



Capital Budget Request
for FYs 2027-2028

..... &

State Capital Improvements Plan
for FYs 2027-2032





November 17, 2025

Director – Office of Budget and Management (OBM)
30 E. Broad St., 34th Floor
Columbus, Ohio 43215

Dear Director Murnieks,

I’m pleased to present the Department of Higher Education’s FY27-28 capital budget request and comprehensive six-year capital improvement plan, submitted in accordance with OBM’s capital planning and budget submission guidance. As outlined in Table 1 below, our request contains a composition of projects similar to those requested in prior capital biennia. I am grateful for the opportunity to present these capital appropriation requests for high-priority projects that are aligned with the priorities of the DeWine-Tressel administration. I respectfully request your consideration of our request, which is described in more detail within this letter.

TABLE 1
Ohio Department of Higher Education (ODHE) FY27-28 Capital Budget Request

Ohio College Safety and Security Grant Program	\$7,500,000
Workforce Based Training and Equipment (RAPIDS)	\$10,000,000
Ohio Library and Information Network (OhioLINK)	\$15,187,486
Supplemental Renovations – Library Depositories	\$512,514
Ohio Academic Resources Network (OARnet)-Taxable	\$10,000,000
Ohio Supercomputer Center	\$10,000,000
Technology Initiatives	\$1,000,000

Agency Total \$54,200,000

The projects included in this capital budget request are designed to enhance the postsecondary experience for our students, support innovation, promote efficiency, bolster our workforce, and create jobs that will benefit all Ohio citizens and our business and industry partners.

Established by Governor DeWine, the **Ohio College Safety and Security Grant Program** offers grants to state institutions of higher education for eligible security improvements that assist in improving the overall physical security and safety of buildings on Ohio's public campuses. Federal funding for physical security improvements has historically been limited to K-12 entities; we are not aware of another program ever available at the state level to address higher education physical safety needs. The College Safety and Security Grant is the first of its kind in Ohio – and potentially the nation – and our campuses have demonstrated a clear need for this opportunity and additional funding.

As part of the FY2025-26 College Safety and Security Grant Program, 28 public colleges and universities in Ohio shared a total of \$7.5 million in funding for a variety of security projects. Funds covered physical security enhancements such as security cameras, fencing, lighting, door locks, and portable surveillance trailers. That appropriation was an increase from the \$5 million appropriation in the FY21-22 and FY23-24 capital biennia and helped meet the increased demand from our campuses. We request a modest increase in this next biennium to continue the administration's focus on helping our campuses prevent, prepare for, and respond to threats and acts of violence.

Another primary goal of this administration is providing Ohioans with the skills and education needed to fulfill their God-given potential while meeting the current and future workforce needs of our state. With that in mind, the **Workforce Based Training and Equipment (RAPIDS)** capital request focuses on growing and continuing this highly successful program. Funds are used to purchase the equipment needed for job training across Ohio. This allows our colleges, universities, and Ohio Technical Centers, to train students for jobs that are in demand in their region. Our workforce will benefit from another round of support for this valuable program in the upcoming capital biennium. This line item has been flat for the previous six biennia, despite an increased demand for workforce training equipment. Therefore, the amount requested for FY2027-28 is increased, as a result.

Proudly serving more than 800,000 students, faculty, and researchers statewide, the **Ohio Library and Information Network (OhioLINK)** is a strategic cost-saving mechanism for Ohio's academic libraries. Among the best academic library consortia in the world, OhioLINK manages Ohio's scholarly resources while providing students and faculty with access to valuable online collections used for teaching and learning and the lowest-possible cost. In 2024, OhioLINK negotiations, which serve 115 higher education libraries throughout the state as well as the State Library of Ohio, saved member institutions \$1.3 billion in avoided costs.

In 2025, OhioLINK libraries reached an extraordinary milestone with the successful upgrade of shared system software to support teaching, learning, and research for Ohio higher education.

The on-time and on-budget project was the culmination of more than two years of planning and collaboration, encompassing the migration of more than one million titles. The entire OhioLINK consortium, is now fully operational on the state-of-the-art Ex Libris Alma/Primo VE system. This modern, scalable platform will connect seamlessly with the learning environment to lower student costs, enhance academic outcomes, and support ongoing innovation in teaching and research.

In addition to content for OhioLINK, this request includes funding (\$512,514) to assist in maintaining our five library depositories around the state through our **Supplemental Renovations – Library Depositories** program. These regional depositories enable shared, off-site storage of library materials that are important to retain and make available for teaching, learning, and research across the state, but not store on campus. These facilities, located at The Ohio State University, Ohio University, Miami University, Bowling Green State University, and Northeast Ohio Medical University, have a combined capacity of eight million volumes and allow OhioLINK to serve Ohio’s institutions as we must ensure the facilities are maintained to protect our investment in subscriptions and journals. The depositories are the most cost-effective and efficient way to ensure materials are quickly accessible to users on campus and throughout the state.

The **Ohio Academic Resources Network (OARnet)** was created by ODHE in 1987 to provide Ohio researchers with their first online access to the high-performance computing resources of the Ohio Supercomputer Center. Increasing demand for statewide connectivity and increased bandwidth from college and university researchers led to the acquisition of dark fiber to create a highly scalable, statewide 100 Gigabit fiber-optic network. Today, the OARnet network consists of more than 5,500 miles of fiber-optic backbone, blanketing the state and providing connectivity to colleges and universities, K-12 schools, state and local government sites, libraries, health care facilities, research sites, public broadcasting stations, and emergency communications.

Capital resources requested in our FY27-28 capital budget will help OARnet continue to expand its capabilities to meet the technology demands of Ohio’s higher education, K-12, public broadcasting system, libraries, state and local government, and public healthcare.

The **Ohio Supercomputer Center (OSC)** has long been among the most powerful supercomputers in the country, and we want Ohio to remain a leader in supercomputing technology. Established in 1987, the OSC has been a critical shared resource for advancing and securing U.S.-based research by providing high-powered computing resources and expertise that revolutionize all fields of academia and industry, including artificial intelligence (AI) and quantum computing, resulting in significant economic and workforce development success across all sectors and regions of Ohio.

As a centralized facility, OSC provides students, scientists, engineers, and clinicians with far better computational resources than their organizations could acquire and maintain on their own, at a fraction of the cost of alternatives. OSC empowers Ohio researchers leading to new innovations and discoveries; partners with Ohio industries to use supercomputing and computational science as a competitive advantage; and collaborates with colleges and universities to educate Ohio’s future workforce.

This funding request supports two major integrated projects: (1) Supercomputer Upgrade and (2) Storage and Servers for Data Protection. OSC will deploy an updated supercomputer that will be a major upgrade in both capabilities and capacity compared to the system it replaces, which is currently operating well past the typical lifetime for such systems. The funds for this project will also support the customization of data center power, cooling, and other physical infrastructure to support the specific needs of the new supercomputer. The new supercomputer is needed in response to demands from Ohio colleges and universities for OSC to support more students and more academic disciplines, as well as to provide expanded AI technical capabilities being requested by OSC's clients.

The Storage and Servers for Data Protection component will allow OSC to replace aging storage systems that are at the end of their expected operational life, which will upgrade both the capacity and performance of its storage systems to support the ever-growing volume of data, as well as provide new capabilities such as long-term archiving and management now required by many federal grants. This will entail upgrading servers, storage systems, and ensuring integration with existing tape storage across data centers in Columbus and Cleveland, which provide significant disaster recovery and resiliency capabilities.

We also request capital funds for **Technology Initiatives** that will allow ODHE to focus on needed security improvements as well as computational, storage, and network hardware upgrades. We also request resources to enable the continuous, uninterrupted power environment necessary to maintain critical business operations.

The aforementioned projects reflect priorities that will benefit workforce development efforts across Ohio, improve campus safety and security, protect data and technology systems from external threats, and maintain critical IT infrastructure that serves multiple constituents and facilitates collaborative statewide relationships.

I look forward to working with the Office of Budget and Management as the capital bill process moves forward and appropriation decisions are made. Should you have questions or need any additional information from me or my staff, please do not hesitate to call.

Sincerely,



Mike Duffey
Chancellor

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BEA-0021 Capital Improvement Plan - Summary Agency Bud

Agency	Fund Code	ALI	Actual	Appropriation	Request		
			FY 2023-24	FY 2025-26	FY 2027-28	FY 2029-30	FY 2031-32
DHE	7024	C23568 OARNET-Taxable	0	15,768,824	10,000,000	12,500,000	17,000,000
DHE	7024	C23569 Research Facility Action and Investment Funds-Taxable	75,148	2,430,214	0	0	0
Fund 7024 Total			75,148	18,199,038	10,000,000	12,500,000	17,000,000
DHE	7034	C23501 SUPERCOMPUTER CENTER EXPANSION	0	114,131	10,000,000	11,000,000	12,000,000
DHE	7034	C23516 OHIO LIBRARY & INFORMTN NTRK	0	7,856,477	15,187,486	17,090,764	18,131,591
DHE	7034	C23524 SUPP RENO LIBRARY DEPOSITORIES	0	0	512,514	500,000	750,000
DHE	7034	C23529 Workforce Based Training and Equipment	0	0	10,000,000	12,500,000	12,500,000
DHE	7034	C23530 TECHNOLOGY INITIATIVES	251,037	3,543,445	1,000,000	1,000,000	2,000,000
DHE	7034	C23550 SMALL CAMPUS TARG WORK DEV EXP	0	0	0	0	0
DHE	7034	C23551 OHIO INNOVATION EXCHANGE	0	400,000	0	0	0
DHE	7034	C23560 HEI Re-Write	0	2,820,723	0	0	0
DHE	7034	C23562 Capital Improvements -Central State Hallie O Brown Library Upgrades and R	0	0	0	5,000,000	2,500,000
DHE	7034	C23563 Ohio Cyber Range	0	227,256	0	3,721,822	3,000,000
DHE	7034	C23566 Ohio College Safety and Security Grant Program	0	0	7,500,000	7,500,000	7,500,000
Fund 7034 Total			251,037	14,962,032	44,200,000	58,312,586	58,381,591
DHE Total			326,185	33,161,069	54,200,000	70,812,586	75,381,591
Grand Total			326,185	33,161,069	54,200,000	70,812,586	75,381,591

BEA-0021 Capital Improvement Plan - Detail by Fund and Priority Agency Bud

Agency	Fund Code	ALI	Project Type	Service Location	Project Name	Project Priority	FY 2027-28	FY 2029-30	FY 2031-32
DHE	7024	C23568 OARNET-Taxable	INFORMATION TECHNOLOGY	C0089 STATEWIDE	National Exchange Point Connections		0	2,489,993	3,386,449
DHE	7024	C23568 OARNET-Taxable	INFORMATION TECHNOLOGY	C0089 STATEWIDE	Research, Innovation, and Security Support		0	172,187	234,116
DHE	7024	C23568 OARNET-Taxable	INFORMATION TECHNOLOGY	C0089 STATEWIDE	Backbone Upgrade - Next Generation OARNet	4	6,647,000	6,539,262	8,893,397
DHE	7024	C23568 OARNET-Taxable	INFORMATION TECHNOLOGY	C0089 STATEWIDE	Regional Rings Upgrade	4	3,353,000	3,298,558	4,486,038
Fund 7024 Total							10,000,000	12,500,000	17,000,000
DHE	7034	C23566 Ohio College Safety and Security Grant Program	CAPITAL EQUIPMENT	C0089 STATEWIDE	Ohio College Safety and Security Grant Program	1	7,500,000	7,500,000	7,500,000
DHE	7034	C23529 Workforce Based Training and Equipment	CAPITAL EQUIPMENT	C0089 STATEWIDE	Workforce Based Training and Equipment (RAPIDS)	2	10,000,000	12,500,000	12,500,000
DHE	7034	C23501 SUPERCOMPUTER CENTER EXPANSION	INFORMATION TECHNOLOGY	C0089 STATEWIDE	Supercomputer Upgrade	3	7,500,000	7,500,000	7,500,000
DHE	7034	C23501 SUPERCOMPUTER CENTER EXPANSION	INFORMATION TECHNOLOGY	C0089 STATEWIDE	Storage and Servers for Data Protection	3	2,500,000	3,500,000	4,500,000
DHE	7034	C23516 OHIO LIBRARY & INFORMTN NTRWK	INFORMATION TECHNOLOGY	C0089 STATEWIDE	Electronic Journal Content (EJC) Portfolio	5	15,187,486	17,090,764	18,131,591
DHE	7034	C23530 TECHNOLOGY INITIATIVES	CAPITAL EQUIPMENT	C0089 STATEWIDE	Security, F5 Load Balancers (Threat Protection/Disaster Recovery)	6	1,000,000	0	1,200,000
DHE	7034	C23530 TECHNOLOGY INITIATIVES	INFORMATION TECHNOLOGY	C0089 STATEWIDE	Disaster Recovery Site Upgrade	6	0	1,000,000	800,000
DHE	7034	C23524 SUPP RENO LIBRARY DEPOSITORIES	BASIC RENOVATION	C0089 STATEWIDE	Library Depositories - Supplemental Renovations	7	512,514	500,000	750,000
DHE	7034	C23562 Capital Improvements - Central State Hallie O Brown Library Upgrades and R	BASIC RENOVATION	C0089 STATEWIDE	Capital Improvements - Central State	8	0	5,000,000	2,500,000
DHE	7034	C23550 SMALL CAMPUS TARG WORK DEV EXP	SUBSIDY CAPITAL	C0089 STATEWIDE	Small Campus Targeted Assistance	9	0	0	0
DHE	7034	C23563 Ohio Cyber Range	CAPITAL EQUIPMENT	C0089 STATEWIDE	Ohio Cyber Range	10	0	3,721,822	3,000,000
Fund 7034 Total							44,200,000	58,312,586	58,381,591
DHE Total							54,200,000	70,812,586	75,381,591
Grand Total							54,200,000	70,812,586	75,381,591

**New Capital Justification for Department of Higher Education
ALI C23568 OARNET-Taxable, Capital Project 001**

1. List the project name and priority.

OARNET - Backbone Upgrade, Next Generation OARnet Network

2. Description: What is the purpose, dimension, components, capacity, and location of the project?

OARnet's backbone currently spans more than 5,500 miles of highly scalable, fiber-optic cable, serving Ohio's colleges, universities, K-12 schools, medical centers, public broadcasting stations, emergency services, and government entities. This project continues the phased transformation begun in 2020 and accelerated in the FY2025-2026 budget, focusing on:

- Upgrading the optical backbone to support terabit capacity statewide.
- Deploying 400G wave service to further aggregate traffic and improve cost efficiency.
- Ensuring Ohio's position as a national leader in advanced network technology, research, and innovation.
- Developing a faster, dedicated emergency communication network to improve response capabilities statewide.
- Updating the customer premise equipment (CPE) to meet the increased bandwidth and network requirements year after year.
- Providing the foundation for future technologies and supporting the exponential growth in demand for broadband services, including telework, distance learning, telehealth, e-government, and digital transformation.

3. Project Phasing: Can the project be completed and funded in phases?

Project phasing is not possible for this project. OARnet's network supports mission critical services related to state and local government, higher education, and K-12 communities, related healthcare services, libraries, and public broadcasting system. OARnet's role in support of safety related service is continually growing and identifies the need to continually be developing network resilience to ensure maximum up-time and security protection for the network.

4. Cost Estimate Methodology: What method is being used to estimate project costs?

OARnet's aggregate purchasing and shared services approach reduces costs while maintaining high reliability and performance. The network's design enables rapid scaling and adaptation to future needs, supporting both current and emerging applications that depend on robust, secure, and resilient connectivity.

OARnet's next-generation network is strengthened through aggregation purchasing and strategic private-public partnerships that facilitate collaboration and innovation. By collaborating with industry leaders, we diversify and aggregate products and services to deliver cost-effective, resilient solutions for Ohio's community anchor institutions. Notably, almost 100% of our capital budget is invested with the private sector, ensuring competitive sourcing, advanced technologies, and shared expertise that amplify statewide impact.

Overall, these investments will support education, research, public service, and Ohio's economic competitiveness across the country. Due to the constant increase in demand for more network connectivity over the past 37 years, OARnet plans multiple years of enhancements and upgrades, making purchases throughout the year.

5. Operating Cost Impact: What are the anticipated operating costs or savings associated with this project?

There is no operating impact to ODHE for this request.

6. Additional Information: Is there anything else that is useful to know about this project?

**New Capital Justification for Department of Higher Education
ALI C23568 OARNET-Taxable, Capital Project 001**

As OARnet customers increasingly integrate AI into research, education, healthcare, and public services, the demand for scalable, high-capacity bandwidth will grow exponentially. AI workloads are inherently data-intensive, requiring high-throughput, low-latency connections to process, train, and deploy models across distributed environments. OARnet's backbone upgrade and regional enhancements also directly support the Ohio Supercomputer Center's high-performance computing environment, enabling faster data transfer for modeling, simulation, and AI-driven research. As members of the Ohio Technology Consortium, this collaboration ensures that statewide investments in advanced networking are fully leveraged by OSC's computation and storage capabilities, creating a seamless infrastructure for Ohio.

The Next Generation OARnet Terabit Network is being developed to meet these demands, with a 400 Gbps upgrade underway and a roadmap toward 1 Terabit (1,000 Gbps) capacity. Use cases in higher education and research require real-time access to massive datasets and cloud-based AI platforms. Public sector applications use AI to streamline service delivery and enhance cybersecurity, demanding resilient, high-speed connections. K-12 and higher education institutions are adopting AI-driven personalized education platforms, increasing the need for reliable, high-bandwidth connections.

OARnet's fiber-based Dense Wavelength Division Multiplexing (DWDM) optical core, Internet Protocol Multi-Protocol Label Switching (IP/MPLS), and its architectural principle to remain over-provisioned and under-subscribed (i.e., capacity for peak performance) are designed to accommodate large data flows typical of AI applications, real-time healthcare applications, and large scientific data flows. The deployment of Points of Presence (PoPs) across the state enables localized aggregation, thus reducing latency and improving routing efficiency—critical for AI workloads that rely on real-time data processing.

7. Special Project Information (Energy Efficiency, Life and Safety, Legally Mandated, ADA Funding, and/or Prior Funding):

Life and Safety: The OARnet network has been selected to be the backbone for Ohio's Next Generation 911 system. As a result, maintaining and expanding the network is imperative for the success of the NG911 project.

Previous appropriations for overall OARnet line item include: \$13.5M in H.B. 2, \$14M in H.B. 687, \$14.2M in S.B. 310, \$10.2 million in H.B. 529, \$9.1 million in S.B. 310, \$7.0 million in H.B. 497, \$2.0 million in H.B. 482, \$2.0 million in H.B. 562, \$5.0 million in H.B. 699, \$4.5 million in H.B. 16 and \$5.0 million in H.B. 675. Note: In FY12, OARnet received a special capital appropriation for \$13M to upgrade the statewide network to 100 gigabits.

**New Capital Justification for Department of Higher Education
ALI C23568 OARNET-Taxable, Capital Project 002**

1. List the project name and priority.

OARNET - Regional Rings Upgrade

2. Description: What is the purpose, dimension, components, capacity, and location of the project?

The Southwest Ohio Regional Ring project will bring together network resources serving Miami University, Wright State University, University of Cincinnati, Cincinnati State University, Xavier University, Cincinnati Children's Hospital, and the Springfield-Beckley Municipal Airport into a single high-speed, fault-tolerant transport infrastructure. Dense Wavelength Division Multiplexing (DWDM) technology is used to provide a modern fully diverse high-capacity network capable of supporting this community for the next decade. Aggregating commercially available fiber into a regional DWDM network enables organizations to share the cost of a scalable, geographically diverse, redundant transport infrastructure which would be cost prohibitive for each organization to implement individually.

The existing Cincinnati Education Research Fiber (CERF) ring will need to refresh end of life equipment to an upgraded infrastructure in support of higher education and state government entities in the Cincinnati region.

3. Project Phasing: Can the project be completed and funded in phases?

Project phasing is not possible for this project. OARNet's network supports mission critical services related to state and local government, higher education, and K-12 communities, related healthcare services, libraries, and public broadcasting system. OARNet's role in support of safety related service is continually growing and identifies the need to continually be developing network resilience to ensure maximum up-time and security protection for the network.

4. Cost Estimate Methodology: What method is being used to estimate project costs?

OARNet's aggregate purchasing and shared services approach reduces costs while maintaining high reliability and performance. The network's design enables rapid scaling and adaptation to future needs, supporting both current and emerging applications that depend on robust, secure, and resilient connectivity.

OARNet's next-generation network is strengthened through aggregation purchasing and strategic private-public partnerships that facilitate collaboration and innovation. By collaborating with industry leaders, we diversify and aggregate products and services to deliver cost-effective, resilient solutions for Ohio's community anchor institutions. Notably, almost 100% of our capital budget is invested with the private sector, ensuring competitive sourcing, advanced technologies, and shared expertise that amplify statewide impact.

Overall, these investments will support education, research, public service, and Ohio's economic competitiveness across the country. Due to the constant increase in demand for more network connectivity over the past 37 years, OARNet plans multiple years of enhancements and upgrades, making purchases throughout the year.

5. Operating Cost Impact: What are the anticipated operating costs or savings associated with this project?

There is no operating impact to ODHE for this request.

6. Additional Information: Is there anything else that is useful to know about this project?

**New Capital Justification for Department of Higher Education
ALI C23568 OARNET-Taxable, Capital Project 002**

These projects build on OARnet's efforts to expand regional connectivity and redundancy across the state.

- Upgrading regional network rings to improve redundancy, performance, and reliability.
- Expanding Points of Presence (PoPs) in underserved and rural areas to reduce last-mile costs for broadband services to community anchor institutions.
- Supporting improved access to broadband for education, healthcare, and public service.
- Enabling advanced applications and supporting the state's strategy to provide high-speed internet to every citizen and enhance digital literacy.

7. Special Project Information (Energy Efficiency, Life and Safety, Legally Mandated, ADA Funding, and/or Prior Funding):

Life and Safety: The OARnet network has been selected to be the backbone for Ohio's Next Generation 911 system. As a result, maintaining and expanding the network is imperative for the success of the NG911 project.

Previous appropriations for overall OARnet line item include: \$13.5M in H.B. 2, \$14M in H.B. 687, \$14.2M in S.B. 310, \$10.2 million in H.B. 529, \$9.1 million in S.B. 310, \$7.0 million in H.B. 497, \$2.0 million in H.B. 482, \$2.0 million in H.B. 562, \$5.0 million in H.B. 699, \$4.5 million in H.B. 16 and \$5.0 million in H.B. 675. Note: In FY12, OARnet received a special capital appropriation for \$13M to upgrade the statewide network to 100 gigabits.

**New Capital Justification for Department of Higher Education
ALI C23501 SUPERCOMPUTER CENTER EXPANSION, Capital Project 001**

1. List the project name and priority.

Supercomputer Upgrade

2. Description: What is the purpose, dimension, components, capacity, and location of the project?

Project Plan: The Ohio Supercomputer (OSC) will deploy an updated supercomputer which will be a major upgrade in both capabilities and capacity compared to the system it replaces, which is currently operating well past the typical lifetime for such systems. The funds for this project will also support the customization of data center power, cooling, and other physical infrastructure to support the specific needs of the new supercomputer.

Project Need: The new supercomputer is needed in response to demands from Ohio universities for OSC to support more students and more academic disciplines as well as to provide expanded AI technical capabilities being requested by OSC's clients. Faculty and students throughout Ohio are heavily leveraging OSC's 'virtual' computer labs, enabling students to complete classroom assignments in lieu of on-campus computer labs. In addition, more and more academic disciplines are adopting AI technologies and thus using OSC resources, including new areas like farm sciences, architecture, and social studies. The new supercomputer will contain the latest cutting-edge hardware for handling this expanding AI workload.

3. Project Phasing: Can the project be completed and funded in phases?

The "Storage and Servers for Data Protection" project cannot be phased. The "Supercomputer Upgrade" project already represents a multi-biennium, phased project. An additional phase for this project would not make sense due to technology refresh cycles. Fragmentation of the "Supercomputer Upgrade" project would reduce the capabilities of the new system, potentially to below that of the system it is replacing.

4. Cost Estimate Methodology: What method is being used to estimate project costs?

OSC has used reasonable projections based on historical pricing. The sources include previous procurements, proposals to the National Science Foundation (NSF) for systems of similar architecture, and the Green 500 list, which provides performance/power measurements of a variety of architectures.

5. Operating Cost Impact: What are the anticipated operating costs or savings associated with this project?

Implementing this project should have no net impact on OSC's operating costs compared to current expenditures. However, delays in implementation will result in significant additional costs as the hardware scheduled to be replaced will require additional un-budgeted expenses for maintenance and parts.

OSC estimates it provides its clients with an annual cost savings of ~\$50M compared to the expenses they would incur utilizing such alternative service providers.

6. Additional Information: Is there anything else that is useful to know about this project?

**New Capital Justification for Department of Higher Education
ALI C23501 SUPERCOMPUTER CENTER EXPANSION, Capital Project 001**

OSC regularly monitors the potential usage of commercial cloud computing providers such as Amazon Web Services to augment or replace on premises hardware. There are significant challenges to implementing supercomputers in the cloud such as cost, hardware capabilities, and administrative overhead. In addition to cloud computing challenges, clients considering deploying their own on-campus solutions face concerns regarding cybersecurity and energy efficiency.

All OSC projects adhere to NIST Cybersecurity Framework principles and ORC 125.183, as well as complying with the “Buy Ohio products” preferences in ORC 125.01 and 3333.04 as they related to any product that includes semiconductors produced by a company with a significant Ohio economic presence.

7. Special Project Information (Energy Efficiency, Life and Safety, Legally Mandated, ADA Funding, and/or Prior Funding):

Previous appropriations include \$3.5M in H.B.2 (FY25-26), \$7.0M in H.B. 687 (FY23-24), \$7.2M in S.B. 310 (FY21-22), \$6.1M in H.B. 529 (FY19-20), \$6M in S.B. 310 (FY17-18), \$12M in H.B. 497 (FY15-16), \$2M in H.B. 482 (FY13-14), \$2M in H.B. 562 (FY11-12), \$7.5M in H.B. 699 (FY09-10), \$6.8M in H.B. 16 (FY07-08), \$8.5M in H.B. 675 (FY05-06), \$6.5M in H.B. 640 (FY03-04), and \$14.3M in H.B. 850 (FY01-02).

**New Capital Justification for Department of Higher Education
ALI C23501 SUPERCOMPUTER CENTER EXPANSION, Capital Project 002**

1. List the project name and priority.

Storage and Servers for Data Protection

2. Description: What is the purpose, dimension, components, capacity, and location of the project?

Project Plan: OSC will replace aging storage systems that are at the end of their expected operational life, which will upgrade both the capacity and performance of its storage systems to support the ever-growing volume of data, as well as provide new capabilities such as long-term archiving and management now required by many federal grants. This will entail upgrading servers, storage systems and ensuring integration with existing tape storage across two data centers, one located in Columbus and the other in Cleveland, which provides significant disaster recovery and resiliency capabilities.

Project Need: The data sets stored at OSC are extremely high value due to the human effort, computational resources, and external instrumentation and experiments that went into their creation. OSC also supports research that employs data governed by legal and regulatory directives such as the Health Insurance Portability and Accountability Act (HIPAA) and International Traffic in Arms Regulations (ITAR). OSC clients are also now requesting the ability to support Controlled Unclassified Information (CUI) and the CMMC federal standards. All data at OSC must be protected against system failures, accidental deletion, and the threats of ransomware, as well as provide the protections required under related laws and regulations.

3. Project Phasing: Can the project be completed and funded in phases?

The “Storage and Servers for Data Protection” project cannot be phased. The “Supercomputer Upgrade” project already represents a multi-biennium, phased project. An additional phase for this project would not make sense due to technology refresh cycles. Fragmentation of the “Supercomputer Upgrade” project would reduce the capabilities of the new system, potentially to below that of the system it is replacing.

4. Cost Estimate Methodology: What method is being used to estimate project costs?

OSC has used reasonable projections based on historical pricing. The sources include previous procurements, proposals to the National Science Foundation (NSF) for systems of similar architecture, and the Green 500 list, which provides performance/power measurements of a variety of architectures.

5. Operating Cost Impact: What are the anticipated operating costs or savings associated with this project?

Implementing this project should have no net impact on OSC’s operating costs compared to current expenditures. However, delays in implementation will result in significant additional costs as the hardware scheduled to be replaced will require additional un-budgeted expenses for maintenance and parts.

6. Additional Information: Is there anything else that is useful to know about this project?

**New Capital Justification for Department of Higher Education
ALI C23501 SUPERCOMPUTER CENTER EXPANSION, Capital Project 002**

OSC regularly monitors the potential usage of commercial cloud computing providers such as Amazon Web Services to augment or replace on-premises hardware. There are significant challenges to implementing supercomputers in the cloud such as cost, hardware capabilities, and administrative overhead. In addition to cloud computing challenges, clients considering deploying their own on-campus solutions face concerns regarding cybersecurity and energy efficiency. OSC estimates it provides its clients with an annual cost savings of ~\$50M compared to the expenses they would incur utilizing such alternative service providers.

All OSC projects adhere to NIST Cybersecurity Framework principles and ORC 125.183, as well as complying with the “Buy Ohio products” preferences in ORC 125.01 and 3333.04 as they relate to any product that includes semiconductors produced by a company with a significant Ohio economic presence.

7. Special Project Information (Energy Efficiency, Life and Safety, Legally Mandated, ADA Funding, and/or Prior Funding):

Previous appropriations include \$3.5M in H.B.2 (FY25-26), \$7.0M in H.B. 687 (FY23-24), \$7.2M in S.B. 310 (FY21-22), \$6.1M in H.B. 529 (FY19-20), \$6M in S.B. 310 (FY17-18), \$12M in H.B. 497 (FY15-16), \$2M in H.B. 482 (FY13-14), \$2M in H.B. 562 (FY11-12), \$7.5M in H.B. 699 (FY09-10), \$6.8M in H.B. 16 (FY07-08), \$8.5M in H.B. 675 (FY05-06), \$6.5M in H.B. 640 (FY03-04), and \$14.3M in H.B. 850 (FY01-02).

**New Capital Justification for Department of Higher Education
ALI C23516 OHIO LIBRARY & INFORMTN NTRK, Capital Project 001**

1. List the project name and priority.

Electronic Journal Content (EJC) Portfolio

2. Description: What is the purpose, dimension, components, capacity, and location of the project?

Part of the OhioLINK Digital Library, the EJC portfolio provides OhioLINK institutions full access to the most recent, cutting-edge research in the STEM disciplines (science, technology, engineering, and mathematics), including biomedicine, agriculture, engineering, and chemistry, as well as business, social science, and humanities. Because journal articles are published more quickly than books, journals are essential resources for classroom learning at the undergraduate and graduate levels and are indispensable for research programs at member institutions.

The shared online EJC portfolio is available to more than 800,000+ students, faculty, and researchers through libraries at 86 OhioLINK member colleges and universities - and additionally to Ohio's 50,000+ state employees and Ohio citizens via the State Library of Ohio. Electronic journals are critical for supporting higher learning institutions and all Ohioans in a lifetime of learning. Ohio-based researchers, students, entrepreneurs, small businesses, and startups have access to valuable, credible materials for research and education.

3. Project Phasing: Can the project be completed and funded in phases?

Project phasing is not possible for this project. Request represents an increase from prior biennium, as flat funding would result in cuts to content.

4. Cost Estimate Methodology: What method is being used to estimate project costs?

Estimates for the EJC Portfolio request are based on quotes from the sole source vendors.

5. Operating Cost Impact: What are the anticipated operating costs or savings associated with this project?

Strength in numbers: OhioLINK's collective buying and bargaining results in 97% off the list price and more than \$1 billion in avoided costs every year.

OhioLINK member institutions receive this level of discount via bundled packages content that is negotiated, secured, and managed by OhioLINK. This content and the available discounts are designed to meet the needs of all members.

Through the EJC, OhioLINK members have access to more essential digital research content than any single institution could afford individually (even Ohio's largest research universities), while simultaneously achieving an aggregated discount of 97% off the list price. OhioLINK's consortial approach makes content available that would be financially inaccessible to most individual Ohio institutions, including smaller public and private institutions, and community, technical, and regional colleges.

In addition, OhioLINK negotiates a lower rate of annual increase for these content packages (1.7% last year, compared to the 4% that non-OhioLINK institutions paid); for example, some libraries pay between 12% and 15% per year on an individual basis for medical journals not in the OhioLINK EJC portfolio.

6. Additional Information: Is there anything else that is useful to know about this project?

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ALI C23516 OHIO LIBRARY & INFORMTN NTWRK, Capital Project 001**

OhioLINK's EJC portfolio ensures that all institutions, regardless of geography, research funding or endowments, have access to the latest knowledge at a spectacular price. It provides a potent recruiting and retention tool for faculty and graduate students for Ohio research institutions; it allows institutions to meet accreditation standards and quickly develop new programs without additional local investment and time; and it allows member libraries to use their limited local funds to support their local, specialized curriculum, including many affordable learning initiatives on campuses—initiatives that have emanated from and are implemented by the libraries.

For Ohio to continue to innovate and develop economic advantages driven by higher education, continued access to the shared content of the EJC is a must. The published research in the EJC portfolio is the raw material for the knowledge economy, from cutting edge ideas in advanced manufacturing, semiconductor and biomedical research to the latest scholarship on the opioid crisis.

7. Special Project Information (Energy Efficiency, Life and Safety, Legally Mandated, ADA Funding, and/or Prior Funding):

Previous appropriations include \$16.3M in H.B.2, \$22.6M in H.B. 687, \$14.0M in S.B 310, \$13.8 million in H.B. 529, \$13.4 million in S.B. 310; \$12 million in H.B. 497; \$9 million in H.B.482; \$9.9 million in H.B. 562; \$5.4 million in H.B. 699; \$8.1 million in H.B. 16; \$8.2 million in H.B. 675; \$7.5 million in H.B. 640 and \$6.5 million in H.B. 850

**New Capital Justification for Department of Higher Education
ALI C23524 SUPP RENO LIBRARY DEPOSITORIES, Capital Project 001**

1. List the project name and priority.

Library Depositories - Supplemental Renovations

2. Description: What is the purpose, dimension, components, capacity, and location of the project?

The materials stored in the depositories represent a collective institutional investment of approximately \$4 billion in books and other materials that are still used throughout the state. The depositories fill requests daily for delivery of research materials through OhioLINK courier delivery services and Interlibrary Loan.

The funds for construction, repair, and basic delivery tools in this request are critical to assure that the collections are kept in climate-controlled, safe, and secure environments and protect Ohio's academic libraries' investments and to ensure continued access to important research materials. There is simply nowhere else to store 8 million volumes but in facilities such as these.

Storing print books is often more cost-effective than creating digital copies, primarily due to the substantial expenses associated with the digitization process. Converting print books into electronic formats involves sophisticated scanning technology, skilled personnel, quality control measures, and compliance with copyright law. The investment in equipment, software, and trained professionals can be substantial, particularly for large collections of diverse materials. Additionally, the ongoing maintenance of digital archives requires significant resources, including server space, data backup systems, and regular updates to address technological advancements. While the wear and tear on print books must be considered, the overall cost of maintaining physical collections often remains more reasonable than the continuous investments required for the digital conversion, storage, and upkeep of vast literary archives.

To continue providing the benefits and cost savings, periodic investment in the depository system is necessary. The materials housed in these facilities are available to all OhioLINK institutions, both public and private, and to citizens of Ohio through the lending partnership with SearchOhio public libraries; the value of this program extends beyond the students, faculty and staff at the public universities.

In addition, the Regional Depository Governing Council has been working for more than 10 years to de-duplicate journal holdings among the contributing libraries. While good progress has been made, additional study, including reviewing book holdings for duplication, would assist us in this work in an efficient manner.

3. Project Phasing: Can the project be completed and funded in phases?

The work being proposed needs to be completed over the biennium 2027-2028 budget cycle. Most of the projects need to be completed during the first year of the biennium. Southeast has requested pavement resurfacing during the second year of the biennium, and SWORD is requesting a generator in the second year of the biennium. Equipment replacement needs to be addressed as soon as possible.

4. Cost Estimate Methodology: What method is being used to estimate project costs?

Estimates of renovations were provided by the five regional library depositories.

5. Operating Cost Impact: What are the anticipated operating costs or savings associated with this project?

**New Capital Justification for Department of Higher Education
ALI C23524 SUPP RENO LIBRARY DEPOSITORIES, Capital Project 001**

The Regional Depository Network’s 30 plus years of collaborative shared services and facilities among all the public universities demonstrates the sustainable success of stewarding collections and efficiently providing access through either inter-campus delivery or digitization activities, exactly the types of initiatives that the Ohio Task Force on Affordability and Efficiency has recommended in order to increase efficiencies on campuses and “watchdog” student and operating costs.

6. Additional Information: Is there anything else that is useful to know about this project?

The \$4 billion investment in library materials currently housed in the five depositories will continue to be safeguarded by responsible stewardship. Students and researchers will continue to have access to an expanded library collection to support teaching, learning and research and will not have to spend their own money on material. The Regional Library Depository Program will continue to be an exemplary and successful model for shared services and facilities among Ohio public institutions of higher education and beyond.

7. Special Project Information (Energy Efficiency, Life and Safety, Legally Mandated, ADA Funding, and/or Prior Funding):

The Regional Library Depository Program has received funding since 1995. Recent appropriations were \$944,068 in H.B. 2, \$600,000 in H.B. 687; \$519,650 in SB 310; \$447,000 in HB 529; \$1,150,000 in SB 310; \$2,000,000 in HB 497; \$2,000,000 in HB 482; \$5,500,000 in HB 562; and \$2,000,000 in HB 699.

**New Capital Justification for Department of Higher Education
ALI C23529 Workforce Based Training and Equipment, Capital Project 001**

1. List the project name and priority.

Workforce Based Training and Equipment (RAPIDS)

2. Description: What is the purpose, dimension, components, capacity, and location of the project?

RAPIDS provides public institutions of higher education with grants to purchase equipment to expand and improve workforce development education and training on a regional basis. The project will have a statewide impact with participation by every community college and public university, and opportunities for private colleges and universities and Ohio Technical Centers to participate through partnerships with public higher education institutions.

Institutional equipment purchases receive support from local and regional businesses as an identified resource to improve workforce-related education and training.

Institutions of higher education and their educational partners lack the resources to purchase the needed equipment that enables students - after completing an educational or training program - to transition into the workplace. The equipment supports education and training that allows students the opportunity to qualify for positions in regional in-demand occupations.

3. Project Phasing: Can the project be completed and funded in phases?

The RAPIDS initiative makes all the funding available at one time to the institutions through a regional allocation and Request for Proposals process.

4. Cost Estimate Methodology: What method is being used to estimate project costs?

ODHE receives third-party cost estimates for all equipment purchases as part of a proposal to ensure the institutions are planning their purchases. This review occurs before ODHE seeks Controlling Board approval to transfer funds to institutions. All awardees are required to follow proper state and institutional procurement policies prior to seeking release of funds from the Controlling Board.

5. Operating Cost Impact: What are the anticipated operating costs or savings associated with this project?

The Ohio Department of Higher Education will not incur additional costs. Participating institutions may see maintenance and supply costs related to the use of the equipment, but these funds save the institutions by allowing them to purchase equipment without using their own funds.. This equipment is often shared with regional partners.

The program also continues to complement equipment resources from previous funding rounds to leverage regional private investment, industry strengths, and ongoing college and university support.

6. Additional Information: Is there anything else that is useful to know about this project?

Capital appropriations will be used to support RAPIDS. Equipment from previous RAPIDS investments has been used to educate and train over 44,000 students and partnered with nearly 600 businesses based on reported data. ODHE anticipates increased usage as institutions expand program offerings and develop new public-private partnerships.

7. Special Project Information (Energy Efficiency, Life and Safety, Legally Mandated, ADA Funding, and/or Prior Funding):

**New Capital Justification for Department of Higher Education
ALI C23529 Workforce Based Training and Equipment, Capital Project 001**

This program has been funded for more than ten (10) consecutive biennia, originally under CAP-062 (Non-Credit Job Training Facilities Grants). Appropriations for the last five biennia include: \$8,000,000 in HB 2 (135th GA); \$7,600,000 in HB 687 (134th GA); \$7,600,000 in SB 310 (133rd GA); \$8,000,000 in HB 529 (132nd GA); \$8,000,000 in SB 310 (131st GA)

**New Capital Justification for Department of Higher Education
ALI C23530 TECHNOLOGY INITIATIVES, Capital Project 001**

1. List the project name and priority.

Security, F5 Load Balancers (Threat protection / Disaster Recovery)

2. Description: What is the purpose, dimension, components, capacity, and location of the project?

As part of our ongoing efforts to remain current with the security of our infrastructure, we recommend replacing the F5 load balancers with a next-generation solution offering enhanced performance, automation, and advanced security capabilities supporting a zero-trust architecture. This upgrade is critical to address evolving cyber threats, improve operational efficiency, and support future scalability. The next-generation hardware will provide additional capacity for Web Application Firewall (WAF) improvements, add TLS 1.3 modern cipher support, distributed denial-of-service (DDoS) threat protection with the ability to protect application interfaces. This project allows for greater protection in the event of a malicious attacks at the application layer. Components of this project will be located at the State of Ohio Computer Center (SOCC) (Central Ohio), and our disaster recovery location of Blue Bridge Networks (Northern Ohio).

SI is focusing on Bot protection for web applications and supporting data exchanges. Of the 135 supported business services, 72 of them rely on the load balancer and security protection. Current limitations to our Bot defense are causing minor service outages based on the amount of unwanted traffic making it to the shared web servers.

3. Project Phasing: Can the project be completed and funded in phases?

Phasing for these projects would impact dependent areas of the infrastructure, provide unnecessary risk for member organizations, and require potential rework for newly developed shared services. The projects will be completed within the biennium.

4. Cost Estimate Methodology: What method is being used to estimate project costs?

Costing methodology used is based on like purchases of technology with existing discount structures; in some cases, we have gone through the process to quote what is necessary to fulfill the project.

5. Operating Cost Impact: What are the anticipated operating costs or savings associated with this project?

There is no operating impact for this request. Funding for this project could reduce outages, and thus the downtime of state employees.

6. Additional Information: Is there anything else that is useful to know about this project?

**New Capital Justification for Department of Higher Education
ALI C23530 TECHNOLOGY INITIATIVES, Capital Project 001**

Not only is it necessary to enhance the security threat protection model for web applications and application interfaces, but components of these improvements can also be used in parallel for production services which increases efficiency of day-to-day operations (proactive protection vs reactive incident response). This is critical as we add and support more services through the Shared Services and protection against security attacks.

Failure to fund this request would have direct impacts to all consortia members and the Department of Higher Education. Other shared services projects that would be impacted include partnerships with the Department of Education, Jobs and Family Services, Higher Education Institutions and over 650,000 students. Relying on the increased OARnet network capacity, student's access over \$350 million worth of OhioLINK's digital content stored within SI at a cumulative rate of over 1 million hits per day.

Additionally, each year over 6,000 students across 36 institutions rely on OhioLINK's Electronic Thesis and Dissertation center (ETD), a custom web application developed by SI, to fulfill their graduate degree requirements for graduation. Also, within this infrastructure is the Higher Education Information (HEI) system, for ODHE, which is used for a variety of purposes that include data and analytics on higher education outcomes, funding formula and financial aid program support, policy analysis, research, strategic planning, and subsidy calculations for distributions which exceed \$2 billion for public institutions of higher education.

Without this project, our web application security protection will not keep up with industry standards and threat evolution. Service uptime will continue to be affected as distributed denial-of-service (DDoS) attacks happen randomly which overload the webservers if not caught at the front door. This vulnerability could lead to resource exhaustion, degraded performance, or even a potential denial-of-service incident. In today's threat landscape, where automated attacks and reconnaissance are increasingly sophisticated, the load balancer upgrade is a critical component of our cybersecurity resilience.

7. Special Project Information (Energy Efficiency, Life and Safety, Legally Mandated, ADA Funding, and/or Prior Funding):

OH-TECH SI previously requested funding through the Technology Initiatives line-item request; in some cases, funds were transferred by ODHE for specific projects, in other cases a lump sum transfer was made to cover multiple projects. Previous appropriations include \$1.5M in H.B. 2 (FY25/26), \$2.35M in H.B. 687 (FY23/24), \$2.5M in S.B. 310 (FY21/22), \$2.5 million in H.B. 529 totaling, and \$2.5 million in S.B. 310 (FY17/18).

**New Capital Justification for Department of Higher Education
ALI C23566 Ohio College Safety and Security Grant Program, Capital Project 001**

1. List the project name and priority.

Ohio College Safety and Security Grant Program

2. Description: What is the purpose, dimension, components, capacity, and location of the project?

Established by Governor DeWine, the Ohio College Safety and Security Grant Program offers grants to state institutions of higher education for eligible security improvements that assist in improving the overall physical security and safety of buildings on Ohio's public campuses. Federal funding for physical security improvements has historically been limited to K-12 entities; we are not aware of another program ever available at the state level to address higher education physical safety needs. The College Safety and Security Grant is the first of its kind in Ohio – and potentially the nation – and our campuses have demonstrated a clear need for this opportunity and additional funding.

As part of the FY2025-26 College Safety and Security Grant Program, 28 public colleges and universities in Ohio shared a total of \$7.5 million in funding for a variety of security projects. Funds covered physical security enhancements such as security cameras, fencing, lighting, door locks, and portable surveillance trailers. That appropriation was an increase from the \$5 million appropriation in the FY21-22 and FY23-24 capital biennia and helped meet the increased demand from our campuses. We request a modest increase in this next biennium to continue the administration's focus on helping our campuses prevent, prepare for, and respond to threats and acts of violence.

3. Project Phasing: Can the project be completed and funded in phases?

Campus Safety Grant Program capital funds are requested in each biennium of this six-year plan. The institutions have demonstrated a clear need for continued funding in FY27-28. The FY21-22 capital bill was the first time the Campus Safety Grant Program received state capital appropriation. This third phase of capital funding in FY25-26 was critical to continue to address unmet safety and security projects on Ohio's college and university campuses, and the fourth phase of funding in FY27-28 will continue to address these needs as they arise.

4. Cost Estimate Methodology: What method is being used to estimate project costs?

This request will not cover all needs of the institutions, as demand is greater than the current funding levels.

5. Operating Cost Impact: What are the anticipated operating costs or savings associated with this project?

The Ohio Department of Higher Education will not accrue additional operating costs. Capital appropriations are used only for equipment expenditures that meet all of the allowable capital expenditure guidelines for capital funds.

6. Additional Information: Is there anything else that is useful to know about this project?

Improving the overall physical security and safety of buildings on public campuses throughout Ohio is a top priority. These capital funds will address campus vulnerabilities identified in campus safety assessments. Campus safety assessments and proposed safety projects are conducted by experienced security, law enforcement, or military personnel, in close coordination with safety and security experts at ODPS.

7. Special Project Information (Energy Efficiency, Life and Safety, Legally Mandated, ADA Funding, and/or Prior Funding):

Prior appropriations include: \$7,500,000 in HB 2; \$5,000,000 in HB 687; \$5,000,000 in SB 310

**New Capital Justification for Department of Higher Education
ALI C23566 Ohio College Safety and Security Grant Program, Capital Project 001**