Governor's Office of eHealth Innovation

Colorado Rural Connectivity Program

SHORT PROJECT DESCRIPTION

The Governor's Office of eHealth Innovation (OeHI) is requesting a combination of state funds and federal funds spending authority for phase two of the Colorado Rural Connectivity Program to increase rural health care providers' access to health information, analytics, and technical support to improve the health and safety of rural communities.

PRIORITY NUMBERS   2021024

Prioritized By	Priority	
OSPB	1 of 13	Recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$1,081,800	$5,489,004	$115,784	$115,784	$6,802,372
FF	$5,416,200	$5,489,003	$115,784	$115,784	$11,136,771
Total	$6,498,000	$10,978,007	$231,568	$231,568	$17,939,143

PROJECT STATUS

This request is for phase two of a continuation project. Funding for phase one was appropriated for FY 2021-22.

PROJECT DESCRIPTION

OeHI is requesting a combination of state funds and federal funds spending authority for phase two of the Colorado Rural Connectivity Program to increase rural health care providers' access to health information, analytics, and technical support to improve the health and safety of rural communities.

As part of phase one of the project, OeHI has engaged the Colorado Community Managed Care Network and the Colorado Rural Health Center to provide assistance to facilities and providers for Health Information Exchange (HIE) connectivity and analytics. Out of the total 84 rural safety-net facilities in the state, which include critical access hospitals and certified rural health centers who serve members of the state's Medicaid program (Health First Colorado), 49 of those facilities were not connected to one of the two HIEs in the state – Colorado Regional Health Information Organization (CORHIO) and Quality Health Network (QHN) – at the start of this project. Phase one of the project focused on completing an environmental scan of these providers and facilities to understand their needs moving forward and how OeHI can best assist these providers and facilities in getting connected to the state's HIE network and analytic infrastructure. OeHI recently executed a contract with CORHIO to connect an additional 14 rural safety-net facilities to its HIE portal, with technical assistance provided by the Colorado Rural Health Center.

The goal of phase two of the project is to connect 60 other independent rural health care providers, such as other hospitals and health clinics that are not considered safety-net facilities, to the state's HIE network and analytic infrastructure. Phase two funding will also be used to create a shared analytics platform between rural health care providers and to provide technical and workflow support to these providers.

PROJECT JUSTIFICATION

OeHI explains that many rural health care facilities operate on small budgets and are generally unable to pay for individual connections to either of Colorado's HIEs. Costs and fees to connect to an HIE include: broadband connection, data transmission, data access, analytic reports creation, and connections to electronic health record (EHR) vendors. HIEs and EHRs allow clinics to manage their patient population by sharing real-time data with other clinics in Colorado, which reduces health care inefficiencies, provider burden, and prescription drug costs while improving patient health outcomes and data quality, and lowers costs over time.

In 2020, 18 rural safety-net hospitals in Colorado operated at a profit loss, and many of these hospitals own and operate the majority of the state's rural safety-net facilities. OeHI anticipates that more rural safety-net hospitals and clinics will operate at a profit loss in FY 2021-22 due to the COVID-19 pandemic. The office states that the COVID-19 pandemic highlighted that connectivity to the state HIEs is a pressing need for all health clinics, and emphasized that rural providers are not able to provide the same level of service and care coordination as urban providers because they are unable to share electronic health data.

SURVEILLANCE DASHBOARDS. OeHI states that some of the FY 2019-20 funds appropriated for the Colorado Health IT Roadmap were shifted to begin phase one of this project during the COVID-19 emergency response in May 2020. These funds were used to implement easy-to-use COVID-19 surveillance dashboards for rural safety-net providers. OeHI has been able to provide 63 rural safety-net health care providers with access to these dashboards to date. Surveillance dashboards allow rural providers real-time access to patient population information as it relates to COVID-19, including hospital admissions, discharges, and transfers. The office states that while these dashboards are currently being used for rural safety-net providers to address the COVID-19 pandemic, in the future, this tool and functionality may be used for statewide care coordination for individuals with chronic health conditions.

COST-BENEFIT ANALYSIS

OeHI summarized the expected cost savings of this project below:

• improved data quality creates efficiencies for health care facilities;
• improved coordination of projects, data, and systems increases access to information, thereby, reduces duplication, costs, and improves care coordination; and
• improved care coordination reduces health care system costs and improves outcomes and patient experiences.

PROJECT COST INFORMATION

OeHI provided the following cost estimates for phase two of the project to connect the 60 independent rural health care providers to the state's HIE network and analytic infrastructure:

• HIE onboarding: $42,000 per provider;
• Data analytics: $36,000 per provider;
• Technical assistance fees: $65,000 per provider;
• System upgrades for facilities: $18,000 per provider; and
• HIE subscription fees: $18,000 per provider.

OeHI states that this project reduces the costs for a rural facility to connect to an HIE through group purchases. Group purchases will minimize the number of individual provider EHR connections needed for rural providers to access comprehensive health information on their patients. The two Colorado HIEs allow one purchased membership to access information statewide, which can be used by numerous rural facilities.

The office states that this project's three-year appropriation will allow rural health care providers to plan for making these EHR and HIE connections financially sustainable. This sustainability planning and transition may determine if OeHI and the Department of Health Care Policy and Financing (HCPF) will submit a future budget request to support this work. OeHI also states that it will continue to work with HCPF to identify and maximize future federal funding match opportunities.

FEDERAL MATCH. According to OeHI, phase two of this project focuses on small, independent health care providers that are traditionally not eligible for federal funding opportunities. OeHI assumes that the requested implementation and general administrative costs for the project would qualify at a minimum for a 50 percent federal match rate with the potential for a 90 percent federal match rate for qualified implementations. There may also be potential for a 75 percent match rate for ongoing qualified technology and supports that advance Medicaid business needs and operations.

CASH FUNDS

N/A

PROJECT RESEARCH

The office estimated the costs of this project based on the estimated costs to connect a rural facility to an HIE; the cost of providing ongoing technical support to these facilities; and the general administrative costs. The office also researched how much it cost other states to implement similar projects.

ADDITIONAL PROJECT INFORMATION

OeHI states that this project focuses on sharing data statewide through HIEs. All data sharing must follow strict Health Insurance Portability and Accountability Act (HIPAA) requirements and agreements. The office also explains that the Governor's Office of Information Technology has been engaged in this project.

The office explains that there are national health information exchange networks that provide high-level information sharing on a national level, but lack detailed health information that is available within regional and state HIEs. States are working toward a national model for health information sharing with the goal of establishing a trusted exchange framework and common agreement. This project will focus only on statewide data sharing, but OeHI will leverage all opportunities regionally and nationally to advance information sharing to support improved health outcomes and reduce costs.

PROJECT SCHEDULE

	Start Date	Completion Date
Planning	October 2020	September 2022
Implementation	July 2022	July 2025
Testing	July 2022	June 2025
Closing	July 2022	June 2025

QUESTIONS

1. Does OeHI anticipate that any federal COVID relief funds under the CARES Act or ARPA that the state has received may be available for use on this project?

OeHI is not expecting and does not recommend using stimulus funds where the state can receive a federal fund match for health information technology. This program has an opportunity in the future to receive an ongoing federal fund match of 75% with a 25% state match. CMS federal funds cannot be matched using federal stimulus funds. The ongoing sustainable federal funding is key to ongoing use of the technology.

This proposal is not duplicative of other stimulus funding being utilized to support health care providers. If new funding becomes available, OeHI recommends providing grant funds to rural providers to purchase or upgrade electronic health records or other technology. This is also a vital need but does not qualify for matching state and federal funding. Additionally, the funding for the Rural Connectivity Program is not distributed directly to the rural health providers. The funds are distributed to the health information exchanges and technical partners to support the use of the network and technology longer-term.

2. What lessons has OeHI learned during phase one of this project that will help if phase two is funded?

There is a significant disparity in technology and internet access between urban and rural areas, but also between rural providers themselves. Some practices continue to rely on paper charts and records, with faxing the most reliable method of records transmission. For those practices who do have some level of connectivity, significant barriers still exist with disparate and outdated EHRs, and there is a critical need for support to upgrade this technology. These processes and systems not only require additional time and energy from already overburdened staff, they do not enable coordinated care for patients between providers. This can lead to poorer health outcomes, as well as placing the burden of sharing health information principally on the patient. Further, when individuals are traveling or unable to see their primary providers, they may be unable to provide

Governor's Office of eHealth Innovation
Colorado Rural Connectivity Program

necessary health information. If both providers are connected to the state health information exchange, the patient can receive the most timely and appropriate care.

OeHI has placed a strong emphasis on both care delivery and patient health outcomes when establishing metrics for future phases of the work. While work to date has focused primarily on the number of connections to both the HIE and the analytics platform to monitor uptake, proposed work will collect data on provider workflow efficiencies and hospital and Emergency Department readmissions. Additionally, OeHI will continue tracking progress on our Wildly Important Goal (WIG) to connect 50 additional rural safety-net providers, from 34 to all 84, to HIE by June 30, 2022 - OeHI is making significant progress on this goal, with 64 providers currently connected, an increase of 30.

OeHI has confirmed the value of this work to providers; in particular, ensuring rural providers understand the benefit of connectivity as it relates to their individual practice and situation. OeHI has gathered feedback and input from providers which affirm and validate the need for and value of HIE connection and relevant analytics to care for their patient population. One provider noted they are "crippled" without a patient's full health record, having to treat without knowledge of or access to previous notes, diagnostic tests, or imaging. These stories with rural providers maximize engagement of the remaining providers. Providers who are engaged report that the HIE and analytics connections save staff time and frustration, as well as provide better overall care for patients.

Additionally, we are seeing that health equity is positively impacted in communities that have access to health information exchange, adequate technologies, technical assistance, and broadband. Without access to adequate, even basic, technology rural Coloradans pay more for health care and experience a lower quality of care.

SHORT PROJECT DESCRIPTION

The Colorado Department of Corrections (DOC) is requesting one-time state funding to modernize its timekeeping and scheduling systems.

PRIORITY NUMBERS

2023013

Prioritized By	Priority	
OSPB	2 of 13	Recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$0	$1,282,965	$0	$0	$1,282,965
Total	$0	$1,282,965	$0	$0	$1,282,965

PROJECT STATUS

This is a new, never-before-requested project.

PROJECT DESCRIPTION

The DOC is requesting one-time state funding to modernize its timekeeping and scheduling systems. This project aims to replace the current timekeeping system within the Department of Corrections Information System (DCIS) with a customizable off-the-shelf (COTS) software solution from Kronos that will be hosted in the cloud. This request also includes funds for custom programming that will be necessary to tailor the system to DOC's unique scheduling and timekeeping requirements. The new system will integrate into the current Colorado Personnel Payroll System (CPPS) and allow DOC to streamline the department's payroll process.

PROJECT JUSTIFICATION

According to the department, DOC currently uses the Informix database within DCIS for its current timekeeping system. DCIS is an end-of-life legacy system that is scheduled to end production in June 2023, which will render the current timekeeping database unstable. Following the completion of this project and the DOC Offender Records Management system (DeCORuM) project, which is expected to happen by June 30, 2023, DOC will be able to decommission the DCIS.

In addition to using the legacy DCIS, DOC utilizes a wide range of paper-based and other manual methods to track hours worked by employees, schedule shifts and days off, and other workforce management processes. DOC states that these current practices are very labor intensive and are not standardized across department work locations. For example, DOC typically uses a third-party to input data from paper timesheets that are prepared by employees and approved by their supervisors into DCIS. The new automated system will allow staff to have real time visibility on hours worked, leave balances, compensatory time, and overtime hours, which is not possible under the current system.

The department believes that this project will help it meet the statutory requirements outlined in Section 17-1-103 (1)(q), C.R.S., and Sections 17-1-115.8 (3)(c) and (d), C.R.S.. These sections relate to the department's timekeeping and scheduling requirements, such as requiring that each DOC employee receive a pay stub with each paycheck that clearly and accurately reflects specifics of their pay, including hours worked, rate of pay, and leave earned and balances, and requiring the department to establish administrative regulation practices that create greater flexibility in the staffing of facilities. A new, modernized system will also ensure that the department is more accurately able to track the schedules and hours worked by the minority of department employees who are exempt under section 207 (k) of the U.S. Fair Labor Standards Act for law enforcement workers.

COST-BENEFIT ANALYSIS

According to the department, an average of three minutes is spent entering each timesheet, which equates to 310 hours per month based on an average of 6,200 FTEs across the department. The new system will automate much of this process, provide improved data accuracy, and require less administrative oversight.

PROJECT COST INFORMATION

DOC plans to use the state's master contract with Kronos that is managed by the Governor's Office of Information Technology (OIT) for this project.

OPERATING BUDGET IMPACT. The department expects to request funding for ongoing software and equipment fees in future operating budget requests, which it expects will include an increase in the department's payments to OIT appropriation to pay for its proportionate share of Kronos costs. This is similar to other state agencies that have been using Kronos for their timekeeping systems for several years.

CASH FUNDS

N/A

PROJECT RESEARCH

As part of the planning done on the HRWorks project, DOC worked extensively with Kronos to develop the configurations needed to use the Kronos timekeeping solution before the HRWorks project was discontinued in May 2020. This work will allow DOC and Kronos to implement the new Kronos timekeeping solution with funding from this request much faster than would have otherwise been possible.

ADDITIONAL PROJECT INFORMATION

CHANGE MANAGEMENT. DOC plans to use the change management plan outlined in the Prosci ADKAR Model, which the department has used successfully on other recent projects.

PROJECT SCHEDULE

	Start Date	Completion Date
Planning	July 2022	December 2022
Implementation	July 2022	June 2023
Testing	July 2022	June 2023
Closing	June 2023	June 2023

1. The budget request explains that a new scheduling and timekeeping system will eliminate the need to keep the legacy Department of Corrections Information System (DCIS) operational for timekeeping purposes.

a. What is the history of DCIS?
DCIS was created for DOC in 1992 for the sole purpose of offender tracking. In 1997, the department began using DCIS for employee time keeping to automate a portion of a paper-based solution.

b. What is the DCIS technical platform?
The DCIS technical platform is a Solaris and Suse Linux based operating system.

c. Why isn't upgrading DCIS scheduling and timekeeping an option, including upgrading Informix?
DCIS does not support employee scheduling nor does it offer a fully automated time keeping solution. Also, Informix is no longer supported and is not able to be upgraded.

d. What are the plans to decommission DCIS, including the estimated date when DCIS operating funds will no longer be needed?
DOC is currently updating its technical operating platform to eOMIS which will replace the legacy DCIS system. The anticipated date DCIS will be fully decommissioned is July 1, 2023; this system will no longer receive operating funds once it is decommissioned.

2. Briefly describe the agreement between DOC, OIT, and Kronos pertaining to the project work and the roles of each.

The Governor's Office of Information Technology holds the master contract between the State of Colorado and Kronos, UKG. DOC will partner with OIT for the sole purpose of interfacing components. The department will offer full support with a Product Owner to manage the project from inception to retirement.

a. Does the department plan to use a project manager from the Governor's Office of Information Technology (OIT) for this project? If not, please provide the cost estimates included in the budget request compared to the costs for using an OIT project manager.

The DOC Business Innovation Group is responsible for departmental system program management and benefits from using the Agile Scrum methodology to effectively increase productivity while producing functional products. The Business Innovation Group employs a skilled group of Product Owners to manage large products while providing value to the stakeholders. The cost of project management oversight is funded as DOC personal services expenses utilizing the Product Owner FTE. This project requires little to no involvement from OIT, therefore an OIT project manager is not necessary.

SHORT PROJECT DESCRIPTION

Colorado State University – Fort Collins (CSU-Fort Collins) is requesting a combination of state funds and cash funds spending authority for phase two of a three-phase project to upgrade out-of-date networking hardware.

PRIORITY NUMBERS   2020067

Prioritized By	Priority	
CCHE	1 of 11	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$541,000	$646,119	$2,157,143	$0	$3,344,262
CF	$219,000	$491,001	$719,608	$0	$1,429,609
Total	$760,000	$1,137,120	$2,876,751	$0	$4,773,871

PROJECT STATUS

This request is for phase two of a continuation project. Funding for phase one was appropriated for FY 2021-22.

PROJECT DESCRIPTION

CSU-Fort Collins is requesting a combination of state funds and cash funds spending authority for phase two of a three-phase project to upgrade out-of-date networking hardware.

With the funding appropriated for phase one of the project, CSU-Fort Collins has completed an evaluation of its standard equipment list and is working with its vendor to move forward with procurement to replace up to 200 edge switches. According to CSU-Fort Collins, the project has faced slight delays due to a product line change at one of their key vendors and global supply chain challenges that have impacted equipment availability.

With funding for phase two of the project, CSU-Fort Collins anticipates replacing up to 60 additional edge switches and two core switches. Phase three of the project is planned to involve replacing additional edge switches, two border routers, and two firewalls.

PROJECT JUSTIFICATION

According to CSU-Fort Collins, the new edge switches will provide a significant increase in capacity, from 100 megabyte to 1 gigabyte; provide Power over Ethernet (PoE) capability that is required for connection of various life and safety devices, including new video surveillance systems; improve the IT security of users as this project will eventually replace the more than 260 edge switches that are currently beyond end-of-life and no longer receiving necessary patches and upgrades; and accommodate two-factor authentication.

Additionally, the new edge switches will integrate with CSU's central, automated edge switch management, control, administration, and IT security configuration environment. This central system will enable all edge switches to be upgraded to the latest software and firmware configurations, maintain the latest IT security protections, and monitor patterns that may indicate an IT security issue.

Colorado State University
Upgrade Network Hardware

COST-BENEFIT ANALYSIS

CSU-Fort Collins was unable to quantify cost savings as required by House Bill 15-1266, but states that receiving state funding for this three-phase project will allow CSU to achieve self-sufficiency in supporting its seven-year upgrade cycle for its network equipment, including edge switches, beginning in year four.

PROJECT COST INFORMATION

CSU-Fort Collins provided the following cost estimates for this three-phase project:

- edge switches: $4,604 each
- border routers: $382,500 each
- core switches: $333,030 each
- firewalls: $612,000 each

According to CSU-Fort Collins, cost estimates for this project have increased since last year due to inflation and global supply chain issues.

CASH FUNDS

The cash funds that CSU-Fort Collins is proposing to use for this project are comprised about equally of student technology fees, Provost funding, and departmental funding. CSU-Fort Collins currently has two types of student technology fees: college-specific fees and the central University Technology Fee. College-specific fees range from $40 per semester to $170 per semester, with most being around $100 per semester. Students on the Colorado State University Technology Fee Advisory Board recently approved an increase in the central University Technology Fee from $25 to $32 per semester to help fund this project and help the university build toward steady state funding for future network technology upgrades.

PROJECT RESEARCH

CSU-Fort Collins states that according to a survey of peer institutions, the average replacement cycle for edge switches ranges from five to seven years. CSU-Fort Collins has adopted a seven-year replacement cycle to balance cost versus functionality. Cost estimates for the project were provided by CSU-Fort Collins' approved vendors.

ADDITIONAL PROJECT INFORMATION

N/A

PROJECT SCHEDULE

	Start Date	Completion Date
Planning	July 2021	December 2021
Implementation	December 2021	June 2024
Testing	December 2021	June 2024
Closing	August 2023	June 2024

1. Did CSU receive federal COVID relief funds from the American Rescue Plan Act (ARPA)? If so, has the institution considered using these funds for this project, and if that has not been a consideration, are any of those funds being used for other IT-related projects on campus?

Yes, CSU received COVID relief funds. However, none were used to fund IT. Roughly half of the federal funds were pass through dollars to students and the remainder were used to cover over $14M in COVID related direct expenses and the lost revenue CSU experienced, i.e.; housing, tuition, parking, and other auxiliary-related units. No funding remains to be repurposed for other items.

Adams State University, Fort Lewis College, Western Colorado University
Digital Transformation Initiative

SHORT PROJECT DESCRIPTION

Adams State University, Fort Lewis College, and Western Colorado University are requesting a combination of state funds and cash funds spending authority for phase two of a two-phase project to modernize the institutions' legacy Enterprise Resource Planning (ERP) systems, which manage human resources and finance components, and Student Information Systems (SIS), and move to a cloud-based ERP/SIS solution.

PRIORITY NUMBERS
2020065

Prioritized By	Priority	
CCHE	2 of 11	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$9,199,055	$15,563,988	$0	$0	$24,763,043
CF	$92,920	$157,212	$0	$0	$250,132
Total	$9,291,975	$15,721,200	$0	$0	$25,013,175

PROJECT STATUS

This request is for phase two of a continuation project. Funding for phase one was appropriated for FY 2021-22.

PROJECT DESCRIPTION

Adams State University, Fort Lewis College, and Western Colorado University are requesting a combination of state funds and cash funds spending authority for phase two of a two-phase project to modernize the institutions' legacy ERP and SIS system and move to a cloud-based ERP/SIS solution. The institutions have selected Workday as the vendor for this project.

Phase one of the project is focused on implementing the human resources (e.g., positions, benefits, timekeeping, etc.) and finance (e.g., budgeting, payroll, accounts payable/receivable, etc.) modules of a new cloud-based ERP system. The institutions have also chosen to use Workday's in-house implementation services instead of contracting with a third-party implementation partner in order to reduce project risk. The modernized ERP system from phase one is expected to go-live in the summer of 2022.

Phase two of the project will focus on modernizing the SIS module, which is used to manage tasks related to matriculation, education, and ongoing relationship with students and alumni, including tasks related to financial aid, student records, advising, registration, and faculty assignments. Phase two will also involve moving the SIS to the same cloud-based solution used for phase one. According to the institutions, the SIS module tends to be more expensive based on its complexity and uniqueness to higher education.

PROJECT JUSTIFICATION

According to the higher education institutions involved in this project, the COVID-19 pandemic has highlighted several potential benefits of this project. Examples include reducing paper-based processes by allowing self-service features by students, faculty, and staff within the ERP/SIS system itself; moving to subscription-model pricing, which will lead to less fluctuation in annual costs compared to the normal capital expenditure model; and allowing for greater flexibility if remote work is necessary again in the future.

Each of the three institutions is currently using individual ERP/SIS systems provided by Ellucian Banner and were acquired almost 30 years ago. These current systems are hosted on site at each of the institutions, which results in the institutions having to buy and maintain servers, storage, and other datacenter expenditures, including the hiring and retention of highly skilled technical employees to service these systems, which will no longer be necessary with the new system. The basic structure of the current systems involves a traditional database backend, an administrative mid-layer, and a web-based front end for students, faculty, and staff. The institutions state that the current systems do not meet users' needs and require a multitude of "shadow" systems, including Excel spreadsheets, Access databases, and manual reports, which the new, modernized system would aim to eliminate. For example, Western Colorado University estimates that a new system could reduce the time to manage the institution's expense reimbursement process by 90 percent. According to the institutions, they expect to realize efficiency gains of approximately 5 percent, equating to over 100,000 work hours per year, campus-wide with this project.

According to the institutions, because they received funding for phase one, if funding for phase two is not appropriated, all three institutions will have higher annual costs than they would have if they had not started the project with the funding.

COST-BENEFIT ANALYSIS

By undertaking this project as a collaborative effort between the three institutions, the institutions are able to act as a much larger entity of more than 11,000 students, faculty, and staff, which they estimate will result in estimated savings of 30 to 40 percent for implementation costs and up to 20 percent for annual operating costs. The institutions believe that they can take advantage of their similarly unique positions in the state as small, rural, geographically remote, comprehensive four-year institutions, and develop one system that supports all three institutions. Implementing this project through a collaborative approach will also enable the institutions to standardize business practices and implement sharing of best practices and processes, leading to additional cost savings in the future.

PROJECT COST INFORMATION

The initial project cost estimates submitted in 2019 were based on responses received through the Request for Information process. Since then, the institutions have selected Workday as their vendor and have engaged in scoping exercises, conversations with functional areas, product demonstrations, and many question and answer sessions to further refine the institutions' needs and project scope and more accurately determine the project costs. The institutions estimate that if funding for phase two is not appropriated this year, a 7 to 10 percent escalation rate in the project cost may be expected for each year it is not funded.

CASH FUNDS

Each of the institutions will be contributing cash funds from institutional cash reserves for the funding of this project. Each institution charges a student technology fee; however, the revenue from these fees will not be used to pay for this project.

PROJECT RESEARCH

As part of the initial research for this project, the institutions analyzed three different alternatives: staying with the current systems and vendor, moving to a cloud-based solution with the current vendor, or moving to a cloud-based solution with a new vendor. The institutions determined that the third option of moving to a cloud-based solution with a new vendor offered the most advantages, while remaining with the current system created the most negatives.

ADDITIONAL PROJECT INFORMATION

AGILE. The institutions and vendor have implemented a blend of agile and waterfall methodology for the implementation of this project. They plan to use an iterative approach during the development and configuration of the product with frequent short sprints and continuous feedback. They plan to use "worksets" in the approach for the student implementation.

CHANGE MANAGEMENT. The institutions are following a robust change management plan provided by Workday. This includes vendor-provided training sessions and materials based on their best practices for implementing their system. Additionally, all three institutions have continued to work closely together on change management, and have appointed their respective Chief Information Officers to serve as the "change management lead" role within the project plan.

PROJECT SCHEDULE

	Start Date	Completion Date
Planning	July 2021	December 2022
Implementation	July 2022	June 2024
Testing	July 2022	June 2025
Closing	July 2024	June 2025

QUESTIONS

1. Did any of the three institutions receive federal COVID relief funds from the American Rescue Plan Act (ARPA)? If so, have the institutions considered using those funds for this project, and if that has not been a consideration, are any of those funds being used for other IT-related projects on campus?

a. Yes, all three institutions received ARPA funding.
b. No, we did not consider using these funds for this project. ARPA funds were/are restricted to defray expenses directly associated with effects of the pandemic. The exact expenditure varied depending on the individual institution's needs, but the funding was used to directly assist students and to offset lost revenue due to enrollment declines and the inability to offer our full programming due to COVID restrictions. The funds that were allocated to IT were used (in general) to purchase equipment and services (laptops, cellular hotspots, networking gear, classroom technology, internet connectivity, etc.) to directly enable students to successfully complete their academic courses, enable faculty to teach effectively in a remote environment and equip staff to work remotely.
c. No, strategic IT projects unrelated to COVID response are not eligible for ARPA funds.

2. Please provide an update on what has been accomplished thus far with the appropriation received for FY 2021-22 for phase 1 of this project, including:

a. the status of the contract with the vendor;
    i. Complete, executed July 30th, 2021
b. completed milestones;
    i. Campus communication protocol established between the three institutions
    ii. Project managers and work area leads assigned.
    iii. Functional area facilitators identified
    iv. Customer Information Workbook for Accounting (used to build tenant)
    v. Customer Information Workbook for HR (used to build tenant)
c. percentage of overall project completion;
    i. ~18% (based on time from contracting until go-live in December 2022)
d. percentage of year 1 appropriation spent and encumbered;
    i. As of 11/1/2021 we have:
    1. Encumbered: 48%
    2. Spent: 14%
e. summary of lessons learned; and
    i. Communication is key, and working together across all three schools utilizing a common communications and collaboration platform is essential
    ii. Prioritization of project at each institution is critical to ensure deadlines are met according to the project plan
    iii. Frequent and detailed project management meetings between the three University Project Managers and the vendor's Project Manager are helpful to establish and clarify expectations, and address questions and issues as quickly as possible once they arise.
    iv. Functional area key stakeholders' involvement in leading their areas and ensuring deadlines are being met is crucial.
    v. It is challenging to precisely estimate costs 12-18 months in advance with limited ability to add contingency budget to cover unknown pricing increases and expenses

f. high-level risks and issues.

    i. Unexpected vacancies in key positions. Western and Adams unexpectedly lost their respective Controllers in the preplanning stage. The institutions have since successfully filled those positions and adjusted the project plan accordingly.

    ii. High variability in cost of backfilling functional areas and IT to free up staff to work on project.

    iii. Unexpected federal or state mandates affecting our current ERP system, requiring we redirect resources.

    iv. Coronavirus-related impacts to our institutions.

3. The budget request document explains that Workday participates in a cooperative pricing agreement. Please describe any past or future collaboration with the Governor's Office of Information Technology regarding their Workday experiences and potential licensing agreements.

The contract we negotiated is based upon the cooperative consortium E&I (eandi.org). Upon the advice of the CO Attorney General we also contacted the State Controller about leveraging the existing agreement with Workday. We concluded it was not advantageous to use the existing contract as the agreement did not include the Student Information System modules and the contract was also on hold and would have been difficult to amend.   We did include those portions of the existing contract which had previously been negotiated and included in the new contract.

We discussed Workday's role in the stalled HR & Finance conversion project with the OIT staff member that oversaw the project. Their experience was Workday was professional, prompt and met all of their commitments under the agreement and did not contribute to the difficulties that led to the halting of the project. OIT further recommended we adopt Workday's suggested implementation protocol (which we have). We will continue to communicate with OIT as needed the project progresses.

4. Have your institutions been involved with any communications with the other institutions of higher education that have requested funding for ERP systems this year and last year to share lessons learned or project planning ideas?

Yes, we have and continue to communicate regularly (no less than quarterly) with Colorado School of Mines, Metro State University and Aims Community College, all of whom are under contract and actively working with our selected vendor (Workday). Additionally, we regularly collaborate with all Colorado IHE's via our monthly Colorado Higher Education Computing Organization CIO Council meetings where we discuss ERP projects in general and a myriad of other information technology related topics. https://www.checoweb.org/drupal/

SHORT PROJECT DESCRIPTION

Metropolitan State University of Denver (MSU-Denver) is requesting a combination of state funds and cash funds spending authority for phase two of a four-phase project to modernize the university's Enterprise Resource Planning (ERP) and Student Information System (SIS).

PRIORITY NUMBERS   2020063

Prioritized By	Priority	
CCHE	3 of 11	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$1,300,000	$3,350,000	$4,600,000	$4,700,000	$13,950,000
CF	$200,000	$335,000	$460,000	$470,000	$1,465,000
Total	$1,500,000	$3,685,000	$5,060,000	$5,170,000	$15,415,000

PROJECT STATUS

This request is for phase two of a continuation project. Funding for phase one was appropriated for FY 2021-22.

PROJECT DESCRIPTION

MSU-Denver is requesting a combination of state funds and cash funds spending authority for phase two of a four-phase project to modernize the university's ERP/SIS system. MSU-Denver has selected Workday as the vendor for this project.

MSU-Denver has partnered with other peer institutions (the University of Northern Colorado, Colorado Mesa University, and the Colorado School of Mines), which has allowed them to negotiate consortium pricing and the expectation for implementation efficiencies as the individual projects progress. These institutions indicate this collaborative approach has yielded savings for the new software licensing of over 13 percent and they anticipate implementation savings of approximately 20 percent. Representatives from these institutions meet regularly to discuss this project.

Since receiving funding for phase one of the project, MSU-Denver has finalized a contract with Workday for the implementation of the ERP modules of the system. If funding for phase two is received, MSU-Denver expects that the human resources and finance modules will go live in January of 2023. Funding for subsequent phases of the project will be used to implement the SIS modules of the system.

PROJECT JUSTIFICATION

MSU-Denver's current ERP/SIS system is an Ellucian Banner system that has been in operation since 1998. According to MSU-Denver, the system has become cumbersome and difficult to navigate in recent years due to numerous custom applications the university has developed to better serve their needs. The current system is also hosted on-premise, which requires significant infrastructure and costs to maintain, which includes 50 virtual servers, 6 enterprise databases, and robust backup infrastructure with an onsite datacenter. The university explains that it has not been able to fill positions for Ellucian Banner developer and administrator roles for the past two years because potential employees do not have experience with the out-of-date technology. This lack of in-house developers has led to the university contracting for required labor outside of MSU-Denver at an increased cost.

COST-BENEFIT ANALYSIS

MSU-Denver estimates that the current ERP-SIS system costs the university $2.9 million annually to maintain, including costs of licensing, supporting applications, and infrastructure. The university estimates that a new, cloud-based ERP/SIS system will decrease this annual cost and save the university $2.7 million per year, which will equal $16.5 million in savings after 10 years. The university has also estimated that this project will save costs equal to hiring 3.0 full-time employees and up to 12,480 hours per year in staff time. MSU-Denver also explains that the new system will result in additional cost savings by creating more efficient business processes.

PROJECT COST INFORMATION

Funding for this second phase of the project is estimated to include:

• $2,763,000 for professional services, including $1.4 million for core implementation costs, $525,000 for process review/design support, $250,000 for IT support, and $585,000 for temporary staffing;
• $735,395 for software licensing; and
• $186,605 for project contingency.

CASH FUNDS

A percentage of the cash funds that MSU-Denver is proposing to use for this project is from the university's student technology fee, which is $8 per credit hour.

PROJECT RESEARCH

In 2019, MSU-Denver contracted with CampusWorks Inc., an independent consulting organization, to perform an assessment of the institution's current ERP/SIS system. CampusWorks Inc. found that the current system is not meeting the needs of faculty, staff, and students and recommended replacing the current Ellucian Banner system.

Cost estimates for this project have been revised following last year's submission given MSU-Denver's contract negotiations with Workday.

ADDITIONAL PROJECT INFORMATION

Attachment A contains a Letter of Intent from the Presidents of Metropolitan State University of Denver, the Colorado School of Mines, the University of Northern Colorado, and Colorado Mesa University, outlining their institutions' commitment to a collaborative approach to the implementation of new ERP systems at these institutions.

PROJECT SCHEDULE

	Start Date	Completion Date
Planning	June 2020	July 2022
Implementation	July 2022	June 2025
Testing	July 2022	June 2025
Closing	July 2023	June 2025

QUESTIONS

1. Please provide an update on what has been accomplished thus far with the appropriation received for FY 2021-22 for phase 1 of this project, including:

a. a. the status of the contract with the vendor;
Following an extensive evaluation and negotiation process, MSU Denver finalized a contract for Workday Human Capital

Management and Workday Financials as of June 28, 2021, as well as a contract for implementation consulting and a pre-implementation strategy and design engagement with Collaborative Solutions, LLC.

b. completed milestones;
Since our last communication, MSU Denver has completed the following milestones on time and in alignment with the project schedule:
• Formally selected our ERP (HR/Finance) system.
• Finalized the contract for the ERP platform.
• Finalized the contract for ERP implementation.
• Kicked off a formal Strategic Readiness Engagement, with a targeted end date of Dec 15, 2021.
• Established an anticipated ERP implementation kick off date of Feb 7, 2022.
• Established a targeted ERP system go live date of Jan 1, 2023.
• Completed Student Information System demo and discovery sessions.
• Completed the Financial Aid Process Review and Redesign project
• Initiated Process Review and Redesign initiatives for the Office of the Registrar and Office of the Bursar.

Looking ahead, we expect to finalize our student information system strategy prior to the end of Calendar Year 2021, which will position the University for an on-schedule implementation. Per the following high level milestone illustration, we anticipate that our Student System transformation will complete in Q1 2025, allowing MSU Denver students to enjoy an enhanced digital experience in time for the Fall 2025 registration period.

c. percentage of overall project completion;
Based on the above status update, we estimate that our project is approximately 5% complete.

d. percentage of year 1 appropriation spent and encumbered;
We have encumbered 100% of our year 1 appropriation to date and are on track to spend the full amount prior to the end of FY2022.

e. summary of lessons learned; and
As referenced in 1B above, we have been encouraged that our effort is proceeding in line with our expectations, indicating that we have set achievable milestones and are proceeding with a realistic timeline and budget.

We have been heartened by our internal community's support for pursuing transformational change. As a result, the decision-making process and related change management has been less daunting than we had anticipated. Similarly, this energy has affirmed our commitment to inclusive governance and transparency, and we feel that future projects of this scope will benefit from comparable up-front community engagement.

Perhaps the most crucial lesson we have encountered – both through conversations with peer institutions nationwide, and through our own discovery exercises – is the importance of adequate staff support and realistic workload management. Investing in temporary support staff during project implementation is absolutely required to successfully complete this project due to our exceedingly lean operational posture.

f. high-level risks and issues.
The largest risk to this project is forward-looking financial uncertainty; if we are unable to secure the remaining years of funding for the project the University does not have other resources to fund the project's continuation and the effort will likely be paused or canceled. In this case, previous investments will represent sunk costs.

Compounding this challenge, MSU Denver would be obligated to continue paying licensing costs for the Workday HCM/Financials solution (and, most likely, a new Student Information System as well) without being able to retire our existing, aging solution, resulting in a significant duplicate long-term financial burden with minimal operational benefit and a continued subpar student experience.

2. Has MSU Denver had discussions with individuals from Adams State University, Fort Lewis College, or Western Colorado University, which are also pursuing a similar project and have also selected Workday as their vendor for their EPR system? Please describe any collaborative discussions that have occurred.

We have been in close communication with Adams State University, Fort Lewis College, and Western Colorado University throughout the evaluation and proposal drafting process and continue to meet at least quarterly with these institutions as well as Colorado School of Mines, University of Northern Colorado, and Colorado Mesa University. Due to the difference in organizational size (and resultant differences in pricing and complexity), we collectively felt that it was prudent to present a standalone proposal rather than attempt to add our request to their consolidated proposal. With that said, we anticipate that through ongoing collaboration we will be able to support their efforts and vice versa as we deploy common features that will benefit all institutions.

We most recently met as a group in October 2021 and discussed this project extensively during the Colorado Higher Education Computing Organization Fall meeting on August 30-Sept 1, 2021. We intend to continue working hand in hand with our peers to the degree possible throughout these projects and beyond.

3. Does MSU Denver plan to use an agile methodology approach for this project?

To the extent possible, yes. We will be leveraging the Collaborative Solutions Xcelerate Project strategy, which is derived from Workday's Launch Methodology. This fixed fee implementation approach is designed to deliver rapid value and minimize project delays during the implementation phase; we anticipate a minimum of three focused build cycles during the project, which can be viewed as individual sprints. However, to minimize complexity around fiscal management, tax reporting, and payroll, we intend to formally launch the full Phase I feature set at once at the beginning of the calendar year.

Subsequent features that could be considered outside of the 'minimum viable product' stage will be introduced in future mini sprints.

4. Please describe any past or future collaboration with the Governor's Office of Information Technology regarding their Workday experiences and potential licensing agreements.

A representative from a peer institution has reached out to OIT on behalf of the group to initiate a dialogue. From a contracting standpoint, our contract terms were derived from the State agreement as a foundation, which reduced the time needed to finalize the terms; the other schools were then able to take our negotiated terms and move forward rapidly.

5. Please explain the consequences if this phase of the project receives funding but funding is not available for the project in years 3 and 4?

As noted in response 1F above, this would carry a major impact to the institution. As we are kicking off the ERP implementation in Q1 2022 and potentially SIS implementation in Q4 2022, cessation of funding for the future years would leave MSU Denver with a partially implemented solution that is not usable, sunk implementation costs, and a duplicate licensing burden – all without delivering any of the anticipated improvements to the student or staff experience.

6. How is MSU Denver managing any risks involved with partnering with other institutions through the proposed consortium model?

MSU Denver has collaborated closely with Colorado School of Mines, University of Northern Colorado, and Colorado Mesa University throughout this process, meeting frequently to discuss our individual needs and opportunities to collectively benefit. By working to align our interests, we have been able to realize tangible financial savings, and will continue to deliver efficiencies as we collaborate on shared integrations and configurations where possible.

At the same time, the institutions have intentionally minimized individual risk through the structure of our relationship. We have benefitted from collaborative pricing and shared knowledge but have pursued discrete contracts and individual implementation paths to best align with our unique institutional needs. As a result, no institution is beholden to the actions of another and can

continue to chart a course that best supports the unique strategic goals of each organization.

7. Did MSU Denver receive federal COVID relief funds from the American Rescue Plan Act (ARPA)? If so, have the institutions considered using those funds for this project, and if that has not been a consideration, are any of those funds being used for other IT-related projects on campus?

MSU Denver did receive COVID relief funds from the American Rescue Plan Act (ARPA). The University is using these funds first to replace significant lost revenues caused by the pandemic. We are targeting strategic initiatives to improve the learning environment of our students, which includes replacing the technology in 150 classrooms, addressing security risks, and addressing other technological needs. We have not considered using these funds for this project.

SHORT PROJECT DESCRIPTION

Metropolitan State University of Denver (MSU-Denver) is requesting a combination of state funds and cash funds spending authority for phase two of a three-phase project to modernize its network infrastructure and address deferred maintenance on current IT infrastructure.

PRIORITY NUMBERS   2021020

Prioritized By	Priority	
CCHE	4 of 11	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$1,250,000	$795,000	$750,000	$0	$2,795,000
CF	$250,000	$250,000	$250,000	$0	$750,000
Total	$1,500,000	$1,045,000	$1,000,000	$0	$3,545,000

PROJECT STATUS

This request is for phase two of a continuation project. Funding for phase one was appropriated for FY 2021-22.

PROJECT DESCRIPTION

MSU-Denver is requesting a combination of state funds and cash funds spending authority for phase two of a three-phase project to modernize its network infrastructure and address deferred maintenance on current IT infrastructure.

With the funding received for phase one of the project, MSU-Denver has begun the process of installing fiber optic infrastructure to complete the campus network loop and replacing up to 22 distribution and layer switches. MSU-Denver states that they currently working with the Auraria Higher Education Center, which will manage the fiber optic portion of this project, to select a bidder from the RFP process by December 2021. However, the institution believes that the project may face delays due to the global computer chip shortage and other global supply chain challenges.

Funding from phase two of the project will be used to replace approximately 150 edge switches and 170 wireless access points. Funding from phase three of the project will be used to replace an additional 130 edge switches and 280 wireless access points.

PROJECT JUSTIFICATION

MSU-Denver conducted stakeholder outreach and consulted with several external, independent vendors to assess the state of the current network infrastructure on campus. According to the assessment, 80 percent of the network switches on campus exceeded five years in service, 42 percent exceeded seven years in service, and ten devices are ten years or older. The university also states that devices purchased prior to 2008 use an outdated system software that has not been updated since 2013.

According to MSU-Denver, its network infrastructure is aging and needs to be updated in order to avoid system failure due to the increased use of wireless devices on campus. MSU-Denver states that it has experienced numerous network failures resulting from its aged infrastructure, including 271 incidents from July 2020 to October 2020. These failures each resulted in a service interruption. As an example of these events, on October 23, 2019, the science building on campus experienced a complete wireless outage for over 14 hours dues to a network switch hardware failure. During this time, the university states that courses

and business operations for multiple academic departments were significantly disrupted.

Additionally, the university says that the funding requested will address single points of failure and increase network security through the installation of redundant fiber connections between buildings.

COST-BENEFIT ANALYSIS

MSU-Denver was unable to quantify cost savings as required by House Bill 15-1266, but states that the project will prevent network failures and increase network security.

PROJECT COST INFORMATION

MSU-Denver states that the estimated switch and wireless access point costs are based on the number of devices and the average cost per device.

CASH FUNDS

A percentage of the cash funds that MSU-Denver is proposing to use for this project is from the university's student technology fee, which is currently $8.30 per credit hour. This student technology fee generates approximately $3.2 million in revenue each year. MSU-Denver anticipates using approximately $500,000 of this revenue each year after the completion of this project to sustain and maintain the new infrastructure that will be installed with this state funding.

PROJECT RESEARCH

N/A

ADDITIONAL PROJECT INFORMATION

N/A

PROJECT SCHEDULE

	Start Date	Completion Date
Planning	July 2021	December 2022
Implementation	December 2021	June 2024
Testing	December 2021	June 2024
Closing	June 2024	June 2024

QUESTIONS

1. Did MSU-Denver receive federal COVID relief funds from the American Rescue Plan (ARPA)? If so, has the institution considered using those funds for this project, and if that has not been a consideration, are any of those funds being used for other IT-related projects on campus?

MSU-Denver did receive COVID relief funds from the American Rescue Plan Act (ARPA). The University is using these funds first to replace significant lost revenues caused by the pandemic. We are targeting strategic initiatives to improve the learning environment of our students, which includes replacing the technology in 150 classrooms, addressing security risks, and addressing other technology needs. We have not considered using these funds for this project.

Community College of Denver
Classroom and Conference Room Technology

SHORT PROJECT DESCRIPTION

The Community College of Denver (CCD) is requesting state funds and cash funds spending authority for phase two of a three-phase project to replace, update, and standardize the college's classroom and conference room technology.

PRIORITY NUMBERS

2021019

Prioritized By	Priority	
CCHE	5 of 11	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$1,595,878	$1,532,140	$1,627,899	$0	$4,755,917
CF	$101,865	$97,796	$103,908	$0	$303,569
Total	$1,697,743	$1,629,936	$1,731,807	$0	$5,059,486

PROJECT STATUS

This request is for phase two of a continuation project. Funding for phase one was appropriated for FY 2021-22.

PROJECT DESCRIPTION

CCD is requesting state funds and cash funds spending authority for phase two of a three-phase project to replace, update, and standardize the college's classroom and conference room technology. The technology that will be replaced or updated throughout the college's classrooms and conference rooms includes conferencing and telecom equipment, screen sharing equipment, projection and video display equipment, connecting and switching equipment, and conference phones. This project will allow the college to implement distance learning technology, wireless projection, instruction capture, digital whiteboards, and "bring your own device" connectivity.

Of the funding received for phase one of the project, CCD has spent $247,521 completing pilot installs of new classroom technology in 15 classrooms and $35,306 on additional WiFi hardware, representing 16.7 percent of the appropriation for phase one. In response to feedback collected from faculty following the pilot installs in the 15 classrooms, CCD is incorporating plans to add wireless equipment and remove the need for an instructor to stand at a lectern to operate the technology into future project work.

CCD plans to continue work on phase one of the project to replace or update the technology in the college's health sciences campus classrooms, the science building classrooms, and the conference rooms on the Auraria campus. Phase two of the project will involve replacing or updating the technology in the college's 64 classrooms in the Cherry Creek building. Plans for phase three of the project involve replacing or updating the technology in other classrooms throughout the college, including Advanced Manufacturing Center campus classrooms, Arts building classrooms, Boulder Creek classrooms, Confluence classrooms, Bear Creek classrooms, and the Modular classrooms. In total, CCD estimates that they will be able to replace or upgrade a majority of the equipment in the college's 170 classrooms across its three campuses.

PROJECT JUSTIFICATION

According to CCD, most of the college's classroom equipment is now seven years or older and is not standardized across the college. This project will enable CCD to purchase new equipment for use in the college's classrooms and conference rooms that will provide new capabilities, enable innovation in teaching, and enhance student learning. By standardizing the equipment used

in the college's classrooms, CCD believes college faculty will be able to spend less time setting up and figuring out how to use or fix the technology in various parts of the college and spend more time on instruction.

According to CCD, the current classroom and conference room technology has a high rate of failure. As of 2019, there were 72 failures reported each month in the rooms that are proposed to be included in this project. It is becoming more common for the support contractor to have to completely replace equipment as they are less likely to be able to repair the equipment to a viable operating state.

COST-BENEFIT ANALYSIS

CCD was unable to quantify cost savings as required by House Bill 15-1266, but states that the project will reduce staff time spent setting up technology, which will increase the amount of time spent on instruction and therefore improve student retention and completion.

PROJECT COST INFORMATION

CCD has provided the following cost estimates for the three-phase project:

- AV equipment: $4,466,142
- Professional services: $352,416
- 5 percent project contingency: $240,928

CASH FUNDS

CCD plans to use cash reserves to fund the cash fund portion of the project. The college does not currently charge a student technology fee. According to CCD, this is because the colleges' fees are among the highest in the state for community colleges due to mandatory Auraria campus fees.

PROJECT RESEARCH

Cost estimates for this project are based on vendor quotes for a standard technology solution in each area.

ADDITIONAL PROJECT INFORMATION

N/A

PROJECT SCHEDULE

	Start Date	Completion Date
Planning	July 2021	August 2021
Implementation	August 2021	December 2023
Testing	August 2021	December 2023
Closing	December 2023	December 2023

QUESTIONS

1. Did the Community College of Denver receive federal COVID relief funds from the American Rescue Plan Act (ARPA)? If so, has the institution considered using those funds for this project, and if that has not been a consideration, are any of those funds being used for other IT-related projects on campus?

Yes, all colleges in the community college system received ARPA funds, including the Community College of Denver. However, these dollars were largely used for student supports like laptops, hotspots, scholarships, and other supports to help students continue their education during this time. Community colleges serve large proportions of first generation, low income, and

students of color. These same populations were disproportionately impacted by the pandemic, and we felt we needed to provide direct support to these students, especially during this time. In addition, these funds were used for COVID mitigation in our facilities, from Plexiglas partitions to HVAC air handler replacements/upgrades. As a result, these funds are not available to be used for this project.

Fiscal Year 2022-23 Information Technology Request

Colorado School of Mines
Re-Envisioning Mines' ERP and SIS

SHORT PROJECT DESCRIPTION

The Colorado School of Mines (Mines) is requesting a combination of state funds and cash funds spending authority for phase two of a four-phase project to modernize the institution's Enterprise Resource Planning (ERP) and Student Information System (SIS).

PRIORITY NUMBERS   2020006

Prioritized By	Priority	
CCHE	6 of 11	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$789,000	$2,304,000	$4,502,782	$3,930,499	$11,526,281
CF	$122,000	$239,000	$461,697	$388,730	$1,211,427
Total	$911,000	$2,543,000	$4,964,479	$4,319,229	$12,737,708

PROJECT STATUS

This request is for phase two of a continuation project. Funding for phase one was appropriated for FY 2021-22.

PROJECT DESCRIPTION

The Colorado School of Mines is requesting a combination of state funds and cash funds spending authority for phase two of a four-phase project to modernize the institution's ERP/SIS system. Mines' ERP/SIS system is used across all key business operations, such as human capital management, finance, payroll, and student information (e.g., grades, attendance records, admissions information, and financial aid). Mines has selected Workday as the vendor for this project.

Mines has partnered with other peer institutions (the University of Northern Colorado, Colorado Mesa University, and Metropolitan State University of Denver), which has allowed them to negotiate consortium pricing and the expectation for implementation efficiencies as the individual projects progress. These institutions indicate this collaborative approach has yielded savings for the new software licensing of over 13 percent and they anticipate implementation savings of approximately 20 percent. Representatives from these institutions meet regularly to discuss this project.

Funding for the first two phases of the project will be used to implement the core human resources and finance modules of the system. Future funding for the project will be used to implement the SIS modules of the system.

PROJECT JUSTIFICATION

The current ERP/SIS system used by Mines, Ellucian Banner, was implemented in 2005 in partnership with the University of Northern Colorado and the Colorado Community College System. Since 2005, Mines has had to implement various third-party systems to provide necessary functionality that is not provided in the current ERP/SIS system. Mines has also had difficulty in recruiting IT professionals to maintain the current ERP/SIS system in recent years.

COST-BENEFIT ANALYSIS

According to a total cost of ownership analysis that was performed by Mines, there is no significant cost difference in the costs between maintaining the institution's current legacy ERP/SIS systems and implementing a new, modern software-as-a-service

cloud solution ERP/SIS system. However, the institution expects that the new system will provide a range of improved outcomes for students, faculty, and staff, such as realizing business process efficiencies, providing technology that meets users' expectations, allowing for an agile and innovative system that is able to quickly adapt to a changing environment, and reducing risk and infrastructure costs. Additionally, the new system will allow Mines to eliminate the numerous ancillary third-party systems that are currently used and free up Mines' IT staff time to focus on other high-priority areas on campus. Additionally, the institution's current ERP/SIS system is hosted on-premise, which requires Mines to invest significant resources to maintain this IT equipment and system.

PROJECT COST INFORMATION

Cost estimates for the project increased since last year after Mines worked with Workday to develop more concrete cost estimates for the implementation, licensing, temporary staffing, and other miscellaneous costs needed for a successful deployment.

According to Mines, the special pricing from Workday does not extend beyond July of 2022, so if funding is not approved for next year, there is a chance the pricing would increase 3 to 6 percent.

CASH FUNDS

Mines is planning to use a small reserves fund that has been designated for major IT initiatives as the source of cash funds for this project. Mines currently charges a student technology fee of $83 per student; however, the institution does not plan to use revenue from this fee for this project because that revenue is used to fund predominantly student-facing technology.

PROJECT RESEARCH

An independent ERP change readiness and feasibility assessment was performed by BerryDunn in April 2020.

ADDITIONAL PROJECT INFORMATION

Attachment A contains a Letter of Intent from the Presidents of Metropolitan State University of Denver, the Colorado School of Mines, the University of Northern Colorado, and Colorado Mesa University, outlining their institutions' commitment to a collaborative approach to the implementation of new ERP systems at these institutions.

PROJECT SCHEDULE

	Start Date	Completion Date
Planning	July 2021	January 2023
Implementation	July 2021	June 2025
Testing	July 2022	June 2025
Closing	July 2023	June 2025

QUESTIONS

1. Please provide an update on what has been accomplished thus far with the appropriation received for FY 2021-22 for phase 1 of this project, including:

(a) Status of the Contract with the vendor
We signed a contract with Workday on July 29, 2021. Additionally, we signed a contract with the Workday implementation partner Collaborative Solutions on August 26, 2021.

(b) Completed Milestones
Our planning phase is scheduled to be completed on November 5, 2021, at which time we will move into the architect phase working on our Foundational Data Alignment. The Architect Stage is scheduled to begin on November 8, 2021, through

December 24, 2021. We will begin scheduling the Foundation Alignment Sessions (FAS) starting the week on November 15, 2021. The milestones that we have completed thus far are:
• Project planning stage with a project introduction meeting with Collaborative Solutions (implementation partner).
• Functional workshops to communicate Workday processes and define data requirements for the 11 Finance and the 9 Human Capital Management functional areas.
• Integration discovery sessions; currently the percentage complete for integrations is 4%.
• Business process mapping sessions ; currently 11 out of a planned 13 functional areas have initial current state processes identified.
• Project scope and project charter document signed.
• Project team member training for Workday launched ; 53% of the currently assigned training is complete.
• Organizational change & training engagement with Collaborative Solutions and the Mines Change Management team kicked-off.
• Colorado School of Mines delivered workbooks to Collaborative Solutions outlining data requirements and data conversion mapping.
• Sign-off for the planning stage is scheduled for October 29, 2021.

(c) Percentage of Overall Project Completion
• The percentage of overall project completion is 16.3% (Week 8 of 49).

(d) Percentage of year 1 appropriation spent and encumbered:
• As of 10/26/2021, we have spent $871,000 and we have remaining encumbrances of $103,998 on phase 1 of the project.

(e) Summary of Lessons Learned:
• Prior to the planning stage, it would have been beneficial to have standardized, documented business processes.
• A better understanding of the focus for each of the functional workshops by our implementation partner would have allowed for a more concise list of attendees/contributors.
• The integrations team discovered several manual procedures where functional teams were pulling data from our current ERP application and manually sending the data to third-party vendors monthly. These will be automated as we migrate to Workday; but if Colorado School of Mines had these integrations documented before we started the Workday project we would be further ahead in our integration milestones.

(f) High Level Risk/Issues
• Work to transfer systems that currently work with Banner to Workday is complex, involving 68 integrations with 37 vendors.
• Human Resources must have job catalog and grade structure finalized by end of December 2021 in order to avoid impacts to the schedule, budget, and overall project.
• Banner (our current ERP) does not have "reports to" information so not easily able to import to Workday.
• Allocating internal resources (subject matter experts) and bringing in consultants to fill skills gaps (staffing augmentation) should have happened before the project kick-off because this is a full-time job that will put immense strain on our internal team.

2. Has the Colorado School of Mines had discussions with individuals from Adams State University, Fort Lewis College, or Western Colorado University, which are also pursuing a similar project and have also selected Workday as their vendor for their EPR system? Please describe any collaborative discussions that have occurred.

Yes. Colorado School of Mines has been meeting regularly with Adams State University, Fort Lewis College, and Western Colorado University and will continue working with other Colorado institutions to drive down the cost of technology and systems in support of higher education across Colorado as well as share ways to streamline system integrations and secure data for our individual projects. Adams State University, Fort Lewis College, and Western Colorado University had comparable size, requirements, and although Mines could not follow the same timeline as them because it could have endangered their project bringing in a larger school like Mines, we have benefitted from discussions with them resulting in negotiated pricing and implementation efficiencies. In addition to efficiencies in future costs and ongoing licensing expenses, our collaboration also creates a community of practice focused on ERP implementation that will provide opportunities for joint training, support, and problem solving.

In addition, Mines, CMU, Metro, and UNC have collaborated on our ERP initiatives over the last 12 months, at times during the year meeting via web conferencing more than once a month. Mines will continue to meet with other institutions at least once a quarter to collaborate and drive efficiency for our ERP projects. This collaborative work has helped and will continue to help

reduce costs and yield implementation efficiencies across our individual projects in years ahead.

3. Does the Colorado School of Mines plan to use an agile methodology approach for this project?

Yes, we will be using an agile methodology approach. Colorado School of Mines has selected Collaborative Solutions as our implementation partner. Collaborative Solutions uses their proprietary agile approach called "Cynergy Xcelerate" Process Model which is aligned with Workday's Accelerated Deployment Methodology to provide a superior customer experience. This model is prescriptive and uses a pre-configured tenant to get us up and running quickly with the first iteration of our tenant being available within 2 months of the project kick-off. Following the agile methodology, three other iterations of our tenant with our data and configuration are provided along the way with changes from the various stages (planning, architecture and build, configuration & prototype, re-configuration, testing, and final deployment) of the project leading up to go live. This augmented agile approach to implementing Workday will help us realize a quick return on investment and have the flexibility to make system improvements once in production.

4. Please describe any past or future collaboration with the Governor's Office of Information Technology regarding their Workday experiences and potential licensing agreements.

We understand the Governor's Office of Information Technology might have encountered some challenges in their Workday implementation and so a member of our community reached out and gleaned insights, lessons learned, and an understanding of what their problems were and shared that with the group and we are making sure we manage those challenges and risks with our project. Additionally, through our Colorado Higher Ed Computing Organization (CHECO), we collaborate constantly on not just our Workday or ERP projects but on all aspects of technology to strengthen our collective and individual organizations.

As an example of licensing and contractual collaboration, in determining best approach for procurement of our Workday system, Mines and other peer Higher Education Institutions in the State coordinated to determine Workday was the appropriate, pre-sourced, solution for several universities and that the peer group could collaborate to contract for Workday. Mines determined that the State's version of the Workday contract was not appropriate for Mines. However, Metro State University (MSU) had already negotiated a version of the Workday contract that was appropriate and correct for a State of Colorado public university, as there are specific rules and laws that only apply to public universities. As such, Mines was able to obtain the pre-negotiated contract draft from MSU, present it to Workday and achieve a near-immediate agreement to the terms of the Workday contract. As such, Mines saved over 40 hours of time in contract drafting, negotiation, and legal review. Additionally, MSU had also established a contract with the Workday implementation company, Collaborative Solutions. This contract form was in excellent shape for Mines to adopt and apply to our arrangement with Collaborative Solutions. Due to the collaboration and cooperation of the State of Colorado and MSU, Mines was able to contract with both Workday and Collaborative Solutions quickly and conveniently without the normal time and process of solicitation and negotiation. Other than setting the scope of the work for both agreements, Mines was able to move from selection to implementation of a new ERP system in record time for a project of this level.

5. Please explain the consequences if this phase of the project receives funding but funding is not available for the project in years 3 and 4?

Implementing an ERP system is a multiyear/multi-phase investment of financial resources and human capital. Mines has been thoughtful about the approach and studied campus readiness to make a change in systems. We will enter a multi-year contract with the selected vendor and costs will include a yearly subscription cost, initial purchase of each module and implementation services. The phase 1 funding request will allow us to purchase the human resources and finance module with some implementation services. During the second year, we will be paying for the subscription cost for human resources and finance, along with implementation services to complete phase 2 and begin the procurement process of the student module, add-ons, and implementation services. Beginning in the 3rd year, we will begin carrying the on-going subscription costs for all modules, with a multi-year commitment. If we were not to receive state funding in years 3 and 4 of our proposal, the project will be in jeopardy. Mines will have to choose between writing off all year one investments as sunk cost while we will continue funding our existing ERP/SIS solution in parallel with the new licensing expenses, or choose to take on some form of debt or borrowing to cover the remaining costs for the project. As a result, other IT-related projects that could benefit our students, staff, and faculty would have to be deferred.

6. How is Mines managing any risks involved with partnering with other institutions through the proposed consortium model?

Throughout this process, Mines has worked closely with MSU Denver, the University of Northern Colorado, and Colorado Mesa University, meeting often to discuss our unique needs and opportunities to benefit collectively. By collaborating on shared integrations and configurations, we have been able to realize meaningful cost benefits and will continue to do so as we collaborate on shared integrations and settings. Our respective Presidents have also been in close touch regarding the project, which resulted in the Letter of Intent (LOI) establishing a formal commitment to negotiate consortium pricing with a single vendor for our enterprise resource planning system (ERP) replacement projects. Simultaneously, our respective organizations have purposefully limited individual risk through the structure of the relationship. We benefit from collaborative pricing and knowledge sharing, but maintain separate contracts and execution approaches. Mines' request for ERP modernization is not contingent on the actions or choices of other institutions, or on any other agreements those institutions may have with current or future vendors. We will continue to share lessons learned with other institutions and draw from one another's initiatives in order to control and reduce project-related risks. However, no institution is bound by the acts of another and can continue to chart a route that best serves the organization's unique strategic objectives.

7. Did the Colorado School of Mines receive federal COVID relief funds from the American Rescue Plan Act (ARPA)? If so, have the institutions considered using those funds for this project, and if that has not been a consideration, are any of those funds being used for other IT-related projects on campus?

Yes, the Colorado School of Mines received ARPA funds. Below is a snapshot of all the federal funds including the ARPA funds that we received and what we used them for. We received in total $8.67M and $4.34M was used for student emergency aid and $4.33M was used to cover some of the revenue that we lost due to COVID.

CARES Act
Financial Aid (HEERF I - Student Fund) - $1.71M FY20 / $0.01M FY21
Housing Refunds (HEERF I - Institutional Fund) - $1.71M FY20 / $0.01M FY21
Replacing state FFS reduction and direct COVID expenses (CRF - From State of CO fund) - $13.43M FY21

CRRSA Act
Financial Aid (HEERF II - Student Fund) - $1.72M FY21
Loss Revenue Recognition (HEERF II - Institutional Fund) - $3.14M FY21

ARPA Act
Financial Aid (HEERF III - Student Fund) - $1.62M FY21 / $2.72M FY22
Loss Revenue Recognition (HEERF III - Institutional Fund) - $4.33M FY21

Colorado Mesa University
ERP Modernization

SHORT PROJECT DESCRIPTION

Colorado Mesa University (CMU) is requesting one-time state funding and cash funds spending authority to move the university's Enterprise Resource (ERP) system and Student Information System (SIS) to a managed cloud and to develop a data management strategy and integration platform.

PRIORITY NUMBERS   2023014

Prioritized By	Priority	
CCHE	7 of 11	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$0	$4,133,602	$0	$0	$4,133,602
CF	$0	$464,398	$0	$0	$464,398
Total	$0	$4,598,000	$0	$0	$4,598,000

PROJECT STATUS

This is a new, never-before-requested project.

PROJECT DESCRIPTION

CMU is requesting one-time state funding and cash funds spending authority to move the university's ERP/SIS system to a managed cloud and develop a data management strategy and integration platform.

According to CMU, the first step of the project will involve the development of a data management and integration strategy to support moving ERP applications to a cloud environment. The goal of this work will be to address the growing challenges of supporting multiple enterprise-level systems and allow systems of record and applications to work seamlessly together.

The second part of the project will involve migrating the SIS modules, which are currently hosted on-premise, to the cloud. While CMU plans to modernize the backend of the SIS with this move, it plans to continue using its existing point student service solutions to deliver services. According to CMU, this approach has short-term advantages, quicker time to value for students and the university, requires fewer staff and financial resources, and includes potential longer-term benefits of leveraging previous investments in the current SIS system and other strategic enterprise systems that support the student experience.

The final part of the project will involve migrating the core on-premise hosted ERP human resources and finance modules to the cloud.

CMU has been in regular communication with other peer institutions (the University of Northern Colorado, the Colorado School of Mines, Metropolitan State University of Denver, and others), regarding these institutions' ERP/SIS modernization projects. As a result, this project has been built as a joint activity with the University of Northern Colorado. This will allow both institutions to save in the areas of administrative overhead, temporary staff costs, joint training engagements, and data integration development. UNC and CMU anticipate that this collaboration will result in implementation savings up to 20 percent for the project.

PROJECT JUSTIFICATION

CMU has been using Ellucian Banner for its ERP/SIS system since 1990, which is maintained on-premise. Since 2008, the university has implemented a variety of point solutions and integrated them with Banner to add functionality and web services, the majority of which have been cloud-based. CMU technical staff has experienced challenges in maintaining data integrations and ensuring the integrity of the data with these system add-ons in the cloud and the on-premise system.

In 2015, following the retirement of CMU's Oracle database administrator (DBA), the university contracted with Ellucian's Application Managed Services to provide DBA services plus software maintenance and upgrades for all Ellucian licensed software for $192,000 annually. In 2020, Ellucian informed CMU that it would not renew its contract for these services past its end date in 2022 as part of its effort to move support to its cloud services team. CMU anticipates finding replacement IT employees to be challenging if it does not receive funding for this project and is required to maintain the ERP/SIS system on-premises.

Additionally, CMU's software maintenance contract with Ellucian is reaching its end of term in 2024. If CMU does not receive funding for this project, it will have to purchase replacement hardware and renegotiate another software maintenance agreement in the next two years.

Moving the ERP/SIS system to the cloud will allow CMU to take advantage of new functionality releases at a faster pace than with its current on-premises system, be more responsive to business demands and strategic initiatives, and deliver a higher quality user experience. Moving to the cloud will also improve CMU's business continuity plan recovery times.

COST-BENEFIT ANALYSIS

The on-premise servers that CMU's ERP systems currently use are due to be replaced in February 2023. The university intends to offset the implementation costs of moving its ERP to the cloud with the $73,000 it has set aside in reserves to replace ERP services and associated hardware.

CMU estimates that the annual cost to maintain the current ERP on-premise datacenter infrastructure, including hardware, backups, operating systems, and third-party software, is $49,579, which will no longer be necessary once the system is moved to the cloud.

CMU estimates its annual HR/Finance/SIS cloud solution costs will be $559,779; a net annual increase of $318,200 over current costs for the system. This increase does not include the cost for a required Integration Platform as a Service estimated at $100,000 annually.

PROJECT COST INFORMATION

Cost estimates for the project include costs to migrate to cloud services, including implementation services; the first year of software costs to help CMU offset the additional costs of having the maintain both the on-premises ERP/SIS system and the cloud ERP/SIS system at the same time for one year; and temporary staff positions to help take workload off of key staff to allow them to focus on the ERP migration process.

CASH FUNDS

CMU does not charge a student technology fee. CMU anticipates that the cash funds for this project will come from various internal university fund sources and other external funding opportunities.

PROJECT RESEARCH

CMU used quotes from competing ERP vendors, technology consultant input, and information shared with other peer Colorado institutions who are also working on ERP/SIS modernization projects to develop the project scope and cost estimates.

ADDITIONAL PROJECT INFORMATION

Attachment A contains a Letter of Intent from the Presidents of Metropolitan State University of Denver, the Colorado School of Mines, the University of Northern Colorado, and Colorado Mesa University, outlining their institutions' commitment to a collaborative approach to the implementation of new ERP systems at these institutions.

PROJECT SCHEDULE

	Start Date	**Completion Date**
Planning	July 2022	December 2022
Implementation	August 2022	December 2024
Testing	August 2022	December 2024
Closing	December 2022	December 2024

QUESTIONS

1. Comparing the HR and Finance systems, and the Student Information system, please explain which system is priority to move to the cloud, along with the disadvantages and risks of migrating just the HR and Finance systems, or just the Student Information system. Please also explain if the HR and Finance systems can be migrated to the cloud separately, and if so, which system is priority.

Colorado Mesa University's priority is moving its Student Information System to Ellucian's Managed Cloud services (private cloud) in combination with implementing an integration Platform as a Service solution to integrate cloud applications more efficiently. With the migration of the University's Student Information System to Managed Cloud, the University will enhance the student experience and move dependent systems like its operational data store for reporting, document management platform, and HR and Finance systems, as currently deployed, as part of a lift and shift implementation process. The University can maintain it existing application customizations for the immediate future while adding scalability, reliability, and security to its ERP environment. Once CMU's ERP/ Student Information System is moved to Managed Cloud it will decommission its on-premise servers.

Moreover, CMU outsourced its Oracle Database Administrator (DBA) position and HR, Finance and Student Information System upgrades to Ellucian's Application Managed Services in 2015. This professional services agreement with Ellucian ends in 2022 and the service is not renewable, requiring the University to act to support its ERP environment.   Due to IT staffing levels and difficulty recruiting an Oracle DBA, and not waiting five years to improve the student's digital experience, it is necessary to complete the move to Managed Cloud first.

CMU's second priority is evaluating its ERP/HR and Finance systems and to move these applications to cloud Software as a Service (SaaS) offerings to enable the university to develop a composable business strategy, take full advantage of cloud benefits, and deliver on the key business outcomes identified in the funding request. Although CMU has prioritized this part of project second, it is critical to the overall success of the project and CMU's efforts towards digital transformation. As CMU completes the move to Managed Cloud services, the university would like to keep its project momentum and post the RFP for an HR/Finance SaaS product in spring 2023. If CMU did not have staffing challenges and necessity to move its Student Information System to Managed Cloud services, the evaluation of HR and Finance systems would be our number one priority.

The University understands through its research and consultant discussions, that while moving HR and Finance separately is possible, they are typically migrated to the cloud at the same time.   The vendor pricing that the university has received and based the project cost on is twenty percent less than if HR and Finance were moved separately. There would be additional systems integration work that would have to be completed if moved separately. If CMU had to set a priority between HR and Finance systems, it would prioritize moving its HR system.

2. Please describe the department's plan to mitigate risks associated with performance degradation as the systems are migrated from on-premise to the cloud.

CMU has in the past worked through system performance issues for on-premise and cloud delivered services alike. In recent years, the university has dealt with more performance issues with on-premise hardware and applications than with cloud-based systems. Currently, two-thirds of the university's enterprise systems are cloud delivered. CMU believes that system performance as well as the availability of the HR, Finance and Student Information System will improve by moving to the cloud.

CMU will remain vigilant in its vendor and product selection and application deployment methodologies to help mitigate potential performance issues moving forward.

With enterprise solutions predominately cloud based, the availability of services is often dependent on the performance of the vendor and the cloud infrastructure provider with whom the vendor builds its solution. Mitigating risks associated with cloud providers starts with a solid vendor selection and contract management process. CMU has a process in place to vet cloud-based applications and services to evaluate each vendor's security, reliability and change management processes and controls. The University has established contract management protocols for reviewing the contractual obligations of cloud service providers to ensure they have the necessary requirements in place.

Further, CMU has experience managing ERP systems through its vendor and the use of Ellucian's Application Managed Service contract. The university has outsourced its Oracle Database Administrator position and ERP application upgrades running on-premise for the past six years. CMU believes its experience of outsourcing Database Administration and product upgrades to the vendor gives the university a step up to making a successful transition to cloud ERP solutions.

Last, the university has the ongoing responsibility for implementing reliable networks with failover capacity to provide access to cloud services 24/7/365. The university continues to build redundancy and network performance into its local area network equipment, and to improve business continuity through internet service redundancy with automatic failover protection.

3. The budget request describes the need for system improvements. For example, on page 8 the budget request explains the need to integrate systems. For example, the "systems of record have held back innovation, often requiring add-on point solutions to deliver transformative processes or even to meet business requirements and address constituent demands." Please summarize the existing add-on point solutions and the department's plan to maintain or decommission these solutions with the new cloud solutions.

Colorado Mesa University has supplemented its HR system with applicant tracking and onboarding, e-form and workflow, e-signature, reporting, and document management solutions. Based on the information it has today, CMU envisions that with the implementation of a full Human Capital Management (HCM) cloud suite, it will be able to decommission its add-on applicant tracking and onboarding solution. The university's current reporting, document management and e-forms solutions are integrated with other systems and will need to be maintained. It is indeterminate at this time if the use of an e-signature solution will be required to be maintained following a full implementation of an HCM cloud suite.

Colorado Mesa's Finance system has been supplemented with the following add-on point solutions: check writing, e-commerce (online marketplace, bill + payment, cashiering), e-form and workflow, report writing, document management, and e-Procurement solutions. Again, the university's current reporting, document management and e-forms solutions are integrated with other systems and will need to be maintained. It is indeterminate at this time if the use of a supplemental check writing solution will be necessary and if a portion of the e-commerce solution will need to be maintained following a full implementation of a Finance cloud suite.

The University is currently implementing an e-Procurement solution which it has identified as a best-in-class solution that will be maintained moving forward. The university has selected a value-add Travel and Expense solution that has been identified as a best fit for CMU. The University is waiting to decide whether to move forward with its selected Travel and Expense solution until ERP/Finance cloud suites are evaluated. Further, CMU is investigating best-in-class solutions for Budgeting and Forecasting. Again, this decision will be made following the evaluation of Finance cloud suites.

Other solutions that have direct or batch integration with Banner Finance that will need to be maintained include campus one-card, bookstore, parking management, scholarship management, and pay-to-print solutions. With the move to Managed Cloud services, CMU plans to maintain its current investment in add-on solutions for its Student Information System that enhances the SIS's functionality and improves the student experience.

4. How is Colorado Mesa University managing any risks involved with partnering with other institutions through the proposed consortium model?

Colorado Mesa University has been and will continue working with other institutions to drive down the cost of technology and systems in support of higher education across Colorado as well as to share in ways to streamline system integrations and

secure data for our individual projects.   CMU, Metro, Mines and UNC have collaborated on our ERP initiatives over the last 12 months, at times during the year meeting via web conferencing more than once a month. CMU will continue to meet with other institutions at least once a quarter to collaborate and drive efficiency for our ERP projects.

CMU's ERP Modernization project funding request leverages vendor pricing that stemmed from these collaborative meetings and discussions with ERP vendors with the goal that all Colorado institutions of higher education will receive the best pricing. With respect to the question of managing the risk of our partnership, the pricing on which CMU has built its current project request is not dependent on the actions or decisions of other institutions or agreements that other institutions sign.

5. Please describe the change management plan for the project.

Digital transformation through an ERP modernization project will require a university-wide commitment to change management. Colorado Mesa recognizes business unit stakeholder's (line-of-business managers, subject matter experts and business process owners) buy-in and innovation as critical to how successful and, to an extent, just how transformational the ERP modernization project ends up being. CMU's executive team is committed to guiding the process and promoting innovation from within business units. Through campus buy-in for change, the university will dramatically increase the potential for a successful project. This will include campus communications and training sessions as well as taking a fresh look at data governance.

First, it is important that business unit stakeholders be involved as valued contributors. CMU looks to create an environment of buy-in and trust around the ERP Modernization project and will be looking to business units to fuel digital transformation goals and deliver on business outcomes identified for the project. For the project of this complexity to be successful, it cannot be a top-down or Information Technology delivered approach to change management.   It is critical that individuals in line-of-business manager roles understand why change is necessary and help drive change, and to not be rigid in holding to existing processes just for the sake of "that's how it's always been done." To accomplish this step, CMU is spending time over the next several months to jointly create a vision of digital transformation through ERP modernization and properly communicate the vision to all university stakeholders.

Second, CMU understands the importance of university subject matter experts and business process owners being involved throughout the project to drive change. The University cannot rely on vendor provided experts and campus end users that do not fully understand the overall project objectives, university policy and State requirements, and thus risk these requirements being lost in process changes. Colorado Mesa, in part, plans to use its active Banner User Group to accomplish this step. The Banner User Group consists of business unit leaders, subject matter experts, business process owners and technical staff.   The Banner User Group will be used to propagate discussion and assist business units and end users alike to understand project objectives and required business outcomes. This will be equally important moving forward as the cloud delivered ERP systems will require continuous change management as incremental updates will be provided by the vendor at a much higher cadence.

Last, executive sponsors will promote digital transformation and be ultimately responsible for the delivery of business outcome objectives and make decisions for critical business changes that may affect financial or university resources. The executive team will be required to promote innovation from within business units.

6. Does Colorado Mesa University plan to use an agile methodology approach for the project?

Colorado Mesa University recognizes the importance of following the right implementation methodology to deliver on project objectives. The University's ERP Modernization project is a complex project that, in combination with the University resources, will rely heavily on the selected product vendor or the vendor's implementation partner's tested and proven approach to implementations. CMU will be vigilant in its vendor selection to include the evaluation of the vendor's proposed implementation process. During the RFP process to select an ERP, CMU will discern vendor implementation strategies between vendors and will focus on the selected vendor's project plan to determine if an agile methodology approach will be used for the project. Part of the evaluation criteria will be if the vendor's project delivery timeline will deliver the desired business outcomes as quickly as possible and support continuous improvement throughout the project.

Implementing a Human Capital Management (HCM) suite is a project that can benefit from using an agile methodology approach. Being prepared for the implementation and having well established business outcomes identified at the start of the project will assist CMU in delivery of critical functionality as well as provide value to the HCM user experience. CMU has identified several key business outcomes and is committed to delivering on these project objectives. However, it is imperative

that CMU not diminish the discovery phase of the project and vendor selection and simply settle for a rigid delivery of the HCM suite and base functionality as part of the vendor's standard implementation process.

7. Did Colorado Mesa University receive federal COVID relief funds from the American Rescue Plan Act (ARPA)? If so, have the institutions considered using those funds for this project, and if that has not been a consideration, are any of those funds being used for other IT-related projects on campus?

Colorado Mesa University did receive funds from the American Rescue Plan Act, and the university is not considering using any of these funds for this project. The following statements describe how the university is using ARPA funds.

CRF funds of $17M were transferred from the CARES Act Fund to CMU. CMU used these funds to cover instruction, academic support and student services payroll costs during the period July through November 2020. These CRF funds were essential in helping to offset an $18.7M state general fund reduction, leaving CMU with a 5% or $1.7M state appropriation shortfall.

CMU is scheduled to receive $17.8M in student HEERF I, II and III allocations which must all be distributed to students. By the start of the Fall 2021 term, CMU had paid out about 50% of the total available funds to students. It is important to keep in mind that under the HEERF guidance students must be given the option to take the cash in hand. CMU has depleted all of HEERF I, HEERF II and a portion HEERF III to date. The remainder of HEERF III is scheduled to be fully paid out to students by May 2022.

CMU is scheduled to receive $22.7M in institutional HEERF funds. The institutional funds are being used to offset revenue losses sustained as a result of COVID19 restrictions (including losses in residence halls, food service, ticket sales, bookstore, parking, Foundation support, etc.) and, to a lesser degree, to assist with payroll costs in the core functions of instruction, academic support and student services not covered by the CRF funds. If CMU assumes a three-year period to recover enrollments lost due to COVID, the tuition loss alone is over $9M and lingers well beyond the HEERF availability and use period. That figure also does not include the related auxiliary revenue losses as well.

Even with the receipt of this federal funding, CMU has a remaining shortfall in excess of $5M to cover lost revenues, state funding and increased costs over the period of the pandemic. As a result, there are no ARPA or other federal funds available to support this project.

SHORT PROJECT DESCRIPTION

The University of Northern Colorado (UNC) is requesting one-time state funding and cash funds spending authority to move the university's Enterprise Resource (ERP) system and Student Information System (SIS) to a managed cloud.

PRIORITY NUMBERS

2023015

Prioritized By	Priority	
CCHE	8 of 11	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$0	$4,325,584	$0	$0	$4,325,584
CF	$0	$184,931	$0	$0	$184,931
Total	$0	$4,510,515	$0	$0	$4,510,515

PROJECT STATUS

This is a new, never-before-requested project.

PROJECT DESCRIPTION

UNC is requesting one-time state funding and cash funds spending authority to move the university's ERP/SIS system to a managed cloud. The project will also involve an analysis of current business processes, a deployment of a data hub system, and consolidation of identity management systems.

Phase one of the project will involve several components, including an analysis of the institution's current ERP/SIS system functionality to identify opportunities to improve the business capabilities of the ERP/SIS system; implementation of a modern data hub configuration; implementation of a more modern identity management solution; and transitioning to a managed cloud platform.

Phase two of the project will involve converting the human resources and finance modules of the ERP system to a software-as-a-service (SaaS) solution.

UNC has been in regular communication with other peer institutions (Colorado Mesa University, the Colorado School of Mines, Metropolitan State University of Denver, and others), regarding these institutions' ERP/SIS modernization projects. As a result, this project has been built as a joint activity with Colorado Mesa University. This will allow both institutions to save in the areas of administrative overhead, temporary staff costs, joint training engagements, and data integration development. UNC and CMU anticipate that this collaboration will result in implementation savings of up to 20 percent for the project.

PROJECT JUSTIFICATION

UNC has been using Ellucian Banner for its ERP/SIS system since 2006, which is maintained on-premises. Since that time, UNC has added additional systems and custom coding to keep up with their institutional needs. Moving to the cloud will allow UNC to take advantage of new functionality releases at a faster pace than with its current on-premise system, be more responsive to business demands and strategic initiatives, and deliver a higher quality user experience. UNC states that moving to the cloud will also improve the disaster recovery and security plans for the system.

Additionally, UNC has had trouble attracting and retaining the IT staff necessary to maintain the institution's current on-premise ERP/SIS system. Ellucian Banner has also reduced services and assistance available to clients who manage their own ERP environments.

COST-BENEFIT ANALYSIS

All of the on-premise hardware and software for the current ERP system is maintained by UNC IT staff, including all enhancements and upgrades. This project will allow UNC to eliminate the expense of supporting on-premise datacenter infrastructure costs, including servers, data storage, and data backup systems. This decrease in expenses will partially offset the increase in annual operational costs of approximately $800,000 to leverage a cloud-based ERP solution.

PROJECT COST INFORMATION

UNC provided the following cost estimates for the two phases of this project:

PHASE 1
Total cost: $1,471,050
• Managed cloud services: $556,000
• Data hub and implementation: $350,000
• ID management and implementation: $225,000
• Cloud onboarding services: $150,000
• ERP analysis: $100,000
• IT training: $20,000
• Project contingency: $70,050

PHASE 2
Total cost: $3,039,465
• SaaS ERP (HR and Finance) conversion: $1,680,000
• Hosting maintenance and support: $779,729
• Staffing backfill: $415,000
• IT training: $20,000
• Project contingency: $144,736

CASH FUNDS

UNC plans to use its existing operating budget and a portion of the student technology fee, which is currently $12.35 per credit hour, for the cash funds portion of this project. The student technology fee is expected to generate approximately $1,989,154 in revenue for fiscal year 2022 and primarily funds existing software license agreements, student internet bandwidth, technology upgrades in academic learning spaces, and staffing.

PROJECT RESEARCH

UNC used quotes from competing ERP vendors, technology consultant input, and information shared with other peer Colorado institutions working on ERP/SIS modernization projects to develop the project scope and cost estimates.

ADDITIONAL PROJECT INFORMATION

CHANGE MANAGEMENT. UNC has a long-established change management process that follows Information Technology Infrastructure Library (ITIL) standards. UNC has a Change Advisory Board that meets weekly to review system changes. Additionally, the Information Management and Technology Department has a Project Management Office that meets monthly to review and approve changes to projects.

COLLABORATION. Attachment A contains a Letter of Intent from the Presidents of Metropolitan State University of Denver, the Colorado School of Mines, the University of Northern Colorado, and Colorado Mesa University, outlining their institutions' commitment to a collaborative approach to the implementation of new ERP systems at these institutions.

Conversations between UNC and the other institutions currently engaged in ERP modernization projects has allowed these institutions to identify common interest in custom ERP integrations for systems such as Banner, Degree Works, Data

Integrations, Identity Management, Colorado Higher Education Insurance Benefits Alliance (CHEIBA) Trust, College Opportunity Fund (COF), and Colorado Operations Resource Engine (CORE). This will allow system development and implementation to become more efficient across all of the projects and result in a decrease in start-up costs. The collaboration has also created ongoing opportunities for the institutions to engage in joint training, support, and problem solving.

PROJECT SCHEDULE

	Start Date	Completion Date
Planning	July 2022	September 2022
Implementation	October 2022	July 2024
Testing	April 2023	June 2024
Closing	July 2023	June 2024

QUESTIONS

1. Why are the University of Northern Colorado's total project cost estimates ($4.5 million) so much lower than the other institutions that received funding for phase 1 of their ERP/SIS replacement projects last year ($15.4 million for Metropolitan State University of Denver, $12.7 million for the Colorado School of Mines, and $25.0 million for the collaboration between Adams State University, Fort Lewis College, and Western Colorado University)?

UNC has used vendor pricing for our Phase 1 project scope and cost estimates. Our approach is at a lower cost because our request is to implement foundational technologies and a move to a managed cloud instead of a SaaS model (WorkDay). Our funding is preparing our ERP for moving to a SaaS, not conducting the move in one big project. UNC doesn't want to accept all the risks of moving to an unproven SIS vendor. An ERP move is an expensive and gigantic effort, and our approach will be calculated and in phases.

2. The budget request consists of a one-year appropriation request, but the budget request explains the project will be complete in 24 to 30 months. Also, page 54 itemizes the estimates for year one and year two. Please explain the need for an appropriation of all the funding in year one, and the risk if only the first year's estimate of $1,410,737 in CCF and $60,313 in cash funds is appropriated instead of the total budget request amount of $4,325,584.

Our proposal is divided into two different phases. Phase 1 will be completed in FY23, and Phase II will be completed in FY 24. There is minimal risk of not funding Phase II because we can continue with the Ellucian Managed Cloud option funded in Phase I until funding for Phase II is approved.

3. Did the University of Northern Colorado receive federal COVID relief funds from the American Rescue Plan Act (ARPA)? If so, has the institution considered using those funds for this project, and if that has not been a consideration, are any of those funds being used for other IT-related projects on campus?

Yes, UNC received HEERF funding. Most of the funds were allocated directly to students. The remaining funding addressed critical student-facing technology needs, including but not limited to student-facing computers, classroom upgrades to support hyflex learning, and student engagement software. We have not allocated any HEERF funding towards this project.

Fiscal Year 2022-23 Information Technology Request

Colorado Northwestern Community College, Lamar Community College, Morgan Community College, Northeastern Junior College, Otero College, Trinidad State College
Rural College Consortium for IT Infrastructure

SHORT PROJECT DESCRIPTION

The Colorado Community College System (CCCS) is requesting one-time state funding to form a Rural College Consortium (RCC) consisting of six rural community colleges for the purpose of modernizing technology infrastructure to help improve the educational opportunities for students.

PRIORITY NUMBERS   2023016

Prioritized By	Priority	
CCHE	9 of 11	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$0	$8,627,000	$0	$0	$8,627,000
Total	$0	$8,627,000	$0	$0	$8,627,000

PROJECT STATUS

This is a new, never-before-requested project.

Three of the institutions included in this request received appropriations for various IT infrastructure projects for FY 2021-22, including:

• Colorado Northwestern Community College: $1,746,412 CCF for computer and network upgrades;
• Lamar Community College: $553,002 CCF for technology and equipment upgrades; and
• Otero College: $597,750 CCF for IT infrastructure.

PROJECT DESCRIPTION

The CCCS is requesting one-time state funding to modernize technology at six rural community colleges through the formation of the RCC. According to the CCCS, the network created by the RCC will ensure that students at these rural colleges have equitable access to higher education, statewide transfer agreements, workforce development training opportunities, and strong support services.

Specifically, this project aims to do the following:

• update the network and server infrastructure;
• update the physical security and suitability of local data center resources and other rooms with IT equipment; and
• update and standardize classroom technology and IT equipment.

Colorado Northwestern Community College, Lamar Community College, Morgan Community College, Northeastern Junior College, Otero College, Trinidad State College

Rural College Consortium for IT Infrastructure

PROJECT JUSTIFICATION

NETWORK AND SERVER INFRASTRUCTURE. The colleges within the RCC have aging network hardware that is often no longer being maintained by the college or no longer supported by the vendor. Additionally, according to CCCS, the fiber or copper wiring and switches on the campuses are insufficient or the wrong mode for today's bandwidth requirements, which means that some colleges within the RCC are not able to use the high speed bandwidth that is available in their area. This project would assist those colleges with new cabling and replacement network hardware.

The server infrastructure at three of the RCC colleges is outdated and not able to be updated to ensure appropriate IT security, which leaves these colleges vulnerable to cyber-attacks and other issues. In response to this need, the colleges and CCCS agreed that the servers at the individual colleges would be transferred to centralized data centers in a virtualized environment by the CCCS central office IT staff. The CCCS central office IT staff will also provide server management, patching, and backups. Three of the RCC colleges have more current hardware and will be migrated to the CCCS-IT infrastructure as their hardware reaches end-of-life or if other conditions warrant doing so sooner. By transferring the colleges' server infrastructure and maintenance responsibilities to the CCCS central office IT staff, the IT staff at the individual colleges will be able to focus their time on supporting the student-facing technology at their own college.

IT EQUIPMENT ROOMS. Part of the funding for this project will be used to secure facilities that house data center resources and other important IT equipment on the RCC campuses, most of which are currently accessible by staff using physical keys or are housed in rooms that are not solely dedicated to the IT equipment. With funding from this project, these rooms will be secured using multifactor access, such as the scanning of a key card and the entering of a pin number, and the installation of locked IT equipment cabinets in shared rooms. This portion of the project will also involve the installation of video surveillance cameras to monitor for unauthorized access. Additionally, the project will address other facility-related issues for IT equipment and computer rooms, such as external doors that let in dirt or inclement weather, water pipes running through the facilities, and insufficient cooling and backup power.

UPDATING AND STANDARDIZING OFFICE AND CLASSROOM TECHNOLOGY. Part of the funding for this project will be used to bring necessary equipment into classrooms on the RCC campuses, such as monitors, cameras, microphones, and other teaching tools, to ensure that the classrooms at these colleges may be used for virtual learning opportunities within the RCC. Additionally, work will be undertaken to standardize IT equipment, such as laptops, printers, video units, phones, switches, routers, and other network infrastructure across the RCC campuses. According to the CCCS, this will free up staff time, who are now spending time working on outdated equipment, allow staff to help one another across the RCC with their technology and training, and enable the central CCCS-IT staff to provide assistance in the event of a serious problem. Additionally, this updated equipment will allow the RCC to reduce duplication of low-enrolled courses across colleges; aggregate students across multiple colleges into courses that would otherwise not be offered; ensure access to degrees and certificates regardless of location, expand access to workforce development training; and provide support services that are currently limited based on location.

COST-BENEFIT ANALYSIS

According to the CCCS, transferring the server infrastructure and maintenance to the CCCS-IT staff will result in cost savings to the RCC colleges of $830,000 over the next five years by not having to replace and maintain local servers and backup systems. Additionally, modernizing these colleges' technology infrastructure will allow these colleges to improve instructional cost efficiency by pooling rural students across multiple communities into fewer course sections.

PROJECT COST INFORMATION

CCCS used the following cost estimates for this project:

- wireless access points: $1,100 each
- network switches: $9,600 each
- core switches: $24,500 each
- Cat6 cabling run: $175 each on average
- fiber run: $8,800 each on average
- laptops, desktops, and tablets: $1,600 each on average (including any needed external monitors and docking stations)
- classroom technology upgrades (projectors, screens, accessibility devices, video conferencing technology, etc.): ranges from approximately $16,450 for small classrooms to $48,000 for large classrooms
- 10 percent project contingency

Colorado Northwestern Community College, Lamar Community College, Morgan Community College, Northeastern Junior College, Otero College, Trinidad State College
Rural College Consortium for IT Infrastructure

CASH FUNDS

The RCC institutions do not propose contributing cash funds for this project.

Four of the six rural community colleges in the RCC currently charge a student technology fee:

• Lamar Community College: $3.00 per credit hour, total revenue of $25,686 in FY 21;
• Northeastern Junior College: $3.00 per credit hour, total revenue of $72,823 in FY21;
• Otero College: $4.41 per credit hour, total revenue of $87,714 in FY21; and
• Trinidad State College: $2.20 per credit hour, total revenue of $42,368 in FY21.

However, according to the CCCS, the limited revenue from these fees is used for routine IT maintenance rather than larger IT projects.

PROJECT RESEARCH

Cost estimates for the project were based on vendor estimates, with the built-in expectation that the prices for institutions of higher education will be lower than these estimates.

ADDITIONAL PROJECT INFORMATION

The Behavioral Health Transformational Task Force, created in Senate Bill 21-137, is responsible for developing recommendations on policies to create transformational change in the area of behavioral health using $550 million the state received under the American Rescue Plan Act (ARPA). During the task force meeting on November 1, 2021, this RCC budget request was discussed as part of a preliminary recommendation for the task force to consider related to supporting the behavioral health workforce (recommendation 6A). The presenters indicated that this project would provide these rural colleges with the technology resources necessary to provide addiction medicine classes for Certified Addiction Technicians and Specialists that require interaction in order to be taught remotely. At the meeting, it was also mentioned that funding for this project may also be considered under the scope of the Task Force on Economic Recovery and Relief Cash Fund, which is also developing recommendations related to how ARPA funding may be used.

PROJECT SCHEDULE

	Start Date	Completion Date
Planning	July 2022	August 2022
Implementation	September 2022	May 2023
Testing	September 2022	May 2023
Closing	June 2023	June 2023

QUESTIONS

1. Three of the schools included in this request (Colorado Northwestern Community College (CNCC), Lamar Community College, and Otero College) received funding last year for various IT infrastructure projects.

a) Please provide an update on these projects and information on how those projects will interact with the funding requested in this request.

Both Lamar and Otero's requests are complimentary to the RCC funding request.   Lamar's approved request is for classroom virtual reality technology upgrades, remote testimony equipment upgrades, digital signage upgrades, outdoor wireless upgrades and the replacement of half of their computers and laptops.

Otero's approved request covered a portion of their laptop and desktop computers, video surveillance equipment and some classroom upgrades for distance learning to local area high schools.

Prepared by Legislative Council Staff

Fiscal Year 2022-23 Information Technology Request

Colorado Northwestern Community College, Lamar Community College, Morgan Community College, Northeastern Junior College, Otero College, Trinidad State College
Rural College Consortium for IT Infrastructure

CNCC's request that was approved for this year did duplicate some of the components that would have been included in the RCC request. Once CNCC received approval, those items were backed out of the RCC request. CNCC's need for an upgraded network, hardware and fiber infrastructure are critical for normal college operations, so it was agreed that CNCC should move forward with their request as the RCC request was still being discussed and developed. There are items in the RCC request that were not in CNCC request and are specific to the RCC request. There are also items in the CNCC request that are not applicable to the RCC request. There are no duplicative items in either request.

b) The projects for Lamar Community College and Colorado Northwestern Community College were funded as one-time requests last year. Why were the components being requested as part of this year's budget request not included in these colleges' plans and requests last year?

The Rural College Consortium request required on-premise site visits to evaluate technology and determine longer term planning with the rural colleges' Vice Presidents of Academic Affairs, Vice Presidents of Student Affairs, Business Officers, and Presidents. We were not prepared to submit a proposal last year, nor was all the information available to individual colleges for this type of comprehensive request.

2. Did any of the rural community colleges included in this consortium receive federal COVID relief funds from the American Rescue Plan Act (ARPA)? If so, have the institutions considered using those funds for this project, and if that has not been a consideration, are any of those funds being used for other IT-related projects on these campuses?

Yes, all colleges in the community college system received ARPA funds, including the rural colleges that are part of this request. However, these dollars were largely used for student supports like laptops, hotspots, scholarships, and other supports to help students continue their education during this time. Community colleges serve large proportions of first generation, low income, and students of color. These same populations were disproportionately impacted by the pandemic, and we felt we needed to provide direct support to these students, especially during this time.

In addition, due to the impacts of the pandemic on enrollment as well as other revenue sources such as auxiliaries, many of our rural colleges had to use the revenue recovery provided by the ARPA funds just to continue to provide base services for their students. Also, these funds were used for COVID mitigation in our facilities, from Plexiglas partitions to HVAC air handler replacements/upgrades. As a result, these funds are not available to be used for this project.

3. If only partial funding is available this year, how would the consortium prioritize the project components, potentially based on the safety, security, and critical operations, along with a brief explanation?

If we were to receive partial funding for this project the prioritization of components would be determined individually by college and based on the critical needs of the college to maintain services for keeping the educational learning process functional and to meet the collaborative needs of the RCC to the extent feasible with partial funding. Likely, we would prioritize the infrastructure portion of the request (network switches, wireless access points, cabling, etc) because these things impact the daily operations of the colleges. Without this funding, portions of the colleges' ability to operate could be significantly limited or become inoperable completely. Failures of this type would even impact an ability to call 911 since the telephone systems rely on the network for connectively.

After the above, we would then implement the classroom components, which is how we link our courses, programs, and services together across colleges and the geography of Colorado. More classroom set-ups translates to more classes being offered at one time, more access to academic programs across the state, and more student support services.   Less money would mean fewer classes, programs, and services, which ultimately means less access for students in rural communities.

4. The budget request mentions that two of the colleges have already experienced "catastrophic failures" in their IT infrastructure. Can you please provide additional details about these failures, including the length and frequency of these failures and what the impact has been of these failures on students and staff.

CNCC and TSJC both have suffered major outages in their network environments related to aged and unsupported hardware. The effect of the outage at CNCC lasted for several days at their Rangely campus as parts were not available and a

Fiscal Year 2022-23 Information Technology Request

Colorado Northwestern Community College, Lamar Community College, Morgan Community College, Northeastern Junior College, Otero College, Trinidad State College
Rural College Consortium for IT Infrastructure

replacement part had to be found and delivered to the rural location, configured and service returned to normal. CNCC has had several similar outages since ranging from a building being offline to a complete campus.

TSJC suffered an outage with a failed piece of hardware in their datacenter that rendered their Trinidad campus in-operable for the better part of a day. This outage was due to the failure of a core device that is no longer supported by the manufacturer. It was fortunate that another college in the system had just retired the same piece of equipment and had not yet disposed of it through electronic recycling. Had this part not been available it could have taken days to weeks to get a replacement ordered, shipped and installed. In all cases these outages impact the students, faculty and staff at the colleges as well as telephone systems and 911.

Fiscal Year 2022-23 Information Technology Request

Community College of Aurora
Improving Student Access to Technology

SHORT PROJECT DESCRIPTION

The Community College of Aurora (CCA) is requesting one-time state funds and cash funds spending authority to improve wireless access, classroom computing, and outside access to needed computing resources for students to improve the student experience interacting with technology at CCA.

PRIORITY NUMBERS

2023017

Prioritized By	Priority	
CCHE	10 of 11	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$0	$476,923	$0	$0	$476,923
CF	$0	$52,992	$0	$0	$52,992
Total	$0	$529,915	$0	$0	$529,915

PROJECT STATUS

This request is similar to a previously requested project from FY 2019-20 and FY 2020-21, which did not receive funding.

PROJECT DESCRIPTION

CCA is requesting one-time state funds and cash funds spending authority to improve wireless access, classroom computing, and outside access to needed computing resources for students to improve the student experience interacting with technology at CCA.

The project will involve upgrading the server hardware that supports the thin clients in the institution's computer labs on campus, and adding to and upgrading the institution's wireless infrastructure to support the latest in wireless protocols.

PROJECT JUSTIFICATION

The server hardware that supports most of the thin clients in the institution's computer labs on campus is starting to age and can no longer be upgraded to the latest versions of software. Additionally, the institution's current servers have insufficient processor, memory, and disk capacity to scale to the needs of students with the move to more hybrid and remote classroom learning. CCA states that this upgrade will allow these labs to run quicker and more efficiently and also allow students in online or hybrid classes access to the software they need for class while they are off campus. The upgrade will also allow CCA to provide graphics-intense applications and increase the thin client environment in the future.

According to CCA, the institution's existing wireless protocol is 802.11 a/b/g/n, which allows connectivity to all four protocols to allow connectivity from older devices. CCA's wireless currently supports from 2Mpbs up to 600Mpbs of bandwidth maximum at its fastest speed, which is not enough to keep up with the needs of students with newer devices. As part of the work to upgrade the institution's wireless infrastructure, CCA also plans to implement more robust traffic shaping to their student wireless bandwidth to help improve availability and overall satisfaction with the institution's student wireless network.

CCA estimates that this project will impact 7,447 students, or approximately 40 percent of CCA's student population.

COST-BENEFIT ANALYSIS

CCA was unable to quantify cost savings as required by House Bill 15-1266, but states that the project will result in an overall improvement in system performance and fewer interruptions, resulting in a greatly improved user experience for students and staff.

PROJECT COST INFORMATION

CCA provided the following estimates for the individual components of the project:

Servers: $278,267
• 3 servers: $18,000 each
• 12 Cisco switches: $12,536 each
• 2 Cisco routers: $31,918 each
• 2 Cisco Firewall appliances: $4,999.50 each

Network Equipment/Cabling: $191,572
• 3 visualization software: $5,900 each
• 4 UPS racks: $3,868 each
• 8 rack mountable Smart UPS: $2,500 each
• 100 wireless WiFi 7 AP's (indoor with licensure): $669 each
• 100 wireless WiFi 7 AP's (outdoor with licensure and antennas): $715 each

After completing the pre-design work on the project, CCA requested competitive quotes for all of the hardware outlined in the project, which all fall under the current HP statewide pricing agreement.

CASH FUNDS

CCA is proposing to use $52,992 from institution cash funds for this project, funded by the student technology fee of $28.42 per semester which generates approximately $200,000 to $250,000 in revenue per year. A majority of these funds from the student technology fee are used to make classroom technology upgrades and improvements and to provide part-time instructors with the technology they need to teach in the classroom.

PROJECT RESEARCH

CCA consulted with their vendors to properly size the requested hardware to allow for future growth and expansion.

ADDITIONAL PROJECT INFORMATION

N/A

PROJECT SCHEDULE

	Start Date	Completion Date
Planning	July 2022	August 2022
Implementation	September 2022	June 2023
Testing	December 2022	June 2023
Closing	June 2023	June 2023

Community College of Aurora
Improving Student Access to Technology

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1. Did the Community College of Aurora receive federal COVID relief funds from the American Rescue Plan Act (ARPA)? If so, has the institution considered using those funds for this project, and if that has not been a consideration, are any of those funds being used for other IT-related projects on campus?

Yes, all colleges in the community college system received ARPA funds, including the Community College of Aurora. However, these dollars were largely used for student supports like laptops, hotspots, scholarships, and other supports to help students continue their education during this time. Community colleges serve large proportions of first generation, low income, and students of color. These same populations were disproportionately impacted by the pandemic, and we felt we needed to provide direct support to these students, especially during this time. In addition, these funds were used for COVID mitigation in our facilities, from Plexiglas partitions to HVAC air handler replacements/upgrades. As a result, these funds are not available to be used for this project.

Fiscal Year 2022-23 Information Technology Request

Colorado State University -Pueblo
Communications System Upgrade

SHORT PROJECT DESCRIPTION

Colorado State University-Pueblo (CSU-Pueblo) is requesting one-time state funding to replace the campus telephone system with a Voice-Over Internet Protocol (VoIP) unified communications telephone system and update additional IT infrastructure on campus.

PRIORITY NUMBERS   2023018

Prioritized By	Priority	
CCHE	11 of 11	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$0	$2,754,622	$0	$0	$2,754,622
Total	$0	$2,754,622	$0	$0	$2,754,622

PROJECT STATUS

This is a previously requested project from FY 2019-20 and FY 2020-21, which did not receive funding.

PROJECT DESCRIPTION

CSU-Pueblo is requesting one-time state funding to replace the campus telephone system with a VoIP unified communications telephone system and update additional IT infrastructure on campus. The university will use the funding to:

• install a new, 1,000-license VoIP phone system;
• replace 15 campus emergency telephones and install 5 new additional campus emergency telephones; and
• install 34 additional edge switches and infrastructure for IT data closets across campus.

PROJECT JUSTIFICATION

CSU-Pueblo states that a VoIP phone system, upgraded emergency telephones, and edge switches are needed to modernize communications on campus, to increase system capacity, and to improve campus safety. CSU-Pueblo's current private branch exchange (PBX) phone system is antiquated and at end-of-life. According to CSU-Pueblo, the last software upgrade was implemented in December 2001, with no other releases available after that date. New hardware for the PBX system is no longer manufactured, so the institution is relying on its limited stock of spare parts and risks the inability to repair or replace failing parts or software in the future.

A new VoIP phone system will add a variety of features and capabilities that are not available on the current phone system, including the ability to operate a "soft phone" or software-based phone experience from a remote computer, allowing faculty and staff to work remotely as necessary and still use their office phone numbers to be accessible to students.

COST-BENEFIT ANALYSIS

CSU-Pueblo was unable to quantify cost savings as required by House Bill 15-1266, but states that implementation of this project will result in savings for purchased services in the form of telecommunications lines, circuits, and services. Additionally, the new VoIP phone system will result in greater efficiencies and ease of operation for the end users.

PROJECT COST INFORMATION

CSU-Pueblo provided the following cost estimates for this project:

• Zultys VoIP telephone system (1,000 license): $1,350,000
• Extreme POE network switches and infrastructure (34): $236,608
• Emergency "blue" VoIP phones and directional boring cabling: $737,994
• Upgrades to current IT closets: $118,000
• UPS power backup for switches: $61,600
• Project contingency: $250,420

CASH FUNDS

CSU-Pueblo does not propose contributing institution cash funds for this project.

CSU-Pueblo currently charges a student technology fee of $7.25 per credit hour. However, these funds are used for technology services that directly contribute to student use and experience with technology on campus. According to CSU-Pueblo, this project is intended to upgrade the phone system that is primarily used by staff and faculty and would not be aligned with the intent of the student technology fee.

PROJECT RESEARCH

N/A

ADDITIONAL PROJECT INFORMATION

CSU-Pueblo plans to engage a vendor who is currently under a statewide contract and pricing agreement as a matter of priority for this project.

PROJECT SCHEDULE

	Start Date	Completion Date
Planning	July 2022	September 2022
Implementation	September 2022	June 2023
Testing	September 2022	June 2023
Closing	September 2022	June 2023

QUESTIONS

1. Did CSU-Pueblo receive federal COVID relief funds from the American Rescue Plan Act (ARPA)? If so, has the institution considered using those funds for this project, and if that has not been a consideration, are any of those funds being used for other IT-related projects on campus?

We did receive ARPA funds, some of what has been used for IT projects on campus. These have been exclusively student-focused like remote desktop capability for hybrid and remote access to teaching software and computer lab resources.

2. It is staff's understanding that this project has also been requested in FY 2019-20 and FY 2020-21. This year, the estimated costs for the emergency blue VOIP phones is significantly higher than in those past requests. Can you please explain what has caused this increase?

In the case of these phones specifically, the factors driving up the cost include but are not limited to the following; raw materials pricing (an increase of 46% over the last year, per a perspective vendor); installation costs including the costs of boring, trenching, and required materials; technician labor costs; and inflation in general.