R.S., which sets requirements requiring non-visual access, and will provide Voluntary Product Accessibility Templates to demonstrate compliance with Section 508, the Federal Standard that is even more stringent than the State statute, providing accessibility for people with limited capacities to see, hear, or exercise muscular control.

Impact to IT Common Policy (For Statewide OIT Projects Only)

It is not anticipated that this request would impact the OIT common policy.

ADDITIONAL REQUEST INFORMATION	
Please indicate if three-year roll forward spending authority is required.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is this a continuation of a project appropriated in a prior year?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If this is a continuation project, what is the State Controller Project Number?	2023-037122
If this request effects another organization, please provide a comfort letter.	
Please attach a letter from OIT indicating review and approval of this project	OIT Letter of Approval

CONTINUATION HISTORY (DELETE IF NOT APPLICABLE)			
	FY 2022-23 Appropriated	FY 2023-24 Appropriated	Total Appropriations
Total Funds	\$6,000,000	\$14,249,228	\$20,249,228
Capital Construction Funds	\$6,000,000	\$14,249,228	\$20,249,228
Cash Funds	\$0	\$0	\$0
Reappropriated Funds	\$0	\$0	\$0
Federal Funds	\$0	\$0	\$0
	FY 2022-23	FY 2023-24	Total
Amount Spent	\$5,906,407	\$0	\$5,906,407
Amount Encumbered	\$84,451	\$0	\$84,451
Total Funds Available	\$9,142	\$0	\$9,142

ESTIMATED PROJECT TIME TABLE		
Steps to be completed	Start Date	Completion Date
Vendor evaluation, selection and contracting	3/2023	11/2023
Iterative project implementation	1/2023	6/2026



COLORADO
Governor's Office of
Information Technology

September 27, 2023

Mark Ferrandino
Director
Office of State Planning and Budgeting
111 State Capitol
Denver, Colorado 80203

RE: FY 2024-25 Dept. of Personnel and Administration IT Capital Payroll Modernization Project

Dear Director Ferrandino:

Pursuant to OSPB instructions, this letter is to confirm that the Office of Information Technology (OIT) has been informed of the development and submission of this proposed FY 2024-25 request for the Department of Personnel and Administration requests \$17,203,705 in IT capital funding as part of the third request of an Agile-phased approach to modernize the State's payroll system. This request to modernize the existing payroll system is anticipated to span four years for implementation. This request supports DPA's Employer of Choice Wildly Important Goal (WIG) as well as the State's Partnership Agreement with WINS.

OIT has completed an internal review to ensure the project aligns with statewide IT goals and determined that OIT has the capacity to deliver and meet the requirements of the project.

Please note: OIT and DPA are in agreement that a security review will be completed as part of the project itself, when applicable. Also, any OIT specific work should be reappropriated to OIT through the payments of OIT line, where applicable.

Sincerely,

Rus Pascual, OIT Budget Director
Rita DeFrance, DPA IT Director

Rus Pascual



CC-IT: CAPITAL CONSTRUCTION INFORMATION TECHNOLOGY REQUEST FOR FY 2024-25

Department	Colorado Department of Public Health and Environment	Signature Department Approval:	Karl Paulson <small>Digitally signed by Karl Paulson Date: 2023.09.29 08:59:27 -06'00'</small>
Project Title	Colorado WIC MIS Modernization	Signature OIT Approval:	Rus Pascual 09/29/2023
Project Year(s)	SFY 2023-24, SFY 2024-25, SFY 2025-26 [FFY 2023-24, FFY 2024-25, FFY 2025-26]	Signature OSPB Approval:	Adrian Leiter 10/30/23
Department Priority Number		Name and e-mail address of preparer: Brett Reeder (Brett.Reeder@state.co.us)	
Five-Year Roadmap?	Yes		

Revision? Yes x No <small>If yes, last submission date: _____</small>	Total Project Costs	Total Prior Year Appropriations	Request Year (FY 2024-25) Request	Year 2 Request	Year 3 Request	Year 4 Request	Year 5 Request
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A. Contract Professional Services

(1) OIT Contracted Program Manager	\$ 216,363	\$ 52,500	\$ 71,575	\$ 73,722	\$ 18,566	\$ -	\$ -
(2) Quality Assurance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3) Independent Verification and Validation	\$ 200,000	\$ -	\$ 75,000	\$ 100,000	\$ 25,000	\$ -	\$ -
(4) Training	\$ 30,000	\$ -	\$ -	\$ 22,500	\$ 7,500	\$ -	\$ -
(5) Leased Space (Temporary)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6) Feasibility Study	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7a) Inflation for Professional Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7b) Inflation Percentage Applied	\$ -	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(8) Other Services/Costs	\$ 1,472,077	\$ 363,789	\$ 415,234	\$ 544,288	\$ 148,766	\$ -	\$ -
(9) Total Professional Services	\$ 1,918,440	\$ 416,289	\$ 561,809	\$ 740,510	\$ 199,832	\$ -	\$ -

B. Software Acquisition

(1) Software COTS Purchase	\$ 2,000,000	\$ 166,667	\$ 722,222	\$ 888,889	\$ 222,222	\$ -	\$ -
(2) Software Built	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3a) Inflation on Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3b) Inflation Percentage Applied	\$ -	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(4) Total Software	\$ 2,000,000	\$ 166,667	\$ 722,222	\$ 888,889	\$ 222,222	\$ -	\$ -

C. Equipment

(1) Servers	\$ 5,000	\$ -	\$ -	\$ 3,750	\$ 1,250	\$ -	\$ -
(2) PCs, Laptops, Terminals, PDAs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3) Printers, Scanners, Peripherals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4) Network Equipment/Cabling	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(5) Miscellaneous	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6) Total Equipment and Miscellaneous	\$ 5,000	\$ -	\$ -	\$ 3,750	\$ 1,250	\$ -	\$ -

D. Project Contingency

(1) 5% project contingency	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2) 13.4% indirect	\$ 525,741	\$ 78,116	\$ 172,060	\$ 218,842	\$ 56,723	\$ -	\$ -
(3) Total Project Contingency	\$ 530,741	\$ 78,116	\$ 172,060	\$ 218,842	\$ 56,723	\$ -	\$ -

E. Total Request

Total Budget Request [A+B+C+D]	\$ 4,454,181	\$ 661,072	\$ 1,456,091	\$ 1,851,991	\$ 480,027	\$ -	\$ -
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F. Source of Funds

GF	\$ 1,000,000	\$ -	\$ 500,000	\$ 500,000	\$ -	\$ -	\$ -
CF/RF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FF	\$ 3,449,181	\$ 661,072	\$ 956,092	\$ 1,351,991	\$ 480,027	\$ -	\$ -



RY- Department IT Capital Construction Project: [IT Capital-01]

Summary of Request	Total Funds	CCF-IT	Cash Funds	Reappropriated Funds	Federal Funds
FY 2024-25	\$1,456,092	\$500,000	\$0	\$0	\$956,092
FY 2025-26	\$1,851,991	\$500,000	\$0	\$0	\$1,351,991
FY 2026-27	\$480,027	\$0	\$0	\$0	\$480,027

Categories of IT Capital Projects

System Replacement (costs escalating, failing technology, software or vendor support ended, or new technology, e.g., DRIVES, CHATS)	System Enhancement Regulatory Compliance (new functionality, improved process or functionality, new demand from citizens, regulatory compliance, e.g, CBMS)	Tangible Savings Process Improvement (conscious effort to reduce or avoid costs, improve efficiency, e.g., LEAN, back office automation)	Citizen Demand “The Ways Things Are” (transformative nature of technology, meet the citizens where they are, e.g., pay online, mobile access)
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Request Summary:

The Special Supplemental Nutrition Program for Women, Infants, and Children in Colorado (COWIC) in the Prevention Services Division requests \$3,788,110 total funds (\$500,000 Capital Construction Fund in FY 2024-25 and \$500,000 Capital Construction Fund in FY 2025-26). This is a system replacement request which supports the modernization of Colorado's WIC program by facilitating a transition to a new participant-centered Management Information System (MIS) that better addresses programmatic and participant needs. WIC MIS encompasses the database and related systems responsible for compliance, reporting, integration, and service delivery for WIC participants throughout the state. As such, state and local public health agency staff (LPHA) are the system's primary users, while WIC participants and WIC eligible Coloradans are its primary beneficiaries. Although the program's current MIS, Compass, has fulfilled its purpose for over a decade, more advanced alternatives have emerged in other states. We have access to federal funds now to make a transition to one of those systems and in the absence of these state funds we risk missing this opportunity to leverage temporarily available federal funds for this transition, and as a result, may be stuck with an antiquated MIS for years to come.

By adopting a contemporary MIS, Colorado's WIC program can enhance its ability to securely exchange data with other systems and to provide an improved experience for state staff, LPHA clients, and program participants. This transition can be funded through a combination of one-time federal grants over the next three years, while ongoing operations and maintenance will be sustained by existing

federal funds. However, state dollars are required in FY 2024-25 and FY 2025-26 in order to fully fund the project.

Project Description:

COWIC's current Management Information System (MIS), Compass, is outdated, falls short in meeting program requirements, and is not on a development path to adequately address these shortcomings. Other states are already utilizing more advanced MIS options that better align with COWIC's needs. By adopting one of these modern systems, the program can improve nutrition security for pregnant and postpartum individuals, infants, and children up to age five through state-of-the-art service delivery, streamlined administration, reduced barriers to program participation, heightened client engagement, and responsible use of federal funding to support sustainable and efficient technology systems. These contemporary MIS solutions have already demonstrated their benefits in other states, and this system replacement request aims to leverage federal funds, enabling Colorado to join them in providing a robust technological foundation for the COWIC program. This request supports the modernization of Colorado's WIC program by facilitating a transition to a new participant-centered MIS that better addresses programmatic needs by leveraging \$3,449,181 in federal funds over four state fiscal years (three complete federal fiscal years - FFY 2023-24 to FFY 2025-26), supplemented by \$500,000 General Fund in FY 2024-25 and \$500,000 General Fund in FY 2025-26.

Systems Integration Opportunities -

This is a system replacement project, with a primary integration into our Electronic Benefit Transfer (EBT) vendor. In future years we anticipate the functionality of this new MIS will also allow for additional system integrations not currently possible.

Risks and Constraints -

Our risks mirror those of any large technology system including:

- **Cost Overruns / Insufficient Funding** - Though we will not engage in this project without the necessary funding secured ahead of time, projects sometimes run over budget. By selecting an existing system recently adopted by other states, we reduce unforeseen costs, and as a result, reduce over-run risk. We will also utilize our contract to protect us from cost overruns.
- **Lost System Functionality** - We wholly anticipate improved system functionality as demonstrated by existing systems utilized by other states. However, there's a risk that some desired functionality will be lost anytime a new technology system is adopted. We mitigated this to a large degree via the feasibility study, and will build on this effort during the procurement process.
- **Data Loss** - There's always a risk of data loss when transferring systems, though we will have access to our legacy system beyond the time our new system is stood up. This will protect us from any data loss during initial data transfer.
- **Poor System Adoption** - Changing systems, even when improving them, come with increased training and support needs. To mitigate this risk we anticipate up to 12 months of more intensive training/support following implementation.

Our primary constraints are related to the federal funds supporting this project. We are using at least eight different federal funding streams for this project, which have time constraints ranging from September 2024 to September 2027 and will thus be expended on a first-in first-out basis. Additionally, many of these funds are related to one-time federal investments. As such, our timing for this project is constrained to the timeline laid out the federal funds available for this project.

Operating Budget Impact -

Operations of the new MIS will be funded by existing federal funds that are currently utilized for maintenance and operations of the current MIS.

Background of Problem or Opportunity:

The program's present MIS, Compass, is outdated, falls short in meeting program requirements, and is not on a development path to adequately address these shortcomings. To seek out solutions, in partnership with OIT, COWIC developed a digital strategy roadmap and commissioned a Feasibility Study conducted by Resultant in 2022. This study evaluated the current MIS in light of program objectives and pinpointed three alternative MIS options employed by other states' WIC programs. These alternatives significantly surpass our current system in meeting program needs across nine crucial domains:

- Operational Requirements
- System Functionality
- Client Experience
- Server Infrastructure
- System Connectivity
- Data Security
- System Maintenance
- System Enhancements
- Employee Support

Additionally, the United States Department of Agriculture, Food and Nutrition Service (FNS) has made available several one-time infrastructure and technology grants, specifically designed to assist projects like COWIC's. Consequently, now is the ideal moment to take advantage of federal funding to transition to an MIS that more effectively addresses the needs of our program and the individuals it serves.

Justification:

COWIC commissioned a Feasibility Study by Resultant (2022) that assessed the current MIS based on program goals and identified three alternative MIS currently utilized by other states' WIC programs that substantially better meet our needs across nine domains. As a result, COWIC has determined that switching to a MIS that better meets our needs is in the best interests of the program and the participants it serves.

Business Process Analysis -

Basic Business Process Analyses (BPAs) were conducted as part of the feasibility study, though in-depth BPAs were conducted in the development of each of the MIS alternatives, including our preferred product, MOSAIC (see below). Because we are adopting an existing product already successfully serving other states' WIC programs, we will not need to design a system from the ground up. Rather, we are able to modify an existing system around the edges to fit the Colorado context. In preparation for this, we are engaging in additional Business Process Analyses with our QI & Performance Management Specialist throughout 2023.

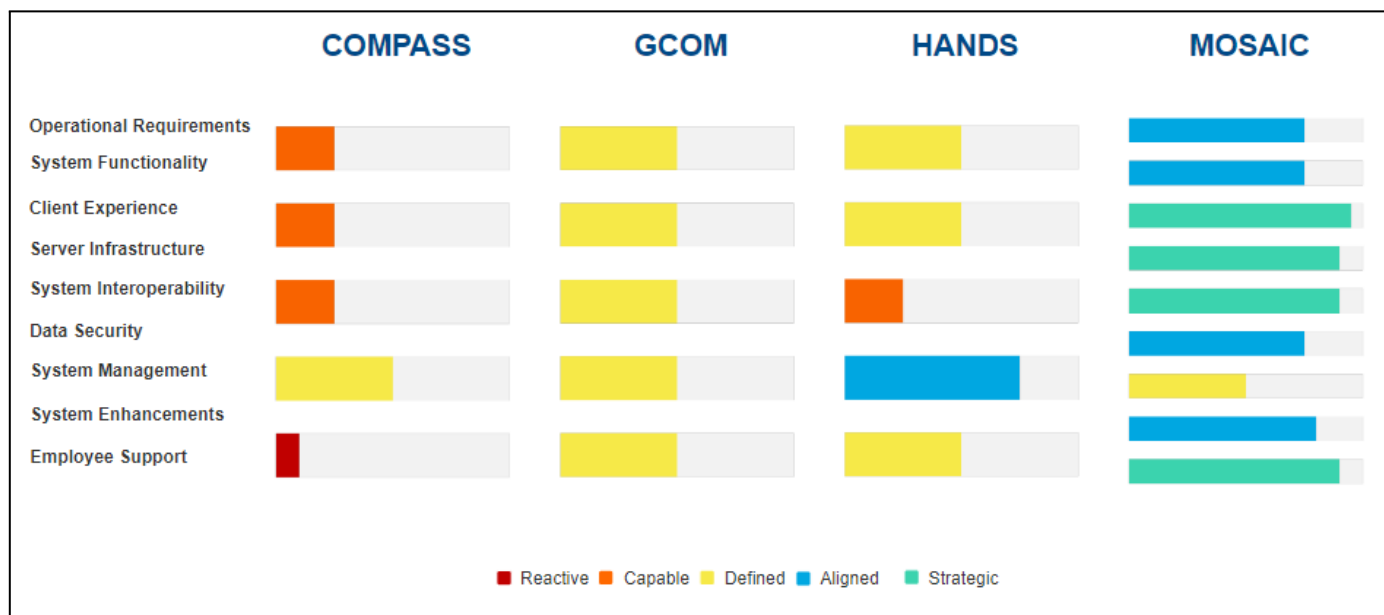
Cost-Benefit Analysis and Project Alternatives (per H.B. 15-1266) -

CDPHE engaged an external consultant, Resultant, to conduct a system evaluation and feasibility study for COWIC MIS technology needs. As part of this work, Resultant identified four primary MIS systems in operation at states across the country:

- Compass (our current system)
- GCOM
- HANDS
- MOSAIC

GCOM, HANDS and MOSAIC all significantly surpass our current system (Compass) in meeting program needs across nine crucial domains, noted above in the background section, and are already successfully operating WIC programs in other states:

As summarized by the chart below, among all the systems, MOSAIC stood out as the most capable system and the system most well suited for dynamic future enhancements.



Ongoing operations and maintenance (O & M) costs with MOSAIC would be approximately the same as our current O & M costs for Compass, but enhancement costs are significantly less. We will, however, incur substantial one-time implementation costs to migrate and convert the data, train state and local staff, and customize the system to the Colorado context.

Success Criteria and Improved Performance Outcomes -

Success will entail transitioning to a new MIS with minimal disruption to the program and with improvements across nine domains (non-exhaustive examples provided below):

- **Operational Requirements** - The ability to collaborate on participant records across state and local staff, automated questionnaires, and automated risk codes. An emphasis on low-code and no-code processes that allow for quick changes at the operational level, to meet the rapidly changing rule sets of the program.
- **System Functionality** - Increased automation and process standardization, especially around data entry. A combination of pre-designed reports/dashboards and the capability for analysts and power users to personalize their experience and analyze the available data according to their needs.
- **Client Experience** - Flexibility to perform activities related to the same client in parallel or in whatever sequence works best for a clients situation. A tool which adapts to our participants, rather than requiring our participants to adapt to our tool.
- **Server Infrastructure** - An entirely cloud-based solution (current system, Compass, will not be cloud based until 2029 or later).
- **System Connectivity** - Ability for future integrations with state systems such as PEAK and with external systems such as online nutrition education providers.
- **Data Security** - A StateRAMP certified system with multi-factor authentication.

- **System Maintenance** - Low-code and no-code solutions which reduce the need for technical support, bolstered by a robust help desk ticketing portal managed by the vendor, and regular release schedule for larger system updates.
- **System Enhancements** - Ability to implement future enhancements as the program continues to evolve. Examples of possible future enhancements include telehealth and mobile pay.
- **Employee Support** - Robust training materials and ability to flag system issues for the technical team.

Assumptions for Calculations:

The funds for this project will be primarily federal and thus follow federal fiscal years (FFYs):

- FFY 2023-24 - Oct 1, 2023 to Sep 30, 2024
- FFY 2024-25 - Oct 1, 2024 to Sep 30, 2025
- FFY 2025-26 - Oct 1, 2025 to Sep 30, 2026

This timing crosses four state fiscal years (SFYs):

- SFY 2023-24
- SFY 2024-25
- SFY 2025-26
- SFY 2026-27

The budget below has been modified to mirror OIT categories and state fiscal years.

TABLE 1. Project Budget

		Total Project Costs	Year 1 (SFY 2023 - 24)	Year 2 (SFY 2024 - 25) Request Year	Year 3 (SFY 2025 - 26)	Year 4 (SFY 2026 - 27)
A.	Contract Professional Services (Inflation of 3% Applied within Items)					
(1)	OIT Contracted Program Manager	\$ 216,363	\$ 52,500	\$ 71,575	\$ 73,722	\$ 18,566
(2)	Quality Assurance	\$ -	\$ -	\$ -	\$ -	\$ -
(3)	Independent Verification and Validation (IV&V)	\$ 200,000	\$ -	\$ 75,000	\$ 100,000	\$ 25,000
(4)	Training	\$ 30,000	\$ -	\$ -	\$ 22,500	\$ 7,500
(5)	Leased Space (Temporary)	\$ -	\$ -	\$ -	\$ -	\$ -
(6)	Feasibility Study (Already Completed - Oct'22)	\$ -	\$ -	\$ -	\$ -	\$ -
(7a)	Inflation for Professional Services	Inflation assumption of 3% per year built into costs and reflected <i>within</i> lines.				
(7b)	Inflation Percentage Applied					

(8)	Other Services/Costs	\$ 1,472,077	\$ 363,789	\$ 415,234	\$ 544,288	\$ 148,766
(9)	Total Professional Services	\$ 1,918,440	\$ 416,289	\$ 561,809	\$ 740,510	\$ 199,832
B.	Software Acquisition					
(1)	Software COTS Purchase (MOSAIC Implementation)	\$ 2,000,000	\$ 166,667	\$ 722,222	\$ 888,889	\$ 222,222
(2)	Software Built	\$ -	\$ -	\$ -	\$ -	\$ -
(3a)	Inflation on Software	Inflation assumption of 3% per year built into costs and reflected <i>within</i> lines.				
(3b)	Inflation Percentage Applied					
(4)	Total Software	\$ 2,000,000	\$ 166,667	\$ 722,222	\$ 888,889	\$ 222,222
C.	Equipment					
(1)	Servers	\$ 5,000	\$ -	\$ -	\$ 3,750	\$ 1,250
(2)	PCs, Laptops, Terminals, PDAs	\$ -	\$ -	\$ -	\$ -	\$ -
(3)	Printers, Scanners, Peripherals	\$ -	\$ -	\$ -	\$ -	\$ -
(4)	Network Equipment/Cabling	\$ -	\$ -	\$ -	\$ -	\$ -
(5)	Miscellaneous	\$ -	\$ -	\$ -	\$ -	\$ -
(6)	Total Equipment and Miscellaneous Costs	\$ 5,000	\$ -	\$ -	\$ 3,750	\$ 1,250
D.	Project Contingency					
(1)	5% project contingency	USDA Does NOT Allow Project Contingency Funds for FNS Funded Projects				
(2)	13.4% Indirect	\$525,741	\$78,116	\$172,060	\$218,842	\$56,723
(3)	Total Contingency & Indirect	\$525,741	\$78,116	\$172,060	\$218,842	\$56,723
E.	Total Project					
	Total Budget Request [A+B+C+D]	\$ 4,449,181	\$ 661,072	\$ 1,456,092	\$ 1,851,991	\$ 480,027
F.	Source of Funds					
	GF	\$ 1,000,000	\$ -	\$ 500,000	\$ 500,000	\$ -
	CF/RF	\$ -	\$ -	\$ -	\$ -	\$ -
	FF	\$ 3,449,181	\$ 661,072	\$ 956,092	\$ 1,351,991	\$ 480,027
	check (should = E)	\$4,449,181	\$661,072	\$1,456,092	\$1,851,991	\$480,027

More detail is provided on item A(8) - Other Services/Costs in Table 2 below.

TABLE 1. Budget Detail for A(8) - Other Services/Costs

	Total Project Costs	Year 1 (SFY 2023 - 24)	Year 2 (SFY 2024 - 25) Request Year	Year 3 (SFY 2025 - 26)	Year 4 (SFY 2026 - 27)
CDPHE Personnel					
Agency Project Manager - Term Limited Position	\$ 370,908	\$ 90,000	\$ 122,700	\$ 126,381	\$ 31,827
WIC Data Manager	\$ 142,867	\$ 34,699	\$ 47,257	\$ 48,658	\$ 12,254
WIC Nutrition/Clinic Operations Manager (Product Owner)	\$ 159,410	\$ 39,726	\$ 54,104	\$ 52,590	\$ 12,990
WIC Director	\$ 48,892	\$ 11,864	\$ 16,174	\$ 16,659	\$ 4,195
TOTAL Personnel (Less OIT PM)	\$ 722,077	\$ 176,289	\$ 240,234	\$ 244,288	\$ 61,266
Contracted Services					
Planning/IAPD/Requirements Development Contract	\$ 250,000	\$ 187,500	\$ 62,500	\$ -	\$ -
EBT Contract Amendment	\$ 300,000	\$ -	\$ 112,500	\$ 150,000	\$ 37,500
MPUG Contract closeout	\$ 200,000	\$ -	\$ -	\$ 150,000	\$ 50,000
TOTAL Other Services/Costs	\$ 1,472,077	\$ 363,789	\$ 415,234	\$ 544,288	\$ 148,766

We make the following assumptions in these cost estimates:

- 3% Inflation on costs year-to-year
- 13.4 % Indirects each year
- Contingency funds NOT allowed (are not allowed by our federal funder, USDA FNS)

Consequences if not Funded -

The COWIC current MIS (Compass) is antiquated, does not adequately meet our needs, and will not be able to for the foreseeable future due to exceptionally long development times (e.g., Compass will finally migrate to the Cloud in 2029). Other states are already utilizing more modern systems for their WIC program which do meet our needs, and we have access to federal funds to make a transition to one of those systems now. In the absence of these state funds we risk missing this opportunity to leverage temporarily available federal funds for this transition, and as a result, may be stuck with an antiquated MIS for years to come.

Change Management -

- **Testing** for this project will include (1) user-acceptance testing; (2) unit testing; (3) system integration testing; (4) performance testing; and (5) data migration testing.
- **Training** will include: (1) any business process changes, (2) system usage, and (3) technical training for our resources supporting the system.

Change management will kick into full gear in Year 3 of the project and will involve regular communication with both local public health agencies and our WIC participants.

Alignment with OIT Best Practices and Standards -

The proposed system is an off-the-shelf solution that is in use by a number of other states' WIC programs. However, the system will be evaluated against OIT's standards through the state procurement process. This project is part of CDPHE's Five-Year IT Roadmap and will alleviate technology debt for the agency.

Procurement -

CDPHE has a standing monthly meeting with OIT to discuss this project and ensure alignment across agencies. OIT has been, and will continue to be, involved in this procurement process.

CDPHE has joined the Texas Health and Human Services Commission in their MIS solicitation. Texas already uses MOSAIC and we anticipate MOSAIC will be the successful bidder on this solicitation, though Colorado is not obligated to adopt this system should the bid not meet Colorado's needs. Additionally, the USDA FNS requires COWIC to go through an IAPD process aligned with FNS Handbook 901. CDPHE is engaging a consultant to support us in this process.

OIT will continue to be involved in the procurement process, including any contract negotiations which follow this solicitation. OIT has provided this letter of support (awaiting OIT response).

Disaster Recovery and Business Continuity -

Disaster recovery and business continuity will be included as part of our contracts and we will be consulting with OIT in determining that content.

Accessibility Compliance (Must be addressed) -

- Compliance with the accessibility standards set by HB21-1110, SB23-244 and per Section 24-85-103, C.R.S. will be included in any contracts for this project.

Impact to IT Common Policy (For Statewide OIT Projects Only) -

- N/A

ADDITIONAL REQUEST INFORMATION	
Please indicate if three-year roll forward spending authority is required.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is this a continuation of a project appropriated in a prior year?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If this is a continuation project, what is the State Controller Project Number?	N/A
If this request effects another organization, please provide a comfort letter.	N/A
Please attach a letter from OIT indicating review and approval of this project	OIT Letter of Approval

ESTIMATED PROJECT TIME TABLE		
Steps to be completed	Start Date	Completion Date
Notice of Award (from Joint Solicitation)		May 2024
Implementation Period with MOSAIC Vendor	June 2024	Sep 2026
Change Management Period with LPHAs and Participants	Oct 2025	Sep 2026



COLORADO
Governor's Office of
Information Technology

July 12, 2023

Mark Ferrandino
Director
Office of State Planning and Budgeting
111 State Capitol
Denver, Colorado 80203

RE: FY 2024-25 Dept. of Public Health and Environment IT Capital request - WIC
Systems Upgrade

Dear Director Ferrandino:

Pursuant to OSPB instructions, this letter is to confirm that the Office of Information Technology (OIT) has been informed of the development and submission of this proposed FY 2024-25 request for the Department of Public Health and Environment - more specifically the Special Supplemental Nutrition Program for Women, Infants, and Children in Colorado (COWIC) in the Prevention Services Division requests \$500,000 Capital Construction Fund in FY 2024-25 and \$500,000 Capital Construction Fund in FY 2025-26. This is a system replacement request which supports the modernization of Colorado's WIC program by facilitating a transition to a new participant-centered Management Information System (MIS) that better addresses programmatic and participant needs.

OIT has completed an internal review to ensure the project aligns with statewide IT goals and determined that OIT has the capacity to deliver and meet the requirements of the project.

Please note: OIT and CDPHE are in agreement that a security review will be completed as part of the project itself, when applicable. Also, any OIT specific work should be reappropriated to OIT through the payments of OIT line, where applicable.

Sincerely,

Rus Pascual

Rus Pascual, OIT Budget Director



Travis Tiller, CDPHE Interim IT Director



CC-IT: CAPITAL CONSTRUCTION INFORMATION TECHNOLOGY REQUEST FOR FY 2024-25

Department	Colorado Department of Public Safety	Signature Department Approval:	Teresa Anderle 18-Sep-23
Project Title	CC-IT-01 Sex Offender Registry Overhaul	Signature OIT Approval:	Rus Pascual 28-Sep-23
Project Year(s)	2024 to 2027	Signature OSP Approval:	<i>Adrian Leiter</i> 10/30/23 Date
Department Priority Number	1		
Five-Year Roadmap?	Yes	Name and e-mail address of preparer:	Michele Metziner (michele.metziner@state.co.us)

Revision? Yes x No If yes, last submission date: _____	Total Project Costs	Total Prior Year Appropriations	Request Year (FY 2024-25) Request	Year 2 Request	Year 3 Request	Year 4 Request	Year 5 Request
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A. Contract Professional Services

(1) Contracted Program Manager	\$ 230,640	\$ -	\$ 230,640	\$ -	\$ -	\$ -	\$ -
(2) Quality Assurance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3) Independent Verification and Validation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4) Training	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ -	\$ -	\$ -
(5) Leased Space (Temporary)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6) Feasibility Study	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7a) Inflation for Professional Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7b) Inflation Percentage Applied		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(8) Other Services/Costs	\$ 1,029,000	\$ -	\$ 1,029,000	\$ -	\$ -	\$ -	\$ -
(9) Total Professional Services	\$ 1,284,640	\$ -	\$ 1,284,640	\$ -	\$ -	\$ -	\$ -

B. Software Acquisition

(1) Software COTS Purchase	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2) Software Built/Web Design	\$ 1,381,000	\$ -	\$ 1,381,000	\$ -	\$ -	\$ -	\$ -
(3a) Inflation on Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3b) Inflation Percentage Applied	\$ -	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(4) Total Software	\$ 1,381,000	\$ -	\$ 1,381,000	\$ -	\$ -	\$ -	\$ -

C. Equipment

(1) Servers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2) PCs, Laptops, Terminals, PDAs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3) Printers, Scanners, Peripherals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4) Network Equipment/Switch System	\$ 353,000	\$ -	\$ 353,000	\$ -	\$ -	\$ -	\$ -
(5) Miscellaneous	\$ 68,860	\$ -	\$ 68,860	\$ -	\$ -	\$ -	\$ -
(6) Total Equipment and Miscellaneous	\$ 421,860	\$ -	\$ 421,860	\$ -	\$ -	\$ -	\$ -

D. Project Contingency

(1) 5% project contingency	\$ 162,500	\$ -	\$ 162,500	\$ -	\$ -	\$ -	\$ -
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E. Total Request

Total Budget Request [A+B+C+D]	\$ 3,250,000	\$ -	\$ 3,250,000	\$ -	\$ -	\$ -	\$ -
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F. Source of Funds

GF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CF/RF	\$ 3,250,000	\$ -	\$ 3,250,000	\$ -	\$ -	\$ -	\$ -
FF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

check (should = E) \$3,250,000 \$0 \$3,250,000 \$0 \$0 \$0 \$0



FY25- CDPS IT Capital Construction Project: CC-IT- 01 Sex Offender Registry Overhaul

Summary of Request	Total Funds	CCF-IT	Cash Funds	Reappropriated Funds	Federal Funds
FY 2024-25	\$3,250,000	\$3,250,000	\$0	\$0	\$0
FY 2025-26	\$0	\$0	\$0	\$0	\$0
FY 2026-27	\$0	\$0	\$0	\$0	\$0

Categories of IT Capital Projects:

System Replacement (costs escalating, failing technology, software or vendor support ended, or new technology, e.g., DRIVES, CHATS)	System Enhancement Regulatory Compliance (new functionality, improved process or functionality, new demand from citizens, regulatory compliance, e.g, CBMS)	Tangible Savings Process Improvement (conscious effort to reduce or avoid costs, improve efficiency, e.g., LEAN, back office automation)	Citizen Demand “The Ways Things Are” (transformative nature of technology, meet the citizens where they are, e.g., pay online, mobile access)

Request Summary:

The Department of Public Safety requests \$3.25M Capital Construction Funds (CCF) for a system overhaul and regulatory compliance to the Colorado Sex Offender Registry to enhance the system. On July 1, 2002, the Colorado Bureau of Investigation (CBI) was designated the responsibility of the management and operation of the Colorado Sex Offender Registry (SOR) and the associated public website. The Colorado SOR is maintained on the Colorado Crime Information Center (CCIC) computer system for Colorado law enforcement agencies, and on the Internet for the public. The CCIC system works in conjunction with the National Crime Information Center (NCIC) system, exchanging registration information throughout the United States, the Indian Tribes and the US territories. This information is also shared with the National Sex Offender Registry (NSOR) public website. While the public-facing site provides a clearinghouse of information about sex offenders that is available as determined by State statute, the CCIC system is the location where the actual tracking of the sex offenders occurs.

- This project is a system overhaul to the Registry system and does not require additional expenditures such as FTE, lease space or vehicles.

- Stakeholders of this project include the citizens of the State of Colorado as well as the law enforcement agencies in the State of Colorado. All stakeholders would be positively impacted by this critical project.
- Citizens of the state (and those searching the site) will receive reliable information about individuals who are required to register as sex offenders, and where they live.
- The system enhancement (Module 3.0) will benefit the local law enforcement agencies in several ways. First, the entry of the records will be easier to perform due to user friendly formatting requirements of the system. Module 3.0 will eliminate current duplication steps experienced by law enforcement agencies. Finally, the data will be easier to manage and the offenders will be easier to track because of significant system updates. Module 3.0 will facilitate more accurate information sharing with our national partners. As sex offenders move and travel around the United States, having accurate information in NCIC is imperative for other states to understand the complete and accurate picture of a sex offender. By implementing Module 3.0, the CBI will be able to more easily share data with other states, such as documents, photographs and house check information.

There has not been a system upgrade of the system of this magnitude since 2014. The current version of the SOR is well beyond its end-of-life operability and cannot meet the needs of stakeholders in its current state.

Project Description:

The State of Colorado maintains a sex offender registry that is statutorily operated by the CBI. This critical public safety tool tracks the whereabouts and law enforcement interactions of approximately 20,000 registered sex offenders in the state. The Colorado Sex Offender Registry (COSOR) is required to provide the ordered synthesis of information on all individuals required to register as a sex offender in the State of Colorado. This information is uploaded and disseminated nationally through the National Crime Information Center (NCIC).

Local law enforcement agencies are responsible to register each sex offender by court order that resides in their respective jurisdictions; including the offender's name, address(es), offense(s), date of birth and other identifying information. This information is then uploaded and housed within the Colorado COSOR system and simultaneously moved into NCIC. It is imperative this information is accurate and up-to-date. Any deviance or errors in the process could result in a loss of ability to coordinate national efforts to track sex offenders.

This current module is no longer capable of providing a platform where local law enforcement can properly upload usable data for sex offender registrants. Further, it does not allow for accurate record transmission to the federal government or CBI's public facing website. The simple truth is that software needs to be updated.

The vendor supporting the current module is offering an upgrade to Module 3.0 (Module 2.0 was introduced five years ago, while the CBI continues to operate on Module 1.0). Module 3.0 will benefit the local law enforcement agencies in several ways. First, the entry of the records will be easier due to user friendly formatting requirements. Additionally, current duplication of data entry by Law Enforcement agencies will be eliminated. Finally, the data will be easier to

manage and increase the opportunities for sharing information within the law enforcement community because of the numerous capabilities within Module 3.0.

Module 3.0 will facilitate more accurate information sharing with national partners. As sex offenders move and travel around the United States, having accurate information in NCIC is imperative for other states to understand the complete and accurate picture of a sex offender. By incorporating Module 3.0, the CBI will immediately improve the ability to share data with other states, such as documents, photographs and house verification information of sex offenders.

Law enforcement end users have repeatedly voiced the need for an upgraded system to meet their needs. There is no negative external stakeholder impact with the implementation of Module 3.0.

Integration with the Federal Government (FBI)

The CBI currently uses the COSOR (Colorado Sex Offender Registration) Module 1.0. For almost a decade, this integration with the FBI system has been problematic and error-ridden. Purchasing and customizing Module 3.0 will allow critical error findings from a previous FBI Audit to be addressed. The major audit findings from September 2022 were in the areas of Accuracy and Completeness related to the system. There is a significant problem with Module 1.0 and its ability to sync records from the CCIC to the NCIC system. With the updated Module 3.0, these issues will be resolved. Colorado Sex Offender records will be more accurate and complete when submitted to the national database; thereby, making Colorado safer.

Integration with the local law enforcement

Implementing Module 3.0 will satisfy local law enforcement agency requests to upgrade and improve the COSOR, resulting in local Colorado law enforcement efficiently and effectively entering and tracking sex offender information. Upgrading the system will provide the desired outcome of a more seamless interjurisdictional data management through a system with many features currently not available in the state at this time.

Integration within CDPS

Module 3.0 will also have the ability to interface with the Colorado Sex Offender Registration website, maintained by SIPA (State Internet Portal Authority). The current system, Module 1.0, does not integrate with the SIPA interface well in sex offender mapping. This consistently results in mapping sex offenders in the wrong places. This is both harmful to public safety and a detriment to the citizens who are at a residence where sex offenders have been incorrectly mapped. The CBI has worked tirelessly with the vendor to address this concerning system issue, but there has been no resolution that can be performed to eliminate the mapping errors in Module 1.0.

In looking at current risks, there are challenges associated with responsiveness of the vendor when there are issues with the current system. Because Module 1.0 is beyond end of life operability, the system is unable to be maintained in an effective and efficient manner. This is constantly an issue with the current module, as the CBI works with the vendor on system issues that frequently arise. All of the current issues (defects) in Module 1.0 have been put on hold for two years as the CBI staff works through the hardware upgrade in an attempt to improve the functionality of the system.

Operating Budget Impact -

The vendor will provide a one-year warranty on this project after completion. After that year, there will be an annual maintenance and support cost of \$285,000. A five percent escalation will be added annually beginning in year two and each year thereafter. The Department will submit a decision item through the regular budget process for operating expenses to cover the ongoing maintenance and support costs.

Background of Problem or Opportunity:

The COSOR must strive to meet the needs of the local law enforcement agencies and the federal government to house large quantities of information and seamlessly interchange with other databases. The COSOR requires advanced software to store and move data. The software must be capable for local law enforcement agencies to rapidly upload information related to sex offenders and house this information. In turn, the software must be interoperable with the national government so it can be transmitted to the rest of the United States.

Currently, the COSOR is using Module 1.0, from 2014. This software is not able to upload or house quantities of information from local law enforcement agencies or adequately disseminate information to NCIC. The software has had minimal updates or changes. It is antiquated, both in the ability to gather and house data (records), along with the ability to move records nationally.

Nationally- The current system has significant problems merging/syncing records with NCIC causing frequent errors, ultimately resulting in unreliable information coming from the State of Colorado to the national government entities and other states. This has resulted in significant audit findings by the FBI in connection with the Sex Offender Registry, where errors in uploading information occur. The byproducts of these errors lead to issues where a registered sex offender might appear unregistered or the reverse, negatively impacting the overall safety of Colorado communities. Having inaccurate data nationally causes safety issues for the public and compliance issues for the registrant.

The CBI website is accessed publicly anywhere in the world and is viewed to map sex offenders in the area, among other features of the site. The records transferred from the current system to the CBI website vendor, in many cases, are mapping inaccurately because of multiple address issues in the software. Ultimately, this has affected innocent citizens who may live at an address listed as a sex offender's address. Over the last two years, the CBI has put hundreds

of hours of resources into this problem. With new or updated software, the CBI believes this problem will be eliminated, as the problem still has not been resolved.

Incorporating this upgrade so the system maps correctly will reduce the financial risk to the CBI and the State of Colorado in the form of potential lawsuits from citizens where their homes are being incorrectly mapped as a sex offender residence. Additionally, having an accurate mapping system provides a safer Colorado because citizens can be certain of this information.

Justification:

The current COSOR is no longer capable of providing a platform where local law enforcement can properly upload usable data for sex offender registrants as is beyond end of life operability. Further, it does not allow for accurate record transmission to the federal government or CBI's public facing website.

Business Process Analysis - The current version of the COSOR, Module 1.0 is the only version of the Sex Offender Registry the CBI has ever utilized. Module 2.0 was released in 2018, with the new version, Module 3.0 currently available to users. The system the CBI is currently using is beyond its end of life and is in critical need of being overhauled.

Cost-Benefit Analysis and Project Alternatives (per H.B. 15-1266) - If upgrades are not completed with this platform, the system will eventually fail. As the State repository for the Sex Offender Registry, the CBI and the State would be in direct conflict with the responsibilities mandated to us in 2002. If no changes are made, this system will fail causing the CBI to be out of compliance with the law. Additionally, utilizing a faulty database prevents law enforcement from utilizing this critical tool in the course of active investigations.

An enhanced system with accurate information for both law enforcement and sex offenders can only make Colorado safer. Therefore this request directly supports the Wildly Important Goal (WIG) on the Governor's Crime Prevention Cabinet Working Group dashboard and works towards making Colorado one of the nation's ten safest states.

Assumptions for Calculations -

Based on the Project Implementation Proposal, the total cost of this project will be \$3.25M. Below outlines the scope and pricing associated for the NextGen SOR application and is inclusive of all licensing, products, and services defined within this document including:

- NextGen SOR Licensing;
- NextGen SOR database hosting in the Vendor's Tier III+ Data Center;
- NextGen Disaster Recovery (hardware and database not included in this proposal);
- NextGen SOR implementation;
 - integration with the current switching system;
 - NCISync®;
 - customer-specific configurations;
 - testing;
 - project Management; and
- public website hosting, updates, and management.

Item	CPI Part Number/Description	Price
1	CPI-SOR NextGen SOR Discovery, Scope Statement, Licensing, Implementation, DR and Public-facing website	\$3,250,000.00

Consequences if not Funded -

If this project is not funded this system will eventually fail causing the CBI to be out of compliance with the law. As the state repository for the Sex Offender Registry, the CBI and the state would be in direct conflict with the responsibilities mandated to us in 2002. Additionally, having a system that operates effectively and efficiently for stakeholders (law enforcement and the public) helps to ensure the safety of Colorado communities.

Implementation Plan

Project implementation will involve coordination with the Governor’s Office of Information Technology (OIT) as a technology governance partner and in accordance with OIT standards, policies, and best practices, as well as the policies of the Colorado Information Security Office.

Based on experience from the 2014 system upgrade, the CBI has a plan in place to navigate through the implementation of this new system. Elements such as migration of information, training for law enforcement, testing of the system, and user accessibility will all serve as components of the Scope of Work that is currently being developed for this project.

Once approved, the CBI team will work with the vendor to implement specific timelines for the various elements of the program and ending with the creation of a PR/Marketing plan to alert law enforcement and the public of the new system and its features.

Through the Department of Public Safety’s requirements related to accessibility (policies and procedures), the CBI team will work with the vendor to ensure accessibility measures are incorporated in Module 3.0 prior to going live for the law enforcement community and the public.

Change Management -

The CBI has a plan in place for change management that includes testing, data migration and training for law enforcement.

The key stakeholders of law enforcement throughout the state have been asking for an upgraded system for some time. They have voiced the capabilities they want in an upgraded system which is incorporated or can be customized in Module 3.0.

Alignment with OIT Best Practices and Standards -

Module 3.0 is a system upgrade from the current Module 1.0. This conforms to current OIT standards.

Procurement -

The current vendor will likely be the vendor for the upgraded version. State OIT continually works with the current vendor on a number of different projects within the CBI. We have received a proposal for the upgrade and is not officially in any stage with OIT. However, OIT has provided a letter of approval. Due to the retention of proprietary software and database structures, this project will be sole-source.

Disaster Recovery and Business Continuity -

The current vendor that supports the COSOR will include the NextGen Disaster Recovery in their scope of work to include the hardware and database necessary.

Accessibility Compliance (Must be addressed) -

Through the Department of Public Safety’s requirements related to accessibility (policies and procedures), the CBI team will work with the vendor to ensure accessibility measures are incorporated in Module 3.0 prior to going live for the law enforcement community and the public.

Impact to IT Common Policy (For Statewide OIT Projects Only) -

There is no impact to IT Common Policy as this project is an upgrade for a system that has been in place since 2014 and will not impact Statewide OIT projects.

ADDITIONAL REQUEST INFORMATION	
Please indicate if three-year roll forward spending authority is required. (Yes, if project runs over 1 year).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is this a continuation of a project appropriated in a prior year?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If this is a continuation project, what is the State Controller Project Number?	Not Applicable
If this request effects another organization, please provide a comfort letter.	Not Applicable
Please attach a letter from OIT indicating review and approval of this project	OIT Letter of Support

ESTIMATED PROJECT TIME TABLE		
Steps to be completed	Start Date	Completion Date
Project kickoff to complete the SOW	July 2024	August 2024
Receive SOW from vendor	August 2024	Sept 2024
System development	Sept 2024	April 2025
Project IV&V	April 2025	May 2025
End User Installation, Testing and Training	May 2025	June 2025



COLORADO
Governor's Office of
Information Technology

July 13, 2023

Mark Ferrandino
Director
Office of State Planning and Budgeting
111 State Capitol
Denver, Colorado 80203

RE: FY 2024-25 Dept. of Public Safety IT Capital CC Enhance Sex Offender Registry
Overhaul Project

Dear Director Ferrandino:

Pursuant to OSPB instructions, this letter is to confirm that the Office of Information Technology (OIT) has been informed of the development and submission of this proposed FY 2024-25 request for the Department of Public Safety - Colorado Bureau of Investigation (CBI) is requesting \$3.25M in IT capital for a system overhaul and regulatory compliance to the Colorado Sex Offender Registry to enhance the system.

OIT has completed an internal review to ensure the project aligns with statewide IT goals and determined that OIT has the capacity to deliver and meet the requirements of the project.

Please note: OIT and CDPS are in agreement that a security review will be completed as part of the project itself, when applicable. Also, any OIT specific work should be reappropriated to OIT through the payments of OIT line, where applicable.

Sincerely,

Rus Pascual, OIT Budget Director
Carolyn Koehnen, Public Safety IT Director

Rus Pascual
carolyn koehnen



RY_CC-IT: CAPITAL CONSTRUCTION INFORMATION TECHNOLOGY REQUEST FOR FY 2024-25

Department	Colorado Department of Revenue	Signature Department Approval:	Ryan Reather	28-Sep-23				
Project Title	Licensing and Case Management Software	Signature OIT Approval:	Rus Pascual	28-Sep-23				
Project Year(s)	FY 2023 -24	Signature OSPB Approval:	<i>Adrian Leiter</i>	Date 10/30/23				
Department Priority Number	1	Name and e-mail address of preparer:						
Five-Year Roadmap?	Yes							
Revision? Yes No - NO		Total Project Costs	Total Prior Year Appropriations	Current Year Request	Year 2 Request	Year 3 Request	Year 4 Request	Year 5 Request
If yes, last submission date: N/A								
A. Contract Professional Services								
(1)	Consultants/Contactors	\$ 1,000,000	\$ 500,000	\$ 500,000		\$ -	\$ -	\$ -
(2)	Quality Assurance	\$ 150,000	\$ 75,000	\$ 75,000		\$ -	\$ -	\$ -
(3)	Independent Verification and Validation	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -
(4)	Training	\$ 200,000	\$ -	\$ 200,000		\$ -	\$ -	\$ -
(5)	Leased Space (Temporary)	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -
(6)	Feasibility Study	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -
(7a)	Inflation for Professional Services	\$ 94,500	\$ 40,250	\$ 54,250		\$ -	\$ -	\$ -
(7b)	Inflation Percentage Applied			7.00%		0.00%	0.00%	0.00%
(8)	Other Services/Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(9)	Total Professional Services	\$ 1,444,500	\$ 615,250	\$ 829,250	\$ -	\$ -	\$ -	\$ -
B. Software Acquisition								
(1)	Software COTS	\$ 6,000,000	\$ -	\$ 6,000,000		\$ -	\$ -	\$ -
(2)	Software Built	\$ 1,000,000	\$ -	\$ 1,000,000		\$ -	\$ -	\$ -
(3a)	Inflation on Software	\$ 525,000	\$ -	\$ 525,000		\$ -	\$ -	\$ -
(3b)	Inflation Percentage Applied	7.00%	0.00%	7.00%		0.00%	0.00%	0.00%
(4)	Total Software	\$ 7,525,000	\$ -	\$ 7,525,000	\$ -	\$ -	\$ -	\$ -
C. Equipment								
(1)	Servers	\$ 200,000	\$ 100,000	\$ 100,000		\$ -	\$ -	\$ -
(2)	PCs, Laptops, Terminals, PDAs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3)	Printers, Scanners, Peripherals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4)	Network Equipment/Cabling	\$ 200,000	\$ 100,000	\$ 100,000		\$ -	\$ -	\$ -
(5)	Other (Specify)	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -
(6)	Miscellaneous	\$ 200,000	\$ 100,000	\$ 100,000		\$ -	\$ -	\$ -
(7)	Total Equipment and Miscellaneous	\$ 600,000	\$ 300,000	\$ 300,000	\$ -	\$ -	\$ -	\$ -
D. Project Contingency								
(1)	project contingency	\$ 430,500	\$ 84,750	\$ 345,750		\$ -	\$ -	\$ -
(2)	10% set aside for future replacement	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -
E. Total Request								
Total Budget Request [A+B+C+D]		\$ 10,000,000	\$ 1,000,000	\$ 9,000,000	\$ -	\$ -	\$ -	\$ -
F. Source of Funds								
	GF	\$ 10,000,000	\$ 1,000,000	\$ 9,000,000	\$ -	\$ -	\$ -	\$ -
	CF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	RF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	FF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

check (should = E) \$10,000,000 \$1,000,000 \$9,000,000 \$0 \$0 \$0 \$0



RY- Licensing and Case Management: [IT Capital-01]

Summary of Request	Total Funds	CCF-IT	Cash Funds	Reappropriated Funds	Federal Funds
FY 2024-25	\$9,000,000	\$9,000,000	\$0	\$0	\$0
FY 2025-26	\$150,000	\$0	\$150,000	\$0	\$0
FY 2026-27	\$150,000	\$0	\$150,000	\$0	\$0
FY 2027-28	\$150,000	\$0	\$150,000	\$0	\$0
FY 2028-29	\$150,000	\$0	\$150,000	\$0	\$0

Categories of IT Capital Projects

System Replacement (costs escalating, failing technology, software or vendor support ended, or new technology, e.g., DRIVES, CHATS)	System Enhancement Regulatory Compliance (new functionality, improved process or functionality, new demand from citizens, regulatory compliance, e.g, CBMS)	Tangible Savings Process Improvement (conscious effort to reduce or avoid costs, improve efficiency, e.g., LEAN, back office automation)	Citizen Demand “The Ways Things Are” (transformative nature of technology, meet the citizens where they are, e.g., pay online, mobile access)
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Request Summary:

The Department of Revenue (DOR) requests the continuation of funding for this IT Capital request that was approved by the Joint Technology Committee and the Joint Budget Committee for the FY 2023-24 budget. FY 2023-24 contained a \$1 million IT Capital appropriation for the first installment of the total project cost for licensing and case management software for DOR. The total amount requested for implementing a new system is a one-time cost of \$10 million, with an annual cost of \$150,000 more than the current licensing system’s annual cost. Funding for the continuation of the approved project is \$9 million for FY 2024-25.

The current licensing system is limited in online application capabilities and translation services (DOR’s Wildly Important Goals [WIGs] 1 and 2). A new system may be able to expand on the online services and translation services being offered now, which would increase the ability of DOR to support and serve its diverse customer base. The current licensing system

and case management system do not interface to transfer data between the two, resulting in duplicate entries and errors in records and data. A new system may be capable of integrating all licensing and case management functionality.

The schedule for this project will commence with a solicitation in July 2024 since the project funding was approved for FY 2023-24. The project schedule will include solicitation, contract, analysis and software requirements, design, development and testing preparation, training, communication and documentation, and cutover.

The stakeholders for this project are the following divisions:

- the Auto Industry Division (AID);
- the Division of Gaming (DOG);
- the Liquor and Tobacco Enforcement Divisions (LED);
- the Division of Racing Events (Racing);
- the Marijuana Enforcement Division (MED);
- the Emissions Division within DMV (Emissions); and
- the Lottery Division (case management system only).

Additional stakeholders are all customers served by the MED, SBG, and Emissions licensing functions.

The request to use IT capital funds for a new licensing and case management system is based on procurement rules and guidelines. Previous market research shows that the divisions do not have sufficient funds in current cash reserves to secure a new system. If the funding request is not approved, the impacted divisions would need to deplete any remaining fund balances and significantly increase fees. Fee increases would increase the statewide level of TABOR revenue (except the MED revenue increases, which are TABOR-exempt). The AID's fees would increase by 12%. The LED's fees would increase by 17%. The MED's fees would increase by 28%. For Emissions, additional costs would be charged to the Highway User Tax Fund. The increase in costs for DOG and Lottery would result in reduced distributions to beneficiaries. Racing would have to collect more of the source market fee revenue to cover the cost. The table below shows the cost of implementation per division:

Division	FY 2023-24 Approved	FY 2024-25 Request	Division Total
Emissions	\$ 50,292	452,626	502,918
AID	41,615	374,531	416,146
LED	51,440	462,964	514,404
Racing	49,846	448,616	498,462
DOG/Gaming	327,409	2,946,679	3,274,088
DOG/Sports Betting	73,433	660,900	734,333
MED	355,965	3,203,683	3,559,648
Lottery	50,000	450,001	500,001
Fiscal Year Total	\$ 1,000,000	9,000,000	10,000,000

Project Description:

The current licensing and case management systems are being reviewed for potential replacement based on procurement rules. The current contracts for the licensing and case management systems will expire in June 2024, with two options to extend for one year or less. The licensing system currently performs all MED, SBG, and Emissions licensing functions and is a case management system for MED and AID. The current case management system provides case management for DOG, LED, Racing, and Lottery. The current systems do not interface to transfer data between the two, resulting in duplicate entries and errors in records and data. The ideal solution would be to have one system capable of all licensing and case management functionality, with enhanced support for online submissions, processing of applications in languages other than English, and a robust reporting system.

- **Systems integration opportunities** - A new system that functions as a licensing program and a case management program would reduce staff time spent performing duplicative entry, tracking, and processing tasks. The ability to submit online applications is critical for MED and SBG. The submission of online applications has reduced the errors seen in applications, resulting in fewer delays in the review and approval process.
- **Current system dependencies**
 - **Data interfaces** - Colorado Department of Human Services (CDHS) child support service API to transmit information regarding compliance with child support obligations.
 - **Funding** - Each division covers hosting, annual maintenance costs, and consulting with an existing vendor.

- **Risks and constraints**
 - **Risk** - Based on the market research done in 2019, DOR is unsure whether or not there is one system that can meet the needs of a licensing and case management system. The solicitation will include both licensing and case management functionality. If one system cannot meet these needs, the department may need to award to multiple vendors or solicit separately for a case management system.
 - **Risk** - A new system must be in place by July 1, 2026. The impact of not having a new system operational would halt all licensing abilities in MED, SBG, and Emissions.
 - **Constraint** - The current staffing levels within the MED and SBG are such that staffing for implementation and overall management of the system moving forward is limited and may result in implementation failure.

- **Operating Budget Impact** - The annual cost of a new system is anticipated to be \$150,000 higher than the current licensing system's annual costs.

Background of Problem or Opportunity:

MyLicense Office (MLO) is the licensing database and records management system for the following DOR agencies: MED, DOG, LED, Racing, AID, and Emissions. The MED also currently utilizes MLO as its Case Management System, which catalogs all regulatory and criminal investigations. MLO has served as MED's licensing database since the organization was initially formed as the Medical Marijuana Enforcement Division in 2010. At the time, the system was in use by DOG. The MLO contract expires on June 30, 2026, and will require a competitive solicitation process.

Absent funding for the project, the divisions risk losing licensing software capabilities. The divisions will need to halt licensing services or engage in manual intake and processing of applications and license issuance. At a minimum, this will create a significant backlog and delays in services, and consequently, could negatively impact customers who rely on timely licensing services to maintain their employment in their respective industries.

Furthermore, as the Colorado Constitution and statute impose deadlines on some divisions to process applications, divisions are at risk of non-compliance (e.g., The Colorado Constitution and Colorado Marijuana Code impose a 90-day deadline to act on new Retail Marijuana Business applications). Additionally, divisions may need to reduce or eliminate certain services, programs, and initiatives to divert the resources required to fund the project. This approach would involve the divisions reviewing all services, programs, and rule allowances that are discretionary in nature to evaluate the extent to which any such rule allowance, program, or service should be eliminated to conserve resources.

As part of identifying alternative funding sources for the project, the divisions are likely to pursue significant and comprehensive fee increases. Absent funding for this project, DOR would need to request approval from the State Purchasing Office to extend the current sole source contract for maintenance and support of the existing system. Extending the sole source contract would limit the opportunity to implement current technology with more robust functionality. DOR planned to request funding to solicit for a licensing system in 2020 but instead had to request approval from the State Purchasing Office to extend the sole source contract due to the COVID pandemic, and resulting budget cuts. In that request, DOR agreed to not unnecessarily delay the preparation/publication of a solicitation when funds became available.

MLO is now required to handle an expanded scope of licensing files that reflect new business structures and investment vehicles with varying sizes and complexity. The current processes are manual, inflexible, and inadequate for the overall future state goals. In addition, the divisions use multiple tools (Google Drive, PowerDMS, PSR, etc.) to store and track information typically housed in a single system leading to inefficiencies in processing and managing applications, licensing information, and case-related documentation. Over time there has been an increase in the total number of market participants, which is expected to expand. The current system's lack of robust reporting and tracking capabilities presents challenges for implementing a data-driven approach to operations. These application challenges negatively impact all Public Safety Record (PSR) users, including the Lottery and SBG divisions. The vendor requires additional development costs paid by the division(s) to gain additional functionality in the current system.

There is a need to replace the current application with an integrated, versatile, and user-friendly application. Purchasing and implementing such an application would vastly improve the service quality for Coloradans, local businesses, and the DOR.

Justification:

The MED and SBG's current WIGs have focused on implementing additional online capabilities for customers. Applying through the ML1 online portal has helped the MED and SBG meet the WIG goal of 20% online utilization by June 30, 2022. MED and SBG continue to focus on online utilization for 2023, emphasizing the ability to process applications in languages other than English.

Business Process Analysis - The request for a solicitation has been informed by a market research study conducted in 2020 regarding licensing systems, current process reviews conducted in each division, and surveys of current users on the existing system to understand existing gaps.

Cost-Benefit Analysis and Project Alternatives (per H.B. 15-1266) - If DOR does not open an ITN and does nothing, the current contract will expire, and then DOR will lose the ability to issue licenses to businesses and individuals in AID, DOG, Emissions, LED, MED, and Racing.

Market Research - A consulting company completed market research for the MED and SBG in 2020. The focus was explicitly on licensing systems used around the nation. The research focused on current state capabilities assessment, benchmarking peer licensing and enforcement entities assessment, and a market scan of vendors/implementers' licensing and enforcement solutions assessment.

The market analysis found adequate competition in the marketplace to issue a competitive solicitation to acquire a licensing and enforcement solution that meets more of the enforcement divisions and Emissions needs and will increase efficiency, productivity, and stakeholder experience.

Success Criteria and Improved Performance Outcomes - The criteria used to evaluate the success of this project is the actual implementation of a new system. The minimum selection criteria for a new system will meet the existing capability of current systems. A new system is expected to have increased capability to implement online solutions, house documents, transfer data between existing systems (if applicable), have some translation capability, and have a more user-friendly interface for external and internal customers.

Assumptions for Calculations:

DOR Licensing software proposed budget	
One time cost over two years \$10,000,000	
The vendor will provide the following, which is inclusive of the overall budget:	
Licensing	Intake application, and issue, track, renew, terminate, change, and deny multiple types of licenses
Enforcement	Intake complaints, inspect, educate, investigate, and manage cases with multiple types of consequences
Case Management	Track non-compliances to support licensing and enforcement processes
Document/Record Management	Scan and/or upload multiple types of documents, pictures, audio, and video files; provide dynamic letter/communication templates; associate all with a single or multiple individuals, businesses, facilities, cases, investigations, complaints, or licenses; and locate associated information

Back-Office Administration	Accept and process multiple payment types; allocate funds to the appropriate account or accounts, and track time and expenses against an account
Reporting and Data Analysis	Regular reporting, ad-hoc reporting, and advanced analytics
Integration	Ability to integrate with financial and other related systems (e.g., Metrc); interoperate (sharing data on demand); and import and export data
Technical Training Support	Training, documentation, and solution support such as data dictionaries, user guides, etc.
Implementation Support (either through Vendor or a Vendor Partner)	Provide guidance and support, documentation maintenance, escalation support, testing tools, change management support, functional/technical SMEs, and lead end-to-end SDLC (software development life cycle) process (Design, Development, Testing, Training, Cutover, and Post Go-Live stabilization)
Application Environment Set-up and Hosting	If cloud-based, setting up multiple environments for project dev, testing, training, production cutover, and other costs (e.g., server resources, line hardening, firewall changes, etc.). If on-prem, include all previous costs and include hardware and physical space costs if the excess capacity does not exist.
Recurring costs	
Estimated annual maintenance cost	\$150,000 more than the current licensing system's annual costs. The annual cost would be split across the divisions

Consequences if not funded - If the project is not funded, the current contract will expire, and MED, SBG, and Emissions will not be able to continue to issue licenses.

Implementation Plan:

This project will impact the current processes and applications that drive licensing, enforcement, records management, and case management across SBG, MED, Emissions (excluding case management), and Lottery (case management only).

- **Change Management** - The project plan has been outlined with the following groups and individuals identified as contributors:
 - Project Plan Roles and Stakeholder Involvement:
 - Executive Steering Committee

- Project Sponsor(s);
- Contract Manager;
- Business Partner(s);
- Project Manager;
- Change Manager;
- Business Lead(s);
- Subject Matter Experts;
- Purchasing/Contracts Lead; and
- Communications Lead.

o Testing Plan:

- user stories will be developed from the process mapping currently being written;
- functional testing is conducted by the system's subject matter experts/super users;
- the DOR end-user conducts user acceptance testing (UAT), encompassing end-to-end testing; and
- smoke testing will be used in preparation for go-live in the production environment.

o Training Plan:

- The training plan will involve training all levels of users on the system functionality specific to their needs:
 - The DOR learning management system (LMS) will be utilized to facilitate online learning for DOR employees;
 - External training will be created for the DOR customer and placed on division-specific internet pages; and
 - o OIT will create the specific URLs and maintain the training on the server.

- **Procurement** - A procurement process can only commence when/if funding is obtained.
- **Disaster Recovery and Business Continuity** - The system is a critical system subject to disaster recovery and business continuity plans. The existing system has both in place, and as a new system is implemented, both plans will be created, reviewed, approved, and executed.

- **Accessibility Compliance** - Any contractor(s) awarded a contract under the solicitation will meet all accessibility compliance standards.
- **Impact on IT Common Policy (For Statewide OIT Projects Only)** - The new system will impact the existing MOU with CDHS regarding child support compliance. The new system must interface with the CDHS system to return information on individuals who do not comply with child support obligations. The anticipated allocation of resources from CDHS will be their OIT team working with the new vendor to create an API that works with the existing CDHS interface.

ADDITIONAL REQUEST INFORMATION	
Please indicate if three-year roll forward spending authority is required.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is this a continuation of a project appropriated in a prior year?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If this is a continuation project, what is the State Controller Project Number?	2024-022123 Licensing and Case Management Software
If this request affects another organization, please provide a comfort letter.	
Please attach a letter from OIT indicating review and approval of this project	OIT Letter of Support

CONTINUATION HISTORY (DELETE IF NOT APPLICABLE)				
	FY 2023-24 Appropriated	FY 2024-25 Request	FY 2025-26 Request	Total Appropriations
Total Funds	\$1,000,000	\$9,000,000	\$150,000	\$10,150,000
Capital Construction Funds	\$1,000,000	\$9,000,000	\$0	\$10,000,000
Cash Funds	\$0	\$0	\$150,000	\$150,000
Reappropriated Funds	\$0	\$0	\$0	\$0
Federal Funds	\$0	\$0	\$0	\$0
	FY 2023-24	FY 2024-25	FY 2025-26	Total
Amount Spent	N/A	N/A	N/A	N/A
Amount Encumbered	\$1,000,000	N/A	N/A	\$1,000,000
Total Funds Available	\$1,000,000	N/A	N/A	\$1,000,000

ESTIMATED PROJECT TIME TABLE		
Steps to be completed	Start Date	Completion Date
Procurement (solicitation and contract)	July 2023	April 2024
Implementation	May 2024	June 2025



COLORADO
Governor's Office of
Information Technology

September 15, 2023

Mark Ferrandino
Director
Office of State Planning and Budgeting
111 State Capitol
Denver, Colorado 80203

RE: FY 2024-25 Department of Revenue - ITCC-01 SBG Licensing and Case Management Software

Dear Director Ferrandino:

Pursuant to OSPB instructions, this letter is to confirm that the Office of Information Technology (OIT) has been informed of the development and submission of this proposed FY 2024-25 request for the Department of Revenue - ITCC-01 SBG Licensing and Case Management Software.

OIT has completed an internal review to ensure the project aligns with statewide IT goals and determined that OIT has the capacity to deliver and meet the requirements of the project.

Please note: OIT and the Department of Revenue are in agreement that a security review will be completed as part of the project itself, when applicable. Also, any OIT specific work should be reappropriated to OIT through the payments of OIT line, where applicable.

Sincerely,

Rus Pascual

Rus Pascual, OIT Budget Director

Henry Ammons

Henry Ammons, DOR IT Director





RY- Behavioral Health Infrastructure Investment Continuation: [IT Capital-01]

Summary of Request	Total Funds	CCF-IT	Cash Funds	Reappropriated Funds	Federal Funds
FY 2024-25	\$0	\$0	\$0	\$0	\$0
FY 2025-26	\$0	\$0	\$0	\$0	\$0
FY 2026-27	\$0	\$0	\$0	\$0	\$0

Categories of IT Capital Projects

System Replacement (costs escalating, failing technology, software or vendor support ended, or new technology, e.g., DRIVES, CHATS)	System Enhancement Regulatory Compliance (new functionality, improved process or functionality, new demand from citizens, regulatory compliance, e.g, CBMS)	Tangible Savings Process Improvement (conscious effort to reduce or avoid costs, improve efficiency, e.g., LEAN, back office automation)	Citizen Demand “The Ways Things Are” (transformative nature of technology, meet the citizens where they are, e.g., pay online, mobile access)
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Request Summary:

The Behavioral Health Administration (BHA) requests an extension of spending authority, through FY 2024-25, to continue projects related to Behavioral Health Infrastructure Investments. This funding was authorized initially in FY 2021-22 through FY 2023-24. The total amount approved from the capital construction IT fund was \$8,446,918, including \$6,616,918 capital construction fund and \$1,830,000 federal funds. The purpose for these funds is to develop or improve upon:

- Bed capacity tracking system
- Consolidated behavioral health data collection system
- Health information exchange
- Virtual crisis telehealth application

This request continues to address technology recommendations made by the Behavioral Health Task Force created by Governor Polis. This funding along with SB 21-137, HB 22-1278, and SB 22-177 contain funding for different but interconnected technology initiatives representative of the goal of establishing a systems-wide model for organizing and implementing care coordination and behavioral health data infrastructure that prioritizes access to care to all people of Colorado, enables and holds providers and care navigators to be accountable for providing quality whole person behavioral health care, and leverages Colorado’s broader health information technology ecosystem to minimize cost, reduce technical debt, reduce provider and public burden and ultimately maximize scalability and sustainability.

Project Description:

In the spring of 2019, Governor Polis established a Behavioral Health Task Force to evaluate the State's current behavioral health system, and develop a blueprint that will reform the system so that all Coloradans can access the support and services they need. Colorado is in the bottom half of states (ranked 29th) by Mental Health America in terms of the prevalence of mental illness and access to care for adults and children. Per the Centers for Disease Control, Colorado has one of the highest suicide rates in the U.S., amongst the ten worst states (ranking 43rd). Despite making significant investments in its behavioral health system over the past eight years, the demand for services is increasing, and our State is falling short. The Behavioral Health Task Force aligned recommendations to support a statewide behavioral health system that works for everyone - regardless of an individual's ability to pay, their income, where they live in the State, or the level of services they need.

Many Coloradans report they are not able to access timely care because the services they need are not available in their communities, wait times are too long, or providers can't accommodate their disabilities. With approximately 1 million people in Colorado in need of behavioral health services, Colorado needs a stronger behavioral health system that puts people first. This includes Task Force recommendations for increasing access to care, enhancing tele-behavioral health services, improving provider competency through training, easing provider's administrative burden, and improving information sharing within the behavioral health system.

During the pandemic, there were immediate benefits that were highlighted in the use of telehealth to deliver behavioral health care. Specifically, of the 375 Coloradans surveyed by the Office of Behavioral Health, 36% reported reduced travel to receive care and 10% reported reduced wait times for scheduling appointments. Some people felt that it was easier to share information with their provider (12%) and believed their care was "better" (11%) using technology. For a state that has been ranked in the lower half of states as it relates to access to care, these improvements demonstrate a potential solution to serving Coloradans with behavioral health needs.

The reality is the most vulnerable populations are often hit the hardest during a crisis. Thus, these populations who are at heightened risk for lapses in care or have other disadvantages must be identified to ensure they have access to tele-behavioral health. In addition, enhancements in broadband capacity in rural areas of Colorado and virtual behavioral health services means access to care can be afforded to more Coloradans.

To address these persistent behavioral health care gaps, the Behavioral Health Administration has completed the following work with these capital construction IT funds:

Progress towards better bed capacity tracking

The BHA technology team has completed extensive user and market research on capacity tracking to define the strategy and iterative requirements for the technology. In short, the research showed that to improve access to behavioral health in-patient care, provider reporting of capacity information must be paired with capabilities that facilitate successfully matching a person in need with an available provider. This strikes at the heart of the intended purpose of the bed capacity tracker, which is to improve access to care for people in need and

to identify shortage or surplus trends. The BHA has contracted for development of a platform to manage bed capacity and facilitate matches to care for people in need and is currently building out foundational functionality that prioritizes provider value and ease of use. BHA expects this to launch in FY 2023-24, and would like to continue iteratively improving features in response to end user needs to deliver high value impact and large scale adoption.

The following efforts were completed as part of the research phase:

- Interviews with seven peer states and analysis of their system approaches;
- Feedback from 13 subject matter experts within the BHA and sister state agencies and other core potential user groups;
- Six in-depth interviews with providers working in facilities with BHA-licensed beds;
- System-wide survey around bed capacity priorities and shared definitions, and;
- Analysis of 102 responses from providers and stakeholders.

Progress towards a consolidated behavioral health data collection system

The BHA has completed the initial research phase for this work and identified the following top insights:

- The data model for the State's mental health and substance use disorder reporting is clinically and culturally out of date.
- Providers have difficulty generating and validating accurate counts for contractual requirements due to inflexible data intake and error resolution processes.
- The distinction between mental health and substance use disorder reporting perpetuates siloing of behavioral healthcare, and creates high levels of data duplication for the rising population of dual diagnosis clients.
- Basic usability issues (ex. account management, system time outs, and copy/paste functionality) with BHA technology systems increase the time, effort, and cost to providers and intermediary organizations in order to comply with acceptable reporting.
- Outside of meeting requirements for funding and contracting, current clinical data submissions provide limited benefit to providers or the state's behavioral health ecosystem at large due to lack of data visibility, availability and automated reporting.
- The State's mental health and substance use disorder reporting requirements are directly impacting how people experience behavioral healthcare in Colorado, especially for initial visits. Clinical processes should be driven by client needs and best practices, not data collection requirements.

The following efforts were completed as part of the research phase:

- Interviews with 15 provider organizations offering diverse perspectives ranging from programs, geographies, technology resources, and accreditations, and;
- Interviews with over 50 people ranging from clinicians, data staff, tech staff, admin staff, leadership, managers, and team members.

Based on these findings, the BHA plans to reduce provider administrative burden through consolidated data collection systems in the following ways:

- Simplify and Update Data Model: Finalize simplified & unified data model through relevant stakeholdering and tests into federal systems. Map simplified data model to cultural best practices for front-end presentation (first identifying and validating source for cultural data entry best practices).

- **Design for Episodic Reporting:** Move the reporting process (which encapsulates the data model and report types) to an episodic model to align with healthcare best practices and alleviate readmission data duplication (especially for substance use disorder level of care changes and simple edits that today requires new records).
- **Evaluate & Select Appropriate Technology Systems:** Perform an analysis of existing and potential new technology systems based on recommended design parameters in order to select the front-facing data collection system for providers.
- **Create Provider Dashboards:** Work with providers and the selected technology system to create standard and customizable dashboards so providers can track towards contractual requirements as well as standards of quality and equity.

Background of Problem or Opportunity:

Our families, friends, neighbors, colleagues, and communities need access to behavioral healthcare. The Governor’s Behavioral Health Task Force has emphasized that the people of Colorado are in need of access to a full continuum of behavioral health services needed to remain well in their own communities. The task force, especially with the adaptations necessary to handle the COVID-19 pandemic, acknowledged the significant benefits of technological investments in the behavioral health space.

A survey of providers in Colorado confirmed that technology offered several benefits by allowing for the continuation of services that would otherwise need to be shut down completely. Survey respondents reported that technology increased clients’ use of, or adherence to, services (38%) and increased efficiency for staff (35%), allowing them more flexibility in scheduling and reduced no-show rates . A provider highlighted the essentiality of technology, calling it a “lifeline.” Telephone-based service provision was vital for populations with limited or no broadband access, or among clients who were uncomfortable using video. Adolescents and young adults, as well as families with young children, were particularly accepting of technology-based services due, in part, to the new flexibility of services.

The following are problems that related to the technology projects that the BHA is investing in:

1. **Access to Care:** Numerous studies, including the Behavioral Health Task Force Blueprint and OBH’s Behavioral Health Needs Assessment have identified challenges with access to care, a high suicide rate, lack of rural infrastructure, inefficient and uncoordinated services, and unnecessary involvement by criminal justice when individuals are in an acute crisis.
2. **Data Systems:** Multiple data collection systems exist across state agencies and impact provider burden and the ability for Colorado to successfully administer state and federal behavioral health funding, report on outcomes, cost, quality and address health disparities and align policies. Multiple legacy systems cannot look across the full spectrum of behavioral health; are extremely “siloed” and not interoperable; are not user friendly; do not provide enough useful information to inform decision making; and lack the flexibility and adaptability to meet the needs of an increasingly evolving behavioral health environment.
3. **Clinical Data:** Real-time clinical data is lacking and is needed to support care coordination and clinical decision making, including identification of bed availability and capacity tracking across the State.

4. **Workforce:** The State has workforce shortages, inadequate workforce competencies, and no comprehensive strategy for building workforce capacity and providing necessary technical assistance.
5. **IT Infrastructure:** Small providers do not have access to health IT infrastructure that will support access to data reporting and billing, telehealth platforms, and electronic health records that impact efficiencies for providers and decrease access to a trained workforce if a provider is unable to make necessary investments in infrastructure.

This problem set remains consistent with the original submission and intent of the project. In fact, these problems are further identified as needing resources through multiple pieces of legislation that were approved after this funding request, namely: SB 21-137, HB 22-1278, and SB 22-177. These bills formally put into action many large components of systems reform that directly relate to a comprehensive care coordination IT infrastructure, particularly how the BHA will ensure that the state has a robust, high-quality safety-net system of behavioral health care through rule and implementation of Behavioral Health Administration Service Organizations.

The Behavioral Health Administration has prioritized and completed work using the other aforementioned funding sources which has been foundational to the BHA's ability to deliver the system enhancements and citizen-demanded features and capabilities funded under this IT Capital Construction request. By working iteratively and focusing on a modular approach to software delivery, the BHA minimized risks that often result in failed technology implementations and monolithic siloed system delivery. These initial foundational efforts included establishing a behavioral health technology framework that focused digital products on how we provide support and services to people of Colorado, behavioral health providers, and meet administrative functions and implement a core data interoperability infrastructure to ensure that data can efficiently pass both from and to the BHA.

People in Colorado are best served, and have the best chances for improved health, when their physical and behavioral health care is integrated, and when their social determinants of health are addressed. All people in Colorado must have the opportunity to achieve mental wellness where they truly realize their own abilities, can cope with typical stresses of life, can work productively and fruitfully, and are able to contribute to their community. Technology is an important method to facilitate improved access to care and ensure behavioral health services in Colorado are accessible, meaningful, and trusted.

As the BHA launched there has been a significant amount of legislative action to bolster and enhance a people-first system, aimed at increasing accessibility of services for the people of Colorado. While the attention, support, and investment have been positive, the need for simultaneous development and deployment of numerous programs as well as considerable coordination with other agency systems and statewide health technology efforts has led to delays in spending this funding within the timeline originally allocated. Delays were necessary to ensure the following BHA values were upheld:

- **Truth:** In being dedicated to transparency and accuracy, focus has been dedicated to ensuring plans are thoroughly communicated and procurements are clearly written.

- **Equity:** The BHA has never wavered in its dedication to creating programs and improving technology that will not only serve, but elevate, populations who have been historically marginalized and underserved, facing barriers to accessing necessary services.
- **Collaboration:** Stakeholdering has been an imperative part of the process for program design and development to work in-partnership with all people of Colorado.
- **Community-Informed Practice:** Every community in Colorado is unique and faces individual circumstances in their access to care. Time and attention were devoted to developing a [Community Assessment Toolkit](#) providing communities the ability to assess their individual needs and inform potential opportunities.
- **Generational Impact:** The BHA is committed to the intentional development of programs and technologies that are informed by people with lived experience and in conjunction with communities across Colorado. This intentional approach is the only way to make a person-first behavioral health system that makes true generational impact.

The BHA has established three product domain teams focused on public-facing digital products (such as OwnPath), provider-facing digital products, and data interoperability and analytics infrastructure that supports connections to and growth of the broader health IT ecosystem in support of better behavioral health outcomes for all Coloradans. The digital product team structure was established in collaboration with the Colorado Digital Service to ensure alignment with modern software delivery best practices. It also leverages all five core information services from the state's Health Information Technology Roadmap, produced by the Office of eHealth Innovation. These teams are largely responsible for the significant portfolio of technology projects authorized in the last three years.

Justification:

Due to legislative changes to the BHA and delays due to establishing the organization, technology expenditures moved more slowly than usual and there were multiple material changes to technology requirements and priorities based on changes in BHA's founding structure and funding. BHA is committed to using human-centered and agile software delivery practices because it leads to delivering software that will be used by Coloradans and most useful in solving challenges in the behavioral health space. Therefore, the BHA is requesting an additional year of spending authority to continue in designing and delivering technology that will ultimately be most impactful to Coloradans. The BHA is not requesting any additional funding for this request.

This request supports the fundamental infrastructure required to successfully enable the recommendations from the Behavioral Health Task Force in critical areas identified. The Behavioral Health Task Force endorsed the creation of a Behavioral Health Administration that would be responsible for overseeing statewide behavioral health services and this request establishes this foundation to move the system and service delivery forward. Establishing coordinated health IT infrastructure in alignment with the Behavioral Health Task Force Recommendations and the creation of a single Behavioral Health Administration will ensure a

standard of high quality, integrated, consumer-centric behavioral health care access and services that transform our current system by:

- Putting people first;
- Eliminating fragmentation;
- Promoting transparency;
- Offering a streamlined and efficient approach; and
- Minimizing the burden to providers so they can focus on client services.

Recommendations from the Behavioral Health Task Force’s COVID-19 Special Assignment Committee recommended increased access to telehealth and further capacity building in the crisis system including follow-up post-hospitalization; care navigation; expansion of safe-to-wait services (STW); diverting crisis calls to community providers/partners; expansion of warm hand off; and, expansion of ongoing services provided by the Colorado Crisis Services to bridge care (up to 90 days) for delayed access to outpatient care. Leveraging telehealth infrastructure through on demand services will support these key recommendations to improve the crisis system.

This request allows BHA to further utilize this funding in alignment with statutory deadlines and in alignment with timelines for other funding sources. The BHA has mainly had three one-time temporary funding sources, each with differing timeline for spending:

- Capital Construction IT Budget Request (FY22-FY24)
- SB 21-137 (FY22-FY24)
- SB 22-177 (FY23-FY25)

The multiple tranches of funding indicate the significant investment that Colorado has identified as critical for behavioral health related technology. This spending authority request and slower-to-date spending for this particular funding source is not an indication of a reduction in need in these areas. With the multiple funding sources, BHA had to balance and prioritize legislative requirements along with federal funding that was soon to expire and at risk of reversion.

This funding is germane to several key components of overarching technology infrastructure investments. Specifically, the BHA, in partnership with the Department of Health Care Policy and Financing, the Colorado Department of Public Health and Environment, the Colorado Department of Human Services, and the Governor’s Office of eHealth Innovation, is implementing several recommendations from the Behavioral Health Task Force related to telehealth and information technology infrastructure. The goals and opportunities for these projects continue to be:

Capacity Tracking and Bed Management System	Ultimately, the objective is to expand technology infrastructure for bed capacity tracking for providers to identify available residential, inpatient, crisis and respite beds, and identify locations for opioid treatment services to streamline access and support law enforcement inpatient drop-off. The capacity tracker would provide real-time notifications about availability of beds across the state.
Consolidated	The goal for this initiative is to consolidate behavioral health data

Behavioral Health Data Collection	<p>collection infrastructure that aligns disparate reporting and consolidates the multiple legacy databases into a unified structure. A new robust and provider centered Behavioral Health Management System would increase efficiencies and reduce administrative burden for providers; improve data collection to be more timely and accurate; increase the availability of meaningful data to improve strategic planning; improve customer service and access to necessary information for agencies receiving funds or delivering services; perform interoperability while maintaining and securing client privacy and security; and ultimately making it easier for clients to find appropriate services and improve their health care experience.</p>
Health Information Exchange Investment	<p>Invest in Health Information Exchange for behavioral health providers to more efficiently coordinate care across multiple treatment providers and reduce provider burden through access to real-time information in order to support treatment decisions and client interventions. Connecting the hotline and mobile service providers to health information exchange will support coordination of services for patients and access to relevant treatment information for providers as patients move through the Behavioral Health Crisis System in Colorado with the opportunity to improve care coordination and support transitions of care with access to relevant treatment information.</p>
Virtual Crisis Telehealth App	<p>Create technology that enables an on-demand telehealth visit for behavioral health that enhances virtual “mobile crisis services” and improves access to care in communities by creating a virtual “front door” for any Coloradan to connect with a clinician. It also enables a scheduling platform to connect with routine behavioral health services with a searchable directory that allows you to search providers based on selected factors. This on-demand service also improves access to mobile crisis responses where we have workforce challenges, geography considerations, rural disparities, and supports first responders capacity to immediately “schedule” a virtual behavioral health visit for individuals in a behavioral health emergency.</p>

Business Process Analysis -

The BHA did initially conduct a formal business process analysis, however, the operational problem has been identified in multiple different studies and analysis.

Behavioral Health Task Force

Governor Polis established the Behavioral Health Task Force to evaluate the State’s current behavioral health system, and develop a blueprint that will reform the system so that all Coloradans can access the support and services they need. As part of the Behavioral Health task force assessment process five problem areas were identified including:

1. Access to Care
2. Data Systems issues
3. Lack of real-time clinical data to support care coordination

4. Workforce and training issues
5. Provider Information Technology Infrastructure

Office of State Planning and Budget (OSPB) Behavioral Health Funding Study

In 2016, OSPB conducted a behavioral health funding study that identified that the provision of behavioral health services by several state agencies, including continued segregation of the data and administration of Medicaid and non-Medicaid programs by HCPF and OBH (respectively), creates challenges, complexities and inefficiencies. OBH and HCPF are aware of the difficulties created by the current administrative structure and these complementary budget requests reflect HCPF and OBH efforts to address these challenges. The OSPB report also indicated that the state's current "behavioral health service delivery and reimbursement system is outdated and its structure prevents any significant increases in efficiency and effectiveness. It seems inevitable that the current system requires funds and resources that could otherwise be directed to providing direct care."¹

Behavioral Health Needs Assessment

Most recently the Colorado Department of Human Services-Office of Behavioral Health selected Health Management Associates to conduct a Statewide Behavioral Health Needs Assessment in which Stakeholders consistently cite Colorado's fragmented, disconnected and poorly integrated system as their main concern. "The root of system fragmentation lies in the fact that Colorado's mental health and substance use programs are overseen by multiple state agencies with mixed authority and are funded by numerous separate and discrete sources. Additionally, state agencies largely function in silos with limited integration necessary to support a statewide system of care. Although state leaders are aware of these challenges and spend considerable time dealing with consequences of the silos, without a more formal structure of collaboration, fragmented decisions will remain the natural fallout of separate missions, accountabilities, and at times, a lack of understanding about how a decision by one entity can have significant consequences on the integration of the system and impact the care of individuals."²

As BHA work has begun and stakeholder engagement and discovery has been completed, the BHA has confirmed the findings of these multiple studies and assessments. This includes findings which indicate:

- Providers pour hundreds of hours and large amounts of funds to support the distinct reporting requirements and processes mandated by the BHA. By modernizing the technology used to collect data from providers, including options for automation, and standardizing the data model, there would be huge savings in both time and money for providers, further incentivizing new providers to provide public care by reducing the barrier to entry.

¹ Office of State Planning and Budget Behavioral Health Funding Study-2016 Western Interstate Commission for Higher Education 2016.

https://www.wiche.edu/wp-content/uploads/2020/07/OSPB_Behavioral_Health_Funding_Study_Full_Report_and_Appendices.pdf

² Health Management Associates-CDHS-OBH Statewide Behavioral Health Needs Assessment 2020.

<https://cdhs.colorado.gov/2020-behavioral-health-needs>

- Providers spend hours faxing and calling for bed placements, to facilities that often don't meet the criteria of the person they are looking to place. This creates higher wait times and undue administrative burden for both referring and receiving providers. This product would streamline this process, decreasing wait times by easier connecting people to appropriate care and modernizing the technology used to facilitate referrals. This product also provides an opportunity to gather data on what care deficits the state is experiencing for priority populations.

Cost-Benefit Analysis and Project Alternatives (per H.B. 15-1266) -

The Behavioral Health Task Force recommendations address areas of the Behavioral Health System that are currently lacking and have not been fully developed into a comprehensive system. This request continues the establishment of foundational infrastructure to address the fractured and siloed systems that exist in the behavioral health system and across state agencies. This request continues the investment in existing state technology that includes Health Information Exchanges, HCPF's eligibility and claims processing system, and business intelligence data management infrastructure. Continuing new investments include the consolidation of multiple small databases including BHA's federally required data collection, jail behavioral health data collection system, crisis system data collection, licensing and designation data, central registry for opiate treatment programs, among others.

BHA has contracted to build bed capacity tracking functionality as part of an improved workflow to connect people to care, and a streamlined and consolidated data model for mental health and substance use disorder reporting that supports modern data interoperability standards. The BHA is utilizing existing team resources alongside augmented contractor support to conduct market research in order to understand prioritized needs for the project and define the scope of work for the implementation of these technologies including use of modern software delivery principles to de-risk these complicated projects. This multi-year initiative currently contains 24 distinct deliverables to track progress throughout the system build.

The creation of the BHA led to incredible opportunities for the State of Colorado to make lasting changes to our behavioral health system. Incorporating these infrastructure investments into a reformed behavioral health system meant taking a step back on these improvements to first identify a plan for a cohesive behavioral health technology ecosystem. For example, over the past year the BHA invested in data lake and warehousing infrastructure that laid the foundation for both consolidated data collection/modernization that can enable multiple flexible ingestion pathways directly impacting this investment as well as care coordination infrastructure investments from SB 21-137. As a result, the BHA has already significantly begun to implement these projects. Therefore, the project alternatives for how the BHA would rapidly change course are limited.

Without an extension of spending authority, the BHA will continue to invest in these projects to the best of its ability with the given timelines. It is likely that BHA will be unable to spend all of the funding during this duration of time and there will be some elements of these projects which will not be accomplished or may remain at or may not reach a minimum viable product status. Additionally, increasing the velocity of current roadmapped development activities would result in increasing risks associated with technology not meeting the needs of end users. This would fragment adoption and utilization that in the case of bed capacity tracking and data modernization would drive more manual and inconsistent processes and administrative burden.

Success Criteria and Improved Performance Outcomes -

The proposed outcomes for these projects remain consistent with the original budget request, outlined in the table below.

Problem	Solution	Anticipated Outcomes
<p>Clinical Data Lack of real-time clinical data to support care coordination and clinical decision making, including identification of bed availability and capacity tracking across the State.</p>	<p>Health Information Exchange Investment</p> <p>Capacity Tracking and Bed Management System</p>	<ul style="list-style-type: none"> ● Improved outcomes for clients by improving care coordination and transitions of care for clients ● Reduced provider burden of calling and faxing or emailing to locate necessary information for clinical decision making, placement availability and improves coordination of care for clients ● Support provider clinical decision making and access to relevant clinical data including labs, admission, discharge and transfer information -including notifications about relevant hospital, crisis and other emergency services, that supports care coordination ● Enable bed capacity tracking for withdrawal management residential beds, crisis beds, and opioid treatment capacity.
<p>Data Systems Multiple data collection systems exist across state agencies and impact provider burden and the ability for Colorado to successfully administer behavioral health funding, report on outcomes, cost, quality and address health disparities and align policies.</p>	<p>Consolidated Behavioral Health Data Collection</p>	<ul style="list-style-type: none"> ● Access to information by clinicians to improve quality and care for patients using consistent metrics ● Reduced provider burden of reporting into disparate systems ● Improved eligibility determination for clients seeking services ● Improved transparency and reporting on cost, quality, and outcomes of services statewide ● Increased ability to improve services and care based on data. ● Improved efficiency for multiple state staff attempting to consolidate and analyze disparate data sets
<p>Access to Care Challenges with access to care, a high suicide rate, lack of rural infrastructure, inefficient and</p>	<p>Virtual Crisis Telehealth App</p>	<ul style="list-style-type: none"> ● Expanded crisis services delivered via telehealth across the State to support immediate access for clients in a behavioral health crisis get needed services ● Addresses workforce shortages especially in rural areas by leveraging statewide provider

<p>uncoordinated services, and unnecessary involvement by criminal justice when individuals are in an acute crisis.</p>		<p>networks</p> <ul style="list-style-type: none"> • Enables behavioral health services in rural areas, including the ability to consult with a physician in areas with workforce shortages • Improves integration of services so there is no wrong door for access into acute services and services are coordinated among an individual's team • Strengthens and expands the safety net system in alignment with Senate Bill 19-222 • Diverts individuals with behavioral health disorders from the criminal and juvenile justice system • Supports first responders in identifying appropriate supports for patients in crisis freeing up first responders to return to responding to other emergencies.
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Assumptions for Calculations:

This spending authority extension request is based upon the following cost assumptions as approved in the original budget request.

Description	Cost
<p>Virtual Crisis Telehealth App to enable Coloradans to immediately connect with a crisis clinician.</p> <p>It is assumed this line item will fund a professional information technology company with a team consisting of various functions such as: project management, software design, user interface consulting, website development, telehealth platforms and virtual service delivery on HIPPA compliant platforms and other necessary services.</p> <p>It is assumed that a fully loaded rate will be approximately \$180/hr X12,880 hours. It is assumed that multiple team members from the professional information technology company will be working on the project at the same time. It is assumed that this will be procured by the Department through a request for proposal process.</p>	<p>\$2,318,356</p>
<p>Consolidated Behavioral Health Data collection. Disparate state and federal data will be consolidated into centralized behavioral health data management system</p> <p>It is assumed this line item will fund a professional information</p>	<p>\$2,400,000</p>

<p>technology company with a team consisting of various functions such as: project management, software design, user interface consulting, interoperability, cloud based data organization, cybersecurity, and other necessary services.</p> <p>It is assumed that a fully loaded rate will be approximately \$180/hr X 13,333 hours. It is assumed that multiple team members from the professional information technology company will be working on the project at the same time. It is assumed that this will be procured by the Department through a request for proposals process.</p>							
<p>Health Information Exchange Investment And Integration with Providers</p> <table border="1"> <tr> <td>Large MH and SUD Providers</td> <td>25 x \$35,000 = \$875,000</td> </tr> <tr> <td>Other MH and SUD Providers</td> <td>230 x \$5,000 = \$1,150,000</td> </tr> <tr> <td>Jails, Emergency Medical Services, Prevention Providers</td> <td>55 x \$7,545 = \$415,000</td> </tr> </table> <p>It is assumed that this will be procured by the Department through the state Health Information Exchanges.</p>	Large MH and SUD Providers	25 x \$35,000 = \$875,000	Other MH and SUD Providers	230 x \$5,000 = \$1,150,000	Jails, Emergency Medical Services, Prevention Providers	55 x \$7,545 = \$415,000	\$2,440,000
Large MH and SUD Providers	25 x \$35,000 = \$875,000						
Other MH and SUD Providers	230 x \$5,000 = \$1,150,000						
Jails, Emergency Medical Services, Prevention Providers	55 x \$7,545 = \$415,000						
<p>Capacity Tracking and Bed Management System</p> <p>The BHA is currently engaged with several vendors and OIT to provide various services and systems and services such as: Product management, software design and development, user research and design, user interface configuration, and other necessary services. Other costs include licensing and tooling for specific platforms approved by OIT.</p> <p>Costs have been consistent with the original estimate, which utilized a fully loaded rate of approximately \$180/hr x 1,667 hours</p>	\$300,000						
<p>Temporary Staff</p> <p>Staffing assumed at the Analyst V class type.</p> <p><u>First year</u> 3.0 FTE dedicated to Consolidated Behavioral Health Data Collection 2.0 FTE dedicated to support virtual crisis telehealth app</p> <p><u>Second year</u> 2.0 FTE dedicated to Consolidated Behavioral Health Data Collection 1.0 FTE dedicated to support virtual crisis telehealth app</p>	\$863,562						

<p>Independent Verification & Validation</p> <p>The BHA will engage with a third party to provide a comprehensive review, analysis, and testing, (software and/or hardware) to confirm (i.e., verify) that the requirements are correctly defined, and to confirm (i.e., validate) that the system correctly implements the required functionality and security requirements.</p>	<p>125,000</p>

Consequences if not Funded -

If this request is not approved, the BHA will not be able to operationalize the full vision of this request. Due to the risk of implementation timelines, likely most initiatives will remain in the discovery phase with findings that will not be actionable. This will mean:

- The current state of technology infrastructure, data availability, and information flow will be maintained. Providers will continue to send in state and federally mandated data into the BHA in spreadsheets. The BHA will have no practical tools to validate or reconcile that data. The BHA clinical data will continue to be disparate, resulting in inefficiencies, duplicative reporting requirements, and significant challenges in the capability to transform data to actionable information and enable effective decision-making.
- Further, the crisis services system will continue to be almost exclusively delivered through in-person modalities, limiting the most responsive services to those physically near to crisis centers which limits access and holds the growth of the system within the constraints of a high-cost model.
- Without support of the state funding of technology expansion within behavioral health, public health and small provider organizations, who largely are not-for-profit, would continue to experience difficulties with little to no operating margin to fund infrastructure investments. It is unlikely that they would be able to connect to the State Health Information Exchanges which ultimately will result in a lack of available services for Coloradans regardless of payer source.

Implementation Plan

Change Management -

- These projects are aligned with the Governor’s initiative driven by the Behavioral Health Task Force, which includes significant change management and stakeholder engagement. Through project design and implementation, stakeholders will be engaged through communications from the BHTF and more directly as behavioral health providers contracted by the BHA. Through each sub-project’s design and implementation phase, stakeholders may be engaged in various types of design collaboration, testing, and training.
 - Training may include: (1) business process training due to changes as a result of the technology; (2) system training; and (3) technical training for resources supporting the system. Training media might include instructor-led classes, webinars, on-demand computer-based training, or online help.

- o Testing types may include: (1) user-acceptance testing; (2) unit testing; (3) system integration testing; (4) performance testing; and (5) data migration testing.

Alignment with OIT Best Practices and Standards -

- This request aligns with the State's OIT Five-Year IT Telehealth Roadmap. In the Five-Year IT roadmap, this project aligns with "Objective 1" of the roadmap. "Objective 1" of the roadmap states: "To ensure every Coloradan will have access to the behavioral health services they need." Additionally, these projects align with OIT's Wildly Important Goal #3 to expand virtual access to government services anytime and anywhere. These projects were developed in partnership with the Department of Health Care Policy and Financing and the Governor's Office of eHealth Innovation, and are implementing several recommendations from the Behavioral Health Task Force related to telehealth infrastructure and information technology infrastructure including:
 - o On-demand virtual crisis services delivered via tele-behavioral health
 - o Consolidation of BHA's federally required clinical data collection and reporting systems in addition to leveraging integration with HCPF systems including claims payment system (MMIS), the eligibility determination system (CBMS), and the business data warehouse (e.g. HCPF's BIDM) and the State Health Information Exchanges (HIE).
 - o Investing in HIE for behavioral health providers
 - o Expand technology infrastructure for bed capacity tracking and opioid treatment services

The BHA is working in lockstep with OIT on ensuring that best practices and standards are integrated into the implementation of these initiatives.

Procurement -

- The BHA has already procured and executed a contract with a vendor for certain parts of this work. During that process the BHA collaborated with the Governor's Office of eHealth Innovation, Office of Information Technology, as well as the Department of Health Care Policy and Financing in the development of the procurement as well as the negotiation of the contract.
- For future work, the BHA will continue to competitively procure and follow a similar model to define the scope of work for each project.

Disaster Recovery and Business Continuity -

- The Department addresses disaster recovery and business continuity as part of the procurement requirements, design, and implementation.

Accessibility Compliance (Must be addressed) -

- The Department will work with OIT to ensure that best practices and standards for accessibility compliance are integrated into the Request for Proposals procurement process and subsequent design and implementation.

Impact to IT Common Policy (For Statewide OIT Projects Only) -

- N/a

ADDITIONAL REQUEST INFORMATION	
Please indicate if three-year roll forward spending authority is required.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is this a continuation of a project appropriated in a prior year?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If this is a continuation project, what is the State Controller Project Number?	2020-064121
If this request effects another organization, please provide a comfort letter.	N/A
Please attach a letter from OIT indicating review and approval of this project	OIT Letter of Approval

CONTINUATION HISTORY (DELETE IF NOT APPLICABLE)				
	FY 22 Appropriated	FY 23 Appropriated	FY 24 Appropriated	Total Appropriations
Total Funds	\$8,446,918	\$0	\$0	\$8,446,918
Capital Construction Funds	\$6,616,918	\$0	\$0	\$6,616,918
Cash Funds	\$0	\$0	\$0	\$0
Reappropriated Funds	\$0	\$0	\$0	\$0
Federal Funds	\$1,830,000	\$0	\$0	\$1,830,000
	FY 2021-22	FY 2022-23	FY 2023-24	Total
Amount Spent	\$1,152,318.04	\$0	N/a	\$1,152,318.04
Amount Encumbered	\$0	\$0	N/a	\$0
Total Funds Available	\$7,294,600	\$7,294,600	\$7,294,600	\$7,294,600

ESTIMATED PROJECT TIME TABLE - CAPACITY TRACKING		
Steps to be completed	Start Date	Completion Date
Begin research and discovery phase		<input checked="" type="checkbox"/>
Initiate procurement activities		<input checked="" type="checkbox"/>
Procurement scoring and award		<input checked="" type="checkbox"/>
Contract with IT vendor(s)		<input checked="" type="checkbox"/>
Project scoping and design		<input checked="" type="checkbox"/>
Project implementation	2/2/2022	6/30/2024
Evaluate and assess roll-forward request		<input checked="" type="checkbox"/>
Evaluate and assess operating budget impact and request	1/30/2024	6/30/2024
Estimated project completion		6/30/2024

ESTIMATED PROJECT TIME TABLE - CONSOLIDATED BEHAVIORAL HEALTH DATA COLLECTION		
Steps to be completed	Start Date	Completion Date
Begin research and discovery phase		✓
Initiate procurement activities		✓
Procurement scoring and award		✓
Contract with IT vendor(s)		✓
Project scoping and design	4/1/2023	8/31/2023
Project implementation	9/1/2023	12/31/2024
Evaluate and assess roll-forward request	1/30/2025	3/30/2025
Evaluate and assess operating budget impact and request	1/30/2025	6/30/2025
Estimated project completion		6/30/2025

ESTIMATED PROJECT TIME TABLE - VIRTUAL CRISIS TELEHEALTH APP		
Steps to be completed	Start Date	Completion Date
Begin research and discovery phase	9/1/2023	12/31/2023
Initiate procurement activities	1/1/2024	
Procurement scoring and award	3/31/2024	6/30/2024
Contract with IT vendor(s)	3/31/2024	6/30/2024
Project scoping and design	7/1/2024	9/30/2024
Project implementation	10/1/2024	6/30/2025
Evaluate and assess roll-forward request	1/30/2025	3/30/2025
Evaluate and assess operating budget impact and request	3/1/2025	6/30/2025
Estimated project completion	3/1/2025	6/30/2025

ESTIMATED PROJECT TIME TABLE - HEALTH INFORMATION EXCHANGE		
Steps to be completed	Start Date	Completion Date
Begin research and discovery phase	9/1/2023	12/31/2023
Initiate procurement activities	1/1/2024	
Procurement scoring and award	3/31/2024	6/30/2024
Contract with IT vendor(s)	3/31/2024	6/30/2024
Project scoping and design	7/1/2024	9/30/2024
Project implementation	10/1/2024	6/30/2025
Evaluate and assess roll-forward request	1/30/2025	3/30/2025
Evaluate and assess operating budget impact and request	3/1/2025	6/30/2025
Estimated project completion	3/1/2025	6/30/2025



COLORADO
Governor's Office of
Information Technology

September 28, 2023

Mark Ferrandino
Director
Office of State Planning and Budgeting
111 State Capitol
Denver, Colorado 80203

RE: FY 2024-25 Office of Behavioral Health Administration 1 Year Extension of Spending Authority for Behavioral Health Infrastructure Investments Project

Dear Director Ferrandino:

Pursuant to OSPB instructions, this letter is to confirm that the Office of Information Technology (OIT) has been informed of the development and submission of this proposed FY 2024-25 request for the Behavioral Health Administration which requests \$0 general fund for FY 2024-25 and requests an extension of spending authority, through FY 2024-25, to continue projects related to Behavioral Health Infrastructure Investments. This request will continue to expand technology infrastructure for bed capacity tracking for providers, reduce provider burden by consolidating, standardizing and modernizing clinical data collection, invest in HIE for behavioral health providers to improve outcomes for clients, and develop technology to connect Coloradans to real-time triage and crisis interventions.

OIT has completed an internal review to ensure the project aligns with statewide IT goals and determined that OIT has the capacity to deliver and meet the requirements of the project.

Please note: OIT and the Behavioral Health Administration are in agreement that a security review will be completed as part of the project itself, when applicable. Also, any OIT specific work should be reappropriated to OIT through the payments of OIT line, where applicable.

Sincerely,

Rus Pascual

Kristi LaBarge

Rus Pascual, OIT Budget Director

Kristi Labarge, HCPF IT Director



CC-IT: CAPITAL CONSTRUCTION INFORMATION TECHNOLOGY REQUEST FOR FY 2024-25

Department	Labor and Employment	Signature Department Approval:	<i>Madison Murphy</i> 17-Jul-23
Project Title	CoCo Replacement System	Signature OIT Approval:	<i>Benjamin Moeller</i> 17-Jul-23
Project Year(s):	FY2024-25, FY2025-26, FY2026-27	Signature OSPB Approval:	<i>Adrian Leiter</i> 10/30/23 Date
Department Priority Number	1	Name and e-mail address of preparer:	
Five-Year Roadmap?	-		

Revision? Yes x No	Total Project Costs	Total Prior Year Appropriations	Request Year (FY 2024-25) Request	Year 2 Request	Year 3 Request	Year 4 Request	Year 5 Request
A. Contract Professional Services							
(1) OIT Contracted Program Manager	\$ 309,655	\$ -	\$ 106,886	\$ 99,886	\$ 102,883	\$ -	\$ -
(2) Quality Assurance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3) Independent Verification and Validation	\$ 750,000	\$ -	\$ 250,000	\$ 250,000	\$ 250,000	\$ -	\$ -
(4) Training	\$ 150,000	\$ -	\$ 50,000	\$ 50,000	\$ 50,000	\$ -	\$ -
(5) Leased Space (Temporary)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6) Feasibility Study	\$ 300,000	\$ -	\$ 300,000	\$ -	\$ -	\$ -	\$ -
(7a) Inflation for Professional Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7b) Inflation Percentage Applied		3.00%	3.00%	3.00%	3.00%	0.00%	0.00%
(8) Other Services/Costs	\$ 1,978,113	\$ -	\$ 685,671	\$ 636,671	\$ 655,771	\$ -	\$ -
(9) Total Professional Services	\$ 3,487,768	\$ -	\$ 1,392,557	\$ 1,036,557	\$ 1,058,654	\$ -	\$ -
B. Software Acquisition							
(1) Software COTS Purchase	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2) Software Built	\$ 24,000,000	\$ -	\$ 6,000,000	\$ 10,000,000	\$ 8,000,000	\$ -	\$ -
(3a) Inflation on Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3b) Inflation Percentage Applied	\$ -	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(4) Total Software	\$ 24,000,000	\$ -	\$ 6,000,000	\$ 10,000,000	\$ 8,000,000	\$ -	\$ -
C. Equipment							
(1) Servers (Hosting)	\$ 450,000	\$ -	\$ 450,000	\$ -	\$ -	\$ -	\$ -
(2) PCs, Laptops, Terminals, PDAs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3) Printers, Scanners, Peripherals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4) Network Equipment/Cabling	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(5) Miscellaneous	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6) Total Equipment and Miscellaneous	\$ 450,000	\$ -	\$ 450,000	\$ -	\$ -	\$ -	\$ -
D. Project Contingency							
(1) 10% project contingency	\$ 2,793,777	\$ -	\$ 784,256	\$ 1,103,656	\$ 905,865	\$ -	\$ -
E. Total Request							
Total Budget Request [A+B+C+D]	\$ 30,731,544	\$ -	\$ 8,626,813	\$ 12,140,213	\$ 9,964,519	\$ -	\$ -
F. Source of Funds							
GF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CF/RF	\$ 30,731,544	\$ -	\$ 8,626,812	\$ 12,140,213	\$ 9,964,519	\$ -	\$ -
FF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

check (should = E) \$30,731,544 50 \$8,626,812 \$12,140,213 \$9,964,519 50 50



RY- IT Capital Construction Project: CoCo Replacement System

Summary of Request	Total Funds	CCF-IT	Cash Funds	Reappropriated Funds	Federal Funds
FY 2024-25	\$ 8,626,812	\$0	\$ 8,626,812	\$0	\$0
FY 2025-26	\$ 12,140,213	\$0	\$ 12,140,213	\$0	\$0
FY 2026-27	\$ 9,964,519	\$0	\$ 9,964,519	\$0	\$0

Categories of IT Capital Projects

System Replacement (costs escalating, failing technology, software or vendor support ended, or new technology, e.g., DRIVES, CHATS)	System Enhancement Regulatory Compliance (new functionality, improved process or functionality, new demand from citizens, regulatory compliance, e.g, CBMS)	Tangible Savings Process Improvement (conscious effort to reduce or avoid costs, improve efficiency, e.g., LEAN, back office automation)	Citizen Demand “The Ways Things Are” (transformative nature of technology, meet the citizens where they are, e.g., pay online, mobile access)
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Request Summary:

The Division of Workers’ Compensation (DOWC) is requesting an FY 2024-25 Cash Funded Capital IT Appropriation to replace its workers’ compensation computer system and database, commonly known as CoCo. DOWC completed a system modernization project in 2018 which migrated its legacy system off of the mainframe (GGCC). While the state mandate to transition off of a legacy system was met, limited funding prevented a full system modernization. The recent COVID-19 pandemic has expedited the need to transform the system, streamline workflows, and eliminate the reliance on paper filings.

At this time, the CoCo system primarily operates as a database with limited workflow incorporation. This requires many work units to create separate, non-OIT supported, external systems for their workflows. This includes access databases, excel spreadsheets, or snoozing emails until they are due. All of these items require duplication of effort to document in both the external system and CoCo, along with the added likelihood of user error.

The vendor will analyze workflows, recommend improvement areas, design, develop, and deploy the replacement system. The new system will provide a modern work-related injury claims system that allows DOWC to leverage technology options unavailable within the existing CoCo system.

The new system will be designed and implemented in tandem with the CoCo system, as it is essential that no interruption of existing services occurs. It is anticipated that when the new system is ready, the old system will be irrelevant.

It is anticipated that the new system will provide user controlled access to DOWC/OIT staff, approved vendors, and designated external stakeholders -- including insurance carriers, employers, injured workers, medical providers, and attorneys.

This project has an anticipated duration of 3 calendar years spanning July 1, 2024 through June 30, 2027. DOWC anticipates this project to be implemented through project phases: discovery, requirements, design, development, testing, deployment, and maintenance.

Project Description:

The DOWC is requesting a full system replacement of the migrated mainframe legacy workers' compensation application and database, CoCo. The new system will integrate all workers' compensation system related workflows and processes, allow all forms to be filed electronically, eliminate potential entry errors, allow external stakeholder access, improve reliability of data and access to it, and align with other industry accepted filing standards. The implementation and delivery of the new DOWC system will require a multi-year effort and must be completed before current problems reach critical levels. The system will likely require annual licensing fees and regular maintenance and upgrades to accommodate changes in rules, legislation, industry standards, and security standards.

Systems Integration Opportunities –

While the initial migration from the legacy mainframe system was successful, limited funding prevented full modernization of all system components, such as the directory for accredited medical providers and employer proof of coverage systems. The Department's strategic plan includes integration of new technology to replace the non-modernized system coding language and user-interface components. This modernization will allow business services to become more closely aligned to stakeholder needs. This system replacement further enables DOWC to successfully navigate the rapidly changing technological landscape for realizing improvements in agency strategies, business intelligence, regulatory requirements, and skills (both technical and business) availability.

Other system integrations:

It is anticipated that the new system will integrate all DOWC related processes and workflows, eliminating unsupported employee designed systems and current risks associated with potentially high-risk email form submissions. The new system will also integrate with the Electronic Data Interchange (EDI) system aligning with national industry standards. Other opportunities for integration would include improved coverage reporting and artificial intelligence to identify potential non-compliant employers, shared hearing data from the Office of Administrative Courts, and offer potential real-time monitoring and data-mining for data management partnerships, such as Unemployment Insurance, FAMILI, CDPHE, and CDHS.

Risks and Constraints -

The DOWC relies exclusively on cash fund revenue from the Workers' Compensation Cash Fund to support the Workers Compensation Program. The increased spending authority from the legislature will allow the Department to finance the replacement of the system and enhance the user experience, while allowing the Department to maximize the utilization of existing resources. The risks associated with this project include limited additional funding in instances of scope creep (which will be monitored and managed intensely), limited vendor selection with specific experience designing systems for the workers' compensation industry, increased risk of external data breaches by allowing external stakeholders to have user-controlled system access, and limited time allowed for the project. A risk register within the DOWC business team will contain all identified known risks and exhausted mitigation for each identifiable known risk in this project. Included in the risk register will be a potential for unknown risks, of which there will be triple-constraint consideration (time, cost, and scope) for those potentially unknown realized risks. Dedicated resources and partnership with the Governor's Office of Information Technology will also be key to ensuring the success of this project.

Operating Budget Impact -

The request is for the purchase, design, and implementation of a new technology solution. After the requested funding has been fully expended, there will be ongoing licensing fees for the system, estimated to be up to \$100,000 per year, which will require an increase in spending authority. DOWC also anticipates that this project will require four full time DOWC employees for the duration of this project and future maintenance of the implemented system. The increased spending authority funding will come from the fund balance of the Workers' Compensation Cash Fund and will not require any funding from general, federal, or grant fund sources.

Background of Problem or Opportunity:

When a Colorado worker is injured on the job, the State has a responsibility to regulate the system that provides benefits to the injured worker, pursuant to the Colorado Workers' Compensation Act. CoCo is the DOWC's claims database and management system that has the ability to provide on-demand electronic information for any reported work-related injury in Colorado.

In the early 1990's, DOWC created a computer system that was hosted on the General Government Computing Center (GGCC) platform. This mainframe computer system utilized Adabas/Natural programming language and was supported by the Governor's Office of Information Technology (OIT). GGCC provided stability in availability and performance and hosted DOWC database records for approximately 23 years, spanning 1991 to 2015.

In 2015, DOWC partnered with OIT and a State-awarded vendor to complete a full system migration that allowed the DOWC to migrate the database and applications off of the GGCC mainframe, onto a hybrid java environment and MSSQL database platform. Claim information is currently stored on multiple Microsoft SQL2012R2. Application and database servers reside in a secure state cloud environment.

The CoCo database has the ability to provide various types of information relative to individual work-related injury claims, in response to inquiries from stakeholders that include insurance adjusters, employers, attorneys, injured workers, and DOWC staff. A complete chronological history of any work-injury claim submitted to DOWC is archived within the SQL database, including benefit summaries and orders.

Throughout the claims process, insurance carriers, injured workers, employers, medical providers, and attorneys, use forms to supply information to the DOWC and other parties to the claim. At the time of this filing, there are 71 active forms required to navigate a workers' compensation claim or operate in our system. Prior to the recent COVID-19 pandemic, these paper forms were collected by mail or in person and the data was entered into the computer system by DOWC staff.

In 2020, the DOWC transitioned to accepting these forms as a PDF attachment via email through a general filings inbox. This process was implemented as a temporary solution due to an immediate requirement to work from home. Since making this change, DOWC stakeholders are uninterested in returning to a paper filing system. This remains one of DOWC's biggest vulnerabilities for potential exposure to phishing and malware attacks. Further, while these requests have been turned into PDF format and are accepted via email, it has not eliminated touchpoints and still requires manual data entry into the CoCo system.

The current system does not interface with external stakeholders, one of the desired system improvements. CoCo primarily operates as a database with limited workflow incorporation, requiring many work units to create stand-alone systems through access databases, manual Excel spreadsheets, and non-OIT supported systems.

While the database continues to function and technical staff are performing exceptionally well on maintaining and improving the current system, the skills needed to maintain and the speed required to make relevant changes, require specialized training, and as developers retire or leave for other employment, DOWC and OIT have documented increased challenges in finding qualified individuals to maintain and upgrade the system.

Justification:

The DOWC stakeholder community is in need of a secure and accessible workers' compensation technology system. DOWC has existing cash funds to cover the costs of this new system. The recent COVID-19 pandemic has expedited our need to transform our system to a digital environment and eliminate our reliance on paper, or PDF based, filings. The system will also allow external stakeholders to access pertinent information about their workers' compensation claim. The Division intends to include a focus on accessibility in the design of the new system. At this time, the DOWC CoCo system primarily operates as a database with limited workflow incorporation. This requires many work units to create separate, non-OIT supported external systems for their workflows. This could include an access database, excel spreadsheets, or snoozing emails until they are due. All of these items require duplication of effort to document in both the external system and CoCo database along with the added likelihood of user error.

Many other states have migrated off of their legacy systems and the Colorado DOWC has a unique opportunity to learn not only from previous experience but also from other state's successes and failures.

While the current system is working properly, updating the new system has proven to be a slow process. Additionally, the hybrid language used still requires specialized training which creates hiring challenges as the language and desire to work in this system is replaced with newer technology and skill sets. This outdated system also creates a limitation in vendors available to support and make future upgrades to the system. This being the case, DOWC has concluded that the most efficient, cost effective, and sustainable option would be replacing the existing system.

The migration that occurred from 2015-2018 would require additional upgrades for best functionality at a later date. The COVID-19 pandemic required DOWC to pivot quickly from an entirely paper-based system to an electronic one. The speed which was required to make that transition, led to temporary solutions that cannot be sustained in the long run, thus expediting our need to move more quickly with the next portion of a system rebuild. In the decision-making that occurred leading up to the 2015 migration, many other states were facing similar system upgrade requirements. DOWC is now able to assess the decisions made by each state, and learn lessons not only from the previous migration but from many others who chose a different path. Due to the work done by other states, there are also vendors that have emerged with specific experience designing workers' compensation systems, limiting the risks of being the first.

Additionally, recent process changes that were required to allow a quick transition to a virtual environment have left the DOWC vulnerable to phishing and malware attacks. The DOWC stakeholder community has no interest in returning to a paper filing system and therefore, a new system is required.

Business Process Analysis -

During the prior system migration, completed in 2018, a significant amount of time and effort was spent to document the DOWC's processes, workflows, and to identify areas for improvement. At that time, the primary goal of the project was to migrate the system off of the mainframe, which was met. To ensure the project's success, the scope and funding remained fairly limited to meet that objective. Through the partnership with OIT, DOWC developers have been able to maintain and work through some of the process improvement and modernization efforts that were identified in the initial scope.

In 2020, the State of Colorado, along with the rest of the nation, was required to rethink all of our processes and implement solutions that allowed for the electronic exchange of information. Very quickly, our agency implemented short-term solutions to meet this requirement. When implemented, the current solutions were intended to be short-term, and over time have shown their vulnerabilities in both security and sustainability. Over the past three years, DOWC has analyzed these new processes and identified additional areas of improvement that will be needed in order to sustain the system for long-term success. Through this process, the Division has determined that the current model of making updates to the existing CoCo system is no longer feasible for the extent of the changes that are necessary.

Following the system migration, completed in 2018, it was always known that a system upgrade would be needed to improve usability and access to the system. In mid 2020, DOWC had been operating in the migrated system for one and a half years and began considering ways to integrate and improve processes in light of the pandemic and meet demands of changing rules and legislation. With the system operating correctly, OIT resources had to be diverted to helping to develop employee-designed systems such as access databases. These items are not typically supported by OIT but were determined to be the most efficient method for meeting the high demand for the remote workplace. Changes to the CoCo database have proven to be slow and take extended time. This has led us to a situation where DOWC tends to accrue technical debt almost as quickly as it is eliminated, meaning that while progress is made the net technical debt remains relatively unchanged.

The current CoCo system was migrated to do exactly what it had done in the past, with only minimal process improvement occurring at that time. The new approach has led the Department to determine the best option is to build a new system, which integrates new processes, and makes further improvement. The current option of updating the old system to the new processes without vendor support is not feasible.

Cost-Benefit Analysis and Project Alternatives (per H.B. 15-1266) -

The first alternative DOWC explored is keeping the system as is. The highest risk of this option is the inability to find developers and vendors familiar with the hybrid-java language used in our current system, requiring specialized expertise and ultimately driving up maintenance costs as time goes on. Progress on updating the system with needed integrations and improvements has proven to be slow and, in the long run, has not resolved technical debt. The current system requires annual licensing fees of over \$80,000/year with anticipated 5-8% license cost increase each successive year beyond 2024. The system requires 4 OIT dedicated developers to maintain the current system. OIT's master contract for the licensing used by DOWC (Maxenso) is no longer in place and other agencies have shifted to different technologies, placing DOWC's current system at risk of being the sole user of this technology, leaving it vulnerable to non-support by OIT in the future. The most significant security risk associated with the current system is that electronic PDF forms must be accepted by a widely published email inbox. The staff who process this inbox must click on links and attachments, sometimes from unknown sources, in order to accept them into our system. While staff stays current with required cybersecurity training, this is a significant risk we have identified with the current system.

A second option available includes keeping the current CoCo database system as-is and investing in other technologies for the additional portions needed, such as digital filing system, digital storage, outreach tools, digital scheduling tools, etc. These technologies would require extensive work to integrate into the current CoCo system, if possible at all. Lack of integration would result in duplicative effort from DOWC staff, increased data entry and processing errors, and require excess license funding and processing for these technologies. If integrated, this would also require DOWC to use and maintain the selected technologies, locking it into rate increases and potential risk as version upgrades are released. The same staffing, technical debt issues related to keeping the current CoCo system would also apply as in option 1. Additional technologies have been quoted as approximately \$85,000 implementation costs with annual licensing fees ranging \$30,000-\$50,000, per technology needed.

The final option of full system replacement allows DOWC to expedite the elimination of technical debt and integration of workflows into the system. The integration of workflow and external stakeholder system access create improvements for both DOWC and its external stakeholders. Because other states have implemented similar systems, DOWC will not be the first state to undertake this challenge, eliminating some of the risk. A new system will also upgrade DOWC's technology to current languages enabling us to have a wider pool of DOWC/OIT staff and vendor selection.

The RFI process has been completed with vendor capability and cost estimates taken into consideration for this request. DOWC staff have met and conferred with multiple other states who have implemented system changes since 2015 to receive feedback, explore system options, and expose unidentified risks. The Division is seeking a vendor based solution for the system build, with post implementation maintenance and upgrades to be maintained in a hybrid model of DOWC and OIT staff and vendor support.

Assumptions for Calculations -

Through market research and discussions with the Governor's Office of Information Technology, the Department has reviewed prospective solutions and the table outlines estimated costs.

Total Project Cost: \$ 30,731,543

Total FTE Costs \$2,287,767

This request does not include funding for on-going maintenance support after full system implementation. At this time, the Division believes it has four options for ongoing maintenance: OIT will fully support the system; the Vendor will fully support the system for an unknown cost; DOWC will fully support the system; or a combination of DOWC, OIT & Vendor support for system maintenance. The cost for OIT is part of the annual cost allocation process and the Department anticipates no change in funding if OIT maintains support. Current maintenance support DOWC receives from OIT is approximately \$1.1M annually and the Department expects it to be similar with this new system. If a vendor or DOWC is chosen solely for maintenance, a request for additional funding will be done at that time, if needed. Therefore, until the Division has a clear picture of maintenance requirements, no funding is being requested.

Consequences if not Funded -

If the request is not funded, the Department will continue to see a degradation in the current outdated technologies, increased exposure to security threats, increased costs to maintain, develop, and integrate alternative solutions, ultimately preventing the DOWC from serving the stakeholders of the Colorado workers' compensation system. The current system requires the use of a proprietary tool for run time which has reached end of life and is proving difficult and potentially impossible to update for the future, putting the application in serious risk. The specialized skills for developers and database analysts who can manage and improve the system is proving to be increasingly difficult to staff. The stakeholder community is in need of an automated interface with ability to file electronically and access to status and documentation associated with claims. The current solutions that have been required to be put in place to meet these demands are creating serious risk of phishing and malware attacks.

Implementation Plan

Change Management -

- The change management and overall implementation strategy will use human centered design, an agile approach to iteratively building a new product with a focus on the budget and scope. There will be focus on Organizational Change Management to bring the DOWC community forward, and the external user community will be engaged for usability feedback. It is the intent of DOWC to engage a vendor for this replacement who has experience in the claims management field with a focus on Workers' Compensation processes. If possible, the use of a customizable off the shelf product will be used, engaging industry best practices.

Alignment with OIT Best Practices and Standards -

- This request aligns with the Department goal of ensuring our products align with the architectural and security standards as set forth by the Governor's Office of Information Technology in accordance with Colorado's Chief Information Security Office (CISO). Practices like multi-factor authentication, role based access, a secure stakeholder portal and meeting all security standards, automation, and a positive end user experience are all at forefront in developing a modern Workers' Compensation system for the oversight and management of this program.

Procurement -

- The Department, in partnership with OIT, has worked together to identify the requirements of a system replacement. A Request for Information was completed on June 20, 2022, indicating the project is feasible and identifying reasonable costs for the project. The procurement process will meet the Colorado Procurement Code requirements for competitive, equitable, and fair purchasing. The project has received a conditional approval for Gate 1 through OIT to proceed.

Disaster Recovery and Business Continuity -

- The Department will be seeking, via the solicitation, for the vendor to implement a full Disaster Recovery system to ensure business continuity and secure practices for data storage and retention. Disaster Recovery (Real-Time System Failover) will be a crucial requirement of the awarded vendor pertaining to all planned and unplanned outages within this project duration. Potential Service interruptions are to be minimal (as outage timelines and Service Level Agreements advertise within the mission critical guidelines), as the new system is constructed and implemented within the OIT/Business platform. Best practices for implementation amid Zero-outage initiatives will be the highest priority in all phases of this project. Security features will be predicated upon business requirements of full encryption of all PII data at rest and in transit. The new system and normalized Database will be required to adhere to the CISO (Colorado's Chief Information Security Office) data and computer system security protocols. Each Security Protocol detail that will be required for awarded Vendor to be in compliance on the new system is listed on the following link:

<https://oit.colorado.gov/standards-policies-guides/technical-standards-policies#technical>

Accessibility Compliance (Must be addressed) -

- The new system will offer the ability to address and further enhance accessibility compliance requirements not present or capable of being implemented in the current system. The software vendor will be required to adhere to OIT statutory obligations regarding Accessibility Compliance and new requirements as required in WCAG 2.1 and HB21-1110 for individuals with disabilities.

Impact to IT Common Policy (For Statewide OIT Projects Only) -

- It is anticipated that DOWC will require technology contractors to participate in the project (figures included in this request) for architecture, project management, data conversion and migration efforts, and interface builds. Historically, these costs would have been tied to an inter-agency agreement with OIT. However, those costs as of July 1, 2022 have been moved to common policy real time billing.

ADDITIONAL REQUEST INFORMATION	
Please indicate if three-year roll forward spending authority is required.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is this a continuation of a project appropriated in a prior year?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If this is a continuation project, what is the State Controller Project Number?	N/A
If this request effects another organization, please provide a comfort letter.	N/A
Please attach a letter from OIT indicating review and approval of this project	See Attachment

ESTIMATED PROJECT TIME TABLE		
Steps to be completed	Start Date	Completion Date
Line-Item Submission to Governor’s Office	7/15/2023	12/31/2023
Business Requirements Gathering	7/15/2023	11/30/2023
Vendor Review & Selection	12/1/2023	5/1/2024
Continued Requirements Gathering & Process Improvement Planning	1/1/2024	7/1/2024
Capital Construction Award - Project Kickoff	7/1/2024	7/1/2024
Assessment & Strategic Planning	7/1/2024	9/30/2024
Stakeholder Engagement/UI Screen Design	7/1/2024	6/30/2025
System Development/Testing/Phased Launch	1/1/2025	12/30/2026
System Maintenance/Ongoing Support Training	1/1/2027	6/30/2027

CASH FUND PROJECTIONS (DELETE IF NOT APPLICABLE)			
Cash Fund name and number:	Workers' Compensation Cash Fund (1420) Subsequent Injury Fund (4160) Major Medical Insurance Fund (4170)		
Statutory reference to Cash Fund:	8-44-102 / 8-46-202 / 8-46-101 C.R.S		
Describe how revenue accrues to the fund:	Funding for DOWC is collected via a premium surcharge to workers' compensation insurance carriers and self-insured employers.		
Describe any changes in revenue collections that will be necessary to fund this project:	Surcharge collection rates are reviewed and set annually to ensure appropriate program funding is available.		
FY 2023-24 Projected Ending Fund Balance (1420,4160,4170)	FY 2024-25 Projected Ending Fund Balance with Project Approval (1420,4160,4170)	FY 2025-26 Projected Ending Fund Balance with Project Approval (1420,4160,4170)	FY 2026-27 Projected Ending Fund Balance with Project Approval (1420,4160,4170)
\$32.6M	\$28.2M	\$20.4M	\$13.8M
\$10.4M	\$8.6M	\$6.5M	\$4.5M
\$56.8M	\$53.4M	\$49.6M	\$46.0M

Expenditure Detail		FY 2024-25			FY 2025-26		
Personal Services:							
Classification Title	Biweekly Salary	FTE	Budget Amt	Biweekly Salary	FTE	Budget Amt	
<i>FTE</i>							
ANALYST III	\$2,220	2.0	\$115,416	2,220	2.0	\$115,416	
ADMINISTRATOR IV	\$2,698	1.0	\$70,140	2,698	1.0	\$70,140	
PROJECT MANAGER II	\$3,443	1.0	\$89,520	3,443	1.0	\$89,520	
IT PROFESSIONAL	\$2,743	3.5	\$249,606	2,743	3.5	\$249,606	
	\$0		\$0	-	-	\$0	
	\$0		\$0	-	-	\$0	
	\$0		\$0	-	-	\$0	
	\$0		\$0	-	-	\$0	
FTE Total	\$11,103	7.5	\$524,682		7.5	\$524,682	
<i>Personnel Costs</i>	<i>Percent/Cost</i>			<i>Percent/Cost</i>			
PERA	11.50%		\$60,338	11.50%		\$60,338	
Medicare	1.45%		\$7,608	1.45%		\$7,608	
Personnel Total		7.5	\$592,628		7.5	\$592,628	
<i>Central Appropriations</i>	<i>Percent/Cost</i>			<i>Percent/Cost</i>			
Health-Life-Dental	\$11,033		\$82,748	\$11,033		\$82,748	
STD	0.16%		\$839	0.16%		\$839	
AED	5.00%		\$26,234	5.00%		\$26,234	
SAED	5.00%		\$26,234	5.00%		\$26,234	
FAMLI	0.45%		\$2,361	0.45%		\$2,361	
Indirect Costs, if applicable							
Leased Space, if applicable	\$4,650						
Central Appropriations Total		7.5	\$138,416		7.5	\$138,416	
Operating Expenses:							
<i>One-Time Operating</i>	<i>Operating Cost</i>	<i>FTE</i>	<i>Budget Amt</i>	<i>Operating Cost</i>	<i>FTE</i>	<i>Budget Amt</i>	
PC, One-Time	\$2,000	7.5	\$16,000	\$0		\$0	
Office Furniture, One-Time	\$5,000	7.5	\$40,000	\$0		\$0	
Other One-Time		0.0	\$0		0.0	\$0	
Other One-Time		0.0	\$0		0.0	\$0	
Other One-Time		0.0	\$0		0.0	\$0	
Other One-Time		0.0	\$0		0.0	\$0	
One-Time Operating Expense Total			\$56,000			\$0	
<i>Ongoing Operating</i>	<i>Operating Cost</i>	<i>FTE</i>	<i>Budget Amt</i>	<i>Operating Cost</i>	<i>FTE</i>	<i>Budget Amt</i>	
Regular FTE Operating Expenses	\$500	7.5	\$3,750	\$500	7.5	\$3,750	
Cisco/Jabber Remote Phone	\$235	7.5	\$1,763	\$235	7.5	\$1,763	
Other		0.0	\$0		0.0	\$0	
Other		0.0	\$0		0.0	\$0	
Other		0.0	\$0		0.0	\$0	
Other		0.0	\$0		0.0	\$0	
Other		0.0	\$0		0.0	\$0	
Ongoing Operating Expense Total			\$5,513			\$5,513	
TOTAL REQUEST			\$792,557			\$736,557	
FTE		7.5			7.5		
General Fund							
Cash Fund (NAME)			\$792,557			\$736,557	
Reappropriated Funds							
Federal Funds							

FTE Calculation Assumptions:

Personal Services -- Beginning July 1, 2020, new employees will be paid on a bi-weekly pay schedule and are not subject to the pay date shift; however new full-time positions should be reflected in Year 1 as 0.92 FTE to account for a four week hiring period. This applies to personal services costs only.

Operating Expenses -- Base operating expenses are included per FTE for \$500 per year. In addition, for regular FTE, annual telephone costs assume base charges of \$235 per year/FTE for Cisco Jabber. Use \$450 per year/FTE if a standard desktop phone is needed. If a cell phone is needed, use \$115 per year/FTE

Standard Capital Purchases -- Each additional employee necessitates the purchase of a Personal Computer (\$1,410), docking station and monitors (\$260), Office Suite Software (\$330), and office furniture (\$5,000).



COLORADO
Governor's Office of
Information Technology

September 14, 2023

Mark Ferrandino
Director
Office of State Planning and Budgeting
111 State Capitol
Denver, Colorado 80203

RE: FY 2024-25 Dept. of Labor and Employment IT Capital request - CoCo DOWC Project

Dear Director Ferrandino:

Pursuant to OSPB instructions, this letter is to confirm that the Office of Information Technology (OIT) has been informed of the development and submission of this proposed FY 2024-25 request for the Department of Labor and Employment - Division of Workers' Compensation (DOWC) is requesting \$8,626,812 starting in FY 2024-25 Cash Funded Capital IT Appropriation to replace their workers' compensation computer system and database, commonly known as CoCo. DOWC completed a system modernization project in 2018 which migrated our legacy system off of the mainframe (GGCC). While the state mandate to transition off of a legacy system was met, limited funding prevented a full system modernization. The recent COVID-19 pandemic has expedited our need to transform our system, streamline workflows, and eliminate our reliance on paper filings.

OIT has completed an internal review to ensure the project aligns with statewide IT goals and determined that OIT has the capacity to deliver and meet the requirements of the project.

Please note: OIT and CDLE are in agreement that a security review will be completed as part of the project itself, when applicable. Also, any OIT specific work should be reappropriated to OIT through the payments of OIT line, where applicable.

Sincerely,

Rus Pascual

Ben Moeller

Rus Pascual, OIT Budget Director

Benjamin Moeller, CDLE OIT IT Director





RY - Department IT Capital Construction Project: #2

Summary of Request	Total Funds	CCF-IT	Cash Funds	Reappropriated Funds	Federal Funds
FY 2024-25	\$4,080,000	\$0	\$4,080,000	\$0	\$0
FY 2025-26	\$0	\$0	\$0	\$0	\$0
FY 2026-27	\$500,000	\$0	\$500,000	\$0	\$0
FY 2027-28	\$500,000	\$0	\$500,000	\$0	\$0
FY 2028-29	\$500,000	\$0	\$500,000	\$0	\$0

Categories of IT Capital Projects

System Replacement (costs escalating, failing technology, software or vendor support ended, or new technology, e.g., DRIVES, CHATS)	System Enhancement Regulatory Compliance (new functionality, improved process or functionality, new demand from citizens, regulatory compliance, e.g, CBMS)	Tangible Savings Process Improvement (conscious effort to reduce or avoid costs, improve efficiency, e.g., LEAN, back office automation)	Citizen Demand “The Ways Things Are” (transformative nature of technology, meet the citizens where they are, e.g., pay online, mobile access)
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Summary of Request

The Department of Revenue (DOR) requests funding for a seed-to-sale inventory tracking system for the Marijuana Enforcement Division (MED) to maintain regulatory compliance with procurement rules and guidelines as well as meet statutory requirements for the regulation of marijuana. The current contract is in an optional renewal window with options to extend ending October 2026. The total amount requested for implementing an inventory tracking system is \$4.1 million, which consists of \$2.1 million for the system with an additional \$2.0

million for an estimated 10,000 hours of system specialists and training resources over the two year timeline to provide the primary line of support for transition and training for the new system. In addition, there is an annual cost of \$600,000 which is \$500,000 more than the current licensing system's annual cost.

The schedule for this project will commence with a solicitation in September 2024 if funding is secured. Implementation would occur through the calendar year 2025 and with an intended go-live date in 2026. The project schedule will include solicitation, contract, analysis and software requirements, design, development and testing preparation, training, communication and documentation, and cutover.

The stakeholders for this project include:

- The Department of Revenue, Marijuana Enforcement Division.
- All marijuana licensees in the State, as licensees are required to access and enter information into the state-mandated inventory tracking system on a daily basis.
- Local jurisdictions that request information collected in the inventory tracking system to support their local regulation of marijuana.

Project Description

Pursuant to Colorado Revised Statute 44-10-202 (1)(a), *“The state licensing authority shall... Develop and maintain a seed-to-sale tracking system that tracks regulated marijuana from either the seed or immature plant stage until the regulated marijuana or regulated marijuana product is sold to a patient at a medical marijuana store or to a customer at a retail marijuana store or a retail marijuana hospitality and sales business to ensure that no regulated marijuana grown or processed by a medical marijuana business or retail marijuana business is sold or otherwise transferred except by a medical or retail marijuana store or a retail marijuana hospitality and sales business;...”*

The inventory tracking system is a critical component to the successful regulation of the commercial marijuana industry. The system is utilized by regulators to monitor compliance with state law and regulations, assist in preventing the diversion of regulated marijuana to other jurisdictions, mitigate opportunities for youth access, and assist with the recall of regulated marijuana that leads to potential consumer safety issues. The system is used by licensees to track marijuana from seed to sale, including documenting the transfer of regulating marijuana from business to business, and business to consumer. In addition, it tracks the testing of regulated marijuana as entered by licensed testing facilities contributing to consumer safety efforts.

The current inventory tracking system was awarded to the current vendor through a sole source procurement process, and available options for the current contract expire in October 2026. As such, procurement rules require the Division to pursue a competitive bidding process to provide inventory tracking system services for the state. The MED is in the process of undergoing an audit with one focal point on the procurement process and the existing sole source. There may be outcomes once the audit is final that can be shared to add context to this request.

The ideal system needs to be able to integrate with dependent software systems utilized by the Division such as the licensing database, case management system, and the data lake hosted in the Google cloud platform. In addition, the system must be compatible with systems used by marijuana licensees such as point-of-sale systems and additional softwares that support the operations of marijuana businesses provided by third-party vendors.

- **Risk** - A system must be in place by November 1, 2026. The impact of not having an operational system would introduce significant challenges to the regulation of marijuana resulting in potential public and consumer safety concerns.
- **Constraint** - Currently the Division does not have sufficient funds to cover the costs of acquiring a new inventory tracking system. Without securing funding, costs for an inventory tracking system would be passed on to licensees through significantly higher fees at a time when market conditions make additional costs to licensees extremely challenging.

The annual cost of a new system is anticipated to be \$600,000 which is \$500,000 more than the current licensing system's annual costs.

Background of Problem and Opportunity

The MED is responsible for the regulation and enforcement of the commercial medical and retail marijuana industry. The MED's mission is to, "*Promote public safety and reduce public harm by regulating the Colorado commercial marijuana industry through consistent administration of laws and regulations and strategic integration of process management, functional expertise, and innovative problem-solving*". An inventory tracking system is critical to this mission.

Colorado Revised Statute 44-10-202 (1)(a), states the MED shall develop and maintain a seed-to-sale tracking system. Under this authority, the MED currently tracks the cultivation of marijuana plants, processing and packaging of marijuana plant products, manufacture of

marijuana infused products and concentrates, the testing of marijuana, and the transfer and sale of marijuana between licensed businesses and to patients and consumers.

In addition, the inventory tracking system tracks employees of the licensed businesses and the patients associated with the medical licenses. There are approximately 1,000 store licenses, where patients and consumers can purchase marijuana, plus approximately 450 product manufacturers licenses, 1,000 licensed cultivation facilities, 8 testing facility licenses, 50 transporter licenses, and 10 hospitality licenses across Colorado. There are approximately 38,000 occupational licensees qualified to work in the industry and there are about 70,000 medical marijuana patients registered in Colorado. All marijuana-related activities conducted by these business licenses, are all employees working in these businesses, and all patient purchases are tracked in the state's inventory tracking system. A seamless transition to implement an inventory tracking system when this contract expires is critical to ensure the operations of these businesses and the availability of marijuana remains for the citizens of Colorado.

This request has been identified as the best solution to address the issue at hand based on a thorough analysis of:

- Constitutional and statutory requirements related to the regulation of commercial marijuana, specifically focused on requirements for state-mandated inventory tracking systems.
- The Marijuana Cash Fund which funds the Marijuana Enforcement Division and its obligation to meet constitutional and statutory requirements. This included a significant analysis of division fees, budget, expenses, potential cost reductions, and resource deployment.
- Market research from across the country for inventory tracking systems implemented by other states regulating the commercial marijuana industry.

The current system has been in place since January 1, 2014, and has been specifically developed, designed, and implemented to meet the regulatory requirements for the commercial marijuana industry in Colorado. There was no previous system in place or IT system designed to meet these requirements. A third-party system developed, hosted, and maintained by a vendor has been the only solution utilized by the state to this point in time.

Cost-Benefit Analysis and Project Alternatives (per H.B. 15-1266)

- 1) Competitively solicit for a seed-to-sale system. The estimated cost of soliciting and implementing a system is approximately \$4.1 million with \$600,000 of annual maintenance.

Benefits include fostering effective broad-based competition within the free enterprise system, selecting the system that is most advantageous to the State within the current marketplace, and compliance with Procurement Code and Rule.

- 2) A Special Circumstance Procurement would be needed if this funding isn't approved. The estimated cost of a special circumstance procurement to extend the existing system is approximately \$107,000 annually. This would be the option available to maintain compliance with Procurement Code and Rule. This would be only a short-term solution (1 - 2 years) until funding was available to competitively solicit.
- 3) Previous market research shows that the Marijuana Enforcement Division does not have sufficient funds in current cash reserves to secure a new system. If the funding request is not approved, the likeliest outcome would be that MED cannot consider other platforms due to a lack of available funds. The alternative would be to increase fees to licensees significantly in order to afford the cost of implementation. There are statutory requirements for marijuana to be tracked in a statewide seed-to-sale inventory tracking system.

The U.S. legal cannabis market is estimated to reach over \$31.8 billion annual sales by the end of 2023 with estimates of reaching \$50.7 billion by 2028. With mature adult-use markets in the Western Region of the U.S. expected to reach \$15.3 billion by 2028, Colorado is an industry leader and is looked to as one of the most mature markets in the nation.

Seed-to-sale solutions span across multiple software commodity categories depending on the state's regulations and compliance structures. The scope of seed-to-sale solutions ranges by state but may include:

- Compliance and Enforcement
- Inventory Management and Tracking
- Licensing
- Hosting
- User Support

The supply of vendors who can meet seed-to-sale solution requirements is slowly increasing but there is still little competition with vendors who are able to track inventory by RFID and

barcodes. Demand is growing as more states legalize medicinal or recreational use of cannabis and due to overall consumption trends rising across the country.

The Oregon Liquor and Cannabis Commission issued a report in 2021 that highlights the pricing structure and costs around RFID tagging for various states, as shown below.

Table 5: Tagging and Tagging Costs

	Tags required? Cost?			Tagging approach	Who pays for tags?
	Plant tags	Harvest lot tags	Package tags		
CA	X (\$0.38/plant)		X (\$0.27/package)	RFID	State
CO	X (\$0.43/plant)		X (\$0.25/package)	RFID	Licensees
IL	X (tags do not have to be purchased)	X (tags do not have to be purchased)	X (tags do not have to be purchased)	RFID or an electronic tag	Tags do not have to be purchased
ME	X (\$0.45/plant)		X (\$0.25/package)	RFID	Licensees
MA	X (\$0.45/plant)		X (\$0.25/package)	RFID	Licensees
MI	X (\$0.45/plant)		X (\$0.25/package)	RFID	Licensees
NV	X (\$0.45/plant)		X (\$0.25/package)	RFID	Licensees
OR	X (\$0.45/plant)		X (\$0.25/package)	RFID	Licensees
WA	X (cost is for printing/paper only)	X (cost is for printing/paper only)	X (cost is for printing/paper only)	Self-printed tags; Written tags	Tags do not have to be purchased (cost is only for printing/paper)

*Covid-19 pandemic has impacted regular audits.

Table 6: Details on plant tagging and tracking

	How do rules distinguish plant growth cycles (if at all)?	Do you distinguish between seedlings and immature plants?	Do you have different tracking requirements for seedlings?	At what point do plants need to be individually tracked?	If you distinguish between immature and mature plants, what is the cut point you use for tagging purposes?
CA	Rules distinguish only between immature and mature plants.	No	No	Plants are tracked initially in batches and then must be tracked individually once they are in the designated canopy where they will flower, or when the Pistil is ½ inch or greater.	Mature plant for tagging: A plant in the designated canopy where it will flower, or with a pistil of ½ inch or greater.
CO	Rules distinguish between immature, vegetative, and flowering plants	No, not for tagging purposes	Yes They are tracked as immature plants in batches vs. being tagged individually	Plants are tracked in batches and then tracked individually after reaching a height or width of 8 inches.	Mature plant for tagging: >=8 inches in height or width
IL	Rules distinguish only between immature and mature plants.	No	No	Plants are tracked in batches and then tracked individually after reaching a height of 6 inches.	Mature plant for tagging: >= 6 inches in height
ME	Rules distinguish between seedlings, immature plants, and mature plants.	Yes	Yes Can track in seedling "batch" - No tags	Plants are tracked initially in batches, and then must be tracked individually after reaching 24 inches in height or width, or flowering.	Mature plant for tagging: >= 24 inches in height or width and flowering, or any flowering plant (of any size)
MA	Rules distinguish only between immature and mature plants.	No Seeds are no more than 50 seeds/package.	Yes Clones/immature plant batches are in groups of no more than 100. Seeds are no more than 50 seeds/package.	Plants are tracked in batches and then tracked individually after reaching a height of 8 inches.	Mature plant for tagging: Flowering stage; 8"
MI	Rules distinguish between immature, vegetative, and flowering plants	No, not for tagging purposes	Yes They are tracked as immature plants in batches vs. being tagged individually	Plants are tracked in batches and then tracked individually after reaching a height or width of 8 inches.	Mature plant for tagging: >=8 inches in height or width
NV	Rules distinguish between seedlings, immature plants, and mature plants (flowering).	Yes Based on rooting of the plant	No	Plants are tracked in batches and then tracked individually after reaching a height of 8 inches.	Mature plant for tagging: >=8 inches in height, or flowering
OR	Rules distinguish between immature and mature in terms of growth stage. Because tagging is required at 24 inches, "vegetative" is used in Track and Trace System to distinguish immature (<24") from mature plants (>=24")	No	Yes Seedlings are allowed to be tracked in batches of 100.	Plants are tracked in batches and then tracked individually after they reach a height of 24 inches or flower (whichever is first).	Mature plants are defined as "flowering" ("Flowering" means a marijuana plant that has formed a mass of pistils measuring greater than two centimeters wide at its widest point.)
WA	Rules distinguish between immature and mature plants. Immature plant or clone means a marijuana plant or clone that has no flowers, is less than 12 inches in height and diameter.	No	No Seedlings are not defined separately or tracked in the system.	Plants always need to be tracked as individually, starting at the point of propagation. Plants must be individually tagged after reaching a height of 8 inches.	The distinguishing factor is height and viability based the definition of immature plants. The system does not force a workflow related to demarcation of when an immature plant becomes a mature plant. However, as the plant moves through the traceability record there are points in which the id number changes as part of the workflow from immature plant through to harvest.

Some states using vendors who do not have any RFID patents are using bar codes instead of RFID tags to avoid patent infringement. However, Colorado requires RFID technology to be used.

An alternative pricing model would be to roll support fees into the cost structure so licensees do not get a monthly invoice directly. In some cases, this can be perceived as adversarial to licensees as it increases the burden on them.

Costs are increasing for seed-to-sale software as most states legalize cannabis and there are newer vendors entering the market. While the primary solutions proposed to states have focused on the seed-to-sale lifecycle over the past decade, there is now more focus on the seed-to-bank lifecycle as financial requirements are slightly loosening at a federal level and on the point of sale and enterprise resource planning (ERP) lifecycles.

Due to the diversity in how state agencies have addressed cannabis compliance and tracking, there are significant variations in pricing models, overall costs and scope of the solicitations and contracts states are using for seed-to-sale solutions.

Some states structure their seed-to-sale solutions to include inventory tracking, licensing and compliance under one vendor (e.g., Louisiana) while others separate licensing and inventory tracking under multiple solutions (e.g., Colorado).

Oregon is one of the states with the most comparable sales and volume for marijuana in Colorado for the 2022 calendar year, as shown in the table below:

State	Marijuana Plants Harvested	Annual Sales
Colorado	14 Million	\$1.8 Billion
Oregon	9.6 Million	\$994 Million

Oregon state entered a contract with a seed-to-sale vendor for inventory tracking, licensing and hosting at a total cost of \$10 million over a 5 year term. This contract also includes liquor licensing so the \$10 million cost is not entirely for marijuana compliance.

New York state issued a competitive solicitation for a seed-to-sale solution and three vendors submitted bids ranging from \$2.1 million to \$10.9 million. They awarded to the vendor who bid \$2.1 million for a seven year term with \$1.3 million of that allotted solely for implementation services.

Known Vendors in the Marijuana Seed-to-Sale Solution Market for State Agencies

Vendor A

- First vendor to embed themselves in the market
- Sole vendor to work with a significant number of regulatory agencies and industry licensees
- Estimated 60-80% of market share of regulatory agencies

Vendor B

- Established from a pharmaceutical background
- Estimated 5-20% of market share of regulatory agencies

Vendor C

- Established from a logistics background

Vendor D

- Market their platform as the first seed-to-bank solution in the industry
- Integration with Leafly for cannabis education and ordering

- Integration with Quickbooks for accounting processes
- Company website is not HTTPS secure (as of June 2023)

Competition in the Market

There is an oligopoly in the seed-to-sale software market where a few vendors control the vast majority of the market. While there are emerging vendors in the space, most vendors have focused on a niche or novel aspect of the market (seed-to-bank, point of sale, ERP solutions, etc.) while offering integrations with the dominant market vendors.

Conclusion

With more states legalizing the use of cannabis and due to the consumption trends rising across the country, this is a software market that is expected to continue growing. The variations in how state agencies structure their tracking and compliance requirements also adds a layer of complexity to how these software vendors bid on these opportunities. Additionally, the technology used for tracking this inventory is still evolving which in the future should allow for more competition within the vendor landscape. Consequently, there is adequate competition in the marketplace to merit a competitive solicitation by the state for a seed-to-sale solution.

Success Criteria and Improved Performance Outcomes

Regulation doesn't exist at the federal level officially and the MED is responsible for the proper tracking and regulation of all marijuana products. The top success criterion is the tracking of all marijuana plants, products and byproducts sold by legal means statewide through a software solution. That includes the tagging technology (barcode or RFID), the system's ability to manage and maintain those records, user support and ensuring that data's accuracy and availability to both regulators and licensees.

Assumptions for Calculations

The total amount requested for implementing an inventory tracking system is \$4.1 million, which consists of \$2.1 million for the system with an additional \$2.0 million for an estimated 10,000 hours of system specialists and training resources over the two year timeline to provide the primary line of support for transition and training for the new system. In addition, there is an annual cost of \$600,000 which is \$500,000 more than the current licensing system's annual cost.

Consequences If Not Funded

If this request is not approved, DOR would need to request approval of a Special Circumstance Procurement (C.R.S. 24-103-208, R-24-103-208-04) from the Chief Procurement Official to allow for an extension of the current contract based on lack of available funds to competitively solicit the contract. If approved, this would allow for continued operation of the existing system until funding is available to issue a competitive solicitation, award, execute a contract, and implement the awarded solution.

If the request for funding and the extension of the current contract are both not approved, the Division would be at risk of falling out of compliance with statutory requirements for maintaining a seed-to-sale tracking system. If that were the case, there would be a significant risk to public safety, consumer safety, and product safety based on the lack of tracking marijuana activity and processes, the loss of the ability to monitor compliance with regulations, an inability to effectively and efficiently conduct recalls of potentially hazardous regulated marijuana, and a lack of oversight to the transactions of regulated marijuana increasing the risk of diversion to other jurisdictions and sale of regulated marijuana to youth.

Implementation Plan

When a solicitation results in a new Seed to Sale inventory tracking platform this will result in a major implementation with the selected vendor partner. The MED expects the vendor partner will bring a series of best practices to inform the implementation plan that is based upon their experience from prior platform implementations. The two largest areas of complexity will be related to the data migration from the existing platform and the training effort to support the diverse user community. The MED has approximately 1,000 store licenses, where patients and consumers can purchase marijuana plus approximately 450 product manufacturers licenses, 1,000 licensed cultivation facilities, 8 testing facility licenses, 50 transporter licenses, and 10 hospitality licenses across Colorado. There are approximately 38,000 occupational licensees qualified to work in the industry and there are about 70,000 medical marijuana patients registered in Colorado. All marijuana-related activities conducted by these business licenses, all employees working in these businesses, and all patient purchases are tracked in the state's inventory tracking system. A seamless transition to implement a new inventory tracking system is critical to ensure the operations of these businesses and the availability of marijuana remains for the citizens of Colorado.

- With a new seed to sale inventory tracking platform the DOR knows there will be impacts to the user experience using the software and likely process impacts to

maximize the strengths of a new platform so the DOR expects the change to this very large user community to be significant.

- o Training may include: (1) business process training due to changes as a result of the technology; (2) system navigation training; and (3) technical training for resources supporting the system.
- o Training media might include instructor-led classes, webinars, on-demand computer-based training, or online help.

Alignment with OIT Best Practices and Standards

The DOR will engage OIT for review/approval of the solicitation to ensure the statement of work has appropriate OIT standards for network access, system security, and architecture compliance is maintained with a new vendor.

Procurement

If funding is approved, DOR would engage OIT for review/approval of the solicitation and draft statement of work. The OIT's role and responsibilities in the procurement process would be determined at that time. At a minimum, OIT would provide review and approval to solicit and would review/approve the contract resulting from the solicitation prior to execution.

Disaster Recovery and Business Continuity

Our Seed to Sale Inventory Management system has an extremely low tolerance for data loss which means the recovery point objective will ideally be within minutes to ensure minimal data loss. In addition, due to the operational reliance the user community has on the system the recovery time objective also needs to be very low. This ensures time required to have access restored to the system is as quickly as possible.

The new platform will inform a runbook for the user community to help define options they have available when the system isn't available. The goal is to extend continuity of operations for as long as possible in the case of a catastrophic failure of the system.

Accessibility Compliance (Must be addressed)

As part of the procurement process, DOR will ensure the vendor and platform meet the statutory requirements regarding IT Accessibility from HB21-1110 and SB23-244. Per Section

24-85-103, C.R.S., OIT is statutorily obligated to set and maintain rules for accessibility standards for IT systems statewide.

Impact to IT Common Policy (For Statewide OIT Projects Only)

N/A

ADDITIONAL REQUEST INFORMATION	
Please indicate if three-year roll forward spending authority is required.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is this a continuation of a project appropriated in a prior year?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If this is a continuation project, what is the State Controller Project Number?	N/A
If this request effects another organization, please provide a comfort letter.	N/A
Please attach a letter from OIT indicating review and approval of this project	

ESTIMATED PROJECT TIME TABLE		
Steps to be completed	Start Date	Completion Date
Market Research	11/2/2022	7/1/2023
Estimate of Budget Request Timeline	7/1/2023	7/1/2024
Estimate of Solicitation Timeline	10/11/2024	7/7/2025
Estimate of New Contract Execution Timeline	7/8/2025	11/4/2025
Estimate of Implementation Timeline	11/5/2025	10/31/2026
Expiration of Current Contract	10/31/2026	

CASH FUND PROJECTIONS (DELETE IF NOT APPLICABLE)	
Cash Fund name and number:	Marijuana Tax Cash Fund (MTCF) - 15RS
Statutory reference to Cash Fund:	39-28.8-501, C.R.S.
Describe how revenue accrues to the fund:	Any moneys in the fund that are attributable to the retail marijuana excise tax transferred pursuant to section 39-28.8-305 (1) (b), C.R.S., the retail marijuana sales tax transferred pursuant to section 39-28.8-203 (1) (b), C.R.S., or the sales tax imposed pursuant to section 39-26-106, C.R.S., on the retail

	sale of marijuana products under this article and article 43.4 of this title.
Describe any changes in revenue collections that will be necessary to fund this project:	There would be an impact to the MTCF after implementation for the increased cost of the annual maintenance of a new system



COLORADO
Governor's Office of
Information Technology

September 15, 2023

Mark Ferrandino
Director
Office of State Planning and Budgeting
111 State Capitol
Denver, Colorado 80203

RE: FY 2024-25 Department of Revenue - ITCC-02 SBG Seed to Sale Tracking

Dear Director Ferrandino:

Pursuant to OSPB instructions, this letter is to confirm that the Office of Information Technology (OIT) has been informed of the development and submission of this proposed FY 2024-25 request for the Department of Revenue - ITCC-02 SBG Seed to Sale Tracking.

OIT has completed an internal review to ensure the project aligns with statewide IT goals and determined that OIT has the capacity to deliver and meet the requirements of the project.

Please note: OIT and the Department of Revenue are in agreement that a security review will be completed as part of the project itself, when applicable. Also, any OIT specific work should be reappropriated to OIT through the payments of OIT line, where applicable.

Sincerely,

Rus Pascual

Rus Pascual, OIT Budget Director

Henry Ammons

Henry Ammons, DOR IT Director

