BOARD OF VISITORS

MEETING

August 27-28, 2024

Virginia Polytechnic Institute and State University

(As of 8/13/2024)

Board of Visitors Meeting Schedule
August 26-28, 2024

Monday, August 26: *Attire is business casual.*

Morning	BOV members arrive in Blacksburg; check into The Inn
9:40 a.m.	**Depart** via bus for **Pete Dye River Course, 8400 River Course Drive, Radford, VA**
10:00 a.m.	**Continental breakfast**
10:30 a.m.	**Retreat introduction** by Rector Baine and President Sands
10:40 a.m.	BOV Orientation – briefing on legal and regulatory responsibilities
11:00 a.m.	**Presentation** on Building a New Era for Higher Education and Employer Alignment by Kristen Fox, CEO of the Business Higher Education Forum, followed by discussion
11:45 a.m.	**Lunch for Board members** and retreat participants **Executive Committee** meets separately in Open, then Closed Session with President Sands
12:45 p.m.	**Retreat Session 1: Academic Resource Alignment**
2:25 p.m.	Break – **Annual BOV group photo and new member individual photos**
2:40 p.m.	**Retreat Session 2: Virginia Tech Global Distinction**
5:00 p.m.	**Reception/dinner** for Board members and retreat participants

Tuesday, August 27: *Attire is business/business casual; meetings are at the Inn in Latham A/B.*

Morning	Board members (except committee chairs) have breakfast on their own.
8:00 a.m.	**Committee Chairs** meet with Administrators in Open Session in Old Guard at the Inn
9:00 a.m.	**Information Session**
10:30 a.m.	**Academic, Research, and Student Affairs Committee** meets in Closed and Open Sessions
12:45 p.m.	**Lunch** for Board Members and invited administrators in Latham CDEF
2:00 p.m.	**Buildings and Grounds Committee** departs for tours of the Veterinary Medicine Teaching Hospital and the renovated War Memorial Hall, then meets in Open Session in Latham A/B. **All Board members are encouraged to attend.**
6:15 p.m.	**Dinner for Board members** (and spouses/guests) and invited administrators

BOARD MEMBERS ARE ENCOURAGED TO ATTEND OTHER COMMITTEE MEETINGS WHENEVER THEIRS IS NOT IN SESSION

Wednesday, August 28: *Attire is business/business casual. All morning meetings at the* Inn in Latham A/B

Morning	**Breakfast** on your own.
8:00 a.m.	**Compliance, Audit, and Risk Committee** meets in Closed, then Open Sessions
9:30 a.m.	**Finance & Resource Management Committee** meets in Closed, then Open Sessions
11:00 a.m.	**Finance & Resource Management and Buildings & Grounds Committees** meet jointly In Open Session
11:30 a.m.	**Lunch** for Board Members with Deans and VPs in Latham CDEF
1:15 p.m.	**Full Board Meeting** in Torgersen Hall Board Room (2100)
4:00 p.m.	(time approximate) Meeting adjourns. Board members depart Blacksburg

BOARD MEMBERS ARE ENCOURAGED TO ATTEND OTHER COMMITTEE MEETINGS WHENEVER THEIRS IS NOT IN SESSION

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Tab B **Information Session Agenda** – Tuesday, August 27, 2024

Tab C **Open Session Agenda** – Wednesday, August 28, 2024

Tab D **Full Board Meeting** – Announcements
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Tab E **Approval of Consent Agenda Open Items**
- Minutes from June 11, 2024, BOV Meeting
- Minutes from August 26, 2024, Executive Committee Meeting
- Minutes of Retreat – Monday, August 26, 2024
- Minutes from August 27, 2024, Committee Chairs Meeting
- Minutes of Information Session – Tuesday, August 27, 2024
- Academic, Research, and Student Affairs Committee General Report – Tuesday, August 27, 2024, Meeting
- Buildings and Grounds Committee General Report – Tuesday, August 27, 2024, Meeting
- Compliance, Audit, and Risk Committee General Report – Wednesday, August 28, 2024, Meeting
- Finance and Resource Management Committee General Report – Wednesday, August 28, 2024, Meeting
- Approval of Resolution to Revise the Board of Visitors Bylaws
- Resolution for Exclusion of Certain Officers/Directors
- Resolution for Updates to the Student Code of Conduct for the 2024-25 Academic Year
- Resolution to Approve Revisions to the Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods
- Approval of Revisions to and Renewal of University-Related Corporations Affiliation Agreements
- Approval of Subscription-Based IT Arrangement (SBITA) with Amazon Web Services
- Report of Research and Development Disclosures (no action required)

Tab F **Report of the Academic, Research, and Student Affairs Committee** - Agenda/Briefing Report

Tab G **Academic, Research, and Student Affairs Committee Agenda Items for Board Approval**
- Resolution Approving the Policy on Student Athlete Participation in Name, Image, Likeness Opportunities

Tab H **Report of the Buildings and Grounds Committee** - Agenda/Briefing Report

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- **Approval of Resolution for a Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion

Tab J **Report of the Compliance, Audit, and Risk Committee** – Agenda/Briefing Report

Tab K **Report of the Finance and Resource Management Committee** – Agenda/Briefing Report

Tab L **Finance and Resource Management Committee Agenda Items for Board Approval**
- Approval of Year-to-Date Financial Performance Report (July 1, 2023 – June 30, 2024)
- ** Approval of Resolution for a Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion

Tab M **Open Session President's Report and Items for Board Approval**
- Resolutions of Appreciation (5)

Tab N **<u>Constituent Reports – (No action required)</u>** Time permitting, Constituent Reports will be delivered at the Board's Information Session Tuesday, August 27, 2024

- Undergraduate Student Representative to the Board – Leslie Orellana
- Graduate/Professional Student Representative to the Board – William Poland
- Staff Representative to the Board – LaTawnya Burleson
- Administrative and Professional Faculty Representative to the Board – Janice Austin
- Faculty Representative to the Board – Rachel Miles

Tab O **Motion to Begin Closed Session**

Tab P **Closed Session Agenda** – Wednesday, August 28, 2024

Tab Q **<u>Closed Session Salary and Personnel Actions for Board Approval</u>**

- Resolution to Approve Appointments to Emeritus/a Status (10)
- Resolution to Approve Appointments to Endowed Chairs, Professorships, or Fellowships (5)
- Resolution to Approve Appointments with Tenure (8)
- *Resolution to Ratify Personnel Changes Report

Tab R **<u>Closed Session President's Report and Items for Board Approval</u>**

- Approval of Resolutions for Facility Namings (5)

Tab S **Closed Session Reports** – (No action required)

- Litigation Report

Tab T **Motion to Return to Open Session**

These items have been reviewed by the Academic, Research, and Student Affairs Committee and the Finance and Resource Management Committee of the Board of Visitors.

****These items have been reviewed by the Buildings and Grounds Committee and the Finance and Resource Management Committee of the Board of Visitors.***

<u>There is no public comment period at this meeting.</u>

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

CURRENT MEMBERS OF THE BOARD OF VISITORS:

Mr. Edward H. Baine, Rector
Mr. David L. Calhoun, Vice Rector
Ms. Sandy C. Davis
Dr. Nancy Dye
Mr. William Holtzman
Mr. Donald Horsley
Ms. Anna L. James
Ms. Starlette Johnson
Ms. Letitia A. Long
Honorable Ryan D. McCarthy
Mr. Jim Miller
Mr. J. Pearson
Mr. John Rocovich, Jr.
Ms. Jeanne Stosser

Undergraduate Student Representative: Leslie Orellana
Graduate/Professional Student Representative: William Poland
Staff Senate Representative: LaTawnya Burleson
Administrative and Professional Faculty Representative: Janice Austin
Faculty Senate Representative: Rachel Miles

ADMINISTRATIVE STAFF:

Dr. Timothy D. Sands: President
Dr. Cyril R. Clarke: Executive Vice President and Provost
Ms. Amy Sebring: Executive Vice President and Chief Operating Officer

Mr. Simon Allen: Vice President for Finance and Chief Financial Officer
Ms. Lynsay Belshe: Vice President for Auxiliary and Business Services
Mr. Dwyn Taylor: Vice President for Campus Planning, Infrastructure, and Facilities
Dr. Lance Collins: Vice President and Executive Director for the Innovation Campus
Dr. Michael J. Friedlander: Vice President for Health Sciences and Technology
Mr. Bryan Garey: Vice President for Human Resources
Dr. Guru Ghosh: Vice President for Outreach and International Affairs
Dr. Frances B. Keene: Vice President for Student Affairs
Ms. Sharon M. Kurek: Vice President for Audit, Risk, and Compliance and Chief Risk Officer
Dr. Steven H. McKnight: Vice President for Strategic Research Alliances
Ms. Kim O'Rourke: Vice President for Policy and Governance and Secretary to the Board
Mr. Mark Owczarski, Interim Vice President for Communications and Marketing
Mr. Charles D. Phlegar: Senior Vice President for Advancement
Ms. Sharon Pitt: Vice President for Information Technology and Chief Information Officer
Dr. Menah Pratt: Vice President for Strategic Affairs and Diversity
Dr. Daniel Sui: Senior Vice President and Chief Research and Innovation Officer
Dr. Lisa J. Wilkes: Vice President for Strategic Initiatives and Special Assistant to the President
Mr. Christopher Yianilos: Vice President for Government and Community Relations

Ms. Kay K. Heidbreder: University Legal Counsel

BOARD OF VISITORS
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Committee Assignments for 2024-25

Academic, Research, and Student Affairs Committee
Nancy Dye*, Committee Chair*
Sandy Davis
Bill Holtzman
Don Horsley
Tish Long
J. Pearson
Jeanne Stosser

Buildings and Grounds Committee
Tish Long, *Committee Chair*
Sandy Davis
Nancy Dye
Bill Holtzman
Don Horsley
J. Pearson
Jeanne Stosser

Compliance, Audit, and Risk Committee
Anna James, *Committee Chair*
Dave Calhoun
Starlette Johnson
Ryan McCarthy
Jim Miller
John Rocovich

Finance and Resource Management Committee
Dave Calhoun, *Committee Chair*
Anna James
Starlette Johnson
Ryan McCarthy
Jim Miller
John Rocovich

Governance and Administration Committee
Sandy Davis, *Committee Chair*
Dave Calhoun
Nancy Dye
Anna James
Tish Long

Executive Committee (6 members)
Ed Baine, Rector
Nancy Dye, *Academic, Research, and Student Affairs Committee Chair*
Tish Long, *Buildings & Grounds Committee Chair*
Anna James, *Compliance, Audit, and Risk Committee Chair*
Dave Calhoun, Vice Rector, *Finance and Resource Management Committee Chair*
Sandy Davis, *Governance and Administration Committee Chair*

The Rector is an ex officio member of all standing committees when in attendance.

The constituent representatives will sit in on the committee meetings of their choice:
Faculty Senate President – Rachel Miles
Administrative and Professional Faculty Senate President – Janice Austin
Staff Senate President – LaTawnya Burleson
Graduate/Professional Student Representative – William Poland
Undergraduate Student Representative – Leslie Orellana

Virginia Tech Board of Visitors Retreat Agenda

Monday, August 26, 2024
10:30 a.m. – 5:00 p.m.

Pete Dye River Course
8400 River Course Drive, Radford, VA 24141

Welcome and Opening Remarks

- Ed Baine – Rector
- Tim Sands - President

Orientation – Board Basics: Legal and Regulatory Responsibilities of the Board

- Kay Heidbreder – University Legal Counsel

Discussion Topic 1: Academic Resource Alignment

Guest Speaker**:** Kristen Fox, CEO of the Business Higher Education Forum –
"Building a New Era for Higher Education and Employer Alignment"

Presenters:

- Tim Sands - President
- Cyril Clarke - Executive Vice President and Provost
- Rachel Holloway - Vice Provost for Undergraduate Academic Affairs

Engagement questions for Board discussion

Discussion Topic 2: Virginia Tech Global Distinction

Presenters (in speaking order):

- Tim Sands - President
- Dan Sui - Senior Vice President for Research and Innovation
- Cyril Clarke - Executive Vice President and Provost
- Michael Friedlander - Vice President for Health Sciences and Technology; Executive Director, Fralin Biomedical Research Institute
- Amy Sebring – Executive Vice President and Chief Operating Officer
- Sally Allain – Chief Health Sciences Growth & Innovation Officer

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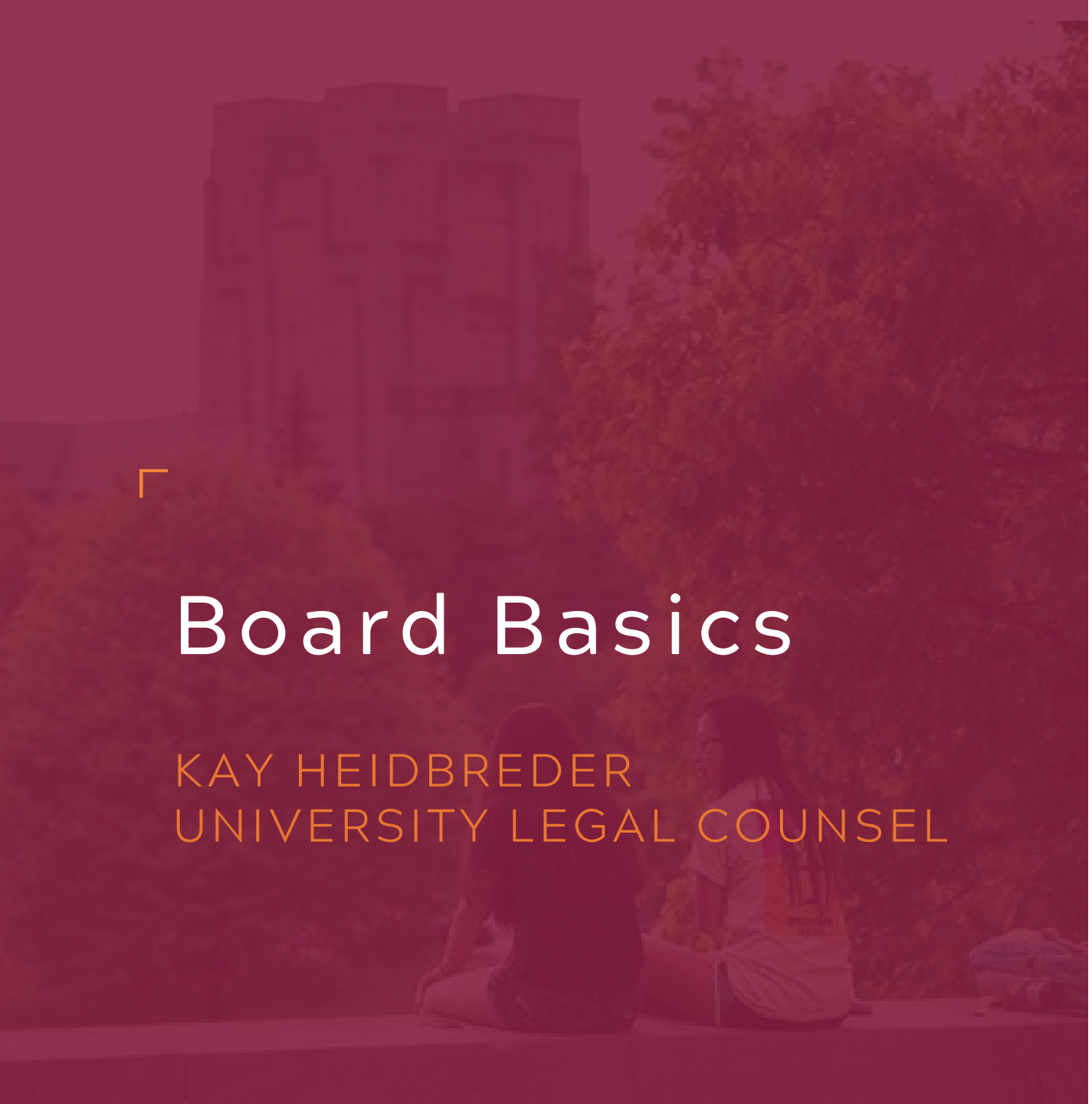
Engagement questions for Board discussion

Opening Remarks
by
Rector Baine and President Sands



Board Basics

KAY HEIDBREDER
UNIVERSITY LEGAL COUNSEL

VIRGINIA TECH™

Legal Framework for Public Institutions

- Article VII of the Virginia Constitution
- Enabling legislation (Va. Code § 23.1-2600 et seq.)
- Title 23.1 of the Code of Virginia
  - Statutorily assigned powers and duties
  - Coordination by State Council of Higher Education (SCHEV)
- Restructuring Act/ Management Agreement

External Regulation

- Federal Government
  - U.S. DOE laws and regulations (Title IX, Clery, FERPA)
  - Financial Aid Participation Agreement
  - Grants Administrations (NSF, NEA)
- Accreditation by SACSCOC

Board Directives

The Board exercises its authority through collective action:

- Majority vote
- Open Session- Freedom of Information Act requirement
- Quorum Present

Freedom of Information Act

Government in the Sunshine

Board Meetings

FOIA Requirements:

- All meetings open to the public
- 3 members discussing institutional business constitutes a meeting
- Do not hit reply all on emails
- 3 day public notice must be provided
- Minutes must be taken
- Closed sessions allowed under very limited circumstances
- Public streaming of official meeting of full board

Board Records

- Default is that all records created by Board members in the transaction of public business are accessible under FOIA.
- Application of exemptions determined at the institutional level
  - Virginia Tech has a statutorily required FOIA officer
- Members are not required to create records, but once created, records must be maintained according to the Public Records Act
- Caution smartphone, texts, meeting notes, etc. are board records

Conflict of Interests Act

- Prevent accrual of personal financial interest of $ 5,000 or more
  - Members are prohibited from contracting with Virginia Tech
- Avoid appearance of impropriety
- Opportunity for opinion from Ethics Advisory Council or Attorney General

Conflict of Interests Act

Compliance Requirements

- Training to be completed within 2 months of assuming office and every 2 years thereafter
- Filing of disclosure forms upon assuming office and every February 1 thereafter

Relationship with the Virginia Tech Foundation

- VTF is an independent 501C Foundation
- Mission of VTF is to support the University, but no University control
- VTF is governed by an independent Board of Directors
- While Virginia Tech has ex officio members on the Board of Directors, no other Virginia Tech control
- *Transparent GMU v. George Mason University* Virginia Supreme Court upheld the ability of George Mason University to operate outside the bounds of FOIA

Attorney-Client Relationship

- The primary role is to advise the Board and University President on legal issues and the management of legal risk
- Reports provided under privilege in conjunction with regular meetings

BHEF BUSINESS-HIGHER EDUCATION FORUM®

Building a New Era for Higher Education & Employer Alignment

Prepared for the Virginia Tech Board of Visitors

August 2024

The Business-Higher Education Forum is a national network connecting pioneering corporate and higher education leaders to identify emerging skills and co-develop pathways to address talent gaps.

BHEF BUSINESS-HIGHER EDUCATION FORUM®

We **empower and catalyze collaborations** that deliver **accelerated, inclusive, and effective solutions** across education and work.

Business and university leaders join the Forum to **lead innovation** that meets the changing talent needs of learners, workers, and businesses.

BHEF works with partners to anticipate and build effective pathways across higher education and work



Competing dynamics shape today's talent and education landscape

$1.2M Estimated increase in individual lifetime earnings with a bachelor's degree.

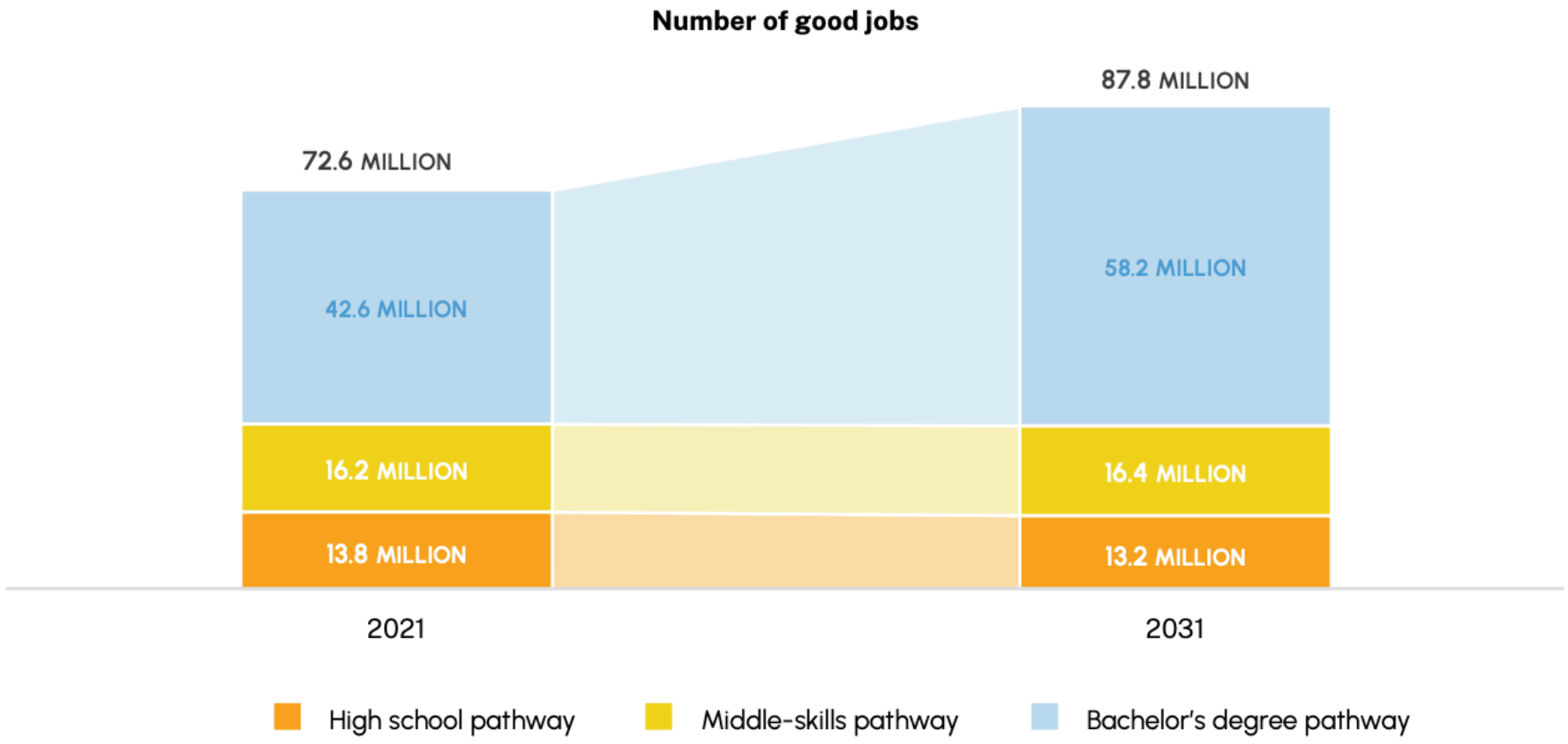
36% Americans who say they have confidence in U.S. higher education.

40% Estimated percent of the workforce that will need to reskill in next 3 years due to talent disruptions.

2 million The difference in the number of jobs and available workers in the U.S. economy in 2024.

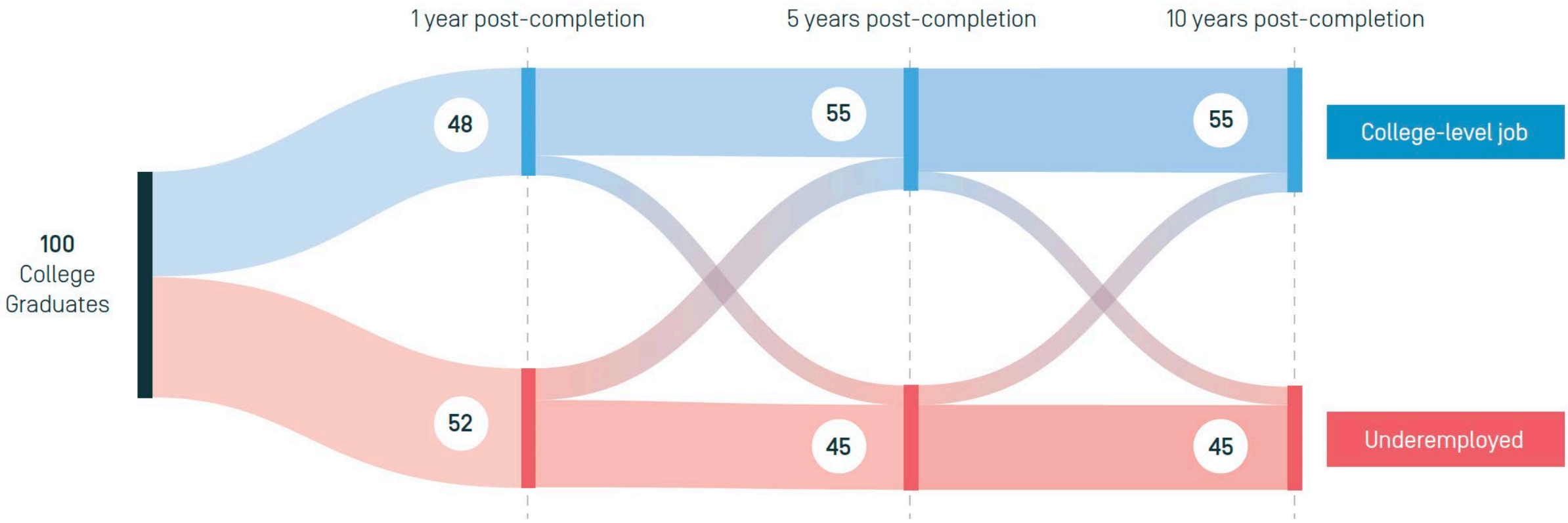
Sources: Strada Education Network; Georgetown University Center for Education & Workforce; Gallup

Bachelor's degree credentials remain the strongest pathway to the "good jobs" of the future



Sources: Georgetown University Center for Education & Workforce

Yet, not all institutions, credentials, and experiences are delivering that result



Sources: Strada Education Foundation

Strategic design principles for future-ready graduates and their lifetime of learning include:



High-value skills and credentials



Embedded work-based learning experiences

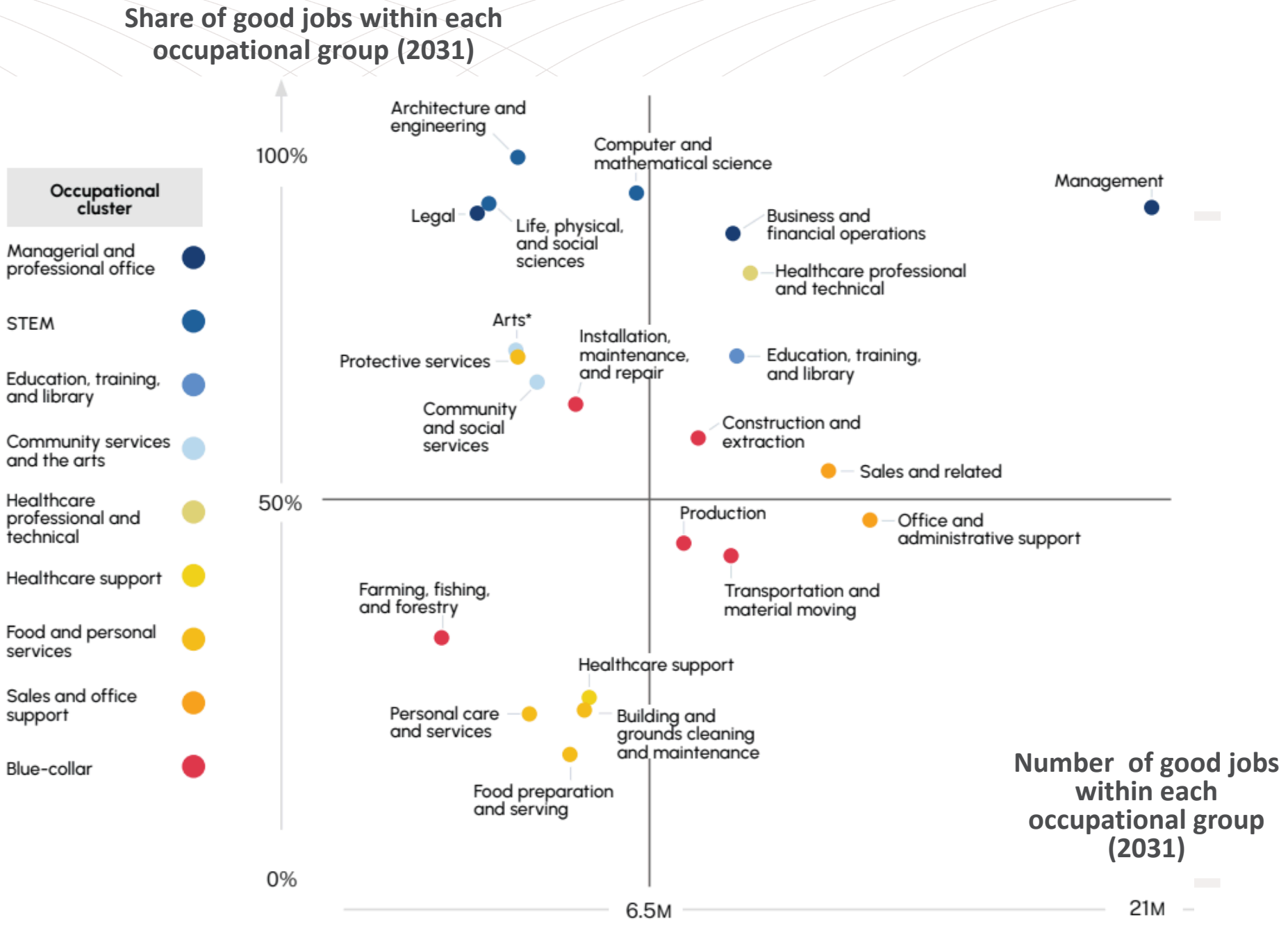


Network activation and development

Where is "Good Job" Growth?

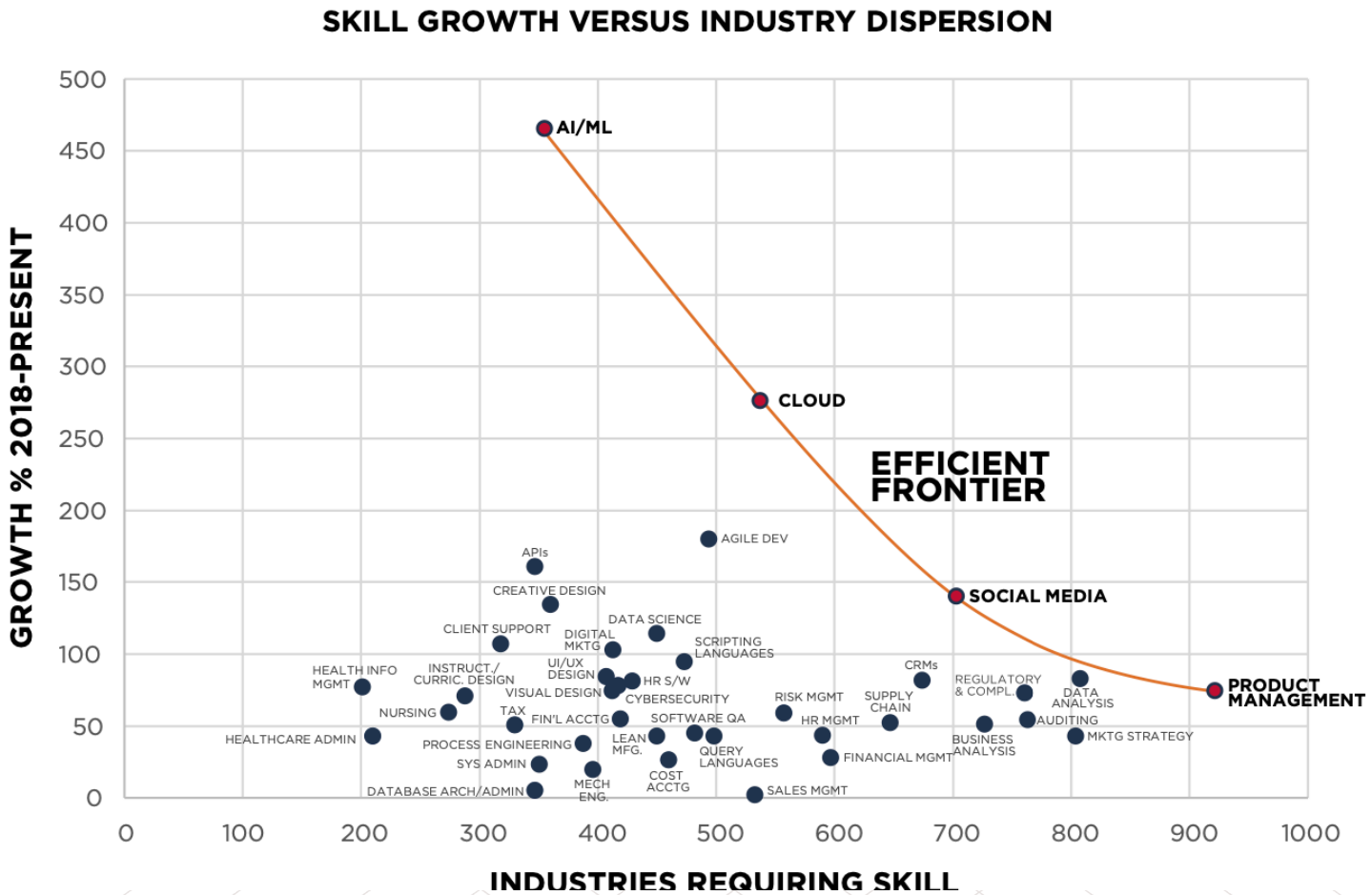
Key areas include

- Management
- STEM
- Health
- Education



Sources: Georgetown University Center for Education & Workforce

Digital skills are the most rapidly spreading skills; lead to wage premiums



Sources: BHEF and BGI, How Skills Are Disrupting Work: The Transformational Power of Fast Growing, In-Demand Skills

Industry-aligned credential models offer stackable options that bridge industry and higher education

Short-Term Certificate	*Badges & Micro-Credentials*	*Concentrations & Degrees*	*Aligned Credential Pathways*	*Aligned Advanced Pathways*
Nationwide Insurance IT Certificate	**Foundations in Digital Analytics Micro-Credential**	**Miami-Dade College Cybersecurity Center**	**Joint Engineering Leadership Development Program**	**Biotech A2M Scholars Program**
Nationwide Regionally-tailored	**Stanley Black & Decker** Regionally-tailored **(CT)**	**IBM** Regionally-tailored	**Boeing** Regionally-tailored	**Pfizer, Novartis** Sector-Tailored
Insurance-tech skills	Foundational digital skills	Advanced cybersecurity	Engineering	Biotech & healthcare
Non-credit certificate	Micro-credential/badge	Credit-Bearing (A.S. and B.S.)	Credit-Bearing (B.S.)	Associates-to-masters
Offered by businesses with support from **Columbus State Community College** in Columbus, Ohio	College credit Offered through **CSCU** with aligned career on-ramps.	Experiential learning labs Aligned career on-ramps to regional employers through **Miami-Dade College**.	Experiential learning labs and work-based learning **Washington University-St Louis.**	Extensive work-based learning integration. **Northeastern University** & national business network.

Sources: BHEF Analysis

Interdisciplinary models enable high-value skills to be embedded flexibly across the curriculum

Industry-validated micro-credentials in high-demand areas (e.g., Google cybersecurity certificates) are offered to learners across majors to build relevant skills

AI literacy is embedded across all majors in interdisciplinary fashion and ensuring all graduates are equipped to apply AI in the workforce

Key foundational skills such as digital proficiency, collaboration are defined and made transparent throughout the curriculum

Durable skills are in demand from employers more than ever; support job mobility over the course of a career



Human skills

Adaptability*

Communication

Collaboration

Leadership

Problem solving

Teaming



Business enablers

Customer service

Data communication

Project management

Sales



Data building blocks

Computer coding

Data analysis

Research

Sources: BHEF and BGI, How Skills Are Disrupting Work: The Transformational Power of Fast Growing, In-Demand Skills; LinkedIn

Work-based learning supports durable and technical skill development and produces significant positive benefits

Impacts of Internship on Student Outcomes



Yet existing supply is insufficient to meet student demand, leading to inequitable results

8.2 M
Learners wanted an internship in 2023

3.6 M
Opportunities available (only 2.5M "high-quality")

4.2M
Missed out completely

Sources: BHEF Expanding Internship Report Forthcoming 2024

Elements of high-quality internships include:

- ✓ Pay
- ✓ Academic credit
- ✓ Mentorship and coaching
- ✓ Acquisition of relevant skills and competencies
- ✓ Equitably designed
- ✓ Available and designed for different learning contexts

Holistic experiential learning models must balance depth and scale to meet different learner population needs

Full-time student	Intentional placement, coaching and skills development for work-study focused on student skills transferability, career readiness.
Career changer or part-time student	Building on foundation of undergraduate co-op model, added short-term projects with employer sponsors for credit. Students complete projects remotely and work 30-40 hours on a project over six weeks.
Under-represented learners	Non-profit partner offers a credit course offered in partnership with institutions, led by industry professional volunteer mentors. Post-course 1:1 mentorship and networking to supports job acquisition success.
Full-time undergraduate	2/3 of majors offer a credit bearing internship course.

How can Virginia Tech be a leader in developing the "quadruple threat" graduate?

The quadruple threat graduate has…

- The long-term durability of a degree
- Industry recognized skills and credentials embedded in the degree
- Experiential learning and workplace experience
- Professional networks

Academic Resource Alignment

Cyril R. Clarke, Executive Vice President and Provost

Rachel Holloway, Vice Provost for Undergraduate Academic Affairs

August 28, 2024



Teaching and Learning at Scale

Undergraduate Degrees (100+ majors)	73
Master and Doctoral Degree Programs	121
Undergraduate Degrees Conferred (2023-24)	7831
Graduate Degrees Conferred (2023-2024)	2404
Courses taught (2023-2024)	5602
Course sections (2023-2024)	11,057
Instructional Faculty (2023-2024)	2586

Sources: SCHEV Degree Inventory; University Data Commons.

Ongoing, Continuous Improvement

1. Degree structures and requirements.
2. New degree or major development to meet university goals.
3. Discontinuance/mergers of degrees no longer meeting student needs.
4. Resource allocation and alignment to promote university goals.

Periodic, In-depth Review

Complete an in-depth assessment of program productivity and quality to effectively align allocation of university resources.



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Leadership



VIRGINIA TECH

Project Scope

Assess Course Offering Productivity (short-term)

- Identify under-enrolled courses.
- Recommend opportunities to adjust frequency, revise, or discontinue.

Assess Degree Productivity and Quality (long-term)

- Analyze programs against productivity and quality criteria.
- Identify programs for further in-depth review.
- Make recommendations for change.

Review Process

1. Identify evaluative criteria
    - Course enrollment (student credit hour) per FTE
    - Majors per FTE
    - Degrees awarded
    - Time to degree
    - Graduation success (4-year/6-year graduation rates)
    - Post-graduation success
    - Evidence of engagement in high-impact practices
    - Contribution to overall educational mission (e.g., interdisciplinary engagement; general education; essential skills development)

Review Process, Continued

2. Identify programs for in-depth analysis.
3. Make recommendations, based on the evaluative criteria, regarding degrees and majors that should be discontinued, redirected, or strengthened.
4. Work with Academic Resource Management to estimate financial impact of recommendations, to include personnel expenses and impact on PIBB allocations.

Review Process, Continued

5. As appropriate, final recommendations will be submitted for consideration to the university's shared governance system and those recommended for approval and supported by President Sands will be submitted to SCHEV for approval.

How would you assess the productivity of three departments from different colleges and what metrics would you emphasize in your evaluation? What additional information would you want to consider in your evaluation?

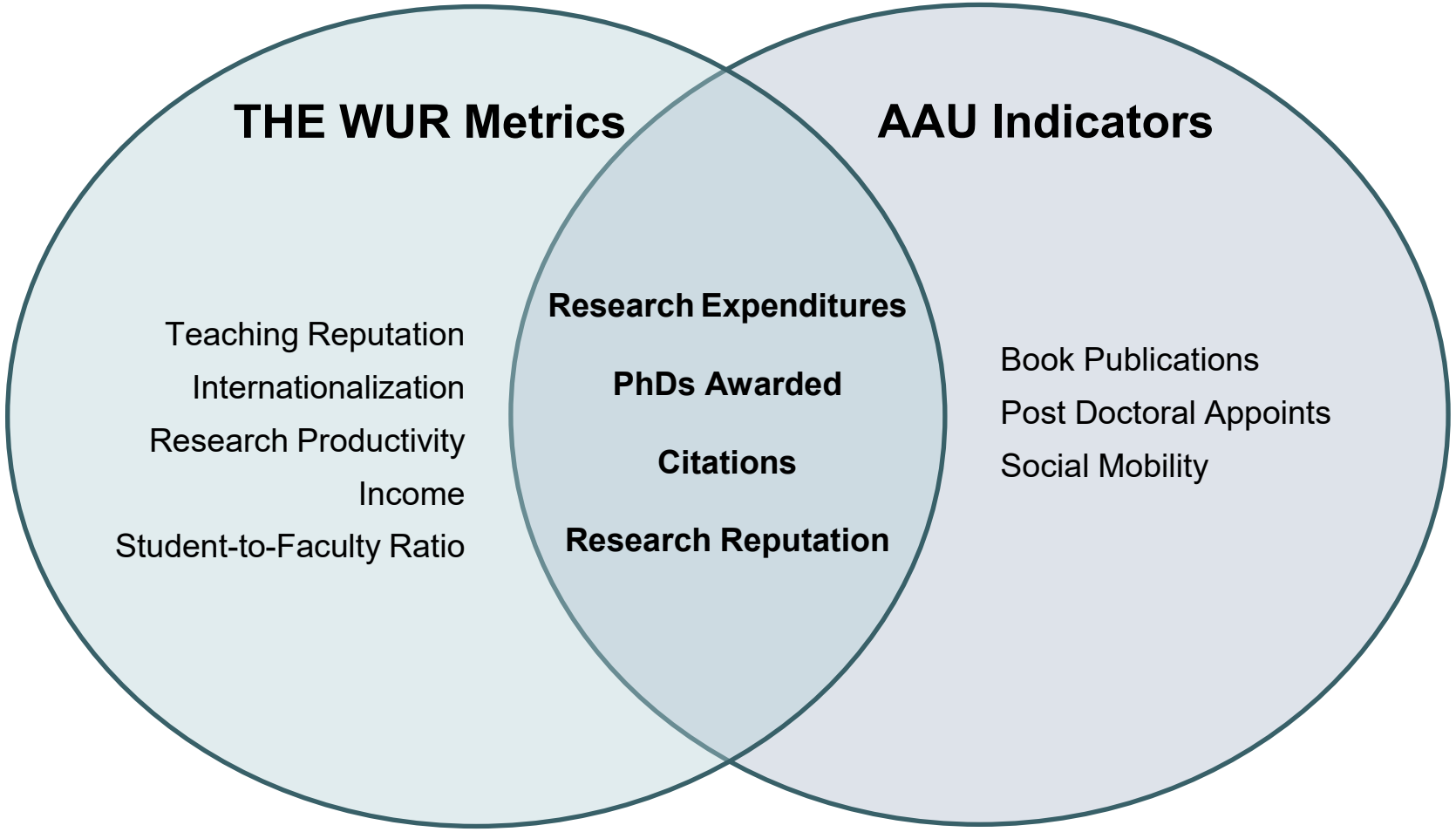
What should be the overall goal guiding academic resource alignment?

- Student success metrics, including career outcomes and success over the long-term?
- Financial resource reallocation/reinvestment (as an expression of strategic value)?
- The commonwealth's economic development and work-force needs?
- Others?

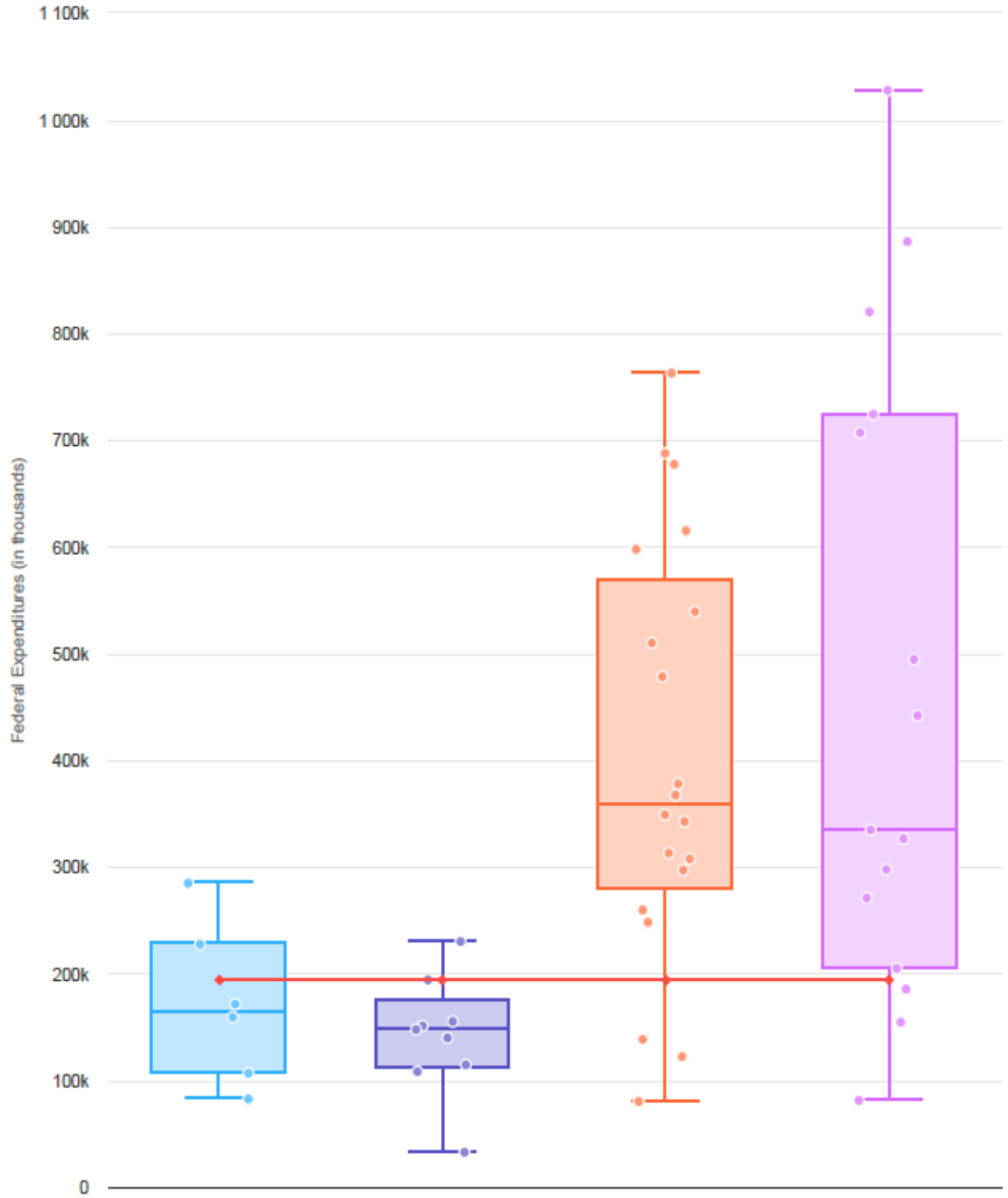
Global Distinction Self Assessment

August 26, 2024

Common Measures of Distinction



Federal Research Expenditures



Virginia Tech

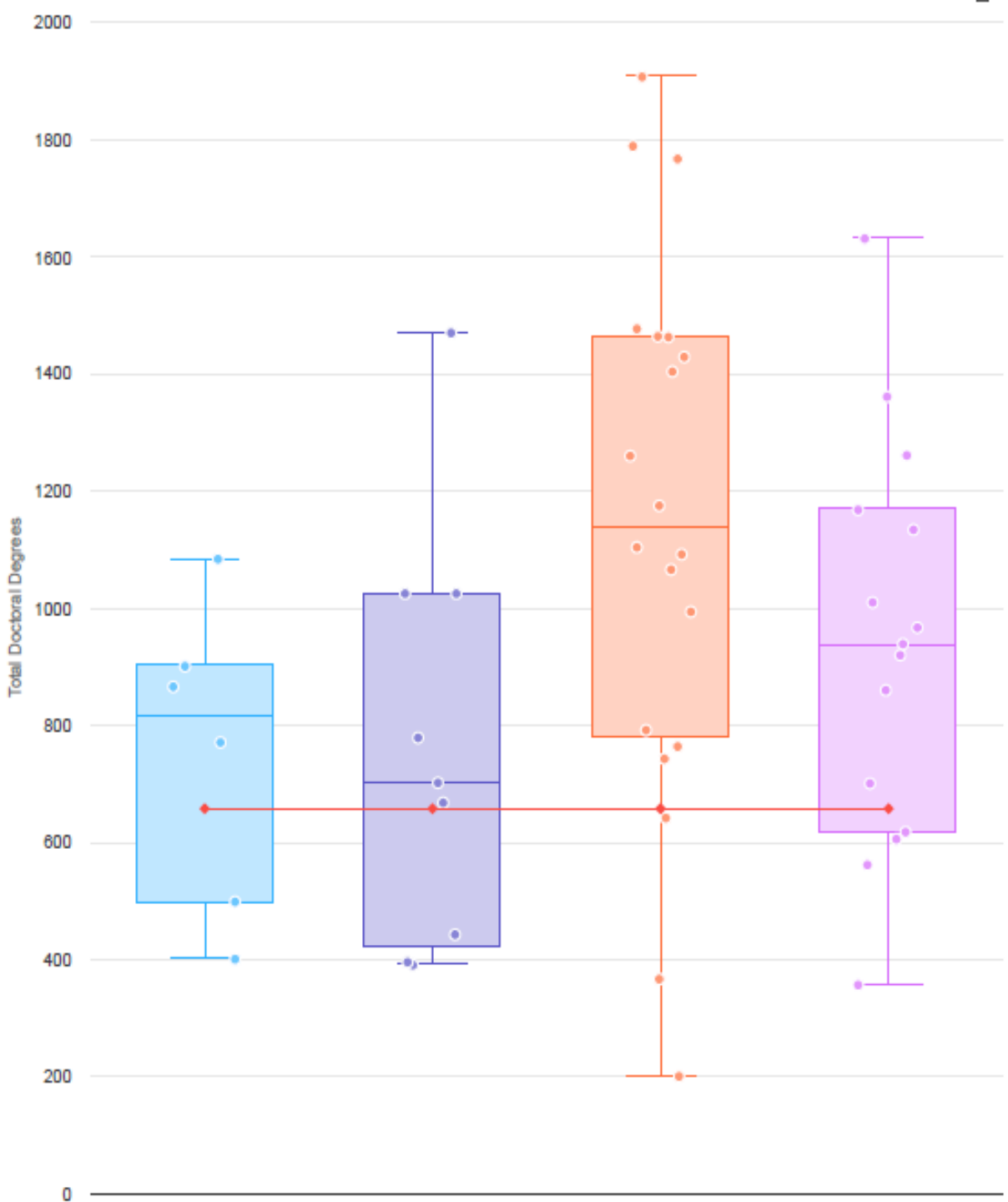
New AAU members

Peers outside AAU

Land Grants in AAU

Public (non-Land Grants) in AAU

Total Doctoral Degrees



Virginia Tech

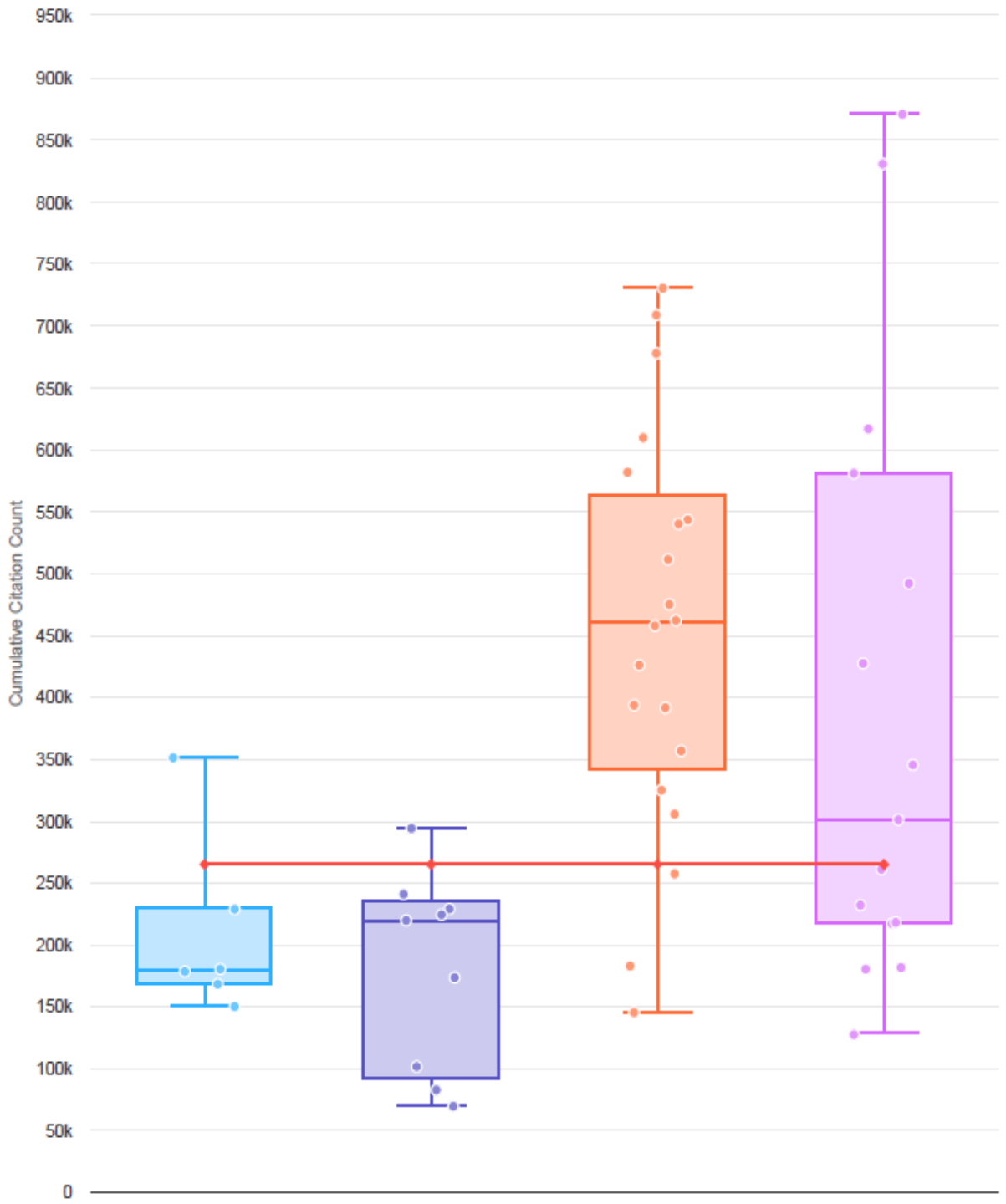
New AAU members

Peers outside AAU

Land Grants in AAU

Public (non-Land Grants) in AAU

Cumulative Citations



Virginia Tech

New AAU members

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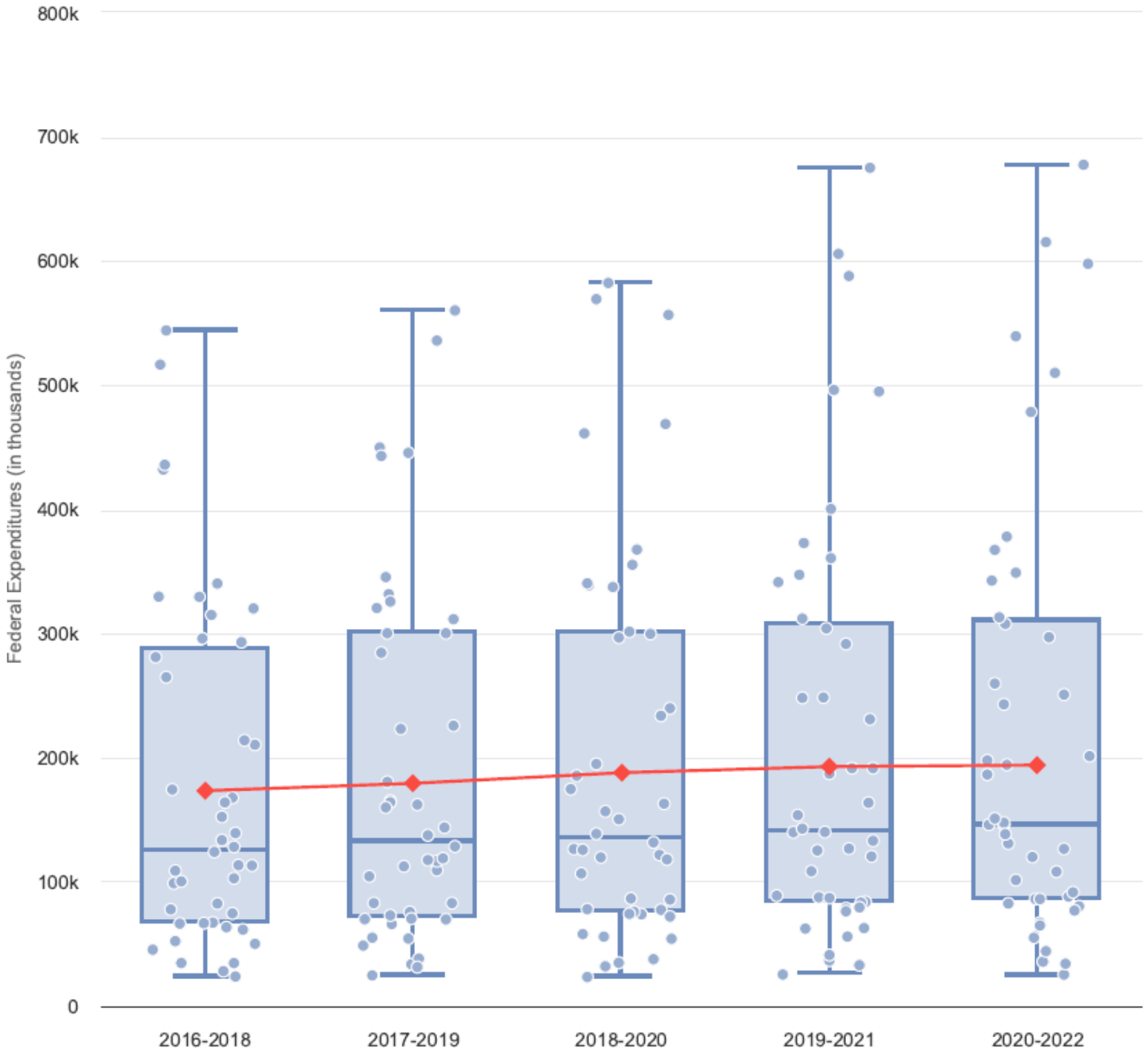
VIRGINIA TECH®

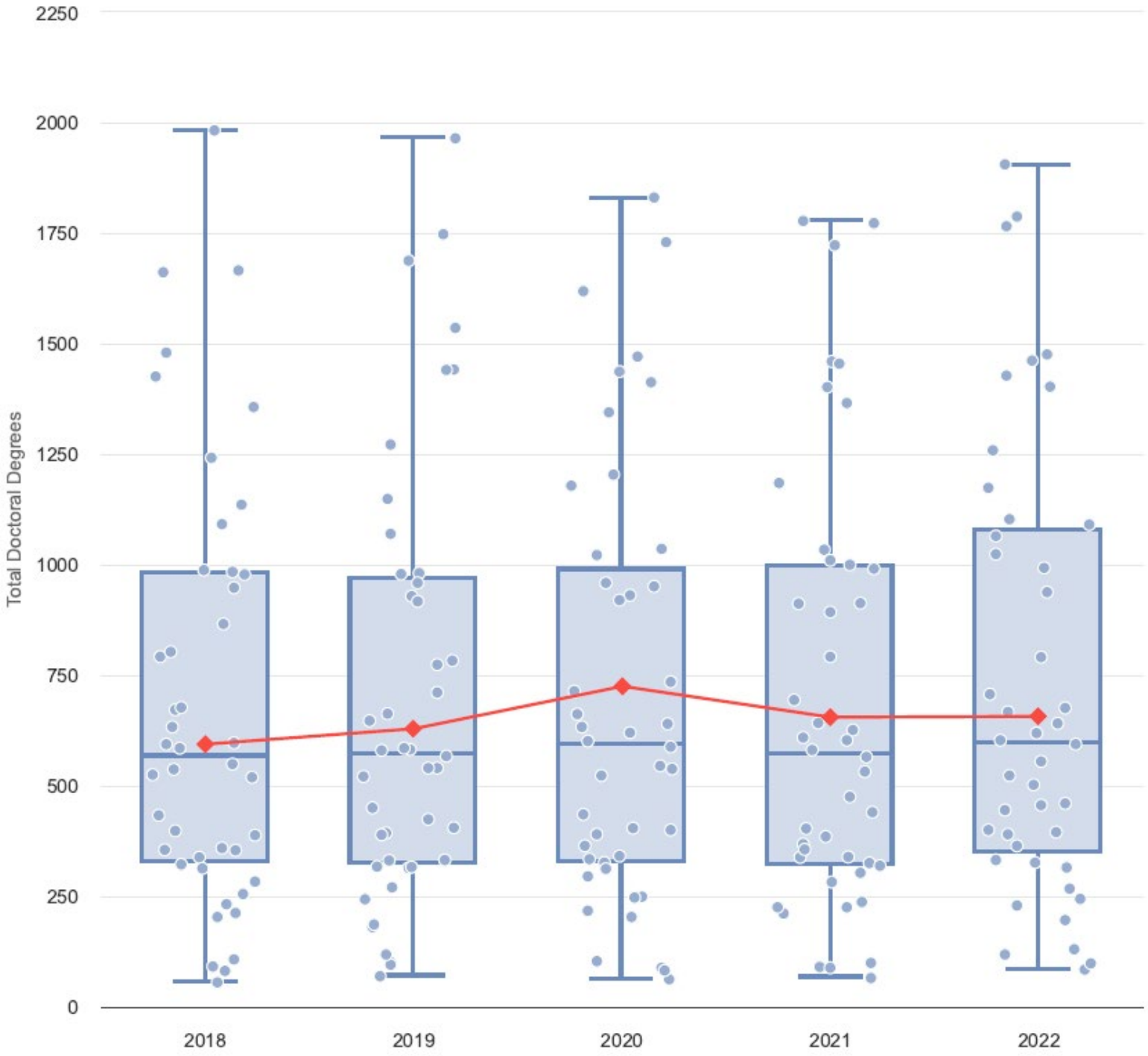
Federal Expenditures



Virginia Tech

R1 Public Land Grants

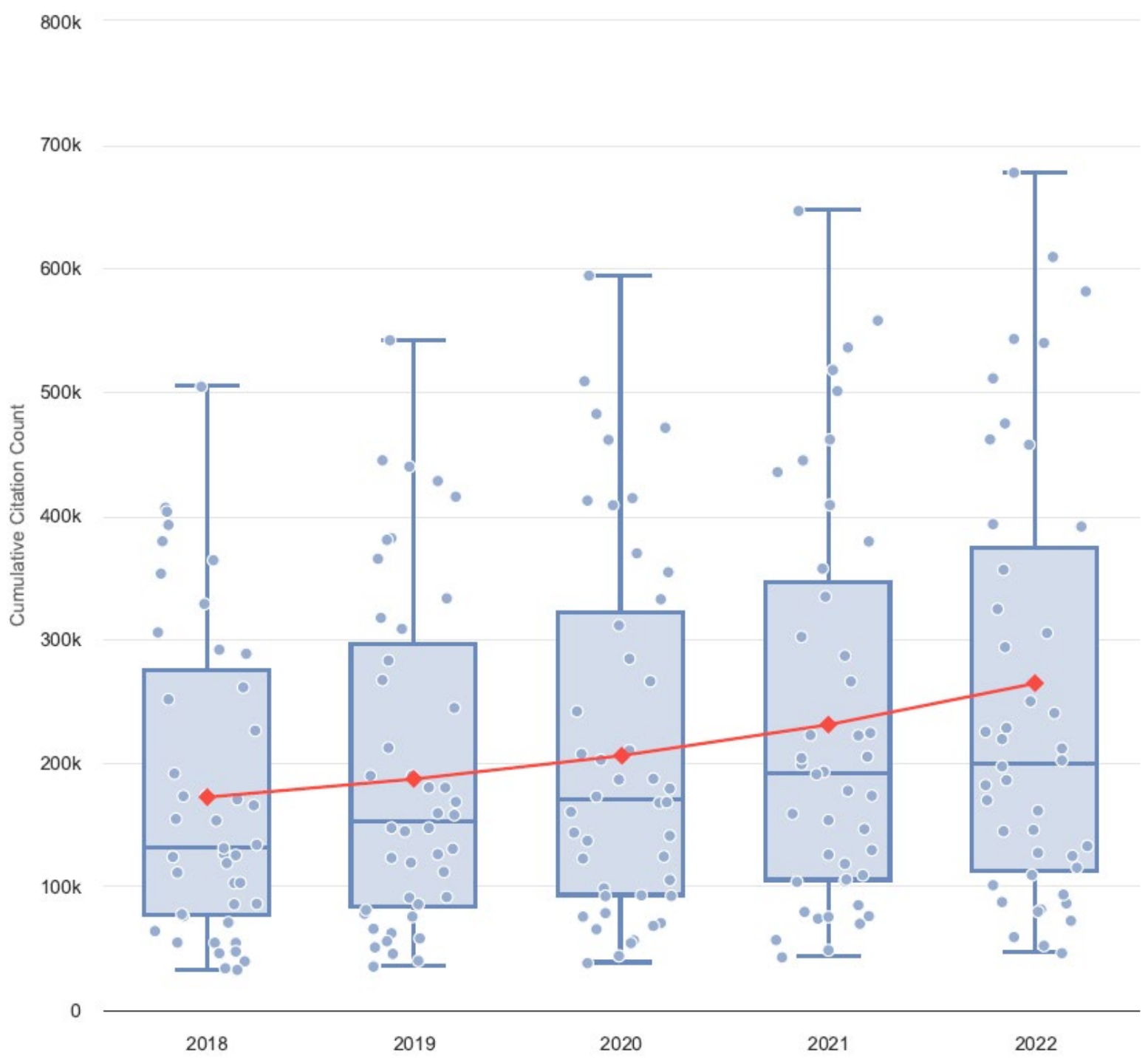
Total Doctoral Degrees



Virginia Tech

R1 Public Land Grants

Citations



Virginia Tech

R1 Public Land Grants

Prioritized Initiatives:

Criteria for selection:

1. Interdisciplinary or transdisciplinary
2. Distinctive and globally differentiating
3. Extramural support
4. Aligned with university's strategic interest
5. Supportive of educational mission
6. Partner availability

Current examples:

College initiatives incentivized by Partnership for an Incentive Based Budget (PIBB):

1. Extramural expenditures
2. Faculty awards, fellowships and memberships
3. Citations
4. Book publications
5. Postdoctoral appointments
6. Doctoral degrees awarded
7. Creative scholarship

Current examples:

Destination Areas:

1. Phase I preproposals
2. Phase II detailed proposal development with administrative assistance
3. Currently selected areas with position and programmatic funding:
    - Quantum navigation
    - Pediatric neuro-oncology
    - Invasive species
    - Pandemic prediction and prevention

Current examples:

Research institutes:

Investment institutes

- **FLSI** Fralin Life Science Institute
- **ICAT** Institute for Creativity, Arts, and Technology
- **ICTAS** Institute for Critical Technology and Applied Science
- **ISCE** Institute for Society, Culture and Environment

Thematic institutes

- **NSI** National Security Institute
- **FBRI at VTC** Fralin Biomedical Research Institute at VTC
- **VTC** Virginia Tech Carilion Strategic Partnership
- **VTTI** Virginia Tech Transportation Institute

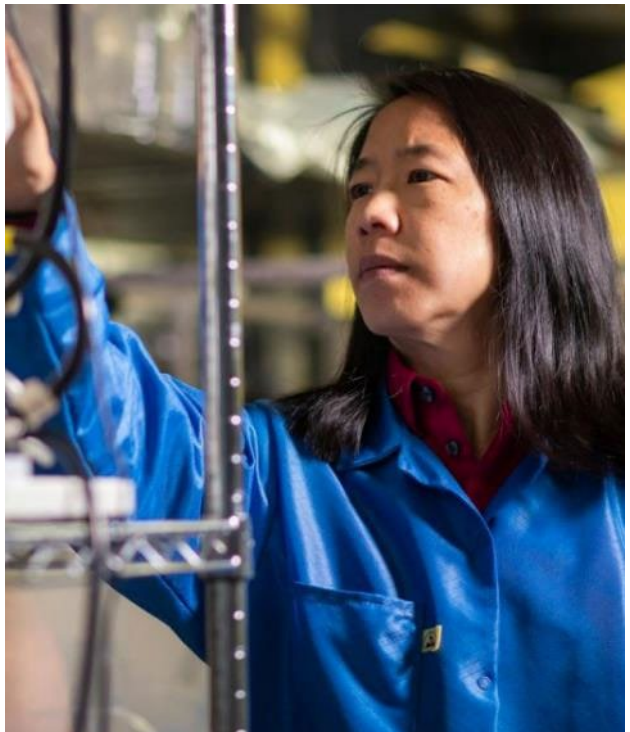
Characteristics:

- Transdisciplinary
- High-performing in scholarship, grant support
- Developing educational engagement

VIRGINIA TECH

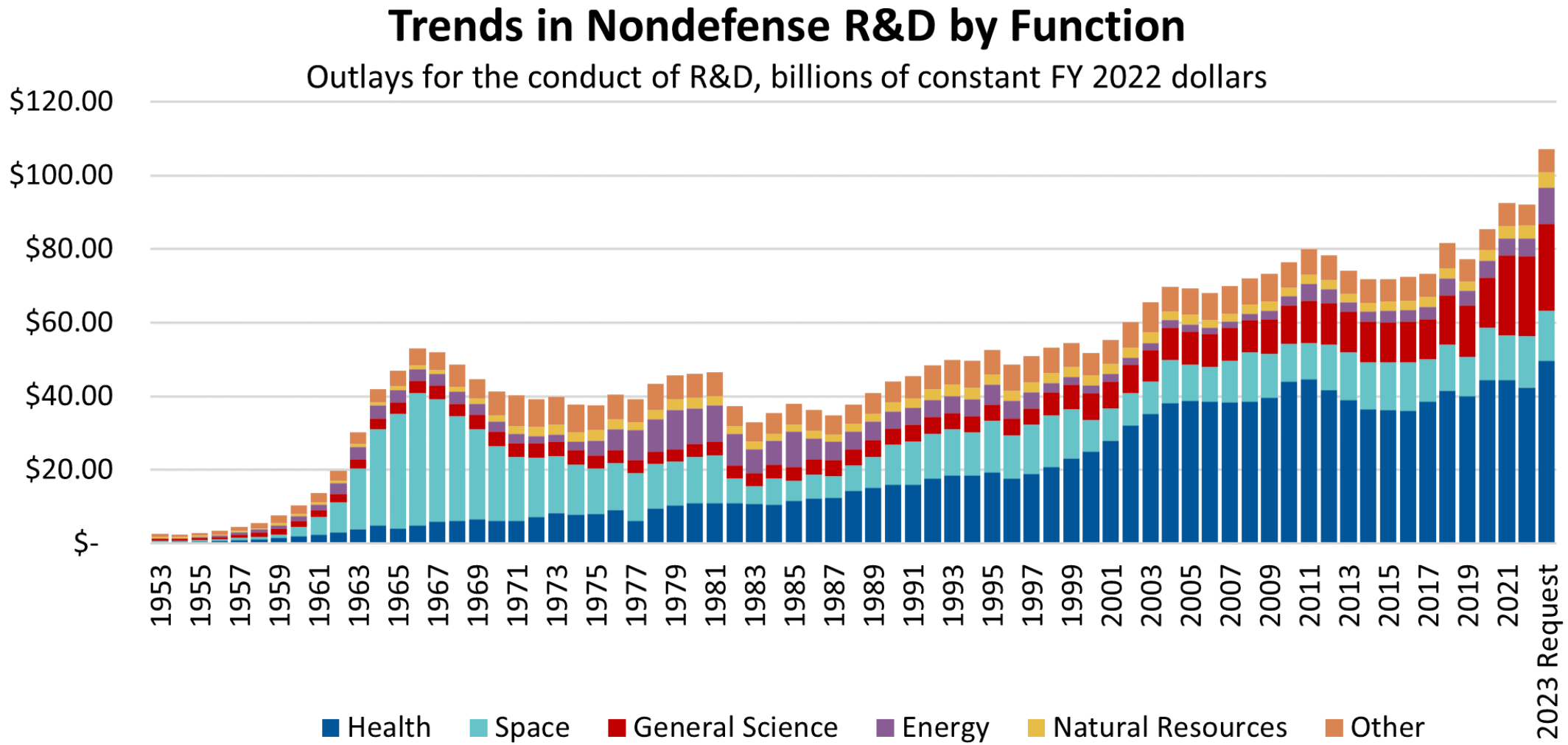






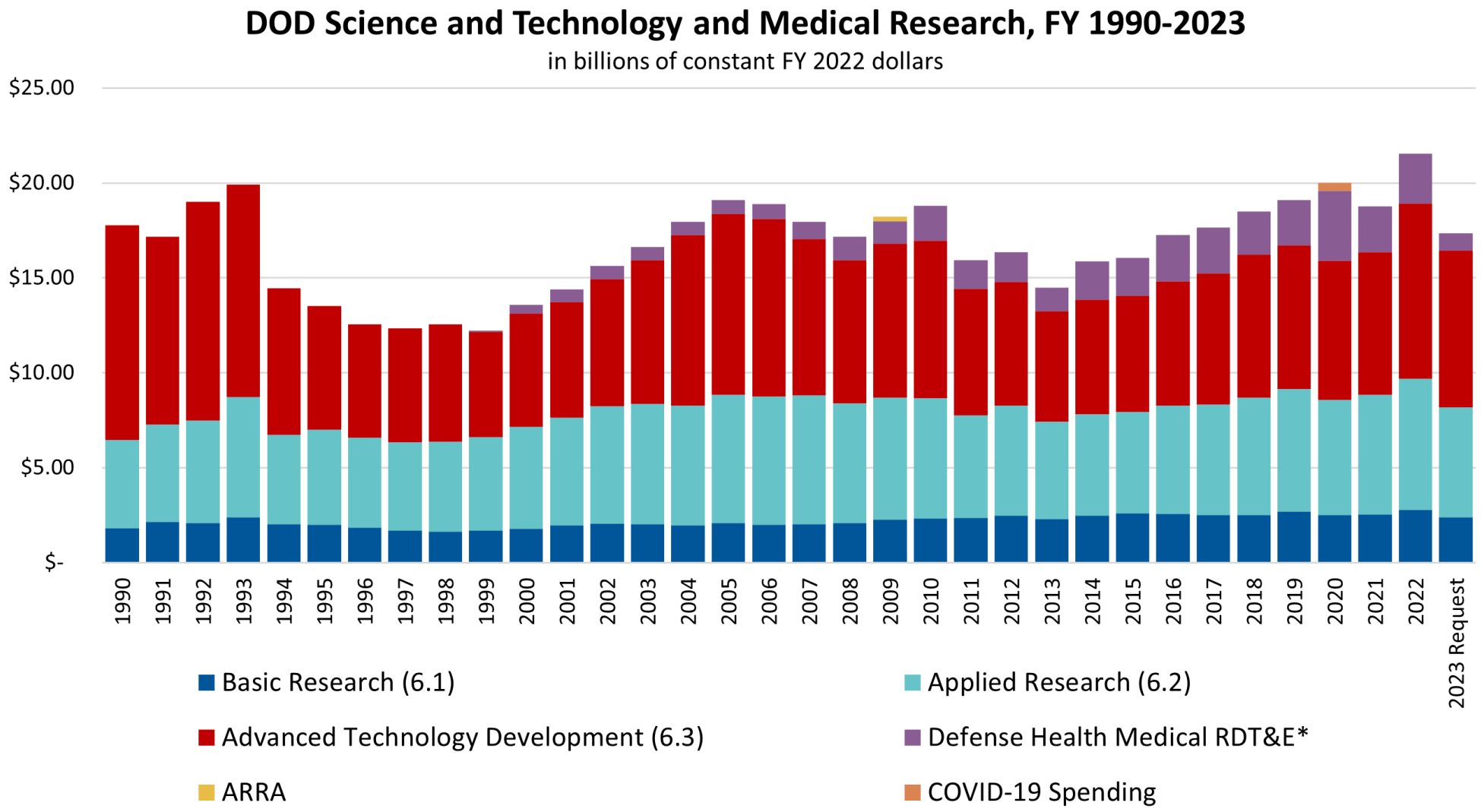
Opportunities for Global Distinction in the Health Sciences

Health dominates federal nondefense R&D spending



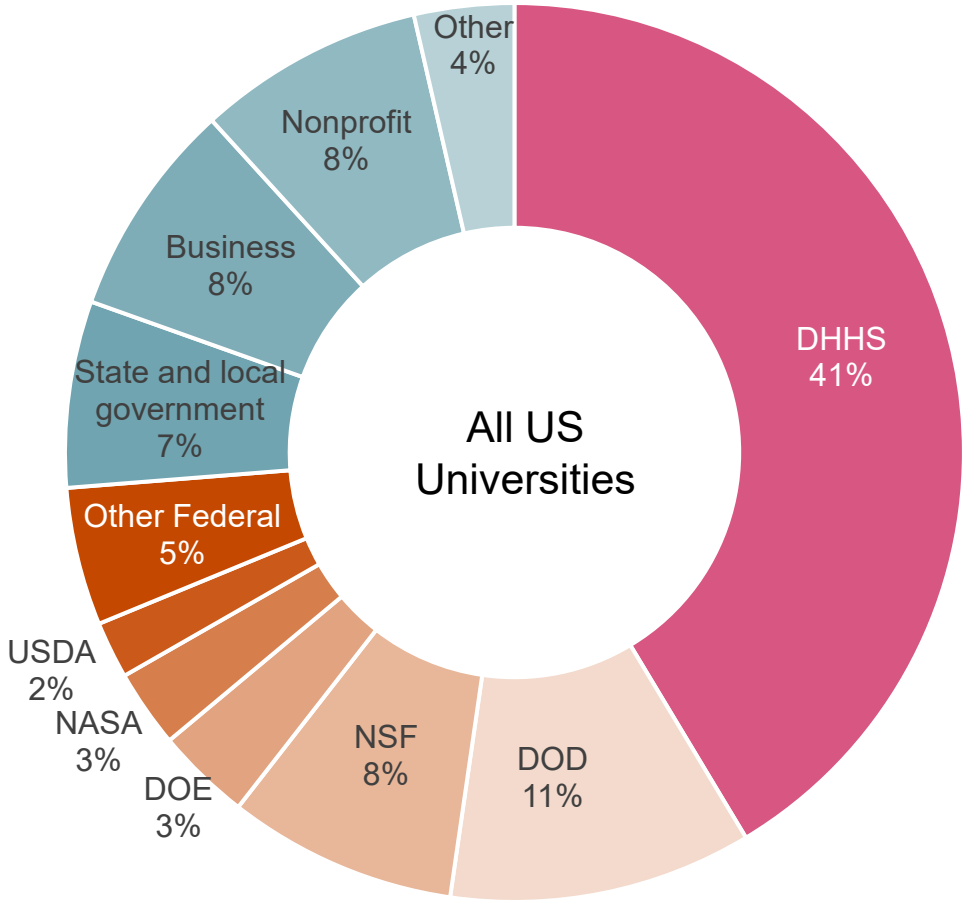
Source: OMB Historical Tables in Budget of the United States Government FY 2023.
Constant dollar conversions are based on chained GDP price index. | AAAS 2022

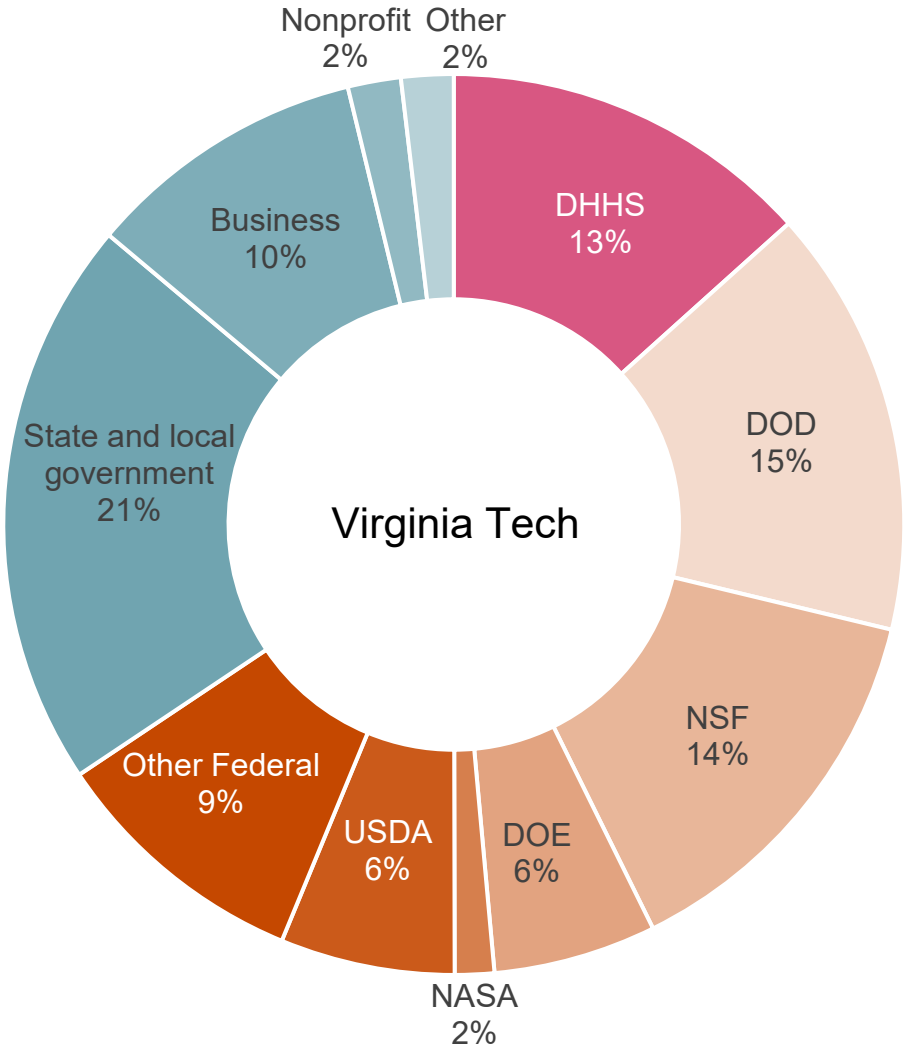
Health growing part of defense R&D



Source: DOD Budget documents. Mecical Research is appropriated outside RDT&E funding title | AAAS 2022

HIGHER EDUCATION RESEARCH FUNDING SOURCES - 2022





SOURCE: NSF HERD 2022



VIRGINIA TECH®

Health and Biomedical Sciences at VT: Where we have been and where we are going

Michael J. Friedlander, PhD
Vice President for Health Sciences and Technology
Executive Director, Fralin Biomedical Research Institute at VTC

VIRGINIA TECH

VT Health Sciences Enterprise



Virginia Tech Main Campus
Blacksburg



Health Sciences & Technology Campus
Roanoke (VTCSOM and FBRI)



VT Innovation Campus
Alexandria



Children's National Research
and Innovation Campus
Washington DC

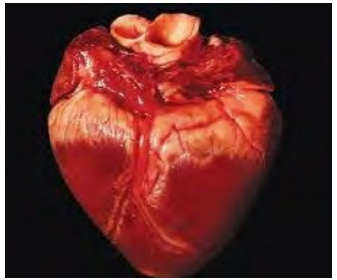


Fralin Biomedical Research Institute at VTC
and Animal Cancer Care & Research Center



Carilion Clinic
Roanoke

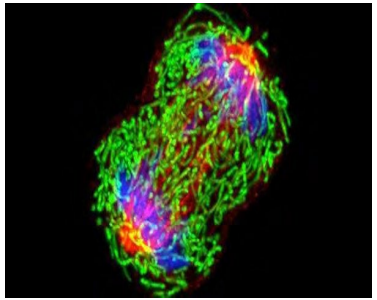
FBRI key research focus areas



Cardiovascular Disease

Over 800,000 Annual Deaths, Cost = $200 Billion Annually

Arrhythmias, Sudden Cardiac Death, Heart Failure, Ischemic Heart Disease, Viral Myocarditis



Cancer

Over 600,000 deaths, Cost = $218 Billion annually

brain, breast, colorectal, pancreatic



Brain Disorders

Affects 75 Million People, Cost = $2.0 Trillion Annually

Addiction, Traumatic Brain Injury, PTSD, Depression, Intellectual Disabilities, Parkinson's, Alzheimer's



Obesity

40% of adults; 20% of children; 300,000 deaths per year, ; Cost = $160 Billion Annually

Investigating the long term effects of COVID on the heart





Jamie Smyth

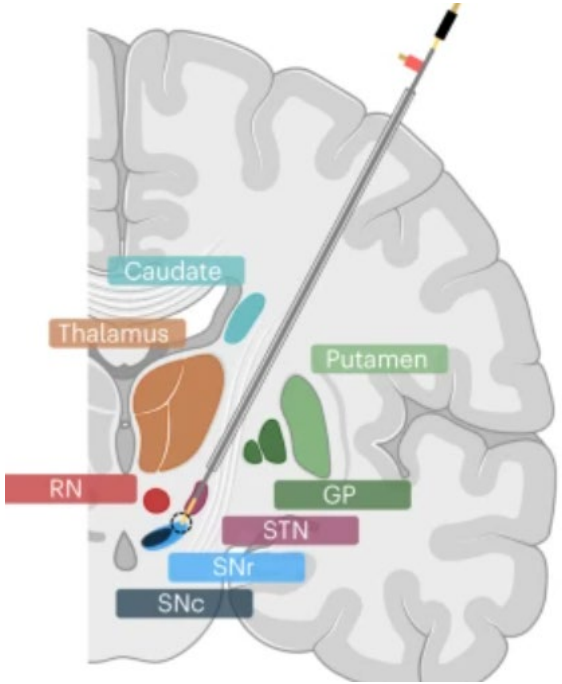


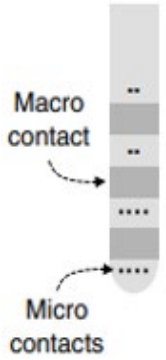
ABSL3 Facility

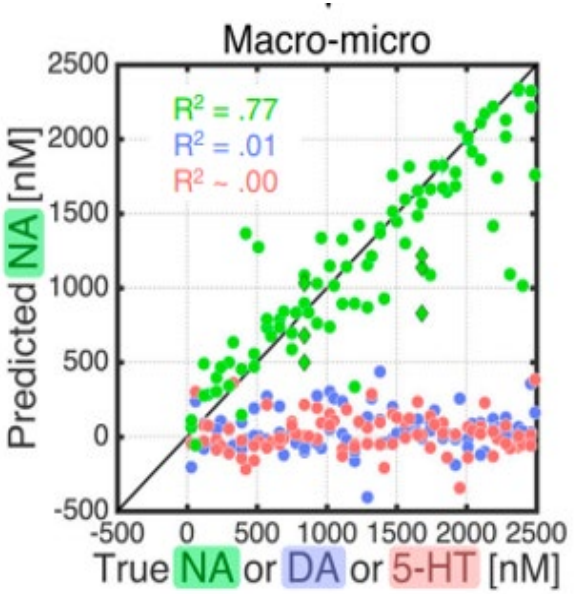
First in human technology to measure major neurochemical release in the brain of alert humans

Nature Human Behavior
February 26, 2024

Read Montague Team







Childhood obesity: ultra-processed foods as addictive



FBRI's Alexandra DiFeliceantonio

British Medical Journal

October, 2023

FBRI launches Cancer Research Center



Jenny Munson, PhD
Biomedical Engineer
Computational Oncology

FRALIN BIOMEDICAL RESEARCH INSTITUTE AT VTC
CANCER RESEARCH CENTER
VIRGINIA TECH.



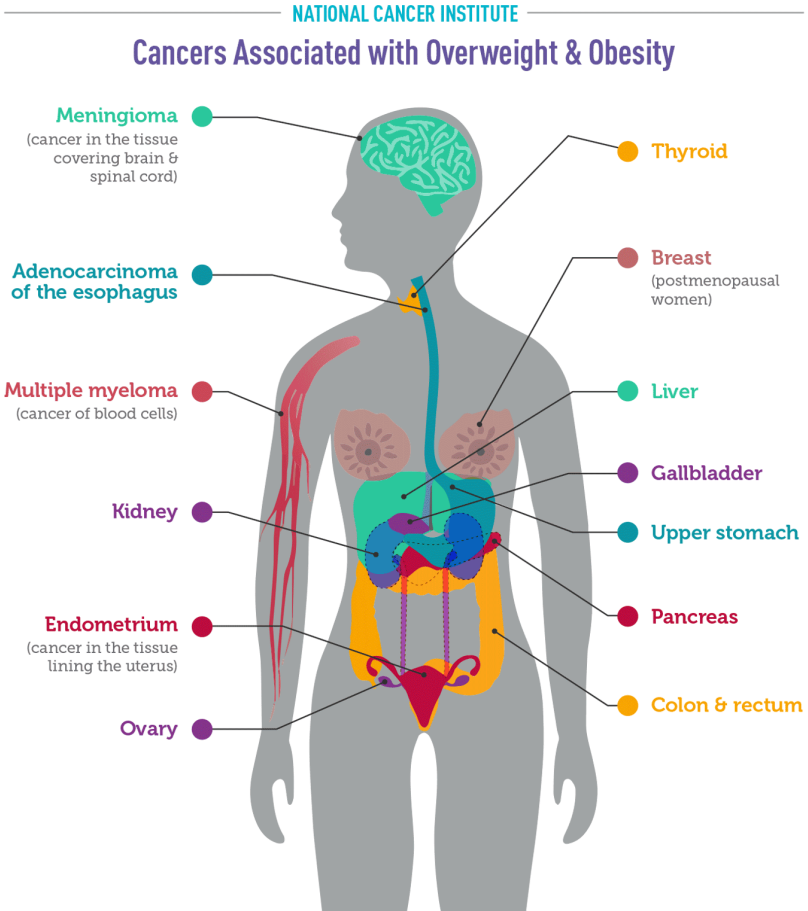
Chris Hourigan, DM/DPhil, FRCP
Physician Scientist
Cancer detection:
precision predictive analytics

FRALIN BIOMEDICAL RESEARCH INSTITUTE
CANCER RESEARCH CENTER – D.C.
VIRGINIA TECH.

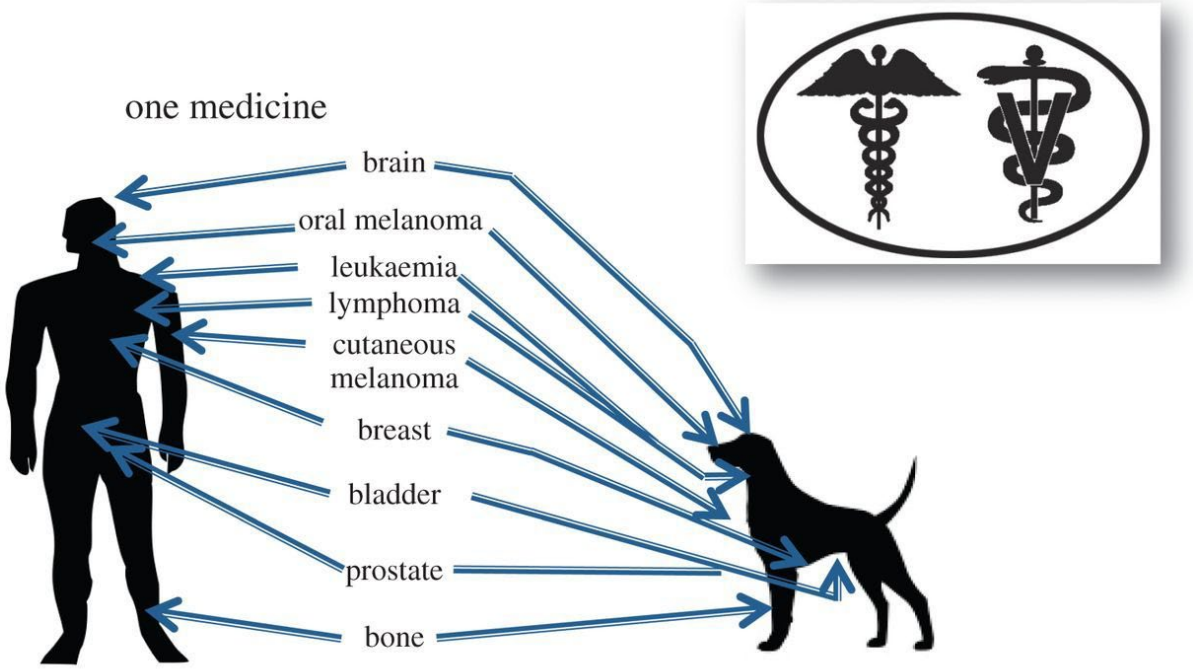
Differentiators of Virginia Tech Cancer Research

- **Behavioral mitigation**
- **Human – animal cancer nexus – one health**
- **Onco-engineering**
- **Next generation therapeutics delivery**

BEHAVIOR: **Almost half of all global cancer deaths are due to risk factors, with smoking, alcohol use and high BMI the greatest contributors.**



ONE HEALTH: Humans and our companion animals develop many of the same cancers



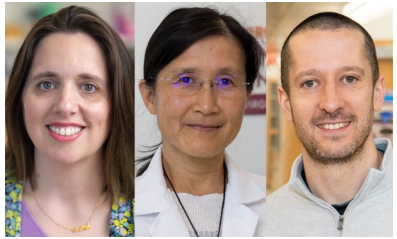
ONCO-ENGINEERING: The Focused Ultrasound Foundation designates Virginia Tech as Center of Excellence

- Brigham and Women's Hospital
- Children's National Hospital
- Stanford University
- University of Maryland
- University of Virginia
- Virginia Tech

- Institute of Cancer Research Royal Marsden-Londo
- INSERM – LabTAU | Lyon, France
- Physics for Medicine Paris
- Sunnybrook Health Sciences Centre -Toronto
- University Medical Center Utrecht
- Oxford University



Wynn Legon
FBRI



Jenny Munson
FBRI

Joanne Tuohy
CVM

Eli Vlaisavlejevich
COE

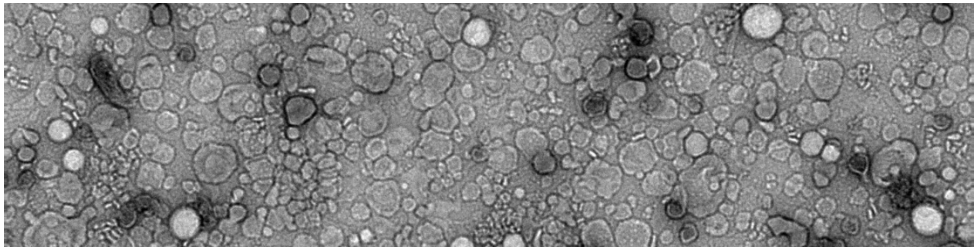


Jason Raymond
FBRI

NEXT GEN THERAPEUTICS DELIVERY: Making radiation therapy safe



Rob Gourdie





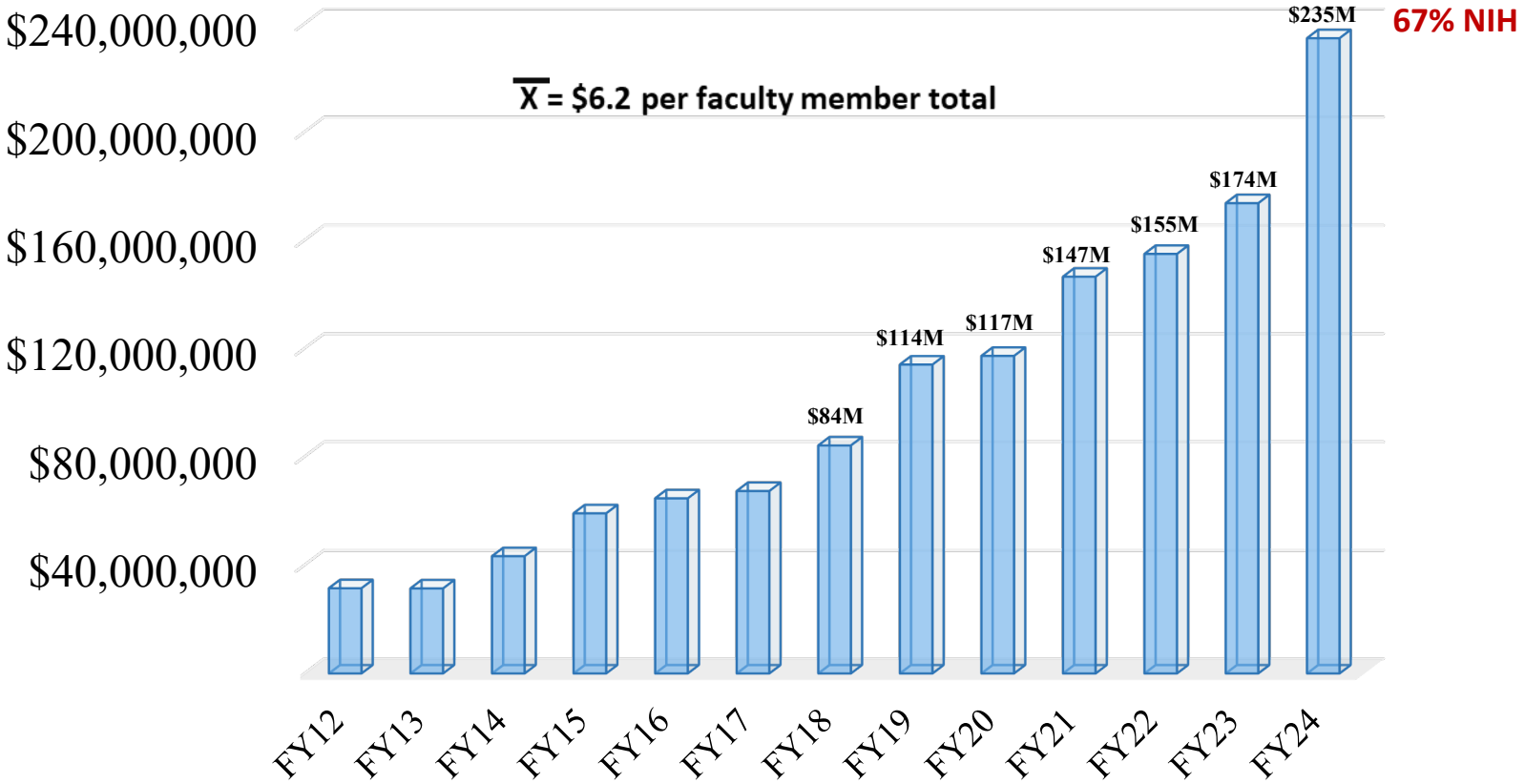
FBRI team develops milk-derived exosomes to deliver therapeutics to protect against radiation damage in cancer patients

WASHINGTON
BUSINESS JOURNAL

Sep 12, 2023

Red Gates Foundation commits landmark $50M gift to support cancer research at Virginia Tech

Total Value of FBRI Extramural Awards Portfolio



67% NIH

Rich experiential learning opportunities for VT students on the Health Sciences and Technology Campus in Roanoke



- **Undergraduates – Integrated Health Sciences and Research Program;**
  (students from 5 majors in 3 colleges)

- **Graduate students – Translational Biology Medicine & Health PhD and MS programs;**
  (students from 11 other graduate programs in 5 colleges)

- **VTCSOM medical students – longitudinal intensive research program**
  (throughout all years of medical school)

Training the next generation of biomedical researchers: Graduate Students in Translational Biology, Medicine and Health (TBMH)

- First class admitted in 2014
- 86 graduates through 2024 (76 PhD; 7 MS; 2 MD/PhD; 1 MD/MS)
- Recognized by AAMC for Innovation in Graduate Biomedical Education

Graduates in postdoctoral positions at:

- Baylor College of Medicine
- Boston Children's Hospital
- Brigham and Women's Hospital
- Dartmouth
- Duke
- Emory
- Harvard
- Johns Hopkins
- Mayo Clinic
- MIT
- Penn State
- Stanford
- U. Michigan
- UC San Francisco – Gladstone Institute
- UNC
- UVA
- Vanderbilt
- VT
- Yale

Graduates in industry and government positions at:

- Aastra Zeneca
- Alinera Sciences
- Gausman and Moore
- Carilion Clinic
- Inova
- CDC
- Decibcel Therapeutics
- Icagen
- New Amsterdam Genomics
- The Aspen Institute
- Walter Reed Army Medical Center
- Novartis

- Time to graduation: 5.01 years; national average = 5.40 years)
- PhD completion rate: 86.6%; national average = 49.4%
- 27% win individual NIH or AHA fellowship awards

GOVERNOR OF VIRGINIA
Glenn Youngkin

December 11, 2023

Governor Glenn Youngkin Announces $90 Million Investment to Launch "Virginia's Research Triangle" Network Among Research Institutions at UVA, Virginia Tech and VCU

The Virginia Innovation Partnership Authority will convene the three institutions to sign a memorandum of understanding with the Authority and each other. Once the MOU is signed by the three institutions and by VIPA, $50 million will be available for UVA's Manning Institute for Biotechnology, $27 million will be available for Virginia Tech's Fralin Biomedical Research Institute at VTC, and $13 million will be available for VCU's Medicines for All Institute.

Health Science Program Growth

- VTCSOM new building (double class size)
- FBRI expansion/renovation of original VTCSOM
- Patient Research Center
- Cell and gene therapy program
- Cancer research programs growth – partnerships with: Carilion Clinic, Children's National Hospital, Wake Forest University Comprehensive Cancer Center





A primer on academic medical centers

Amy Sebring, Executive Vice President and Chief Operating Officer

2024 BOV Retreat

Key terminology

- **Academic Medical Center (AMC):** "….tertiary care hospital that is organizationally and administratively integrated with a medical school. The hospital is the principal site for the education of both medical student sand postgraduate medical trainees from the affiliated medical school…" (Joint Commission International)
  - ***Academic Health Center (AHC)***– a hospital that is organizationally integrated with a medical school and at least one other health-related school (e.g., nursing, pharmacy, allied health, etc.)
- **Teaching Hospital:** hospitals that support the education of medical students, residents and other health care professionals.
  - AMCs have teaching hospitals. Not all teaching hospitals are AMCs.
- **Undergraduate Medical Education (UME):** The four-year, post-baccalaureate curriculum leading to the Doctor of Medicine (M.D.) degree.
- **Postgraduate Medical Education (GME):** Training following completion of the M.D. (or D.O.) degree required to obtain a license to practice medicine unsupervised.
  - ***Internship*** – first year of post-medical school training
  - ***Residency*** – Up to seven years of post-medical school training (depending on chosen specialty) leading to board-certification in a chosen specialty
  - ***Fellowship*** – Additional optional study (one to three years) in a chosen subspecialty
- **Faculty Practice Plan:** Legal structure that organizes the clinical practice of faculty physicians, often including patient billing, outpatient clinics, and physician compensation.

4 primary AMC organizational structures

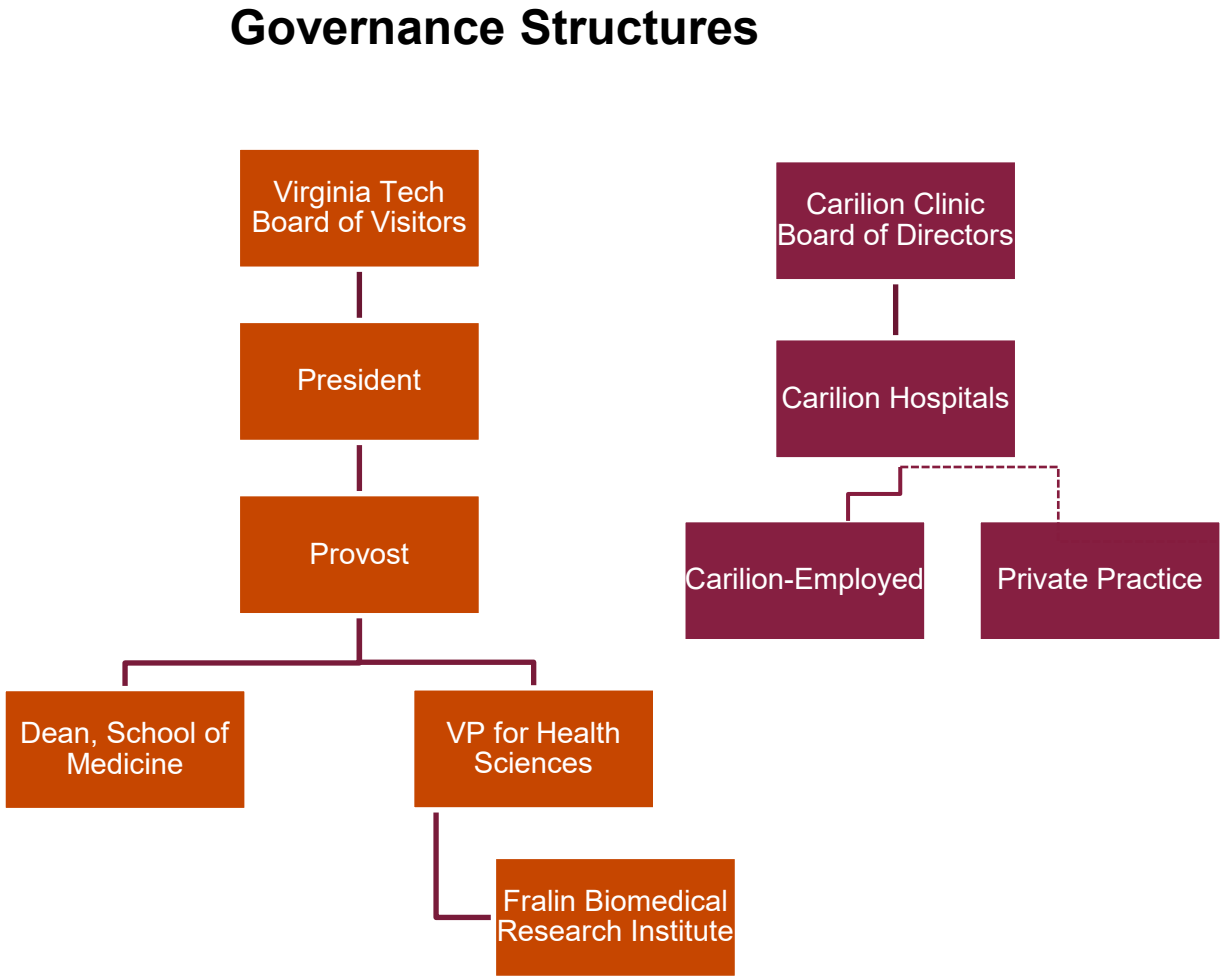
1. **Medical School-Based** – Dean oversees the hospital and faculty practice plan
2. **Medical Center-Based** – Hospital/health system oversees the medical school and faculty practice plan
3. **University-Based** – University oversees the medical school and faculty practice plan
4. **Separate Boards for University and Hospital** – separate governing boards for each major component

"If you've seen one medical school…."



Source: AAMC School of Medicine Organizational Models Survey

Virginia Tech and Carilion have separate boards – aligned with their missions



- Carilion Clinical and VTCSOM recruit clinical department chairs together
  - Carilion Clinic is the hiring authority, but chairs have a faculty appointment at VT with dual reporting that includes performance reviews by the dean's office
- VTCSOM Dean serves ex officio on the board of directors of Carilion Medical Center in Roanoke (the largest of Carilion's hospitals)
- Carilion's "clinic model" was implemented about 10 years ago
  - Open medical staff including physicians employed by Carilion Clinic and physicians in unaffiliated private practices

Typical fund sources for academic medical centers

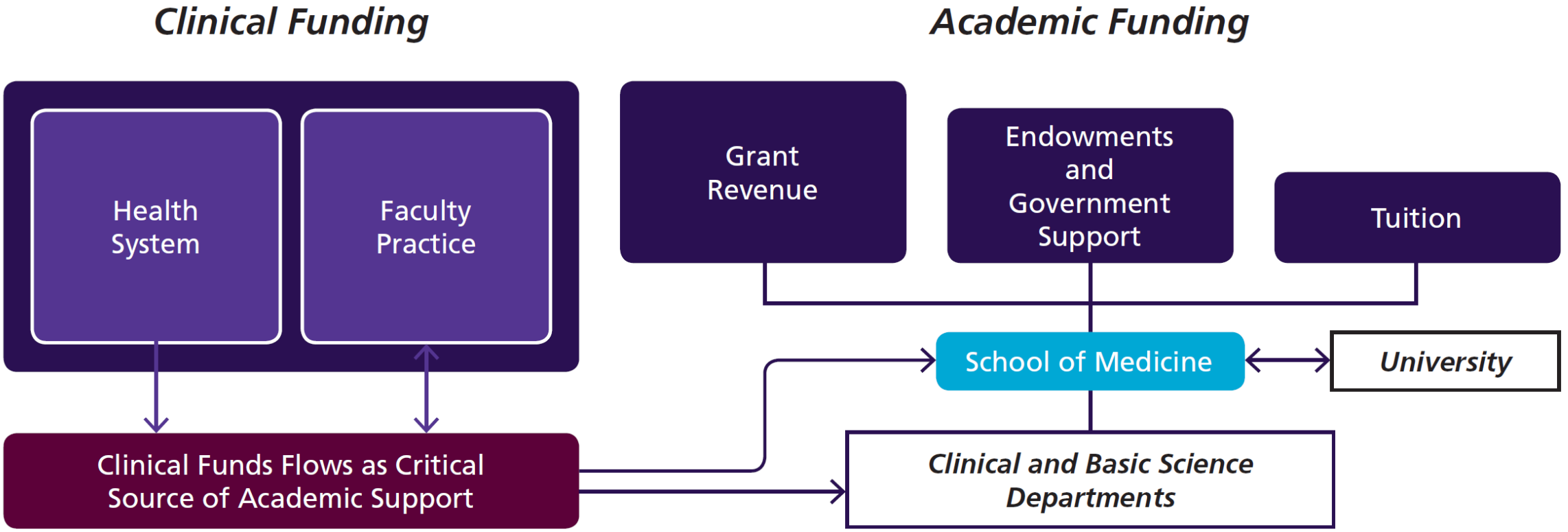
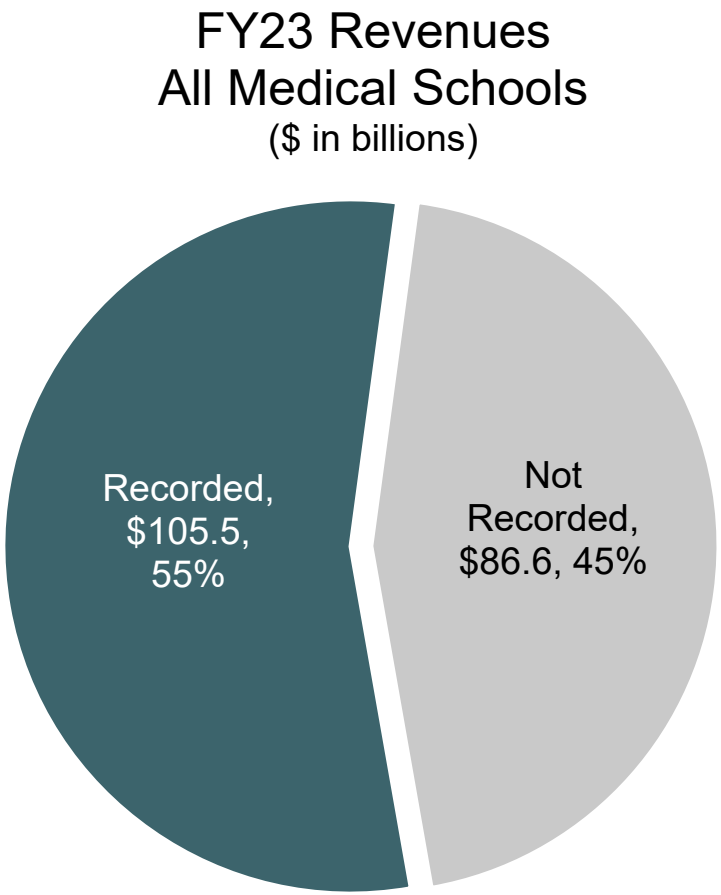
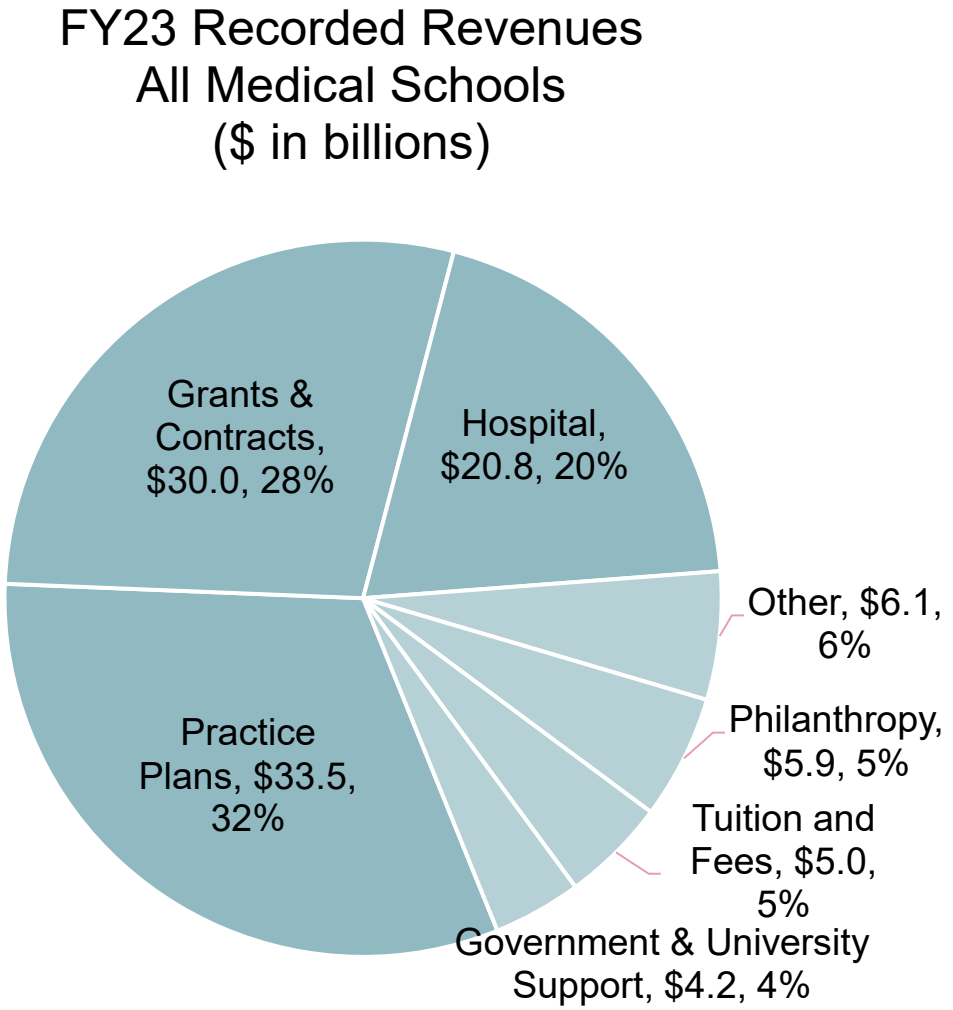


Figure ES.1. Conceptual example of funds flow to support the academic mission.

Source: Next-Generation Funds Flow Models: Enhancing Academic Health System Alignment, AAMC, October 2018.

Medical school revenues nationally reached above $192B in FY23



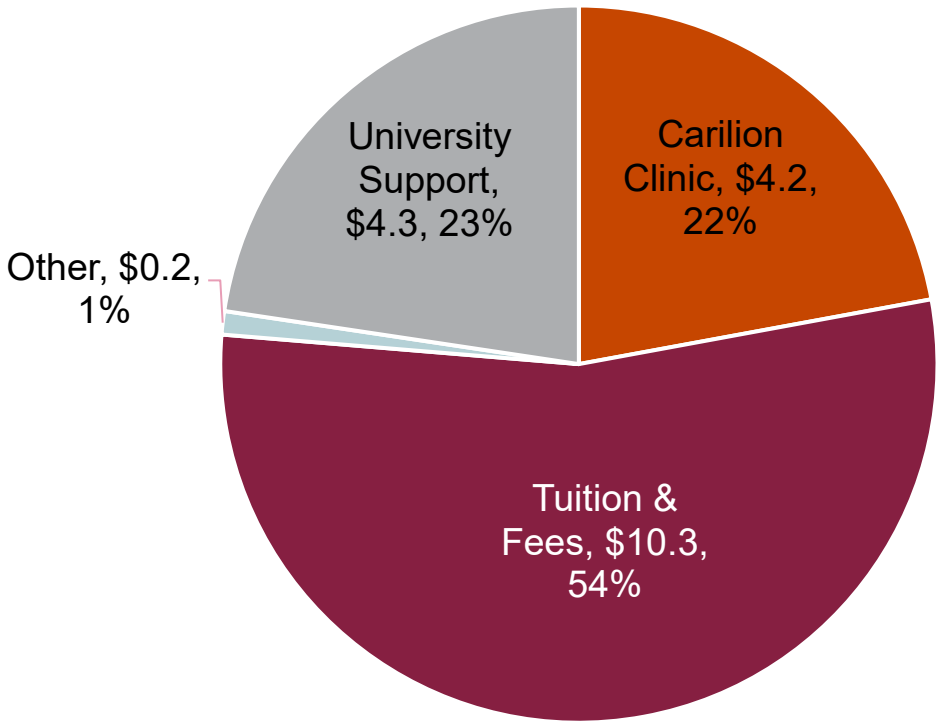


Source: FY23 Medical School Finance Tables, AAMC.

The VTCSOM is unique – programmatically and financially

- Enrollment among the lowest in the country
  - Only 2 of the 150 fully accredited medical schools are smaller
  - Approved by LCME to grow enrollment in anticipation of new SOM building
- Research requirement through four-year curriculum
  - Mentored by FBRI and other VT faculty as well as Carilion-employed VTCSOM faculty
- VTCSOM research focused on health systems implementation sciences
  - Most biomedical research sits outside of the medical school organization

FY23 VTCSOM Recorded Fund Sources
($ in millions)



In FY23, VTCSOM included $25.1M in grants and contracts expenditures as not recorded, since the funds flow through FBRI/University not VTCSOM directly.

Looking ahead



- Global Distinction: Biomedical research is a key growth area
- Partnerships will be key to our meeting our tripartite mission
  - Carilion - VTC leadership workgroup
  - Children's National Research Institute workgroups
  - iTHRIV – CTSA collaboration with UVA
  - Wake Forest – dual degree and cancer center designation
- State and philanthropic support will be essential
  - VT is the only public medical school in VA that receives no state operating support
  - Planning funds have been appropriated for the new medical school building; construction appropriation will be among top priorities for 2025 session
  - Philanthropy will be a growing piece of the equation

Questions?

Opportunities to drive commercialization, partnerships, and research funding.

Sally Allain, MSc, MBA
Chief Health Sciences Growth & Innovation Officer

VIRGINIA TECH

Fralin Biomedical Research Institute Faculty Start-up Companies

FBRI is set up well to fuel the translation of research to commercialization opportunities

FIRSTSTRING RESEARCH



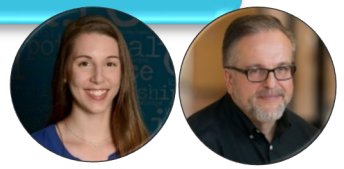
Rob Gourdie

The Tiny Cargo Company



Rob Gourdie Spencer Marsh

BEAM DIAGNOSTICS, INC.



Sarah Snider Warren Bickel

ACOMHAL RESEARCH



Samy Lamouille

CAIRINA



Jennifer Munson



Read Montague

Bio-Tairapeutix LLC

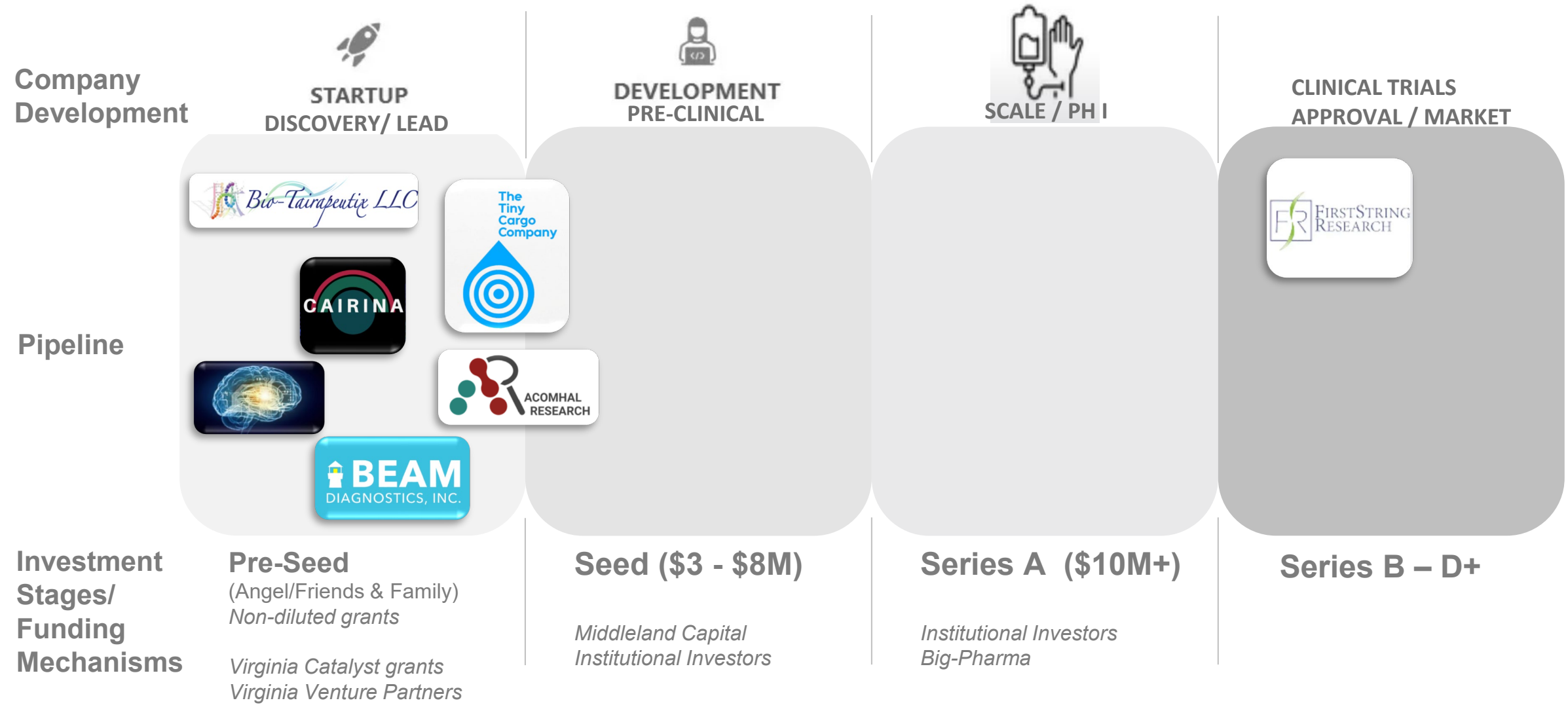


Zhi Sheng

- 28 invention disclosures by 35 FBRI faculty, students and staff over last 5 years
- Growth of the Cancer Research Center in both Roanoke & DC, potential to spin out additional IP

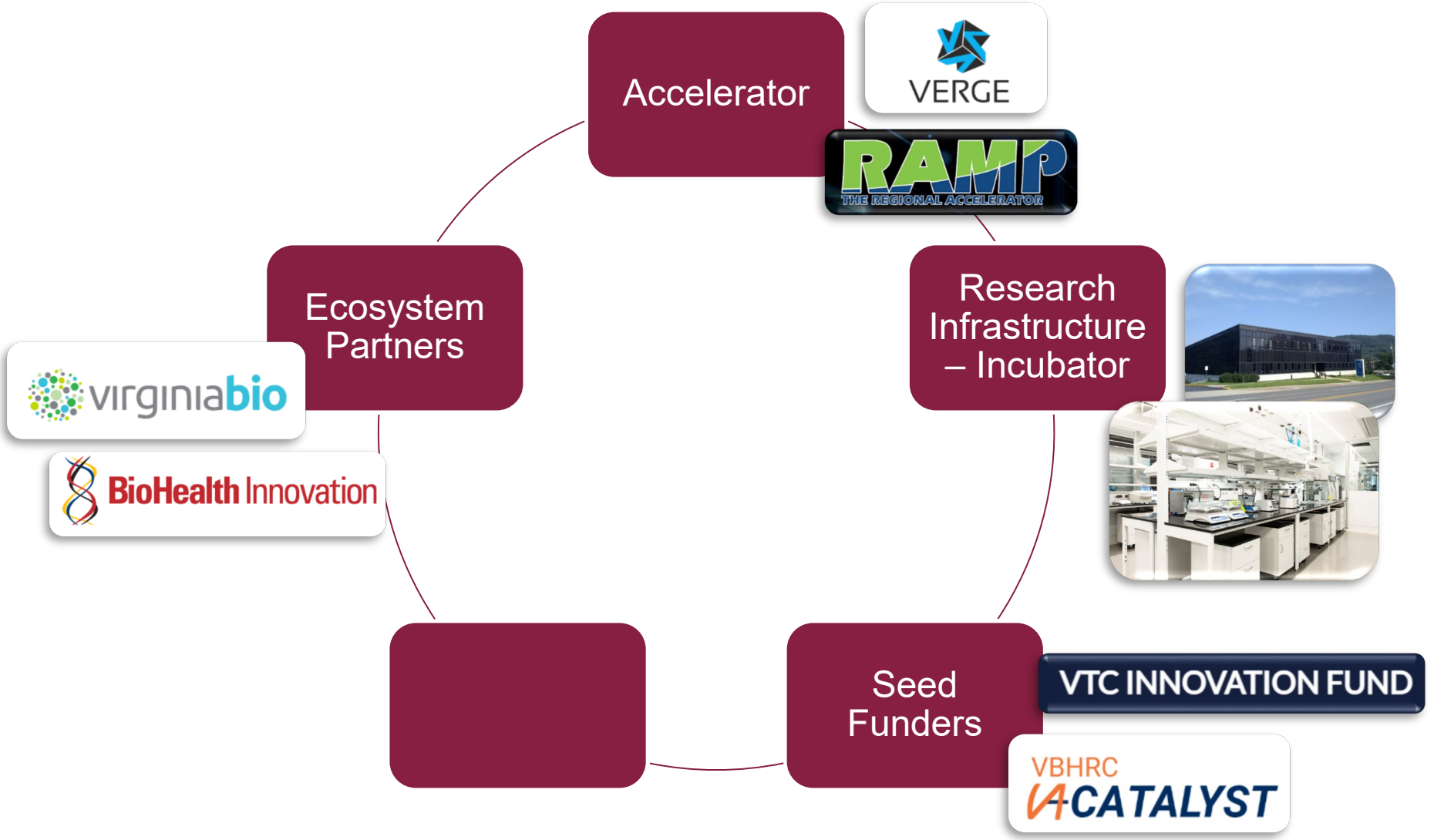
Enhancing the Success of the Early-Stage Company Pipeline

Access to networks for mentorship, industry insights, and venture funding will be crucial



Southwest Virginia Biotech Ecosystem Development

Emerging ecosystem with very early-stage support

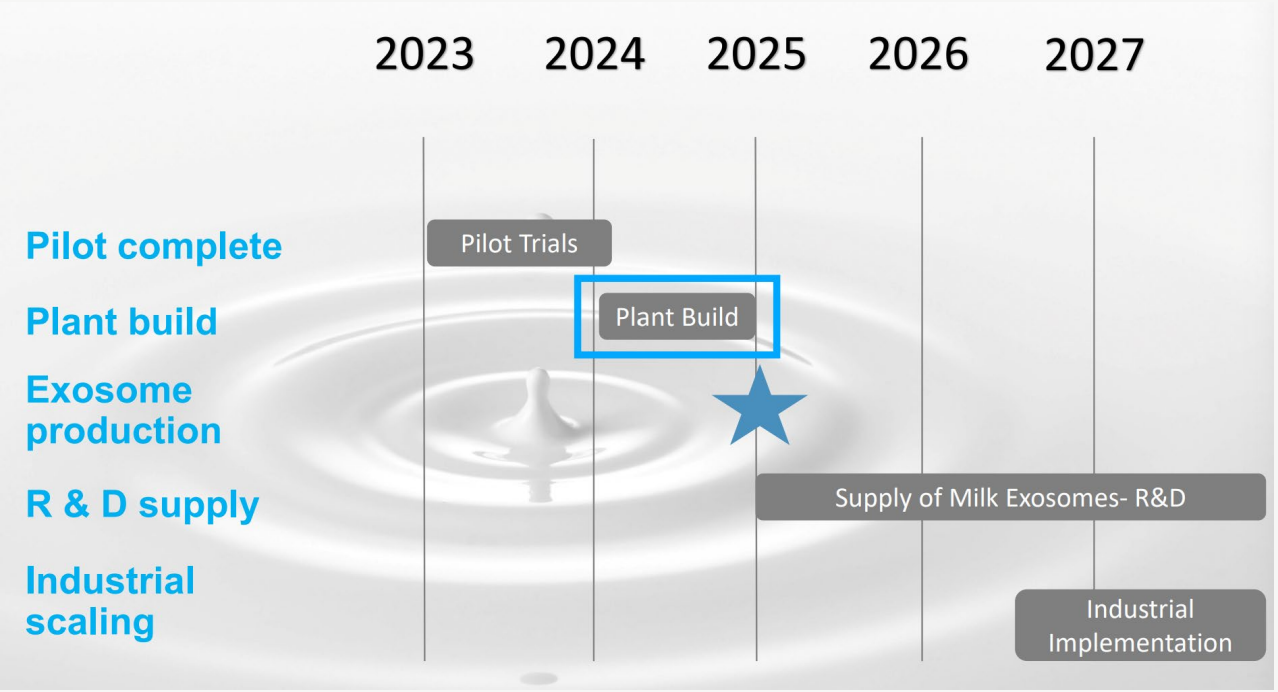


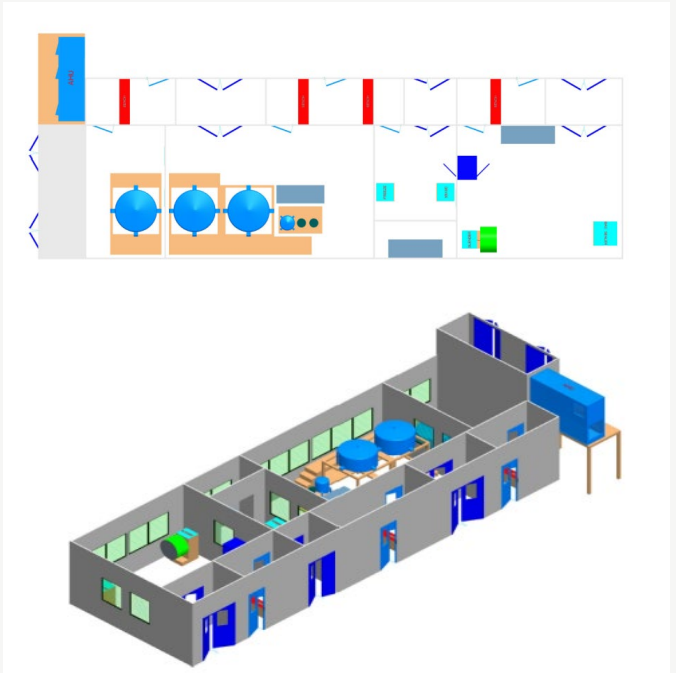
Potential to Drive Economic Development in the Region

The Tiny Cargo Company

Pioneering oral peptide therapies to treat therapeutic radiation exposures- Cancer adjuvant therapy

Tiny Cargo is positioned to supply Kilograms of mile Exosomes (EVs) to Industrial Giants for pesticide delivery, drug delivery, and for future dairy technology.



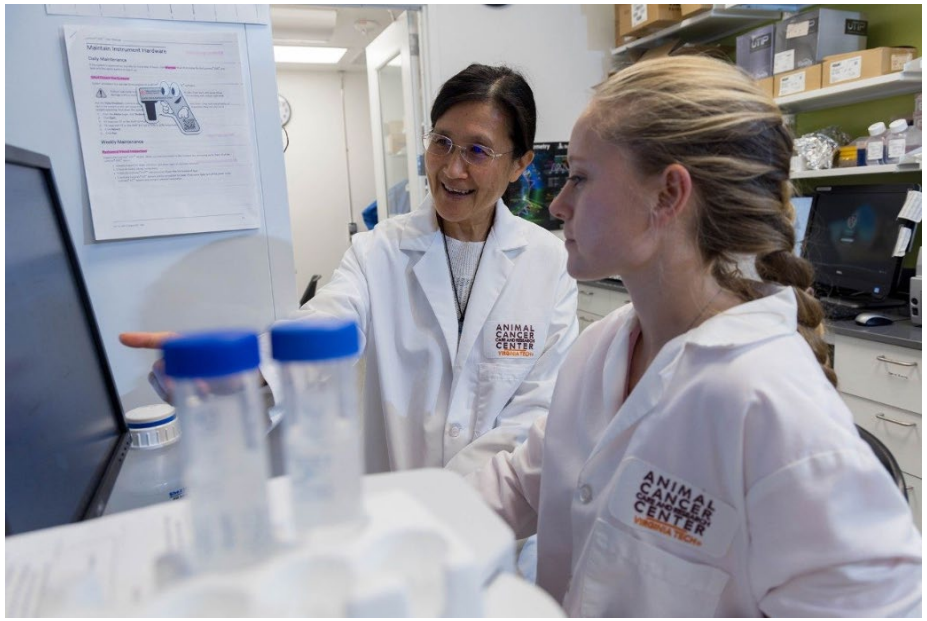


Opportunities to Attract Early-stage Start-ups

Leveraging FBRI's research strengths and Centers of Excellence to attract outside biotech and additional funding

Animal Cancer Care and Research Center

- Integrated oncology services for dogs and cats
- Access to clinical research trials



LIFEBRIDGE INNOVATIONS

Early-stage biotech developing a Tumor Treating Field device to treat metastatic cancer.

Plans to run a dog clinical trial at the Research Center.

luminary therapeutics

Clinical stage CAR-T therapy company utilizing a unique allogenic manufacturing platform for both hematological malignancy and solid tumors.

FBRI Industry Partnerships

Opportunity to enhance connection with industry to drive funding, research, and collaboration agreements

BRUKER

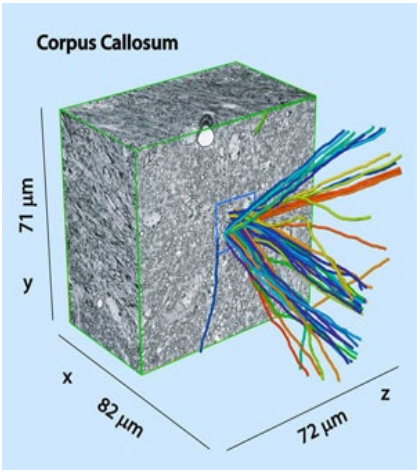


SIEMENS Healthineers

INSIGHTEC

ThermoFisher SCIENTIFIC

The world leader in serving science



FBRI Industry Partnerships

Opportunity to enhance connection with industry to drive funding, research, and collaboration agreements

INSIGHTEC



Cheng-Chia "Fred" Wu, M.D., Ph.D.
Assistant Professor
Developing precision-based treatments for childhood cancers

Technologies like focused ultrasound may be the basis of new treatment possibilities

Ongoing discussions with Insightec, Corilion Neurosurgeons, to conduct studies (3 proposals; rodents, dogs, humans)

FBRI Industry Opportunities

Examples of leading academic research medical institutions industry partnerships



MD Anderson and Siemens Healthineers collaborating to enable consistent clinical implementation of quantitative MRI

Strategic alliance initially focused on knowledge dissemination, protocol standardization and remote monitoring approaches to enable personalized medicine for patients

MD Anderson News Release September 29, 2021

FBRI Next Steps

- Leverage FBRI's areas of expertise
  - Oncology
  - Cardiovascular
  - Neuroscience
  - Infectious Disease
  - Behavioral Health
- Identify industries strategic areas of focus that overlap and existing case examples
- Elevate and continue to amplify FBRI's research and technology development

Link to “Like Nobody’s Business”

https://www.openbookpublishers.com/books/10.11647/obp.0240

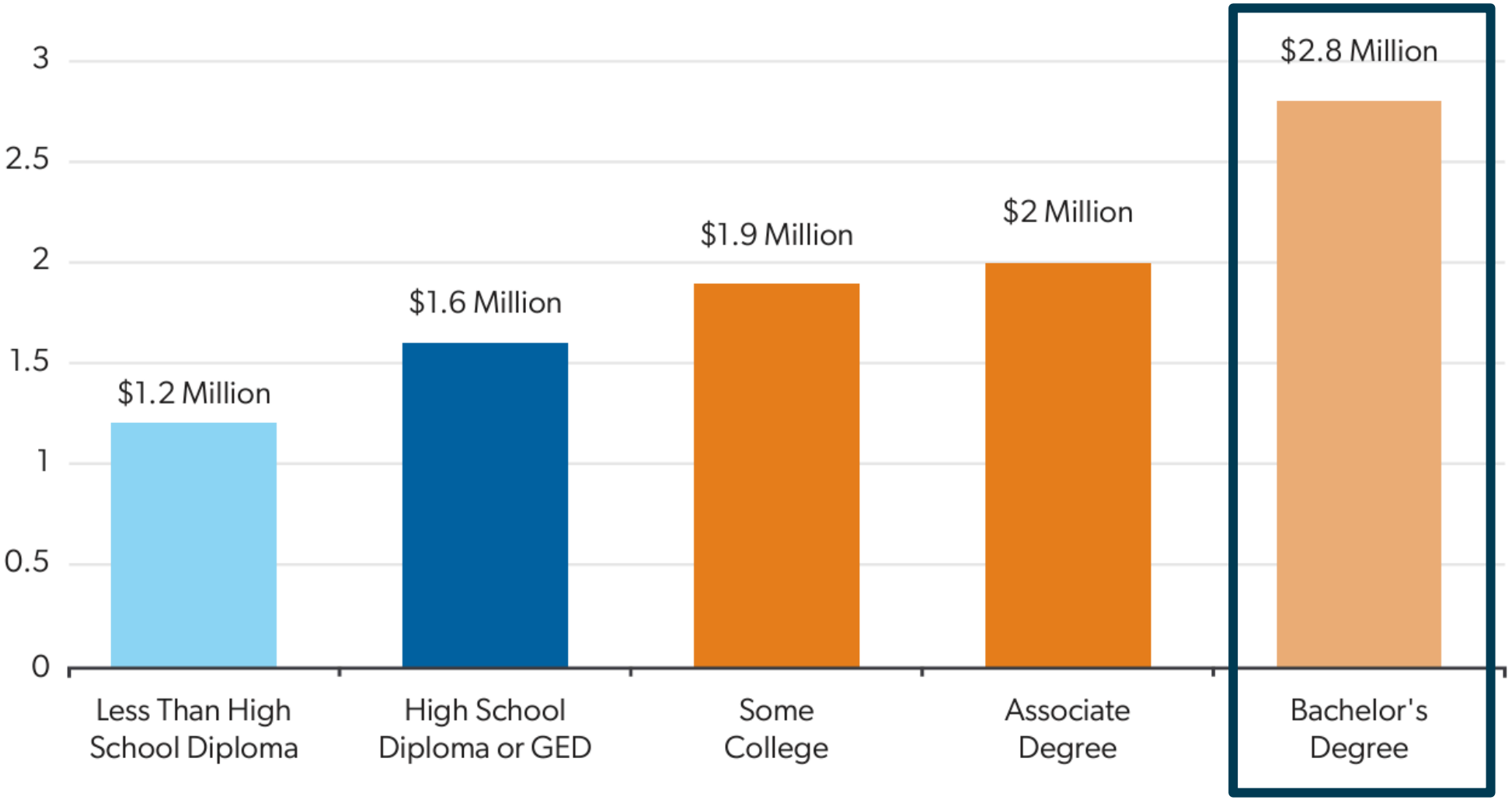
Strada | EDUCATION FOUNDATION

Career Opportunities: Employment, Underemployment, and Improving the College-to-Career Transition

APLU Council of Presidents and Chancellors
June 13, 2024

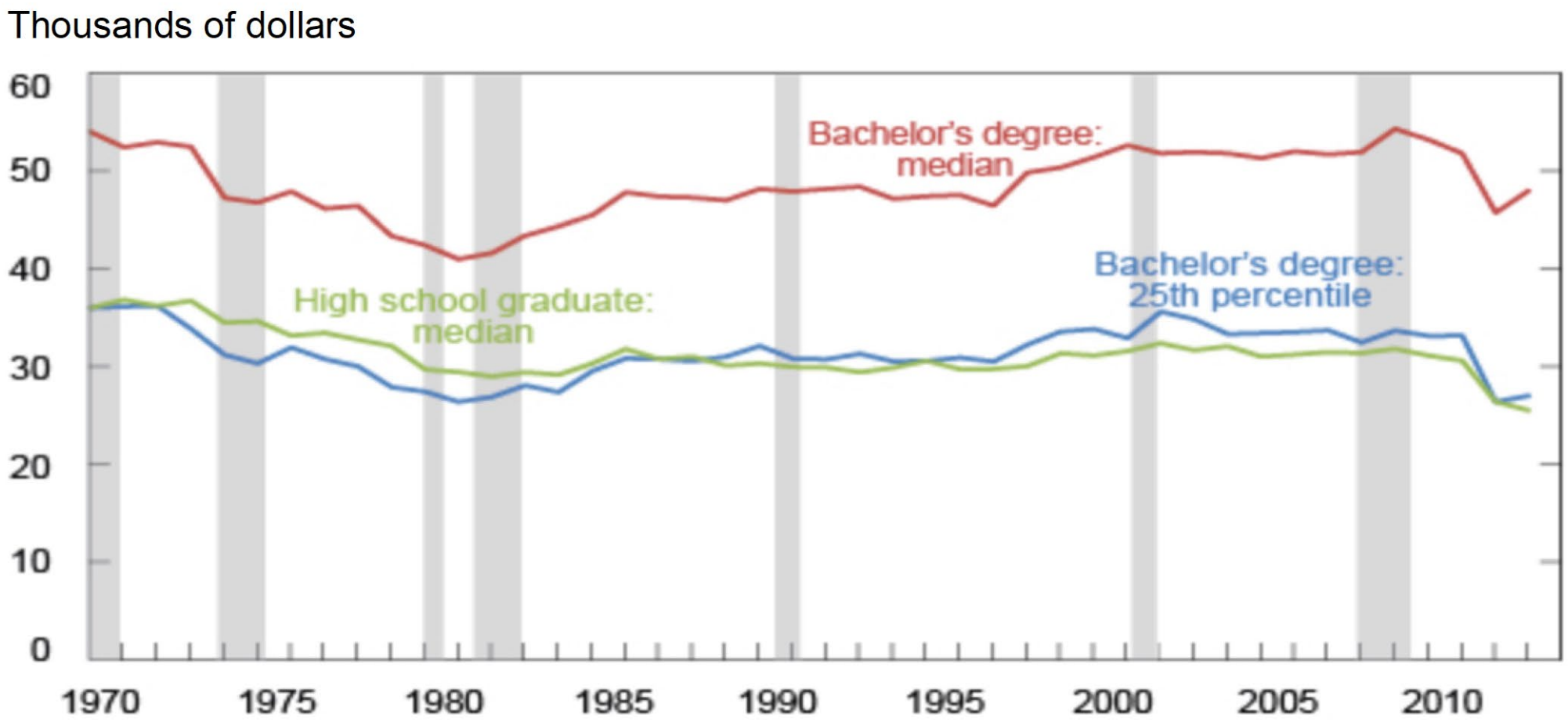


Median lifetime earnings by educational attainment



Source: Georgetown University Center on Education and the Workforce, 2021. https://cew.georgetown.edu/wp-content/uploads/cew-college_payoff_2021-fr.pdf

Annual Wage by Education, 1970-2013



Source: U.S. Census Bureau and U.S. Bureau of Labor Statistics, Current Population Survey, March Supplement; U.S. Bureau of Labor Statistics, consumer price index.
Notes: Dollar figures are expressed in constant 2013 dollars. Shaded areas indicate periods designated recessions by the National Bureau of Economic Research.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Companies Want Fewer Grad Hires This Year
Companies are hiring fewer fresh graduates and rethinking their needs for entry-level talent
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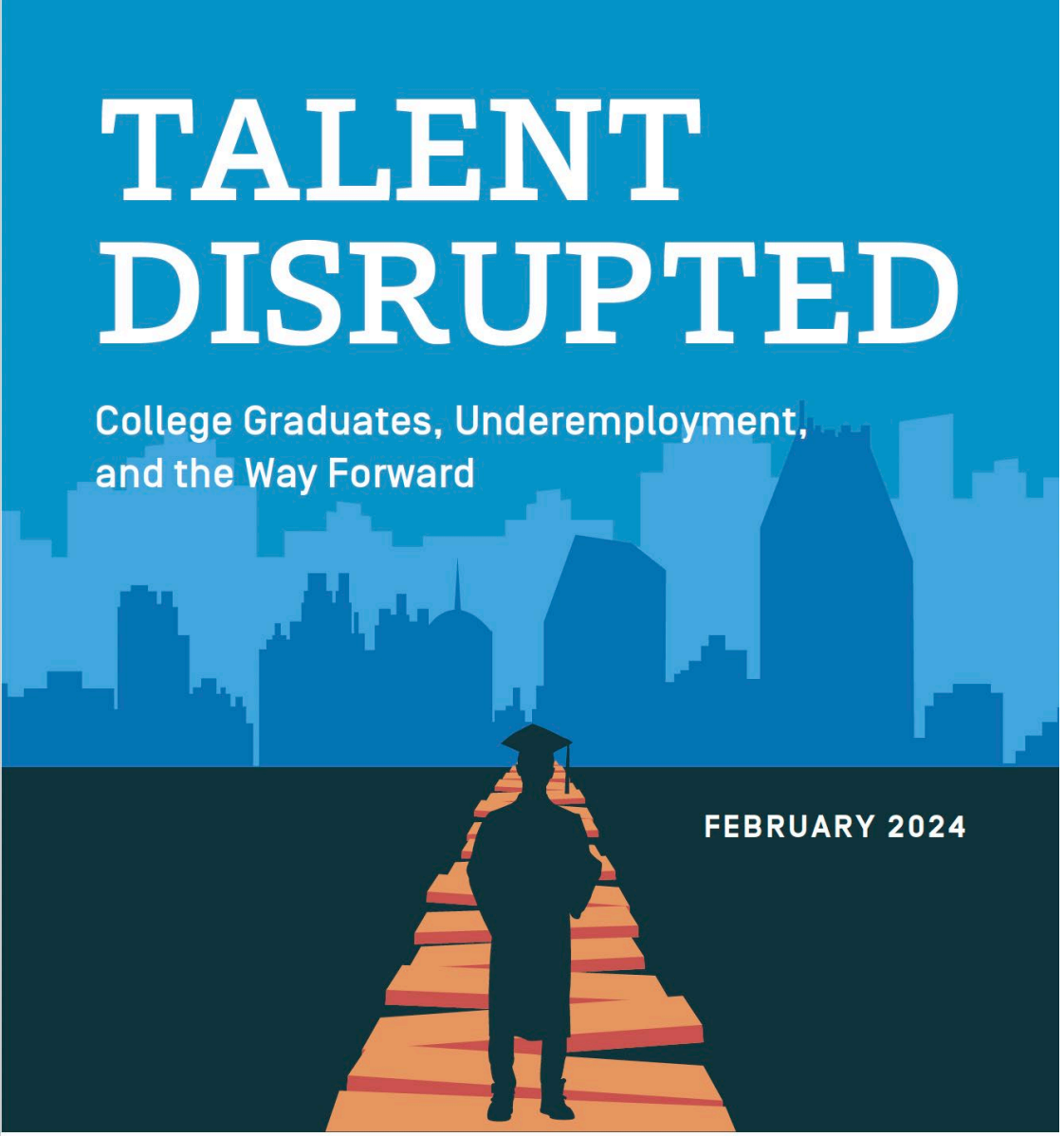


Research Question

To what extent does a *terminal* bachelor's degree provide access to a different set of jobs and careers than someone would be able to get with less education?

Selected national findings

- **Underemployment is a large and persistent problem.** Overall, 52% of grads with a terminal BA/BS are underemployed a year after graduation. Even a decade after graduation, 45% grads are underemployed.
- **The first job after graduation is critical.** Grads who start out in a college-level job rarely slide into underemployment, as 79% remain in a college-level occupation 10 years after graduation.
- **Underemployment is sticky.** About 73% of grads who start out underemployed remain so 10 years later, making them 3.5x more likely to be underemployed compared to those who started in a college-level job.
- **Underemployment carries a heavy financial cost.** A recent BA/BS grad employed in a college-level job typically earns 88% more than a HS-only grad, while underemployed grads typically earn about 25% more.
- **Underemployment rates vary greatly by college major.** Grads with a BA/BS in a math-intensive field (e.g., engineering, finance), education, or nursing face much lower underemployment than most others.
- **STEM is not a silver bullet, at least not at the bachelor's degree level.** At the BA/BS level, **TEM** grads (e.g., computer science, math) tend to experience considerably lower underemployment than **S** (e.g., biology) grads.
- **College-level employment rates are higher for those who complete an internship.** Controlling for other factors, the odds of underemployment for grads who had an internship are nearly 50 percent lower.
- **Institution type, race/ethnicity, gender, and geography matter with respect to post-graduation occupational outcomes, but typically not as much as college major or internships.**

How are college-level employment/underemployment defined and calculated?

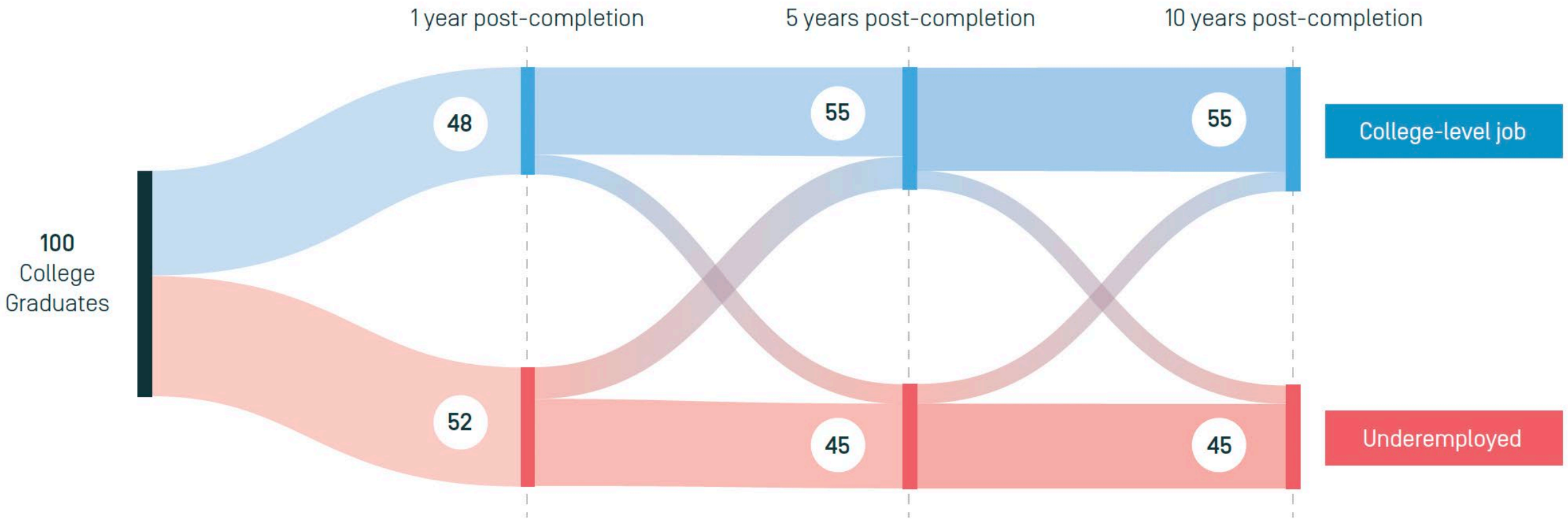
Three variables:

- Educational attainment by occupation (BLS)
- BLS education and training assignments*
- Education and training requirements in job postings

The average of these three variables was used to assign education levels to occupations. **Importantly, the results led to the same classifications as BLS education and training assignments.**

*Based on several factors, including educational attainment by occupation, O*NET, IPEDS, and qualitative information from educators, employers, incumbent workers, training experts, and professional and trade associations.

Employment outcomes by years after graduation



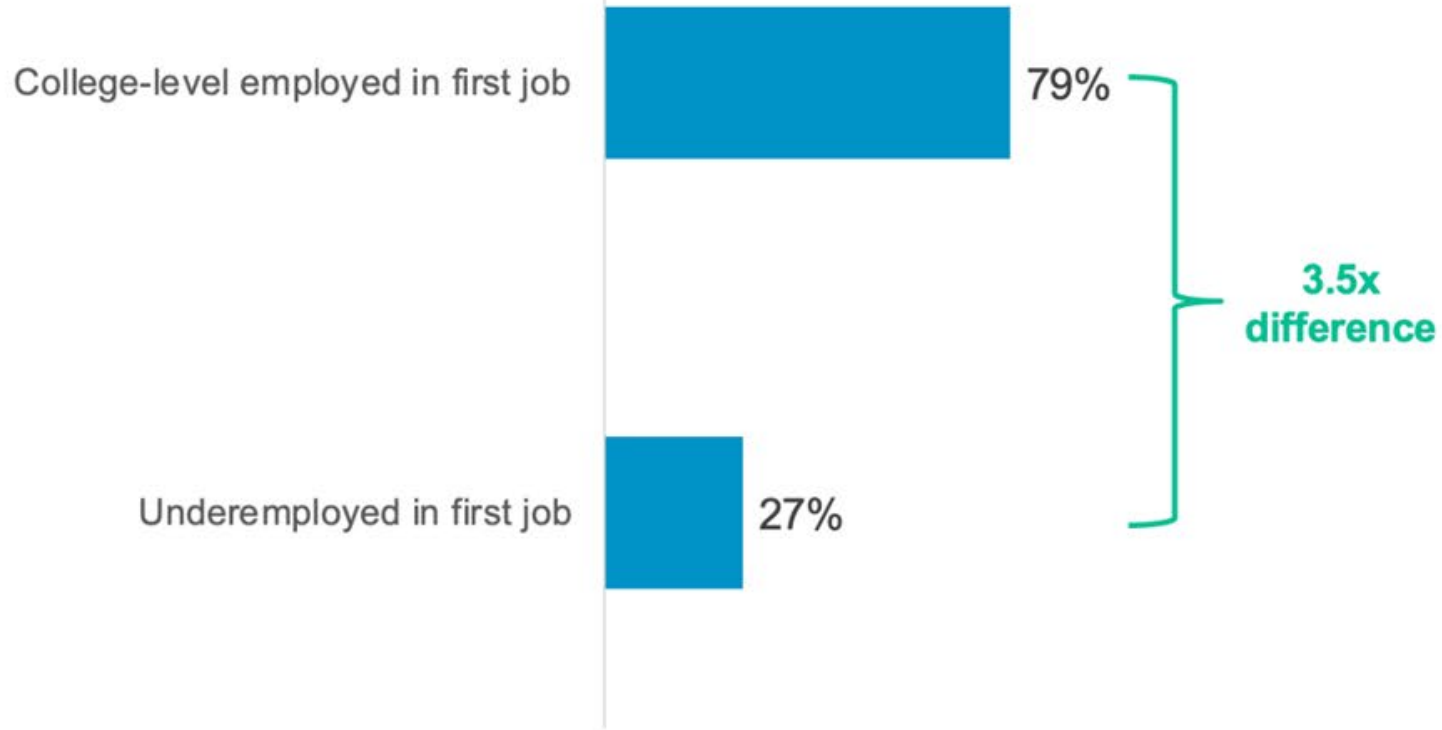
Source: Burning Glass Institute analysis of Lightcast Career Histories Database, 2022. Calculated for workers with a terminal bachelor's degree.

First Jobs After Graduation Are a Critical Milestone

College-level employment rate, five years after graduation

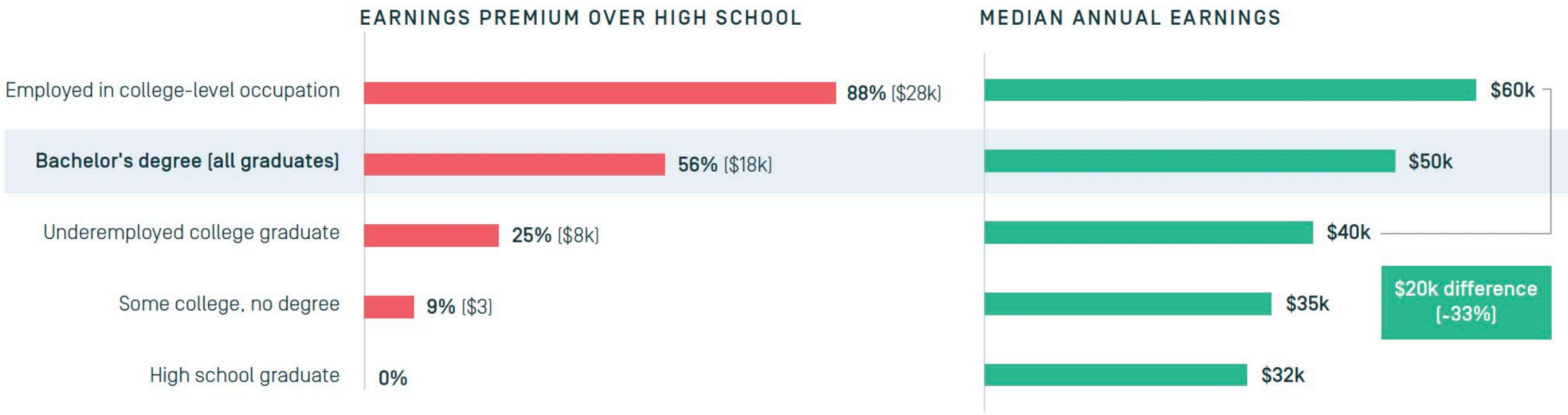


College-level employment rate, 10 years after graduation



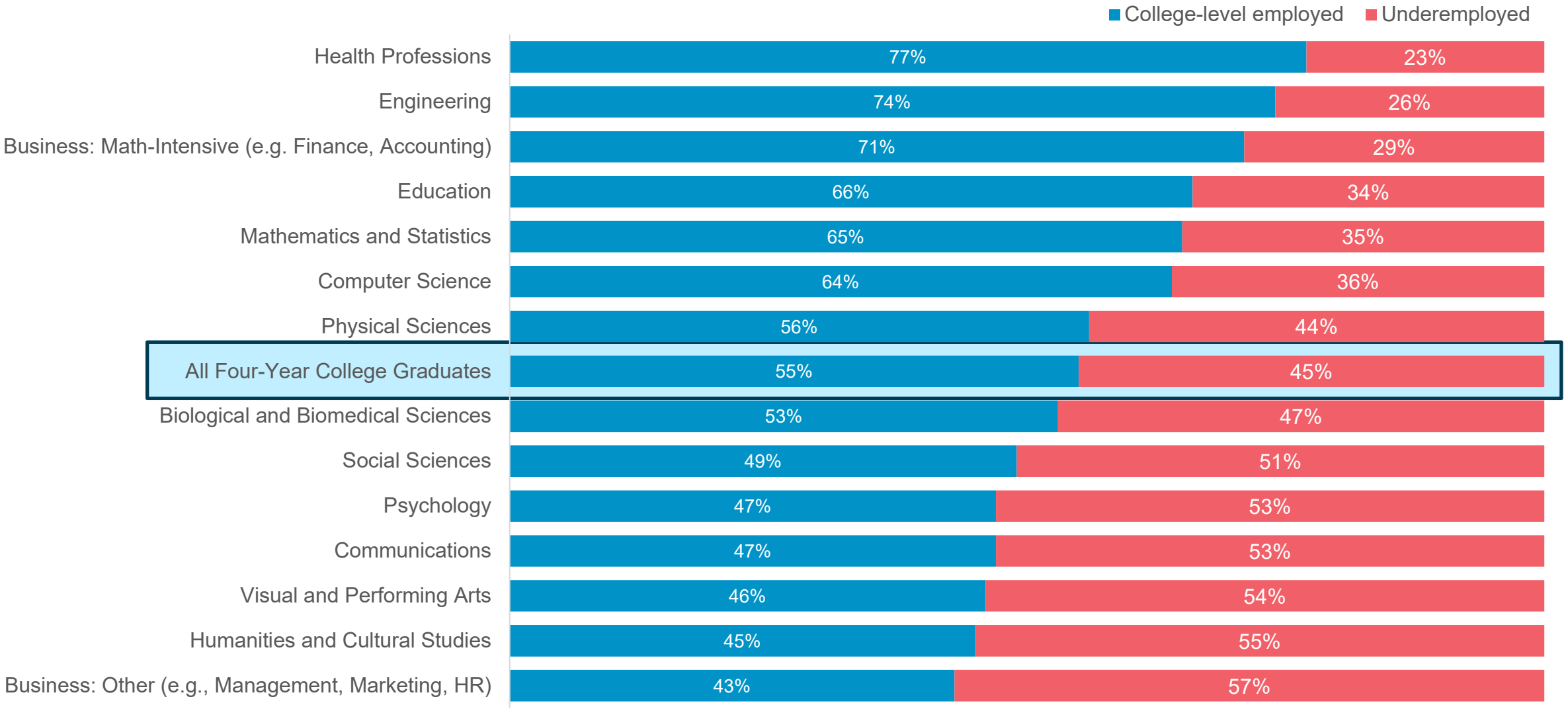
Source: Burning Glass Institute analysis of Lightcast Career Histories database, 2022.

Earnings premium over high school graduates and median annual earnings by educational attainment for recent college graduates with a terminal bachelor's degree



Source: Burning Glass Institute analysis of American Community Survey, 2022. Calculated for workers with a terminal bachelor's degree aged 22–27, employed full-time, year-round, and not enrolled in school.

Occupational employment outcomes for selected degree fields, five years after graduation



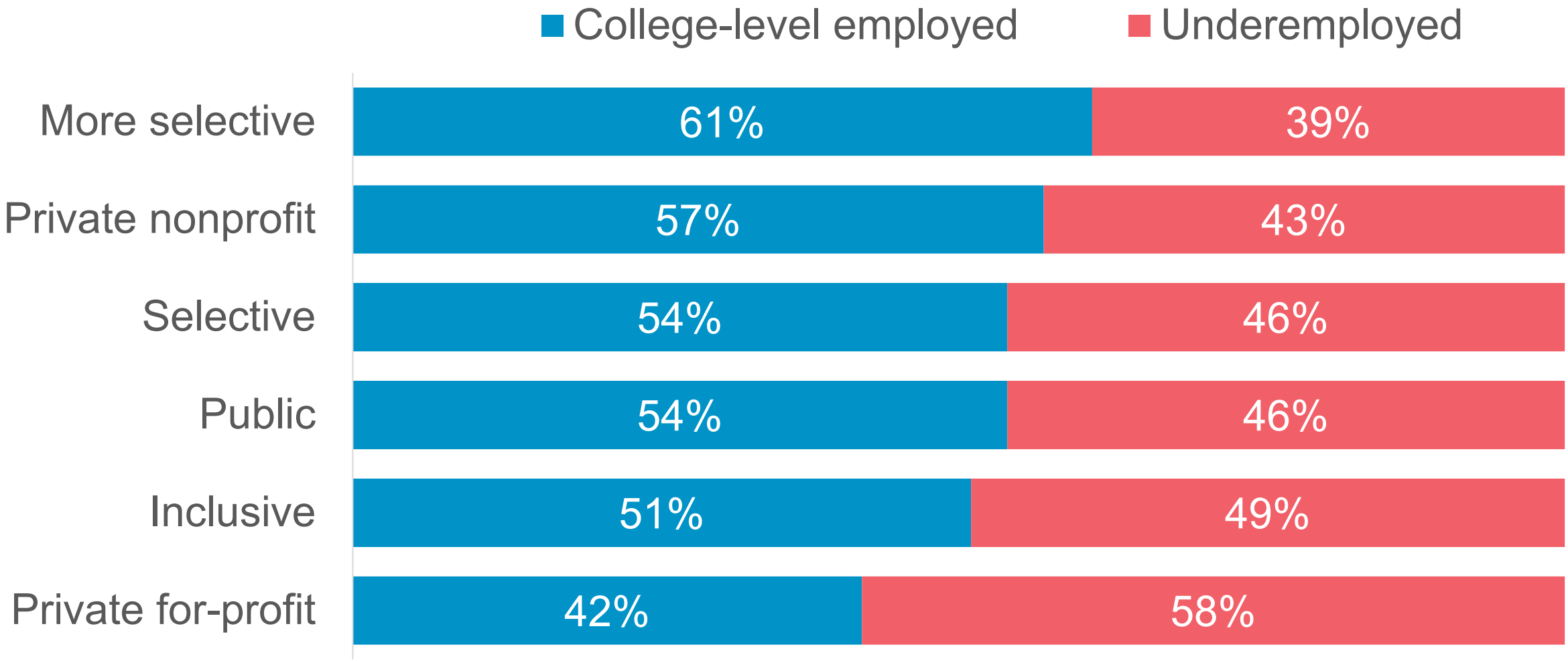
Source: Burning Glass Institute analysis of Lightcast Career Histories Database, 2022. Calculated for workers with a terminal bachelor's degree.

Odds of underemployment by internship participation

- **49% lower odds of underemployment for graduates with internships than those without internships,** controlling for gender, race/ethnicity, and institutional characteristics constant
- Especially positive outcomes for **Black graduates**, compared to those without internships
- Consistently lower rates of underemployment **across degree fields for graduates** with internships



Occupational employment outcomes by institution type, five years after graduation

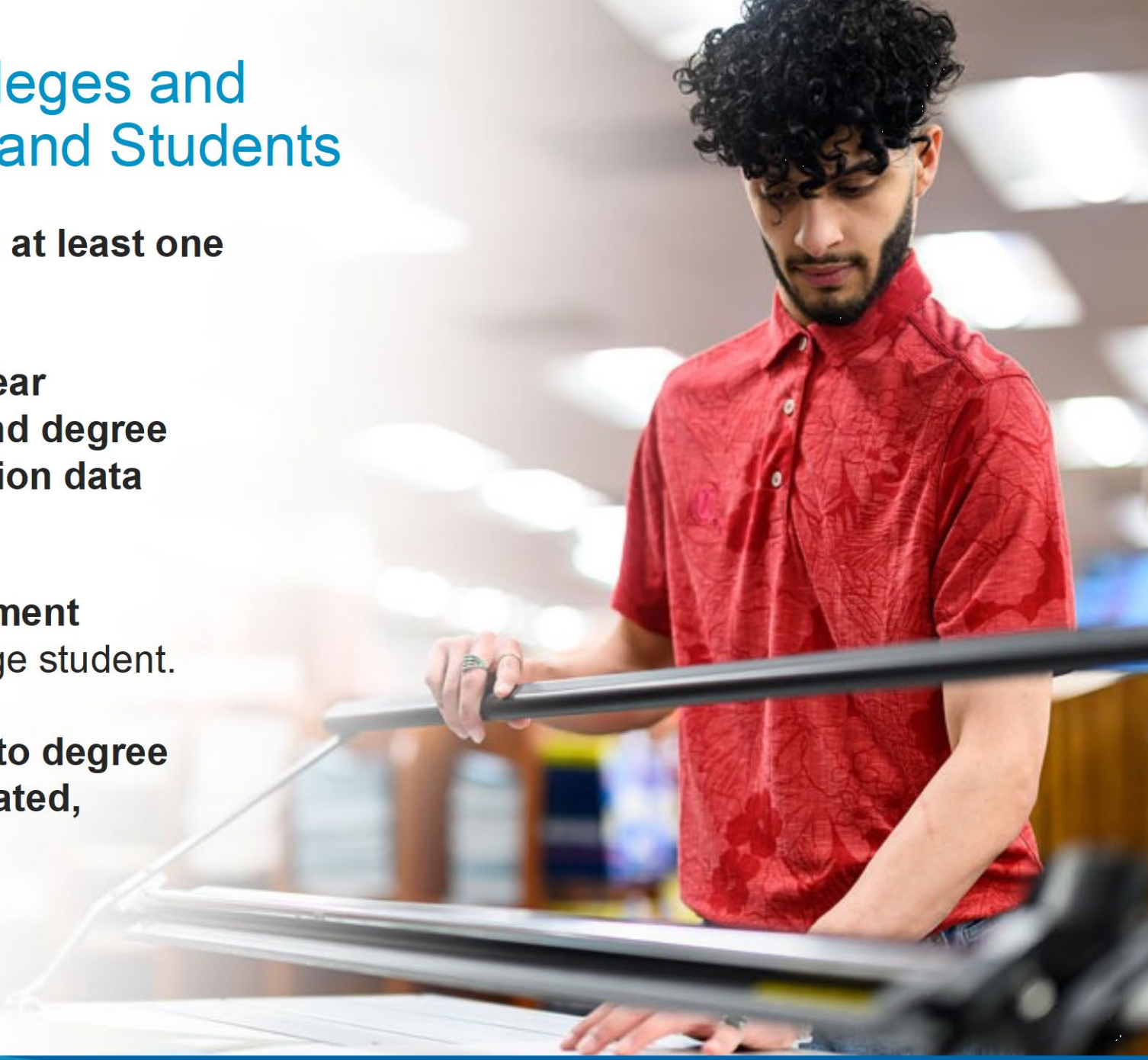


Source: Burning Glass Institute analysis of Lightcast Career Histories Database, 2022. Calculated for workers with a terminal bachelor's degree.

What Can Institutions Do To Facilitate College-Level Employment?

Recommendations for Colleges and Universities, Policymakers, and Students

- Enable every college student to access **at least one paid internship**.
- Ensure that everyone has access to **clear employment outcomes by college and degree program, with earnings and occupation data included**.
- Provide **quality education-to-employment coaching and advising** to every college student.
- Ensure that every student has **access to degree programs that lead to well-compensated, college-level employment**.



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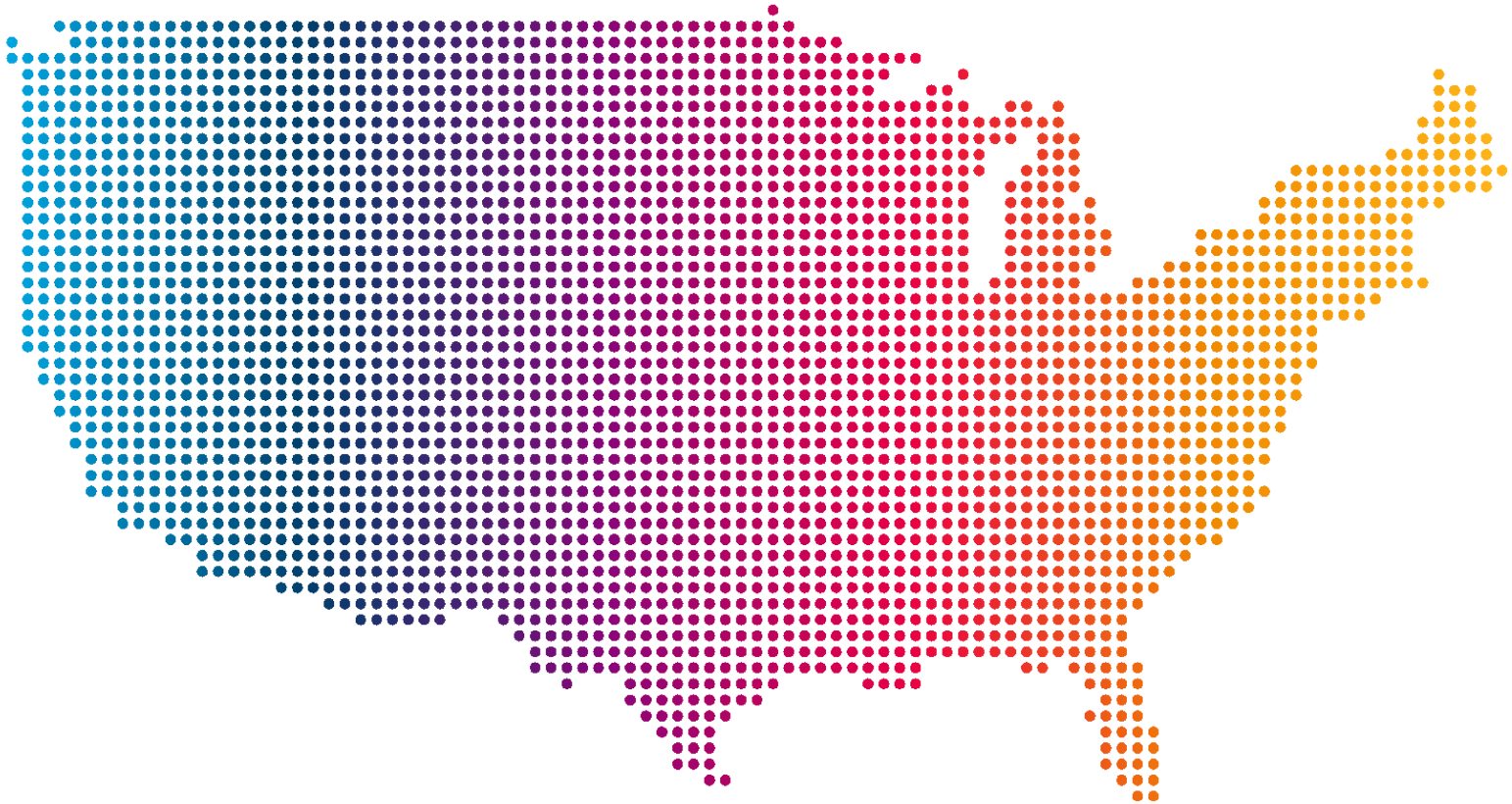
Where do we stand on key contributors to opportunity, including work-based learning and education-to-career coaching?

State Opportunity Index

ACROSS THE COUNTRY
AND IN EVERY STATE,
OPPORTUNITY EXISTS.



April 2, 2024

WORK-BASED LEARNING
Results

Paid internships

CLASSES OF 2020-2023,
PUBLIC INSTITUTIONS

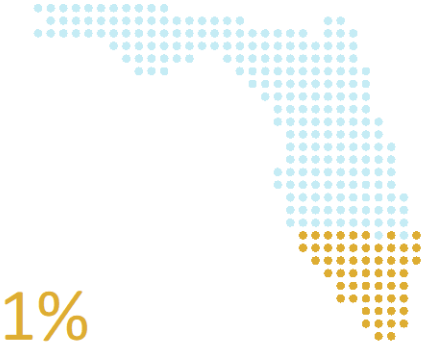
NATIONAL TWO-YEAR: **10%**

NATIONAL FOUR-YEAR: **26%**



25%

CALIFORNIA FOUR-YEAR



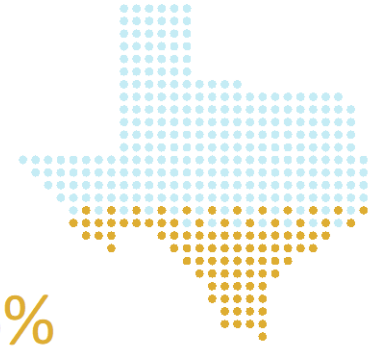
21%

FLORIDA FOUR-YEAR



24%

NEW YORK FOUR-YEAR



26%

TEXAS FOUR-YEAR

Leading	Advanced	Developing	Foundational
61-100%	41-60%	21-40%	0-20%

WORK-BASED LEARNING

Linked to Employment Outcomes

FIRST JOB REQUIRED A DEGREE



44% ..... 62% 73%

SATISFACTION WITH FIRST JOB



44% ..... 51% 61%

SATISFACTION WITH PROGRESS TOWARD LONGTERM CAREER GOALS



41% ..... 49% 56%

- No Internship
- Unpaid Internship
- Paid Internship

QUALITY COACHING
Results

Coaching with timely information and support

CLASSES OF 2020-2023,
PUBLIC INSTITUTIONS

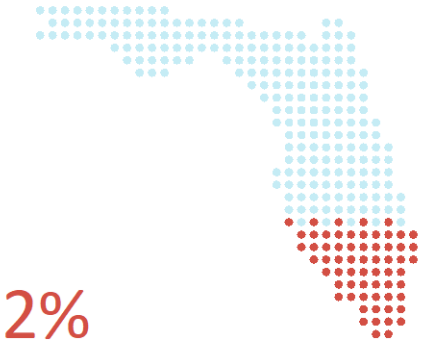
NATIONAL TWO-YEAR: **24%**

NATIONAL FOUR-YEAR: **20%**



18%

CALIFORNIA FOUR-YEAR



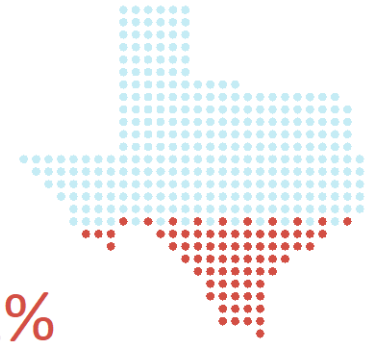
22%

FLORIDA FOUR-YEAR



18%

NEW YORK FOUR-YEAR



21%

TEXAS FOUR-YEAR

Leading	Advanced	Developing	Foundational
76-100%	51-75%	26-50%	0-25%

QUALITY COACHING

Linked to Employment Outcomes

FIRST JOB REQUIRED A DEGREE



52% 69%

SATISFACTION WITH FIRST JOB



47% 63%

SATISFACTION WITH PROGRESS TOWARD LONGTERM CAREER GOALS

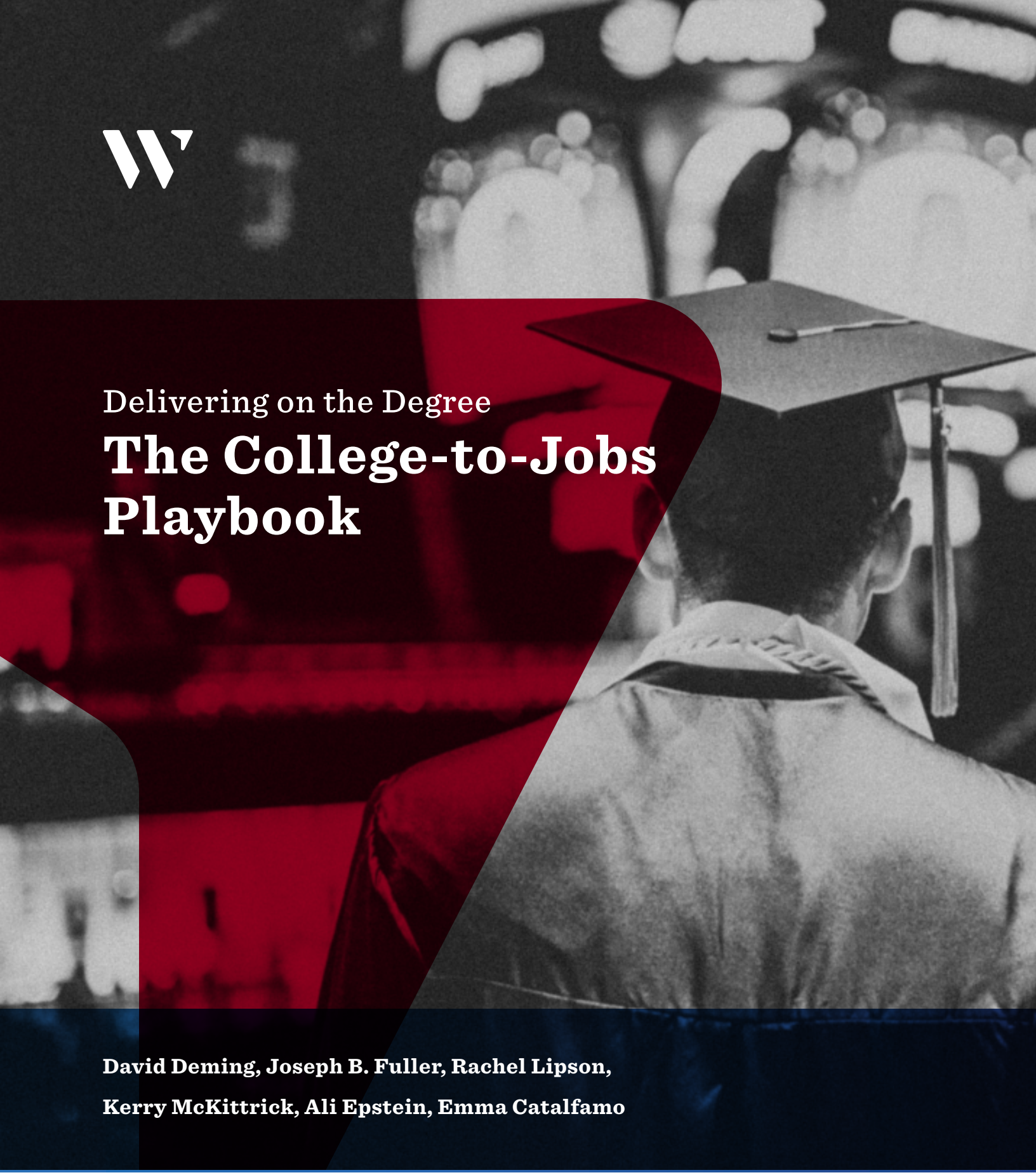


43% 63%

- Lack of coaching with info and support
- Coaching with info and support

Q&A





Delivering on the Degree

The College-to-Jobs Playbook

David Deming, Joseph B. Fuller, Rachel Lipson,

Kerry McKittrick, Ali Epstein, Emma Catalfamo

THE PROJECT ON WORKFORCE

HARVARD Kennedy School
MALCOLM WIENER CENTER
for Social Policy

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The views expressed in this report are the sole responsibility of the authors and are not meant to represent the views of the Harvard Kennedy School or Harvard University.

About the Authors

David Deming is a Professor of Policy at the Harvard Kennedy School and a Professor of Education and Economics at the Harvard Graduate School of Education. He co-chairs the Project on Workforce at Harvard.

Joseph B. Fuller is Professor of Management Practice in General Management at the Harvard Business School. He co-chairs The Project on Workforce at Harvard and is a Senior Non-Resident Fellow at the American Enterprise Institute.

Rachel Lipson is a cofounder and former director of the Project on Workforce at Harvard University's Malcolm Wiener Center for Social Policy.

Kerry McKittrick is an Associate Director at the Project on Workforce at Harvard University's Malcolm Wiener Center for Social Policy.

Ali Epstein serves as the Research Project Coordinator for the Project on Workforce at the Malcolm Wiener Center for Social Policy.

Emma Catalfamo is a Master's in Public Policy candidate at the Harvard Kennedy School and a Research Assistant at the Project on Workforce at Harvard.

About the Project on Workforce at Harvard

The Project on Workforce is an interdisciplinary, collaborative project between the Harvard Kennedy School's Malcolm Wiener Center for Social Policy, the Harvard Business School Managing the Future of Work Project, and the Harvard Graduate School of Education. The Project produces and catalyzes basic and applied research at the intersection of education and labor markets for leaders in business, education, and policy. The Project's research aims to help shape a postsecondary system of the future that creates more and better pathways to economic mobility and forges smoother transitions between education and careers. Learn more at www.pw.hks.harvard.edu.

Delivering on the Degree: The College-to-Jobs Playbook is part of the College-to-Jobs Initiative. This effort, led by the Project on Workforce, highlights the misalignment between higher education and employment in the U.S. It includes the College-to-Jobs Map, a data tool that compares employment growth to college graduate growth in regions across the country. To check out the College-to-Jobs Map, visit collegetojobs.hks.harvard.edu

Acknowledgements

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Please direct inquiries to: Kerry McKittrick (kerry_mckittrick@gse.harvard.edu)

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Executive Summary

For decades, a college degree has been considered the key to unlock economic prosperity in the United States. College degree-holders have, on average, earned higher wages than those without degrees, which has contributed to large and persistent U.S. income inequality.[1] The COVID-19 pandemic, associated economic disruption, and tight labor markets may be upsetting those trends. The college earnings premium appears to be declining for the first time in decades[2] and, in 2021, 40 percent of recent college graduates were working in jobs that have not require a bachelor's degree.[3] Simultaneously, the value proposition of college is beginning to fade in the eyes of many in the American public.[4] As higher education costs continue to skyrocket and student debt mounts, increasing shares of Americans are reconsidering whether college is truly worth the expense.[5] Declining college enrollment numbers provide additional cause for caution.[6]

Colleges are being called on by the public to improve economic outcomes for their students. As the public increasingly asks colleges to prove their value, some in the business community question post-secondary institutions' contributions to addressing labor shortages and skill mismatches in occupations of. Likewise, they express concern about the skills system's capability to generate the number of diverse, skilled candidates to help them meet their diversity, equity, and inclusion objectives.[7] In the wake of this disruption, leaders in the college ecosystem are modernizing long-standing programs and launching new initiatives to improve student connections to the workforce and enhance their career trajectories after college. However, to date, those initiatives have received too little attention both in higher education budgets and public policy priorities. Encouraging educators and policymakers alike to commit more resources to these efforts requires a better understanding of what helps students move from education into good jobs.

In this playbook, we provide a framework to help college better deliver on the American Dream. We create a coherent, comprehensive taxonomy of the landscape of college-to-jobs programs and policies through a review of the existing academic research according to a set of common criteria. With a focus on public two-year and four-year colleges, Minority Serving Institutions and Historically Black Colleges and Universities, we identify 13 "interventions" within the college ecosystem that could be used to ease the transition into good jobs in the workforce.

Interventions

Career coaching

One-on-one counseling between an advisor and a student, which may involve helping students develop career navigation skills and access career information, reviewing job application materials, and connecting students to professional opportunities. Advisors may include career counselors, faculty, alumni, or other trained staff.

Cohort programming

Career-focused learning program structures in which small groups of students are enrolled together in two or more linked courses that connect to specific industries, careers, or fields of study.

Career pathways initiatives *includes meta-majors, guided pathways*

Structured sequences of connected education and training programs that provide students with basic skills and occupational knowledge aligned with industry needs. A basic career pathway model includes multiple entry and exit points that result in stackable credentials, aligned with labor market demands.

Career mentorship programs

Targeted programs that foster personal relationships between college students and college alumni, faculty, staff, or local employers, designed to help students strengthen their ties with industry professionals, grow their knowledge of potential career paths, make informed career decisions, and build their social networks.

Career readiness curriculum

Content that provides instruction, materials, and other support mechanisms tohelp students gain competencies in career and social skills, including leadership,communication, professionalism, critical thinking, teamwork, and career- and self-development skills. Pedagogy may also include a focus on applied career practiceslike resume creation or interview preparation.

Experiential learning coursework

Coursework wherein students learn by actively engaging in hands-on, real-world, or simulated real-world projects, either in the classroom or within companies. These projects are intended to provide learners with both 'hard' and 'soft' skills.

Industry-recognized credentials

Certificates, certifications, and licenses that signify the attainment of skills and competencies needed for a career in a given industry or occupational area. These are generally based on standards developed or endorsed by employers or industry associations.

Last-mile bootcamps

Programs in or affiliated with a college that provide accelerated training in a specific skill set, geared towards teaching technical, job-focused skills. The programs are often the crucial final step before students enter the workforce.

Internships

Short-term work experiences that help students gain entry-level exposure and applied experience in a particular industry, field, or organization.

Job shadowing

Informal, short-term, usually unpaid experiences in which students follow and closely observe employees to better understand the day-to-day rigors of their job and company. These may range from one-time experiences to longer term, more regular experiences with a company or specific employee.

Co-ops

Longer-term (1-3 semesters), full-time work-based learning experiences at an organization that align with students' majors, are centrally organized by the college or faculty, and may provide academic credit to the students.

Apprenticeships

Industry-driven training programs that combine paid, on-the-job learning with classroom instruction and result in nationally-recognized, portable credentials. Colleges may co-design curricula, provide academic instruction, or administer and operate the apprenticeship program, in partnership with local businesses.

Subsidized youth employment programs

e.g., summer jobs programs

Publicly-funded initiatives in which students are paid to attend school in the summer or for practicum experiences in non-apprenticeship "learn and earn" models. In other settings, subsidized job programs may include general experiences where students are paid for related classroom and work-based learning experiences.

The College-to-Jobs Matrix

Intervention Dimensions

To help inform future investments, we assess each intervention along four key dimensions:

- **Prevalence of research** supporting the intervention,
- **Strength of evidence** that the intervention improves students' economic outcomes,
- **Prevalence in practice** in the U.S., and
- **Ease of implementation** for colleges and their ecosystem partners.

Our evaluation is based on an extensive literature and landscape reviewed and summarized in the College-to-Jobs Matrix

Legend

A green circle indicates that an intervention has (1) a substantial body or (2) strong causal research behind it, (3) is prevalent in practice, or (4) is relatively easy to implement. Meanwhile, a red circle indicates that an intervention has (1) little research or (2) weak evidence supporting its economic impacts, (3) is rarely implemented in the United States, or (4) is difficult and resource-intensive to establish and operate. A yellow circle indicates a moderate amount of research and implementation prevalence and feasibility

Intervention Category	Research Prevalence	Research Strength	Implementation Prevalence	Implementation Feasibility
Career coaching	Yellow	Yellow	Green	Yellow
Cohort programming	Red	Yellow	Yellow	Yellow
Career pathways initiatives	Yellow	Yellow	Yellow	Red
Career mentorship Programs	Yellow	Red	Yellow	Green
Career readiness curriculum	Yellow	Red	Yellow	Green
Experiential learning coursework	Green	Yellow	Yellow	Yellow
Industry-recognized credentials	Yellow	Yellow	Yellow	Red
Last-mile bootcamps	Red	Red	Red	Yellow
Internships	Green	Green	Green	Green
Job shadowing	Red	Red	Yellow	Green
Co-ops	Yellow	Yellow	Red	Red
Apprenticeships	Green	Green	Red	Red
Subsidized youth employment programs	Yellow	Yellow	Yellow	Yellow

Our review of the literature and practice in the field yields several additional insights:

- **The college-to-jobs ecosystem is poorly aligned, making collaboration among stakeholders difficult and limiting accountability:** Although partnerships between colleges, employers, and government agencies are critical to success, actions are rarely coordinated across sectors. Researchers study interventions as they are designed, which generates research insights that reflect the siloed nature of the workforce ecosystem.[8] While many colleges are experimenting with new models, research often lags far behind practice, leaving the efficacy of such initiatives unknown. Moreover, employers are often overlooked in the research–even though they play a key role in student economic success. Although all stakeholders share an interest in improving economic outcomes for students, no one is held accountable for ensuring students achieve positive financial outcomes.
- **College-to-jobs interventions tend to be siloed *within* colleges:** Combining college-to-job interventions–and integrating them across departments–improves their effectiveness. However, few colleges do that well, in large part because it requires significant institutional and cultural change. Instead, the majority of schools offer disjointed career services and career learning opportunities. Students are generally required to seek out and navigate career-connected supports on their own.
- **Interventions are often implemented inequitably, but there are strategies to improve access and success for underserved students:** Communities of color, particularly Black students, have been underserved by the college-to-jobs ecosystem. Historically Black Colleges and Universities (HBCUs) and Minority Serving Institutions (MSIs) are historically under-invested in, despite their outsized contribution to economic mobility for students of color.[9] In all environments, college-to-jobs interventions must be designed around equity, including through the integration of wraparound services for students and course credit and/or pay for work-based learning.

We also identified key actions that colleges, employers, policymakers, and researchers can take–both individually and in partnership–to improve college-to-job transitions for students.

- **Colleges must put economic mobility at the center of their mission and hold faculty and departments accountable to this goal.** This includes aligning courses and majors with in-demand, high-paying careers, integrating experiential learning opportunities into coursework, and providing for-credit or paid opportunities for career learning. Colleges should create a "go-to" place for employers to engage with the institution and student body. College leadership ought to actively participate in regional economic decision-making bodies, like the chambers of commerce. Institutions should also invest in learning and sharing best practices with peer institutions across the country.

- **Employers must invest in partnerships with postsecondary institutions, community-based organizations, and other employers if they are to escape the risks associated with relying on the 'spot market' for labor.** Employers ought to engage with diverse institutions and other partners in their regions, including community colleges and HBCUs. They should devote resources to career development earlier in the college pipeline, by helping co-design curricula, providing access to career mentors and state of the art equipment and technology. Moreover, they must remove barriers to students gaining in-demand skills by offering structured, paid, career immersion experiences aligned with learning goals.
- **Policymakers must provide resources to support colleges' career missions.** Colleges should be assessed on students' economic outcomes and provided with the necessary resources to promote student success. Both federal and state policymakers should emphasize transparency to incentivize institutions to improve their performance, including through the College Scorecard. Federal policymakers should consider reforming postsecondary funding to focus on career outcomes. For example, the population of institutions eligible for Title IV Federal funding could be expanded to include partnerships with employers providing appropriate training, with safeguards to avoid abuses. Policymakers should also renew efforts to advancing equity by expanding appropriations for HBCUs and MSIs with the purpose of building on growing corporate commitments to DEI. State policymakers must support student services at colleges and incentivize regional cross-sector partnerships, while improving longitudinal data systems to track economic outcomes—to ensure colleges are meeting economic mobility goals.

Higher education leaders, employers, policymakers, and researchers each can play an integral role in reimagining how college can deliver on pathways to career success for all students. To fulfill the economic promise of college, these stakeholders must embrace a shared definition of success and focus collectively on achieving it.

INTRODUCTION

Putting College-to-Jobs into Focus

For a growing share of learners and workers in the United States, college is failing to live up to its economic mobility promise. For decades, a college degree led to higher wages and more economic stability, on average, for American workers[10] (with variations based on occupation).[11] As income inequality grew, policymakers became myopically focused on expanding college access, based on the well-meaning assumption that college attendance would lead to economic independence. Precious little attention was paid to student outcomes including graduation rates, loan affordability, and, especially, post-graduation employment and earnings status. The result has been college programs that are misaligned with the labor market. In fact, in 2021, 40 percent of students who completed a college degree found themselves underemployed after graduation,[12] and there are signs that the college earnings premium is beginning to decline.[13]

Meanwhile, the cost of college is rising, accompanied by mounting student debt,[14] and students face health and economic challenges brought on by the COVID-19 pandemic. These conditions have prompted many learners and workers to reconsider whether college is truly worth the expense.[15] Their concerns are compounded by other barriers to college enrollment, including time demands and access to housing, childcare, and transportation. Amid steep declines in college enrollment across the country,[16] higher education leaders face a moment of reckoning—in which they must improve the economic returns of a college education.

At the same time, employers are calling upon colleges to improve the workforce preparedness of their graduates—particularly training in "soft skills" such as teamwork, communication, and critical thinking.[17] In response, many education leaders are rethinking how their institutions can better prepare students for careers and connect them to specific opportunities. Several programs and initiatives have emerged to facilitate smoother transitions into the labor market for students–from career coaching to apprenticeships, and, more recently, last-mile bootcamps–but there is little clarity around which initiatives best improve a student's earnings and employment status later in their career, which we reference in this paper as "economic outcomes."

The dearth of information reflects, at least in part, the lack of attention and resources such programs have received from the majority of post-secondary institutions. Relatively few institutions and their partners are as deeply invested in their career advancement mission as they are on enrollment and degree completion. Very little

public funding is specifically allocated for non-instructional costs, including career support services. When states cut their higher education budgets (as many have over the past few decades), institutional spending on student supports is often reduced, in part because it is perceived as having negative impacts on student degree attainment.[18] There are bright spots of course–namely, innovative community colleges that are leading the field in workforce development in their regions.

This white paper puts "college-to-jobs" programs in focus, making the case that they should be a priority for future public policy, investment, and research. We map the field of policies and initiatives that smooth transitions for college students to the workforce, identifying 13 "interventions" that have been deployed to improve college students' economic outcomes.

In doing so, we bring diffuse programs and policies under a unifying framework and examine not only the research, but also the implementation and feasibility of such interventions in practice, a consideration that is too often neglected in literature. **Through our analysis, we address four questions about each intervention:**

- How prevalent is the research on this intervention?
- How strong is the evidence that it improves labor market outcomes for students?
- How common is the intervention across colleges and their partners in the United States?
- What level of investment or operational complexity is required for implementation?

The answers to these questions, gleaned through an extensive literature review and interviews with experts, inform the College-to-Jobs Matrix, which is designed to serve as both:

- A bird's-eye view of the college-to-jobs landscape, highlighting the state of research and practice across the country; and
- A resource for higher education institutions, employers, policymakers, and other organizations to assess and develop new initiatives aimed at improving postsecondary students' economic outcomes.

Although we frame our research as "college-to-jobs," we acknowledge that this is rarely a one-way journey for learners and workers, many of whom return to college from the workforce. The students who benefit from these programs have diverse backgrounds and unique pathways. We did not review or disaggregate the research by specific industries or fields of study, as other resources are emerging to address this question.

Our contribution provides answers to a crucial question at a time of inflection for postsecondary education: what can we do to launch more college students onto successful career trajectories?

How we did it

Note
We use the term "intervention" throughout this paper to describe a program or initiative that is focused on connecting college students to the labor market. For an intervention to be included in our review, the program or initiative must (1) take place in a college setting or ecosystem and (2) intend to help students transition into and advance along careers that lead to economic stability.

To guide the creation of this playbook, we reviewed over 530 academic papers, articles, reports, book chapters, dissertations, and landscape reviews that address the transition between college and work. Based on this review of the literature, we built a framework organizing interventions across the duration of the student journey. The Playbook features 13 categories of programs and policies that connect college students to jobs. While we do not claim these categories to be exhaustive, we view our work as the most rigorous and comprehensive effort to date that aggregates and relates the literature across program type and setting.*

Our research does not just address the prevalence and strength of research, but also covers how common these interventions are in practice. We evaluated each intervention along four dimensions: research strength, research prevalence, implementation prevalence, and implementation feasibility.

We conducted our research primarily using ERIC (Education Resources Information Center), CLEAR (Clearinghouse for Labor Evaluation and Research), and Google Scholar. For each criterion, we used Boolean search commands to filter search results to include the intervention term, other common names for the intervention, and postsecondary key words ("college", "postsecondary education", or "higher education"). Additional methods for measuring each criterion are outlined in the Appendix. After we calculated the matrix scores, we validated scoring with Harvard faculty and Harvard-affiliated experts.*

** Note: Our initial classification included more than 30 interventions, including competency-based learning, institution-based records, and job platforms. In the process of refining our framework, we consolidated several initiatives and removed interventions that function primarily as institutional support structures.*

Figure 1. Literature type by intervention

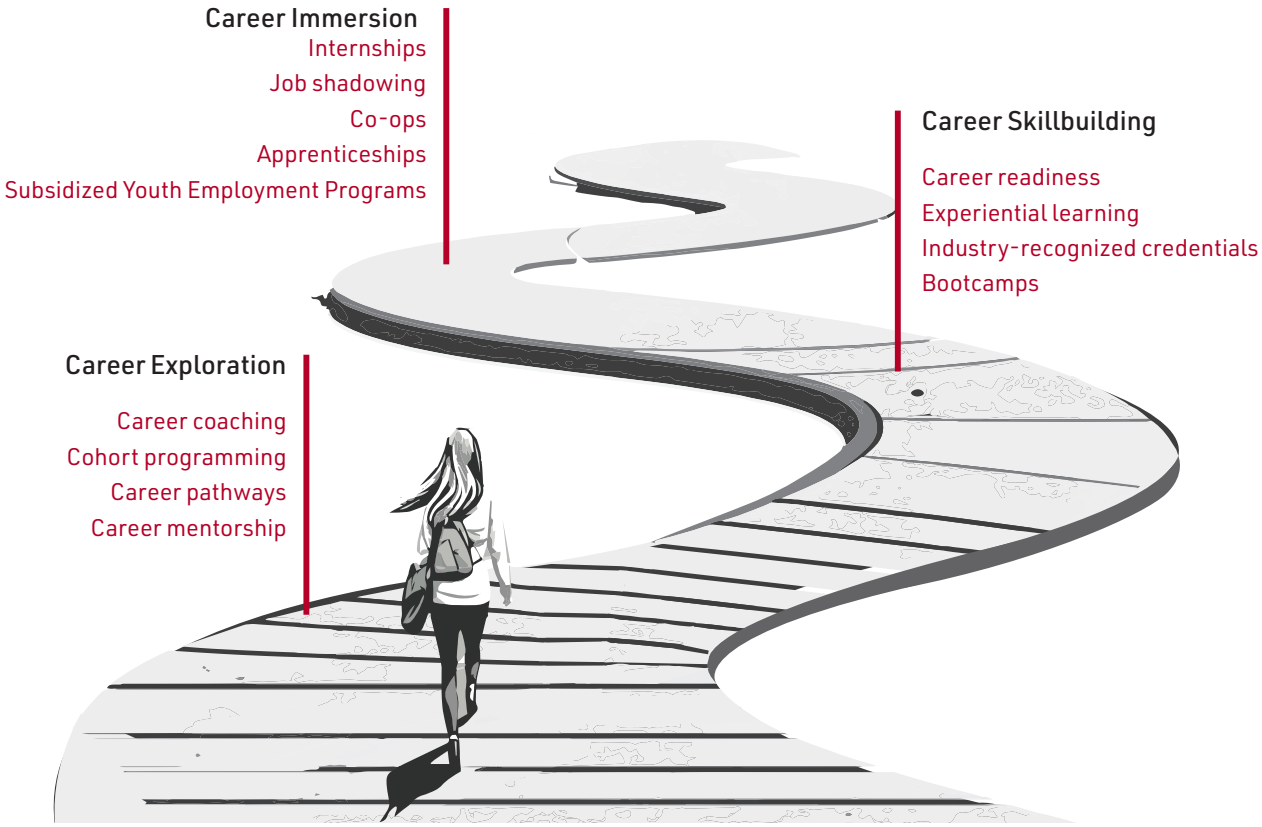
Intervention Type	Literature Type		
	Peer-reviewed	Other	Grand Total
Apprenticeships	10	17	27
Career coaching	23	15	38
Career Mentorship Programs	13	12	25
Career pathways initiatives (includes. meta-majors, guided pathways)	5	26	31
Career readiness curriculum	6	20	26
Co-ops	9	9	18
Cohort programming	7	7	14
Experiential Learning Coursework (includes simulation-based learning, project-based learning)	31	22	53
Industry-recognized credentials	4	38	42
Internships	39	20	59
Job shadowing	7	4	11
Last-mile bootcamps	4	16	20
Youth employment programs (e.g. subsidized summer jobs programs)	11	6	17
Not specific	51	106	157
Grand Total	**220**	**318**	**538**

In developing our methodology, we faced some limitations, including the lack of generalizable public information on implementation. Specifically, there is limited public benchmarking data for these interventions, such as costs and administrative constraints. Therefore, we had to estimate the necessary resources and operational complexity required for most interventions when we calculated the feasibility score. We also relied heavily on Google to measure implementation prevalence because it was the only data source accounting for frequency—apart from expert knowledge—that was consistent across the interventions. Despite these limitations, we believe this Playbook is among the most comprehensive landscape scans to date—both in breadth of programs considered and volume of literature reviewed.

Interventions

The 13 interventions we identified in our literature review fall at different points along a college student's academic and career journey. In the table below, we define the relevant interventions, provide a summary of the evidence supporting each, and highlight promising programs that are being implemented across the country.

Figure 2. Student Journey



While students may progress from one career activity to the next in a linear way, others engage simultaneously or cyclically, as they explore various fields and build a variety of career development, academic, technical, and "soft" skills and knowledge. For example, a student may participate in career coaching before or during an internship program, and that student may take part in a cohort program that includes career mentorship throughout. As we discuss later on, the most effective college-to-jobs programs often combine several interventions throughout the education cycle to support student career preparation and transition.

After arriving on campus, many students need guidance to understand their career options and, therefore, they engage in "career awareness" activities. Those initiatives include career coaching, cohort programs, career mentoring, and career pathways programs, which help students explore and map possible career paths and make decisions about which to pursue.

Through coursework, students engage in "career skill-building" activities, such as experiential learning, industry-recognized credentialing, career readiness curricula, and last-mile bootcamps, which enable them to gain the general and technical competencies they need for success in the workplace.

They may participate in career learning on the job as well, or "career immersion" activities. These programs include internships, co-ops, job shadowing, apprenticeships, and subsidized job programs. They situate students in the workplace, helping them gain crucial "soft" skills and social capital.

While students may progress from one career activity to the next in a linear way, others engage simultaneously or cyclically, as they explore various fields and build a variety of career development, academic, technical, and "soft" skills and knowledge. For example, a student may participate in career coaching before or during an internship program, and that student may take part in a cohort program that includes career mentorship throughout. As we discuss later on, the most effective college-to-jobs programs often combine several interventions throughout the education cycle to support student career preparation and transition.

Intervention

Career coaching

Our Definition One-on-one counseling between an advisor and a student, which may involve helping students develop career navigation skills and access career information, reviewing job application materials, and connecting students to professional opportunities. Advisors may include career counselors, faculty, alumni, or other trained staff.

Promising Model At Lorain County Community College (LCCC) in Ohio, students receive long-term, individualized coaching from an assigned advisor who facilitates regular outreach and meetings and monitors their progress to completion. LCCC provides customized support for specific student cohorts and communities, such as full-time Pell-eligible students and Hispanic/Latino students.[19]

Intervention

Cohort programming

Our Definition Career-focused learning program structures in which small groups of students are enrolled together in two or more linked courses that connect to specific industries, careers, or fields of study.

Promising Model Bunker Hill Community College's Learning Communities enable students to learn in a supportive environment that fosters strong relationships among students and faculty. Students benefit from interdisciplinary learning experiences, teacher-to-student mentoring, peer mentoring, and integrated support services, such as success coach advisors.[20]

Intervention	**Career mentorship programs**
Our Definition	Targeted programs that foster personal relationships between college students and college alumni, faculty, staff, or local employers, designed to help students strengthen their ties with industry professionals, grow their knowledge of potential career paths, make informed career decisions, and build their social networks.
Promising Model	The B.R.I.D.G.E.S. Program is designed for racially underrepresented freshmen, sophomore, and transfer students at Mississippi State University (MSU). Each student is assigned a MSU faculty or staff mentor for a year who provides the student with professional and personal skills, resources, and guidance to aid in the student's growth and success at MSU.[21]
Intervention	**Career readiness curriculum**
Our Definition	Content that provides instruction, materials, and other support mechanisms to help students gain competencies in career and social skills, including leadership, communication, professionalism, critical thinking, teamwork, and career- and self-development skills. Pedagogy may also include a focus on applied career practices like resume creation or interview preparation.
Promising Model	Virginia Commonwealth University (VCU) developed an Interdisciplinary Career Readiness Skills minor, an 18-credit pathway designed to help students across industries acquire the eight National Association of Colleges and Employers (NACE) career readiness competencies.[22]
Intervention	**Career pathways initiatives** *(includes meta-majors, guided pathways)*
Our Definition	Structured sequences of connected education and training programs that provide students with basic skills and occupational knowledge aligned with industry needs. A basic career pathway model includes multiple entry and exit points that result in stackable credentials, aligned with labor market demands.
Promising Model	The Integrated Basic Education and Skills Training (I-BEST), developed by the Washington State Board for Community and Technical Colleges in conjunction with the state's community and technical colleges, integrates basic skills and technical skills instruction to increase the rate at which adult basic education and English-as-a-second-language students advance to college-level programs and complete postsecondary credentials.[23]

Intervention	**Experiential learning coursework** *(includes simulation-based, project-based learning)*
Our Definition	Coursework wherein students learn by actively engaging in hands-on, real-world, or simulated real-world projects, either in the classroom or within companies. These projects are intended to provide learners with both 'hard' and 'soft' skills.
Promising Model	Worcester Polytechnic Institute provides a project-based learning track that aims to provide students with not only technical skills, but also soft skills like empathy, leadership, confidence, collaboration, and critical thinking. A set of surveys of alumni from the program conducted in 2012 showed that the projects affected their professional lives, character development, and global perspectives, especially if they had completed a project off campus.[24]
Intervention	**Industry-recognized credentials**
Our Definition	Certificates, certifications, and licenses that signify the attainment of skills and competencies needed for a career in a given industry or occupational area. These are generally based on standards developed or endorsed by employers or industry associations.
Promising Model	Workcred is partnering with the League for Innovation in the Community College and National Student Clearinghouse to develop and scale alternative degree pathways aligned with industry needs by embedding industry-recognized certifications into community college coursework (known as Certification+Degree Pathways).[25]
Intervention	**Last-mile bootcamps**
Our Definition	Programs in or affiliated with a college that provide accelerated training in a specific skill set, geared towards teaching technical, job-focused skills. The programs are often the crucial final step before students enter the workforce.
Promising Model	Cuyahoga Community College's bootcamp program, Cleveland Codes Software Development Academy, prepares students for careers in web application and development through a 14-week hybrid IT Fast Track Program. The program helps students develop key skills in programming and development. Students earn college credit and four certifications through industry-recognized IT exams.[26,27]
Intervention	**Internships**
Our Definition	Short-term work experiences that help students gain entry-level exposure and applied experience in a particular industry, field, or organization.
Promising Model	The Foundation for California Community Colleges partners with the California Film Commission to provide paid internship opportunities for students interested in the entertainment industry, offering students first-hand experience in art, camera, grip, wardrobe, and production.[28]

Intervention	**Job shadowing**
Our Definition	Informal, short-term, usually unpaid experiences in which students follow and closely observe employees to better understand the day-to-day rigors of their job and company. These may range from one-time experiences to longer term, more regular experiences with a company or specific employee.
Promising Model	UC San Diego Health collaborates with Southwestern Community College, City College, and Grossmont Community College to provide under-resourced community college nursing students with structured job shadowing and career support experiences. Students shadow nurses and participate in workshops over a 12-week period to better understand the professional clinical nurse role.[29]
Intervention	**Co-ops**
Our Definition	Longer-term (1-3 semesters), full-time work-based learning experiences at an organization that align with students' majors, are centrally organized by the college or faculty, and may provide academic credit to the students.
Promising Model	The University of Cincinnati has provided co-op opportunities for its students for nearly 100 years. Students alternate between academic semesters and those spent working full-time in their chosen field–in organizations from startups to large corporations or nonprofits–allowing them to gain vital on-the-job experience while earning wages.[30]
Intervention	**Apprenticeships**
Our Definition	Industry-driven training programs that combine paid, on-the-job learning with classroom instruction and result in nationally recognized, portable credentials. Colleges may co-design curricula, provide academic instruction, or administer and operate the apprenticeship program, in partnership with local businesses.
Promising Model	A consortium of South Carolina HBCUs, the Urban Institute, and businesses collaborated to develop a degree-based apprenticeship program in secure software development. The program enables students to gain meaningful paid work experience while simultaneously advancing toward a bachelor's degree.[31]
Intervention	**Subsidized youth employment programs** *(e.g., summer jobs programs)*
Our Definition	Publicly-funded initiatives in which students are paid to attend school in the summer or for practicum experiences in non-apprenticeship "learn and earn" models. In other settings, subsidized job programs may include general experiences where students are paid for related classroom and work-based learning experiences.
Promising Model	One Summer Chicago is a summer youth employment program administered by the City of Chicago's Department of Family and Support Services. It brings together government, community-based organizations, and private companies to offer paid employment and internship opportunities to thousands of youths and young adults ages 14 to 24 across the city.[32]

In addition to evaluating the prevalence and strength of the research behind each intervention as it is commonly implemented, we searched for newer models that are pushing the boundaries through experimentation (see "New Horizons" under the Intervention Summaries section). In our review of the field, we found that some colleges, employers, and intermediaries are experimenting with abbreviated opportunities, such as micro-credentials and micro-internships. Stakeholders are also developing virtual experiences, such as remote job shadowing and virtual cohort programs. While these models may expand access to underserved individuals with geographic and time constraints, the evidence and research on the efficacy of such newer models are still quite limited.

INTERVENTION RESEARCH OVERVIEW

⊗	**Minimal evidence** No causal evidence and minimal (if any) descriptive evidence (quantitative and qualitative) supporting outcomes
⊖	**Moderate evidence** There is some high-quality descriptive evidence and some causal evidence. However, there is reason for skepticism. For instance, the research may not adequately rule out other causes, may not focus on college students, and/or may differ across different institutional contexts.
⊙	**Mixed evidence** There is some high-quality causal and descriptive research but impacts of the intervention are heterogeneous or there is wide variation in quality of the studies.
⊕	**Strong evidence** There is high-quality causal and descriptive evidence demonstrating outcomes. Evidence includes rigorous research designs, such as randomized experiments or established quasi- experimental designs.

Career coaching

Employment and earnings outcomes

⊗ **Minimal evidence** that career coaching impacts students' economic outcomes, including job placement and future earnings, although it may impact job satisfaction.[33]

Academic performance and persistence

⊕ **Strong evidence** that integrated, sustained advising improves college persistence and graduation, academic achievement, and postsecondary degree attainment.[34,35,36,37]

Additional outcomes

⊕ **Strong evidence** that career coaching (including the integration of career exploration activities) increases students' self-efficacy, human capital, independence, and adaptability.[38,39]

Example

(Bettinger & Baker, 2014): A randomized study of InsideTrack, a student coaching service, found that students who were assigned to a coach were more likely to persist during the coaching period and more likely to be attending the university one year after the coaching had ended than students who were not assigned a coach.[40]

Cohort programming

Employment and earnings outcomes

⊗ **Minimal evidence** that cohort models impact economic outcomes, including employment and earnings.[41]

Academic performance and persistence

⊕ **Strong evidence** that cohort programs increase student persistence and academic achievement, including for historically underrepresented populations.[42,43,44,45,46]

〇 **Mixed evidence** that cohort programs impact college completion and degree attainment.[47,48,49,50]

Additional outcomes

⊖ **Moderate evidence** that cohort models increase student engagement and satisfaction with their college experience.[51,52]

Example: (Weiss, et al., 2015): A randomized trial of over 1,500 students at Kingsborough Community College found that learning communities' positive effects on short-term academic progress (credit accumulation) are maintained seven years after random assignment. The study provides some limited evidence that the program positively affected graduation rates, particularly for those students without remedial English needs, over this period.[53]

Career pathways

Employment and earnings outcomes

⊕ **Strong evidence** that career pathways programs can increase short-term employment and short-term earnings, although impacts vary drastically by program area and length.[54,55,56,57,58]

⊗ **Minimal evidence** that career pathways increase long-term employment and earnings outcomes.[59,60]

Academic performance and persistence

⊕ **Strong evidence** that career pathways initiatives can improve credit accumulation, academic performance, and credential attainment, although there is **mixed evidence** about the impact of career pathways on degree attainment.[61,62,63,64]

Example: (Strawn, Peck & Schwartz, 2021): A meta-analysis of 46 experimental and quasi-experimental impact evaluations of career pathways programs, mostly carried out at technical and community colleges, found that career pathways programs increased credential attainment, overall employment rates, employment in targeted industries, and short-term earnings for program participants.[65]

Career mentorship programs

Employment and earnings outcomes

⊗ **Minimal evidence** that career mentorship programs improve student economic outcomes.

Academic performance and persistence

⊗ **Minimal evidence**

Additional outcomes

⊖ **Moderate evidence** that career mentorship programs promote postsecondary students' career self-efficacy, which includes positive outcomes in self-efficacy with respect to in career selection, job applications, professional skills and competencies, and growing personal and professional networks.[66,67,68,69,70,71,72,73]

⊖ **Moderate evidence** that formal workplace mentorship programs improve professional, on-the-job skills of current employees, however, little studies have conducted similar research on prospective employees who are postsecondary students.[74]

⊖ **Moderate evidence** that formal mentorship programs have a greater impact on women than on men in promoting positive labor market and educational outcomes.[75,76]

Example: (Crisp & Gloria, 2010): This study uses structural equation modeling analysis to examine the impact of mentoring on persistence among a random sample of community college students in the United States. The results indicate that mentoring "significantly predicted the degree to which students became socially and academically integrated," and indirectly influenced persistence among students.[77]

Career readiness curriculum

Employment and earnings outcomes

⊗ Minimal evidence of impacts on student employment and earnings post-graduation, although employability models and employer demands include career readiness skills.[78,79]

Academic performance and persistence

⊙ Mixed evidence that career readiness content increases academic outcomes such as persistence in college, graduation rates, and cumulative GPA.[80,81]

Additional outcomes

⊕ Strong evidence that career readiness curriculum improves career decision-making skills, self-efficacy, career confidence, vocational identity, and career satisfaction, especially for minoritized groups.[82,83,84,85,86]

Example: (Folsom, et. al., 2005): Researchers compared student participants in a career development course at Florida State University to a matched sample of non-course participants after five years and found that women participants graduated college in less time than non-participants, while men took longer to graduate but had higher GPAs than male non-participants.[87]

Experiential learning coursework

(includes simulation-based, project-based learning)

Employment and earnings outcomes

⊗ Minimal evidence of the causal impacts of experiential learning on economic outcomes, such as employment rates and earnings.

Academic performance and persistence

⊕ Strong evidence that experiential learning improves academic outcomes, including course performance, course completion, and degree attainment.[88,89,90,91,92]

Additional outcomes

⊕ Strong evidence that experiential coursework has a positive impact on student learning, including content knowledge and retention and skill attainment, such as problem-solving, collaboration and communication skills.[93,94,95,96,97,98]

Example: (Chen & Yang, 2019): The authors conducted a meta-analysis of journal articles on project-based learning. They analyzed 46 effect sizes from 30 journal articles over a twenty-year period (1998-2017), which resulted in a sample of 12,585 students from 189 schools in nine countries. Their analysis showed a medium to large positive effect size of project-based learning on student academic achievement compared to regular classroom instruction. These results were impacted by subject area, school location, hours of instruction, and IT support.[99]

Industry-recognized credentials

Employment and earnings outcomes

⊖ Moderate evidence that completers of credentials, including stacked credentials, see higher wages and increased employment, although this varies by field.[100,101,102,103]

Academic performance and persistence

⊖ Moderate evidence that industry-recognized credentials have positive effects on academic outcomes such as graduation rates and future college enrollment.[104]

Additional outcomes

⊗ Minimal evidence that credentials close equity gaps, as male completers may see greater employment and earnings returns than female completers.[105,106,107]

Example: (Meyer, Bird, & Castleman, 2022): This study used a comparative individual fixed effects strategy and administrative panel dataset of enrollment and employment in Virginia to determine causal estimates of stacking credentials among working adults. Their findings indicate that stacking credentials increases employment by four percentage points and quarterly wages by $375. They also note that these returns are higher in health sectors and for individuals who complement their credentials with a college degree.[108]

Last-mile bootcamps

Employment and earnings outcomes

⊗ Minimal evidence that bootcamps in a college setting improve students' economic outcomes, although there is moderate evidence that independent coding bootcamps increase job placement rates and employment opportunities.[109],[110],[111]

Academic performance and persistence

⊗ Minimal evidence

Example: (Joshi & Savi, 2019): We are not aware of any causal studies that examine the impact of bootcamps in a college setting. That said, one study out of the University of Pennsylvania (Joshi, Savi, 2019) evaluated the technical job placement rates for graduates of coding bootcamps through regression analysis and propensity-score matching. They found that attending a bootcamp significantly positively increased the chances that individuals would find a future technical role and may have diminished any penalties from having a non-technical background or lack of undergraduate degree.[112]

Internships

Employment and earnings outcomes

⊕ Strong evidence that internships contribute to higher earnings after college, however, there is variation in impact on earnings, depending on whether the internship is paid or unpaid, or voluntary or mandatory.[113,114,115,116,117,118]

Academic performance and persistence

⊕ Strong evidence that internships also benefit employers because the intern performs needed job tasks and because the intern's role may save the organization recruitment and training costs.[119,120]

Additional outcomes

ⓘ Mixed evidence about how internships contribute to increasing human capital; that is, whether they contribute more towards increasing skills for future jobs or towards better understand how to function and interact in a particular field or workplace.[121,122]

Example: (Margaryan et al. 2020): This study provides causal evidence of the effects of student internships on earnings and students' transition to the labor market. Using longitudinal data from the German Centre for Research on Higher Education and Research Studies (DZHW), the authors found that university student internships in firms increases earnings by around six percent in the short and medium term. They also found that graduates who completed an internship face a lower risk of unemployment during the first year of their careers.[123]

Job shadowing

Employment and earnings outcomes

Minimal evidence that job shadowing supports positive outcomes in students' employment post-graduation.

Academic performance and persistence

Minimal evidence that job shadowing supports positive outcomes in students' retention in educational programs and employment post-graduation.[124]

Additional outcomes

Moderate evidence that job shadowing has a positive impact on students' career self-efficacy, defined as students' perceptions of their confidence and ability to perform in their chosen career.[125,126,127,128]

Mixed evidence that job shadowing has a positive impact on students' developing professional skills for the workforce, such as in teaching, hospitality, and nursing fields. This may be due to job shadowing experiences being too brief to provide a significant benefit to students.[129,130,131,132,133]

Example: (Neumark, et al, 2006): Using longitudinal data from the 1997 National Longitudinal Survey of Youth (NLSY97), the study observed the impact of a range of school-to-work interventions on high school students' college enrollment and post-high school employment. This study provides causal evidence that job shadowing positively affects high school students' college enrollment, and finds a positive–but not significant–association between job shadowing and employment. Although this research focuses on high school students, and many of the other interventions studied were found to have a greater association with college enrollment and employment, this study presents a potential model for future research on postsecondary interventions.[134]

Co-ops

Employment and earnings outcomes

Strong evidence that co-ops have a positive impact on students' employment and earnings, however, these findings may be limited to students' co-op completion rather than only co-op participation.[135,136,137]

Note: Positive returns on employment and earnings exist mainly for STEM co-op participants. There is moderate evidence that income premiums exist for business students, and little evidence that income premiums exist for arts or social science programs.[138]

Academic performance and persistence

Minimal evidence

Additional outcomes

Moderate evidence that co-ops have a positive impact on students' career self-efficacy, meaning that co-op students feel more empowered and confident to pursue a career in their co-op industry after having participated in the co-op program.[139,140,141]

Example: (Wynoch, Rosalie, et al, 2019): The authors used linear estimation models and quasi-experimental data to estimate the impacts of co-op programs on income or other post-graduation benefits. The results indicate that co-op programs positively impact participants' transition into the labor force and incomes within the labor force, and may also help overcome wage gaps related to race, gender, or immigration status.[142]

Apprenticeships

Employment and earnings outcomes

⊕ **Strong evidence** that apprenticeships have a positive impact on students' employment outcomes across a wide range of geographical sites and industry programs.[143,144]

⊙ **Mixed–but mostly strong–evidence** on improved students' earnings post-apprenticeship. Studies that show slight negative association between apprenticeships and earnings were conducted during an unusually deep recession. These positive associations also extend to students' fringe benefits in their jobs.[145,146,147,148,149]

Academic performance and persistence

⊙ **Mixed evidence** that apprenticeships have a positive impact on students' educational outcomes.[150,151]

Example: (Reed, et. al., 2012): Using data from Unemployment Insurance records, the authors compared individuals who had completed a registered apprenticeship (RA) program with nonparticipants. They estimated the impact of program participation on earnings and employment using regression models that controlled for demographic characteristics and earnings and employment before the start of the program and reported outcomes six years after program enrollment for 57,924 people in six states, and nine years after program enrollment for 45,366 people in five states. The study found that employment rates were 8.6 percentage points higher among RA participants than nonparticipants both six and nine years after program enrollment, and RA participants earned more than nonparticipants at both follow-up periods.[152]

Subsidized youth employment programs

Employment and earnings outcomes

⊙ **Mixed evidence** that subsidized summer youth employment programs improve employment opportunities and earnings, however, some research suggests that elements such as writing recommendation letters for participants can improve employment outcomes.[153,154,155]

Academic performance and persistence

⊙ **Mixed evidence** that subsidized summer youth employment programs improve educational achievement or completion.[156,157,158]

Additional outcomes

⊕ **Strong evidence** that subsidized summer youth employment programs reduce the arrest rates and lower the probability of being arrested for a crime during the summer months, especially among "at-risk" youth.[159,160,161,162,163]

Example: (Modestino Sasser & Paulsen, 2022): A randomized evaluation of the Boston Summer Youth Employment Program (SYEP), which provides out-of-school early work experience for high schoolers, found that participants are 4.4 percent more likely to graduate on time and 2.5 percent less likely to drop out in the years after participating in SYEP. SYEP seemed to positively impact attendance rates, college aspirations, work habits, and social skills which contributed to these improved outcomes.[164] While this study focuses on high school students, the findings offer insights for future research at the postsecondary level.

Figure 3

The College-to-Jobs Matrix

Our evaluations of each of these 13 initiatives inform our College-to-Jobs Matrix, which serves as an overview of the research and practice of each intervention. In sum, the matrix highlights the strengths and challenges associated with implementing various interventions, while yielding insights about the state of research and practice in the field.

Intervention Dimensions

To help inform future investments, we assess each intervention along four key dimensions:

- **prevalence of research** supporting the intervention,
- **strength of evidence** that the intervention improves students' economic outcomes,
- **prevalence in practice** in the U.S., and
- **ease of implementation** for colleges and their ecosystem partners.

Our evaluation is based on an extensive literature and landscape review and summarized in a College-to-Jobs Matrix.

Legend

A green circle indicates that an intervention has (1) a substantial body or (2) strong causal research behind it, (3) is prevalent in practice, or (4) is relatively easy to implement. Meanwhile, a red circle indicates that an intervention has (1) little research or (2) weak evidence supporting its economic impacts, (3) is rarely implemented in the United States, or (4) is difficult and resource-intensive to establish and operate. A yellow circle indicates a moderate amount of research and implementation prevalence and feasibility

Intervention Category	Research Prevalence	Research Strength	Implementation Prevalence	Implementation Feasibility
Career coaching	Yellow	Yellow	Green	Yellow
Cohort programming	Red	Yellow	Yellow	Yellow
Career pathways initiatives	Yellow	Yellow	Yellow	Red
Career mentorship Programs	Yellow	Red	Yellow	Green
Career readiness curriculum	Yellow	Red	Yellow	Green
Experiential learning coursework	Green	Yellow	Yellow	Yellow
Industry-recognized credentials	Yellow	Yellow	Yellow	Red
Last-mile bootcamps	Red	Red	Red	Yellow
Internships	Green	Green	Green	Green
Job shadowing	Red	Red	Yellow	Green
Co-ops	Yellow	Yellow	Red	Red
Apprenticeships	Green	Green	Red	Red
Subsidized youth employment programs	Yellow	Yellow	Yellow	Yellow

COLLEGE-TO-JOBS MATRIX TAKEAWAYS

RESEARCH PREVALENCE

Structured and more established initiatives have larger bodies of research.

Research prevalence demonstrates where the research exists, where the field may be lacking evidence, and, in conjunction with other scores in the matrix, how aligned research is with practice. Stronger (green) interventions tend to be more structured, common, and established (such as internships and apprenticeships), lending themselves to dedicated research over time, whereas weaker (red) interventions tend to be newer and less common (like last-mile bootcamps) or shorter in length and integrated into broader programs, therefore, less likely to be studied on their own (such as job shadowing).

RESEARCH STRENGTH

Only a few interventions have proven economic impacts, although all promote positive student outcomes.

Research strength highlights which interventions have strong, causal evidence illustrating improved economic outcomes, specifically increased earnings and employment. In general, both large and small studies and quantitative and qualitative research suggest that all 13 interventions promote positive outcomes for students, to varying degrees and across various measures. Stronger (green) interventions tend to be both more common and structured in the workplace (e.g., internships and apprenticeships) such that there have been enough participants to support data for causal, quasi-experimental research tied directly to economic outcomes. Similarly structured, but weaker scoring, interventions, such as co-ops, might lend themselves to this research, but tend to engage fewer students and, therefore, present fewer research opportunities. Like research prevalence, weaker (red) interventions in the research strength category may be more nascent (like last-mile bootcamps) or unlikely to demonstrate economic returns on their own (such as job shadowing). Many of the interventions received "yellow" scores because there is strong evidence of improved academic outcomes, but little research on the economic impacts of the programs.

IMPLEMENTATION PREVALENCE

Siloed or unstructured interventions are more common in practice.

Implementation prevalence provides insight into the landscape of college-to-jobs interventions and the extent to which practice is aligned with research. We estimated the prevalence of these interventions at the postsecondary level, specifically as they relate to students' career paths. We acknowledge that some interventions are more common when considered with a broader lens. For example, career mentorship programs exist for individuals of all ages and may not focus on career growth, but they are less prevalent in our narrow case.

Interventions that are more prevalent (green) (like career coaching and internships) tend to exist in siloes or are facilitated through open marketplaces, whereas less prevalent (red) interventions (such as co-ops, apprenticeships) tend to require cross-sector and cross-institutional coordination for adoption at scale. Newer, promising interventions, such as last-mile bootcamps, are beginning to emerge on college campuses, but many programs are struggling to scale as partner organizations are unable to access sustainable public funds.

IMPLEMENTATION FEASIBILITY

Interventions that are higher-touch; require trained staff, funding, cross-organizational, and sector coordination; and culture change are more difficult to put into practice.

Implementation feasibility captures the level of resources an institution or organization might need to implement a high-quality intervention, from funding and staff time to institutional restructuring and community partnerships. The most feasible (green) interventions tend to be lower-touch, low-cost, and build on existing college structures, such as alumni networks or independent marketplaces (e.g., internships, mentoring). However, when these interventions are left unstructured, they can exacerbate inequities between student groups by requiring student resources, including time and social capital, which are not distributed evenly. On the other hand, the "difficult to implement" interventions tend to require higher-touch support for students and trained staff and funding or college restructuring and culture change (such as co-ops and career pathways). Therefore, an intervention may be supported by causal evidence, but if it requires substantial funding and staff support, institutions may not be able to fully implement or sustain it.

For institutions or organizations with limited resources, it is still the case that small investments can lead to substantial gains for students. Such organizations may consider building on existing structures, such as training faculty and staff to become mentors or advisors or adding career readiness content into existing courses. Additionally, employer cost-sharing may help overcome some of the resource constraints for high-impact or promising interventions, such as apprenticeships and credentialing. We address this further in the "Recommendations" section.

Figure 4. Matrix Takeaways

CRITERIA | **RESEARCH PREVALENCE**

	Intervention Examples	Notes
●	*Internships, experiential learning*	Interventions tend to be more established and common, with structured opportunities for evaluation.
◒	*Last-mile bootcamps, Job shadowing, cohort programs*	Interventions are newer, smaller, or difficult to disentangle from other programs for dedicated research studies.

CRITERIA | **RESEARCH STRENGTH**

	Intervention Examples	Notes
●	*Internships, apprenticeships*	Interventions are more established, structured, and embedded in the workforce, enabling causal studies on economic outcomes.
◒	*Mentorship, career readiness, last-mile bootcamps*	Interventions tend to be newer, combined with other interventions, and less likely to be connected to economic outcomes

CRITERIA | **IMPLEMENTATION PREVALENCE**

	Intervention Examples	Notes
●	*Career coaching, internships*	Interventions tend to involve only one stakeholder and/or require little coordination across institutional actors. They may be facilitated through independent marketplaces.
◒	*Last-mile bootcamps, co-ops, apprenticeships*	Interventions are newer or highly structured and may require institutional or cultural change for widespread adoption.

CRITERIA | **IMPLEMENTATION FEASIBILITY**

	Intervention Examples	Notes
●	*Internships, job shadowing, mentoring*	Interventions are lower-touch, lower-cost, or build on existing college structures or marketplaces.
◒	*Co-ops, apprenticeships, career pathways*	Interventions are expensive and require trained staff and institutional buy-in or restructuring. They involve coordination across multiple actors.

Findings

The following findings from our research highlight considerations and challenges that impact the effectiveness of supporting and connecting students to good jobs.

1 The college-to-jobs ecosystem is poorly aligned, making collaboration among stakeholders–including researchers and practitioners–difficult.

Interventions are studied and implemented in piecemeal. Stakeholders in the college-to-jobs ecosystem remain largely siloed. There is a lack of integration between college and employment data—and research on connections between the two. Additionally, an amendment to the 2008 reauthorization of the Higher Education Act prevents the federal government from connecting individual-level data to student and employment outcomes.[165] As a result, institutions and states often only have access to—and therefore, track—data on short-term student and worker outcomes, rather than data across the span of an individual's career. This longitudinal data is crucial to understanding the trajectories, struggles, and successes of individuals and the impacts of various interventions on their career outcomes.[166] For example, one longitudinal study on postsecondary education and labor market outcomes in the state of Florida used unemployment insurance data and secondary education records to show employment outcomes for disadvantaged youth.[167] The data revealed valuable insights into how learners' choices about field of study contribute to gaps in achievement and compensation later on in a student's career. However, more often than not, stakeholders find it challenging to link education and workforce data, making it difficult to understand what works and for whom and where to invest resources to improve student outcomes.

Employers are often overlooked in research and in practice—even though they play a significant role in long-run student success. Most studies don't take place in the workplace context or follow students into employment settings after graduation. Hardly any evaluations of college-to-jobs interventions measure success in terms of the employers' incentives, through metrics like retention, return on investment, worker productivity, or other similar measures. Instead, most research centers on academic outcomes for students, especially graduation rates and credential attainment.

In practice, employers are severely under-leveraged in the college-to-jobs system, even though employers have an incentive to participate in and fund talent pipeline initiatives. Postsecondary institutions often struggle to work with employers to align educational offerings with the skills needed by employers,[168] while employers rarely engage with postsecondary institutions in a systematic way. If colleges and employers could work

better together, it would reduce the instability students face in the labor market and improve employers' ability to find workers with relevant skills in a timely fashion.[169]

Stakeholders are experimenting with new models that connect students to good-paying jobs; however, research is lagging behind practice.[170] Rather than serving as a nimble and responsive tool for evaluation, current research methods are onerous and expensive. As a result, practitioners and policymakers are wary of applying rigorous evaluations to emerging interventions.[171] As new models emerge, such as last-mile bootcamps, the evidence base for these programs remains limited. This means that stakeholders may be investing in and implementing programs that do not produce positive economic outcomes for students, risking students and organizations wasting precious resources. It is important that research becomes more responsive to changes in the market and evaluates new approaches and models as they emerge. This may require thinking beyond randomized control trials (RCTs) and, instead, building data systems to monitor success in real-time.

Although stakeholders share an interest in improving economic outcomes for students, no one is held accountable for ensuring that students achieve financial stability.[172] Postsecondary institutions are largely excused from ensuring long-term economic success for their students.[173] As a result, they tend to focus on student outcomes during the short time that they attend college, rather than investing in programs that increase the prospect of post-college labor market success.[174] They also are not held accountable for disparities in economic outcomes along student demographic lines, obscuring and removing the urgency for colleges to develop mechanisms for closing equity gaps. Nor are they held accountable for their contributions to regional economic prosperity, despite their power to fuel the regional economy,[175,176] and they therefore do not prioritize engaging in and adding value to the region in which they are located.[177] Employers also lack accountability for their investment in workforce development and partnership with colleges beyond whatever internal metrics they apply in their decision-making process. The long-term impacts on individual learners, including any who eventually become full-time employees, seldom comes into consideration, despite employers' need to attract and retain skilled workers.[178]

Overall, while postsecondary institutions and employers have an inherent interest in, or responsibility to promote, student success, no one is held liable for equipping students with the skills and capabilities needed for a career that leads to financial stability, and very few institutions have stepped up to do so.

2 The college and career navigation process is often a difficult, disjointed experience for students.

Colleges lack integrated career advising services, forcing students to seek out career guidance on their own. Within a college, there are a number of stakeholders—faculty, career offices, student services, alumni, intermediaries—that can offer career advice and guidance. However, students are often left to navigate these disconnected resources on their own. As one survey reports, approximately 50 percent of colleges offer career advising as an optional service, rather than feature it as essential[179] By leaving it up to students, colleges create a divide between those who are familiar with the college ecosystem (or have access to someone who is) and those who are new to the process or have fewer resources, such as first-generation college students—increasing equity gaps among students.[180],[181] Some colleges, like Bunker Hill Community College, are integrating career advising with other student support services, like academic and financial advising, by assigning every student a "success coach." However, most colleges are not offering easily accessible, holistic career advising experiences for students.

Combining college-to-jobs interventions amplifies the effectiveness of supporting and connecting students to good jobs. While we evaluated each intervention on its own, we also found that interventions are more likely to improve economic mobility for students when they are braided together. For example, Year Up, a job training program for young adults, includes various interventions as part of its program—including career readiness content, career pathways initiatives, experiential learning, and internships—and has yielded positive outcomes. A RCT facilitated by the federally-sponsored Pathways for Advancing Careers and Education (PACE) Evaluation showed that Year Up participants experience a 30 percent wage gain six years after graduation.[182] However, there is no "one size fits all" approach to combining interventions. Higher education institutions face different realities, based on student demographics, regional labor market needs, and available resources, which they must consider when developing intervention programs.

3 Career interventions are often implemented inequitably, but there are strategies to improve access and success for underserved students.

Communities of color, particularly Black students, have been underserved by the college-to-jobs ecosystem. While strides have been made in increasing representation from underrepresented minority groups in the past two decades[183], Black students continue to face barriers to participation in career opportunities on college campuses. They may feel stereotyped and discriminated against by professors or experience instances of microaggressions by peers.[184] Disparities become even more apparent when examining participation in separate interventions, such as

internships. In one study, NACE found that Black students received disproportionately fewer paid internships, and more unpaid internships, than their peers.[185] Economic disparities persist after students leave college and are fully immersed in the workforce, as well. Fifty four percent of Black Americans between the ages of 25 and 40 have student loans compared to 39 percent of White Americans in that age group,[186] which may help explain why the median net worth for Black households with college graduates in their thirties has fallen to $8,000, while their white peers have seen median net worth grow to $138,000 as recent as 2019.[187]

HBCUs and MSIs play a crucial role in preparing Black and Brown students for careers, but they are historically under-resourced. Although HBCUs make up three percent of America's colleges and universities, they produce almost 20 percent of all Black graduates and 25 percent of Black graduates in the STEM fields.[188] HBCUs also foster a community of belonging for Black students—four in 10 Black HBCU graduates (40 percent) report financial well-being, compared with fewer than three in 10 (29 percent) Black graduates of other schools.[189] However, for decades, HBCUs and MSIs have had to grapple with financial challenges.[190] While the federal government has provided more funding and forgiven debt obligations, that has only partially offset a history of underinvestment by Washington and the states. That has left HBCUs more heavily reliant on tuition to underpin their finances, making them more vulnerable to swings in enrollment.[191] In addition, when making appropriations, state governments are more likely to prioritize predominantly white institutions (PWIs) and flagship institutions over HBCUs.[192] Over the past few years, progress has been made in prioritizing funding for HBCUs, however more support and funding is needed from the federal government and public- and private-sector donors.[193]

Support structures and wraparound services are necessary for interventions to succeed. Students face vastly different circumstances, with some struggling to meet basic needs, such as food and housing, transportation, and textbooks. Program success depends on schools and employers identifying students who are struggling and providing them with the resources and wraparound support services they need to engage fully.[194] Otherwise, institutions risk losing individuals who might benefit most from college-to-jobs interventions. For example, the City University of New York (CUNY) launched a program known as the Accelerated Study in Associate Programs (ASAP) in 2007. ASAP provides full-time, low-income community college students with comprehensive wraparound supports.[195] In a RCT study, ASAP was shown to nearly double graduation rates—highlighting the significance wraparound supports have in advancing the prospect of student success.[196]

Additionally, education is not necessarily the only responsibility that students are balancing when they are enrolled. Adults over the age of 25 represent roughly 33 percent of enrollment in the U.S. higher education system[197], and 43 percent of full-

time and 81 percent of part-time students are employed while pursuing their degree.[198] Institutions must factor in the realities and needs of those students—including the challenge of reentry to college or childcare requirements—when designing programs to ensure that students are able to attain postsecondary persistence and completion. This could include offering classes outside of working hours to accommodate adult working learners and providing childcare facilities on campus for learners with children.

College-to-job interventions must be designed around equity; otherwise, they will produce unequal outcomes and exacerbate socioeconomic gaps. Stakeholders run the risk of replicating systemic inequities that produce racial and socioeconomic disparities if they do not intentionally build interventions around equity principles. Institutions must ensure all students are made aware of career opportunities as they plan their initial courses of study—as underrepresented groups may be less likely to know what programs are available to them. Colleges could also consider required career-readiness courses that expose students to data resources, offer curriculum related to the job search and interview processes, and provide other practicums within the first year or two of college. Institutions must also insist that all work-based learning opportunities (e.g., internships, apprenticeships) result in compensation or credit towards a degree. Research demonstrates that unpaid internships may exacerbate the inequality that college-to-jobs interventions were intended to improve.[199]

To ensure success, stakeholders should focus on meeting student needs and circumstances. For example, one company, Mainstay, offers an artificially intelligent "chatbot" that communicates with students to answer college-related questions, such as how to handle registration holds and refile the FAFSA. Researchers conducted a RCT at Georgia State University (GSU) that found that messaging students about specific administrative processes can increase the likelihood that students complete required tasks and visit an advisor.[200] By using text-based nudging, GSU structured it processes around natural student behavior patterns.

Recommendations

Higher education institutions, employers, policymakers, and researchers can take immediate short- and long-term actions to improve college-to-jobs transitions for students. Both individually and collectively, stakeholders must work to ensure our postsecondary education system lives up to its economic mobility promise.

Higher Education Institutions

1

Colleges must put access to good jobs at the center of their mission and integrate career-connected learning across their institutions. Career readiness should not be siloed in a career office; rather, it should be a core education component that is embedded throughout the student experience. That requires:

A. **Integrating experiential learning into coursework.** To prepare students for the workplace—which requires soft skills that are rarely taught in the traditional classroom setting—faculty should embed within their courses experiential learning opportunities that mimic the workplace or take place on the job. This may include assigning students to team-based projects or providing opportunities for students to engage with tools and processes used by employers in the field. For example, at California State University, a public Hispanic Serving Institution, an undergraduate computer networking course was redesigned to feature collaborative, open-ended systems design challenges.[201]

B. **Providing for-credit and paid career readiness opportunities.** Colleges should invest in career interventions that are integrated into degree pathways—such as for-credit career readiness courses or internships--—or are extracurricular, but paid. This will expand access to such learning opportunities to students with fewer resources, who may not have time to devote to non-credit courses or unpaid immersion opportunities. Braven partners with public universities to embed career education, including a for-credit career readiness course, into the higher education experience of first-generation college students, students of color, and students from low-income backgrounds.[202]

C. **Mapping courses and majors to in-demand careers.** Courses, majors, and career pathways should be intentionally aligned with the skills and competencies required for long-run career success, and departments should be measured on student outcomes over time. This requires faculty to work with employers to continuously evaluate and align coursework to meet the changing demands of the labor market. At the University of South Florida, for example, faculty were recently required to review curricula and engage in skills-mapping exercises, which resulted in updated course content and major requirements to prepare liberal arts students for project management roles.[203]

D. **Combining academic, career, and financial advising.** Academic, career, and financial coaching should be integrated—and required—so that all students have one-stop, holistic support, sometimes called "success coaching." Providing training for faculty in advising, which they can leverage in their engagements with students, can be a cost-effective method of scaling coaching and will ensure students' coursework is connected to their career goals. Lorain County Community College trains its faculty and staff to provide career advising, and each student receives individualized and holistic academic and career support.[204]

2 **Colleges should institutionalize engagement with employers and other partners** to improve collaboration, including by:

A. **Creating a "go-to place" for employers to engage with the institution and student body.** Institutions should create hubs for employers to easily acquire information about partnering with the school and hiring students for career immersion experiences. In addition to making information clearer and more accessible, institutions may consider designating industry engagement staff to work with employers and connect them with opportunities. For example, Pima Community College in Arizona maintains a "Business & Industry" hub on its website, which provides a variety of resources for employers seeking to engage with students and program staff, including contact information for the Employer Engagement and Career Services team.[205]

B. **Participating in regional economic entities at the leadership level.** College leaders should participate in regional workforce bodies to foster relationships with industry, build credibility and rapport within the workforce ecosystem, and stay abreast of labor market trends. This may include serving on the statewide Workforce Investment Board, chambers of commerce, or the boards of leading employers in the region. For example, Mississippi Gulf Coast Community College President Mary Graham serves on the statewide Workforce Investment Board, as well as the boards of the Gulf Coast Business Council and one of the state's two electric utilities.[206]

C. **Leveraging national networks to learn and share best practices.** Institutions should invest in knowledge sharing with other colleges across the country, many of which face similar challenges. Creating and participating in organizations that work to experiment, develop, document, and disseminate best practices can accelerate colleges' ability to respond to these problems. For example, the National Center for Inquiry and Investment convened several rural community colleges to launch the Rural Guided Pathways Project,[207] through which they are studying and advancing economic mobility in rural areas. UNCF hosts an Institute for Capacity Building,[208] which supports HBCUs in continuous improvement.

3 **Institutions must design career interventions with equity and diversity in mind.** Colleges must keep in mind the diverse needs of their students–such as food, housing, transportation, and childcare–when designing interventions. In addition to ensuring courses and programs are flexible, credit-bearing, and/or paid, colleges should provide supports and structured mentoring networks and cohort programs that empower marginalized student groups. For example, the ASAP program at CUNY equips students with comprehensive wrap-around services such as intensive advising, tutoring, last-dollar tuition and fee assistance, as well as free textbooks and transportation, to ensure they can overcome key barriers to success and complete their degree or transfer to a four-year college within three years.[209]

Employers

4 **Engage with community colleges, HBCUs, and MSIs to diversify their workforce.** Employers should collaborate with local community colleges, HBCUs, and MSIs–expanding their student engagement and recruitment beyond their traditional sources of talents, such as four-year institutions–and commit to hiring qualified graduates from these institutions. They can leverage tools, like Handshake, to partner with a broader swath of schools and reach more students about career opportunities. While businesses have varied levels of resources and needs, there are several models they can pursue, from low-touch opportunities (e.g., career mentoring) to more recourse-intensive activities (e.g., designing and managing apprenticeships). They may also collaborate with other employers and organizations to pool resources and reach more students at scale. For example, in South Carolina, ISHPI Information Technologies Inc. and Integer Technologies LLC, partnered with South Carolina State University, a consortium of HBCUs, and the Urban Institute to develop a degree-based registered apprenticeship program in cybersecurity, which combines paid work-based learning with academic instruction and culminates in a two- or four-year degree.[210]

5 **Develop structured, paid career immersion experiences.** Employers should ensure that on-the-job programs, including internships, are clearly structured and aligned with learning and equity goals–that is, provide substantial and equitable opportunities for students to build career skills. Such programs must be designed around the principle that they create attractive benefits for both learners and businesses alike. That will allow businesses to pay students a fair wage and, potentially, subsidies for transportation to ensure that all students can afford to participate, not just those with needed resources at hand. They should also provide students with a network of supports, including a trained supervisor and mentor. For example, the Massachusetts Competitive Partnership, which represents some of Boston's largest companies, partnered with Bunker Hill Community College to launch a Learn and Earn program, which provides paid, credit-bearing internships and mentorship to community college students.[211]

6 **Provide human, physical, and financial resources to support job-aligned programs.** Employers should help education institutions fund the establishment and operation of new programs, such as credentialing tracks, and provide "in-kind" resources, such as staff for guest lectures and equipment for training, to colleges to develop job-aligned programs. Resource-intensive interventions, like co-ops and industry-recognized credentialing programs, are relatively rare, likely because of the financial constraints of these programs. Given the historical dearth of government funding for these interventions, employers must invest in promising programs if they hope to build the talent pipeline they need for growth—and they can leverage such engagement as entrepreneurial opportunities to expand their business' reach. For example, California State University San Marcos partners with local companies, each of which pay $1500 and provide equipment and facilities, to enable teams of college seniors to complete a "senior experience" project for the company.[212]

Policymakers

7 **Policymakers should increase college accountability and transparency around student economic outcomes, including by:**

A. **Requiring institutions to track and report student economic outcomes.** Policymakers at the state and federal levels should mandate the collection of disaggregated, longitudinal student employment and earnings outcomes and make these data public, including through an expanded College Scorecard. They must also ensure these data are distributed to students and families so that they can inform student decision-making. Virginia, for example, collects a substantial amount of student outcomes data, including wage data,[213] and recently passed a law requiring the state Department of Education and school boards to distribute this information to high school students.[214]

B. **Building statewide longitudinal data systems (SLDSs).** State policymakers should design and update cross-agency education and employment data systems to track post-college economic outcomes, including short- and long-term earnings, time to employment and employment status over time, and career satisfaction and health. Iowa, for example, has been building a comprehensive SLDS for several decades, with the support of federal grants. The state developed an interactive dashboard that allows the public to explore Iowa Community College student outcomes by academic program.[215]

8 **Provide federal support for programs that improve employment prospects.** Federal policymakers should direct funds to programs and services that improve student economic outcomes, instead of rewarding "seat time"—especially in the case of programs that have little value to students or society. Federal resources should be tied to performance, which will require rethinking what is fundable under Title IV of the Higher Education Act. Federal policymakers should consider:

A. Expanding student aid to include high-quality credentialing programs, paired with strong reporting requirements (e.g., Pell grants for short-term programs).

B. Funding work-based learning opportunities (e.g., subsized youth employment programs) or providing incentives to businesses to develop earn-and-learn programs (e.g., the apprenticeship levy in the United Kingdom[216]).

C. Opening funding for non-traditional actors, such as intermediaries and high-quality non- and for-profit providers, to partner with colleges, accompanied by strong safeguards, which may enable promising models to scale (e.g., the Educational Quality through Innovative Partnerships (EQUIP) model[217]).

D. Providing additional capacity-building funds for HBCUs and other MSIs (e.g., increasing federal appropriations).

E. Funding sector partnerships between industry, education, and community organizations (a similar economic development model as the Trade Adjustment Assistance Community College and Career Training grants).

9 **Provide state resources for career services and industry-education partnerships, tied to student outcomes.** State policymakers should support career advancement initiatives at state four-year and two-year institutions, including by:

A. Providing appropriations for student support services, like career counseling, which have seen declining state funds over the past ten years, while holding schools accountable for student economic and education outcomes.[218]

B. Providing grants for students to attend community college tuition- and fee-free, including through "promise" programs, which have been shown to increase college access.[219]

C. Developing subsidy programs for businesses to develop structured, paid work-based learning opportunities that lead to high-quality jobs.

D. Supporting employer-education-community partnerships through competitive regional grants to incentivize collaboration and sector alignment.

Researchers

10 **Researchers should conduct longitudinal studies focused on labor market outcomes.** The research on career-connected learning in the college ecosystem has largely failed to answer the most important question: how do programs impact student employment outcomes? To answer this question, researchers must conduct rigorous, long-term studies focused on student employment and earnings over time to build a stronger body of evidence around the economic effects of these interventions. Researchers should also align on a shared language for these interventions to build a consistent and comparable evidence base.

11 **Build research-practice partnerships with postsecondary institutions.** Researchers and institutions should consider developing internal or external research-practice partnerships to study new student interventions as they are implemented, both to strengthen the research base for programs and continuously improve them. For example, faculty researchers might partner with institution leaders to study the economic outcomes of a cohort of students enrolling in a new college bootcamp offering. Not only will this add to the (scarce) evidence base around college bootcamps, but it will also inform institution practices and investments.

The opportunities for future research, experimenting with new models, and building on and scaling effective interventions are vast. Fundamentally, this requires a rethinking of the purpose of college, and the responsibility of stakeholders across the postsecondary ecosystem to help students move from education to the workforce.

The College-to-Jobs Playbook

Intervention Summaries

Career Awareness

Career Coaching

Also known as:
Career advising
Career counseling
Career guidance

OUR DEFINITION

One-on-one counseling between an advisor and a student, which may involve helping students develop career navigation skills and access career information, reviewing job application materials, and connecting students to professional opportunities. Advisors may include career counselors, faculty, alumni, or other trained staff.

Overview of Research Evidence



Strong evidence that career coaching (including the integration of career exploration activities) increases students' self-efficacy, human capital, independence, and adaptability.[1,2]



Strong evidence that integrated, sustained advising improves college persistence and graduation, academic achievement, and postsecondary degree attainment.[3,4,5,6]



Minimal evidence that career coaching impacts students' economic outcomes, including job placement and future earnings, although it may impact job satisfaction.[7]

Implementation and Design Considerations

Integrate career advising with academic, financial, and basic needs counseling and coordinate across student support providers.[8,9,10,11]

Build personalized, trusting relationships with students to help them become active participants in their education and career journeys.[12,13]

Start advising early on in a student's college career and sustain it proactively throughout to create more opportunities for interaction and intervention.[14]

Embed positive incentives into the advising structure to encourage continued student participation.[15]

Research Highlight

Bettinger & Baker (2014): A randomized study of InsideTrack, a student coaching service, found that students who were assigned to a coach were more likely to persist during the coaching period and more likely to be attending the university one year after the coaching had ended than students who were not assigned a coach.[16]

Promising Models for Study

At Lorain County Community College (LCCC) in Ohio, students receive long-term, individualized advising from an assigned advisor who facilitates regular outreach and meetings and monitors their progress to completion. LCCC provides customized support for specific student cohorts and communities, such as full-time Pell-eligible students and Hispanic/Latino students. [17]

New Horizons

Training faculty members to serve as career advisors may be an effective career coaching approach, enabling students to relate their coursework and out-of-class experiences to career goals.[18]

Endnotes

1 Joseph Lynch and Tracy Lungrin, "*Integrating Academic and Career Advising toward Student Success,*" New Directions for Higher Education 2018, no. 184 (Winter 2018): 69–79, https://doi.org/10.1002/he.20304.

2 Anne Whitehead and Nathan J. Alves, "*Use of the 'Future Life Map' Exercise to Improve Awareness of Career Options and Opportunities in Underrepresented Minority Undergraduate Students Pursuing STEM Careers,*" PLoS ONE 17, no. 2 (February 10, 2022): 1–10, https://doi.org/10.1371/journal.pone.0263848.

3 "*Effective Advising for Postsecondary Students Practice Guide Summary,*" n.d., 16.

4 "*Evidence Summary for Accelerated Study in Associate Programs (ASAP)*" (Social Programs That Work, September 2020), https://evidencebasedprograms.org/programs/accelerated-study-in-associate-programs-asap/.

5 Lanlan Mu and Kevin Fosnacht, "*Effective Advising: How Academic Advising Influences Student Learning Outcomes in Different Institutional Contexts,*" The Review of Higher Education 42, no. 4 (2019): 1283–1307, https://doi.org/10.1353/rhe.2019.0066.

6 "*Increasing Community College Graduation Rates with a Proven Model: Three-Year Results from the Accelerated Study in Associate Programs (ASAP) Ohio Demonstration,*" n.d., 143.

7 Thomas R. Tudor, "*Fully Integrating Academic Advising with Career Coaching to Increase Student Retention, Graduation Rates and Future Job Satisfaction: An Industry Approach,*" Industry and Higher Education 32, no. 2 (April 2018): 73–79, https://doi.org/10.1177/0950422218759928.

8 "*Career Advising as a Tool for Student Success and Educational Equity,*" Advising Success Network, November 3, 2021, https://www.advisingsuccessnetwork.org/structures-and-processes/career-advising-as-a-tool-for-student-success-and-educational-equity/.

9 Serena Klempin et al., "*A Framework for Advising Reform,*" n.d., 27.

10 "*Effective Advising for Postsecondary Students Practice Guide Summary.*"

11 Tudor, "*Fully Integrating Academic Advising with Career Coaching to Increase Student Retention, Graduation Rates and Future Job Satisfaction.*"

12 "*Career Advising as a Tool for Student Success and Educational Equity.*"

13 "*Effective Advising for Postsecondary Students Practice Guide Summary.*"

14 Lynch and Lungrin, "*Integrating Academic and Career Advising toward Student Success.*"

15 "*Effective Advising for Postsecondary Students Practice Guide Summary.*"

16 Eric P. Bettinger and Rachel B. Baker, "*The Effects of Student Coaching: An Evaluation of a Randomized Experiment in Student Advising,*" Educational Evaluation and Policy Analysis 36, no. 1 (March 2014): 3–19, https://doi.org/10.3102/0162373713500523.

17 "*Career Advising as a Tool for Student Success and Educational Equity.*"

18 Beverly Prosser Gelwick, "*Training Faculty to Do Career Advising,*" Personnel & Guidance Journal 53 (November 1974): 214–17.

Career Immersion

Career Mentorship Programs

Also known as: ***Faculty mentorship programs***

OUR DEFINITION

Targeted programs that foster personal relationships between college students and college alumni, faculty, staff, or local employers, designed to help students strengthen their ties with industry professionals, grow their knowledge of potential career paths, make informed career decisions, and build their social networks.Overview of Research Evidence:

Overview of Research Evidence

Moderate evidence that career mentorship programs promote postsecondary students' career self-efficacy, which includes positive outcomes in self-efficacy with respect to in career selection, job applications, professional skills and competencies, and growing personal and professional networks.[1,2,3,4,5,6,7,8]

Moderate evidence that formal workplace mentorship programs improve professional, on-the-job skills of current employees, however, few studies have conducted similar research on prospective employees who are postsecondary students.[9]

Moderate evidence that formal mentorship programs have a greater impact on women than on men in promoting positive labor market and educational outcomes.[10,11]

Implementation and Design Considerations

College alumni or peer student career mentoring programs can both help current students with their career self-efficacy and continue to engage school alumni or more students with the institution.[12,13,14,15]

Cultural taxation for faculty of color: The potential barriers that limit students of color's success could be mitigated by mentorship of faculty who share similar backgrounds or experiences, however, faculty of color believe that their sense of social responsibility to students of color may come at a cost to their career advancement. [16,17,18]

Mentor matching and structure is important for both student and mentor success: Pairing students with faculty, alumni, peer, or industry mentors may be more successful when students are paired based on their their career interests, rather than simply shared school or college majors, and when there are mentor meeting structures in place, such as suggested topics to discuss or job recommendations.[19,20,21]

Research Highlight

Crisp, Gloria (2010): This study uses structural equation modeling analysis to examine the impact of mentoring on persistence among a random sample of community college students in the United States. The results indicate that mentoring "significantly predicted the degree to which students became socially and academically integrated," and also indirectly influenced persistence among students.[22]

Promising Models for Study

The B.R.I.D.G.E.S. Program is designed for racially underrepresented freshmen, sophomore, and transfer students at Mississippi State University (MSU). Each student is assigned a MSU faculty or staff mentor for a year who provides the student with professional and personal skills, resources, and guidance to aid in the student's growth and success at MSU.[23]

New Horizons

University of Manitoba launched an Indigenous Career Mentor Program (ICMP) in fall of 2022, linking Indigenous mentors to Indigenous students in fields ranging from aerospace to healthcare to not-for-profit industries. The mentors supply career guidance, industry information, and advice from their own experiences to mentees.[24]

Endnotes

1 Martin M. Chemers et al., "*The Role of Efficacy and Identity in Science Career Commitment Among Underrepresented Minority Students*," *Journal of Social Issues* 67, no. 3 (2011): 469–91, https://doi.org/10.1111/j.1540-4560.2011.01710.x.

2 Carl Vieregger and Andrew Bryant, "*Student-Alumni Mentoring in the Business Capstone: An Opportunity to Both Cap and Bridge the Undergraduate Experience*," *Journal of Education for Business* 95, no. 5 (July 3, 2020): 335–43, https://doi.org/10.1080/08832323.2019.1646700.

3 Kuo-Yang Kao et al., "*Mentoring and Job Search Behaviors: A Moderated Mediation Model of Job Search Self-Efficacy*," *Journal of Career Development* 48, no. 1 (February 1, 2021): 44–59, https://doi.org/10.1177/0894845319832971.

4 Candra Skrzypek et al., "*Formalizing Alumni Mentoring in Social Work Education: Lessons Learned From a Three-Year Program Evaluation*," *Journal of Social Work Education* 58, no. 2 (April 3, 2022): 403–16, https://doi.org/10.1080/10437797.2020.1817820.

5 Mollie Dollinger, Sophia Arkoudis, and Samantha Marangell, "*University Alumni Mentoring Programs: A Win-Win?*," *Journal of Higher Education Policy and Management* 41, no. 4 (July 4, 2019): 375–89, https://doi.org/10.1080/1360080X.2019.1617657.

6 Ugochukwu Chinonso Okolie et al., "*Career Training with Mentoring Programs in Higher Education: Facilitating Career Development and Employability of Graduates*," *Education + Training* 62, no. 3 (January 1, 2020): 214–34, https://doi.org/10.1108/ET-04-2019-0071.

7 Sarah E. O. Schwartz et al., "*'I Didn't Know You Could Just Ask:' Empowering Underrepresented College-Bound Students to Recruit Academic and Career Mentors*," *Children and Youth Services Review* 64 (May 1, 2016): 51–59, https://doi.org/10.1016/j.childyouth.2016.03.001.

8 Jameca W. Falconer and Kimberly A. Hays, "*Influential Factors Regarding the Career Development of African American College Students: A Focus Group Approach*," *Journal of Career Development* 32, no. 3 (March 1, 2006): 219–33, https://doi.org/10.1177/0894845305279166.

9 "*Treatment and Selection Effects of Formal Workplace Mentorship Programs | NBER*," accessed February 28, 2022, https://www-nber-org.ezp-prod1.hul.harvard.edu/papers/w29148.

10 Itzik Fadlon, Frederik Plesner Lyngse, and Torben Heien Nielsen, "*Causal Effects of Early Career Sorting on Labor and Marriage Market Choices: A Foundation for Gender Disparities and Norms*" (Cambridge, MA: National Bureau of Economic Research, December 2020), https://doi.org/10.3386/w28245.

11 Scott E. Carrell and Bruce Sacerdote, "*Why Do College Going Interventions Work?*," Working Paper, Working Paper Series (National Bureau of Economic Research, May 2013), https://doi.org/10.3386/w19031.

12 Everett A. Smith, G. David Gearhart, and Michael T. Miller, "*Understanding Alumni Relations Programs in Community Colleges*," *International Journal of Higher Education* 8, no. 5 (August 24, 2019): 9.

13 Zeeshan Haqqee et al., "*The Impact of Program Structure and Goal Setting on Mentors' Perceptions of Peer Mentorship in Academia*," *Canadian Journal of Higher Education* 50, no. 2 (2020): 24–38.

14 Vieregger and Bryant, "*Student-Alumni Mentoring in the Business Capstone.*"

15 Dollinger, Arkoudis, and Marangell, "*University Alumni Mentoring Programs.*"

16 Laura Perna et al., "*The Contribution of HBCUS to the Preparation of African American Women for Stem Careers: A Case Study*," *Research in Higher Education* 50, no. 1 (February 1, 2009): 1–23, https://doi.org/10.1007/s11162-008-9110-y.

17 Nigel Brissett, "*Inequitable Rewards: Experiences of Faculty of Color Mentoring Students of Color*," *Mentoring & Tutoring: Partnership in Learning* 28, no. 5 (October 19, 2020): 556–77, https://doi.org/10.1080/13611267.2020.1859327.

18 Cristobal Salinas et al., "*Mentoring Experiences and Perceptions of Latino Male Faculty in Higher Education*," *Hispanic Journal of Behavioral Sciences* 42, no. 1 (February 1, 2020): 117–40, https://doi.org/10.1177/0739986319900026.

19 Jonah E. Rockoff, "*Does Mentoring Reduce Turnover and Improve Skills of New Employees? Evidence from Teachers in New York City*," Working Paper, Working Paper Series (National Bureau of Economic Research, March 2008), https://doi.org/10.3386/w13868.

20 Dollinger, Arkoudis, and Marangell, "*University Alumni Mentoring Programs.*"

21 Haqqee et al., "*The Impact of Program Structure and Goal Setting on Mentors' Perceptions of Peer Mentorship in Academia.*"

22 Gloria Crisp, "*The Impact of Mentoring on the Success of Community College Students*," *Review of Higher Education* 34 (January 1, 2010), https://www.researchgate.net/publication/234712029_The_Impact_of_Mentoring_on_the_Success_of_Community_College_Students.

23 "*B.R.I.D.G.E.S. Mentorship Program*" (Mississippi State University, n.d.), https://www.hcdc.msstate.edu/involved/mentorship.

24 "*UM's New Indigenous Career Mentor Program*" (University of Manitoba, October 26, 2022), https://news.umanitoba.ca/ums-new-indigenous-career-mentor-program/.

Career Awareness

Career Pathways

OUR DEFINITION

Structured sequences of connected education and training programs that provide students with basic skills and occupational knowledge aligned with industry needs. A basic career pathway model includes multiple entry and exit points that result in stackable credentials, aligned with labor market demands. Includes: Guided pathways, meta-majors

Overview of Research Evidence

Strong evidence that career pathways initiatives can improve credit accumulation, academic performance, and credential attainment, although there is mixed evidence about the impact of career pathways on college degree attainment.[1,2,3,4]

Strong evidence that career pathways programs can increase short-term employment and short-term earnings, although impacts vary drastically by program area and length.[5,6,7,8,9]

Minimal evidence that career pathways increase long-term employment and earnings outcomes,[10,11]

Implementation and Design Considerations

Intentionally structure pathways to help students further their education and secure employment in high-demand fields.[12]

Deliver contextualized or integrated basic skills instruction to ensure entry into career fields.[13]

Provide comprehensive support to students to improve completion of credentials.[14]

Leverage employer-education partnerships to align pathways to industry needs.[15,16]

Identify and explicitly address racial disparities in student outcomes.[17,18]

Research Highlight

Strawn, Peck & Schwartz (2021): A meta-analysis of 46 experimental and quasi-experimental impact evaluations of career pathways programs, mostly carried out at technical and community colleges, found that career pathways programs increased credential attainment, overall employment rates, employment in targeted industries, and short-term earnings for program participants.[19]

Promising Models

The Integrated Basic Education and Skills Training (I-BEST), developed by the Washington State Board for Community and Technical Colleges in conjunction with the state's community and technical colleges, integrates basic skills and technical skills instruction to increase the rate at which adult basic education and English-as-a-second-language students advance to college-level programs and complete postsecondary credentials.[20]

New Horizons

California Community Colleges launched the Self-Employment Pathways in the Gig Economy project to prepare students to become freelancers and independent contractors in the growing gig economy.[21]

Endnotes

1 Theresa Anderson, Daniel Kuehn, and Lauren Eyster, "*New Evidence on Integrated Career Pathways,*" n.d., 89.

2 Cotner et al., "*Designing and Delivering Career Pathways at Community Colleges: A Practice Guide for Educators.*"

3 Montgomery Ave, "*Pima Community College Pathways to Healthcare Program: Implementation and Early Impact Report,*" n.d., 86.

4 Mark Elliott and Anne Roder, "*Project QUEST'S Sectoral Strategy Pays Off,*" n.d., 26.

5 Sarah Bohn, Jacob Jackson, and Shannon McConville, "*Career Pathways and Economic Mobility at California's Community Colleges*" (Public Policy Institute of California, June 2019), https://www.ppic.org/wp-content/uploads/career-pathways-and-economic-mobility-at-californias-community-colleges.pdf.

6 Mark Elliott and Anne Roder, "*Project QUEST'S Sectoral Strategy Pays Off,*" n.d., 26.

7 "*What Do We Know about the Effectiveness of Community College-Based Interventions?,*" n.d., 8.

8 Maureen Sarna and Tara Adam, "*Evidence on Career Pathways Strategies: Highlights from a Scan of the Research,*" n.d., 8.

9 Julie Strawn, Laura R Peck, and Deena Schwartz, "*New Insights on Career Pathways: Evidence from a Meta-Analysis,*" n.d., 12.

10 "*A Meta-Analysis of 46 Career Pathways Impact Evaluations,*" n.d., 145.

11 Sarna and Adam, "*Evidence on Career Pathways Strategies: Highlights from a Scan of the Research.*"

12 Cotner et al., "*Designing and Delivering Career Pathways at Community Colleges: A Practice Guide for Educators.*"

13 John Wachen, Davis Jenkins, and Michelle Van Noy, "*How I-BEST Works: Findings From a Field Study of Washington State's Integrated Basic Education and Skills Training Program,*" n.d., 31.

14 Davis Jenkins et al., Building Guided Pathways to Community College Student Success: Promising Practices and Early Evidence from Tennessee, Community College Research Center, Teachers College, Columbia University (Community College Research Center, 2018), https://eric.ed.gov/?id=ED588524.

15 Sarah Griffin, Serena Klempin, and Davis Jenkins, "*Using Guided Pathways to Build Cross-Sector Pathways Partnerships,*" n.d., 68.

16 Elliott and Roder, "*Project QUEST'S Sectoral Strategy Pays Off.*"

17 Debra D. Bragg, Lia Wetzstein, and Kandi Bauman, Integrating Racial Equity into Guided Pathways, Community College Research Initiatives (Community College Research Initiatives, 2019), https://eric.ed.gov/?id=ED608157.

18 Bohn, Jackson, and McConville, "*Career Pathways and Economic Mobility at California's Community Colleges.*"

19 Strawn, Peck, and Schwartz, "*New Insights on Career Pathways: Evidence from a Meta-Analysis.*"

20 Wachen, Jenkins, and Noy, "*How I-BEST Works: Findings From a Field Study of Washington State's Integrated Basic Education and Skills Training Program.*"

21 "*California Community Colleges Launch Self-Employment Pathways in the Gig Economy Project,*" California Forward (blog), May 29, 2018, https://cafwd.org/news/california-community-colleges-launch-self-employment-pathways-in-the-gig-ec/.

Career Awareness

Career Readiness Curriculum

OUR DEFINITION

Content that provides instruction, materials, and other support mechanisms to help students gain competencies in career and social skills, including leadership, communication, professionalism, critical thinking, teamwork, and career- and self-development skills. Pedagogy may also include a focus on applied career practices like resume creation or interview preparation.

Overview of Research Evidence

Strong evidence that career readiness curriculum improves career decision-making skills, self-efficacy, career confidence, vocational identity, and career satisfaction, especially for minoritized groups[1,2,3,4,5]

Mixed evidence that career readiness content increases academic outcomes such as persistence in college, graduation rates, and cumulative GPA.[6,7]

Minimal evidence of impacts on student employment and earnings post-graduation, although employability models and employer demands include career readiness skills[8,9]

Implementation and Design Considerations

Curricula should be structured around specific career-readiness goals, including career exploration, career planning, and skill development [10,11]

Career readiness content should be credit-bearing, which benefits students and institutions, because the intervention pays for itself, allows colleges to deliver career services at scale, and enables students to accumulate credits[12]

Research Highlight

Folsom, et. al. (2005): Researchers compared student participants in a career development course at Florida State University to a matched sample of non-course participants after five years, and found that women participants graduated college in less time than non-participants, while men took longer to graduate but had higher GPAs than male non-participants.[13]

Promising Models for Study

Virginia Commonwealth University (VCU) developed an Interdisciplinary Career Readiness Skills Minor, an 18-credit pathway designed to help students across industries acquire the eight National Association of Colleges and Employers (NACE) career readiness competencies.[14]

New Horizons

Community colleges are awarding credits to students who pass the CT WorkKeys National Career Readiness Certificate, receiving National Career Readiness Certificates.[15]

Endnotes

1 Reardon and Fiore, "*College Career Courses and Learner Outputs and Outcomes, 1976-2014 (Technical Report No. 55).*"

2 Vanessa F Freeman, Janet G Lenz, and Robert C Reardon, "*Career Course Impact on College Students' Career Decision and Affective States,*" 2017, 14.

3 Mark E. Ware, "*Teaching and Evaluating a Career Development Course for Psychology Majors,*" in Is Psychology for Them? A Guide to Undergraduate Advising (Washington, DC, US: American Psychological Association, 1988), 64–74, https://doi.org/10.1037/10556-019.

4 Christen Tomlinson Logue et al., "*Career Exploration at an Appalachian University: Effectiveness and Pre-Existing Resources,*" Journal of the Scholarship of Teaching and Learning 19, no. 3 (January 30, 2019), https://doi.org/10.14434/josotl.v19i2.23921.

5 Celeste Spier, "*Effects of Career Courses on Career Self-Efficacy and Outcome Expectations,*" n.d., 165.

6 Robert Reardon and Emily Fiore, "*College Career Courses and Learner Outputs and Outcomes, 1976-2014 (Technical Report No. 55)*" (Florida State University Libraries, June 5, 2014), https://doi.org/10.17125/fsu.1520968878.

7 William Dale Goodson, "*A Career Class Does Have an Impact: A Ten Year Follow-Up,*" March 1982.

8 "*What Is Career Readiness?,*" accessed February 3, 2022, https://www.naceweb.org/career-readiness/competencies/career-readiness-defined/.

9 Ruth Bridgstock, "*The Graduate Attributes We've Overlooked: Enhancing Graduate Employability through Career Management Skills,*" Higher Education Research & Development 28, no. 1 (March 1, 2009): 31–44, https://doi.org/10.1080/07294360802444347.

10 Deirdre D Ragan, "*A Structured Course for Personal and Professional Development,*" n.d., 15.

11 Reardon and Fiore, "*College Career Courses and Learner Outputs and Outcomes, 1976-2014 (Technical Report No. 55).*"

12 Reardon and Fiore.

13 Byron Folsom et al., "*Impact of a Career Planning Course on Academic Performance and Graduation Rate,*" Journal of College Student Retention: Research, Theory & Practice 6, no. 4 (February 1, 2005): 461–73, https://doi.org/10.2190/4WJ2-CJL1-V9DP-HBMF.

14 "*The I.C.S. Minor - Interdisciplinary Studies - Virginia Commonwealth University,*" accessed May 30, 2022, https://ids.vcu.edu/the-ics-minor/.

15 "*Northeast State to Give Credit to Career-Ready Students | Local News | Timesnews.Net,*" accessed May 31, 2022, https://www.timesnews.net/news/local-news/northeast-state-to-give-credit-to-career-ready-students/article_a62f0e3a-5278-5053-a0ed-b378fff7f91a.html.

Career Awareness

Cohort Programming

Also known as: ***Learning communities***

OUR DEFINITION

Career-focused learning program structures in which small groups of students are enrolled together in two or more linked courses that connect to specific industries, careers, or fields of study.

Overview of Research Evidence

Strong evidence that cohort programs increase student persistence and academic achievement, including for historically underrepresented populations.[1,2,3,4,5]

Moderate evidence that cohort models increase student engagement and satisfaction with their college experience.[6,7]

Mixed evidence that cohort programs impact college completion and degree attainment.[8,9,10,11]

Minimal evidence that cohort models impact economic outcomes, including employment and earnings.[12]

Implementation and Design Considerations

Cohort models may be most successful when combined with student supports, like career exploration and coaching services, although this may increase costs and management complexities.[13]

Research Highlight

Weiss, et al. (2015): A randomized trial of over 1,500 students at Kingsborough Community College indicates that learning communities' positive effects on short-term academic progress (credit accumulation) are maintained seven years after random assignment. The study provides some limited evidence that the program positively affected graduation rates, particularly for those students without remedial English needs, over this period.[14]

Promising Models for Study

Bunker Hill Community College's Learning Communities enable students to learn in a supportive environment that fosters stronger relationships among students and faculty. Students benefit from interdisciplinary learning experiences, teacher-to-student mentoring, peer mentoring, and integrated support services, such as success coach advisors.[15]

New Horizons

Virtual cohort programs may allow students to build supportive communities and relationships with faculty, peers, and advisors across distances.[16]

Endnotes

1 Kristine Di Memmo, "*Integration of a Cohort Model within Two California Community Colleges as an Institutional Strategy to Increase Student Success*" (Brandman University, 2020), https://www.proquest.com/openview/718e14e0bf4f6fd776549f6f9edfd9d5/1?pq-origsite=gscholar&cbl=18750&diss=y.

2 Todd M. Oldham, "*The Impact of a Cohort-Based Learning Model on Student Success within Vocational Technical Certificates at a Community College*" (Northeastern University, 2017), https://eric.ed.gov/?id=ED576178.

3 Beth Kern and Tabitha Kingsbury, "*Curricular Learning Communities and Retention,*" Journal of the Scholarship of Teaching and Learning 19, no. 1 (February 4, 2019), https://doi.org/10.14434/josotl.v19i1.26779.

4 Michael J Weiss et al., "*The Impact of Learning Communities for Students in Developmental Education: A Synthesis of Findings From Randomized Trials at Six Community Colleges,*" n.d., 22.

5 Taé Nosaka and Heather Novak, "*Against the Odds: The Impact of the Key Communities at Colorado State University on Retention and Graduation for Historically Underrepresented Students,*" Against The Odds, n.d., 22.

6 Beth Kern and Tabitha Kingsbury, "*Curricular Learning Communities and Retention,*" Journal of the Scholarship of Teaching and Learning 19, no. 1 (February 4, 2019), https://doi.org/10.14434/josotl.v19i1.26779.

7 Heather D. Wathington, Joshua Pretlow III, and Claire Mitchell, "*The Difference a Cohort Makes: Understanding Developmental Learning Communities in Community Colleges,*" Journal of College Student Retention 12, no. 2 (August 2, 2010): 225–42.

8 Michael J. Weiss et al., "*A Random Assignment Evaluation of Learning Communities at Kingsborough Community College—Seven Years Later,*" Journal of Research on Educational Effectiveness 8, no. 2 (April 3, 2015): 189–217, https://doi.org/10.1080/19345747.2014.946634.

9 "*Linked Learning Communities,*" 2014, 35.

10 Oldham, "*The Impact of a Cohort-Based Learning Model on Student Success within Vocational Technical Certificates at a Community College.*"

11 Tina Marie Church Lewandowski, "*An Analysis of Cohort Models in Technical Education at Kansas City Kansas Community College*" (Thesis, University of Missouri--Columbia, 2021), https://doi.org/10.32469/10355/85793.

12 Weiss et al., "*A Random Assignment Evaluation of Learning Communities at Kingsborough Community College—Seven Years Later,*" April 3, 2015.

13 Michael J. Weiss et al., "*A Random Assignment Evaluation of Learning Communities at Kingsborough Community College—Seven Years Later,*" Journal of Research on Educational Effectiveness 8, no. 2 (April 3, 2015): 189–217, https://doi.org/10.1080/19345747.2014.946634.

14 Weiss et al., "*A Random Assignment Evaluation of Learning Communities at Kingsborough Community College—Seven Years Later,*" April 3, 2015.

15 "*Learning Communities - Bunker Hill Community College,*" accessed May 31, 2022, https://www.bhcc.edu/learning-communities/.

16 "*BMCC Student Cohort Programs Build Virtual Communities,*" CUNY Newswire (blog), accessed May 31, 2022, https://www1.cuny.edu/mu/forum/2020/04/22/bmcc-student-cohort-programs-build-virtual-communities-2/.

Career Immersion

Apprenticeships

Also known as: ***Registered Apprenticeships, Industry-recognized apprenticeships***

OUR DEFINITION

Industry-driven training programs that combine paid, on-the-job learning with classroom instruction and result in nationally recognized, portable credentials. Colleges may co-design curricula, provide academic instruction, or administer and operate the apprenticeship program, in partnership with local businesses.

Overview of Research Evidence

Strong evidence that apprenticeships have a positive impact on students' employment outcomes across a wide range of geographical sites and industry programs [1,2,3]

Mixed–but mostly strong–evidence on improved students' earnings post-apprenticeship. Studies that show slight negative association between apprenticeships and earnings were conducted during an unusually deep recession. These positive associations also extend to students' fringe benefits in their jobs.[4,5,6,7,8]

Mixed evidence that apprenticeships have a positive impact on students' educational outcomes [9,10]

Implementation and Design Considerations

No "one size fits all" program design, but communication is key to success: Successful apprenticeship programs can span a wide range of program lengths and costs across different industries and hinges on the quality of relationships between key people at the college and employer involved in the program and removing barriers for employers to participate, for example, establishing a central point of contact at the college.[11,12,13]

Good programs are difficult to run well: Apprenticeship programs take substantial time and technical or staff assistance to implement and see results. These programs also take time to see positive impacts, even among earlier and later apprentice cohorts in the same program[14]

Outcomes differ by gender where there is more overwhelming positive earning, employment, and academic outcomes for males than for females. Women in apprenticeships face different challenges such as facing harassment in more male-dominant industries and obtaining childcare.[15,16]

Research Highlight

Reed, et. al. (2012): Using data from Unemployment Insurance records, the authors compared those who had completed a registered apprenticeship (RA) program with nonparticipants. They estimated the impact of program participation on earnings and employment using regression models that controlled for demographic characteristics and earnings and employment before the start of the program, and reported outcomes six years after program enrollment for 57,924 people in six states, and nine years after program enrollment for 45,366 people in five states.The study found that employment rates were 8.6 percentage points higher among RA participants than nonparticipants both six and nine years after program enrollment, and RA participants earned more than nonparticipants at both follow-up periods.[17]

Promising Models for Study

A consortium of South Carolina Historically Black Colleges and Universities (HBCUs), the Urban Institute, and businesses collaborated to develop a degree-based apprenticeship program in secure software development. The program enables students to gain meaningful paid work experience while simultaneously advancing toward a bachelor's degree.[18]

New Horizons

Youth apprenticeship programs offer high school students the opportunity to combine in-the-classroom learning with on-the-job exposure, providing work-based opportunities for students at a young age. Although youth apprenticeships take place predominantly in high school, they provide students with the experience and skills to make informed college and career decisions.[19]

Endnotes

1 Kevin Hollenbeck and Wei-Jang Huang, "*Net Impact and Benefit-Cost Estimates of the Workforce Development System in Washington State*" (W.E. Upjohn Institute, December 1, 2014), https://doi.org/10.17848/tr13-029.

2 Paul Bucci, "*Minnesota Advanced Manufacturing Project (MnAMP) Final External Evaluation Report,*" September 30, 2018.

3 Clément Brébion, Comparative Analysis of Apprenticeship Training in France and Germany, Document de Travail, n° 192 (Noisy-le-Grand: Centre d'études de l'emploi et du travail, 2017).

4 Debbie Reed, "*Effectiveness Assessment and Cost-Benefit Analysis of Registered Apprenticeship in 10 States,*" Final Report, 2012, 158.

5 "*Implementation and Early Training Outcomes of the High Growth Job Training Initiative: Final Report,*" Urban Institute, accessed July 11, 2022, https://www.urban.org/research/publication/implementation-and-early-training-outcomes-high-growth-job-training-initiative-final-report.

6 Matthew Zeidenberg, Sung-Woo Cho, and Davis Jenkins, "*Washington State's Integrated Basic Education and Skills Training Program (I-BEST): New Evidence of Effectiveness,*" September 1, 2010, https://ccrc.tc.columbia.edu/publications/i-best-new-evidence.html.

7 Morley Gunderson and Harry Krashinsky, "*Returns to Apprenticeship Based on the 2006 Canadian Census,*" ILR Review 68, no. 5 (October 1, 2015): 1078–1101, https://doi.org/10.1177/0019793915591990.

8 Lawrence F. Katz et al., "*Why Do Sectoral Employment Programs Work? Lessons from WorkAdvance*" (Cambridge, Massachusetts: NBER, December 2020).

9 José de Amesti and Susana Claro, "*Effects of Apprenticeship on the Short-Term Educational Outcomes of Vocational High-School Students,*" Journal of Research on Educational Effectiveness 14, no. 3 (July 3, 2021): 598–616, https://doi.org/10.1080/19345747.2021.1917026.

10 Zeidenberg, Cho, and Jenkins, "*Washington State's Integrated Basic Education and Skills Training Program (I-BEST).*"

11 Susan James Relly and Andrea Laczik, "*Apprenticeship, Employer Engagement and Vocational Formation: A Process of Collaboration,*" Journal of Education and Work 0, no. 0 (October 15, 2021): 1–15, https://doi.org/10.1080/13639080.2021.1983524.

12 Denise Jackson et al., "*Employer Understanding of Work-Integrated Learning and the Challenges of Engaging in Work Placement Opportunities,*" Studies in Continuing Education 39, no. 1 (January 2, 2017): 35–51, https://doi.org/10.1080/01580 7X.2016.1228624.

13 Jackson et al.

14 Richard Hendra et al., "*Encouraging Evidence on a Sector-Focused Advancement Strategy,*" Text, June 27, 2016, https://www.mdrc.org/publication/encouraging-evidence-sector-focused-advancement-strategy.

15 Gunderson and Krashinsky, "*Returns to Apprenticeship Based on the 2006 Canadian Census.*"

16 Reed, "*Effectiveness Assessment and Cost-Benefit Analysis of Registered Apprenticeship in 10 States.*"

17 Reed.

18 Hawkins, Rayanne, John Marotta, Myca San Miguel, and Jacqueline Rayfield. "*Apprenticeship Comes to Campus: A Playbook for Building a Consortium-Driven Degree-Based Apprenticeship.*" Urban Institute, August 2022. https://www.urban.org/sites/default/files/2022-08/Apprenticeship%20Comes%20to%20Campus.pdf.

19 Joseph Fuller, Rachel Lipson, Farah Mallah, Girish Pendse, Rachel Snyder (November 2022). The Options Multiplier: Decoding the CareerWise Youth Apprentice Journey. Published by Harvard Kennedy School and Harvard Business School. https://www.pw.hks.harvard.edu/post/careerwise.

Career Immersion

Co-Ops

Also known as: ***Cooperative education, Co-op programs***

OUR DEFINITION

Longer-term (1-3 semesters), full-time work-based learning experiences at an organization that align with students' majors, are centrally organized by the college or faculty, and may provide academic credit to the students.

Overview of Research Evidence

⊕ **Strong evidence** that co-ops have a positive impact on students' employment and earnings, however, these findings may be limited to students' co-op completion rather than only co-op participation [1,2,3]

⊖ Positive returns on employment and earnings exist mainly for STEM co-op participants. There is **moderate evidence** that income premiums exist for business students, and little evidence that income premiums exist for arts or social science programs.[4]

⊖ **Moderate evidence** that co-ops have a positive impact on students' career self-efficacy, meaning that co-op students feel more empowered and confident to pursue a career in their co-op industry after having participated in the co-op program[5,6,7]

Implementation and Design Considerations

Can be a tool to diversify the workforce and higher education: Although co-op participation is lower for underrepresented students, underrepresented students who do participate in co-ops have higher labor market and academic outcomes [8,9]

Women face unique challenges in engineering co-ops: Women face a unique combination of positive personal and professional growth coupled with lack of support or seclusion from predominantly male work environments. Additionally, women tend to receive lower employment and earning benefits than their male counterparts [10,11]

Co-op participation may be driven by the labor market: Lower academically performing students tend to participate in co-ops at a higher rate during periods of poor labor market prospects, which could help gauge institution co-op management needs [12]

Research Highlight

Wynoch, Rosalie, et al (2019): This study uses linear estimation models and quasi-experimental data to estimate the impacts of co-op programs on income or other post-graduation benefits. The results indicate that co-op programs positively impact participants' transition into the labor force and their incomes within the labor force, and that it may also contribute to overcoming wage gaps related to race, gender, or immigration status.[13]

Promising Models for Study

The University of Cincinnati has provided co-op opportunities for its students for nearly 100 years. Students alternate between academic semesters and semesters spent working full-time in organizations within their chosen field, from startups to large corporations and nonprofits, allowing them to gain vital on-the-job experience while receiving academic instruction and earning wages.[14]

New Horizons

Encouraging alumni entrepreneurs who start their own businesses to host current co-op students may lead to more positive co-op experiences for both students and employers.[15]

Endnotes

1 J. Robert Owen and Aaron C. Clark, "*A Study of Initial Employment Characteristics between Co-Op and Non-Co-Op Community College Graduates,*" Journal of Career and Technical Education 18, no. 1 (2001): 58–68.

2 Joyce B. Main, Beata N. Johnson, and Yanbing Wang, "*Gatekeepers of Engineering Workforce Diversity? The Academic and Employment Returns to Student Participation in Voluntary Cooperative Education Programs,*" Research in Higher Education 62, no. 4 (June 1, 2021): 448–77, https://doi.org/10.1007/s11162-020-09596-7.

3 Rosalie Wyonch, "*Working to Create Work-Ready Graduates: Successful Transition to the Labor Market and the Role of Co-Op,*" Journal of Organizational Psychology 19, no. 6 (2019): 68–90.

4 Wyonch.

5 Brittany Arthur and Batsheva Guy, "*'No, I'm Not the Secretary': Using Participatory Methods to Explore Women Engineering Students Experiences on Co-Op,*" 2020, 12.

6 Owen and Clark, "*A Study of Initial Employment Characteristics between Co-Op and Non-Co-Op Community College Graduates.*"

7 Wyonch, "*Working to Create Work-Ready Graduates.*"

8 Main, Johnson, and Wang, "*Gatekeepers of Engineering Workforce Diversity?*"

9 Wyonch, "*Working to Create Work-Ready Graduates.*"

10 Arthur and Guy, "*'No, I'm Not the Secretary': Using Participatory Methods to Explore Women Engineering Students Experiences on Co-Op.*"

11 Wyonch, "*Working to Create Work-Ready Graduates.*"

12 Brock E. Barry et al., "*Influence of Job Market Conditions on Engineering Cooperative Education Participation,*" Journal of Professional Issues in Engineering Education and Practice 142, no. 3 (July 1, 2016): 04015017, https://doi.org/10.1061/(ASCE)EI.1943-5541.0000270.

13 Wyonch, "*Working to Create Work-Ready Graduates.*"

14 "*The Global Birthplace of Co-Op*" (University of Cincinnati, n.d.), https://www.uc.edu/co-op.html.

15 Andrew Andrade et al., "*Quantifying the Impact of Entrepreneurship on Cooperative Education Job Creation,*" 2018, 20.

Career Immersion

Internships

Also known as:
Paid internships, unpaid internships, internships for credit, micro-internships

OUR DEFINITION

Short-term work experiences that help students gain entry-level exposure and applied experience in a particular industry, field, or organization.

Overview of Research Evidence

⊕ **Strong evidence** that internships have a positive impact on college students' academic outcomes, including higher GPA, higher college retention rates, higher likelihood of attending graduate school, and higher inclination for lifelong learning.[1,2]

⊕ **Strong evidence** that internships contribute to higher earnings after college, however, there is to be variation in impact on earnings, depending on whether the internship is paid or unpaid or voluntary or mandatory.[3,4,5,6,7,8]

| **Mixed evidence** about how internships contribute to increasing human capital; that is, whether they contribute more for increasing skills for future jobs or to better understand how to function and interact in a particular field or workplace.[9,10]

⊕ **Strong evidence** that internships also benefit employers because the intern performs needed job tasks and because the intern's role may save the organization recruitment and training costs.[11,12]

Implementation and Design Considerations

Employers should consider clarity in expectations, learning outcomes, job tasks, feedback, mentorship, and other guidance to ensure more positive outcomes from both the student and employer perspective.[13,14,15,16]

Paid internships tend to be associated with more positive students labor market outcomes, although this may vary by industry [17]

Internship participation may vary by students' gender, ethnicity, and first generation status: Women and underrepresented students are more likely to engage in humanities- and social sciences-related fields of study and related internships, which tend to be unpaid, compared to STEM counterparts.[18,19] Lower income students may also opt to engage in paid jobs rather than an unpaid internship experience to supplement financial needs.[20]

Research Highlight

Margaryan et al. (2020): This study provides causal evidence of the effects of student internships on students' transition to the labor market and earnings. Using longitudinal data from the German Centre for Research on Higher Education and Research Studies (DZHW), the authors find that student internships in firms increases earnings by around six percent in the short and medium term and suggests that graduates who completed an internship face a lower risk of unemployment during the first year of their careers. The findings suggest that internships combined with university education can better incorporate labor market demands in higher education.[21]

Promising Models for Study

The Foundation for California Community Colleges partners with the California Film Commission to provide paid internship opportunities for students interested in the entertainment industry, offering students first-hand experience in art, camera, grip, wardrobe, and production.[22]

New Horizons

Micro-internships are shorter-term, paid internships typically geared toward students who are new to the workforce and who are looking for work experience in a specific field.[23] Already-existing resources such as crowd-sourcing platforms could be repurposed into micro-internship opportunities by incorporating evidence-based best practices of traditional internships, such as clear structure, expectations, and mentorship.[24]

Endnotes

1 Tu, "*What Can We Learn from Longitudinal Studies on the Impacts of College Internships?*"

2 "*Study Shows Impact of Internships on Career Outcomes,*" accessed January 25, 2022, https://www.naceweb.org/job-market/internships/study-shows-impact-of-internships-on-career-outcomes/.

3 Tu, "*What Can We Learn from Longitudinal Studies on the Impacts of College Internships?*"

4 Carl P. Maertz Jr, Philipp A. Stoeberl, and Jill Marks, "*Building Successful Internships: Lessons from the Research for Interns, Schools, and Employers,*" Career Development International 19, no. 1 (January 1, 2014): 123–42, https://doi.org/10.1108/CDI-03-2013-0025.

5 Thomas Bolli, Katherine Caves, and Maria Esther Oswald-Egg, "*Valuable Experience: How University Internships Affect Graduates' Income,*" Research in Higher Education 62, no. 8 (December 1, 2021): 1198–1247, https://doi.org/10.1007/s11162-021-09637-9.

6 "*The Positive Implications of Internships on Early Career Outcomes.*"

7 Gary Blau and Andrea B. Lopez, "*Exploring Correlates for Paid versus Unpaid Internships or Co-Ops for Graduating Business Students,*" Journal of Education for Business 95, no. 6 (August 17, 2020): 393–401, https://doi.org/10.1080/08832323.2019.1668744.

8 Philip Rothschild and Connor Rothschild, "*The Unpaid Internship: Benefits, Drawbacks, and Legal Issues,*" Administrative Issues Journal Education Practice and Research 10, no. 2 (2020): 1–17, https://doi.org/10.5929/2020.10.2.1.

9 Tu, "*What Can We Learn from Longitudinal Studies on the Impacts of College Internships?*"

10 Bolli, Caves, and Oswald-Egg, "*Valuable Experience.*"

11 P. Maertz Jr, A. Stoeberl, and Marks, "*Building Successful Internships.*"

12 Jack Gault, John Redington, and Tammy Schlager, "*Undergraduate Business Internships and Career Success: Are They Related?,*" Journal of Marketing Education 22, no. 1 (April 1, 2000): 45–53, https://doi.org/10.1177/0273475300221006.

13 Nancy O'Neill, "*Internships as a High-Impact Practice: Some Reflections on Quality,*" Peer Review 12, no. 4 (Fall 2010): 4–8.

14 Ilias Kapareliotis, Katerina Voutsina, and Athanasios Patsiotis, "*Internship and Employability Prospects: Assessing Student's Work Readiness,*" Higher Education, Skills and Work-Based Learning 9, no. 4 (January 1, 2019): 538–49, https://doi.org/10.1108/HESWBL-08-2018-0086.

15 Frank Alpert, Joo-Gim Heaney, and Kerri-Ann L. Kuhn, "*Internships in Marketing: Goals, Structures and Assessment – Student, Company and Academic Perspectives,*" Australasian Marketing Journal (AMJ) 17, no. 1 (May 1, 2009): 36–45, https://doi.org/10.1016/j.ausmj.2009.01.003.

16 Miriam Rothman, "*Lessons Learned: Advice to Employers From Interns,*" Journal of Education for Business 82, no. 3 (January 1, 2007): 140–44, https://doi.org/10.3200/JOEB.82.3.140-144.

17 Tu, "*What Can We Learn from Longitudinal Studies on the Impacts of College Internships?*"

18 Rothschild and Rothschild, "*The Unpaid Internship.*"

19 "*Project MUSE - Unpaid Versus Paid Internships: Group Membership Makes the Difference,*" accessed March 8, 2022, http://muse.jhu.edu/article/762177.

20 "*The Impact of Compensation, Supervision and Work Design on Internship Efficacy.*"

21 Shushanik Margaryanm et al., "*Do Internships Pay Off? The Effects of Student Internships on Earnings,*" 2019, 55.

22 "*Connecting Students to Paid Internships in the Film Industry.*" Foundation for California Community Colleges. Accessed March 3, 2023. https://foundationccc.org/What-We-Do/Student-Success/California-Film-Commission.

23 "*FAQ | How Micro-Internships Work | Parker Dewey,*" accessed January 27, 2022, https://www.parkerdewey.com/faq.

24 Ryo Suzuki et al., "*Atelier: Repurposing Expert Crowdsourcing Tasks as Micro-Internships,*" ArXiv:1602.06634 [Cs], February 21, 2016, http://arxiv.org/abs/1602.06634.

Career Immersion

Job Shadowing

Also known as:
Externships

OUR DEFINITION

Informal, short-term, usually unpaid experiences wherein students follow and closely observe employees to better understand the day-to-day rigors of their job and company. These may range from one-time experiences to longer term, more regular experiences with a company or specific employee.

Overview of Research Evidence

Moderate evidence that job shadowing has a positive impact on students' career self-efficacy, defined as students' perceptions of their confidence and ability to perform in their chosen career [1,2,3,4]

Mixed evidence that job shadowing has a positive impact on students' developing professional skills for the workforce, such as in teaching, hospitality, and nursing fields. This may be due to job shadowing experiences being too brief to provide a significant benefit to students [5,6,7,8,9]

Minimal evidence that job shadowing supports positive outcomes in students' retention in educational programs employment post-graduation[10]

Implementation and Design Considerations

Employers should consider operational benefits of hosting students and current employees in job shadowing opportunities. Longer-term job shadowing programs may minimize impacts of staffing shortages,[11] allow employees to gain exposure to new departments within an organization,[12] and provide more opportunities to underrepresented students, such as students with disabilities [13]

Remote or online job shadowing experiences could be an effective method to scale career immersion opportunities, however, students who participate in face-to-face job shadowing experiences tend to have marginally greater career self-efficacy than students who participate in virtual job shadowing experiences [14]

Research Highlight

Neumark, et al (2006): This study provides causal evidence that job shadowing positively affects high school students' college enrollment, and a positive–but not significant–association between job shadowing and employment. Using longitudinal data from the 1997 National Longitudinal Survey of Youth (NLSY97), the Neumark, et al study observed the impact on high school students' college enrollment and post-high school employment based on a range of school-to-work interventions. Although this research focuses on high school–rather than postsecondary–students and many of the other school-to-work interventions have a greater association between college enrollment and post-high school employment, this study highlights data that could be used for future research on job shadowing in postsecondary institutions.

Promising Models for Study

UC San Diego Health collaborates with Southwestern Community College, City College, and Grossmont Community College to provide under-resourced community college nursing students with structured job shadowing and career support experiences. Students shadow nurses and participate in workshops over a 12-week period to better understand the professional clinical nurse role.[15]

New Horizons

Virtual job shadowing and related career immersion experiences may help more students gain exposure to different kinds of business operations and cultures, even if they are not physically co-located with these companies. Employers should also consider how they may provide these opportunities to expand access for underrepresented potential employees.[16]

Endnotes

1 William Raymond Thibodeaux, The Practical Side of Culinary Arts Education: The Role of Social Ability and Durable Knowledge in Culinary Arts Externships, ProQuest LLC (ProQuest LLC, 2012).

2 Neil English, Job Shadowing as a Mechanism for College and Career Readiness, ProQuest LLC (ProQuest LLC, 2018).

3 Clara E. Hill et al., "*Is Training Effective? A Study of Counseling Psychology Doctoral Trainees in a Psychodynamic/Interpersonal Training Clinic,*" Journal of Counseling Psychology 62, no. 2 (2015): 184–201, https://doi.org/10.1037/cou0000053.

4 Sabrina Gregory, Deborah R. Bolling, and Nancy F. Langston, "*Partnerships and New Learning Models to Create the Future Perioperative Nursing Workforce,*" AORN Journal 99, no. 1 (2014): 96–105, https://doi.org/10.1016/j.aorn.2013.10.012.

5 Bradley Bowen and Teresa Shume, "*Educators in Industry: An Exploratory Study to Determine How Teacher Externships Influence K-12 Classroom Practices,*" Journal of STEM Education: Innovations and Research 19, no. 1 (2018): 56–61.

6 Mozingo J, Thomas S, and Brooks E, "*Factors Associated with Perceived Competency Levels of Graduating Seniors in a Baccalaureate Nursing Program,*" Journal of Nursing Education 34, no. 3 (March 1995): 115–22, https://doi.org/10.3928/0148-4834-19950301-06.

7 Mark Apel et al., "*Externships in Sustainability Program as an Outreach Tool for Extension,*" Journal of Extension 51, no. 2 (April 2013).

8 Thomas C. Padron et al., "*The Job Shadow Assignment: Career Perceptions in Hospitality, Recreation and Tourism,*" Research in Higher Education Journal 32 (June 2017), https://eric.ed.gov/?id=EJ1148919.

9 Hill et al., "*Is Training Effective?*"

10 David Neumark and Donna Rothstein, "*School-to-Career Programs and Transitions to Employment and Higher Education,*" Economics of Education Review, School-to-Work and Educational Reform Symposium, 25, no. 4 (August 1, 2006): 374–93, https://doi.org/10.1016/j.econedurev.2005.10.005.

11 Barbara Ostrowski Martin, Klodiana Kolomitro, and Tony C. M. Lam, "*Training Methods: A Review and Analysis,*" Human Resource Development Review 13, no. 1 (March 1, 2014): 11–35, https://doi.org/10.1177/1534484313497947.

12 Gregory, Bolling, and Langston, "*Partnerships and New Learning Models to Create the Future Perioperative Nursing Workforce.*"

13 Scott Bellman, Sheryl Burgstahler, and Richard Ladner, "*Work-Based Learning Experiences Help Students with Disabilities Transition to Careers: A Case Study of University of Washington Projects,*" Work 48, no. 3 (July 2014): 399–405, https://doi.org/10.3233/WOR-131780.

14 Padron et al., "*The Job Shadow Assignment.*"

15 UC San Diego Health. "*DREAM Externship Program | UC San Diego Health.*" Accessed October 25, 2022. https://health.ucsd.edu/for-health-care-professionals/nursing/professional-development/pages/dream-externship-program.aspx.

16 Bellman, Burgstahler, and Ladner, "*Work-Based Learning Experiences Help Students with Disabilities Transition to Careers.*"

Career Immersion

Subsidized Youth Employment Programs

Also known as: ***Subsidized job programs***

OUR DEFINITION

Publicly-funded initiatives in which students are paid to attend school in the summer or paid for practicum experiences in non-apprenticeship "learn and earn" models. In other settings, subsidized job programs may include general experiences where students are paid for related classroom and work-based learning experiences.

Overview of Research Evidence

⊕ **Strong evidence** that subsidized summer youth employment programs reduce the arrest rates and lower the probability of being arrested for a crime during the summer months, especially among "at-risk" youth [1,2,3,4,5]

⊖ **Mixed evidence** that subsidized summer youth employment programs improve educational achievement or completion.[6,7,8]

⊖ **Mixed evidence** that subsidized summer youth employment programs improve employment opportunities and earnings, however, some research suggests that elements such as writing recommendation letters for participants can improve employment outcomes.[9,10,11]

Promising evidence of socio-emotional skill development: summer youth employment programs have a positive impact on students career self-efficacy and work readiness habits

Implementation and Design Considerations

Positive academic and labor market outcomes for certain student groups: Youth of a legal high school dropout age and who had a higher rate of school absences prior to the summer youth employment program benefit more academically from participating in youth employment programs [12,13]

Obtaining funding is challenging: Studies focus on larger metropolitan areas where youth employment programs are more robust and where there may be more opportunities for youth employment funding. Other institutions–such as community colleges–may find it challenging to fund similar employment programs.[14]

Research Highlight

Modestino Sasser and Paulsen (2022): A randomized evaluation of the Boston Summer Youth Employment Program (SYEP), which provides out-of-school early work experience for high schoolers, found that participants are 4.4 percent more likely to graduate on time and 2.5 percent less likely to drop out in the years after participating in SYEP. In particular, SYEP seemed to positively impact attendance rates, college aspirations, work habits, and social skills which contributed to these improved outcomes.[15]

Promising Models for Study

One Summer Chicago connects companies, governments, and local institutions to offer youth aged 14-24 employment and internship opportunities. It is the second largest summer employment program, offering badges in 21st century skills, career readiness, goal planning, attendance, and financial responsibility. Participants can market their work readiness to potential employers with these badges. Currently the program serves over 31,000 youth every year.[16]

New Horizons

At the onset of the COVID-19 crisis, some subsidized youth employment programs engaged youth as community crisis responders, hiring them to design and assist with testing, outreach, and food and PPE delivery strategies.[17]

Endnotes

1 Sara B. Heller, "*Summer Jobs Reduce Violence among Disadvantaged Youth,*" Science 346, no. 6214 (2014): 1219–23.

2 Judd B. Kessler et al., "*The Effects of Youth Employment on Crime: Evidence from New York City Lotteries,*" Journal of Policy Analysis and Management 41, no. 3 (2022): 710–30, https://doi.org/10.1002/pam.22393.

3 Alicia Sasser Modestino, "*How Do Summer Youth Employment Programs Improve Criminal Justice Outcomes, and for Whom?,*" Journal of Policy Analysis and Management 38, no. 3 (2019): 600–628, https://doi.org/10.1002/pam.22138.

4 Jonathan M.V. Davis and Sara B. Heller, "*Rethinking the Benefits of Youth Employment Programs: The Heterogeneous Effects of Summer Jobs,*" The Review of Economics and Statistics 102, no. 4 (October 1, 2020): 664–77, https://doi.org/10.1162/rest_a_00850.

5 Sara B. Heller, "*When Scale and Replication Work: Learning from Summer Youth Employment Experiments,*" Journal of Public Economics 209 (May 1, 2022): 104617, https://doi.org/10.1016/j.jpubeco.2022.104617.

6 Davis and Heller, "*Rethinking the Benefits of Youth Employment Programs.*"

7 Jacob Leos-Urbel, "*What Is a Summer Job Worth? The Impact of Summer Youth Employment on Academic Outcomes,*" Journal of Policy Analysis and Management 33, no. 4 (2014): 891–911, https://doi.org/10.1002/pam.21780.

8 Amy Ellen Schwartz et al., "*Making Summer Matter: The Impact of Youth Employment on Academic Performance,*" Quantitative Economics 12, no. 2 (April 19, 2021): 477–504, https://doi.org/10.3982/TE1579.

9 Sara B. Heller and Judd B. Kessler, "*Information Frictions and Skill Signaling in the Youth Labor Market,*" Working Paper, Working Paper Series (National Bureau of Economic Research, December 2021), https://doi.org/10.3386/w29579.

10 Davis and Heller, "*Rethinking the Benefits of Youth Employment Programs.*"

11 Alexander Gelber, Adam Isen, and Judd B. Kessler, "*The Effects of Youth Employment: Evidence from New York City Lotteries *,*" The Quarterly Journal of Economics 131, no. 1 (February 1, 2016): 423–60, https://doi.org/10.1093/qje/qjv034.

12 Leos-Urbel, "*What Is a Summer Job Worth?*"

13 Alicia Sasser-Modestino and City of Boston Mayor's Office of Workforce Development, "*Reducing Inequality Summer by Summer: An Analysis of the Short-Term and Long-Term Effects of Boston's Summer Youth Employment Program,*" December 2017.

14 "*Learn and Earn at Community College: Using HEERF Funds and Federal Work-Study to Expand Campus Jobs Programs,*" New America, accessed October 14, 2021, http://newamerica.org/education-policy/briefs/federal-support-for-subsidized-jobs-at-community-colleges/.

15 Alicia Sasser Modestino and Richard Paulsen, "*School's Out: How Summer Youth Employment Programs Impact Academic Outcomes,*" Education Finance and Policy, January 3, 2022, 1–54, https://doi.org/10.1162/edfp_a_00371.

16 "*One Summer Chicago*" (City of Chicago, 2022), https://www.chicago.gov/city/en/depts/fss/provdrs/youth/svcs/youth-employment.html.

17 "*Summer Youth Employment Programs,*" CLASP, accessed August 24, 2022, https://www.clasp.org/summer-youth-employment-programs-2020-lessons-field/.

Career Skillbuilding

Experiential Learning

Also known as: ***project-based learning, simulation-based learning, experience-based learning***

OUR DEFINITION

Coursework wherein students learn by actively engaging in hands-on, real-world, or simulated real-world projects, either in the classroom or within companies. These projects are intended to provide learners with both 'hard' and 'soft' skills.

Overview of Research Evidence

Strong evidence that experiential coursework has a positive impact on student learning, including content knowledge and retention and skill attainment, such as problem-solving, collaboration and communication skills.[1,2,3,4,5,6]

Strong evidence that experiential learning improves academic outcomes, including course performance, course completion, and degree attainment.[7,8,9,10,11]

Minimal evidence of the causal impacts of experiential learning on economic outcomes, such as employment rates and earnings.

Implementation and Design Considerations

Educational institutions should establish instructional goals at the outset. Doing so will help them choose an instructional model, as there are many options for experiential learning.

Connecting with industry partners is a critical component of high-quality experiential learning, particularly for designing projects and activities, as well as integrating projects in the workplace.[12]

Pair classroom instruction and time for student reflection with experiential coursework to provide structure to experiential learning and prepare students for their chosen industry, while also providing students space for personal and academic growth.[13,14]

Facilitators should be trained in experiential learning pedagogies, as faculty support is a critical element for success.

Research Highlight

Chen and Yang (2019): The authors conducted a meta-analysis of journal articles on project-based learning. They analyzed 46 effect sizes from 30 journal articles over a 20-year period (1998-2017), which resulted in a sample of 12,585 students from 189 schools in nine countries. Their analysis showed a medium to large positive effect size of project-based learning on student academic achievement compared to regular classroom instruction. These results were impacted by subject area, school location, hours of instruction, and IT support.[15]

Promising Models for Study

Worcester Polytechnic Institute provides a project-based learning track that aims to provide students with not only technical skills, but also soft skills like empathy, leadership, confidence, collaboration, and critical thinking. A set of surveys of alumni from the program conducted in 2012 showed feelings that the projects affected their professional lives, character development, and global perspectives, especially if they had completed a project off campus.[16,17]

New Horizons

New virtual reality, artificial intelligence, and augmented reality technologies have the potential to transform experiential learning by creating even more realistic simulation-based learning experiences. Little research has been done, however, on the value-add of including such technologies, especially from a cost perspective.

Endnotes

1 Pengyue Guo et al., "*A Review of Project-Based Learning in Higher Education: Student Outcomes and Measures,*" International Journal of Educational Research 102 (January 1, 2020), https://doi.org/10.1016/j.ijer.2020.101586.

2 Carolyn Walker, "*Experiential Learning as a Strategy for Student Completion and Course Success in the Community College,*" Community College Journal of Research and Practice 43, no. 10–11 (November 2, 2019): 803–6, https://doi.org/10.1080/10668926.2019.1600614.

3 Instructional Technology, Graduate School, Universitas Negeri Malang, Indonesia, mifta.hulaikah.1601219@students.um.ac.id et al., "*The Effect of Experiential Learning and Adversity Quotient on Problem Solving Ability,*" International Journal of Instruction 13, no. 1 (January 3, 2020): 869–84, https://doi.org/10.29333/iji.2020.13156a.

4 Suvanna Trongtorsak, Kobkiat Saraubon, and Prachyanun Nilsook, "*Collaborative Experiential Learning Process for Enhancing Digital Entrepreneurship,*" Higher Education Studies 11, no. 1 (January 27, 2021): 137, https://doi.org/10.5539/hes.v11n1p137.

5 Gerald F. Burch et al., "*A Meta-Analysis of the Relationship Between Experiential Learning and Learning Outcomes,*" Decision Sciences Journal of Innovative Education 17, no. 3 (2019): 239–73, https://doi.org/10.1111/dsji.12188.

6 Debra A. Laverie, Ashley Hass, and Corky Mitchell, "*Experiential Learning: A Study of Simulations as a Pedagogical Tool,*" Marketing Education Review 32, no. 1 (January 2, 2022): 3–17, https://doi.org/10.1080/10528008.2020.1843360.

7 Walker, "*Experiential Learning as a Strategy for Student Completion and Course Success in the Community College.*"

8 "*Experiential Learning and the Effects on Student Completion and Academic Success in a Business Course at a Community College - ProQuest,*" accessed August 25, 2022, https://www.proquest.com/docview/2112338681.

9 Kristin De Vivo, "*A New Research Base for Rigorous Project-Based Learning,*" Phi Delta Kappan 103, no. 5 (February 1, 2022): 36–41, https://doi.org/10.1177/00317217221079977.

10 Taryn L. Bauerle and Travis D. Park, "*Experiential Learning Enhances Student Knowledge Retention in the Plant Sciences,*" HortTechnology 22, no. 5 (October 1, 2012): 715–18, https://doi.org/10.21273/HORTTECH.22.5.715.

11 Leigh A. Bradberry and Jennifer De Maio, "*Learning By Doing: The Long-Term Impact of Experiential Learning Programs on Student Success,*" Journal of Political Science Education 15, no. 1 (January 2, 2019): 94–111, https://doi.org/10.1080/15512169.2018.1485571.

12 Mark E. Hillon, Yue Cai-Hillon, and Darrell Brammer, "*A Brief Guide to Student Projects with Industry,*" INFORMS Transactions on Education 13, no. 1 (September 2012): 10–16, https://doi.org/10.1287/ited.1120.0092.

13 Rebecca Tiessen, "*Improving Student Reflection in Experiential Learning Reports in Post-Secondary Institutions,*" Journal of Education and Learning 7, no. 3 (January 16, 2018): 1, https://doi.org/10.5539/jel.v7n3p1.

14 Richard Miller and Rosemary Maellaro, "*Getting to the Root of the Problem in Experiential Learning: Using Problem Solving and Collective Reflection to Improve Learning Outcomes,*" Journal of Management Education 40 (January 6, 2016), https://doi.org/10.1177/1052562915623822.

15 Cheng-Huan Chen and Yong-Cih Yang, "*Revisiting the Effects of Project-Based Learning on Students' Academic Achievement: A Meta-Analysis Investigating Moderators,*" Educational Research Review 26 (February 1, 2019): 71–81, https://doi.org/10.1016/j.edurev.2018.11.001.

16 "*The Impacts of Project-Based Learning at Worcester Polytechnic Institute,*" February 2019, https://www.aacu.org/aacu-news/newsletter/2019/february/campus-model.

17 Worcester Polytechnic Institute. "*Project-Based Learning in Higher Education.*" Accessed October 25, 2022. https://www.wpi.edu/project-based-learning.

Career Skillbuilding

Industry Recognized Credentials

Also known as: ***stackable credentials, portable credentials, industry-based credentials, credentials of value***

OUR DEFINITION

Industry-recognized credentials are certificates, certifications, and licenses that signify the attainment of skills and competencies needed for a career in a given industry or occupational area. They are generally based on standards developed or endorsed by employers or industry associations.

Overview of Research Evidence

Moderate evidence that industry-recognized credentials have positive effects on academic outcomes such as graduation rates and future college enrollment.[1]

Moderate evidence that completers of credentials, including stacked credentials, see higher wages and increased employment, although this varies by field.[2,3,4,5]

Minimal evidence that credentials close equity gaps, as male completers may see greater employment and earnings returns than female completers.[6,7,8]

Implementation and Design Considerations

Educational institutions should consider serving as benchmarking authorities for verifying credentials, otherwise variations in quality lead to a lack of legitimacy of the credential.

Engagement from employers when designing the credential is critical to ensure credential earners are attaining skills required by the job market they seek to enter.

A rigorous assessment approach should be an anchor of credential design, with innovative opportunities for learners to demonstrate their acquisition of skills.

Research Highlight

Meyer, Bird, and Castleman (2022): This study uses a comparative individual fixed effects strategy and administrative panel dataset of enrollment and employment in Virginia to determine causal estimates of stacking credentials among working adults. Their findings indicate that attaining stacking credentials increases employment by four percentage points and quarterly wages by $375. They also identify that these returns are higher in health sectors and for individuals who complement their credentials with a college education.[9]

Promising Models for Study

WorkCred is supporting five community colleges in developing and implementing Certificate+Degree programs, which embed industry-recognized credentials in degree pathways, allowing students to master "occupationally-relevant skills" that provide them with earning opportunities while they pursue their associate's degree.[10]

New Horizons

Micro-credentials are short, focused, competency-based certifications that demonstrate mastery in a specific area. They are typically more flexible and faster to complete than other types of credentials, providing potentially promising opportunities for students to customize their learning pathways. Some evidence exists that attaining micro-credentials increases students' earnings.[11]

Endnotes

1 Matthew Walsh et al., "*Where Credentials Meet the Market*" (Excel in Ed / Burning Glass Technologies, June 2019).

2 Katharine Meyer and Ben Castleman, "*Stackable Credentials Can Open Doors to New Career Opportunities,*" Brown Center Chalkboard (blog), February 2, 2021, https://www.brookings.edu/blog/brown-center-chalkboard/2021/02/02/stackable-credentials-can-open-doors-to-new-career-opportunities/.

3 Candace Hester and Sami Kitmitto, "*The Relative Returns to Credit- and Non-Credit-Bearing Credentials,*" n.d., 43.

4 Lindsay Daugherty and Drew M. Anderson, "*Stackable Credential Pipelines in Ohio: Evidence on Programs and Earnings Outcomes*" (RAND Corporation, June 8, 2021), https://www.rand.org/pubs/research_reports/RRA207-1.html.

5 Thomas Bailey and Clive R Belfield, "*Stackable Credentials: Do They Have Labor Market Value?,*" n.d., 33.

6 Lilah Burke, "*Who's Completing Microcredentials?,*" Inside Higher Ed, November 20, 2019, https://www.insidehighered.com/digital-learning/article/2019/11/20/new-report-offers-analysis-microcredential-completers.

7 Katharine Meyer, Kelli A. Bird, and Benjamin A. Castleman, "*Stacking the Deck for Employment Success: Labor Market Returns to Stackable Credentials,*" November 2020, https://edworkingpapers.com/sites/default/files/ai20-317.pdf.

8 "*Paying More and Getting Less,*" New America, accessed October 31, 2022, http://newamerica.org/education-policy/reports/paying-more-and-getting-less/.

9 Katharine Meyer and Ben Castleman, "*Stackable Credentials Can Open Doors to New Career Opportunities,*" Brown Center Chalkboard (blog), February 2, 2021, https://www.brookings.edu/blog/brown-center-chalkboard/2021/02/02/stackable-credentials-can-open-doors-to-new-career-opportunities/.

10 "*Alternative Pathways to the Workforce: WorkCred Awarded ECMC Foundation Grant to Support First-Generation, Low-Income, and Adult Learners.*" WorkCred, February 14, 2022. https://www.workcred.org/Publications-and-Events/Workcred-News/Alternative-Pathways-to-the-Workforce.aspx.

11 Sean Gallagher and Nan Maxwell, "*Community Colleges and the New Era of Work and Learning,*" January 2019, https://files.eric.ed.gov/fulltext/ED594041.pdf.

Career Skillbuilding

Last-Mile Bootcamps

Also known as:
Bootcamps, short-term training programs

OUR DEFINITION

Programs in or affiliated with a college that provide accelerated training in a specific skill set, geared towards teaching technical, job-focused skills. The programs are often the crucial final step before students enter the workforce.

Overview of Research Evidence

Minimal evidence that bootcamps in a college setting improve students' economic outcomes, although there is **moderate evidence** that independent coding bootcamps increase job placement rates and employment opportunities. [1,2,3]

Minimal evidence that bootcamps promote college persistence and graduation, academic achievement, and postsecondary degree attainment.

Implementation and Design Considerations

Colleges are just beginning to experiment with the last-mile bootcamp model: Last-mile bootcamps are a relatively new college program offering, with the first programs cropping up in 2016. As a result, there is very little research published on these types of programs and higher education institutions are just beginning to evaluate and experiment with program models. [4,5,6]

Focus on third-party, for-profit coding bootcamps: Most of the research that does exist on bootcamps focuses on third-party programs that serve as alternative pathways to college and/or occur outside of the college context. The research that is published on these third-party bootcamps focuses predominantly on coding bootcamps[7,8,9,10,11,12] although findings from this research may provide insight on last-mile bootcamp outcomes.

There are three popular last-mile bootcamp models: Colleges may operate their own bootcamps for college credit or partner with independent bootcamps to offer either credit-bearing or non-credit bearing programs, sometimes through the extension school department.[13]

Research Highlight

We are not aware of any causal studies that examine the impact of bootcamps in a college setting. That said, one study **Joshi, Savi** (2019) out of the University of Pennsylvania evaluated the technical job placement rates for graduates of coding bootcamps through regression analysis and propensity-score matching. The results found that attending a bootcamp significantly positively increased the chances of finding a future technical role, and also may have diminished any penalties from having a non-technical background or undergraduate degree.[14]

Promising Models for Study

Cuyahoga Community College's bootcamp program, Cleveland Codes, prepares students for careers in web application and development through a 14-week hybrid IT Fast Track Program. The program helps students develop key skills in programming and development. Although students have to fund the program themselves, they earn college credit and four certifications through industry-recognized exams.[15,16]

New Horizons

Employer partnerships are emerging as an alternative financing model for last-mile bootcamps. For example, the University of Montana offers a 12-week bootcamp in partnership with Cognizant-ATG, a tech firm located in Missoula. The program is a 30-hour-a-week commitment and teaches students skills in system analysis, data analytics, project management, and information infrastructure. Cognizant-ATG fully funds the program and students are typically offered a full time position at the completion of the program.[17]

Endnotes

1 Julian Aramburu, Ana Goicoechea, and Ahmed Mushfiq Mobarak, "*Coding Bootcamps for Female Digital Employment: Evidence from an RCT in Argentina and Colombia,*" Working Paper (Washington, DC: World Bank, June 2021), https://doi.org/10.1596/1813-9450-9721.

2 Savi Joshi, "*Technical Job Placement Success of Coding Bootcamps,*" Joseph Wharton Scholars, January 1, 2019, https://repository.upenn.edu/joseph_wharton_scholars/61.

3 Quinn Burke and Cinamon Sunrise Bailey, "*Camp or College?,*" in Proceedings of the 50th ACM Technical Symposium on Computer Science Education, SIGCSE '19 (New York, NY, USA: Association for Computing Machinery, 2019), 345–50, https://doi.org/10.1145/3287324.3287373.

4 Johnson, Sydney. "*More Bootcamps Are Quietly Coming to a University Near You.*" EdSurge, August 2, 2017. https://www.edsurge.com/news/2017-08-02-more-bootcamps-are-quietly-coming-to-a-university-near-you.

5 Eggleston, Liz. "*Best University Coding Bootcamps: Ultimate Guide + Market Research.*"

6 Price, Richard, and Alana Dunagan. "*Betting on Bootcamps: How Short-Course Training Programs Could Change the Landscape of Higher Ed.*" Christensen Institute, April 2019. https://files.eric.ed.gov/fulltext/ED603104.pdf.

7 Louise Ann Lyon and Emily Green, "*Women in Coding Boot Camps: An Alternative Pathway to Computing Jobs,*" Computer Science Education 30, no. 1 (January 2, 2020): 102–23, https://doi.org/10.1080/08993408.2019.1682379

8 Savi Joshi, "*Technical Job Placement Success of Coding Bootcamps.*"

9 Kyle Thayer and Amy J. Ko, "*Barriers Faced by Coding Bootcamp Students,*" in Proceedings of the 2017 ACM Conference on International Computing Education Research, ICER '17 (New York, NY, USA: Association for Computing Machinery, 2017), 245–53, https://doi.org/10.1145/3105726.3106176.

10 Julian Aramburu, Ana Goicoechea, and Ahmed Mushfiq Mobarak, "*Coding Bootcamps for Female Digital Employment: Evidence from an RCT in Argentina and Colombia.*"

11 Quinn Burke and Cinamon Sunrise Bailey, "*Camp or College?*"

12 Arbeit, Caren, Alexander Bentz, Emily Forrest Cataldi, and Herschel Sanders. "*Alternative and Independent: The Universe of TechnologyRelated 'Bootcamps.'*" RTI Press, February 20, 2019. https://doi.org/10.3768/rtipress.2018.rr.0033.1902.

13 Eggleston, Liz. "*Best University Coding Bootcamps: Ultimate Guide + Market Research.*"

14 Joshi, "*Technical Job Placement Success of Coding Bootcamps.*"

15 Price, Richard, and Alana Dunagan. "*Betting on Bootcamps: How Short-Course Training Programs Could Change the Landscape of Higher Ed.*"

16 Cuyahoga Community College. "*Cleveland Codes Software Developers Academy,*" Accessed December 20, 2022. https://www.tri-c.edu/programs/information-technology/programming-and-development/clevelandcodes.html.

17 Fain, Paul. "*Where Bootcamps Are Free.*" Open Campus (blog), July 28, 2022. https://www.opencampusmedia.org/2022/07/28/where-bootcamps-are-free/.

Appendix

Figure 5. Research Strength for Papers, Reports, and Dissertations.

	Study Rigor			
COUNTA of Title | Intervention Category (13)	**Causal**	**Descriptive**	**Other**	**Grand Total**
Apprenticeships	4	17	3	24
Career coaching	6	18	9	33
Career Mentorship Programs	2	18		20
Career pathways initiatives (includes. meta-majors, guided pathways)	4	16	14	34
Career readiness curriculum	4	11	6	21
Co-ops	3	7	3	13
Cohort programming	2	7	2	11
Experiential Learning Coursework (includes simulation-based learning, project-based learning)	2	27	8	37
Industry-recognized credentials	2	9	3	14
Internships	9	37	10	56
Job shadowing	2	8	2	12
Last-mile bootcamps	2	7	1	10
Youth employment programs (e.g. subsidized summer jobs programs)	11	6	3	20
Grand Total	**53**	**188**	**64**	**305**

Note: We only looked at papers, reports, and dissertations to evaluate research strength. The "other" category refers to landscape overviews, frameworks, or other kinds of articles that are not about specific experimental research. This table does not include online articles in the total counts.

Figure 6. Methodology table for matrix variables.

Each intervention was graded on a scale from 1 to 3 (1 = low, 2 = moderate, 3 = high).

Research Prevalence

Question

How well-studied is this topic?

Methodology

We classified each of the interventions by counting the number of papers, reports, and other literature from Google Scholar, ERIC (Education Resources Information Center), and CLEAR (Clearinghouse for Labor Evaluation and Research).

We created a normalized score from the three counts (Google Scholar, ERIC, and CLEAR) and used the sum of those three normalized scores to arrive at a total score for each intervention. Based on the total sums for all 13 interventions, we assigned the aforementioned 1-3 scores to the top 25th percentile of scores (3), the interquartile range of scores (2), and the bottom 25th percentile of scores (1).

Implementation Prevalence

Question

How many students benefit?

Methodology

We tallied the Google Search results for each intervention. We also examined Google Search trends over time to estimate changes in the field.

Based on the total results for all 13 interventions, we assigned the aforementioned 1-3 scores to the top 25th percentile of scores (3), the interquartile range of scores (2), and the bottom 25th percentile of scores (1).

Implementation Feasibility

Question

How difficult is it to implement effectively?

Methodology

We classified each of the interventions based on estimated startup and operational costs in the research, necessary funding sources, number of stakeholders involved, and the effort or institutional demand required of each stakeholder.

Based on the total sums for all 13 interventions, we assigned the aforementioned 1-3 scores to the top 25th percentile of scores (3), the interquartile range of scores (2), and the bottom 25th percentile of scores (1).

Research Strength

Question

Does research support the claim that this leads to positive labor market outcomes?

Methodology

We classified each intervention by its (1) h-index* from Web of Science search queries using the Boolean search terms outlined above (meaning there are h papers that have been cited at least h times) and (2) the number of citations in the top 10 most cited peer-reviewed papers for that intervention.

We then calculated the normalized equivalent of those two variables based on their respective means and standard deviations across the 13 interventions. We added the sum of the normalized scores for the two variables to arrive at a total sum. Based on the total sums for all 13 interventions, we assigned the aforementioned 1-3 scores to the top 25th percentile of scores (3), the interquartile range of scores (2), and the bottom 25th percentile of scores (1).

We also factored the outcome domain into the research strength scores. For example, an intervention with an initially lower research strength score, but with majority studies that focused on labor market outcomes could score higher than an intervention with an initially higher research strength score with primarily descriptive studies that focused on academic outcomes.

Finally, we solicited input from researchers and other experts on their estimate of the research strength of each intervention and re-evaluated any mismatched scores.

*The h-index is based on the depth of years of your product subscription and your selected timespan. Source items that are not part of your subscription will not be factored into the calculation.

Figure 7. Strength of Research Criteria and Counts.

Intervention Category	h-index	Number of citations in top 10 cited papers in Web of Science search
Apprenticeships	27	1178
Career coaching	7	142
Career Mentorship Programs	11	385
Career pathways initiatives	17	389
Career readiness curriculum	2	23
Co-ops	16	496
Cohort programming	38	2710
Experiential Learning Coursework	49	6672
Industry-recognized credentials	4	64
Internships	50	2248
Job shadowing	10	219
Last-mile bootcamps	2	12
Youth employment programs (e.g. subsidized summer jobs programs)	3	38

Figure 8. Prevalence of Research Criteria and Counts.

Intervention Category	Count from ERIC	Count from CLEAR	Results on Google Scholar
Apprenticeships	2725	25	305000
Career coaching	64	57	5890
Career Mentorship Programs	50	14	2020
Career pathways initiatives	799	126	16600
Career readiness curriculum	118	297	418
Co-ops	2207	6	17800
Cohort programming	249	309	15100
Experiential Learning Coursework	8386	2	18900
Industry-recognized credentials	47	162	1200
Internships	5144	18	285000
Job shadowing	112	0	13800
Last-mile bootcamps	14	0	9140
Youth employment programs (e.g. subsidized summer jobs programs)	84	162	5210

Figure 9. Prevalence in Practice Criteria and Counts.

Intervention Category	Google Search Results (June 2022)
Apprenticeships	389,000,000
Career coaching	2,840,000
Career Mentorship Programs	10,900
Career pathways initiatives	5,630,000
Career readiness curriculum	14,200
Co-ops	63,300,000
Cohort programming	240,000,000
Experiential Learning Coursework	113,000
Industry-recognized credentials	41,600
Internships	446,000,000
Job shadowing	1,030,000
Last-mile bootcamps	3,350
Youth employment programs (e.g. subsidized summer jobs programs)	347,000

Figure 10. Implementation Feasibility Criteria and Counts.

Intervention Category	Cost to start up (per pupil)	Cost and funding sources to operate (per pupil)	Effort to start up	Effort to operate
Apprenticeships	3	3	2	3
Career coaching	2	2	2	2
Career Mentorship Programs	1	1	1	2
Career pathways initiatives	3	3	3	3
Career readiness curriculum	2	1	2	2
Co-ops	3	3	1	2
Cohort programming	2	2	2	2
Experiential Learning Coursework	2	2	2	2
Industry-recognized credentials	3	3	3	3
Internships	3	3	1	2
Job shadowing	1	1	1	1
Last-mile bootcamps	3	3	2	3
Youth employment programs (e.g. subsidized summer jobs programs)	3	3	2	3

Note: 3 = high, 2 = moderate, 1 = low

Endnotes

1 Carnevale, Anthony P., Ban Cheah, and Emma Wenzinger. "*The College Payoff: More Education Doesn't Always Mean More Earnings.*" Georgetown University Center on Education and the Workforce, 2021. https://cewgeorgetown.wpenginepowered.com/wp-content/uploads/cew-college_payoff_2021-fr.pdf.

2 Emmons, William R., Ana H. Kent, and Lowell R. Ricketts. "*Is College Still Worth It? The New Calculus of Falling Returns.*" Review 101, no. 4 (2019). https://doi.org/10.20955/r.101.297-329.

3 "*The Labor Market for Recent College Graduates - FEDERAL RESERVE BANK of NEW YORK,*" accessed December 5, 2022, https://www.newyorkfed.org/research/college-labor-market/college-labor-market_unemployment.html.

4 Salhotra, Pooja, "*A Growing Number of Americans Are Questioning the Value of Going to College,*" NPR, July 26, 2022, sec. Education, https://www.npr.org/2022/07/26/1113816868/more-americans-are-questioning-whether-college-has-a-positive-impact.

5 "*Cew-All_one_system-Fr.Pdf,*" accessed October 31, 2022, https://cewgeorgetown.wpenginepowered.com/wp-content/uploads/cew-all_one_system-fr.pdf. Carnevale, Anthony P., Ban Cheah, and Emma Wenzinger. "The College Payoff: More Education Doesn't Always Mean More Earnings." Georgetown University Center on Education and the Workforce, 2021. https://cewgeorgetown.wpenginepowered.com/wp-content/uploads/cew-college_payoff_2021-fr.pdf.

6 NSC Research Center, "*Current Term Enrollment Estimates,*" National Student Clearinghouse Research Center, May 26, 2022, https://nscresearchcenter.org/current-term-enrollment-estimates/.

7 Anneken Tappe, "*Nearly Half of American Companies Say They Are Short on Skilled Workers | CNN Business,*" CNN, October 25, 2021, https://www.cnn.com/2021/10/25/economy/business-conditions-worker-shortage/index.html.

8 Boser, Ulrich, and Abel McDaniels. "*Addressing the Gap Between Education Research and Practice.*" Center for American Progress, June 20, 2018. https://www.americanprogress.org/article/addressing-gap-education-research-practice/.

9 Frankki Bevins et al., "*How HBCUs Can Accelerate Black Economic Mobility,*" July 30, 2021, https://www.mckinsey.com/industries/public-and-social-sector/our-insights/how-hbcus-can-accelerate-black-economic-mobility.

10 Geary, Chris. "*College Pays Off. But by How Much Depends on Race, Gender, and Type of Degree.*" New America. Accessed November 21, 2022.

11 Carnevale, Anthony P., Ban Cheah, and Emma Wenzinger. "*The College Payoff: More Education Doesn't Always Mean More Earnings.*" Georgetown University Center on Education and the Workforce, 2021. https://cewgeorgetown.wpenginepowered.com/wp-content/uploads/cew-college_payoff_2021-fr.pdf.

12 Burning Glass Technologies and Strada Institute for the Future of Work, "*The Permanent Detour: Underemployment's Long-Term Effects on the Careers of College Graduates,*" 2018.

13 Emmons, Kent, and Ricketts, "*Is College Still Worth It?*"

14 "*Trends in College Pricing and Student Aid 2021,*" n.d., 53.

15 Jon Marcus, "*How Higher Education Lost Its Shine,*" The Hechinger Report, August 10, 2022, http://hechingerreport.org/how-higher-education-lost-its-shine/.

16 NSC Research Center, "*Current Term Enrollment Estimates,*" National Student Clearinghouse Research Center, May 26, 2022, https://nscresearchcenter.org/current-term-enrollment-estimates/.

17 "*The Attributes Employers Seek on Students' Resumes,*" accessed October 30, 2022, https://www.naceweb.org/talent-acquisition/candidate-selection/the-attributes-employers-seek-on-students-resumes/.

18 Deming, David, and Christopher Walters. "*The Impact of State Budget Cuts on U.S. Postsecondary Attainment.*" Harvard University & UC Berkeley, February 2018. https://scholar.harvard.edu/files/ddeming/files/dw_feb2018.pdf.

19 Portillo, Isaac, and Chelsea Fountain. "*Career Advising as a Tool for Student Success and Educational Equity.*" University of South Carolina: National Resource Center for The First-Year Experience & Students in Transition, 2021. https://www.advisingsuccessnetwork.org/wp-content/uploads/ASN_CareerCaseStudy.pdf.

20 Bunker Hill Community College. "*Learning Communities.*" Accessed October 25, 2022. https://www.bhcc.edu/learning-communities/.

21 Mississippi State University. "*Mentorship Programs,*" September 22, 2021. http://www.hcdc.msstate.edu/involved/mentorship.

22 Weinstein, Dina. "*Get the Job: New Minor Helps Students Develop Skills That Employers Seek Most in New Hires.*" VCU News. Accessed October 25, 2022. https://news.vcu.edu/article/2021/10/get-the-job-new-minor-helps-students-develop-skills-that-employers-seek-most-in-new-hires.

23 Martinson, Karin, Sung-Woo Cho, Asaph Glosser, Karen Loya, and Samuel Dastrup. 2021. Washington State's Integrated Basic Education and Skills Training (I-BEST) Program: Three-Year Impact Report. OPRE Report 2021-102. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

24 Worcester Polytechnic Institute. "*Project-Based Learning in Higher Education.*" Accessed October 25, 2022. https://www.wpi.edu/project-based-learning.

25 Workcred. "*Alternative Pathways to the Workforce: Workcred Awarded ECMC Foundation Grant to Support First-Generation, Low-Income, and Adult Learners,*" February 14, 2022. https://www.workcred.org/Publications-and-Events/Workcred-News/Alternative-Pathways-to-the-Workforce.aspx.

26 Price, Richard, and Alana Dunagan. "*Betting on Bootcamps: How Short-Course Training Programs Could Change the Landscape of Higher Ed.*" Christensen Institute, April 2019. https://files.eric.ed.gov/fulltext/ED603104.pdf.

27 Cuyahoga Community College. "*Cleveland Codes Software Developers Academy,*" Accessed December 20, 2022. https://www.tri-c.edu/programs/information-technology/programming-and-development/clevelandcodes.html.

28 "*Connecting Students to Paid Internships in the Film Industry.*" Foundation for California Community Colleges. Accessed March 3, 2023. https://foundationccc.org/What-We-Do/Student-Success/California-Film-Commission.

29 UC San Diego Health. "*DREAM Externship Program | UC San Diego Health.*" Accessed October 25, 2022. https://health.ucsd.edu/for-health-care-professionals/nursing/professional-development/pages/dream-externship-program.aspx.

30 University of Cincinnati. "*Co-Op at the University of Cincinnati.*" Accessed November 21, 2022. https://www.uc.edu/co-op.html.

31 Hawkins, Rayanne, John Marotta, Myca San Miguel, and Jacqueline Rayfield. "*Apprenticeship Comes to Campus: A Playbook for Building a Consortium-Driven Degree-Based Apprenticeship.*" Urban Institute, August 2022. https://www.urban.org/sites/default/files/2022-08/Apprenticeship%20Comes%20to%20Campus.pdf.

32 One Summer Chicago. "*One Summer Chicago.*" Accessed October 25, 2022. http://www.onesummerchicago.org/.

33 Tudor, Thomas R. "*Fully Integrating Academic Advising with Career Coaching to Increase Student Retention, Graduation Rates and Future Job Satisfaction: An Industry Approach.*" Industry and Higher Education 32, no. 2 (April 2018): 73–79. https://doi.org/10.1177/0950422218759928.

34 Mu, Lanlan, and Kevin Fosnacht. "*Effective Advising: How Academic Advising Influences Student Learning Outcomes in Different Institutional Contexts.*" The Review of Higher Education 42, no. 4 (2019): 1283–1307. https://doi.org/10.1353/rhe.2019.0066.

35 "*Evidence Summary for Accelerated Study in Associate Programs (ASAP).*" Social Programs That Work, September 24, 2020. https://evidencebasedprograms.org/document/cuny-asap-evidence-summary/.

36 Mu, Lanlan, and Kevin Fosnacht. "*Effective Advising: How Academic Advising Influences Student Learning Outcomes in Different Institutional Contexts.*" The Review of Higher Education 42, no. 4 (2019): 1283–1307. https://doi.org/10.1353/rhe.2019.0066.

37 Miller, Cynthia, Camielle Headlam, Michelle Manno, and Dan Cullinan. "*Increasing Community College Graduation Rates with a Proven Model: Three-Year Results from the Accelerated Study in Associate Programs (ASAP) Ohio Demonstration.*" MDRC, January 2020, 143.

38 Lynch, Joseph, and Tracy Lungrin. "*Integrating Academic and Career Advising toward Student Success: Integrating Academic and Career Advising toward Student Success.*" New Directions for Higher Education 2018, no. 184 (December 2018): 69–79. https://doi.org/10.1002/he.20304.

39 Whitehead, Anne, and Nathan J. Alves. "*Use of the 'Future Life Map' Exercise to Improve Awareness of Career Options and Opportunities in Underrepresented Minority Undergraduate Students Pursuing STEM Careers.*" Edited by Frederick Grinnell. PLOS ONE 17, no. 2 (February 10, 2022): e0263848. https://doi.org/10.1371/journal.pone.0263848.

40 Bettinger, Eric P., and Rachel B. Baker. "*The Effects of Student Coaching: An Evaluation of a Randomized Experiment in Student Advising.*" Educational Evaluation and Policy Analysis 36, no. 1 (March 2014): 3–19. https://doi.org/10.3102/0162373713500523.

41 Weiss, Michael J., Alexander K. Mayer, Dan Cullinan, Alyssa Ratledge, Colleen Sommo, and John Diamond. "*A Random Assignment Evaluation of Learning Communities at Kingsborough Community College–Seven Years Later.*" Journal of Research on Educational Effectiveness 8, no. 2 (April 3, 2015): 189–217. https://doi.org/10.1080/19345747.2014.946634.

42 Memmo, Kristine Di. "*Integration of a Cohort Model within Two California Community Colleges as an Institutional Strategy to Increase Student Success.*" Brandman University, July 2020, 215.

43 Oldham, Todd M. "*The Impact of a Cohort-Based Learning Model on Student Success Within Vocational Technical Certificates at a Community College.*" Northeastern University, 2017. https://www.proquest.com/docview/1892134220.

44 Kern, Beth, and Tabitha Kingsbury. "*Curricular Learning Communities and Retention.*" Journal of the Scholarship of Teaching and Learning 19, no. 1 (February 4, 2019). https://doi.org/10.14434/josotl.v19i1.26779.

45 Weiss, Michael J., Mary G. Visher, Evan Weissman, and Heather Wathington. "*The Impact of Learning Communities for Students in Developmental Education: A Synthesis of Findings From Randomized Trials at Six Community Colleges.*" Educational Evaluation and Policy Analysis 37, no. 4 (December 2015): 520–41. https://doi.org/10.3102/0162373714563307.

46 Nosaka, Taé, and Heather Novak. "*Against the Odds: The Impact of the Key Communities at Colorado State University on Retention and Graduation for Historically Underrepresented Students.*" Learning Communities Research and Practice 2, no. 3 (2014): 22.

47 Weiss, Michael J., Alexander K. Mayer, Dan Cullinan, Alyssa Ratledge, Colleen Sommo, and John Diamond. "*A Random Assignment Evaluation of Learning Communities at Kingsborough Community College–Seven Years Later.*" Journal of Research on Educational Effectiveness 8, no. 2 (April 3, 2015): 189–217. https://doi.org/10.1080/19345747.2014.946634.

48 "*Linked Learning Communities.*" U.S. Department of Education, November 2014. https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_linked_111814.pdf.

49 Oldham, Todd M. "*The Impact of a Cohort-Based Learning Model on Student Success Within Vocational Technical Certificates at a Community College.*" Northeastern University, 2017. https://www.proquest.com/docview/1892134220.

50 Lewandowski, Tina Marie Church. "*An Analysis of Cohort Models in Technical Education at Kansas City Kansas Community College.*" Ed.D., University of Missouri–Columbia, 2021. https://doi.org/10.32469/10355/85793.

51 Kern, Beth, and Tabitha Kingsbury. "*Curricular Learning Communities and Retention.*" Journal of the Scholarship of Teaching and Learning 19, no. 1 (February 4, 2019). https://doi.org/10.14434/josotl.v19i1.26779.

52 Wathington, Heather D., Joshua Pretlow, and Claire Mitchell. "*The Difference a Cohort Makes: Understanding Developmental Learning Communities in Community Colleges.*" Journal of College Student Retention: Research, Theory & Practice 12, no. 2 (August 2010): 225–42. https://doi.org/10.2190/CS.12.2.f.

53 Weiss, Michael J., Alexander K. Mayer, Dan Cullinan, Alyssa Ratledge, Colleen Sommo, and John Diamond. "*A Random Assignment Evaluation of Learning Communities at Kingsborough Community College–Seven Years Later.*" Journal of Research on Educational Effectiveness 8, no. 2 (April 3, 2015): 189–217. https://doi.org/10.1080/19345747.2014.946634.

54 Bohn, Sarah, Jacob Jackson, and Shannon McConville. "*Career Pathways and Economic Mobility at California's Community Colleges.*" Public Policy Institute of California, June 2019. https://www.ppic.org/wp-content/uploads/career-pathways-and-economic-mobility-at-californias-community-colleges.pdf.

55 Elliott, Mark, and Anne Roder. "*Escalating Gains: Project QUEST'S Sectoral Strategy Pays Off.*" Economic Mobility Corporation, April 2017, 26.

56 "*What Do We Know about the Effectiveness of Community College-Based Interventions?*" Clearinghouse for Labor Evaluation and Research, January 2022. https://clear.dol.gov/sites/default/files/ResearchSynthesis_Community%20Colleges.pdf.

57 Sarna, Maureen, and Tara Adam. "*Evidence on Career Pathways Strategies: Highlights from a Scan of the Research.*" Abt Associates, May 2020. https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/ETA_CareerPathways_Brief_November2020.pdf.

58 Strawn, Julie, Laura R Peck, and Deena Schwartz. "*New Insights on Career Pathways: Evidence from a Meta-Analysis.*" Abt Associates, December 2021. https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/New%20Insights%20on%20Career%20Pathways_Evidence%20from%20a%20Meta-Analysis_summary%20brief.pdf.

59 Peck, Laura R., Deena Schwartz, Julie Strawn, Christopher C. Weiss, Randall Juras, Siobhan Mills de la Rosa, Nathan Greenstein, Tori Morris, Gabriel Durham, and Charlotte Lloyd. "*A Meta-Analysis of 46 Career Pathways Impact Evaluations.*" Report prepared for the U.S. Department of Labor, Chief Evaluation Office. Rockville, MD: Abt Associates, December 2021. https://www.abtassociates.com/files/insights/reports/2022/a-meta-analysis-of-46-career-pathways-impact-evaluations_final-report.pdf.

60 Sarna, Maureen, and Tara Adam. "*Evidence on Career Pathways Strategies: Highlights from a Scan of the Research.*" Abt Associates, May 2020. https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/ETA_CareerPathways_Brief_November2020.pdf.

61 Anderson, Theresa, Daniel Kuehn, Lauren Eyster, Burt Barnow, and Robert Lerman. "*New Evidence on Integrated Career Pathways.*" Urban Institute, June 2017. https://www.urban.org/sites/default/files/publication/91436/ao_final_impacts.pdf.

62 Cotner, Hope, Debra Bragg, Grant Goold, Eric Heiser, Darlene G. Miller, and Michelle Van Noy. "*Designing and Delivering Career Pathways at Community Colleges: A Practice Guide for Educators.*" National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, U.S. Department of Education, 2021, 148.

63 Gardiner, Karen, Howard Rolston, David Fein, and Sung-Woo Cho. "*Pima Community College Pathways to Healthcare Program: Implementation and Early Impact Report.*" Washington, D.C.: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, April 2017. https://www.acf.hhs.gov/sites/default/files/documents/opre/pathways_to_healthcare_implementation_and_early_impact_report_final_4.pdf.

64 Elliott, Mark, and Anne Roder. "*Escalating Gains: Project QUEST'S Sectoral Strategy Pays Off.*" Economic Mobility Corporation, April 2017, 26.

65 Strawn, Julie, Laura R Peck, and Deena Schwartz. "*New Insights on Career Pathways: Evidence from a Meta-Analysis.*" Abt Associates, December 2021. https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/New%20Insights%20on%20Career%20Pathways_Evidence%20from%20a%20Meta-Analysis_summary%20brief.pdf.

66 Chemers, Martin M., Eileen L. Zurbriggen, Moin Syed, Barbara K. Goza, and Steve Bearman. "*The Role of Efficacy and Identity in Science Career Commitment Among Underrepresented Minority Students: Efficacy and Identity in Science Career Commitment.*" Journal of Social Issues 67, no. 3 (September 2011): 469–91. https://doi.org/10.1111/j.1540-4560.2011.01710.x.

67 Vieregger, Carl, and Andrew Bryant. "*Student-Alumni Mentoring in the Business Capstone: An Opportunity to Both Cap and Bridge the Undergraduate Experience.*" Journal of Education for Business 95, no. 5 (July 3, 2020): 335–43. https://doi.org/10.1080/08832323.2019.1646700.

68 Kao, Kuo-Yang, Hui-Ting Lee, Altovise Rogers, Hao-Hsin Hsu, and Mi-Ting Lin. "*Mentoring and Job Search Behaviors: A Moderated Mediation Model of Job Search Self-Efficacy.*" Journal of Career Development 48, no. 1 (February 2021): 44–59. https://doi.org/10.1177/0894845319832971.

69 Skrzypek, Candra, Josal Diebold, Wooksoo Kim, and Denise Krause. "*Formalizing Alumni Mentoring in Social Work Education: Lessons Learned From a Three-Year Program Evaluation.*" Journal of Social Work Education 58, no. 2 (April 3, 2022): 403–16. https://doi.org/10.1080/10437797.2020.1817820.

70 Dollinger, Mollie, Sophia Arkoudis, and Samantha Marangell. "*University Alumni Mentoring Programs: A Win-Win?*" Journal of Higher Education Policy and Management 41, no. 4 (July 4, 2019): 375–89. https://doi.org/10.1080/1360080X.2019.1617657.

71 Okolie, Ugochukwu Chinonso, Chinyere Augusta Nwajiuba, Michael Olayinka Binuomote, Christian Ehiobuche, Ntasiobi Chikezie Nwankwo Igu, and Ogungboyega Suliyat Ajoke. "*Career Training with Mentoring Programs in Higher Education: Facilitating Career Development and Employability of Graduates.*" Education + Training 62, no. 3 (March 23, 2020): 214–34. https://doi.org/10.1108/ET-04-2019-0071.

72 Schwartz, Sarah E.O., Stella S. Kanchewa, Jean E. Rhodes, Evan Cutler, and Jessica L. Cunningham. "*'I Didn't Know You Could Just Ask:' Empowering Underrepresented College-Bound Students to Recruit Academic and Career Mentors.*" Children and Youth Services Review 64 (May 2016): 51–59. https://doi.org/10.1016/j.childyouth.2016.03.001.

73 Falconer, Jameca W., and Kimberly A. Hays. "*Influential Factors Regarding the Career Development of African American College Students: A Focus Group Approach.*" Journal of Career Development 32, no. 3 (March 2006): 219–33. https://doi.org/10.1177/0894845305279166.

74 Sandvik, Jason, Richard Saouma, Nathan Seegert, and Christopher Stanton. "*Should Workplace Programs Be Voluntary or Mandatory? Evidence from a Field Experiment on Mentorship.*" Cambridge, MA: National Bureau of Economic Research, August 2021. https://doi.org/10.3386/w29148.

75 Fadlon, Itzik, Frederik Plesner Lyngse, and Torben Heien Nielsen. "*Causal Effects of Early Career Sorting on Labor and Marriage Market Choices: A Foundation for Gender Disparities and Norms.*" Cambridge, MA: National Bureau of Economic Research, December 2020. https://doi.org/10.3386/w28245.

76 Carrell, Scott, and Bruce Sacerdote. "*Why Do College Going Interventions Work?*" Cambridge, MA: National Bureau of Economic Research, May 2013. https://doi.org/10.3386/w19031.

77 Gloria Crisp. "*The Impact of Mentoring on the Success of Community College Students.*" The Review of Higher Education 34, no. 1 (2010): 39–60. https://doi.org/10.1353/rhe.2010.0003.

78 National Association of Colleges and Employers. "*What Is Career Readiness?,*" March 2021. https://www.naceweb.org/uploadedfiles/files/2021/resources/nace-career-readiness-competencies-revised-apr-2021.pdf.

79 Bridgstock, Ruth. "*The Graduate Attributes We've Overlooked: Enhancing Graduate Employability through Career Management Skills.*" Higher Education Research & Development 28, no. 1 (March 2009): 31–44. https://doi.org/10.1080/07294360802444347.

80 Reardon, Robert, Carly Peace, and Ivey Burbrink. "*College Career Courses and Learner Outputs and Outcomes, 1976-2019 (Technical Report No. 61).*" Florida State University, July 15, 2020. https://doi.org/10.17125/fsu.1520968878.

81 Goodson, William Dale. (1982). A Career Class Does Have an Impact: A Ten Year Follow-Up..

82 Reardon, Robert, Carly Peace, and Ivey Burbrink. "*College Career Courses and Learner Outputs and Outcomes, 1976-2019 (Technical Report No. 61).*" Florida State University, July 15, 2020. https://doi.org/10.17125/fsu.1520968878.

83 Freeman, Vanessa F, Janet G Lenz, and Robert C Reardon. "*Career Course Impact on College Students' Career Decision and Affective States.*" VISTAS Online, 2017, 14.

84 Ware, Mark E. "*Teaching and Evaluating a Career Development Course for Psychology Majors.*" In Is Psychology for Them? A Guide to Undergraduate Advising., edited by Paul J. Woods, 64–74. Washington: American Psychological Association, 1988. https://doi.org/10.1037/10556-019.

85 Logue, Christen Tomlinson, Brittany M. Zins, M.A., Sarah M. FLynn, and Chris J. Dewhurst, M.Ed. "*Career Exploration at an Appalachian University: Effectiveness and Pre-Existing Resources.*" Journal of the Scholarship of Teaching and Learning 19, no. 3 (January 30, 2019). https://doi.org/10.14434/josotl.v19i2.23921.

86 Spier, Celeste. "*Effects of Career Courses on Career Self-Efficacy and Outcome Expectations.*" Educational Administration: Theses, Dissertations, and Student Research, 2020, 165.

87 Folsom, Byron, Gary W. Peterson, Robert C. Reardon, and Barbara A. Mann. "*Impact of a Career Planning Course on Academic Performance and Graduation Rate.*" Journal of College Student Retention: Research, Theory & Practice 6, no. 4 (February 2005): 461–73. https://doi.org/10.2190/4WJ2-CJL1-V9DP-HBMF.

88 Walker, Carolyn, "*Experiential Learning as a Strategy for Student Completion and Course Success in the Community College.*" Community College Journal of Research and Practice 43, no. 10–11 (November 2, 2019): 803–6. https://doi.org/10.1080/10668926.2019.1600614.

89 Walker, Carolyn. "*Experiential Learning and the Effects on Student Completion and Academic Success in a Business Course at a Community College.*" Wingate University, 2018. https://www.proquest.com/docview/2112338681.

90 De Vivo, Kristin. "*A New Research Base for Rigorous Project-Based Learning.*" Phi Delta Kappan 103, no. 5 (February 2022): 36–41. https://doi.org/10.1177/00317217221079977.

91 Bauerle, Taryn L., and Travis D. Park. "*Experiential Learning Enhances Student Knowledge Retention in the Plant Sciences.*" HortTechnology 22, no. 5 (October 2012): 715–18. https://doi.org/10.21273/HORTTECH.22.5.715.

92 Bradberry, Leigh A., and Jennifer De Maio. "*Learning By Doing: The Long-Term Impact of Experiential Learning Programs on Student Success.*" Journal of Political Science Education 15, no. 1 (January 2, 2019): 94–111. https://doi.org/10.1080/15512169.2018.1485571.

93 Guo, Pengyue, Nadira Saab, Lysanne S. Post, and Wilfried Admiraal. "*A Review of Project-Based Learning in Higher Education: Student Outcomes and Measures.*" International Journal of Educational Research 102 (2020): 101586. https://doi.org/10.1016/j.ijer.2020.101586.

94 Walker, Carolyn, "*Experiential Learning as a Strategy for Student Completion and Course Success in the Community College.*" Community College Journal of Research and Practice 43, no. 10–11 (November 2, 2019): 803–6. https://doi.org/10.1080/10668926.2019.1600614.

95 Instructional Technology, Graduate School, Universitas Negeri Malang, Indonesia, Mifta Hulaikah, I Nyoman Sudana Degeng, Instructional Technology, Graduate School, Universitas Negeri Malang, Indonesia, nyoman.sudana.d.fip@um.ac.id, Sulton Sulton, Instructional Technology, Graduate School, Universitas Negeri Malang, Indonesia, sulton.fip@um.ac.id, F. Danardana Murwani, and Business & Management Education, Graduate School, Universitas Negeri Malang, Indonesia, f.danardana.fe@um.ac.id. "*The Effect of Experiential*

Learning and Adversity Quotient on Problem Solving Ability." International Journal of Instruction 13, no. 1 (January 3, 2020): 869–84. https://doi.org/10.29333/iji.2020.13156a.

96 Trongtorsak, Suvanna, Kobkiat Saraubon, and Prachyanun Nilsook. "*Collaborative Experiential Learning Process for Enhancing Digital Entrepreneurship."* Higher Education Studies 11, no. 1 (January 27, 2021): 137. https://doi.org/10.5539/hes.v11n1p137.

97 Burch, Gerald F., Robert Giambatista, John H. Batchelor, Jana J. Burch, J. Duane Hoover, and Nathan A. Heller. "*A Meta-Analysis of the Relationship Between Experiential Learning and Learning Outcomes."* Decision Sciences Journal of Innovative Education 17, no. 3 (July 2019): 239–73. https://doi.org/10.1111/dsji.12188.

98 Laverie, Debra A., Ashley Hass, and Corky Mitchell. "*Experiential Learning: A Study of Simulations as a Pedagogical Tool."* Marketing Education Review 32, no. 1 (January 2, 2022): 3–17. https://doi.org/10.1080/10528008.2020.1843360.

99 Chen, Cheng-Huan, and Yong-Cih Yang. "*Revisiting the Effects of Project-Based Learning on Students' Academic Achievement: A Meta-Analysis Investigating Moderators."* Educational Research Review 26 (February 2019): 71–81. https://doi.org/10.1016/j.edurev.2018.11.001.

100 Meyer, Katharine, Kelli A. Bird, and Benjamin L. Castleman. "*Stacking the Deck for Employment Success: Labor Market Returns to Stackable Credentials,"* 2020. https://doi.org/10.26300/JZQ6-2Y24.

101 Hester, Candace, and Sami Kitmitto. "*The Relative Returns to Credit- and Non-Credit-Bearing Credentials."* American Institutes for Research, October 2020. https://www.air.org/sites/default/files/Credit-and-Non-Credit-Prog-Completion-Study-October-2020rev2.pdf.

102 Daugherty, Lindsay, and Drew M. Anderson. "*Stackable Credential Pipelines in Ohio: Evidence on Programs and Earnings Outcomes."* Santa Monica, CA: RAND Corporation, June 8, 2021. https://www.rand.org/pubs/research_reports/RRA207-1.html.

103 Bailey, Thomas, and Clive R Belfield. "*Stackable Credentials: Do They Have Labor Market Value?"* Community College Research Center at Columbia University, November 2017. https://ccrc.tc.columbia.edu/media/k2/attachments/stackable-credentials-do-they-have-labor-market-value.pdf.

104 O'Kane, Layla, Gilberto Noronha, Bledi Taska, and Matthew Walsh. "*Where Credentials Meet the Market."* ExcelinEd and Burning Glass Technologies, June 2019. https://excelined.org/wp-content/uploads/2019/05/ExcelinEdBurningGlassTechnologies.CredentialsMatter.WhereCredentialsMeetTheMarket.June2019.pdf.

105 Burke, Lilah. "*Who's Completing Microcredentials?"* Inside Higher Ed, November 20, 2019. https://www.insidehighered.com/digital-learning/article/2019/11/20/new-report-offers-analysis-microcredential-completers.

106 Meyer, Katharine, Kelli A. Bird, and Benjamin L. Castleman. "*Stacking the Deck for Employment Success: Labor Market Returns to Stackable Credentials,"* 2020. https://doi.org/10.26300/JZQ6-2Y24.

107 Tesfai, Lul, Kim Dancy, and Mary Alice McCarthy. "*Paying More and Getting Less: How Nondegree Credentials Reflect Labor Market Inequality Between Men and Women."* New America, September 13, 2018. http://newamerica.org/education-policy/reports/paying-more-and-getting-less/.

108 Meyer, Katharine, Kelli A. Bird, and Benjamin L. Castleman. "*Stacking the Deck for Employment Success: Labor Market Returns to Stackable Credentials,"* 2020. https://doi.org/10.26300/JZQ6-2Y24.

109 Julian Aramburu, Ana Goicoechea, and Ahmed Mushfiq Mobarak, "*Coding Bootcamps for Female Digital Employment: Evidence from an RCT in Argentina and Colombia,"* Working Paper (Washington, DC: World Bank, June 2021), https://doi.org/10.1596/1813-9450-9721.

110 Savi Joshi, "*Technical Job Placement Success of Coding Bootcamps,"* Joseph Wharton Scholars, January 1, 2019, https://repository.upenn.edu/joseph_wharton_scholars/61.

111 Quinn Burke and Cinamon Sunrise Bailey, "*Camp or College?,"* in Proceedings of the 50th ACM Technical Symposium on Computer Science Education, SIGCSE '19 (New York, NY, USA: Association for Computing Machinery, 2019), 345–50, https://doi.org/10.1145/3287324.3287373.

112 Joshi, Savi. "*Technical Job Placement Success of Coding Bootcamps."* University of Pennsylvania, 2019. https://repository.upenn.edu/joseph_wharton_scholars/61.

113 Tu, Fangjing. "*What Can We Learn from Longitudinal Studies on the Impacts of College Internships?"* Center for College Workforce Transitions, University of Wisconsin Madison, January 2022. https://ccwt.wisc.edu/wp-content/uploads/2022/04/Final_CCWT_report_LR-What-can-we-learn-from-longitudinal-studies-on-the-impacts-of-college-internships.pdf.

114 P. Maertz Jr, Carl, Philipp A. Stoeberl, and Jill Marks. "*Building Successful Internships: Lessons from the Research for Interns, Schools, and Employers."* Career Development International 19, no. 1 (February 4, 2014): 123–42. https://doi.org/10.1108/CDI-03-2013-0025.

115 Bolli, Thomas, Katherine Caves, and Maria Esther Oswald-Egg. "*Valuable Experience: How University Internships Affect Graduates' Income."* Research in Higher Education 62, no. 8 (December 2021): 1198–1247. https://doi.org/10.1007/s11162-021-09637-9.

116 Saltikoff, Nathalie. "*The Positive Implications of Internships on Early Career Outcomes."* National Association of Colleges and Employers, May 1, 2017. https://www.naceweb.org/job-market/internships/the-positive-implications-of-internships-on-early-career-outcomes/.

117 Blau, Gary, and Andrea B. Lopez. "*Exploring Correlates for Paid versus Unpaid Internships or Co-Ops for Graduating Business Students."* Journal of Education for Business 95, no. 6 (August 17, 2020): 393–401. https://doi.org/10.1080/08832323.2019.1668744.

118 Rothschild, Philip, and Connor Rothschild. "*The Unpaid Internship: Benefits, Drawbacks, and Legal Issues."* Administrative Issues Journal Education Practice and Research 10, no. 2 (2020): 1–17. https://doi.org/10.5929/2020.10.2.1.

119 P. Maertz Jr, Carl, Philipp A. Stoeberl, and Jill Marks. "*Building Successful Internships: Lessons from the Research for Interns, Schools, and Employers."* Career Development International 19, no. 1 (February 4, 2014): 123–42. https://doi.org/10.1108/CDI-03-2013-0025.

120 Gault, Jack, John Redington, and Tammy Schlager. "*Undergraduate Business Internships and Career Success: Are They Related?"* Journal of Marketing Education 22, no. 1 (April 2000): 45–53. https://doi.org/10.1177/0273475300221006.

121 Tu, Fangjing. "*What Can We Learn from Longitudinal Studies on the Impacts of College Internships?"* Center for College Workforce Transitions, University of Wisconsin Madison, January 2022. https://ccwt.wisc.edu/wp-content/uploads/2022/04/Final_CCWT_report_LR-What-can-we-learn-from-longitudinal-studies-on-the-impacts-of-college-internships.pdf.

122 Bolli, Thomas, Katherine Caves, and Maria Esther Oswald-Egg. "*Valuable Experience: How University Internships Affect Graduates' Income."* Research in Higher Education 62, no. 8 (December 2021): 1198–1247. https://doi.org/10.1007/s11162-021-09637-9.

123 Margaryan, Shushanik, Nils Saniter, Mathias Schumann, and Thomas Siedler. "*Do Internships Pay Off? The Effects of Student Internships on Earnings."* Institute of Labor Economics, July 2019. https://docs.iza.org/dp12478.pdf.

124 Neumark, David, and Donna Rothstein. "*School-to-Career Programs and Transitions to Employment and Higher Education."* Economics of Education Review 25, no. 4 (August 2006): 374–93. https://doi.org/10.1016/j.econedurev.2005.10.005.

125 Thibodeaux, William R. "*The Practical Side of Culinary Arts Education: The Role of Social Ability and Durable Knowledge in Culinary Arts Externships."* University of New Orleans, 2012. https://scholarworks.uno.edu/td/1571.

126 English, Neil. "*Job Shadowing as a Mechanism for College and Career Readiness."* University of Pittsburgh, 2018. http://d-scholarship.pitt.edu/33145/1/8.7%20SD%20Neil.English.ETD.7.2.18.FINAL%20COPY%2097-03.pdf.

127 Hill, Clara E., Ellen Baumann, Naama Shafran, Shudarshana Gupta, Ashley Morrison, Andrés E. Pérez Rojas, Patricia T. Spangler, Shauna Griffin, Laura Pappa, and Charles J. Gelso. "*Is Training Effective? A Study of Counseling Psychology Doctoral Trainees in a Psychodynamic/Interpersonal Training Clinic.*" Journal of Counseling Psychology 62, no. 2 (2015): 184–201. https://doi.org/10.1037/cou0000053.

128 Gregory, Sabrina, Deborah R. Bolling, and Nancy F. Langston. "*Partnerships and New Learning Models to Create the Future Perioperative Nursing Workforce.*" AORN Journal 99, no. 1 (January 2014): 96–105. https://doi.org/10.1016/j.aorn.2013.10.012.

129 Bowen, Bradley, and Teresa Shume. "*Educators in Industry: An Exploratory Study to Determine How Teacher Externships Influence K-12 Classroom Practices.*" Journal of STEM Education: Innovations and Research 19, no. 1 (2018): 56–61.

130 Mozingo, Johnie, Sandra Thomas, and Ellie Brooks. "*Factors Associated With Perceived Competency Levels of Graduating Seniors in a Baccalaureate Nursing Program.*" Journal of Nursing Education 34, no. 3 (March 1995): 115–22. https://doi.org/10.3928/0148-4834-19950301-06.

131 Apel, Mark, Ayman Mostafa, Bill Brandau, and Gregg Garfin. "*Externships in Sustainability Program as an Outreach Tool for Extension.*" The Journal of Extension 51, no. 2 (April 1, 2013). https://tigerprints.clemson.edu/joe/vol51/iss2/17.

132 Padron, Thomas C, Mary Fortune, Melany Spielman, and Sylvie Tjoei. "*The Job Shadow Assignment: Career Perceptions in Hospitality, Recreation and Tourism.*" Research in Higher Education Journal 32 (n.d.): 20. https://eric.ed.gov/?id=EJ1148919.

133 Hill, Clara E., Ellen Baumann, Naama Shafran, Shudarshana Gupta, Ashley Morrison, Andrés E. Pérez Rojas, Patricia T. Spangler, Shauna Griffin, Laura Pappa, and Charles J. Gelso. "*Is Training Effective? A Study of Counseling Psychology Doctoral Trainees in a Psychodynamic/Interpersonal Training Clinic.*" Journal of Counseling Psychology 62, no. 2 (2015): 184–201. https://doi.org/10.1037/cou0000053.

134 Neumark, David, and Donna Rothstein. "*School-to-Career Programs and Transitions to Employment and Higher Education.*" Economics of Education Review 25, no. 4 (August 2006): 374–93. https://doi.org/10.1016/j.econedurev.2005.10.005.

135 Owen, J. Robert, and Aaron C. Clark. "*A Study of Initial Employment Characteristics Between Co-Op and Non-Co-Op Community College Graduates.*" Journal of Career and Technical Education 18, no. 1 (September 1, 2001). https://doi.org/10.21061/jcte.v18i1.599.

136 Main, Joyce B., Beata N. Johnson, and Yanbing Wang. "*Gatekeepers of Engineering Workforce Diversity? The Academic and Employment Returns to Student Participation in Voluntary Cooperative Education Programs.*" Research in Higher Education 62, no. 4 (June 2021): 448–77. https://doi.org/10.1007/s11162-020-09596-7.

137 Wyonch, Rosalie. "*Work-Ready Graduates: The Role of Co-Op Programs in Labour Market Success.*" SSRN Electronic Journal, 2020. https://doi.org/10.2139/ssrn.3520206.

138 Wyonch, Rosalie. "*Work-Ready Graduates: The Role of Co-Op Programs in Labour Market Success.*" SSRN Electronic Journal, 2020. https://doi.org/10.2139/ssrn.3520206.

139 Arthur, Brittany, and Batsheva Guy. "*'No, I'm Not the Secretary': Using Participatory Methods to Explore Women Engineering Students Experiences on Co-Op.*" University of Cincinnati, 2020, 12. https://files.eric.ed.gov/fulltext/EJ1254739.pdf.

140 Owen, J. Robert, and Aaron C. Clark. "*A Study of Initial Employment Characteristics Between Co-Op and Non-Co-Op Community College Graduates.*" Journal of Career and Technical Education 18, no. 1 (September 1, 2001). https://doi.org/10.21061/jcte.v18i1.599.

141 Wyonch, Rosalie. "*Work-Ready Graduates: The Role of Co-Op Programs in Labour Market Success.*" SSRN Electronic Journal, 2020. https://doi.org/10.2139/ssrn.3520206.

142 Wyonch, Rosalie. "*Work-Ready Graduates: The Role of Co-Op Programs in Labour Market Success.*" SSRN Electronic Journal, 2020. https://doi.org/10.2139/ssrn.3520206.

143 Hollenbeck, Kevin, and Wei-Jang Huang. "*Net Impact and Benefit-Cost Estimates of the Workforce Development System in Washington State.*" W.E. Upjohn Institute, December 1, 2014. https://doi.org/10.17848/tr13-029.

144 Bucci, Paul, W. Douglas Evans, Laura Friesenborg, Douglas A. Fox, Kathy Bishop, Naveen Balraj, and Bosun Jang. "*Minnesota Advanced Manufacturing Project (MnAMP): Final External Evaluation Report.*" PTB & Associates, September 30, 2018. https://www.skillscommons.org/bitstream/handle/taaccct/18521/MnAMP%20Final%20Evaluation%20Report.pdf?sequence=1&isAllowed=y.

145 Yung-Hsu Liu, Albert, Debbie Reed, Rebecca Kleinman, Annalisa Mastri, Davin Reed, Sattar Samina, and Jessica Ziegler. "*An Effectiveness Assessment and Cost-Benefit Analysis of Registered Apprenticeship in 10 States.*" Oakland, CA: Mathematica Policy Research, July 25, 2012. https://www.mathematica.org/publications/an-effectiveness-assessment-and-costbenefit-analysis-of-registered-apprenticeship-in-10-states.

146 Eyster, Lauren, Demetra Smith Nightingale, Burt S Barnow, Carolyn T O'Brien, John Trutko, and Daniel Kuehn. "*Implementation and Early Training Outcomes of the High Growth Job Training Initiative: Final Report.*" The Urban Institute Center on Labor, Human Services, and Population, June 2010, 103.

147 Zeidenberg, Matthew, Sung-Woo Cho, and Davis Jenkins. "*Washington State's Integrated Basic Education and Skills Training Program (I-BEST): New Evidence of Effectiveness.*" New York, NY: Community College Research Center at Columbia University, September 2010. https://ccrc.tc.columbia.edu/media/k2/attachments/i-best-evidence-effectiveness.pdf.

148 Gunderson, Morley, and Harry Krashinsky. "*Returns to Apprenticeship Based on the 2006 Canadian Census.*" ILR Review 68, no. 5 (October 2015): 1078–1101. https://doi.org/10.1177/0019793915591990.

149 Katz, Lawrence, Jonathan Roth, Richard Hendra, and Kelsey Schaberg. "*Why Do Sectoral Employment Programs Work? Lessons from WorkAdvance.*" Cambridge, MA: National Bureau of Economic Research, December 2020. https://doi.org/10.3386/w28248.

150 Amesti, José de, and Susana Claro. "*Effects of Apprenticeship on the Short-Term Educational Outcomes of Vocational High-School Students.*" Journal of Research on Educational Effectiveness 14, no. 3 (July 3, 2021): 598–616. https://doi.org/10.1080/19345747.2021.1917026.

151 Zeidenberg, Matthew, Sung-Woo Cho, and Davis Jenkins. "*Washington State's Integrated Basic Education and Skills Training Program (I-BEST): New Evidence of Effectiveness.*" New York, NY: Community College Research Center at Columbia University, September 2010. https://ccrc.tc.columbia.edu/media/k2/attachments/i-best-evidence-effectiveness.pdf.

152 Yung-Hsu Liu, Albert, Debbie Reed, Rebecca Kleinman, Annalisa Mastri, Davin Reed, Sattar Samina, and Jessica Ziegler. "*An Effectiveness Assessment and Cost-Benefit Analysis of Registered Apprenticeship in 10 States.*" Oakland, CA: Mathematica Policy Research, July 25, 2012. https://www.mathematica.org/publications/an-effectiveness-assessment-and-costbenefit-analysis-of-registered-apprenticeship-in-10-states.

153 Heller, Sara, and Judd Kessler. "*Information Frictions and Skill Signaling in the Youth Labor Market.*" Cambridge, MA: National Bureau of Economic Research, December 2021. https://doi.org/10.3386/w29579.

154 Davis, Jonathan M.V., and Sara B. Heller. "*Rethinking the Benefits of Youth Employment Programs: The Heterogeneous Effects of Summer Jobs.*" The Review of Economics and Statistics 102, no. 4 (October 1, 2020): 664–77. https://doi.org/10.1162/rest_a_00850.

155 Gelber, Alexander, Judd B. Kessler, and Adam Isen. "*The Effects of Youth Employment: Evidence from New York City Lotteries * | The Quarterly Journal of Economics | Oxford Academic.*" The Quarterly Journal of Economics 131, no. 1 (February 2016): 423–60. https://doi.org/10.1093/qje/qjv034.

156 Davis, Jonathan M.V., and Sara B. Heller. "*Rethinking the Benefits of Youth Employment Programs: The Heterogeneous Effects of Summer Jobs.*" The Review of Economics and Statistics 102, no. 4 (October 1, 2020): 664–77. https://doi.org/10.1162/rest_a_00850.

157 Leos-Urbel, Jacob. "*What Is a Summer Job Worth? The Impact of Summer Youth Employment on Academic Outcomes: What Is a Summer Job Worth?*" Journal of Policy Analysis and Management 33, no. 4 (September 2014): 891–911. https://doi.org/10.1002/pam.21780.

158 Schwartz, Amy Ellen, Jacob Leos-Urbel, Joel McMurry, and Matthew Wiswall. "*Making Summer Matter: The Impact of Youth Employment on Academic Performance.*" Cambridge, MA: National Bureau of Economic Research, August 2015. https://doi.org/10.3386/w21470.

159 Heller, Sara B. "*Summer Jobs Reduce Violence among Disadvantaged Youth.*" Science 346, no. 6214 (December 5, 2014): 1219–23. https://doi.org/10.1126/science.1257809.

160 Kessler, Judd B., Sarah Tahamont, Alexander Gelber, and Adam Isen. "*The Effects of Youth Employment on Crime: Evidence from New York City Lotteries.*" Journal of Policy Analysis and Management 41, no. 3 (June 2022): 710–30. https://doi.org/10.1002/pam.22393.

161 Modestino, Alicia Sasser. "*How Do Summer Youth Employment Programs Improve Criminal Justice Outcomes, and for Whom?*" Journal of Policy Analysis and Management 38, no. 3 (June 2019): 600–628. https://doi.org/10.1002/pam.22138.

162 Davis, Jonathan M.V., and Sara B. Heller. "*Rethinking the Benefits of Youth Employment Programs: The Heterogeneous Effects of Summer Jobs.*" The Review of Economics and Statistics 102, no. 4 (October 1, 2020): 664–77. https://doi.org/10.1162/rest_a_00850.

163 Heller, Sara. "*When Scale and Replication Work: Learning from Summer Youth Employment Experiments.*" Cambridge, MA: National Bureau of Economic Research, April 2021. https://doi.org/10.3386/w28705.

164 Modestino, Alicia Sasser, and Richard Paulsen. "*School's Out: How Summer Youth Employment Programs Impact Academic Outcomes.*" Education Finance and Policy, October 17, 2022, 1–30. https://doi.org/10.1162/edfp_a_00371.

165 New America. "*Student Unit Record Data System.*" Accessed October 14, 2022. http://newamerica.org/education-policy/topics/higher-education-data-and-transparency/higher-education-data/student-unit-record-data-system/.

166 Altstadt, David, Ashley Bliss Lima, and Cynthia Liston. "*Making College Work for Students and the Economy: A State Policy Roadmap.*" Jobs for the Future, December 2019. https://jfforg-prod-new.s3.amazonaws.com/media/documents/Making-College-Work.pdf.

167 Backes, Ben, Harry J. Holzer, and Erin Dunlop Velez. "*Is It Worth It? Postsecondary Education and Labor Market Outcomes for the Disadvantaged.*" IZA Journal of Labor Policy 4, no. 1 (January 23, 2015): 1. https://doi.org/10.1186/s40173-014-0027-0.

168 Ross, Martha, Richard Kazis, Nicole Bateman, and Laura Stateler. "*Work-Based Learning Can Advance Equity and Opportunity for America's Young People.*" Brookings Institute, November 2020. https://www.brookings.edu/wp-content/uploads/2020/11/20201120_BrookingsMetro_Work-based-learning_Final_Report.pdf.

169 Alan Kerckhoff, "*From Student to Worker.*" In Jeylan Mortimer and Michael Shanahan, eds. Handbook of the Life Course (New York: Springer, 2004).

170 Boser, Ulrich, and Abel McDaniels. "*Addressing the Gap Between Education Research and Practice.*" Center for American Progress, June 20, 2018. https://www.americanprogress.org/article/addressing-gap-education-research-practice/.

171 López Turley, Ruth N., and Carla Stevens. "*Lessons From a School District–University Research Partnership: The Houston Education Research Consortium.*" Educational Evaluation and Policy Analysis 37, no. 1 (May 1, 2015). https://doi.org/DOI:10.3102/0162373715576074.

172 Kazis, Richard, Abigail Callahan, Chris Davidson, Annie McLeod, Brian Bosworth, Vickie Choitz, and John Hoops. "*Adult Learners in Higher Education: Barriers to Success and Strategies to Improve Results. Employment and Training Administration.*" Jobs for the Future. Jobs for the Future, March 2007. https://eric.ed.gov/?id=ED497801.

173 Delisle, Jason D. "*Student Outcomes and Earnings in Higher Education Policy.*" American Enterprise Institute, January 2022. https://www.aei.org/research-products/report/student-outcomes-and-earnings-in-higher-education-policy/.

174 Minaya, Veronica, and Judith Scott-Clayton. "*Labor Market Outcomes and Postsecondary Accountability: Are Imperfect Metrics Better than None?*" Cambridge, MA: National Bureau of Economic Research, December 2016. https://doi.org/10.3386/w22880.

175 Mintz, Steven. "*How Universities Can Support Equitable Economic Development,*" March 28, 2022. https://www.insidehighered.com/blogs/higher-ed-gamma/how-universities-can-support-equitable-economic-development.

176 Association of Governing Boards. "*Higher Education Contributes to a Strong Economy,*" June 6, 2019. https://agb.org/guardians-campaign/higher-education-contributes-to-a-strong-economy/.

177 DiBenedetto, Katelyn, Eleanor Eckerson Peters, and Mamie Voight. "*Ensuring a More Equitable Future: How Colleges Can Engage Their Communities to Ensure Economic and Cultural Vitality.*" Institute for Higher Education Policy, May 2021. https://files.eric.ed.gov/fulltext/ED612653.pdf.

178 Kazis, Richard, Abigail Callahan, Chris Davidson, Annie McLeod, Brian Bosworth, Vickie Choitz, and John Hoops. "*Adult Learners in Higher Education: Barriers to Success and Strategies to Improve Results. Employment and Training Administration.*" Jobs for the Future. Jobs for the Future, March 2007. https://eric.ed.gov/?id=ED497801.

179 "*Integrating Career Advising for Equitable Student Success: A Higher Education Landscape Analysis.*" American Association of State Colleges and Universities, April 7, 2021. https://www.aascu.org/uploadedFiles/AASCU/Content/Root/AcademicAffairsPrograms/AASCU_CLC_Career%20Advising.pdf.

180 "*Integrating Career Advising for Equitable Student Success: A Higher Education Landscape Analysis.*" American Association of State Colleges and Universities, April 7, 2021. https://www.aascu.org/uploadedFiles/AASCU/Content/Root/AcademicAffairsPrograms/AASCU_CLC_Career%20Advising.pdf.

181 Tudor, Thomas R. "*Fully Integrating Academic Advising with Career Coaching to Increase Student Retention, Graduation Rates and Future Job Satisfaction: An Industry Approach.*" Industry and Higher Education 32, no. 2 (April 1, 2018): 73–79. https://doi.org/10.1177/0950422218759928.

182 Fein, David, and Samuel Dastrup. "*Benefits That Last: Long-Term Impact and Cost-Benefit Findings for Year Up.*" Washington, D.C.: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, March 2022. https://www.acf.hhs.gov/opre/report/benefits-last-long-term-impact-and-cost-benefit-findings-year-up.

183 Fry, Richard, and Anthony Cilluffo. "*A Rising Share of Undergraduates Are From Poor Families, Especially at Less Selective Colleges.*" Pew Research Center's Social & Demographic Trends Project, May 22, 2019. https://www.pewresearch.org/social-trends/2019/05/22/a-rising-share-of-undergraduates-are-from-poor-families-especially-at-less-selective-colleges/.

184 Banks, Tachelle, and Jennifer Dohy. "*Mitigating Barriers to Persistence: A Review of Efforts to Improve Retention and Graduation Rates for Students of Color in Higher Education.*" Higher Education Studies 9, no. 1 (January 19, 2019): p118. https://doi.org/10.5539/hes.v9n1p118.

185 Collins, Mimi. "*Open the Door: Disparities in Paid Internships.*" National Association of Colleges and Empl oyers, November 1, 2020. https://www.naceweb.org/diversity-equity-and-inclusion/trends-and-predictions/open-the-door-disparities-in-paid-internships/.

186 Huelsman, Mark, Tamara Draut, Tatjana Meschede, Lars Dietrich, Thomas Shapiro, and Laura Sullivan. "*Less Debt, More Equity: Lowering Student Debt While Closing the Black-White Wealth Gap.*" Demos, November 24, 2015. https://www.demos.org/research/less-debt-more-equity-lowering-student-debt-while-closing-black-white-wealth-gap.

187 "*Education Can Help Narrow the Racial Wealth Gap, but Structural Solutions Are Needed to Close It.*" Joint Economic Committee Democrats, October 1, 2021. https://www.jec.senate.gov/public/_cache/files/1d07cb0d-6ec2-4f49-9fa7-6ee5c771fbe3/education-and-racial-wealth-gap.pdf.

188 Lomax, Michael. "*Six Reasons HBCUs Are More Important Than Ever.*" United Negro College Fund, January 19, 2017. https://uncf.org/the-latest/6-reasons-hbcus-are-more-important-than-ever.

189 Seymour, Sean, and Julie Ray. "*Grads of Historically Black Colleges Have Well-Being Edge.*" Gallup, October 27, 2015. https://news.gallup.com/poll/186362/grads-historically-black-colleges-edge.aspx.

190 Williams, Krystal L, and BreAnna L Davis. "*Public and Private Investments and Divestments in Historically Black Colleges and Universities.*" American Council on Education, January 2019. https://www.acenet.edu/Documents/Public-and-Private-Investments-and-Divestments-in-HBCUs.pdf.

191 Williams, Krystal L, and BreAnna L Davis. "*Public and Private Investments and Divestments in Historically Black Colleges and Universities.*" American Council on Education, January 2019. https://www.acenet.edu/Documents/Public-and-Private-Investments-and-Divestments-in-HBCUs.pdf.

192 Boland, William, and Marybeth Gasman. "*America's Public HBCUs: A Four State Comparison of Institutional Capacity and State Funding Priorities.*" Penn Center for Minority Serving Institutions, January 1, 2014. https://repository.upenn.edu/gse_pubs/340.

193 Murray, Lodriguez, and Nadrea R. Njoku. "*Greater Funding, Greater Needs: A Report on Funding for HBCUs.*" United Negro College Fund, July 2022. https://uncf.org/pages/greater-funding-greater-needs.

194 Daugherty, Lindsay, William Johnston, and Tiffany Tsai. Connecting College Students to Alternative Sources of Support: The Single Stop Community College Initiative and Postsecondary Outcomes. RAND Corporation, 2016. https://doi.org/10.7249/RR1740.

195 Kruglaya, Inna. "*Doubling Graduation Rates.*" MDRC, February 24, 2015. https://www.mdrc.org/publication/doubling-graduation-rates.

196 Kruglaya, Inna. "*Doubling Graduation Rates.*" MDRC, February 24, 2015. https://www.mdrc.org/publication/doubling-graduation-rates.

197 National Center for Education Statistics. "*Student Enrollment–How Many Students Ages 25 and over Enroll in Postsecondary Institutions in the Fall?,*" 2019. https://nces.ed.gov/ipeds/TrendGenerator/app/answer/2/8.

198 Perna, Laura W., and Taylor K. Odle. "*Recognizing the Reality of Working College Students.*" AAUP, November 18, 2019. https://www.aaup.org/article/recognizing-reality-working-college-students.

199 Hora, Matthew T. "*Unpaid Internships & Inequality: A Review of the Data and Recommendations for Research, Policy and Practice.*" University of Wisconsin–Madison, March 2022. http://hdl.voced.edu.au/10707/606966.

200 Page, Lindsay C. , Katharine Meyer, Jeonghyun Lee, and Hunter Gehlbach. (2022). Conditions under which college students can be responsive to nudging. (EdWorkingPaper: 20-242). Retrieved from Annenberg Institute at Brown University: https://doi.org/10.26300/vjfs-kv29

201 Chen, Pearl, Anthony Hernandez, and Jane Dong. "*Impact of Collaborative Project-Based Learning on Self-Efficacy of Urban Minority Students in Engineering.*" Journal of Urban Learning Teaching and Research 11 (2015): 26–39.

202 Braven. "*Model and Impact.*" Accessed January 17, 2023. https://bebraven.org/model-and-impact/.

203 D'Orio, Wayne. "*With Skills Mapping, Colleges Create a 'universal Language' to Explain Value.*" Higher Ed Dive, June 24, 2019. https://www.highereddive.com/news/with-skills-mapping-colleges-create-a-universal-language-to-explain-valu/557422/.

204 Schwartz, Robert B. and Lipson, Rachel, *"America's Hidden Economic Engines: How Community Colleges Can Drive Shared Prosperity"* (Cambridge: Harvard Education Press, forthcoming)..

205 Pima Community College. "*Business & Industry.*" Accessed January 17, 2023. https://www.pima.edu/business-industry/index.html.

206 Project on Workforce Team, "*America's Hidden Economic Engines: How Community Colleges Can Drive Shared Prosperity,*" Project on Workforce, March 1, 2022, https://www.pw.hks.harvard.edu/post/america-s-hidden-economic-engines-how-community-colleges-can-drive-shared-prosperity.

207 National Center for Inquiry & Improvement. "*Rural Guided Pathways Project.*" Accessed March 3, 2023. https://ncii-improve.com/rural-guided-pathways-project/.

208 Ibid.

209 Strumbos, Diana, and Zineta Kolenovic. "*Six-Year Outcomes of ASAP Students: Transfer and Degree Attainment.*" The City University of New York, January 2017, 12.

210 Hawkins, Rayanne, John Marotta, and Myca San Miguel. "*Stakeholders in Secure Software Development Apprenticeship: A Case Study for the HBCU Consortium-Driven Degree-Based Apprenticeship.*" Urban Institute, August 2022. https://www.urban.org/research/publication/stakeholders-secure-software-development-apprenticeship.

211 Bunker Hill Community College. "*Learn and Earn.*" Accessed January 17, 2023. https://www.bhcc.edu/learnandearn/.

212 California State University San Marcos. "*Senior Experience.*" Accessed November 21, 2022. https://www.csusm.edu/coba/signature-programs/senior-experience/index.html.

213 State Council of Higher Education for Virginia. "*Higher Ed Data for Virginia.*" Accessed March 3, 2023. https://research.schev.edu/.

214 Virginia's Legislative Information System. "*2022 SESSION.*" Accessed March 3, 2023. https://lis.virginia.gov/cgi-bin/legp604.exe?221+sum+HB1299

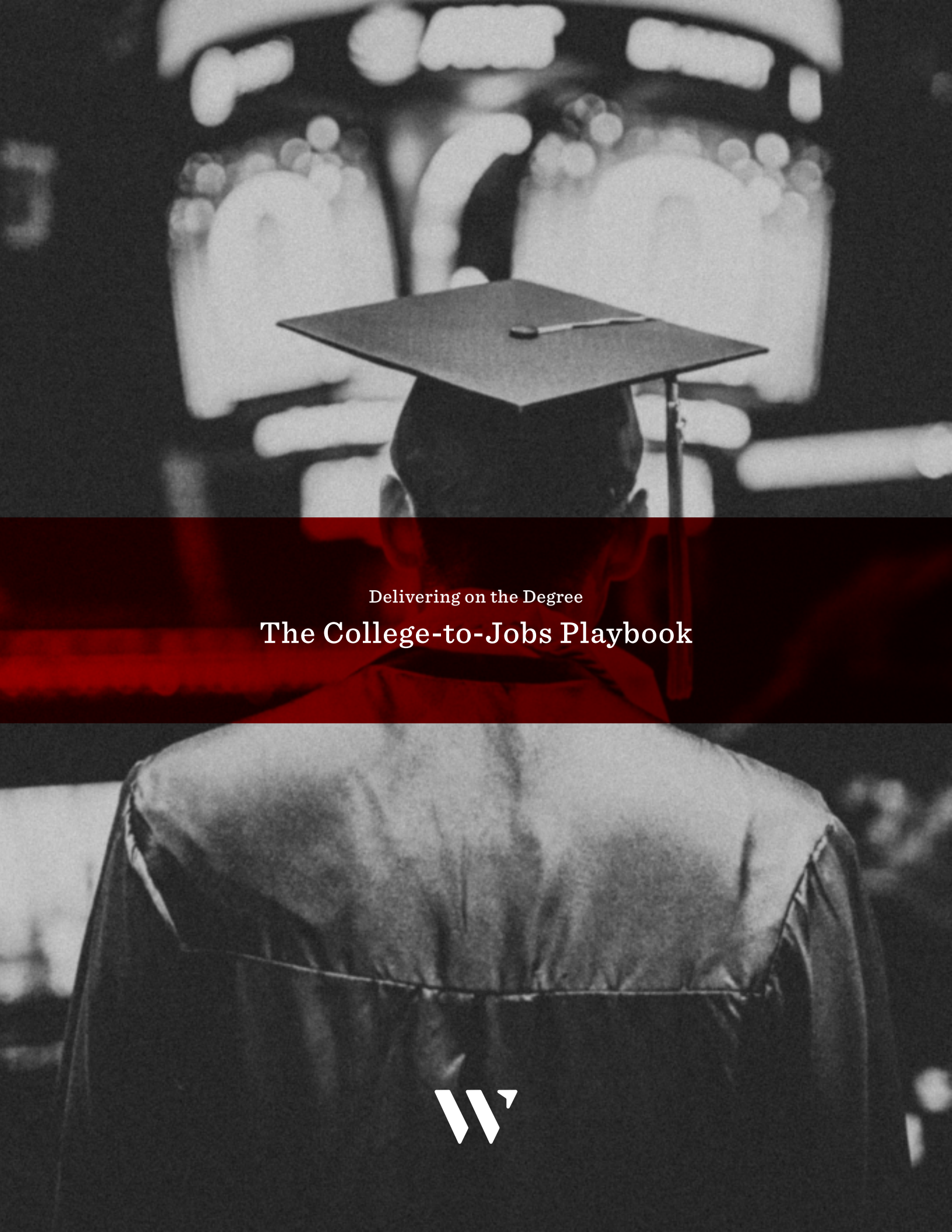
215 Iowa Student Outcomes. "*Iowa Community Colleges.*" Accessed January 17, 2023. https://iowastudentoutcomes.com/college_program_outcomes_new.

216 Government of the United Kingdom. "*Apprenticeships.*" Accessed March 3, 2023. https://www.apprenticeships.gov.uk/#.

217 US Department of Education–Office of Educational Technology. "*Educational Quality through Innovative Partnerships (EQUIP).*" Accessed March 3, 2023. https://tech.ed.gov/equip/.

218 Mitchell, Michael, Michael Leachman, and Michael Saenz. "*State Higher Education Funding Cuts Have Pushed Costs to Students, Worsened Inequality.*" Center on Budget and Policy Priorities, October 24, 2019. https://www.cbpp.org/research/state-budget-and-tax/state-higher-education-funding-cuts-have-pushed-costs-to-students.

219 Boggs, Bennett G. "*A Promise Is a Promise: Free Tuition Programs and How They Work.*" National Conference of State Legislatures, March 2019, 7.



Delivering on the Degree

The College-to-Jobs Playbook



GREAT **JOBS** GREAT **LIVES**

The Gallup-Purdue Index Report

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INTRODUCTION

For years, the value of a college degree has been determined not by the most important outcomes of a college education but by the easiest outcomes to measure — namely, job and graduate school placement rates and alumni salaries (usually only from their first job out of college). While these metrics have some merit, they do not provide a holistic view of college graduates' lives. These outcomes do not reflect the missions of higher-education institutions, and they do not reflect the myriad reasons why students go to college.

Together, Gallup and Purdue University created an index that examines the long-term success of graduates as they pursue a good job and a better life. This index — the Gallup-Purdue Index — provides insight into the relationship between the college experience and long-term outcomes.

GREAT EXPERIENCES: ALUMNI ATTACHMENT

Gallup's research across hundreds of organizations in many industries shows that fully engaged customers buy more, stay with you longer and are more profitable than average customers — in good economic times and in bad.

The Gallup-Purdue Index measures graduates' current emotional attachment to their alma mater by adapting Gallup's research on customer engagement to assess graduates' perceptions of their colleges both in retrospect to their undergraduate experiences and their views as current alumni.

Because students spend a significant amount of resources preparing for life outside of college, it is crucial to gauge whether the experiences they had in college have promoted a well-lived life. This includes if they perceive that the college was a great fit for them, having professors who cared and made learning exciting and, most importantly, feeling that their school prepared them well for life outside of college.

The Gallup-Purdue Index uncovers which college experiences and perceptions are related to greater gains in well-being and the workplace.

GREAT LIVES: WELL-BEING

Well-being is not only about being happy or wealthy, nor is it only synonymous with physical health. Rather, it is about the interaction and interdependency between many aspects of life, such as finding fulfillment in daily work and interactions, having strong social relationships and access to the resources people need, feeling financially secure, being physically healthy and taking part in a true community.

Gallup and Healthways developed the Gallup-Healthways Well-Being 5 View to measure these important aspects. This survey, based on findings from the Gallup-Healthways Well-Being Index and years of joint research, asks 10 questions that gauge well-being in five elements:

Purpose Well-Being: Liking what you do each day and being motivated to achieve your goals

Social Well-Being: Having strong and supportive relationships and love in your life

Financial Well-Being: Effectively managing your economic life to reduce stress and increase security

Community Well-Being: The sense of engagement you have with the areas where you live, liking where you live and feeling safe and having pride in your community

Physical Well-Being: Having good health and enough energy to get things done on a daily basis

Gallup categorizes people's well-being in each of the elements as "thriving," "struggling" and "suffering," based on their responses. Those who are thriving are strong, consistent and progressing, while those who are struggling are moderate or inconsistent. Those who are suffering are at high risk.

Understanding how people think about and experience their lives is one of the first steps in determining the appropriate interventions that organizations, communities and higher-education institutions need to take to solve their biggest challenges. This research has the ability to provide colleges and universities with insight on how to improve the lives of current undergraduates in these key areas, which are within their control. Institutions can help provide their students with goals that are ultimately more fulfilling than income alone.

GREAT JOBS: WORKPLACE ENGAGEMENT

Engagement is more than job satisfaction. It involves employees being intellectually and emotionally connected with their organizations and work teams because they are able to do what they're best at, they like what they do at work, and they have someone who cares about their development at work.

Gallup's expertise on engagement in the workplace is rooted in more than 30 years of research on the 12 elements that best predict employee and workgroup performance. Based on responses to questions that measure the 12 elements, Gallup categorizes workers as engaged, not engaged or actively disengaged. People who are engaged at work are involved in and enthusiastic about their work. They are loyal and productive. Those who are not engaged may be productive and satisfied with their workplaces, but they are not intellectually and emotionally connected to them. Workers who are actively disengaged are physically present but intellectually and emotionally disconnected. They are unhappy with their work, share their unhappiness with their colleagues and are likely to jeopardize the performance of their teams.

Recent Gallup research shows that only 30% of Americans are engaged in their jobs, meaning that the U.S. workplace is missing out on staggering amounts of economic benefit that comes from workforces that are more engaged. If higher education does not lead graduates to an engaging job, then it has fallen down on a central expectation of students and their families who support them through college.

NATIONAL COMPARISONS

For the purposes of this report, data from the Virginia Tech alumni cohort (those who received their bachelor's degree after 1950) are compared with Gallup's database of respondents in the national Gallup-Purdue Index who received their undergraduate degree in the same time frame. Some differences may exist between the national comparison points included in this report and national estimates that Gallup has previously released because this report includes graduates since 1950.

Additional comparison groups include graduates (within the Gallup-Purdue Index) of colleges with the Carnegie Classification as research universities with very high research activity (RU/VH — referenced as research universities throughout the remainder of the report), as well as those from Virginia Tech's State Council of Higher Education for Virginia (SCHEV)-approved peer institutions. Listings of these comparison groups can be found at http://carnegieclassifications.iu.edu/ and http://www.ir.vt.edu/work_we_do/PeerInstitutions/homepage_SCHEV.html.

Demographically, the sample of Virginia Tech alumni is similar to that of graduates interviewed in the Gallup-Purdue Index national survey in age (averaging 47 years) but, in accord with the historical male-female student ratio at Virginia Tech, includes a higher proportion of male respondents. The Virginia Tech alumni sample is 63% male, compared with 48% in the national sample, which may be related to the school's history. In 1964, the association between Radford College, the women's division of Virginia Tech, and Virginia Tech was dissolved, and Radford College became an independent university.



EXECUTIVE SUMMARY

The Gallup-Virginia Tech Alumni Survey interviewed nearly 14,000 Virginia Tech alumni through an Internet survey about their experiences at Virginia Tech and their lives today. This report explores the relationship between Virginia Tech graduates' university experience and long-term outcomes based on their responses to the Virginia Tech Alumni Survey. The results illustrate that, on average, Virginia Tech alumni have great jobs and high well-being, and that they have a strong connection to the university.

Many Virginia Tech alumni have "great jobs," which Gallup defines as full-time employment for an employer and being engaged at work. Two-thirds of Virginia Tech graduates, including 66% of its male graduates and 68% of its female graduates, work full time for an employer, higher than the national average of 58%, and also higher than alumni of other research universities (as defined by Carnegie) and SCHEV-approved peer institutions. Just 1% of Virginia Tech alumni are unemployed and looking for work.

Employed Virginia Tech alumni are also more likely to be engaged at work than other college graduates nationally. Slightly less than half of Virginia Tech alumni (46%) who are employed full time for an employer are engaged at work, including 44% of male graduates and 47% of female graduates. The overall engagement rate among all alumni is notably higher than both the national average for college graduates (39%) and the average for alumni of research universities (41%) and SCHEV-approved peer institutions (42%). Eight percent of employed Virginia Tech alumni are actively disengaged at work, somewhat lower than the national average of 12%.

Compared with graduates of other universities, more Virginia Tech alumni have "great lives," which Gallup defines as thriving in all five well-being elements. One in six Virginia Tech graduates (16%) are thriving in all five well-being elements: purpose, social, financial, community and physical, higher than the national average of 10% among college graduates.

The Corps of Cadets, Virginia Tech's student military and citizen leader community, leads the way in well-being. More than one-quarter of cadets (28%) are thriving in all five elements, nearly three times the national average for college graduates. Given the program's focus on leadership, it is not surprising that 52% of the Corps respondents indicate that they felt well-prepared for life after college.

A high proportion of Virginia Tech alumni are emotionally attached to their university, particularly compared with alumni from other schools. More than four in 10 (42%)

Virginia Tech alumni feel emotionally attached to the university, more than twice as high as the national average (18%). More than half strongly agree that Virginia Tech was the perfect school for them and that they couldn't imagine a world without it, one of the two component questions. This may be related to how well they feel Virginia Tech prepared them for life outside of college.

Nationally, the odds of graduates being emotionally attached to their alma mater are nearly nine times higher if graduates feel their school prepared them well for life outside of college. Forty-three percent of Virginia Tech alumni feel they were well-prepared for life after college, compared with 29% nationally. **Some of Gallup's most important findings include:**

GREAT EXPERIENCES: ALUMNI ATTACHMENT

- More than four in 10 (42%) Virginia Tech alumni are emotionally attached to their university, far exceeding the rate among college graduates nationally (18%), as well as the rate among graduates of other research institutions (20%).
- More than half of Virginia Tech alumni strongly agree that the university was the perfect school for them (53%) and that they can't imagine a world without it (52%).
- Virginia Tech alumni who participated in co-curricular activities are more than twice as likely to score as emotionally attached, according to two questions that measure graduates' sense of connection to their school.
- The odds of Virginia Tech graduates being emotionally attached to their alma mater are more than five times higher if they strongly agree that their school prepared them well for life outside of college, and are nearly six times higher if they strongly agree that their college was passionate about the long-term success of its students.
- Forty-three percent of Virginia Tech graduates strongly agree that the university prepared them well for life after college.
- Alumni who strongly agree that their professors cared about them as a person are four times as likely to have an emotional attachment to Virginia Tech as those who do not strongly agree that they had this experience.

GREAT LIVES: WELL-BEING

- One in six (16%) Virginia Tech alumni are thriving in all five well-being elements, compared with 10% nationally, 11% in other research universities and 12% in SCHEV-approved peer institutions.
- Just 12% of Virginia Tech alumni are not thriving in any of the five well-being areas, compared with 18% nationally and 16% among the SCHEV-approved peer institutions and research university comparison groups.
- Virginia Tech graduates exceed the national average, as well as graduates of SCHEV-approved peer institutions and research universities, in each element of well-being: 60% are thriving in purpose well-being, 57% in social well-being, 56% in financial well-being, 52% in community well-being and 41% in physical well-being.
- Corps of Cadets alumni are highly likely to be thriving in all elements of well-being: 73% are thriving in purpose well-being, and 74% are thriving in financial well-being.
- Virginia Tech alumni who volunteer their time are more likely to be thriving in all elements of well-being than those who do not. Nearly one-quarter of alumni (23%) who volunteer more than 20 hours a week are thriving in all five elements, compared with 10% of those who do not volunteer at all. Even one to five hours of volunteering a month is positively related with higher well-being.

GREAT JOBS: WORKPLACE ENGAGEMENT

- Two-thirds of Virginia Tech alumni are currently employed full time for an employer, higher than the national average (58%). Virginia Tech alumni are very unlikely to be unemployed; only 1% are unemployed and looking for work.
- Almost half of employed Virginia Tech graduates (46%) are engaged at their workplaces, compared with 39% of national college graduates.
- Forty-three percent of alumni agree that Virginia Tech prepared them well for life outside of college, well above the national average of 29% and the average of 28% for other research universities.
- Eighteen percent feel they had a mentor who encouraged them to pursue their goals. Those who had a mentor are more than twice as likely to be engaged at work.
- Twenty-seven percent say they were extremely active in co-curricular organizations while at Virginia Tech. Students who were active in these organizations are nearly twice as likely to be engaged at work.
- Thirty percent of Virginia Tech alumni had an internship or job that allowed them to apply what they learned in the classroom. Participation in internships is also increasing; 42% of recent alumni (2010-2014) say they had an internship while at Virginia Tech.



GREAT EXPERIENCES:

ALUMNI ATTACHMENT

Gallup explores the connection between the "customers of higher education" and their alma mater by looking at their level of agreement with two questions: "I can't imagine a world without [College name]" and "[College name] was the perfect school for people like me." Graduates who strongly agree with both items are considered "emotionally attached" to their alma mater. Slightly more than half of the respondents strongly agree that Virginia Tech was the perfect school for them (53%) and that they can't imagine a world without it (52%).

Virginia Tech alumni are more likely to be emotionally attached to their university than alumni of other universities, either in the national sample or compared with peer institutions, such as other research universities or SCHEV-approved peer institutions. More than four in 10 (42%) Virginia Tech graduates are emotionally attached to their alma mater, which is more than double the average of all college graduates nationwide (18%). Far fewer Virginia Tech alumni are emotionally unattached (3%) than the national average (9%). The majority of all students fall somewhere in between and are neither emotionally attached nor emotionally unattached.

In the national study, the odds of graduates being emotionally attached to their alma mater are nearly nine times higher if graduates strongly agree that their school prepared them well for life outside of college, and the odds are more than eight times higher if they strongly agree that their college was passionate about the long-term success of its students.

ALUMNI ATTACHMENT

	VIRGINIA TECH	NATIONAL GPI	RESEARCH UNIVERSITIES	SCHEV-APPROVED PEER INSTITUTIONS
Emotionally Attached	42%	18%	20%	23%
Emotionally Unattached	3%	9%	9%	7%
Others (Neither Emotionally Attached nor Emotionally Unattached)	55%	73%	71%	70%

Nearly one-quarter of Virginia Tech graduates strongly agree that their university was passionate about the long-term success of its students, which is on par with the national Gallup-Purdue Index average but somewhat higher than their SCHEV-approved peer institutions (17%) and other research universities (18%).

Virginia Tech is passionate about the long-term success of its students.

% Strongly agree

VIRGINIA TECH	NATIONAL GPI	RESEARCH UNIVERSITIES	SCHEV-APPROVED PEER INSTITUTIONS
24%	24%	18%	17%

Virginia Tech alumni are far more likely to believe their university prepared them well for life outside of college (43%) than are college graduates nationally (29%), graduates of other research universities (28%) or SCHEV-approved peer comparison schools (30%).

Virginia Tech prepared me well for life outside of college.

% Strongly agree

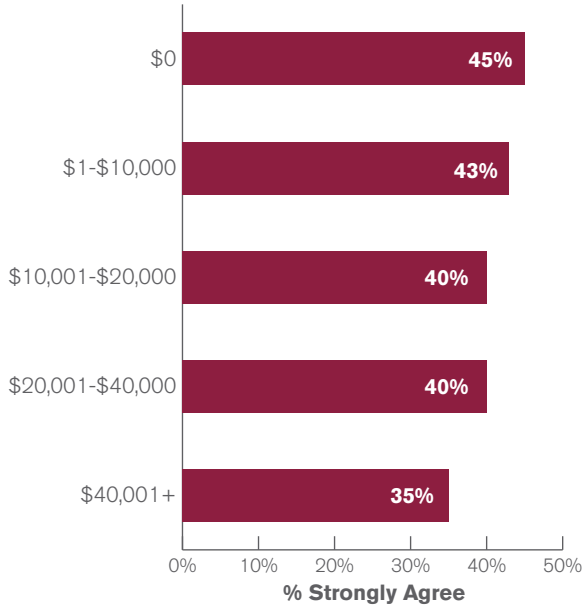
VIRGINIA TECH	NATIONAL GPI	RESEARCH UNIVERSITIES	SCHEV-APPROVED PEER INSTITUTIONS
43%	29%	28%	30%

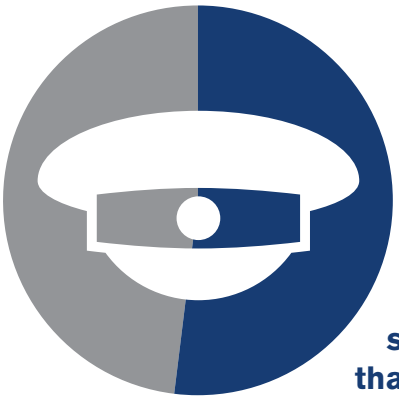
STUDENT LOANS AFFECT FEELINGS OF PREPAREDNESS FOR LIFE AFTER COLLEGE

Overall, about two in five Virginia Tech alumni (38%) report taking out loans to fund their education, which is lower than the national average and the percentage at other research institutions (48% and 45%, respectively). One in five (21%) Virginia Tech graduates report borrowing more than $10,000 in loans.

More recent graduates (1990 through 2014) report taking out larger loans. Nearly half of those alumni (46%) took out loans, while more than one-third (37%) report borrowing $10,000 or more. Of recent graduates, those with smaller loans are significantly more likely to feel well-prepared for life outside of college.

VIRGINIA TECH PREPARED ME WELL FOR LIFE OUTSIDE OF COLLEGE. (BY LOAN AMOUNT FOR RECENT GRADS, 1990-2014)





More than half (52%) of the Corps of Cadets respondents strongly agree that their university prepared them well for life after college.

Additionally, involvement in co-curricular activities is a positive indicator of alumni attachment. More than half (52%) of the Corps of Cadets respondents strongly agree that their university prepared them well for life after college.

Graduates who are emotionally attached to their college or university are more likely to be thriving in all elements of well-being and more likely to be engaged at work.



GREAT LIVES

WELL-BEING

Virginia Tech alumni are more likely than the national college graduate comparison group, as well as graduates in their SCHEV-approved peer institution and research university cohorts, to be thriving in every element of their well-being. Roughly one in six (16%) are thriving in all five well-being elements, compared with 10% nationally. Additionally, 12% are not thriving in any of the elements, which is lower than the national average as well as their SCHEV-approved peer institution and research university cohorts.

Well-Being Elements

THRIVING IN	VIRGINIA TECH	NATIONAL GPI	RESEARCH UNIVERSITIES	SCHEV-APPROVED PEER INSTITUTIONS
No Elements	12%	18%	16%	16%
One Element	16%	20%	20%	18%
Two Elements	19%	18%	18%	18%
Three Elements	19%	18%	18%	19%
Four Elements	19%	15%	16%	16%
Five Elements	16%	10%	11%	12%

Three in five Virginia Tech graduates (60%) are thriving in purpose well-being, meaning the majority of Virginia Tech alumni like what they do each and every day and are motivated to achieve their goals.

Fifty-seven percent of Virginia Tech alumni are thriving in their social well-being. Graduates thriving in social well-being have strong support relationships and love in their life. Virginia Tech's graduates' thriving levels in the social well-being element are higher than all college graduates nationwide (49%).

Similarly, 56% of Virginia Tech alumni are thriving in the element that is more traditionally associated with their long-term success — financial well-being. Virginia Tech graduates lead the national average (42%), meaning that more Virginia Tech graduates feel financially secure, and fewer are worrying about money.

A little more than half of Virginia Tech alumni (52%) are thriving in community well-being, slightly higher than the national average (46%), indicating that at least half of the graduates like where they live and have pride in their community.

In line with the national average, Virginia Tech alumni are least likely to be thriving in their physical well-being. Four in 10 (41%) are considered thriving in their physical well-being, slightly higher than the national average (35%) or their SCHEV-approved peer institution and research university cohorts.

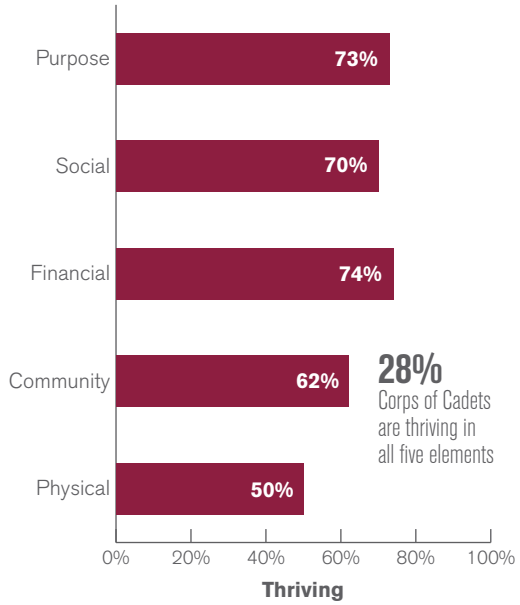
	VIRGINIA TECH	NATIONAL GPI	RESEARCH UNIVERSITIES	SCHEV-APPROVED PEER INSTITUTIONS
PURPOSE WELL-BEING	60%	52%	52%	54%
SOCIAL WELL-BEING	57%	49%	50%	49%
FINANCIAL WELL-BEING	56%	42%	46%	47%
COMMUNITY WELL-BEING	52%	46%	47%	49%
PHYSICAL WELL-BEING	41%	35%	35%	37%

Of particular note, 28% of the Corps of Cadets respondents are thriving in all five elements, almost triple the national average of college graduates. Corps alumni are particularly likely to be thriving in financial well-being.

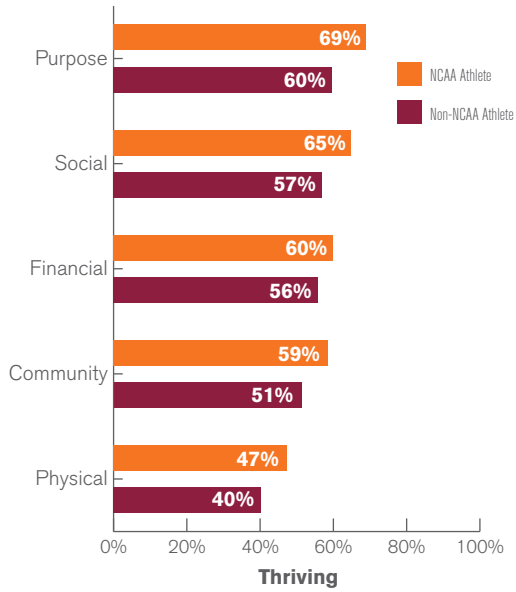
Virginia Tech graduates who participated in NCAA athletics are also more likely to report thriving in the various well-being elements, with 19% thriving in all five elements. Former student-athletes are particularly likely to be thriving in purpose (69%) and social (65%) well-being.

Virginia Tech's well-being statistics are positive considering the strong relationship between employee engagement and well-being. According to the national study, college graduates are nearly five times more likely to be thriving in all five elements of well-being if they are engaged at work.

CORPS OF CADETS WELL-BEING



STUDENT-ATHLETE WELL-BEING





GREAT JOBS

WORKPLACE ENGAGEMENT

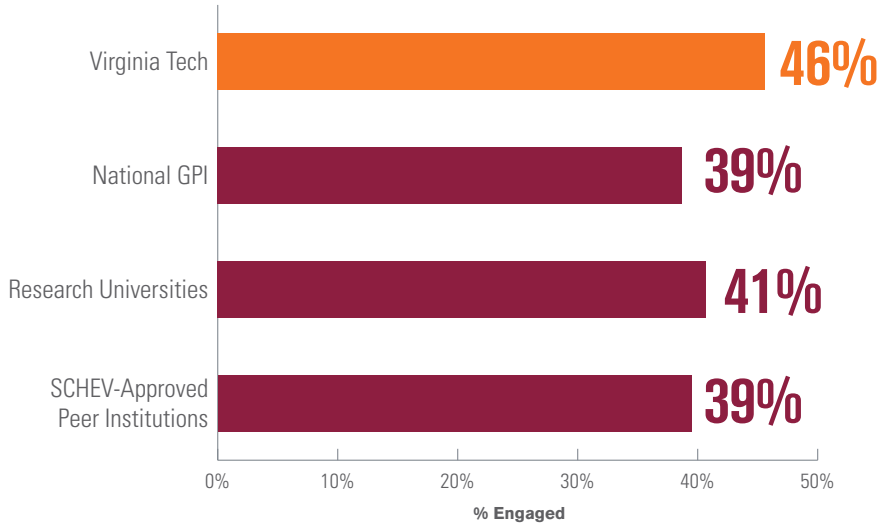
Two-thirds of Virginia Tech alumni, including 66% of men and 68% of women, are currently employed full time for an employer, which is higher than the national average (58%). Virginia Tech alumni are also more likely to be employed than graduates of SCHEV-approved peer schools or other research universities. Additionally, 1% of Virginia Tech alumni are unemployed and looking for work, compared with 3% of other college graduates.

	VIRGINIA TECH	NATIONAL GPI	RESEARCH UNIVERSITIES	SCHEV-APPROVED PEER INSTITUTIONS
Employed Full Time (Employer)	67%	58%	59%	59%
Employed Full Time (Self)	4%	5%	6%	6%
Employed Part Time, Do Not Want Full Time	9%	11%	11%	10%
Unemployed	1%	3%	2%	3%
Employed Part Time, Want Full Time	3%	5%	5%	4%
Not in Workforce	16%	18%	17%	18%

While the overall employment numbers are positive for Virginia Tech alumni, the aim of a university is not just to prepare their students for a job but to prepare them for a good job — that is, a full-time job for an employer where they are engaged at work. Virginia Tech graduates outperform their peers in this area as well.

Nearly half of Virginia Tech alumni (46%) who are employed full time for

EMPLOYED VIRGINIA TECH ALUMNI ENGAGEMENT



an employer are engaged at work, higher than the 39% of college graduates nationwide who are engaged. Additionally, 8% of Virginia Tech alumni are actively disengaged at work, lower than the national average of 12%. Virginia Tech alumni are also doing better on employee engagement compared with their SCHEV-approved peer institution or research university cohorts.

This higher level of engagement among working Virginia Tech graduates is important for employers because engaged workers are the lifeblood of their organizations. Gallup workplace engagement studies show that business or work units that score in the top half of their organization in employee engagement have nearly double the odds of success (based on a composite of financial, customer retention, safety, quality, shrinkage and absenteeism metrics) compared with those in the bottom half.

Compared with bottom-quartile units, top-quartile units have:

- 10% higher customer loyalty/engagement
- 22% higher profitability
- 21% higher productivity
- 25% lower turnover for high-turnover companies (those with 60% or higher annualized turnover)
- 65% lower turnover for low-turnover companies (those with 40% or lower annualized turnover)
- 48% fewer safety incidents
- 28% less shrinkage
- 37% lower absenteeism
- 41% fewer patient safety incidents
- 41% fewer quality incidents (defects)

The national Gallup-Purdue Index shows that employed graduates who are engaged at work have much greater odds of thriving in all five elements of well-being.

EXPERIENTIAL LEARNING: AN AREA OF FUTURE FOCUS

Employed Virginia Tech alumni currently enjoy relatively high levels of engagement within the workforce. Findings from the national Gallup-Purdue Index indicate that strong relationships exist between having deep and meaningful experiential college learning opportunities and feeling supported during the undergraduate experience and employee engagement later in life. In the national study, graduates who strongly agree that they had internships or jobs where they were able to apply what they were learning in the classroom, were actively involved in co-curricular activities or organizations and worked on a project that took a semester or more to complete had two times greater odds of being engaged at work than those who did not strongly agree that they had these experiences. (See http://www.gallup.com/poll/182306/big-six-college-experiences-linked-life-preparedness.aspx.)

While attending Virginia Tech, I had an internship or job that allowed me to apply what I was learning in the classroom.

% Strongly agree

VIRGINIA TECH	NATIONAL GPI	RESEARCH UNIVERSITIES	SCHEV-APPROVED PEER INSTITUTIONS
30%	30%	29%	29%

Seven percent of Virginia Tech alumni strongly agree that they had all three experiences, which is largely comparable to both the national average and their peer institutions. Roughly three in 10 strongly agree that they had an internship or job (30%) or worked on a project that took one semester or more to complete (31%), both in line with the national average and their peer institutions.

Knowing the importance of applied internships or jobs, as well as involvement in long-term projects, this may be a future area of emphasis for Virginia Tech.

Participation in internships or academically relevant jobs has substantially increased in recent years, with 42% of the most recent graduates (2010-2014) strongly agreeing that they had such a job. A similar increase is seen among college graduates nationally.

While attending Virginia Tech, I had a project that took one semester or more to complete.

% Strongly agree

VIRGINIA TECH	NATIONAL GPI	RESEARCH UNIVERSITIES	SCHEV-APPROVED PEER INSTITUTIONS
31%	32%	31%	29%

Applied learning on the job or in the classroom is not the only form of experiential learning that is important. Being active in co-curricular activities and organizations may also predict student success after college, and this is one area in which Virginia Tech stands out. More than one-quarter (27%) strongly agree that they were extremely active in co-curricular activities and organizations while attending Virginia Tech, compared with the national average of 20%. If Virginia Tech alumni strongly agree that they were extremely active in co-curricular activities as undergraduates, their odds of being engaged at work were 1.7 times higher, and their odds of thriving in purpose well-being were 1.6 times higher.

I was extremely active in extracurricular activities and organizations while attending Virginia Tech.

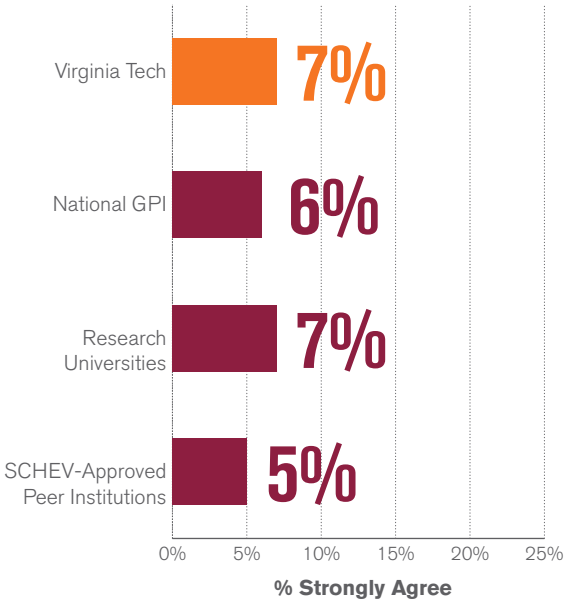
% Strongly agree

VIRGINIA TECH	NATIONAL GPI	RESEARCH UNIVERSITIES	SCHEV-APPROVED PEER INSTITUTIONS
27%	20%	19%	17%

The ability to provide a student with all three experiences is important, as Gallup's findings show that students are two times more likely to be engaged at work if they strongly agree that they experienced all three of these during their undergraduate years. While Virginia Tech graduates compare favorably with other graduates on the co-curricular metric, they are on par with alumni of other universities in experiencing all three.

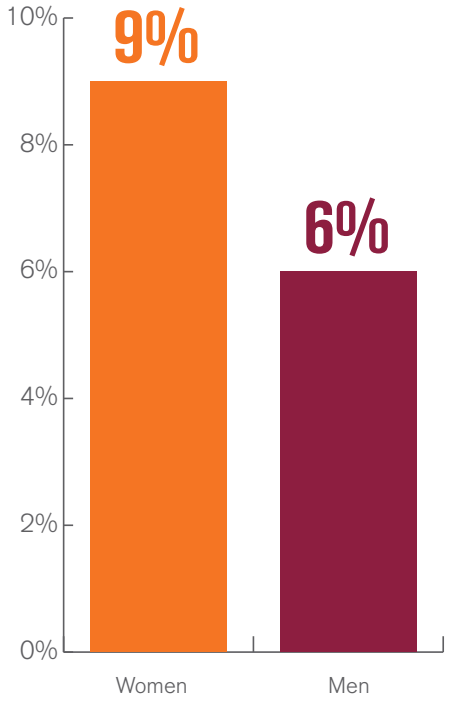
EXPERIENTIAL LEARNING

EXPERIENCED INTERNSHIP/JOB, SEMESTER OR MORE PROJECT AND EXTRACURRICULAR ACTIVITIES



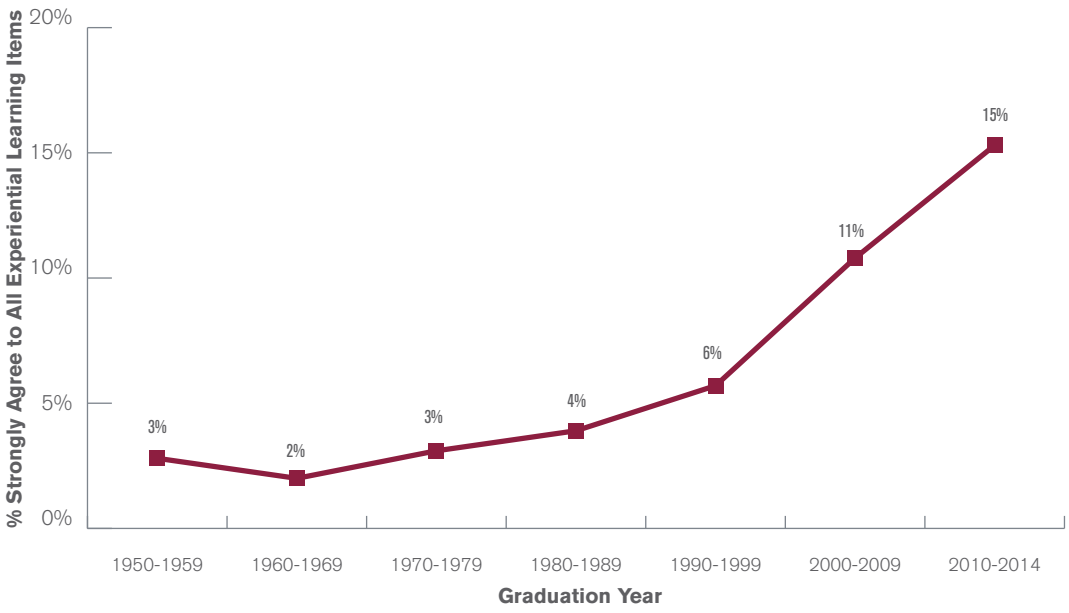
Female Virginia Tech graduates are significantly more likely than male graduates to agree that they had experiential learning opportunities. Nine percent of female graduates say they experienced all three opportunities, compared with 6% of male graduates.

EXPERIENTIAL LEARNING BY GENDER



Additionally, recent graduates are significantly more likely to agree that they had experiential learning opportunities while at Virginia Tech. About one in seven recent graduates — 15% of those who graduated between 2010 and 2014 — say they had experiential learning opportunities, compared with 6% of Virginia Tech students who graduated in the 1990s.

ALUMNI WHO HAD EXPERIENTIAL LEARNING OPPORTUNITIES, BY DECADE



VIRGINIA TECH GRADUATES LOWER ON EMOTIONAL SUPPORT

Experiential learning is not the only metric that is related to future success. Nationally, students who recall receiving support from professors and mentors while attending a college are more likely to be thriving in all five elements of well-being and are more than twice as likely to be engaged in the workplace.

Gallup measures this support with three questions related to professors and mentorship: whether professors at their school cared about them as people, whether they had a mentor who encouraged them to pursue their goals and dreams and whether they had at least one professor who made them excited about learning.

Twenty-three percent of Virginia Tech alumni strongly agree that professors cared about them as a person, slightly lower than the national average (27%) but significantly higher than their peers in the SCHEV-approved peer institution (13%) and research university cohorts (16%).

My professors at Virginia Tech cared about me as a person.

% Strongly agree

VIRGINIA TECH	NATIONAL GPI	RESEARCH UNIVERSITIES	SCHEV-APPROVED PEER INSTITUTIONS
23%	27%	16%	13%

Virginia Tech alumni also slightly trail the national average in having had a mentor who encouraged their goals and dreams but are roughly on par with their peer institutions.

While attending Virginia Tech, I had a mentor who encouraged me to pursue my goals and dreams.

% Strongly agree

VIRGINIA TECH	NATIONAL GPI	RESEARCH UNIVERSITIES	SCHEV-APPROVED PEER INSTITUTIONS
18%	22%	18%	17%

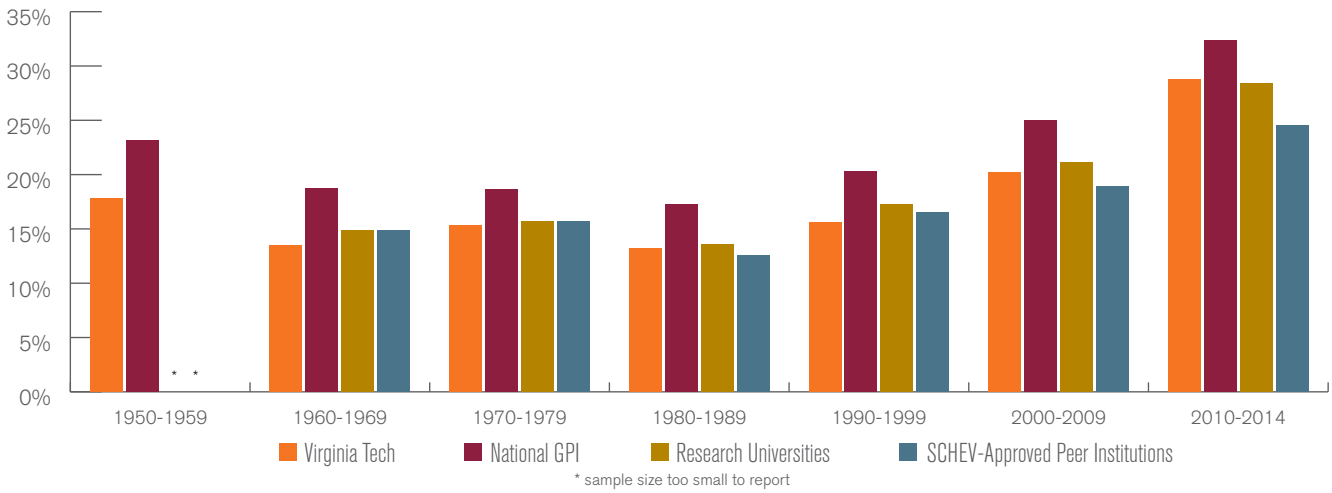
Two-thirds of Virginia Tech alumni strongly agree that they had at least one professor who made them excited about learning, which is slightly higher than the national average for college graduates.

I had at least one professor at Virginia Tech who made me excited about learning.

% Strongly agree

VIRGINIA TECH	NATIONAL GPI	RESEARCH UNIVERSITIES	SCHEV-APPROVED PEER INSTITUTIONS
66%	63%	61%	61%

HAD A MENTOR RELATIONSHIP AS UNDERGRADUATE
(% STRONGLY AGREE)



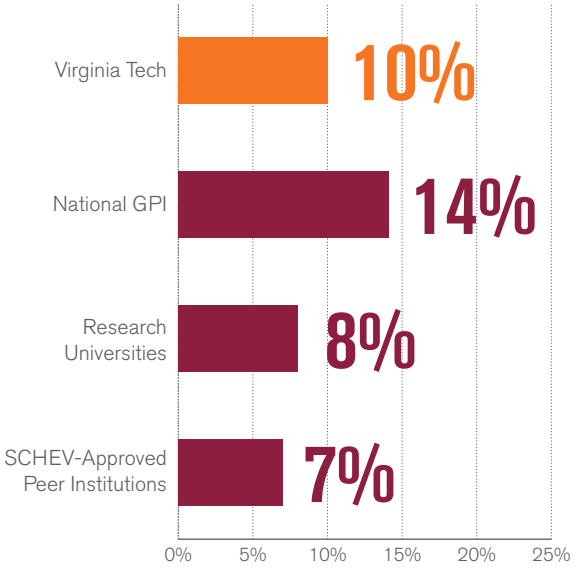
While Virginia Tech alumni are less likely than national college graduates to strongly agree that they had a mentor who encouraged them to pursue their goals and dreams during their undergraduate experience, more recent graduates are more likely than older graduates to have had this experience.

Nearly three in 10 (29%) recent Virginia Tech graduates (2010-2014) strongly agree that they had this critical mentor relationship during their undergraduate experience, on par with the 25% of alumni from SCHEV-approved peer institutions and other research universities (28%). Virginia Tech still lags behind the national average of recent graduates, however.

One in 10 Virginia Tech alumni say they felt supported by professors and mentors, defined as strongly agreeing with all three statements. This is lower than the national average for college graduates (14%) but still higher than their SCHEV-approved peer institution or research university cohorts.

The support that graduates recall receiving from their institution as students can be important well into their postgraduate career. Alumni are twice as likely to be engaged at work if they believe professors cared about them as a person, and are more than twice as likely to be engaged at work if they say they had a mentor who encouraged them to pursue their goals.

EXPERIENCED SUPPORT



If supported, the odds of Virginia Tech alumni being engaged at work are:

2.0x higher if my professors at Virginia Tech cared about me as a person.

1.6x = *National GPI Average*

2.1x higher if I had at least one professor at Virginia Tech who made me excited about learning.

2.0x = *National GPI Average*

2.3x higher if I had a mentor who encouraged me to pursue my goals and dreams.

2.2x = *National GPI Average*

2.6x **higher if Virginia Tech graduates experienced all three.**

2.3x = *National GPI Average*

UT PROSIM (THAT I MAY SERVE)

Virginia Tech's motto Ut Prosim (That I May Serve) is a timeless ideal for the school's land-grant values of discovery, learning and engagement, which serve as a strong foundation. It also represents a service ethos that has permeated the university for more than 100 years. Community service, or volunteerism, is just one important element of that ideal. Respondents were asked a series of questions regarding their feelings about and involvement in community service. Nearly half of all Virginia Tech alumni strongly agree they can help individuals in need through community service, and four in 10 strongly agree they can make a difference in their community.

Through community service . . .

	% STRONGLY AGREE
I can help individuals in need.	47%
I can make a difference in my community.	40%
I can apply my knowledge in ways that solve "real-life" problems.	34%
I can help promote social change.	30%

Respondents were also asked about the average number of hours per month they spend in unpaid community service. Virginia Tech alumni donate a significant amount of their time. More than three-quarters of alumni (76%) report volunteering at least one hour a month, and one in seven (14%) volunteer more than 20 hours a month. Older graduates are more likely to volunteer a significant amount of their time. Of recent graduates (2010-2014), 73% volunteer at least one hour a month, and 8% volunteer more than 20 hours a month. These numbers are self-reported and may be exaggerated due to social desirability.

Participation in unpaid community service or volunteer activities in last 12 months

GRADUATION YEAR	# HOURS VOLUNTEERED PER MONTH (ON AVERAGE)				
	0	1-5	6-10	11-20	20+
1950-59	27%	26%	18%	11%	19%
1960-69	24%	26%	18%	12%	20%
1970-79	22%	32%	17%	11%	17%
1980-89	17%	37%	18%	11%	18%
1990-99	20%	41%	16%	9%	14%
2000-09	30%	42%	13%	6%	9%
2010-14	28%	44%	15%	6%	8%
Total	**24%**	**37%**	**16%**	**9%**	**14%**

Generally speaking, the more time respondents spend participating in unpaid community service or volunteer activities, the more likely they are to be thriving in each of the five well-being elements. Those who volunteer at least one hour a month are substantially more likely to be thriving in community well-being than those who do not volunteer at all.

Alumni who spend more time volunteering are also more likely to be thriving in a greater number of well-being elements. Nearly one-quarter of those who volunteer more than 20 hours a month (23%) are thriving in all five elements, compared with 10% of those who do not volunteer at all.

FINAL THOUGHTS

Virginia Tech appears to have set its graduates up for success based on several metrics, measured by a holistic look at life. One in six alumni are thriving in all five elements of well-being, including 60% thriving in purpose well-being and 57% in social well-being. Two-thirds of Virginia Tech alumni are currently employed full time for an employer, higher than the national average.

Virginia Tech alumni also rate their current life a 7.9 on a 10-point scale, where 10 is the best possible life,[1] compared with 7.4 among college graduates nationally. In addition, Virginia Tech alumni expect that their lives will get better, rating their lives in five years at 8.7 on the 10-point scale, compared with 8.3 among college graduates in general.

These results, coupled with positive outcomes on both well-being and employee engagement, indicate that graduates are achieving in many different areas. The results also indicate that the university has room to evolve and improve student outcomes further, particularly in the area of the college experiences it offers and encourages among its student body. This research is an important step in identifying these areas for improvement.

1 Based on the Cantril Self-Anchoring Striving Scale



METHODOLOGY

Results for the Virginia Tech study are based on Web surveys conducted March 10-April 1, 2015, with a sample of 13,994 Virginia Tech undergraduate alumni. The sample of alumni email addresses was provided by Virginia Tech. Alumni were included in the study if the institution had an email address on file.

Virginia Tech records indicate approximately 99,741 alumni were invited to participate in the study. Of those, 13,994 completed the survey.

Results for the Gallup-Purdue Index, the study used for comparison purposes, are based on Web surveys conducted Feb. 4-March 7, 2014, with a random sample of 29,560 respondents with a bachelor's degree or higher, aged 18 and older, with Internet access, living in all 50 U.S. states and the District of Columbia.

The Gallup-Purdue Index sample was compiled from two sources: the Gallup Panel and the Gallup Daily tracking survey. The Gallup Panel is a proprietary, probability-based longitudinal panel of U.S. adults who are selected using random-digit-dial (RDD) and address-based sampling methods. The Gallup Panel is not an opt-in panel. The Gallup Panel includes 60,000 individuals, and Panel members can be surveyed by phone, mail or Web. Gallup Panel members with a college degree and access to the Internet were invited to take the Gallup-Purdue Index survey online. The Gallup Daily tracking survey sample includes national adults with a minimum quota of 50% cellphone respondents and 50% landline respondents, with additional minimum quotas by time zone within region. Landline and cellular telephone numbers are selected using RDD methods. Landline respondents are chosen at random within each household on the basis of which member had the most recent birthday. Gallup Daily tracking survey respondents with a college degree, who agreed to future contact, were invited to take the Gallup-Purdue Index survey online.

Gallup-Purdue Index interviews are conducted via the Web, in English only. Samples are weighted to correct for unequal selection probability and nonresponse. The data are weighted to match national demographics of gender, age, race, Hispanic ethnicity, education and region. Demographic weighting targets are based on the most recent Current Population Survey figures for the aged 18 and older U.S. bachelor's degree or higher population.

All reported margins of sampling error for the Gallup-Purdue Index of all college graduates include the computed design effects for weighting.

> For results based on the total sample of those with a bachelor's degree or higher, the margin of sampling error is ±0.9 percentage points at the 95% confidence level.
>
> For results based on employee engagement of those with a bachelor's degree or higher, the margin of sampling error is ±1.0 percentage point at the 95% confidence level.

In addition to sampling error, question wording and practical difficulties in conducting surveys can introduce error or bias into the findings of public opinion polls.

For complete Gallup-Purdue Index results, visit http://products.gallup.com/168857/gallup-purdue-index-inaugural-national-report.aspx.



ABOUT VIRGINIA TECH

Virginia Polytechnic Institute and State University, better known as Virginia Tech, is a public land-grant university with a 2,600-acre main campus in Blacksburg, Virginia, as well as educational facilities in six regions and a study abroad site in Switzerland. The commonwealth's third-largest university and a leading research institution, Virginia Tech is nestled in the Blue Ridge Mountains and offers more than 250 undergraduate and graduate degree programs to more than 31,000 students and manages a research portfolio of more than $496 million. The university fulfills its land-grant mission of transforming knowledge to practice through technological leadership and by fueling economic growth and job creation locally, regionally and across Virginia.

As a public land-grant university serving the Commonwealth of Virginia, the nation and the world community, the discovery and dissemination of new knowledge are central to its mission. Through its focus on teaching and learning, research and discovery, and outreach and engagement, the university creates, conveys and applies knowledge to expand personal growth and opportunity, advance social and community development, foster economic competitiveness and improve the quality of life.

Virginia Tech attracts motivated, high-achieving students, staff and faculty who excel in an academically energized, technologically creative and culturally inclusive learning community. The university's bold spirit, climate of innovation and service, open boundaries of study and research, and entrepreneurial approach positively transform lives and communities.



ABOUT GALLUP

Gallup delivers forward-thinking research, analytics and advice to help leaders solve their most pressing problems. Combining more than 75 years of experience with its global reach, Gallup knows more about the attitudes and behaviors of the world's constituents, employees and customers than any other organization. Gallup consultants help private and public sector organizations boost organic growth through measurement tools, strategic advice and education. Gallup's 2,000 professionals deliver services at client organizations, through the Web and in nearly 40 offices around the world.

ABOUT HEALTHWAYS

Healthways is an independent, global well-being company that provides comprehensive improvement solutions to increase performance and lower healthcare costs in its client populations. Dedicated to creating a healthier world one person at a time, Healthways uses the science of well-being and behavior change to produce and measure well-being improvement for its customers. Healthways provides personalized support to individuals to optimize each participant's health and productivity and to reduce health-related costs, and also advises leaders on how to maximize well-being across an organization.

GALLUP®

World Headquarters

The Gallup Building
901 F Street, NW
Washington, D.C. 20004

t +1.877.242.5587
f +1.202.715.3045

www.gallup.com

Virginia Tech Board of Visitors Meeting

Information Session

Tuesday, August 27, 2024
9:00 a.m.

The Inn – Latham Ballroom
Virginia Tech Campus

Financial Overview

- Mr. Simon Allen, Vice President for Finance and University Treasurer

Constituent Reports

- Ms. Leslie Orellana, Undergraduate Student Representative to the Board
- Mr. William Poland, Graduate/Professional Student Representative to the Board
- Ms. LaTawnya Burleson, Staff Representative to the Board
- Dr. Janice Austin, Administrative and Professional Faculty Representative to the Board
- Ms. Rachel Miles, Faculty Representative to the Board

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Financial Overview

Simon Allen,

Vice President for Finance and Chief Financial Officer

August 27, 2024

Virginia's Restructuring Act

- **2005 General Assembly passed The Restructured Higher Education Financial and Operations Act**

- **Purpose:**
  - ❑ Provide varying levels of operational autonomy to public higher education institutions
  - ❑ Reaffirm that tuition and fee responsibility resides with the institutions' Board of Visitors, and
  - ❑ Require higher education institutions to commit to 12 state goals including:
    - ✓ Access for Virginia residents
    - ✓ Affordability
    - ✓ Academic programs that meet the commonwealth's workforce needs
    - ✓ Improved retention and timely completion
    - ✓ Regional economic development
    - ✓ Maintain financial and administrative standards
    - ✓ Campus safety and security

- **The 2005 Act covered authorities in these operational areas:**
  1. Finance and Accounting
  2. Human Resources
  3. Capital Outlay and Construction
  4. Information Technology
  5. Procurement and Surplus Property
  6. Leasing and Real Estate Management

- **2006 "Management Agreement" formalized relationship between VT and the commonwealth**

Virginia's Restructuring Act

- Allows for varying levels of autonomy (Tier 1 – 3) based on administrative expertise and management
  - **Virginia Tech is a Tier III institution**, the highest level of autonomy, with delegated authority in all six areas

- Authorities granted in key areas:
  - ***Finance and Accounting***
    - Authority to implement own financial management policies and system
    - Operation of independent university accounting system
    - Ability to control and manage moneys generated by the university and to retain resulting interest earnings
  - ***Procurement***
    - Authority to implement procurement policies related to the purchase of goods, services, insurance and construction
  - ***Capital Outlay and Construction***
    - For general fund projects, use state process for pre-appropriation but institutional process for post-appropriation project management
    - Board of Visitors may establish and initiate nongeneral fund projects
    - May designate a Building Official and establish internal review unit

- Provides for financial incentives including earned interest on tuition and fees and all other nongeneral fund E&G revenues and automatic re-appropriation of year-end balances

- Requires periodic assessment of institutional performance standards against benchmarks

Commonwealth Financial Planning Timelines

July	Six-Year Plan	Executive Budget Development	University Develops and Submits Draft Six-Year Plan to State
August			SCHEV Works on Statewide Issues
September			University Responds to State Comments on Six-Year Plan
October			BOV Reviews Final Six-Year Plan
November			DPB Reviews Agency Submissions
December			Governor's Executive Budget Proposal
January		General Assembly Session	General Assembly Session
February			Money Committees Reports
March			General Assembly Session Closes
April		Final Consideration and Approval of Appropriation Act	Reconvened Session
May			Appropriation Act
June/July			New Fiscal Year Begins
	----------2024----------		----------2025----------

VT Board Review & Oversight

August / September

- **Annual Comprehensive Report on Advancement** #+
- **Financial Performance Report** *
- Report on Higher Ed Institutional Performance Measures (even years)
- Report on Gramm-Leach-Bliley Act Compliance and IT Security°
- Financial Summary of Faculty and Staff Merit Programs
- Ratification of Personnel Changes Report *^

November

- **Six-Year Plan (odd years)***+
- **Annual Report on Research Finances and Resources** #
- **Annual Report on University Debt Ratio & Debt Capacity** #+°
- **Annual Report on the University's Student Financial Aid Resources** #+
- **Annual Report on Investments and Quasi-Endowments** +
- Annual Report on Write-off of Delinquent Accounts
- Update on Advancement #
- Financial Performance Report *
- Ratification of Personnel Changes Report *^

March / April

- **Tuition and Fee Rates** *#+
- **Six-Year Capital Outlay Plan (odd years)**
- **University's Annual Financial Report**
- Update on Athletics – Financial Aspects (NCAA Report)
- Update on Advancement #
- Financial Performance Report *
- Ratification of Personnel Changes Report *^

June

- **University Operating & Capital Budgets** *#+
- **Update on Development of Six-Year Plan & Approval of Related Strategies (odd years)** +
- Faculty Compensation Plan *
- Compensation for Graduate Assistants *
- Hotel Roanoke Conference Center Commission Budget *
- Promotion, Tenure, & Continued Appointment *^
- Update on Advancement #
- Financial Performance Report *
- Ratification of Personnel Changes Report *^

* Requires full Board approval
\# Discusses Enterprise Risk Management topic
\+ Discusses Strategic Investment Priorities topic
° Acceptance item
^ Closed Session item

Vice President For Finance and Chief Financial Officer Organizational Chart

Executive Vice President & Chief Operating Officer
Amy Sebring



Vice President for Finance & Chief Financial Officer
Simon Allen



Board of Visitors: Finance and Resource Management Committee

Budget and Financial Planning



Assoc. Vice President for Budget & Financial Planning
Tim Hodge

University Controller



Assoc. Vice President for Finance & University Controller
Melinda West

Capital Budgeting and Financing



Assist. Vice President for Capital Budgeting & Financing
Rob Mann

Procurement



Assist. Vice President & Director
Reed Nagel

Administrative Operations



Director, Administrative Operations
Nancy Meacham

University Treasury



Assist. Vice President for Finance & Assoc. Treasurer
Mike Walsh

Financial Management



Director, Financial Management & Business Operations
David Crotts

Finance IT and Innovation



Director
Charlie Lisanti

Virginia Tech - Related Corporations

Virginia Tech Foundation, Inc.

Virginia Tech Athletic Fund, Inc.

Virginia Tech Applied Research Corporation

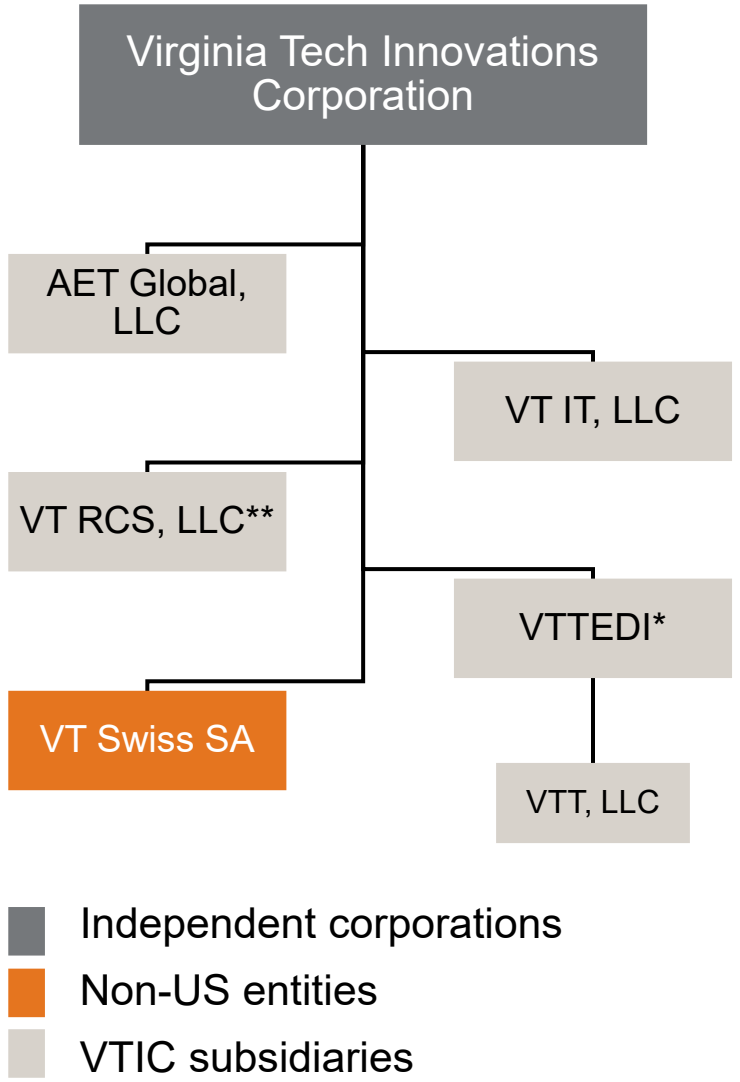
Virginia Tech Alumni Association

Virginia Tech Intellectual Properties, Inc.

Virginia Tech Corps of Cadets Alumni, Inc.

Virginia Tech India Research and Education Forum

Virginia Tech Services, Inc.



* Virginia Tech Transportation Economic Development, Inc.
** VT Research Contracting Services, LLC

Funding Classifications

 General Funds	 Nongeneral Funds
▪ Represent state taxpayer funds	▪ Revenues generated by state entities from operating activities
▪ Appropriated to Virginia Tech for: • Educational and General Programs • Support for Resident Students • Equipment Trust Fund • Maintenance Reserve • Capital Outlay Projects • Student Financial Aid • (Research Activities – limited)	▪ Major Categories: • Tuition and Fees • Sponsored Programs – external support • Sales and Services (AKA 'Auxiliary Enterprises') • Private donations/support • Miscellaneous charges and fees
▪ Primary source of state support and subject to state budget amendment	▪ All non-general fund sources except for private resources are considered “public funds”
▪ FY25: $0.44bn	▪ FY25: $1.8bn

State Funding Accounts for 18% of Operating Sources FY25 Budget ($ in millions)

	General Funds*	In-State T&F	Out-of-State T&F	All Other E&G Income	Private	Total
University Division (208) E&G	$ 288.5	$ 295.7	$ 440.5	$ 59.9	$ -	$ 1,084.6
CE/AES (229) E&G	92.9	-	-	17.1	-	110.0
Student Financial Aid	39.3	-	-	24.2	-	63.5
Auxiliary Enterprises		-	-	482.6	-	482.6
Sponsored Programs	20.4	-	-	489.7	-	510.1
All Other Programs (UMA)	3.6	-	-	14.5	-	18.2
Subtotal Public Resources	444.7	295.7	440.5	1,088.0	-	2,269.0
Virginia Tech Foundation	-	-		-	240.6	240.6
Other University-Related Entities	-	-	-	-	4.4	4.4
Total	**$ 444.7**	**$ 295.7**	**$ 440.5**	**$ 1,088.0**	**$ 245.0**	**$ 2,514.0**
% of total	*18%*	*12%*	*18%*	*43%*	*10%*	

* State General Fund support is 18% of all activities (after including private entities), 20% of the total university budget, but 27% of the University Division (208) E&G budget.

Operating Sources & Uses | University Consolidated

Cash Basis - $ in Thousands

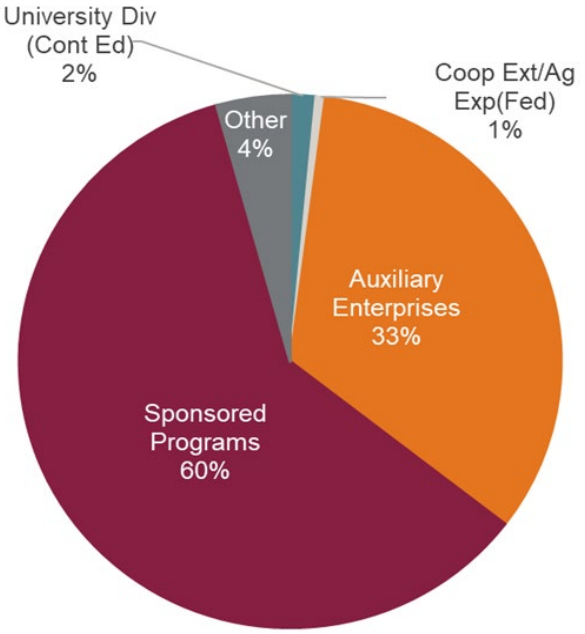
	FY22	FY23	FY24	FY24	
Sources	*Actual*	*Actual*	***Budget***	*Actual*	
Tuition & E&G Fees (net)	644,217	682,647	723,334	724,391	
State Appropriations	317,986	351,646	392,310	392,299	
Federal (VCE/AES)	15,912	13,605	17,261	17,258	
Federal, not sponsored(pandemic)	61,385	-	-	-	
Sponsored Programs(Direct & Indirect)	360,908	412,866	436,453	500,208	
Auxiliary Enterprise Revenue & Fees	388,506	430,535	461,541	471,049	
Other	65,632	66,204	84,762	82,783	
Total Operating Revenue	1,854,546	1,957,503	2,115,661	2,187,988	
Uses					
Personnel Costs					
Salaries, Stipends & Wages	860,380	933,668	1,024,129	1,023,248	
Fringe Benefits	259,910	274,582	313,540	301,066	
Financial Aid, Appropriated (a)	36,295	49,749	61,695	60,809	
General Expense & Services (Operating)	441,193	482,028	516,972	494,003	
Continuous Charges (utilities, leases, insurance	119,322	136,612	160,585	154,105	
Debt Service	31,816	34,611	48,456	48,436	
Total Operating Expenses	1,748,915	1,911,250	2,125,376	2,081,667	
Net from Operations	105,630	46,254	(9,715)	106,321	(b)

(a) In the Commonwealth of Virginia, appropriated student financial aid is a subset of the entire student financial aid program.

(b) While the University Division and Cooperative Extension/Agricultural Experiment Station Division E&G programs are balanced in accordance with state requirements, net from operations are possible with auxiliary enterprises (due to commitments, loan repayments), timing of external grant and contract activities, and certain capital activities. Obligations will be carried over and completed in the next fiscal year.

- Rating agencies expect 3-5% net
- VT's FY24 net is generated by several different business activities / timing:

Millions	
$ 20.7	Auxiliary Enterprise Carryover (estimate)
15.0	Repayment of Loans & Bond Covenant Requirements
2.1	Continuing Education & 229 Federal Timing
4.6	Committed Yet Unexpended Capital Funding
63.9	External Grants & Contracts Revenue
$ 106.3	Total



Summary of Net Position

Accrual Basis of Accounting
($ in Millions)

	Virginia Tech			Virginia Tech Foundation*		
	2021 *(restated)*	2022 *(restated)*	2023	2021	2022	2023
Assets	$ 3,291.9	$ 3,578.1	$ 4,168.5	$ 2,687.6	$ 2,667.8	$ 2,838.3
Deferred outflows	142.8	108.6	94.3	-	-	-
Liabilities	(1,533.5)	(1,299.3)	(1,630.3)	(957.8)	(952.5)	(1,001.3)
Deferred inflows	(86.1)	(262.1)	(130.6)			
Net position	$ 1,815.1	$ 2,125.3	$ 2,501.9	$ 1,729.8	$ 1,715.3	$ 1,837.0
Investment in capital assets	$ 1,521.3	$ 1,705.6	$ 1,891.2	$ 198.8	$ 235.3	$ 280.4
Restricted, nonexpendable	14.9	13.6	14.2	736.6	782.4	824.9
Restricted, expendable						
Scholarships, research, instruction and other	150.4	150.0	168.9	634.7	525.1	553.6
Capital projects	7.2	10.2	42.4	-	-	-
Debt service and auxiliary operations	79.2	85.3	97.1	-	-	-
Unrestricted	42.1	160.6	288.1	159.7	172.5	178.1
Net position	$ 1,815.1	$ 2,125.3	$ 2,501.9	$ 1,729.8	$ 1,715.3	$ 1,837.0

*Transactions between the university and the foundation have not been eliminated in the financial statements.

The Foundation's 'Balance Sheet' is shown as a component within VT's audited financials

Deep Dive: Annual Capital Plan

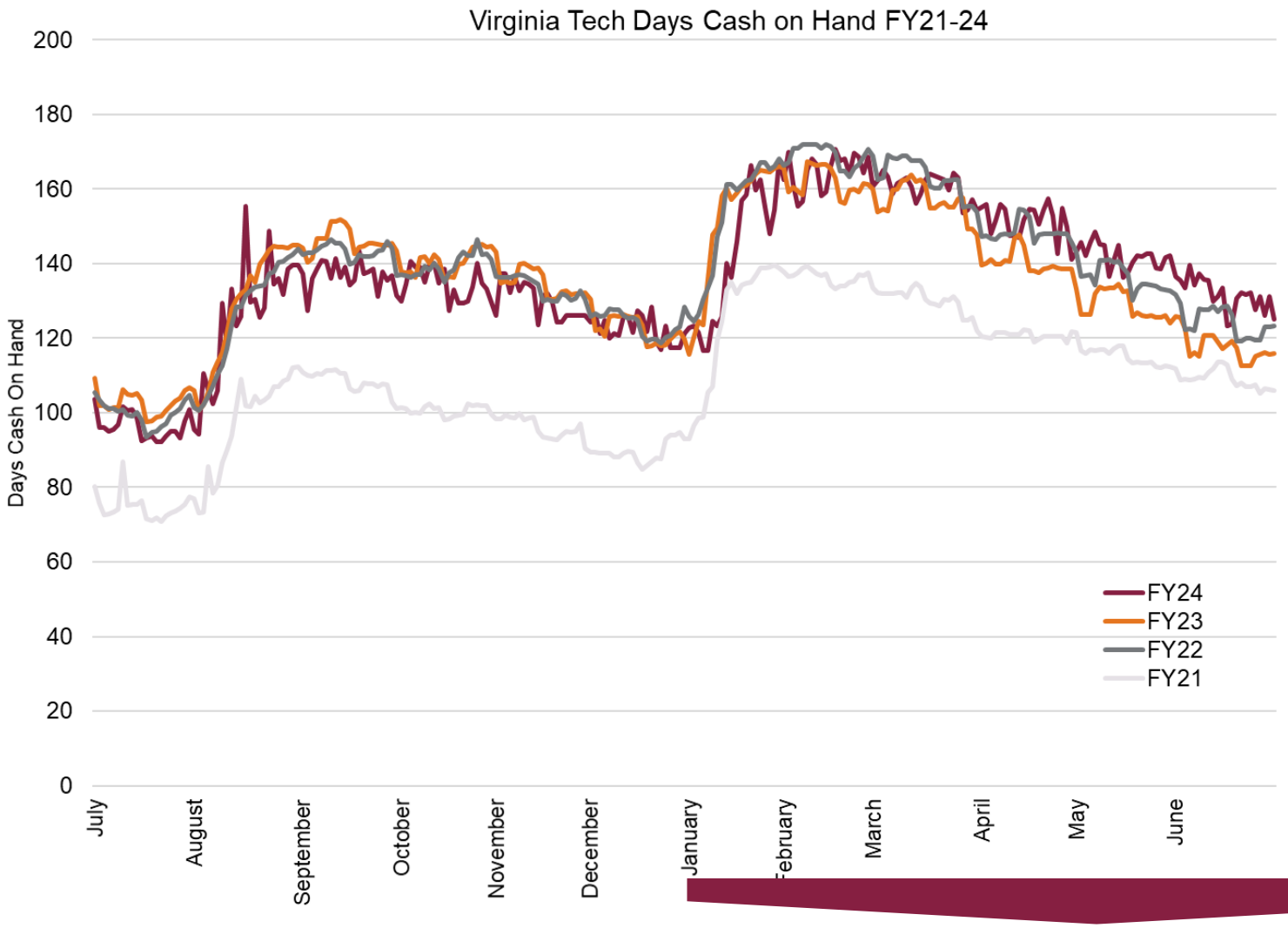
FY25 ($ in millions)

	Projects	Total Project Budget	Annual Capital Plan Spend Target
Design	7	$ 59.3	$ 18.4
Construction	10	887.5	150.0
Equipment	2	60.6	3.2
Closeout	3	179.0	11.7
Total	**22**	**$ 1,186.4**	**$ 183.3**



- The Board approves the University's capital plans
- FY25 includes three new state planning projects:
  - Improve Campus Accessibility
  - Derring Hall Building Envelope
  - Improvements to Eastern Shore AREC
- Projects currently in construction with large spend rates:
  - Maintenance Reserve projects
  - Innovation Campus Academic Building
  - Mitchell Hall

Deep Dive: Working Capital



Total Liquidity Summary

as of June 30, 2024

Internal Liquidity	$ 685,704,587
Internal Liquidity (Days)	122
External Liquidity	$ 198,000,000
Total Liquidity	$ 883,704,587
Encumbered Cash	
VTF Endowment	-
Capital Projects	*$ 79,404,321*
	$ 79,404,321
Total Liquidity Net of Encumbered Cash	$ 804,300,266

Working capital is highly seasonal, but robust and trending higher

Deep Dive: Credit Rating

Moody's Key Comments:

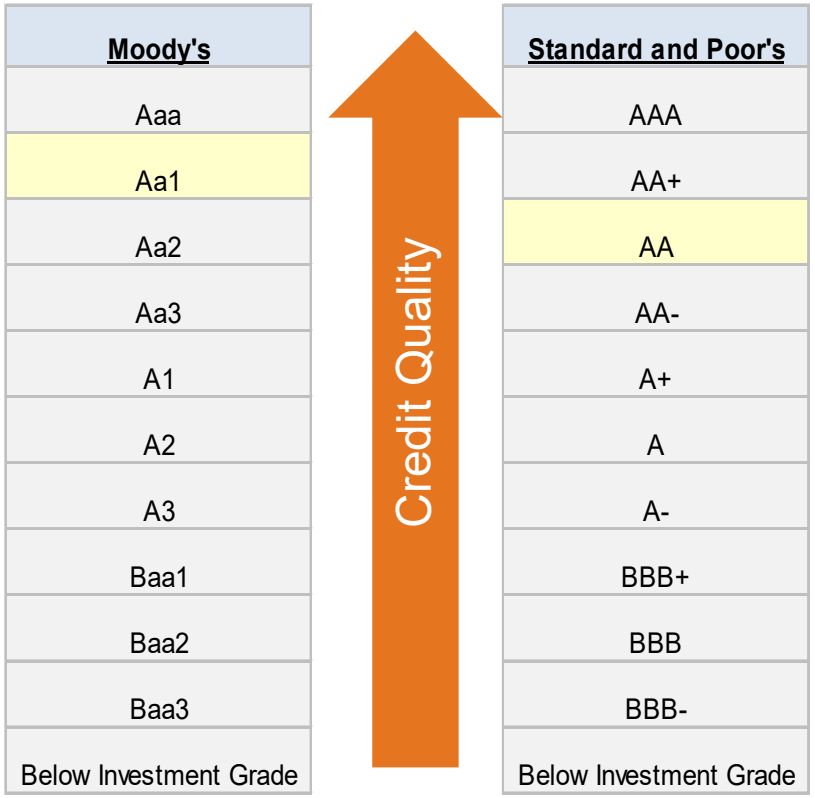
- April 2024 – affirmed Aa1 and "stable" outlook
- Credit Strengths – excellent strategic positioning and strong brand and reputation demonstrated by growing enrollment, net tuition per student and research activity
- Credit Challenges – moderate liquidity relative to similarly rated peers with 158 monthly days cash on hand

S&P Key Comments:

- June 2023 - affirmed Aa1 and "stable" outlook
- Credit Strengths – experienced and capable senior management team
- Credit Challenges – additional debt and capital plans in the future that may result in a higher debt burden or weaker financial resources relative to debt

Importance of Ratings

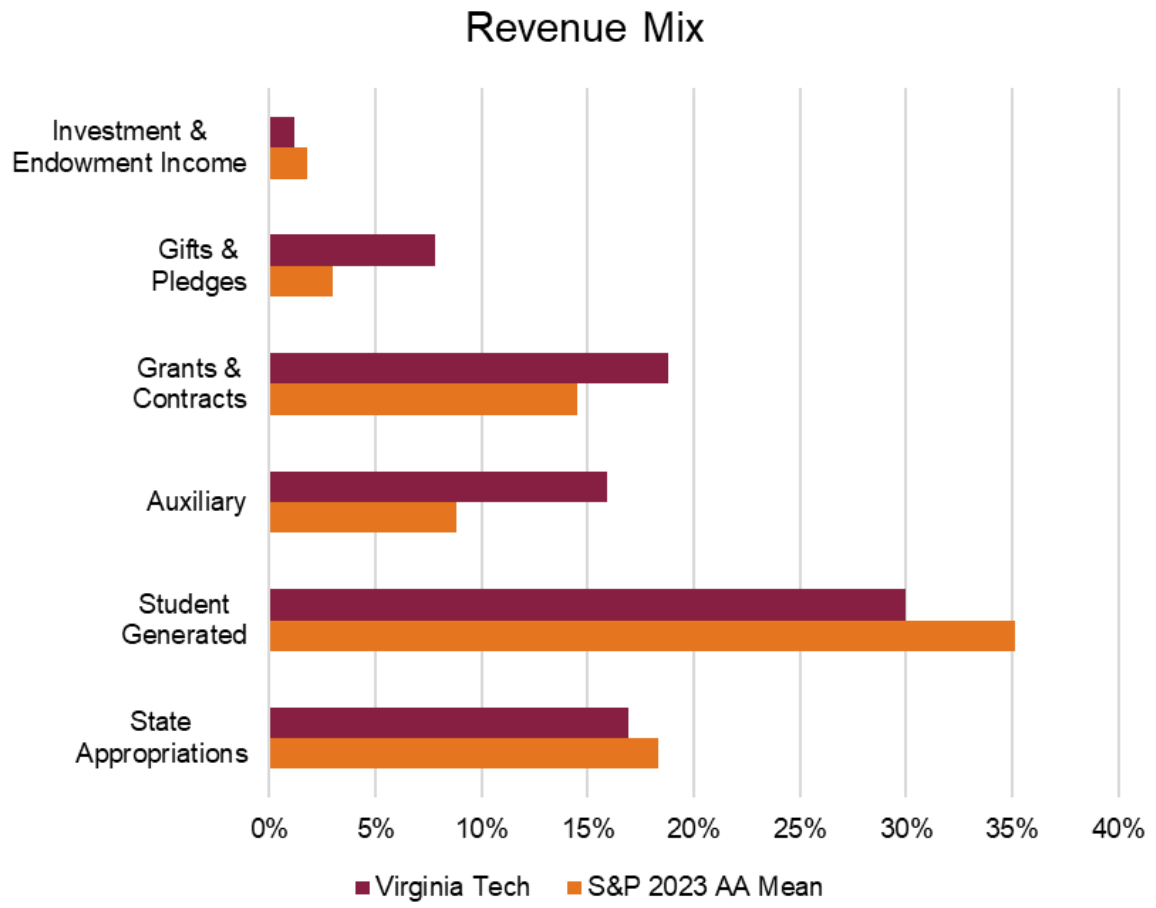
- Impacts borrowing costs
  - The difference between Aa1 and Aa2 is approximately 10 bps
- Alumni and donors pay attention; viewed as a measurement of ability to manage university



Relative Financial Comparison (1 of 2)

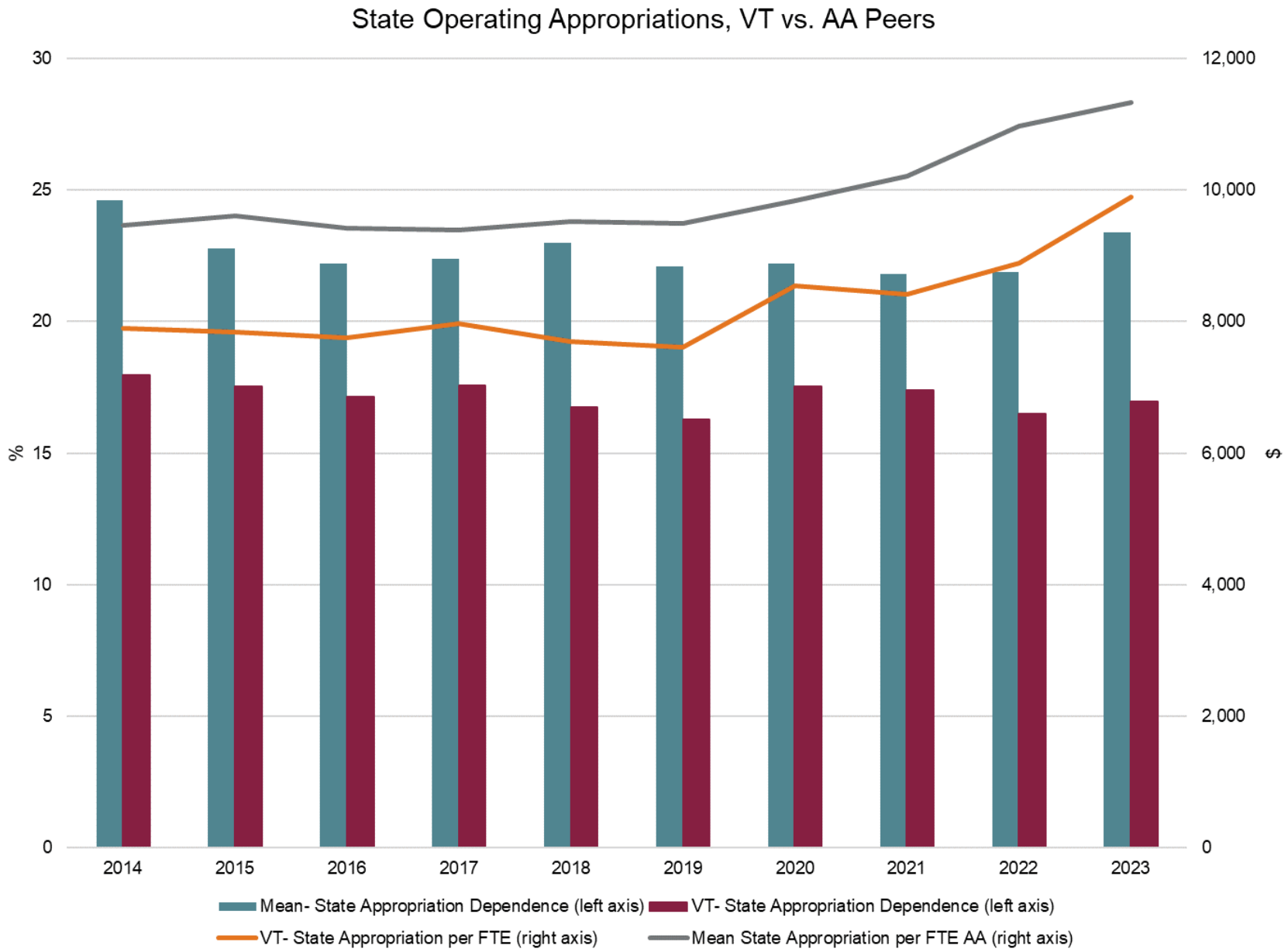
Fiscal Year 2023	Virginia Tech	S&P: AA Mean*
Full-Time Equivalent Enrollment (persons)	36,931	64,595
Adjusted Operating Revenue ($000)	2,156,715	4,443,248
Adjusted Operating Expense ($000)	2,099,289	4,546,633
Net Adjusted Operating Margin (%)	2.74	2.70
Tuition Discount Rate	19.9	26.9
Endowment Market Value ($000)	1,792,100	1,947,682
Cash and Investments ($000)	3,319,592	1,561,177
Outstanding Debt ($000)	925,763	2,253,344

*S&P Global: U.S. Not-For-Profit Public College and University Fiscal Medians 2023 Report'



The financial position of the university is relatively strong, with diverse revenue sources

Relative Financial Comparison (2 of 2)



- At less than 20%, Virginia Tech's reliance on direct state appropriation for funding is less than its peer averages
- Growing state appropriation per student in very recent years has helped somewhat mitigate inflation in expenditures
- However, healthy state funding is required to advance & support our mission

Questions / Discussion

Introduction of New Board Members, Faculty Senate President, and Student Representatives

MINUTES

June 11, 2024

The Board of Visitors of Virginia Polytechnic Institute and State University met on Tuesday, June 11, 2024, at 1:15 p.m. in Torgersen Hall Boardroom (Room 2100), Virginia Tech Campus, 620 Drillfield Drive, Blacksburg, Virginia 24061.

Present	**Absent**
Edward H. Baine (Rector)	Anna L. James
David Calhoun (Vice Rector)	Letitia A. Long
Carrie H. Chenery	
Sandy C. Davis	
Nancy Dye	
Greta J. Harris	
Brad Hobbs	
William Holtzman	
Donald Horsley	
L. Chris Petersen	
John Rocovich	
Jeff Veatch	

Constituent Representatives:
William Storey, Undergraduate Student Representative
Emily Tirrell, Graduate/Professional Student Representative
LaTawnya Burleson, Staff Representative
Janice Austin, Administrative and Professional Faculty Representative
Joseph Merola, Faculty Representative

Also present were the following: President Timothy Sands, Kim O'Rourke (Secretary to the Board), Simon Allen, Mac Babb, Lynsay Belshe, Bob Broyden, Brock Burroughs, Cyril Clarke, Al Cooper, Debbie Day, Riley DeHority, Corey Earles, Alisha Ebert, Juan Espinoza, Ron Fricker, Rachel Gabriele, Ellington Graves, Rebekah Gunn, Dee Harris, Kay Heidbreder, Tim Hodge, Elizabeth Hooper, Frances Keene, Sharon Kurek, Christophe Larroque, Evan Lavender-Smith, Justin Lemkul, Lu Liu, Elizabeth McClanahan, Nancy Meacham, Bryanna Meredith, Rachel Miles, Mike Mulhare, April Myers, Leslie Orellana, Mark Owczarski, Charlie Phlegar, Sharon Pitt, Ellen Plummer, William Poland, Jon Porter, Paul Richter, Lori Rose, Lisa Royal, Saonee Sarker, Kiera Schneiderman, Amy Sebring, Brennan Shepard, Dee Dee Somervell, Dan Sui, Aimee Surprenant, John Tarter, Don Taylor, Dwyn Taylor, Jon Clark Teglas, Tracy Vosburgh.

The meeting was livestreamed for the public via YouTube; there were 56 concurrent viewers on YouTube and a total of 53 views.

* * * * *

There was no public comment period.

* * * * * * * * * * *

Rector Baine convened the meeting and welcomed everyone. He welcomed Simon Allen, the new Vice President for Finance. He noted that the board held an information session the previous day and had presentations/discussions on litigation, the Northern Virginia plan, the Innovation Campus, and research. Rector Baine also commented that the board members enjoyed touring Hitt Hall and various other construction sites in the north academic district. He also conveyed the board's appreciation to Alan Grant, Dean of the College of Agriculture and Life Sciences; Bob Broyden, Interim Vice President for Capital Planning, Infrastructure, and Facilities; and Tracy Vosburgh, Vice President for Communications and Marketing, upon their retirement.

* * * * * * * * * * *

APPROVAL/ACCEPTANCE OF THE CONSENT AGENDA OPEN ITEMS*
(Refer to Attachments A through BB)

[*Note: Items on the consent agenda are matters of importance that have been reviewed carefully by members of the board in preparation for the meeting but have been determined not to require discussion by the board or its committees.]

Rector Baine asked for a motion to approve/accept the consent agenda open session items as listed. The motion was made by Mr. Rocovich, seconded by Mr. Calhoun, and approved unanimously.

- **Minutes from April 9, 2024, BOV Meeting**
- **Minutes from May 8, 2024, Special BOV Meeting**
- **Minutes from June 10, 2024, BOV Executive Committee Meeting** - Attachment A
- **Minutes of Information Session on June 10, 2024** - Attachment B
- **Minutes from June 11, 2024, Nominating Committee Meeting** – Attachment C
- **Minutes from June 11, 2024, Committee Chairs Meeting** – Attachment D
- **Academic, Research, and Student Affairs Committee General Report (6/11/24)** - Attachment E
- **Buildings and Grounds Committee General Report (6/11/24)** - Attachment F
- **Compliance, Audit, and Risk Committee General Report (6/10/24)** - Attachment G
- **Finance and Resource Management Committee General Report (6/11/24)** - Attachment H

- **Governance and Administration Committee General Report (6/11/24)** - Attachment I

From the Academic, Research, and Student Affairs Committee Consent Agenda:

- **Resolution to Approve Revised Extension Faculty Tracks** – Attachment J

- **Resolution to Revise Faculty Handbook Language on Nominations to University Distinguished Professor and Alumni Distinguished Professor** – Attachment K

- **Resolution to Update the Faculty Handbook Description of Expectations for Promotion and Tenure** – Attachment L

- **Resolution to Approve 2024-2025 Student Code of Conduct** – Attachment M

- **Resolution to Approve Organizational Change at the Northern Virginia Center Located in Falls Church, Virginia** – Attachment N

- **Ratification of 2024-25 Faculty Handbook** – Attachment O

From the Buildings and Grounds Committee Consent Agenda:

- **Resolution to Approve an Appointment to the Blacksburg-Virginia Polytechnic Institute Sanitation Authority** – Attachment P

- **Resolution to Approve an Appointment to the Montgomery Regional Solid Waste Authority** – Attachment Q

- **Resolution to Approve an Appointment to the New River Valley Regional Water Authority** – Attachment R

- **Resolution to Approve the Demolition of University Buildings No. 0438 and No. 0440A** – Attachment S

From the Finance and Resource Management Committee Consent Agenda:

- **Approval of 2024-25 Hotel Roanoke Conference Center Commission Budget** – Attachment T

- **Approval of Revisions to Policy 12005, Policy on Commemorative Tributes** – Attachment U

- **Approval of Resolution for Authority to Increase Loan to University-Related Corporation** – Attachment V

From the Governance and Administration Committee Consent Agenda:

- **Resolution to Revise the University Council Constitution** – Attachment W
- **Resolution to Approve an Appointment to the New River Valley Passenger Rail Station Authority** – Attachment X
- **Resolution to Approve an Appointment to the Roanoke Valley Broadband Authority Board** – Attachment Y

Consent agenda information item; no Board of Visitors action required:

- **Notification of Provisions of the Appropriation Act Relating to Indebtedness of State Agencies** - Attachment Z
- **Atlantic Coast Conference Governing Board Certification** - Attachment AA
- **Report of Research and Development Disclosures** - Attachment BB

* * * * * * * * * * *

REPORT OF THE ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE

Rector Baine called on Ms. Chenery for the report of the Academic, Research, and Student Affairs Committee.

* * * * * * * * * * *

REPORT OF THE BUILDINGS AND GROUNDS COMMITTEE

Rector Baine called on Ms. Harris for the report of the Buildings and Grounds Committee.

* * * * * * * * * * *

REPORT OF THE COMPLIANCE, AUDIT, AND RISK COMMITTEE

Rector Baine called on Mr. Calhoun for the report of the Compliance, Audit, and Risk Committee.

* * * * * * * * * * *

REPORT OF THE FINANCE AND RESOURCE MANAGEMENT COMMITTEE

Rector Baine called on Mr. Calhoun for the report of the Finance and Resource Management Committee.

As part of the Finance and Resource Management Committee report by Mr. Calhoun and with the endorsement of the Academic, Research, and Student Affairs Committee, approval of the following resolution was moved by Mr. Calhoun, seconded by Mr. Rocovich, and passed unanimously.

Approval of 2023-24 Promotion, Tenure, and Continued Appointments

That the recommendations for promotion and/or tenure or continued appointment for specific faculty be approved in accordance with the faculty compensation plan. (Copy filed with the permanent minutes and marked Attachment TT.)

*****

As part of the Finance and Resource Management Committee report by Mr. Calhoun and with the endorsement of the Academic, Research, and Student Affairs Committee, approval of the following resolution was moved by Mr. Calhoun, seconded by Mr. Rocovich, and passed unanimously.

Ratification of Personnel Changes Report

That the board ratify the Faculty Personnel Changes Report, as amended. (Copy filed with the permanent minutes and marked Attachment UU.)

*****

As part of the Finance and Resource Management Committee report, approval of the following resolution was moved by Mr. Calhoun, seconded by Mr. Rocovich, and passed unanimously.

Approval of 2024-25 University Operating and Capital Budgets

That the proposed fiscal year 2024-25 operating and capital budgets, as displayed on Schedules 1, 2, and 3, be approved. (Copy filed with the permanent minutes and marked Attachment CC.)

*****

As part of the Finance and Resource Management Committee report, approval of the following resolution was moved by Mr. Calhoun, seconded by Mr. Rocovich, and passed unanimously.

Approval of Resolution to Amend Delegation of Authority for Selected Personnel Actions

That the resolution to amend the delegation of authority for selected personnel actions be approved. (Copy filed with the permanent minutes and marked Attachment DD.)

*****

As part of the Finance and Resource Management Committee report by Mr. Calhoun and with the endorsement of the Academic, Research, and Student Affairs Committee, approval of the following resolution was moved by Mr. Calhoun, seconded by Mr. Rocovich, and passed unanimously.

Approval of 2024-25 Faculty Compensation Plan

That the proposed 2024-25 Faculty Compensation Plan be approved. (Copy filed with the permanent minutes and marked Attachment EE.)

Note: The 2024-25 Faculty Compensation Plan contained an update on the 2023-24 Faculty Compensation Plan. Consistent with the biennial budget approved by the Governor and General Assembly, the Board of Visitors approved an average three-percent faculty merit increase for teaching, research, administrative and professional faculty, effective June 10, 2024, to be reflected in the July 1, 2024, paycheck, with salary increases being implemented differentially based on individual performance. The President, or designee, shall implement the results of the merit program within the parameters specified in the final state Appropriation Act and the university's Faculty Compensation Plan. A summary of the results of this process will be shared with the board at its next regularly scheduled meeting following full implementation of the plan.

*****

As part of the Finance and Resource Management Committee report, approval of the following resolution was moved by Mr. Calhoun, seconded by Mr. Rocovich, and passed unanimously.

Approval of 2024-25 Compensation for Graduate Assistants

That the graduate assistant compensation program for 2024-25 be approved. (Copy filed with the permanent minutes and marked Attachment FF.)

*****

As part of the Finance and Resource Management Committee report, approval of the following resolution was moved by Mr. Calhoun, seconded by Mr. Rocovich, and passed unanimously.

Approval of Graduate Candidacy Status Tuition Rate

That the Graduate Candidacy Status Tuition Rate be approved. (Copy filed with the permanent minutes and marked Attachment GG.)

*****

As part of the Finance and Resource Management Committee report, approval of the following resolution was moved by Mr. Calhoun, seconded by Mr. Rocovich, and passed unanimously.

Approval of Year-to-Date Financial Performance Report (July 1, 2023 – March 31, 2024)

That the report of income and expenditures for the University Division and the Cooperative Extension/Agricultural Experiment Station Division for the period of July 1, 2023, through March 31, 2024, and the Capital Outlay Report be approved. (Copy filed with the permanent minutes and marked Attachment HH.)

****

REPORT OF THE GOVERNANCE AND ADMINISTRATION COMMITTEE

Rector Baine called on Mr. Petersen for the report of the Governance and Administration Committee.

As part of the Governance and Administration Committee report, approval of the following resolution was moved by Mr. Petersen, seconded by Ms. Harris, and passed unanimously.

Approval of Resolution Ratifying Updates to the Virginia Tech Safety and Security Committee Structure

That updates to the Virginia Tech Safety and Security Committee Structure be approved. (Copy filed with the permanent minutes and marked Attachment II.)

*****

As part of the Governance and Administration Committee report, approval of the following resolution was moved by Mr. Petersen, seconded by Ms. Harris, and passed unanimously.

Resolution to Approve Revisions to Policy 1025 on Harassment, Discrimination and Sexual Assault and to Discontinue Policy 1026 on Title IX Sexual Harassment and Responsible Employee Reporting

That the resolution to revise Policy 1025 as proposed and to discontinue policy 1026 be approved effective August 1, 2024, with the provision that this resolution will be null and void if any of the lawsuits that have been filed requesting that the Final Rule of Title IX be vacated in whole or in part is successful or a preliminary injunction is granted prior to August 1, 2024. (Copy filed with the permanent minutes and marked Attachment JJ.)

Note: On June 17, 2024, the United States District Court, Eastern District of Kentucky, Northern Division (at Covington) granted the motions for a preliminary injunction/stay filed by Virginia and five other states. Civil Action No. 2: 24-072-DCR

*****

As part of the Governance and Administration Committee report, approval of the following resolution was moved by Mr. Petersen, seconded by Ms. Harris, and passed unanimously.

Resolution to Amend the Board of Visitors Bylaws

That the Resolution to Amend the Board of Visitors Bylaws be approved. (Copy filed with the permanent minutes and marked Attachment KK.)

Mr. Petersen also reported on the board's annual self-assessment, which was very favorable. Rector Baine reminded the board that it is good to be proud, but never satisfied.

* * * * * * * * * *

PRESIDENT'S REPORT

A copy of President Sands' remarks to the Board of Visitors is filed with the permanent minutes and marked Attachment LL.

* * * * * * * * * *

CONSTITUENT REPORTS (no action required)

- Undergraduate Student Representative to the Board – William Storey
- Graduate and Professional Student Representative to the Board– Emily Tirrell
- Staff Representative to the Board– LaTawnya Burleson
- Administrative and Professional Faculty Representative to the Board– Janice Austin
- Faculty Representative to the Board – Joseph Merola

The students' reports were delivered at the board's information session on June 10, and the reports of the staff, administrative and professional faculty, and faculty representatives were delivered at the full board meeting. (Copies filed with the permanent minutes and marked Attachment MM.)

* * * * * * * * * *

Rector Baine presented certificates of appreciation to the three constituent representatives whose terms are ending: William Storey, Emily Tirrell, and Joseph Merola. He then welcomed Leslie Orellana as the incoming Undergraduate Student Representative, William Poland as the incoming Graduate/Professional Student Representative, Janice Austin as the continuing Administrative and Professional Faculty Representative, LaTawnya Burleson as the continuing Staff Representative, and Rachel Miles as the incoming Faculty Representative.

* * * * * * * * * *

Motion to Begin Closed Session

Mr. Calhoun moved that the Board convene in a closed meeting, pursuant to § 2.2-3711, Code of Virginia, as amended, for the purposes of discussing:

1. Appointment of faculty to emeritus status, the consideration of individual salaries of faculty, consideration of endowed professors, review of departments where specific individuals' performance will be discussed, and consideration of personnel changes including appointments, resignations, tenure, and salary adjustments of specific employees and faculty leave approvals.

2. Discussion of contract for work to be performed.

3. Fundraising.

all pursuant to the following subparts of 2.2-3711 (A), Code of Virginia, as amended, .1 and .9.

The motion was seconded by Mr. Petersen and passed unanimously.

* * * * *

CLOSED SESSION REPORTS
(No Board action required)

* * * * *

Motion to Return to Open Session

Following the closed session, the doors were opened, members of the public were invited to return to the meeting, and the livestream resumed. Rector Baine asked Mr. Calhoun to make the motion to return to open session. Mr. Calhoun made the following motion:

> **WHEREAS**, the Board of Visitors of Virginia Polytechnic Institute and State University has convened a closed meeting on this date pursuant to an affirmative recorded vote and in accordance with the provision of The Virginia Freedom of Information Act; and
>
> **WHEREAS**, Section 2.2-3712 of the Code of Virginia requires a certification by the Board of Visitors that such closed meeting was conducted in conformity with Virginia law;
>
> **NOW, THEREFORE, BE IT RESOLVED** that the Board of Visitors of Virginia Polytechnic Institute and State University hereby certifies that, to the best of each member's knowledge, (i) only public business matters lawfully exempted from open meeting requirements by Virginia law were discussed in the closed meeting to which this certification resolution applies, and (ii) only such public business matters as were identified in the motion convening the closed meeting were heard, discussed or considered by the Board of Visitors.

The motion was seconded by Mr. Petersen and passed unanimously.

* * * * * * * * * *

Upon motion by Mr. Rocovich and second by Dr. Dye, approval was given to the following group of resolutions considered in closed session. Items marked with an asterisk were considered by the Academic, Research, and Student Affairs Committee.

- ***Resolution to Approve Appointments to Emeritus/a Status (4)** – Attachment NN
- ***Resolution to Approve Appointments to Endowed Chairs, Professorships, or Fellowships (14)** - Attachment OO
- ***Resolution to Approve Appointments with Tenure (2)** – Attachment PP
- ***Resolution to Approve Appointment with Tenure-to-Title (1)** – Attachment QQ
- ***Resolution to Approve Faculty Research Leave (1)** – Attachment RR
- **Resolution to Approve Facility Naming (1)** – Attachment SS

* * * * * * * * * * *

Election of Rector and Vice Rector for 2024-2025

Rector Baine called on Ms. Harris, for a report of the Nominating Committee for officers of the board. On behalf of the Nominating Committee, which Ms. Harris chaired, and which also included Mr. Hobbs and Mr. Petersen, Ms. Harris presented the following nominees:

Rector: Ed Baine
Vice Rector: David Calhoun

In accordance with the board's bylaws, Rector Baine asked if there were any other nominations from the floor for the position of Rector. Rector Baine then asked if there were any other nominations from the floor for the position of Vice Rector. There being no additional nominations, Ms. Harris made a motion for approval of the nominees presented. The motion was seconded by Mr. Rocovich and passed unanimously.

In accordance with the board's bylaws, Kim O'Rourke, Vice President for Policy and Governance, serves as Secretary to the board.

* * * * * * * * * * *

Rector Baine, along with President Sands, thanked Ms. Chenery, Ms. Harris, Mr. Petersen, and Mr. Veatch for their service on the board as their terms come to an end.

* * * * *

Rector Baine announced that the Executive Committee would review the committee and meeting structure and bring any recommendations forward to the board.

* * * * * * * * * * *

The meeting was adjourned at 2:58 p.m.

The dates of the next regular meeting are August 27-28, 2024, in Blacksburg, VA.

_____
Edward H. Baine, Rector

_____
Kim O'Rourke, Secretary

RESOLUTION TO AMEND THE BYLAWS OF THE VIRGINIA TECH BOARD OF VISITORS, EFFECTIVE AUGUST 28, 2024

WHEREAS, legislation passed by the 2022 and 2023 Virginia General Assembly and signed into law by Governor Youngkin expanded and clarified the circumstances under which boards of visitors may conduct meetings electronically; and

WHEREAS, further revisions must be made to the Virginia Tech Board of Visitors Bylaws to align with subsequent legislation passed by the 2024 General Assembly impacting §2.2-3701 and §2.2-3708.3 of the *Code of Virginia* and clarifying that individual Board members participating remotely retain voting rights and specifying conditions under which an individual Board member participating remotely due to their disability or due to serving as a caregiver for an individual with a disability may be counted towards a quorum; and

WHEREAS, the 2024 legislation also specified the conditions during which a Board member participating in an all-virtual meeting would be considered absent as a result of audio and/or video failure and increased the number of times an all-virtual meeting may be held to no more than two times or 50 percent of the meetings held per calendar year rounded up to the nearest whole number, whichever is greater; and

WHEREAS, the 2024 legislation instituted a requirement that the Board at least once annually adopt a policy by recorded vote for the conduct of all-virtual meetings and remote participation by individual Board members;

NOW, THEREFORE, BE IT RESOLVED that the attached amended Bylaws of the Virginia Tech Board of Visitors be approved, effective immediately; and

BE IT FURTHER RESOLVED that the Board at least once annually will adopt a policy, applicable separately to the Board and its committees, for conducting all-virtual meetings and conditions under which individual Board members may participate remotely.

RECOMMENDATION:

That the Bylaws of the Virginia Tech Board of Visitors be amended as proposed, effective immediately, and that the Board at least annually adopt a policy by recorded vote for the conduct of all-virtual meetings and remote participation by individual Board members.

August 28, 2024

BYLAWS OF THE BOARD OF VISITORS

Virginia Polytechnic Institute and State University

Amended by Resolution passed ~~June 11, 2024~~ August 28, 2024

- Preamble
- Article I
- Article II. Administration and Officers of the University
- Article III. Related Corporations
- Article IV. Instruction
- Article V. Extension
- Article VI. Miscellaneous Provisions
- Article VII. Amendments and Repeal

Preamble

Virginia Polytechnic Institute and State University, popularly known as Virginia Tech, has evolved since its founding in 1872 into a comprehensive state land-grant university of increasing national and international prominence, heavily influenced by its land-grant heritage. The federal Morrill Act of 1862 mandated for the land-grant colleges not only the teaching of agricultural and mechanical arts and sciences, but also "the liberal and practical education of the industrial classes in the several pursuits and professions of life." It embraced three basic principles which shaped the destiny of the land-grant institutions: (1) that higher education should be made available to talented men and women regardless of economic class or conditions, (2) that inquiry and instruction should be directed toward the end of knowledge for its own sake, as well as toward knowledge applied for the benefit of all; and (3) that the results of scientific inquiry should be immediately and broadly disseminated throughout the society.

The University's instructional, research, and extension programs still are rooted in these principles. The Virginia statutes which created and control the institution heavily reflect the land-grant orientation. Subsequent federal legislation, including the Hatch Act of 1877, which established the agricultural experiment stations, and the Smith-Lever Act of 1914, which created the Federal Extension Service, further emphasized the multiple purpose of the University. The multiple-mission, multiple-agency structure of the University introduces some complexity into its internal organization, and into its relationships with the executive and legislative branches of both the state and federal governments. Each to some degree exercises budgetary and administrative control of various programs and activities of the institution which must be accommodated in the basic policies and programs of the University. These regulations and their interpretations provide a part of the reality in which the University functions as it seeks to fulfill the purposes for which it exists.

The public trustees are responsible for the University's academic and fiscal integrity and for the basic policies under which it is administered. With the Governor, they are responsible under applicable state statutes for the faithful execution of the requirements of law, as well as for the continued adaptation of the instructional programs to the evolving needs of the society which the University serves. The trustees collectively constitute the University's Board of Visitors. Much of the Board's duty and authority is delegated to the President whom it appoints. The Board, however, cannot delegate its legal obligations; service on the Board involves significant trustee responsibilities.

It is in this context that the Board's normal operating procedures, reflecting both its traditions and its legal responsibility, have been codified as bylaws conveniently available for reference.

Article I

The Board of Visitors of Virginia Polytechnic Institute and State University is a public corporation that serves as the governing authority for Virginia Polytechnic Institute and State University. The corporation is under the control of the General Assembly of the Commonwealth of Virginia.

Section 1. Composition

The Board of Visitors is composed of fourteen members, thirteen of whom are appointed by the Governor subject to confirmation by the Senate. The fourteenth member is the President of the Board of Agriculture and Consumer Services, who serves ex officio. All fourteen members have full voting privileges. Three members of the Board may reside outside of Virginia; at least six of the thirteen appointed members are required to be alumni or alumnae of the University.

The term of office for a visitor is four years, and the visitor is eligible to be reappointed for a successive four years. An individual appointed to fill an unexpired term which has become vacant is eligible for appointment to two additional four-year terms.

The term of the ex officio member of the Board of Visitors runs concurrently with his/her term as President of the Board of Agriculture and Consumer Services, which is typically from July 1 through June 30.

For each vacancy on the Board, the Alumni Association of the University may submit, for the consideration of the Governor, the names of three qualified persons. The Governor, however, is not limited to the persons on such a list when making an appointment (§23.1-2601, *Code of Virginia*, as amended).

Prior to appointment, the Virginia Commission on Higher Education Board Appointments may review potential Board appointees and make recommendations about the appointees to the Governor (§2.2-2518, *Code of Virginia,* as amended).

Section 2. Constituent Representatives

Representatives to the Board are appointed from the Undergraduate student body and the Graduate/Professional student body as non-voting, advisory representatives, pursuant to statutory authority (§23.1-1300, *Code of Virginia*, as amended). The term of appointment is for one year commencing July 1. Such representatives shall be welcomed at all open meetings of the Board and may be appointed to standing or special committees of the Board.

The President of the Faculty Senate (§23.1-1300, *Code of Virginia*, as amended), President of the Administrative and Professional Faculty Senate, and President of the Staff Senate shall also be welcomed to sit with the Board in open session and participate in discussion, without authority to vote or make or second motions. Similarly, these representatives shall also be welcomed to attend meetings of the Board's committees in open session and to provide information and advice as deemed appropriate by the chair of that committee, without authority to vote or to make or second motions. [BOV resolutions approved January 18, 1988; August 28, 2006; and November 8, 2021.]

By statute, the Board must solicit the input of representatives of the Faculty Senate or its equivalent at least twice per academic year on topics of general interest to the faculty, and in advance of decisions to be made on the search for the university's new President (§23.1-1303).

Section 3. Meetings

By statute the Board must meet at Blacksburg, Virginia, once a year (§23.1-2602). It traditionally holds four meetings a year. The last meeting of the academic year will be designated the annual organizational meeting; this is the meeting at which officers of the Board will be elected. Meetings of the Board are called by the Rector of the Board; however, a special meeting may be called by the Governor, the Rector or any three members of the Board. Regardless of how called, all members must be notified of meetings (§23.1-2602). Moreover, by statute, the Board must notify and invite the Attorney General's appointee or representative to all meetings of the board and its committees (§23.1-1303).

A majority of the voting membership of the Board and also of each of its committees constitutes a quorum (§23.1-2602), subject to the conditions in Article I, Section 3b. If the Rector is present at a committee meeting, he/she will be counted as a member of the committee for the purpose of determining whether a quorum is present. The Board or any of its committees may meet without a quorum present, but may not vote on any items.

The Board shall be transparent in all of its actions to the extent required by the law. All meetings of the Board, formal or informal, are subject to the requirements of the state's Freedom of Information (FOI) statutes and are open to the public. Discussions and actions on any topic other than those specifically exempted by law must be held in open session. Public notice is required of meetings. Any official action taken in closed session must be approved in open session before it can have any force or effect. Open meetings must have minutes taken; copies of these minutes are posted to the Board's website and available to the public (§23.1-1303). By statute, the Board must abide by standards developed by the State Council of Higher Education for Virginia (SCHEV) for providing the public with real-time electronic access to witness open meetings of the governing boards. Currently, SCHEV standards require video or audio livestreaming of regularly-scheduled meetings of the full governing board, with exceptions for a meeting, tour, or gathering that takes place outside of the usual location of the board meeting provided that the reason for

the exception is noted in the public notice of the meeting and in the meeting minutes. Livestreaming of the Board's committees or subcommittees is not required.

Closed sessions may be held for specific matters. These matters are enumerated in the *Code of Virginia*, as amended. In order to assemble in closed session, the Board must approve a specific motion which cites each item to be considered in closed session, with appropriate reference to the exemption in the FOI statutes. Discussion in closed session is restricted to the items so identified.

At least once annually, the Board must adopt a policy applicable to the Board and its committees for the conduct of all-virtual meetings and remote participation of individual Board members.

Section 3a. Electronic ("All-Virtual") Meetings

In accordance with §2.2-3701 and §2.2-3708.3 of the *Code of Virginia,* ~~the Freedom of Information Act,~~ the Board and any of its committees separately may conduct all-virtual public meetings in which all who participate do so remotely, provided that the electronic communication means by which members of the public may witness the meeting is disclosed in the public notice of the meeting. Members of the public must be provided electronic communication means through which to observe or listen to the meeting. Any interruption in the means of electronic communication for an all-virtual meeting shall result in a suspension of action at the meeting until repairs are made and public access is restored. The board or its committee may not convene an all-virtual meeting (a) more than two times per calendar year or ~~25~~ 50 percent of the meetings held per calendar year rounded up to the next whole number, whichever is greater, or (b) consecutively with another all-virtual meeting.

When audio-visual technology is available during an all-virtual meeting, a Board member will be considered absent for purposes of quorum during any portion of the meeting in which visual communication with the Board member is voluntarily disconnected or otherwise fails or in which audio communication involuntarily fails.

During an all-virtual meeting, no more than two members of the Board may participate from the same remote location unless that remote location is open to the public for physical access.

An "all-virtual meeting" is a meeting conducted by electronic means during which all members who participate do so remotely rather than being assembled in one physical location and to which public access is provided through electronic communication means.

Section 3b. Remote Participation by Individual Board Members

In accordance with §2.2-3701 and §2.2-3708.3 of the *Code of Virginia*, a~~A~~n individual Board member may participate remotely in a Board or committee meeting by some electronic communication means if on or before the day of a meeting, the Board member notifies the Rector or respective committee chair and Board Secretary that the Board member is unable to attend the meeting due to:

(a) a Board member's own disability or medical condition that prevents the member's physical attendance. An individual member who has a disability as defined below and participates remotely counts towards the quorum as if physically present; or

(b) the Board member's need to care for a family member due to the family member's medical condition or the Board member being a caregiver (as defined below) who must provide care for a person with a disability (as defined below) at the time the meeting is held. A board member who is a caregiver for a person with a disability and participates remotely counts towards the quorum as if physically present; or

(~~b~~c) the Board member's principal residence being located more than 60 miles from the meeting location; or

(~~c~~d) a personal matter.

Any Board member who participates remotely for one of the reasons above retains voting rights. The Board member's location need not be open to the public. The minutes must include the remote location of the Board member and the reason that the Board member was unable to attend; if the reason is a personal matter, the specific nature of the personal matter must be cited in the minutes. If a Board member's request to participate remotely is disapproved, such disapproval shall be recorded in the minutes with specificity. A Board member may participate remotely due to a personal matter in up to two meetings per calendar year or 25 percent of the meetings held per calendar year rounded up to the next whole number, whichever is greater. These provisions regarding remote participation of individual board members apply to meetings of the full board and to each of its committees separately.

~~An "all-virtual meeting" is a meeting conducted by electronic means during which all members who participate do so remotely rather than being assembled in one physical location and to which public access is provided through electronic communication means.~~

"Remote participation" is participation by an individual Board member via electronic means in a meeting where a quorum of the public body is otherwise physically assembled.

"Caregiver" means an adult who provides care for a person with a disability as defined in § 51.5-40.1 of the Code of Virginia. A caregiver shall be either related by blood, marriage, or adoption to or the legally appointed guardian of the person with a disability for whom he is caring.

"Person with a disability" means any person who has a physical or mental impairment that substantially limits one or more of his major life activities or who has a record of such impairment. Refer to § 51.5-40.1 of the Code of Virginia for a more detailed definition of physical and mental impairment.

Section 4. Officers

The Board elects annually from among its members a Rector to preside at meetings and a Vice Rector to serve as President pro tempore in the absence of the Rector. By statute (§23.1-1300 *Code of Virginia*, as amended), either the Rector or the Vice Rector must be a Virginia resident.

The Vice President for Policy and Governance serves as Secretary to the Board and as a resource on questions of parliamentary procedure unless the Board votes to elect a separate Secretary. The University Legal Counsel serves as the counsel to the Board.

The Rector and Vice Rector may serve a maximum of two one-year terms. The terms of the Rector and Vice Rector take effect July 1. The Vice Rector will also serve as the chair of one of the standing committees.

Section 5. Responsibilities of the Board

As public trustees, the members of the Board have the overall responsibility and authority, subject to constitutional and statutory limitations, for the continuing operation and development of the institution as a state land-grant university, and for the evolving policies within which it must function. Much of this authority necessarily is delegated to the President, who serves as agent of the Board and chief executive officer of the University.

The most important responsibility of the Board is the trustee obligation to insure that the University's educational and research programs effectively meet the evolving needs of Virginia's citizens to the fullest extent possible within the statutory mission of the institution. Similarly, in a national context, the Board's oversight responsibilities extend to federally mandated programs. The formulation of the basic policies under which every aspect of the University's operations are carried out, as well as the implementation of those policies, consequently are subject to the Board's review, possible modification, and ultimate approval. However, it is at the policy level, rather than the operational level, that the Board's responsibilities are paramount.

By statute, the Board is charged with the care, preservation, and improvement of university property and with the protection and safety of students and other persons residing on such property. The Board also is charged with regulating the government and discipline of students and, in respect to the government of the University, may make such regulations as the Board deems expedient, not contrary to law. The Board has authority over the roads and highways within the University campus and may prohibit entrance to the property of undesirable and disorderly persons or eject such persons from the property (§23.1-2603), *Code of Virginia*, as amended).

Following are examples of the responsibilities of the Board, as set forth in state statutes or as developed through tradition and practice (see §23.1-1303). The list, however, is not necessarily inclusive.

1. Appoints the President of the University.
2. Approves appointments of the faculty, university staff, and other personnel.[1]
3. Delegates authority to the President to implement annual compensation plans, including merit-based programs, authorized by the General Assembly or the Board of Visitors.
4. Establishes fees, tuition, and other charges imposed by the University on students (see Section 5b).
5. Reviews and approves the University's budgets and oversees its financial management.
6. Reviews and approves proposed academic degree programs and generally oversees the academic programs of the University.
7. Reviews and approves the establishment of new colleges or departments.
8. Ratifies appointments by the President or vice presidents that meet the salary threshold set by the Board.

9. Represents the University to citizens and officers of the Commonwealth of Virginia, especially in clarifying the purpose and mission of the University.
10. Approves promotions, grants of tenure, and employment of individuals.[2]
11. Review and approve physical plant development of University property.
12. Approves the naming of buildings and other major facilities on University property.
13. Reviews and approves grants of rights-of-way and easements on University property.
14. Reviews and approves real property transactions.
15. Exercises the power of eminent domain.
16. Reviews and approves personnel policies for the faculty and university staff.
17. Subject to management agreement between the Commonwealth of Virginia and Virginia Tech, the Board has full responsibility for management of Virginia Tech. (§23.1-1000, *Code of Virginia*, as amended).

[1,2] In practice the President and officers of the University make interim appointments which are ratified by the Board.

Section 5a. Resolutions

In order to permit mature consideration and to facilitate preparation of agendas and dissemination to all members of the Board, all proposed resolutions of the Board of Visitors shall be presented to the Secretary to the Board at least fifteen (15) days prior to the meeting at which they are proposed to be considered, with mailing or electronic access provided to the members and constituent representatives to occur ten (10) or more days prior to the meeting. Any amendments or additions to or deletions from the agenda must be presented to the Board Secretary in sufficient time to enable the changes to be distributed to the Board members and constituent representatives at least three (3) working days prior to the meeting. An emergency may be declared by a two-thirds (2/3) majority of the voting members present at the meeting to permit consideration of a proposal not adhering to this time requirement. Except in emergency situations, all action items and resolutions should come to the full Board from one of its standing or special committees or from the President of the University.

Section 5b. Resolutions for Tuition and Fees

Notwithstanding the provisions of Section 5a, when an increase to undergraduate tuition and/or mandatory fees is contemplated, the proposal shall be provided to the Board Secretary in sufficient time to enable notice of the projected range of the planned increase and an explanation of the need for the increase to be provided to students and the public at least 30 days prior to voting on the resolution. The proposal will be shared with Board members concurrently with notification to the students and public. (§23.1-307(D), *Code of Virginia*, as amended)

Additionally, the Board will permit public comment on the proposed increase at a meeting (as defined in §2.2-3701, Code of Virginia, as amended) of the Board. The Governance and Administration Committee or other appropriate committee of the Board will develop guidelines for such public comment to include reasonable time limitations and the manner in which such comment will be shared with the Board. (§23.1-307(E), Code of Virginia, as amended)

Section 5c. Board Website

By statute, the Board is required to maintain a public website that includes a listing of all Board members with their date of appointment and the name of the Governor who appointed each, a listing of all Board committees and their membership, a schedule of all upcoming meetings of the

Board and its committees along with instructions for public access, an archive of agendas and supporting materials of all Board and committee meetings, and an email address or email addresses through which Board members can receive public communications pertaining to Board business (§23.1-1303).

Section 6. Committees

The Board may organize itself into committees to facilitate its work. Committees are required to report to the full Board at least once a year (§23.1-2602, *Code of Virginia*, as amended). The Rector appoints the members and chairs of the Standing and Special Committees. The Vice Rector will serve as the chair of one of the standing committees. At the option of the Rector, chairs are limited to three (3) years.

The chair of a committee is responsible to see that minutes are taken of the meetings of the committee. The President makes available appropriate persons who may be of assistance in the deliberations of a committee. The Rector is an ex officio member of all standing and special committees. All committee members will be members of the Board; committees, however, may form advisory committees which include non-Board members. Chairs may request advisors or other consultants to meet with their committees.

Any committee may adopt a formal written charter that specifies the committee's responsibilities and practices. Charters must be approved by the Governance and Administration Committee before adoption.

Committee meetings are subject to the same requirements of the state's Freedom of Information statutes as are meetings of the full Board.

Section 6a. Executive Committee

The Executive Committee of the Board, established by statute (§23.1-2602, *Code of Virginia*, as amended), consists of not less than three or not more than six members. The Executive Committee includes the Rector, Vice Rector, and the chairs of the standing committees: Academic, Research, and Student Affairs Committee; Buildings and Grounds Committee; Compliance Audit, and Risk Committee; Finance and Resource Management Committee; and Governance and Administration Committee. [Note: The Vice Rector serves as chair of one of the standing committees – See Sections 4 and 6.] At the request of the Rector or a quorum of the Executive Committee, the immediate Past Rector will be available to serve as a non-voting advisor to the Executive Committee. The immediate Past Rector is not counted as a member of the Executive Committee for the purpose of determining whether a quorum is present. The Executive Committee convenes on the call of the Rector or on the call of any two members. This Committee, in the interim between meetings of the Board, has full power to take actions on behalf of the Board. All actions taken by the Executive Committee must be ratified by the full Board at its next meeting in order to remain in effect.

The Executive Committee is charged by statute with organizing the working processes of the Board and recommending best practices for Board governance. Specifically, the Executive Committee shall:

1. Develop and recommend to the Board a statement of governance setting out the Board's role;

2. Periodically review the Board's bylaws and recommend amendments;[3]
3. Provide advice to the Board on committee structure, appointments, and meetings;[3]
4. Develop an orientation and continuing education process for visitors that includes training on the Virginia Freedom of Information Act;[3]
5. Create, monitor, oversee, and review compliance with a code of ethics for Board members; and
6. Develop a set of qualifications and competencies for membership on the Board for approval by the Board and recommendation to the Governor. (§23.1-1306, *Code of Virginia*, as amended)

[3] These duties of the Executive Committee are delegated to the Governance and Administration Committee.

Section 6b. Academic, Research, and Student Affairs Committee

This committee is responsible for matters and policies pertaining to the academic affairs, student life and conduct, and the research mission and goals of the university.

Section 6c. Buildings and Grounds Committee

This committee is responsible for the maintenance and development of the physical plant and infrastructure, land use and planning, and review and development of capital outlay requests. The university employee designated as the University Building Official when serving in that capacity reports directly to the Board of Visitors through this committee.

Section 6d. Compliance, Audit, and Risk Committee

This committee is responsible for oversight of enterprise risk management, adherence to the audit charter, reviewing audits conducted by Internal Audit and external bodies, and providing guidance on auditing concerns to the full Board. This committee is responsible also for oversight of university compliance with all federal, state, and local laws and executive orders; and policies promulgated by academic and athletic accrediting bodies, regulatory agencies, funding agencies, and the State Council of Higher Education for Virginia. This committee conducts an annual review of the Audit Charter.

Section 6e. Finance and Resource Management Committee

This committee is responsible for oversight of all fiscal resources, revenues, and expenditures of the university. This committee is charged with reviewing and evaluating budgets, expenditures, financial performance, and funding sources, and with providing guidance on financial issues to the full Board. This committee is also responsible for reviewing changes to the Commemorative Tributes Policy and requests for commemorative recognition.

Section 6f. Governance and Administration Committee

This committee is responsible for Board engagement, the Board's protocols, bylaws, and periodic self-evaluation. This committee is also responsible for oversight of campus safety and security and of various administrative functions and non-academic areas of the university, including but

not limited to human resources, communications and marketing, administrative computing, and athletics.

In addition, this committee is responsible for reviewing new or revised charters of all committees prior to their adoption (refer to Section 6).

Section 6g. Nominating Committee

The Nominating Committee, traditionally composed of three members, is appointed by the Rector and is responsible for reporting at the annual organizational meeting of the Board its nominations for all officers of the Board. The Rector will invite any additional nominations from the full Board before voting on nominations at the organizational meeting.

Section 7. Annual Reporting Requirement

The Board is required by statute to submit to the General Assembly and the Governor an annual executive summary of its interim activity and work no later than the first day of each regular session of the General Assembly. This executive summary shall also be posted for the public on the Board's website (§23.1-1303). The secretary to the Board will be responsible for preparing the report and submitting and posting it in accordance with procedures stipulated by law.

Article II. Administration and Officers of the University

Section 1. The President

The Board appoints a President to initiate proposed policies, to execute approved policies, and to administer the University. The President serves as the authorized officer through whom communication takes place between the Board and the faculty, the Board and the students, and the Board and the other officers of administration or instruction employed by the University. The Board, as the governing authority of the University, delegates to the President the authority to oversee and to administer the policies of the Board and to manage the administrative, instructional, research, and public service programs of the University.

By statute, the Board must meet with the President at least once annually in a closed meeting and deliver an evaluation of the President's performance. Any change to the President's employment contract shall be made only by an affirmative vote of the majority of the Board's members (§23.1-1303).

Section 2. Other Officers of the University

The President is assisted in the performance of the duties of that office by other officers of the University. Provost and vice-presidential appointments are made by the President and formally ratified by the Board.

Section 3. Faculty and Staff

The faculty and staff of the University receive appointments by appropriate University officials, and their names, titles and salaries are submitted periodically for confirmation to the Board of Visitors. The Board may delegate to the President (or designee) through a Delegation of Authority Resolution the authority to approve certain types of appointments or compensation actions without the requirement for subsequent confirmation by the Board. By statute, the Board may remove any faculty member of the University with the assent of two-thirds of the Board, subject to approved grievance procedures (§23.1-2605).

Article III. Related Corporations

Section 1. Associations with Related Corporations

A number of corporations are intricately tied with the University by virtue of affiliation agreements that they have entered into with the University and that comply with the format for affiliation agreements that the Board of Visitors has approved. Each corporation has its own board. The boards of these corporations focus on areas of special interest to the University. A listing of these affiliated corporations and their affiliation agreements shall at all times be kept on file with the Secretary of the Board of Visitors.

Prior approval of the Board of Visitors is required before permission to establish or to charter any new related corporation is sought from the State Corporation Commission.

Corporations associated with the Board are requested to supply the following information and comply with these procedures:

a. Provide the Board of Visitors with a copy of the corporate constitution, bylaws, and certificates of incorporation.
b. Specify the services which the corporation provides to the University.
c. Obtain approval for services and space, subject to review from time to time. The Administration, acting for the Board, may make facilities available.
d. Provide the Board with a copy of its official annual audit and other documents relating to tax-exempt status.
e. Coordinate insurance programs for the Corporation, other than employee benefit insurance programs, through the University's insurance office and pay for its share of the premiums.

Article IV. Instruction

Section 1. Courses of Study

The curricula of the University, by statute, are to include instruction in agriculture and the mechanic arts without excluding other scientific and classical studies and military tactics (§23.1-2606). A full range of courses in the arts and sciences, agriculture, engineering, and other professional fields is offered in conformity with the institution's mission as a comprehensive state university.

Section 2. Changing Curricula

The Board delegates to the President the authority to develop appropriate courses of study. New degree offerings are subject to the approval of the Board and the State Council of Higher Education for Virginia.

Article V. Extension

Section 1. Extension Division

The Board has responsibility and authority for the Virginia Cooperative Extension and Agricultural Experiment Station Division which encompasses Cooperative Extension, continuing education programs, and such other subjects as designated by the President or the Board. This Division, authorized by statute to serve both adults and youths, is established to conduct educational programs and disseminate useful and practical information to the people of the State (§23.1-2608, *Code of Virginia*, as amended).

Article VI. Miscellaneous Provisions

Section 1. Expenses

Board members may be reimbursed for reasonable travel expenses and other expenses incurred in the discharge of their duties (§23.1-1307).

Section 2. Removal of Board Members

The members of the Board of Visitors are protected by Virginia law from being removed without appropriate reasons. If any Visitor fails to attend the meetings of the Board for one full year without sufficient cause and/or perform the duties of his office for one year without good cause as determined by a majority vote of the Board, the remaining members of the Board shall record such failure in the minutes at its next meeting and notify the Governor, and the office of such member shall be vacated. (§23.1-1300, *Code of Virginia*, as amended).

The *Code of Virginia* §23.1-1304 requires new board members to attend educational programs developed by the State Council of Higher Education for Virginia (SCHEV) in his/her first two years of membership and to participate in further training on board governance as determined by SCHEV at least once every two years thereafter. If any Visitor fails to complete these educational requirements without sufficient cause, as determined by a majority vote of the Board, the remaining members of the Board shall record such failure in the minutes at its next meeting and notify the Governor, and the office of such member shall be vacated, and the member will be ineligible for reappointment. (§23.1-1300, *Code of Virginia*, as amended).

Dismissal of a Board member for cause will be pursued in accordance with Virginia Code §23.1-1300, as amended, which provides the process for removal of a Board member from office for malfeasance, misfeasance, incompetence, or gross neglect of duty. The Governor will issue a written public statement indicating his/her reasons for removing the member.

Section 3. Conflict of Interest

Each Board member is subject to the provisions of the State and Local Government Conflict of Interests Act and must file reports as necessary. (§ 2.2-3114(B), *Code of Virginia*, as amended).

Section 4. Code of Ethics

The Board is required by statute to adopt a Code of Ethics. Each Board member is subject to the provisions of the code. The Executive Committee will review compliance and report to the Governor any instances of breach of ethical conduct pursuant to the terms of the Code of Ethics.

Section 5. Educational Requirement

Educational programs for boards of visitors are required by statute to be delivered annually by the State Council of Higher Education for Virginia (SCHEV). New board members must participate in programs offered at least once during their first two years on the board. In addition, each board member shall participate in further training as determined by SCHEV at least once every two years (§23.1-1304, *Code of Virginia*, as amended). (See Article VI, Section 2.)

By July 1 of each year or upon request by SCHEV, the secretary of the Board shall report to SCHEV the activity of any Board member who has complied with the educational requirement during the prior year.

Section 6. Board Self-Evaluation

The Board periodically should conduct a formal evaluation of its committee structure, processes, procedures, and performance. Candid feedback should be sought from the Board members themselves, constituent representatives to the Board, the University President, and others as deemed appropriate by the Board, which may include the Board Secretary, Legal Counsel, and/or the administrators who serve as liaisons to the Board's committees. The Governance and Administration Committee is responsible for developing and recommending to the full Board the evaluation procedure to be employed, including whether to retain an external consultant to conduct the evaluation, and for developing a plan to address any issues identified by the evaluation.

Article VII. Amendments and Repeal

Section 1. Construction

The Bylaws supplement the statutes of the Commonwealth as they relate to the University and are not intended to replace or amend them. Nothing contained in the Bylaws should be interpreted to diminish or alter the statutory powers of the Board.

Section 2. Changing Bylaws

These Bylaws, except where mandated by statute, may be changed by majority vote of the voting membership of the Board.

Section 3. Chronology of Bylaws Adoption and Amendments

Adopted by the Board, May 18, 1981
Amended by Resolution passed November 3, 2003
Amended by Resolution passed August 23, 2004
Amended by Resolution passed June 12, 2006.
Amended by Resolution passed August 28, 2006.
Amended by Resolution passed November 6, 2006.
Amended by Resolution passed June 20, 2008.
Amended by Resolution passed June 1, 2009.
Amended by Resolution passed August 31, 2009.
Amended by Resolution passed August 30, 2010.
Amended by Resolution passed June 3, 2013.
Amended by Resolution passed August 31, 2015.
Amended by Resolution passed June 26 (Executive Committee) & August 19, 2017
Amended by Resolution passed August 27, 2018
Amended by Resolution passed August 26, 2019
Amended by Resolution passed June 8, 2021
Amended by Resolution passed November 8, 2021
Amended by Resolution passed June 7, 2022 effective July 2022
Amended by Resolution passed June 7, 2022, effective September 2022
Amended by Resolution passed April 9, 2024
Amended by Resolution passed June 11, 2024
Amended by Resolution passed August 28, 2024

RESOLUTION FOR EXCLUSION OF CERTAIN OFFICERS/DIRECTORS

WHEREAS, Virginia Polytechnic Institute and State University (Virginia Tech) was determined by the U.S. Department of Defense (DoD) to be a facility authorized to be eligible for access to classified information or award of classified contracts in 1960, and years following, with the most recent authorization in May 2022; and

WHEREAS, in accordance with the National Industry Security Program Operating Manual (NISPOM), Cognizant Security Agencies (CSAs) require that certain principal officers, directors, partners, regents, or trustees, and those occupying similar positions at institutions of higher education meet the personnel security clearance requirements established for the level of the institution's facility security clearance or be formally excluded; and

WHEREAS, the NISPOM permits the exclusion from the personnel clearance requirements of said principal officers et al. on the basis that these cited individuals shall not require, shall not have, and can be effectively excluded from access to all classified information disclosed to Virginia Tech, and do not occupy positions that would enable them to affect adversely corporate policies or practices in the performance of classified contracts, as determined by a CSA;

NOW, THEREFORE, BE IT DECLARED that the Virginia Tech Board of Visitors hereby formally appoints a managerial group with the authority and responsibility for the negotiation, execution, and administration of classified contracts (Key Management Personnel), consisting of the following principal officers within Virginia Tech: President; University Legal Counsel; Chief Contracting Officer; Senior Vice President and Chief Research and Innovation Officer; Senior Associate Vice President for Research and Innovation; Associate Vice President for Research and Innovation, Sponsored Program; Facility Security Officer; and Insider Threat Program Senior Official (specified by name in Attachment A); and

BE IT RESOLVED that the President, and the said managerial group, at the present time do possess the required security clearance, with the exception of the Associate Vice President for Research and Innovation, Sponsored Programs who is in the process of obtaining the required security clearance and is hereby excluded pursuant to this resolution until the time eligibility for access to classified information is granted by a cognizant security agency; and

BE IT RESOLVED FURTHER that in the future, when a CSA determines that additional Virginia Tech officials must be added to said managerial group and be granted personnel clearances or excluded from classified access pursuant to the NISPOM, such requirements shall be made and approved by the Key Management Personnel, and not the Board of Visitors, unless approval by the Board of Visitors is formally required by a CSA; and

LASTLY, BE IT RESOLVED, that the appended list of all members of the Board of Visitors and certain University Principal Officers (specified by name in Attachment B)

shall not require, shall not have, and can be effectively excluded from access to all classified information in the possession of Virginia Tech, and do not occupy a position that would enable them to affect adversely Virginia Tech policies or practices in the performance of classified contracts. A copy of this resolution shall be provided to CSAs as required by the NISPOM.

RECOMMENDATION

That this resolution be adopted.

August 28, 2024

ATTACHMENT A:

Key Management Personnel who must be granted personnel clearances or excluded from classified access pursuant to the NISPOM per Board of Visitors Resolution, August 28, 2024

President	Timothy D. Sands, Ph.D.
University Legal Counsel	Kay K. Heidbreder, Esq.
Chief Contracting Officer	Timothy D. Sands, Ph.D
Sr. VP and Chief Research & Innovation Officer	Daniel Sui, Ph.D.
Sr. AVP, Research & Innovation	James R. Heflin, Ph.D.
AVP, Sponsored Programs	Linda Feuster Duffy*
Facility Security Officer and Insider Threat Program Senior Official	John J. Talerico, III

*an application has been made for Ms. Duffy's clearance at the required level but has not been granted at the time of this report.

ATTACHMENT B:

Members of the Virginia Tech Board of Visitors to be excluded per Board of Visitors Resolution, August 28, 2024.

Edward H. Baine (Rector)
David L. Calhoun (Vice Rector)
Sandy Davis
Nancy Dye
William Holtzman
Donald Horsley (ex-officio)
Anna L. James
Starlette Johnson
Letitia A. Long
Ryan McCarthy
Jim Miller
J. Pearson
John Rocovich
Jeanne Stosser

List of Virginia Tech Principal Officers to be excluded per Board of Visitors Resolution, August 28, 2024

Executive Vice President and Provost	Dr. Cyril R. Clarke
Executive Vice President and Chief Operating Officer	Ms. Amy S. Sebring

RESOLUTION FOR UPDATES TO THE STUDENT CODE OF CONDUCT FOR THE 2024-25 ACADEMIC YEAR

WHEREAS, the Code of Virginia §23.1-412 mandates all public institutions of higher education to maintain and enforce non-academic student codes of conduct that uphold the values and expectations of their respective communities; and

WHEREAS, Virginia Tech is committed to fostering an environment that promotes academic integrity, respect, and responsibility among its students; and

WHEREAS, the Student Code of Conduct at Virginia Tech outlines the expectations for student behavior and the university's approach to managing instances of misconduct, applying to all enrolled students and student organizations; and

WHEREAS, it is the duty of the Virginia Tech Board of Visitors to ensure the Student Code of Conduct is reviewed and updated regularly to reflect best practices, legal requirements, and the evolving needs of the university community; and

WHEREAS, the university recognizes the importance of clear, understandable, and easily navigable policies to ensure students are well-informed of their rights and responsibilities; and

WHEREAS, these refinements aim to improve the overall comprehension and enforceability of the Student Code of Conduct, thereby facilitating a more respectful and responsible student body;

NOW, THEREFORE, BE IT RESOLVED that the Student Code of Conduct, applicable to undergraduate, graduate, professional students, and student organizations, be approved by the Board of Visitors, to include new language as outlined below (in red) to take effect upon approval of the board:

- (pg. 6) Section III. Jurisdiction: Virginia Tech reserves the right to address any behavior or act that potentially violates local, state, or federal law. When conduct violates both criminal law and the Student Code of Conduct, disciplinary action may be taken by the university, irrespective and separate from criminal action. At the university's discretion, the Office of Student Conduct may proceed with disciplinary action prior to a criminal trial or postpone action until after trial.

- (pg. 13) Section V. Prohibited Conduct: Other Prohibited Conduct: Prohibited Conduct: Violations of federal, state, or local laws, regulations, orders, or ordinances.

RECOMMENDATION:

That the updates to the student code of conduct for the 2024-25 academic year be adopted.

August 28, 2024

Resolution to Approve Revisions to the Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

The Committee will review for approval a resolution to revise the approval process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods.

Pursuant to the Restructuring Act and in accordance with Chapter 780 (2016) Item 4-4.01 #1c and Code of Virginia §2.2-4378, 2.2.-4379, 2.2-4381 and 2.2-4383; the current applicable Virginia Tech Construction and Professional Services Manual; the current applicable Construction Management Procedures as adopted by the Secretary of Administration; and the current applicable Design-Build Procedures as adopted by the Secretary of Administration, the proposed university process is to be revised and adopted in response to the passage of Senate Bill 18 for use of these methods.

RESOLUTION TO APPROVE REVISIONS TO THE APPROVAL PROCESS FOR CONSTRUCTION MANAGER AT RISK AND DESIGN-BUILD CAPITAL PROJECT DELIVERY METHODS

WHEREAS, effective July 1, 2006, Virginia Polytechnic Institute and State University (Virginia Tech) operates as a Tier III institution in accordance with its Management Agreement and operational policies; and,

WHEREAS, pursuant to the Management Agreement, Virginia Tech has delegated authority relating to the procurement of goods, services, insurance, and construction services; and,

WHEREAS, a resolution for approval of the construction procurement approval process for capital project delivery was approved by the Board of Visitors June, 6, 2016 and August, 25, 2020;

WHEREAS, the Commonwealth of Virginia 2024 General Assembly passed legislation (Title 2.2 Chapter 43.1) regulating the types of construction procurement methods available for public institutions of higher education; and,

WHEREAS, the Department of General Services has reviewed and provided recommendations, which have been incorporated into the university's updated Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods; and,

WHEREAS, the Virginia Tech Construction and Professional Services Manual (VT CPSM) will be updated to reflect the approved procedures; and,

WHEREAS, the university submits for Board of Visitors approval the updated Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods; and,

WHEREAS, with the approval of these updated procedures, Virginia Tech confirms that all of the required Board-level policies and procedures are in place to comply with the changes to Title 2.2 Chapter 43.1;

NOW, THEREFORE, BE IT RESOLVED, that the university adopts the proposed Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods.

RECOMMENDATION:

That the above resolution approving revisions to the Capital Construction Delivery Method Approval Process be approved.

August 28, 2024

Virginia Polytechnic Institute and State University
Division of ~~Campus Planning, Infrastructure and~~ Facilities Procedure~~s~~

Approval Process for Construction Manager at Risk ~~(CMAR)~~ and Design-Build ~~(D-B)~~ Capital Project Delivery Methods

Date: ~~August 25, 2020~~
Revision: 3~~2~~

Purpose:

Pursuant to the Restructuring Act and in accordance with Chapter 780 (2016) Item 4-4.01 #1c and *Code of Virginia* §2.2-4378, 2.2.-4379, 2.2-4381 and 2.2-4383, ~~and~~ the Virginia Tech Construction and Professional Services Manual dated July 1, 2024 ("VT CPSM"); the current applicable Construction Management (CM) Procedures as adopted by the Secretary of Administration ("CM Procedure"); and the current applicable Design-Build (D-B) Procedures as adopted by the Secretary of Administration ("D-B Procedure"), the following process is revised and adopted in response to the passage of Senate Bill 18 for use of ~~(VT CPSM, January 24, 2020), the following process is adopted for use of the~~ Construction Manager at Risk (CMAR) and Design-Build (D-B) Capital Project Delivery Methods.

Responsible Staff:

Capital Construction ("CapCon") – the university unit responsible for administration, management and implementation of Major Capital Outlay Projects.

CapCon Project Manager ("PM") – coordinates with CapCon management and project stakeholders to recommend a project delivery method.

Procurement Department – university unit responsible for the procurement and contract administration of all Major Capital Outlay Projects.

Procurement Department Capital Construction Contracting Officer ("CCCO") – administers the capital outlay procurement process, reviews delivery method options, and manages contract development, approval and execution.

Assistant Vice President for ~~Capital~~ Design and Construction (AVPDC~~C~~) – provides CapCon leadership, manages operations, and recommends project delivery methods to meet university goals.

Vice President for ~~Campus Planning, Infrastructure and~~ Facilities (~~VPCPIF~~"VP Facilities") – approves project delivery methods and recommends contracts for execution.

Procedure:

A. Except for projects that use Design-Bid-Build delivery method, the construction delivery method for a capital outlay project shall be approved in writing by the ~~university's Vice~~

~~President for Campus Planning, Infrastructure, and Facilities (VPCPIF)~~ Virginia Department of General Services via the university's VP Facilities.

B. ~~In order T~~to obtain ~~the VPCPIF~~ approval and document ~~the university's~~this determination, a written recommendation for the CMAR or D-B project delivery method will be provided to ~~the VPCPIF~~VP Facilities through the ~~Assistant Vice President for Capital Construction (AVPCC)~~AVPDC, and from the ~~Capital Construction Project Manager (~~PM~~)~~ in consultation with the ~~Capital Construction Contracting Officer (~~CCCO~~)~~. The written recommendation will justify why ~~sealed bidding~~the design-bid-build delivery method, utilizing competitive sealed bidding, is not practicable and/or fiscally advantageous to the university. Such justification shall consider cost, schedule, complexity, and building use. Procurement procedures associated with these delivery methods shall be in accordance with the current applicable VT CPSM, which is in accordance with *Code of Virginia* §2.2-4378, 2.2.-4379, 2.2-4381 and 2.2-4383. ~~(Note: Specific procedures addressing procurement process requirements and associated guidance are provided within the VT CPSM dated July 1, 2024. In addition, the following will be considered in recommending the CMAR and D-B construction delivery method for each project:~~

~~Considerations for Adopting the CMAR Delivery Method~~

~~Construction Costs~~

~~Project Complexity (difficult site location, unique equipment, specialized building systems, multi-faceted program, accelerated schedule, historic designation, intricate phasing or other aspect that makes competitive sealed bidding impractical)~~

~~Building Use~~

~~Project Timeline~~

~~Need to perform Value Engineering and/or Constructability Analysis concurrent with design~~

~~Need for Quality Control and/or vendor pre-qualification~~

~~Need for Cost/Design Control~~

~~Need for Project phasing~~

~~Prior to using CMAR, the University shall request review and recommendations from Virginia Department of General Services, Division of Engineering and Buildings (DEB) regarding the proposed procurement method. The request for review shall be submitted utilizing the CMAR Procurement Review Submittal Form () and shall include the proposed project schedule and University's written determination that competitive sealed bidding is not practicable or fiscally advantageous. (VT CPSM, 7.2)~~

~~Considerations for Adopting the Design-Build Delivery Method~~

~~Construction Costs~~

~~Project Complexity (simplicity)~~

~~Building Use~~

~~Project Timeline~~

~~Need for a Single Point of Contact (DGS-30-901)~~

~~a.~~

~~C. General Guidelines for Both CMAR and D-B Projects~~
~~A Building Committee shall be approved by the VPCPIF to interview and recommend CMAR or D-B Team for a Capital Project. (VT-CPSM, 7.0.2)~~

C. The following general guidelines shall apply to university CMAR and D-B Projects:

1. At least five working days prior to the release of a CMAR or D-B Request for Qualifications ("RFQ"), the university will provide to DGS for review and approval a copy of its written determination for using either delivery method together with the appropriate relevant DGS Procurement Review Submittal Form signed by the VP Facilities or his/her designee.

DEB APPROVAL: Upon DEB approval of the use of the CMAR or D-B delivery method, Virginia Tech will proceed with issuance of the RFQ.

DEB DENIAL: In the event DEB denies the CMAR or D-B Request and if Virginia Tech elects to proceed with the project using a CMAR or D-B delivery method despite denial by DEB, the following approval process shall be followed:

a. **Projects greater than $65 million:**

1) **Funded in whole or in part from state general funds**

i. DGS shall present the written denial to the BOV.
ii. Virginia Tech shall obtain approval by a majority vote of the BOV.
iii. Upon obtaining approval from the BOV, a representative from DEB/DGS to the extent DGS deems practicable, shall be included in the process for the selection of a contractor following such approval by the BOV.

2) **Funded in whole from non-general funds**

i. DGS shall present the written denial to the BOV.
ii. Virginia Tech shall obtain approval by a majority vote of the BOV.

b. **Projects less than $65 million:**

1) **Funded in whole or in part from state general funds**

i. In this unique instance, Virginia Tech shall obtain approval from the Chairman of the House Committee on Appropriations and the Senate Committee on Finance and Appropriations, or their

designees, and a representative of the Department of General Services. (VT CPSM, 7.0.10).

2) **Funded in whole from non-general funds**

i. DGS shall present the written denial to the BOV.
ii. Virginia Tech shall obtain approval by a majority vote of the BOV.

3) Upon obtaining approval by a majority vote by the BOV, the following shall be maintained in the procurement file: a written statement of Virginia Tech's decision not to follow the DEB decision, its reasons therefor, and the vote of the BOV shall be maintained in the procurement file. (VT CPSM, 7.0.10)

~~1. a signed Procurement Review Submittal Form (Department of General Services [DGS] 30-456 or DGS 30-471) to DGS for review. Upon receipt of DGS' recommendation, the university shall consider DGS comments and document the university's final determination and planned course of action in the project file and provide a copy to DGS for information.~~

~~2. The university shall have in its employ or under contract a licensed architect or engineer with professional competence appropriate to the project who shall i.) advise regarding the use of CMAR or D-B for that project and will ii.) assist with the preparation of the Request for Proposal (RFP) and evaluation of proposals.~~

~~3. The RFQ and RFP will include criteria for contractor selection and will establish a two-step (RFQ/RFP) contractor selection method.~~

~~4. The CCCO shall issue a RFQ in accordance with the Manual.~~

~~5. The RFQ will be posted for no less than 30 calendar days on eVA, the Commonwealth statewide electronic procurement system. It will include a CMAR or D-B justification to support why sealed bidding is not practicable and/or fiscally advantageous.~~

~~6. The selection committee shall evaluate the firms' RFQ responses and any other relevant information and shall determine three to five offerors deemed best qualified with respect to the criteria established for the project in the RFQ to then receive the RFP. Prior CMAR or D-B experience or experience with DEB shall not be required as a prerequisite for award of a contract. However, in the selection of a contractor, the university may consider the experience of each contractor on comparable projects.~~

~~7. The RFQ evaluation process shall evaluate an offeror's experience for a period of ten prior years to determine whether the offeror has constructed, by any method of project delivery, at least three projects similar in program and size. (CMAR 2020, C.3.e and D-B 2020, C.3.e)~~

~~8. The RFQ evaluation process shall result in a short list of three to five offerors to receive the RFP. If available, the short list shall include a minimum of one DSBSD-Certified Small Business that meets the minimum requirements for prequalification. (CMAR 2020, C.3.d and D-B 2020, C.3.d)~~

~~9. For CMAR Projects~~

~~a. At least 90 percent of the construction work shall be subcontracted by the Construction Manager through publicly advertised competitive sealed bidding to the maximum extent practicable.~~

~~b. The contract with the Construction Manager at Risk shall be entered into no later than the completion of the Schematic Design Phase unless prohibited by authorization of funding restrictions.~~

~~c. The establishment of interim GMP contracts for early release packages of construction work are permitted.~~

~~d. GMP early release packages are limited to clearly identifiable, scheduled foundation/site preparation and long lead material procurement. Ideally, they should be for work to be performed during the initial phase of the project and billable at 100 percent before the next phase of the project. (VT CPSM, 7.2)~~

~~e. The GMP for the project shall be established based on Working Drawings, unless waived by the VPCPIF.~~

~~f. The criteria for the use of CMAR as set forth in the Chapter is germane and shall be limited to projects with a construction value that is in excess of $26,000,000. With proper justification for complex projects, the Director of the Department of General Services may grant a waiver of this requirement. (CMAR 2020, B.)~~

~~10. For D-B Projects~~

~~a. At the RFP stage, separate technical and cost proposals are required. (VT CPSM, 7.3)~~

~~b. Sealed Technical Proposals as described in the RFP shall be submitted to the Building Committee.~~

~~c. The Committee will evaluate the Technical Proposals based on the criteria contained in the RFP. D-B offerors will be informed of any adjustments necessary to make their Technical Proposals fully compliant with the requirements of the RFP. (VT CPSM, 7.3.1)~~

~~d. Separately sealed Cost Proposals shall remain sealed until evaluation of the Technical Proposals and the design adjustments are completed.~~

~~e. After evaluation and ranking the committee shall conduct negotiations with two or more offerors submitting the highest ranked proposals. Cost shall be a critical component in evaluations.~~

~~f. The Committee shall evaluate and rank the Technical Proposals. The University will then open the cost proposals and apply the criteria for award as specified in the RFP. (VT CPSM, 7.3.1)~~

~~g. The University may require that offerors make design adjustments necessary to incorporate project improvements and/or additional detailed information identified during design development. (VT CPSM, 7.3.1)~~

~~h. The University shall award the contract to the offeror who is fully qualified and has been determined to have provided the best value in response to the RFP. (VT CPSM, 7.3.1)~~

Reporting:

~~The University~~Virginia Tech shall report on completed projects that employ the CMAR or D-B delivery methods annually or as needed upon request by DGS.

References:

- Construction Management (CM) Procedures as adopted by the Secretary of Administration effective January 1, 2020
- Design-Build (D-B) Procedures as adopted by the Secretary of Administration effective, January 1, 2020.
- Virginia Tech Management Agreement.
- Virginia Tech Construction and Professional Services Manual, ~~January 24~~July 1, 2024.~~20~~

Approval and Revisions:
Initial Adoption
Approved by the Board of Visitors on June 6, 2016

Revision 1
Update Approved by the Board of Visitors on September 11, 2017

Revision 2
Update Approved by the Board of Visitors on August 25, 2020

Revision 3
Update Approved by the Board of Visitors on August 28, 2024

Virginia Polytechnic Institute and State University
Division of Facilities Procedure

Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods

Date:
Revision: 3

Purpose:

Pursuant to the Restructuring Act and in accordance with Chapter 780 (2016) Item 4-4.01 #1c and *Code of Virginia* §2.2-4378, 2.2.-4379, 2.2-4381 and 2.2-4383; the current applicable Virginia Tech Construction and Professional Services Manual ("VT CPSM"); the current applicable Construction Management (CM) Procedures as adopted by the Secretary of Administration ("CM Procedure"); and the current applicable Design-Build (D-B) Procedures as adopted by the Secretary of Administration (D-B Procedure), the following process is revised and adopted in response to the passage of Senate Bill 18 for use of Construction Manager at Risk ("CMAR") and Design-Build ("D-B") Capital Project Delivery Methods.

Responsible Staff:

Capital Construction ("CapCon") – the university unit responsible for administration, management and implementation of Major Capital Outlay Projects.

CapCon Project Manager ("PM") – coordinates with CapCon management and project stakeholders to recommend a project delivery method.

Procurement Department – university unit responsible for the procurement and contract administration of all Major Capital Outlay Projects.

Procurement Department Capital Construction Contracting Officer ("CCCO") – administers the capital outlay procurement process, reviews delivery method options, and manages contract development, approval and execution.

Assistant Vice President for Design and Construction ("AVPDC") – provides CapCon leadership, manages operations, and recommends project delivery methods to meet university goals.

Vice President for Facilities ("VP Facilities") – approves project delivery methods and recommends contracts for execution.

Procedure:

A. Except for projects that use Design-Bid-Build delivery method, the construction delivery method for a capital outlay project shall be approved in writing by the Virginia Department of General Services via the university's VP Facilities.

B. To obtain approval and document this determination, a written recommendation for the CMAR or D-B project delivery method will be provided to VP Facilities through the AVPDC, and from the PM in consultation with the CCCO. The written recommendation will justify why the design-bid-build delivery method, utilizing competitive sealed bidding, is not practicable and/or fiscally advantageous to the university. Such justification shall consider cost, schedule, complexity and building use. Procurement procedures associated with these delivery methods shall be in accordance with the current applicable VT CPSM, which is in accordance with *Code of Virginia* §2.2-4378, 2.2.-4379, 2.2-4381 and 2.2-4383.

C. The following general guidelines shall apply to Virginia Tech CMAR and D-B Projects:

1. At least five working days prior to the release of a CMAR or D-B Request for Qualifications ("RFQ"), the university will provide to DGS for review and approval a copy of the written determination for using either delivery method together with the appropriate relevant DGS Procurement Review Submittal Form signed by the VP Facilities or his/her designee.

   DEB APPROVAL: Upon DEB approval of the use of the CMAR or D-B delivery method, Virginia Tech will proceed with issuance of the RFQ.

   DEB DENIAL: In the event DEB denies the CMAR or D-B Request and if Virginia Tech elects to proceed with the project using a CMAR or D-B delivery method despite denial by DEB, the following approval process shall be followed:

   a. **Projects greater than $65 million**:

      1) **Funded in whole or in part from state general funds**

         i. DGS shall present the written denial to the BOV.
         ii. Virginia Tech shall obtain approval by a majority vote of the BOV.
         iii. Upon obtaining approval from the BOV, a representative from DEB/DGS to the extent the DGS deems practicable, shall be included in the process for the selection of a contractor following such approval by the BOV.

      2) **Funded in whole from non-general funds**

         i. DGS shall present the written denial to the BOV.
         ii. Virginia Tech shall obtain approval by a majority vote of the BOV.

   b. **Projects less than $65 million**:

      1) **Funded in whole or in part from state general funds**

         i. In this unique instance, Virginia Tech shall obtain approval from the Chairmen of the House Committee on Appropriations and the Senate Committee on Finance and Appropriations, or their designees, and a representative of the Department of General Services. (VT CPSM, 7.0.10).

      2) **Funded in whole from non-general funds**

i. DGS shall present the written denial to the BOV
ii. Virginia Tech shall obtain approval by a majority vote of the BOV.

3) Upon obtaining approval by a majority vote by the BOV, the following shall be maintained in the procurement file: a written statement of Virginia Tech's decision not to follow the DEB decision, its reasons therefor, and the vote of the BOV shall be maintained in the procurement file. (VT CPSM, 7.0.10)

Reporting:

Virginia Tech shall report on completed projects that employ the CMAR or D-B delivery methods annually or as needed upon request by DGS.

References:

- Construction Management (CM) Procedures as adopted by the Secretary of Administration effective January 1, 2020.
- Design-Build (D-B) Procedures as adopted by the Secretary of Administration effective January 1, 2020.
- Virginia Tech Management Agreement.
- Virginia Tech Construction and Professional Services Manual, July 1, 2024.

Approval and Revisions:

Initial Adoption
Approved by the Board of Visitors on June 6, 2016

Revision 1
Update Approved by the Board of Visitors on September 11, 2017

Revision 2
Update Approved by the Board of Visitors on August 25, 2020

Revision 3
Update Approved by the Board of Visitors on August 28, 2024

Revisions to and Renewal of University-Related Corporations Affiliation Agreements

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

August 9, 2024

In accordance with the Board of Visitors Bylaws, "Article III-Related Corporations," and as previously approved by the Board of Visitors, the university has entered into affiliation agreements with the following university-related corporations for the purpose of defining the relationship and requirements of the university-related corporations. Each corporation has its own board.

- Virginia Tech Alumni Association
- Virginia Tech Applied Research Corporation
- Virginia Tech Athletic Fund, Inc.
- Virginia Tech Corps of Cadets Alumni, Inc.
- Virginia Tech Foundation, Inc.
- Virginia Tech India Research & Education Forum
- Virginia Tech Innovations Corporation
- Virginia Tech Intellectual Properties, Inc.
- Virginia Tech Services, Inc.

The terms of these agreements expired on June 30, 2024, but remain in effect until replaced by a new agreement. In accordance with the Board of Visitors Bylaws, revisions to the format for these agreements as highlighted below are recommended:

- Incorporate requirements of the University-Related Corporations Audit Resolution approved by the Board of Visitors on March 31, 2008.
- Upon request by the university, each university-related corporation will review its annual operating budget, capital budget, and long-term program and funding plans, including any planned issuance or use of indebtedness, with the university before presenting any such budgets or plans to its board.
- A university-related corporation is a covered entity under the university's obligation to identify and report to the federal government financial support from foreign sources. The university-related corporation will coordinate with the university and its departments to report gifts and contracts received for the benefit of the university in accordance with university procedures.

See Attachment A for the proposed format changes and additions.

The proposed resolution authorizes the university to revise agreements for each university-related corporation with a term ending June 30, 2028 in the revised format as adjusted for any specific affiliation negotiations, applicable laws and regulations.

RESOLUTION FOR REVISIONS TO AND RENEWAL OF UNIVERSITY-RELATED CORPORATION AFFILIATION AGREEMENTS

WHEREAS, on May 29, 2020**,** the Board of Visitors approved renewal of affiliation agreements with the following university-related corporations for the purpose of defining the relationship and requirements of the university-related corporations.

- Virginia Tech Alumni Association
- Virginia Tech Applied Research Corporation
- Virginia Tech Athletic Fund, Inc.
- Virginia Tech Corps of Cadets Alumni, Inc.
- Virginia Tech Foundation, Inc.
- Virginia Tech India Research & Education Forum
- Virginia Tech Innovations Corporation
- Virginia Tech Intellectual Properties, Inc.; and
- Virginia Tech Services, Inc.

WHEREAS, the terms of these agreements expired on June 30, 2024, but remain in effect until replaced by a new agreement; and

WHEREAS, each corporation has its own board; and

WHEREAS, the revisions to the format for these agreements as highlighted below:

- Incorporate requirements of the University-Related Corporations Audit Resolution approved by the Board of Visitors on March 31, 2008
- Upon request by the university, each university-related corporation will review its annual operating budget, capital budget, and long-term program and funding plans, including any planned issuance or use of indebtedness, with the university before presenting any such budgets or plans to its board
- A university-related corporation is a covered entity under the university's obligation to identify and report to the federal government financial support from foreign sources. The university-related corporation will coordinate with the university and its departments to report gifts and contracts received for the benefit of the university in accordance with university procedures; and

WHEREAS, the Board of Visitors has the authority to authorize such revisions and affiliations,

NOW, THEREFORE BE IT RESOLVED, that revised agreements be extended for each university-related corporation with a term ending June 30, 2028 in the revised format as adjusted for any specific affiliate needs, applicable local laws and regulations.

RECOMMENDATION:

That revised agreements be extended for each university-related corporation with a term ending June 30, 2028 in the revised format as adjusted for any specific affiliate needs, applicable local laws and regulations, be approved.

August 28, 2024

AFFILIATION AGREEMENT BETWEEN
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY AND
"UNIVERSITY-RELATED CORPORATION NAME"

THIS AFFILIATION AGREEMENT ("Agreement"), dated as of "Month Day", 2024, is by and between VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY, a Virginia public corporation (the "University"), and "University-Related Corporation Name", a Virginia (or "Other State/Country") nonstock corporation, including each of its subsidiaries (the "Corporation"). The University and the Corporation are collectively referred to herein as the "Parties."

RECITALS

a. The University is an agency of the Commonwealth of Virginia that was established in 1872 for the purpose of providing higher education.

b. The Corporation is a Virginia (or "Other State/Country") nonstock corporation that was established in ("Year") to support and benefit the University and exists and operates as a separate, independent entity with its own officers and governing board.

~~c~~. The Corporation was created for the purpose of "Corporation's Business Purpose".

~~d~~c. The Corporation is a tax-exempt charitable organization under Section 501(c)(3) of the United States Internal Revenue Code (or "Other Legal Structure").

~~e~~d. The University acknowledges the contributions that the Corporation makes to advance the University's mission and goals, and desires ~~to be affiliated~~an ~~with~~affiliation with the Corporation to make available certain facilities, resources, and services to the Corporation for its use.

~~f.~~e. The University and the Corporation desire to set forth the basic terms of their relationship.

NOW, THEREFORE, in consideration of the mutual commitments herein contained, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. **Relationship between the Parties**

(a) Pursuant to Section 23.1-2601 of the Code of Virginia, the University is a state agency and is a Virginia public corporation.

(b) The Corporation is a separately incorporated Virginia (or "Other State/Country") nonstock corporation and is an organization described in Internal Revenue Code section 501(c)(3) (or "Other Legal Structure").

(c) The Corporation shall convey to the University upon written request of the Board of Visitors any interest in real property owned by the Corporation, which real property is and shall be indirectly owned by the University.

(d) The University is responsible for the compensation and evaluation of all University personnel. The Corporation is responsible for the compensation and evaluation of all its personnel. The Corporation agrees that it shall endeavor to provide a benefits and compensation plan for its employees that as nearly as practical matches that of the University.

(e) The Corporation agrees that it will provide the University with (i) a copy of its articles of incorporation and bylaws, as well as any amendments to such organizational documents; and (ii) a list of all directors, officers, and staff members and their relevant contact information including e-mail addresses and telephone numbers. ~~—~~The Corporation also agrees that, upon request by the University, it will review its annual operating budget, capital budget, and long-term program and funding plans, including any planned issuance or use of indebtedness, with the University before presenting any such budgets or plans to its Board. The University acknowledges ~~, however,~~ that the Corporation's Board has full power and authority with respect to ~~such budgets~~the Corporation's annual operating budget, capital budget, and long-term program ~~and~~ plans, including any planned issuance of use of indebtedness. Both parties also acknowledge the importance of considering impacts to and limitations on the University's debt rating when making financial decisions, ensuring alignment with the University's financial objectives, its goal of maintaining favorable borrowing terms and capacity, and its ability to meet the Commonwealth's debt rating standards required of covered institutions pursuant to Virginia's Higher Education Restructuring Act. Additionally, the Corporation will adhere to predefined parameters and guidelines set forth by its Board, and available for review by the university upon request, in making decisions related to debt issuance or utilization, ensuring responsible and strategic financial management.

(f) The Corporation agrees that it shall remain in good standing with the Virginia State Corporation Commission (if Virginia Corporation).

(g) The President of the University, or his or her designee, shall be responsible for communicating to the Corporation the University's priorities and strategic and long-term plans, as approved by the University's Board of Visitors.

2. **Corporation Board**

(a) The Corporation is an independent Virginia (or "Other State/Country") corporation with authority to appoint directors to serve on its Board in accordance with its articles

of incorporation and bylaws. The Parties agree, however, that the President of the University, or the President's designee, shall serve as a Corporation director and member of the Corporation's Executive Committee.

(b) The Corporation represents that the officers and board members of the Corporation were provided a copy of this Agreement and its Board~~they~~ authorized the person executing this Agreement on behalf of the Corporation to execute this Agreement.

(c) The Corporation agrees to provide, upon request by the University, a listing of the board members and officers of the Corporation annually.

(d) The Corporation agrees to provide, upon request by the University, copies of the approved minutes of all regular and special meetings of the Corporation's Board.

3. **Fundraising Activities**

The Parties acknowledge that the University is responsible for any fundraising activities of the University. The Corporation, as appropriate, will continue to support the University's fundraising efforts. Notwithstanding the foregoing, the solicitation of governmental grants and research contracts by the Corporation shall not be considered fundraising activities.

4. **Dealings with Third Parties**

(a) The University and the Corporation acknowledge that each is an independent entity, separate from the other, and neither shall hold itself out as being part of, controlled by, or acting on behalf of the other. Both Parties agree to take reasonable measures to ensure that third parties understand that the University and the Corporation are separate and independent entities. With respect to marketing, advertising, publicity, correspondence, contracts, and other formal means of communication, the Corporation will use its full corporate name to avoid confusion on the part of the third parties. All correspondence, solicitations, activities, and advertisements concerning the Corporation shall reflect the Corporation, the University, and the relationship between them appropriately.

(b) The Corporation shall prepare and timely file all of its tax returns and reports including information returns required under federal, state, and local laws. At the request of the Vice President for Finance and Chief Financial Officer, the Corporation shall provide copies of tax returns and reports that are publicly available information. The Corporation shall use its taxpayer identification number and its tax-exempt status in connection with purchases and sales by the Corporation, gifts to the Corporation, interest, and other income of the Corporation, and any other activity of the Corporation.

5. **Liability Insurance and Defense**

The Parties acknowledge that the University, the Commonwealth of Virginia, and the employees and agents of either will not be liable for any of the Corporation's contracts, torts, or other acts or omissions, or those by the Corporation's directors, officers, employees, or other staff, provided, however, that the limitations of liability stated herein shall not apply to faculty and staff of the University acting within the scope of their employment with the University. Further, the Parties acknowledge that neither the Corporation nor its directors, officers, employees, or staff are protected by the University's or the Commonwealth of Virginia's insurance policies or self-insurance plans in connection with the Corporation's activities, and the University and the Commonwealth will not provide any legal defense for the Corporation or any such person in the event of any claim against any of them.

6. **Non-Discrimination**

The Corporation agrees that it shall maintain a non-discrimination policy that is consistent with the University's Equal Opportunity/Affirmative Action Statement.

7. **Charges for Services**

The Parties agree to reimburse each other for the cost of services provided. To the extent that a rate schedule exists for these services, the appropriate rate will be charged. To the extent there is no rate schedule charge set for a service, the charged rate will be mutually agreed upon by the University and the Corporation. All business transactions shall be entered into by each side freely and independently.

8. **Use of Facilities, Resources, Services, and Marks**

(a) The University agrees that the Corporation is eligible to use the University's facilities, resources, and services (other than legal counsel), subject to availability and the policies and procedures of the University applicable to such facilities, resources and services.

(b) The University may accord the Corporation's personnel certain privileges related to the use of services and facilities generally available to University employees, subject to a separate written agreement between the Parties.

(c) Each Party grants, and the other accepts, a non-exclusive, non-transferrable royalty-free right and license to use the other's names and marks in connection with their operations, including as part of their names.

(d) The Corporation agrees that the use of ~~such~~ the University's names and marks will comply with University brand standards. The Corporation agrees that, in any creative work produced directly or ~~indication~~ indirectly for the Corporation, as it relates to any

University marks, the creative work's end application will fit the visual look and feel of the overall brand aesthetic and brand concept and will correctly use all University marks including logos and identity components. Creative work will include, but is not limited to: websites, applications, electronic communications, newsletters, advertisements, mailings, magazines, and other communication materials (digital and print).

(e) Nothing in this Agreement gives the other party any other right, title, or interest in the licensed marks, which remain the sole property of the other.

9. **Accounting Reports**

(a) The books and records of the Corporation shall be kept in accordance with generally accepted accounting principles.

(b) The Corporation shall provide to the Vice President for Finance and Chief Financial Officer a copy of the annual audited financial statements of the Corporation.

(c) The Corporation shall promptly disclose to the University any foreign gifts or contracts received on behalf or for the benefit of the University. This disclosure shall include all necessary information required for compliance with federal regulations, including but not limited to the amount, source, and purpose of the gift or contract.

10. **Audit**

(a) The Corporation shall have an Audit Committee, which reports to the Board of Directors of the Corporation, and which is comprised of individuals who are independent and separate from those who manage or administer the Corporation. Minutes from the Audit Committee meetings of the Corporation will be provided, upon request by the University.

(b) The Corporation at its expense shall have an annual audit performed by an external independent Certified Public Accountant (CPA) firm, and within six months of the Corporation's fiscal year end, shall provide copies to the University of its audited financial statements and management letter indicating any auditor concerns, if any, regarding financial and management matters, and suggestions for correction.

(c) The Audit Committee shall evaluate rotating the independent CPA firm or the audit team if a new CPA firm is not selected at least every five years.

(d) The chairman of the Audit Committee of the Corporation shall file an annual certification letter with the University stating that the procedures in (a)-(c) above have been followed.

(e) The Corporation agrees to participate in the University-related corporation internal audit program. All costs of both the annual audit and the internal audit work performed for the Corporation shall be paid by the Corporation.

~~**Audit**~~

~~The Corporation at its expense shall have an annual audit performed by an independent auditor, and shall provide copies of its financial statements, and related documents, produced in connection with the audit to the Senior Vice President and Chief Business Officer of the University. The Corporation agrees to participate in the University-related corporation internal audit program. All costs of both the annual audit and the internal audit work performed for the Corporation shall be paid by the Corporation.~~

~~10~~11. **No Partnership or Joint Venture**

No provision of this Agreement shall be deemed to create a partnership or joint venture between the University and the Corporation.

~~11~~12. **Dissolution**

Should the Corporation cease to exist or cease to be an organization described in Section 501(c)(3) of the Internal Revenue Code, the Corporation will transfer its assets to the University, or if it is no longer in existence to the Commonwealth of Virginia, any one or more affiliated entities with the University that are organized and operated exclusively for charitable and educational purposes within the meaning of Section 501(c)(3) and 170(c)(2)(B) of the Internal Revenue Code. If none of the University or its affiliated entities are then so described, the Corporation will distribute its assets and property to one or more organizations that are organized and operated exclusively for charitable and educational purposes within the meaning of Sections 501(c)(3) and 170(c)(2)(B) of the Internal Revenue Code. The Corporation agrees to transfer such assets and property in a manner that furthers the best interests of the University, as determined by its Board in consultation with the University.

~~12~~13. **Term and Termination of Agreement**

This Agreement shall become effective upon execution by both Parties and shall expire on June 30, ~~2024~~2028, but it will remain in effect past the expiration date unless (i) terminated by either Party, with or without cause, upon 90 days' prior written notice to the other, (ii) terminated by mutual written agreement of the Parties, or (iii) replaced by a new agreement.

~~13~~14. **Waiver**

Failure of either Party to enforce any of the provisions of this Agreement shall not be construed as a waiver of that, or any other, provision or any later breach thereof.

~~14~~15. **Notices**

Any notice under this Agreement shall be deemed given when deposited in the mail, postage prepaid, and addressed as follows:

If to the Corporation:

President
"Address"

If to the University:

President
Virginia Tech 210 Burruss Hall
Blacksburg, Virginia 24061

~~Senior~~ Executive Vice President and Chief ~~Business~~ Operating Officer
Virginia Tech
210 Burruss Hall
Blacksburg, Virginia 24061

With a copy to:
University Legal Counsel
Virginia Tech
236 Burruss Hall
Blacksburg, Virginia 24061

or to such other person, at such addresses, as either party may designate for itself and so notify the other party in writing.

~~15~~16. **Entire Agreement; Amendments**

This Agreement constitutes the entire agreement between the Corporation and the University concerning the subject matter, and it supersedes all prior written or oral agreements concerning this subject matter. This Agreement may not be amended except by written document executed by both Parties.

~~16~~17. **Governing Law**

This Agreement shall be governed by the laws of the Commonwealth of Virginia, regardless of its choice of law doctrine.

[Signatures Follow on Next Page]

IN WITNESS THEREOF, the Parties have executed this Agreement as of the date written above.

"UNIVERSITY-RELATED CORPORATION"	VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
By:_____ (Authorized Officer)	By:_____ (Authorized Officer)
Title: Chief Executive Officer	Title: President

Resolution for Subscription-Based Information Technology Arrangement with Amazon Web Services

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

August 7, 2024

The Division of Information Technology currently utilizes a Subscription-Based Information Technology Arrangement (SBITA) with Amazon Web Services that provides a wide range of scalable, secure, and cost-effective cloud computing solutions. Using Amazon Web Services offers numerous advantages for Virginia Tech operations including enhanced operational efficiency, reduced costs, improved security, and the ability to innovate and respond quickly.

Amazon Web Service supports various critical functions across campus, including data storage, computation, and application hosting. The future needs for Amazon Web Services include expanded cloud services, increased computing and storage capacity, and more robust data analytics capabilities to support academic, administrative, and research activities.

The existing agreement is valid through August 31, 2024. The renewal term rides a cooperative contract with a Private Pricing Agreement that differentiates our pricing model and discounts from the cooperative contract.

The Private Pricing Agreement with Amazon Web Services is confidential and will have a present value of up to $7 million depending on the contract term. The negotiated term includes options for one, three, and five-year periods beginning on September 1, 2024. Discounts and credits increase with the length of the renewal term.

The issuance of GASB Statement No. 96, implemented beginning July 1, 2022, requires Virginia Tech to recognize such agreements as an intangible right-to-use asset with a corresponding right-to-use liability thereby increasing the university's debt service to operations ratio.

While Virginia Tech seeks to define contracting arrangements well before the end of a contract term, the university is beholden to the time frame in which the vendor responds (in this case, Amazon Web Services) which did not align with required time frames for Board of Visitors approval.

Under the 2006 Management Agreement between the Commonwealth of Virginia and the university, the Board of Visitors has the authority to approve the budget, size, scope, debt issuance, and overall funding of capital projects, including long-term leases and subscription-based information technology arrangements. Prior to GASB Statement 96, SBITAs were approved by university administration through its internal budgeting and information technology procurement processes and reported as operating expenses in the year of payment. The Division of IT annual operating budget includes an amount sufficient to cover the annual cash outlay for subscription payments.

RESOLUTION FOR SUBSCRIPTION-BASED INFORMATION TECHNOLOGY ARRANGEMENT WITH AMAZON WEB SERVICES

WHEREAS, the Division of IT has an operational need for continued use of Amazon Web Services; and,

WHEREAS, the current term expires on August 31, 2024; and,

WHEREAS, the Division of IT annual operating budget includes an amount sufficient to cover the annual cash outlay for subscription payments; and,

WHEREAS, the maximum renewal term, including additional discounts and credits, has a present value up to $7 million and requires approval by the Board of Visitors prior to execution; and,

WHEREAS, under the 2006 Management Agreement between the Commonwealth of Virginia and Virginia Tech, the Board of Visitors has authority to approve the budget, size, scope, debt issuance, and overall funding of capital projects, including long-term leases and subscription-based information technology arrangements.

NOW, THEREFORE, BE IT RESOLVED, that Virginia Tech be authorized at the conclusion of negotiations to enter a subscription-based information technology arrangement for Amazon Web Services with a present value up to $7 million.

RECOMMENDATION:

That the above resolution authorizing Virginia Tech to enter a long-term subscription-based information technology arrangement with a present value up to $7 million be approved.

August 28, 2024

RESEARCH AND INNOVATION
SCHOLARLY INTEGRITY AND RESEARCH COMPLIANCE
VIRGINIA TECH

Cristen Jandreau, Ph.D.
Director, Research Conflict of Interest Program
North End Center, Suite 4120
300 Turner Street NW
Blacksburg, Virginia 24061
P: (540) 231-4824 F: (540) 231-0959
Email: drj@vt.edu

Date: 7/19/2024

To: Board of Visitors

Subject: Report of open contracts entered into subject to the Code of Virginia "State and Local Government Conflict of Interests Act" ("the Act") § 2.2-3106 C. 8.

There were five contracts entered into at the time of this report from 4/30/2024 – 6/30/2024 subject to the Act's exception for prohibited contracts involving research and development or commercialization of intellectual property. Details as per the Act § 2.2-3106 E. are included below.

Contract	1 of 5
Open contract number	PG5UM3ES
Names of parties	Virginia Tech and S1P Therapeutics Inc.
Date contract executed	06/21/24
Contract term	10/01/2023 – 03/31/2025
Subject of contract	"Blocking the S1P Pathway for Chronic Kidney Disease Therapeutics"
Nature of COI	Webster Santos, Professor in the Department of Chemistry, has disclosed that he holds an equity interest in S1P Therapeutics Inc. that exceeds 3% and serves as a principal for the company. Webster Santos developed novel technology utilized by this research, which is jointly owned by Virginia Tech and the University of Virginia and licensed to S1P Therapeutics Inc. Virginia Tech has received an award from the Virginia Biosciences Health Research Corporation that includes a subaward to S1P Therapeutics Inc. Webster Santos is the Principal Investigator for Virginia Tech. In the context of sponsored research, this financial interest represents a financial conflict of interest with state law implications. The Research Conflict of Interest Program has implemented a management plan to promote objectivity.

Institution employee responsible for administering contract	James R. Heflin, contract administration signatory Co-Interim Director, Virginia Tech Office of Sponsored Programs
The institution's commitment of resources or finances for the contract	N/A
Details of how revenues are to be dispersed	N/A (no revenues will be generated)

Contract	2 of 5
Open contract number	PM7SDDB2
Names of parties	Virginia Tech and Zebra Analytix Inc
Date contract executed	06/03/2024
Contract term	01/08/2024 – 07/07/2025
Subject of contract	"SPOCK: Size-segregated Particle Odor Chromatographic Kernel"
Nature of COI	Masoud Agah, Professor in the Department of Electrical and Computer Engineering, has disclosed that he holds an equity interest in Zebra Analytix Inc exceeding 3% and serves on the company's Board of Directors. Masoud Agah developed novel technology utilized by this research, which is owned by Virginia Tech and licensed to Zebra Analytix Inc. Virginia Tech has received an award from the Intelligence Advanced Research Projects Activity that includes a subaward to Zebra Analytix Inc. Masoud Agah will serve as the Principal Investigator for Virginia Tech. In the context of sponsored research, this financial interest represents a financial conflict of interest with state law implications. The Research Conflict of Interest Program has implemented a management plan to promote objectivity.
Institution employee responsible for administering contract	James R. Heflin, contract administration signatory Co-Interim Director, Virginia Tech Office of Sponsored Programs
The institution's commitment of resources or finances for the contract	N/A

Details of how revenues are to be dispersed	N/A (no revenues will be generated)

Contract	3 of 5
Open contract number	PTM5EO4L
Names of parties	Virginia Tech and The Bulls Run Group
Date contract executed	04/15/2024
Contract term	01/15/2024 – 07/21/2025
Subject of contract	“Reimagining Security with Cyberpsychology-Informed Network Defenses (ReSCIND)”
Nature of COI	Stoney Trent, Research Professor for the Virginia Tech National Security Institute, has disclosed that he holds an equity interest exceeding 3% in The Bulls Run Group, LLC and serves as president for the company. The Bulls Run Group, LLC has received an award from the Intelligence Advanced Research Projects Activity that includes a subaward to Virginia Tech. Nathan Ka Ching Lau, Associate Professor in the Department of Industrial and Systems Engineering, will serve as the Principal Investigator for Virginia Tech and has no relationship with The Bulls Run Group, LLC. Stoney Trent will serve as the Principal Investigator for the Bulls Run Group, LLC and will not participate on the Virginia Tech side of the project. In the context of sponsored research, this financial interest represents a financial conflict of interest with state law implications. The Research Conflict of Interest Program has implemented a management plan to promote objectivity.
Institution employee responsible for administering contract	James R. Heflin, contract administration signatory Co-Interim Director, Virginia Tech Office of Sponsored Programs
The institution's commitment of resources or finances for the contract	N/A
Details of how revenues are to be dispersed	N/A (no revenues will be generated)

Contract	4 of 5
Open contract number	PRIE3PYG
Names of parties	Virginia Tech and the National Audubon Society
Date contract executed	06/11/2024
Contract term	11/01/2023 – 05/15/2025
Subject of contract	“Applying Social and Biological Sciences to Prevent Human Disturbance of Atlantic Flyway Shorebirds-IV”
Nature of COI	Ashley Dayer, Associate Professor in the Department of Fish and Wildlife Conservation, has disclosed consulting for the National Audubon Society and receipt of payments exceeding $5,000 in the past 12 months. Virginia Tech has received an award from the National Fish and Wildlife Foundation that includes a subcontract to the National Audubon Society. Ashley Dayer is serving as the Principal Investigator for Virginia Tech. In the context of sponsored research, this financial interest represents a conflict of interest with state law implications. The Research Conflict of Interest Program has implemented a management plan to promote objectivity.
Institution employee responsible for administering contract	James R. Heflin, contract administration signatory Co-Interim Director, Virginia Tech Office of Sponsored Programs
The institution's commitment of resources or finances for the contract	N/A
Details of how revenues are to be dispersed	N/A (no revenues will be generated)

Contract	5 of 5
Open contract number	PCYHXSPJ
Names of parties	Virginia Tech and Daguna Consulting, LLC

Date contract executed	04/02/2024
Contract term	11/03/2023 – 09/30/2028
Subject of contract	“Monitoring Federally-listed Freshwater Mussels and Population Restoration Efforts across the Upper Tennessee River Basin in Virginia and Tennessee”
Nature of COI	Caitlin Carey, Project Associate with the Conservation Management Institute, has disclosed that she holds an equity interest in Daguna Consulting, LLC exceeding 3% and has received payments in excess of $5,000 in the past 12 months from the company. Virginia Tech has received awards from the United States Fish and Wildlife Service and the Virginia Department of Wildlife Resources that include subcontracts to Daguna Consulting, LLC. Scott Klopfer, Director of the Conservation Management Institute, is the Principal Investigator for Virginia Tech. Caitlin Carey will serve as a co-Investigator for Virginia Tech. In the context of sponsored research, these financial interests represent a financial conflict of interest with state law implications. The Research Conflict of Interest Program has implemented a management plan to promote objectivity.
Institution employee responsible for administering contract	Trudy Riley, contract administration signatory Director, Virginia Tech Office of Sponsored Programs
The institution's commitment of resources or finances for the contract	N/A
Details of how revenues are to be dispersed	N/A (no revenues will be generated)

Closed Session Agenda

ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE

August 27, 2024

		Agenda Item	Reporting Responsibility
	1.	Motion to Begin Closed Session	N. Dye
*	2.	Resolution to Approve Appointments to Emeritus/a Status (10)	R. Fricker
*	3.	Resolution to Approve Appointments to Endowed Chairs, Professorships, or Fellowships (5)	R. Fricker
*	4.	Resolution to Approve Appointments with Tenure (8)	R. Fricker
	5.	Personnel Changes Report *(voted on by Finance and Resource Management Committee)*	R. Fricker
	6.	Motion to End Closed Session	N. Dye
	7.	Report of Closed Session Action Items	N. Dye

*Requires Full Board Approval

Closed Session Briefing Report

ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE

August 27, 2024

	Agenda Item	Reporting Responsibility
1.	**Motion to Begin Closed Session** *Nancy Dye, chair of the Academic, Research and Student Affairs committee, will welcome committee members and request that a member of the committee make a motion to take the committee into closed session.*	N. Dye
* 2.	**Resolutions to Approve Appointments to Emeritus/a Status (10)** *The committee will consider 10 resolutions for appointments to emeritus or emerita status.*	R. Fricker
* 3.	**Resolution to Approve Appointments to Endowed Chairs, Professorships, or Fellowships (5)** *The committee will consider five resolutions for appointments to endowed chairs, professorships, or fellowships.*	R. Fricker
* 4.	**Resolution to Approve Appointments with Tenure (8)** *The committee will consider a resolution to approve the tenured appointments of eight faculty members.*	R. Fricker
5.	**Personnel Changes Report** *The Faculty Personnel Changes Report is considered by the Finance and Resource Management Committee at each meeting. Highlights from that report, of faculty actions that may be strategically relevant to this committee, will be shared.*	R. Fricker
6.	**Motion to End Closed Session** *The committee chair will request that a member of the committee make a motion to end the committee's closed session.*	N. Dye
7.	**Report of Closed Session Action Items** *The committee chair will report on those actions that were voted on during closed session.*	N. Dye

* Requires Full Board Approval

Open Session Agenda

ACADEMIC, RESEARCH AND STUDENT AFFAIRS COMMITTEE

August 27, 2024

		Agenda Item	Reporting Responsibility
	1.	**Welcome**	N. Dye
	2.	**Review and Approve Open Session Agenda**	N. Dye
	3.	**Consent Agenda**	N. Dye
		a. Approval of June 11, 2024 Committee Meeting Minutes	
		b. Report of Reappointments to Endowed Chairs, Professorships, and Fellowships	
		c. Summary of the 2024-25 Faculty & Staff Merit Programs *(shared for information purposes only, from Finance and Resource Management Committee)*	
*		d. Resolution for Exclusion of Certain Officers/Directors	
*		e. Changes to Student Code of Conduct for 2024-25	
	4.	**Provost's Update**	C. Clarke
#	**5.**	**Student Affairs Update: Corps of Cadets**	F. Keene
#	**6.**	**Virginia Tech Global Distinction: Commonwealth Cyber Initiative**	D. Sui, L. da Silva
#*	**7.**	**Name, Image, Likeness Policy**	K. Heidbreder
	8.	**Closing Remarks and Adjourn**	N. Dye

* Requires Full Board Approval
# Discusses Enterprise Risk Management topic(s)

Open Session Briefing Report

ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE

August 27, 2024

	Agenda Item	Reporting Responsibility
	1. Welcome *The chair will welcome members and others to the committee's open session.*	N. Dye
	2. Review and Approve Open Session Agenda *The chair will review and ask for approval of the Open Session Agenda including items on the Consent Agenda.*	N. Dye
*	**3. Consent Agenda** *The committee will consider approval of items on the consent agenda including: approval of the June 11, 2024 committee meeting minutes, a report on six reappointments to endowed chairs, professorships, or fellowships, a summary of the 2024-25 faculty & staff merit programs shared for information purposes only from the Finance and Resource Management Committee, a resolution for the exclusion of certain officers/directors, and changes to the student code of conduct for 2024-25.*	N. Dye
	4. Provost's Update and Discussion *Cyril Clarke, executive vice president and provost, will update the committee on the university's academic initiatives.*	C. Clarke
#	**5. Student Affairs Update: Corps of Cadets** *Frances Keene, vice president for Student Affairs, will update the committee on key goals and student learning and student well-being efforts within the Virginia Tech Corps of Cadets.*	F. Keene
#	**6. Virginia Tech Global Distinction: Commonwealth Cyber Initiative** *Dan Sui, senior vice president for research and innovation and Luiz da Silva, executive director of the Commonwealth Cyber Initiative (CCI) will share the latest research and developments in the CCI*	D. Sui, L. Da Silva
#*	**7. Name, Image, Likeness Policy**	K. Heidbreder

* Requires Full Board Approval

Discusses Enterprise Risk Management topic(s)

Kay Heidbreder will present the proposed new Name, Image, and Likeness Policy for approval.

8. Closing Remarks and Adjourn N. Dye

The committee chair will provide closing remarks and adjourn the meeting.

_____

* Requires Full Board Approval

Discusses Enterprise Risk Management topic(s)

RESOLUTION APPROVING THE POLICY ON STUDENT ATHLETE PARTICPATION IN NAME, IMAGE, LIKENESS OPPORTUNTIES

WHEREAS, effective 2021, the NCAA issued rules that permit student athletes to benefit financially from their Name, Image, and Likeness (hereinto referred to as NIL) for commercial purposes; and

WHEREAS, the Virginia General Assembly adopted legislation in 2022 regulating the scope of student athlete NIL activities in Virginia that was codified in §23.1-408.1, Code of Virginia, as amended; and

WHEREAS, the General Assembly, with the support of the Governor, amended §23.1-408.1, Code of Virginia, as amended, effective July 1, 2024; and

WHEREAS, §23.1-408.1, Code of Virginia, as amended, requires that an institution submit to the Board of Visitors for approval the institutional NIL policy; and

WHEREAS, a policy on student athlete participation in Name, Image, and Likeness opportunities has been developed that tracks the requirements of §23.1-408.1, Code of Virginia, as amended;

NOW, THEREFORE, BE IT RESOLVED, that the policy on Student Athlete Participation in Name, Image, Likness Opportunities be adopted.

RECOMMENDATION:

That the Policy on Student Athlete Participation in Name, Image, Likness Opportunities be adopted.

August 28, 2024

Policy on Student Athlete Participation in Name, Image, Likeness Opportunities

No. ####

Policy Effective Date:
08/27/24

Last Revision Date:
08/27/24

Policy Owner:
Whit Babcock,
Athletics Director

Policy Author:
(Contact Person)
Brandon Hall,
Executive Associate Athletics Director and Chief Financial Officer

Affected Parties:
Undergraduate
Graduate
Faculty
Staff
Other

1.0 Purpose

Section 23.1-408.1, Code of Virginia, as amended, authorizes creation by the university of a Name, Image, and Likeness (NIL) Program for student athletes.

2.0 Policy

Consistent with Section 23.1-408.1, Code of Virginia, this policy and any future modifications must be approved by the university's Board of Visitors.

2.1 Applicability of Policy

Virginia Tech permits student athletes to receive compensation for the use of their name, image, and likeness for actual services rendered by the student athlete related to their participation in the university's intercollegiate athletics program. This policy does not regulate activities that are not related to intercollegiate athletics, provided such activities do not impact the student athlete's eligibility under NCAA, athletic conference, or university rules. Further, this policy is separate from any other student athlete payments, including but not limited to scholarships, provided by the university.

2.2 Student athlete participation in Name, Image, and Likeness program

2.2.1 Student Athletes must register their NIL participation with the athletic department if the student anticipates receiving in excess of $600 per season and for any sums earned for work performed for university.

2.2.2 Student Athletes participating in the NIL program shall attend the athletic department educational program on money management once per academic year.

2.2.3 The university will not compensate student athletes for their NIL rights for participation in academic, or university athletic activities, including but not limited to practices, scrimmages, competitions, whether televised or not.

2.2.4 As a condition of intercollegiate athletic participation, student athletes are required to assign a full paid-up royalty free nonexclusive license to NIL rights to the university for participation in activities identified in subsection 2.2.3. above.

2.2.5 Student Athletes must remain in good standing with the university including academically, with Student Conduct, with the Honor System, and with the Corps of Cadets (if applicable) and remain enrolled to continue to participate in NIL activities as identified in this policy. Additionally, student-athletes must comply with all athletics policies including, but not limited to, the Student-Athlete Handbook and Policy 1036 (Student-Athlete Monitoring and Assistance Program) to participate in the NIL program.

2.3 Restrictions

2.3.1 Nothing in this policy shall be construed as an employment relationship between the student athletes and the university for their participation in the university's inter-collegiate athletics department.

2.3.2 Student Athletes participating in the NIL program shall not earn compensation in connection with any of the following:

a. Alcohol and alcoholic beverages;
b. Adult entertainment;
c. Cannabis, cannabinoids, cannabidiol, or other derivatives, not including hemp or hemp products;
d. Controlled substances as defined in Virginia Code § Section 54.-3401
e. Drug paraphernalia, as define in Virginia Code Section § 18.2-265.1
f. Tobacco, tobacco products, alternative nicotine products, nicotine vapor products, and similar products and devices;
g. Weapons, including firearms and ammunition for firearms; and
h. Casinos or gambling, including sports betting.

2.3.3 Without university written permission, student athletes may not use university marks, facilities, apparel, equipment, or intellectual property to earn NIL compensation.

3.0 NIL Activities Scope

3.1 The university may permit the use of certain university assets as an incentive to an outside entity that supports NIL opportunities for university student athletes subject to subsection 2.3.3 above. Specifically:

3.1.1 The Director of Athletics may permit use of university facilities assigned to the Athletics Department consistent with the delegated authority provided by the Vice President for Facilities.

3.1.2 The Director of Athletics may permit the use of other departmental resources, including but not limited to personnel and equipment for these purposes.

3.1.3 The use of university facilities or resources not assigned to the Athletics Department must be approved by the Executive Vice President and Chief Operating Officer or his or her designee. The use of Athletics trademark licensing or benefits may also be permitted if approved by the Director of Athletics.

3.2 The university may enter into an agreement with a third-party or affiliated entity to manage NIL activities.

3.2.1 Any third party or affiliated entity will be subject to the terms of a mutually written agreement.

3.3 Marketing activities by third parties and or an affiliated entity shall put forth factors to the University upon which NIL agreements with student athletes shall be administered, including such considerations as equity in marketing, fair student athlete compensation, and a matrix detailing factors such as audience interest and student athlete participation obligations.

4.0 Definitions

Conference means any athletic conference to which the university is a member.

NCAA means the National Collegiate Athletic Association.

NIL means Name Image and Likeness of a student athlete participating on an intercollegiate athletics team.

5.0 References

1. 23.1-408.1 Code of Virginia, as Amended.
https://law.lis.virginia.gov/vacode/title23.1/chapter4/section23.1-408.1/

6.0 Approval and Revisions

Open Session Agenda

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

Tour departs at 2:00 p.m. from the Lobby of the Inn at Virginia Tech and Skelton Conference Center.

		Agenda Item	Reporting Responsibility
	1.	Tour of University Facilities a. Virginia-Maryland College of Veterinary Medicine b. War Memorial Hall	Dwyn Taylor

Open session meeting begins at 3:30 p.m.
in Latham Ballroom A/B of the Inn at Virginia Tech and Skelton Conference Center.

		Agenda Item	Reporting Responsibility
	2.	Welcome and Introductions	Committee Chair Dwyn Taylor
	3.	Consent Agenda a. Minutes from the June 2024 Committee Meeting	Committee Chair Dwyn Taylor
*		b. Resolution to Approve Revisions to the Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods	
	4.	Update from the Chief Operating Officer	Amy Sebring
# +	**5.**	Overview of the University's Physical Assets and Facilities Management Approach	Dwyn Taylor
# +	**6.**	Overview of the Capital Construction Program	Dwyn Taylor
# +	**7.**	Acceptance of the Capital Project Status Report	Dwyn Taylor
	8.	Future Agenda Items and Closing Remarks	Committee Chair

*** Requires Full Board Approval**
 # Discusses Enterprise Risk Management Topic(s)
+ Discusses Strategic Investment Priorities Topic(s)

Open Session Briefing Report

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

Tour departs at 2:00 p.m. from the Lobby of the Inn at Virginia Tech and Skelton Conference Center.

Open Session Meeting

1. **Tour of University Facilities:** The Committee will participate in a tour of university facilities.

    a. **Virginia-Maryland College of Veterinary Medicine:** The Committee will participate in a tour of Virginia-Maryland College of Veterinary Medicine. Established in 1978, Virginia-Maryland College of Veterinary Medicine is a leading biomedical teaching and research center. The college's locations include the main campus in Blacksburg, Virginia; the Animal Cancer Care and Research Center in Roanoke, Virginia; the Marion duPont Scott Equine Medical Center in Leesburg, Virginia, and the Gudelsky Veterinary Center in College Park, Maryland. The existing Teaching Hospital is a full-service veterinary facility providing primary and specialized care for both small and large animals on the main campus in Blacksburg, Virginia. The hospital focuses on teaching and provides a hands-on learning experience where students, residents and interns work closely with CVM faculty and staff. However, the current facility was constructed nearly forty years ago, and the small animal patient care and teaching facilities are no longer capable of meeting the current space demands of the school's growing academic program. The Campus Master Plan and the Six-Year Capital Outlay Plan include the renovation and expansion to the College of Veterinary Medicine's (CVM) Teaching Hospital. This project has been a high priority for the College and its teaching and research mission including its operational and fundraising efforts for multiple years. The renovation and expansion will provide new exam rooms, surgery rooms, and service modules, community practice space as well as ICU, Intermediate Care Suite, physical therapy and pharmacy stores and the necessary support spaces. The project scope is envisioned as the renovation of approximately 25,000 gross square feet (GSF) as well as an addition of approximately 25,000 GSF for a combined total of 50,000 GSF of updated, modern space for the CVM Teaching Hospital's academic program. The university is currently seeking a planning authorization for the project to complete working drawings for the project.

b. War Memorial Hall: The Committee will participate in a tour of War Memorial Hall. The recent War Memorial Hall renovation helps strengthen Virginia Tech's commitment to supporting student well-being through enhanced student health, wellness, counseling, and recreational sport resources and programs. The renovation includes improvements to classrooms, faculty offices, and research labs. War Memorial Hall houses Recreational Sports, faculty offices, research offices and labs that bring together health science with hands-on application of exercise, health, and well-being. War Memorial Hall renovations include new, refreshed, and expanded exercise and activity spaces; dedicated functional fitness space; mind and body studio; dance studio; wet classroom for aquatic and safety instruction; building system upgrades, including air conditioning; modernized general assignment classrooms; student gathering spaces; and administrative offices. Newly modernized locker rooms and bathrooms will include family changing rooms and all-gender spaces.

Open session meeting begins at 3:30 p.m.
in Latham Ballroom A/B of the Inn at Virginia Tech and Skelton Conference Center.

Open Session Meeting

2. **Welcome and Introductions:** The Committee Chair will convene the meeting and provide welcoming remarks.

3. **Consent Agenda:** The Committee will consider for approval the items listed on the Consent Agenda.

   a. Minutes from the June 2024 Committee Meeting: The Committee will review for approval the minutes from its June 2024 meeting.

   * **b. Resolution to Approve Revisions to the Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods:** The Committee will review for approval a resolution to revise the approval process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods. Pursuant to the Restructuring Act and in accordance with Chapter 780 (2016) Item 4-4.01 #1c and *Code of Virginia* §2.2-4378, 2.2.-4379, 2.2-4381 and 2.2-4383; the current applicable Virginia Tech Construction and Professional Services Manual; the current applicable Construction Management Procedures as adopted by the Secretary of Administration; and the current applicable Design-Build Procedures as adopted by the Secretary of Administration, the proposed university process is to be revised and adopted in response to the passage of Senate Bill 18 for use of these methods.

The university recommends that the resolution approving revisions to the Capital Construction Delivery Method Approval Process be approved.

4. **Update from the Chief Operating Officer:** The Committee will receive an update from Amy Sebring, Executive Vice President and Chief Operating Officer.

+ 5. **Overview of the University's Physical Assets and Investment Approach:** The Committee will receive an overview of the university's physical assets and investment approach from Dwyn Taylor, Vice President for Facilities and Chief Facilities Officer. Virginia Tech is committed to providing a safe, inclusive, accessible, sustainable, mission-centric, partner-focused, and cost-effective infrastructure that preserves, fosters, complements, and advances the university's distinct senses of place and service. Extensive land holdings, effectively maintained and growing facilities, and a modern inventory of equipment and systems provide a sound foundation for current programs and future initiatives.

+ 6. **Overview of the Capital Construction Program:** The Committee will receive an overview of the university's capital construction program from Dwyn Taylor, Vice President for Facilities and Chief Facilities Officer. The Facilities Division provides leadership in the administration and management of all major capital outlay projects, which are defined as projects with a total project cost of $3 million or more inclusive of all expenditures necessary to complete the project, and/or projects involving the construction of 5,000 square feet or more. Project managers work closely with sponsoring colleges and departments, future building users, and other project stakeholders to achieve project goals. Following project authorization by the Board of Visitors, project managers coordinate all phases of a project from initiation through completion and close-out.

+ 7. **Acceptance of the Capital Project Status Report:** The Committee will review for acceptance the quarterly capital project status report from Dwyn Taylor, Vice President for Facilities and Chief Facilities Officer. The current active portfolio of projects includes 19 authorized projects – active and complete (within a 1-year warranty phase) – with a total value of approximately $1 billion, adds approximately 1.2 million gross square feet of new construction, and renovates nearly 273,000 gross square feet of existing space.

The university recommends acceptance of the Capital Project Status Report and that reports in November 2024, March 2025, and June 2025 be included on the Committee's consent agenda.

8. **Future Agenda Items and Closing Remarks:** The Committee will discuss potential topics for inclusion on future meeting agendas.

Open Joint Session Agenda

FINANCE AND RESOURCE MANAGEMENT COMMITTEE
AND BUILDINGS AND GROUNDS COMMITTEE

Latham Ballroom A/B, the Inn at Virginia Tech

11:00 a.m.

August 28, 2024

		Agenda Item	Reporting Responsibility
	1.	Update on Expanding the Research Vivarium Space Project	Simon Allen Dwyn Taylor Rob Mann
*	2.	Approval of Resolution for a Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion	Simon Allen Dwyn Taylor Rob Mann

*** Requires full Board approval**
 # Discusses Enterprise Risk Management topic(s)
+ Discusses Strategic Investment Priorities topic(s)

Briefing Report

JOINT FINANCE AND RESOURCE MANAGEMENT COMMITTEE
AND BUILDINGS AND GROUNDS COMMITTEE

August 28, 2024

Joint Open Session

1. **Update on Expanding the Research Vivarium Space Project:** The Committees will receive an update on the Research Vivarium space project. The university plans to partner with the Virginia Tech Foundation and the Corporate Research Center (CRC) to design and construct a new Research Vivarium. This project, located at the CRC, includes 68,000 gross square feet of research vivarium, laboratories, faculty and staff offices, and other support spaces. The $45 million budget is to be funded with Nongeneral funds serviced by university overhead.

* 2. **Approval of Resolution for a Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion:** The Committees will review for approval a resolution to plan the Veterinary Teaching Hospital renovation and expansion capital project. This is a $4.3 million planning authorization to complete designs through working drawings for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion project.

Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion

JOINT FINANCE AND RESOURCE MANAGEMENT COMMITTEE AND BUILDINGS AND GROUNDS COMMITTEE

August 9, 2024

The Campus Master Plan and the Six-Year Capital Outlay Plan include the renovation and expansion to the College of Veterinary Medicine's (CVM) Teaching Hospital. This project has been a high priority for the College and its teaching and research mission including its operational and fundraising efforts for multiple years.

The existing Teaching Hospital is a full-service veterinary facility providing primary and specialized care for both small and large animals on the main campus in Blacksburg, Virginia. The hospital focuses on teaching and provides a hands-on learning experience where students, residents and interns work closely with CVM faculty and staff. However, the current facility was constructed nearly forty years ago, and the small animal patient care and teaching facilities are no longer capable of meeting the current space demands of the school's growing academic program.

In 2019 a feasibility study for the project was completed, and a proposed solution to both the space quality and quantity constraints of small animal service is a renovation and expansion that is also needed to address potential accreditation issues for the Veterinary Teaching Hospital's program. The renovation and expansion will provide new exam rooms, surgery rooms, and service modules, community practice space as well as ICU, Intermediate Care Suite, physical therapy and pharmacy stores and the necessary support spaces. The project scope is envisioned as the renovation of approximately 25,000 gross square feet (GSF) as well as an addition of approximately 32,000 GSF for a combined total of 57,000 GSF of updated, modern space for the CVM Teaching Hospital's academic program.

The target total project budget is $43 million, and the funding plan calls for entirely nongeneral fund support. The funding sources include the use of a combination of nongeneral funds including private gifts, university overhead, CVM Hospital revenues, along with annual support for debt service. Sufficient private funds and CVM cash reserves are available to cover the $4.3 million costs to complete planning through working drawings. Thus, the university is ready to request a planning authorization and begin design work.

Under the 2006 Management Agreement between the Commonwealth of Virginia and the university, the Board of Visitors has the authority to approve the budget, size, scope, and funding of nongeneral fund capital outlay projects. This request is for a $4.3 million planning authorization to complete working drawings for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion project. A subsequent request for full project funding may be submitted after designs are underway and a firm scope, cost, funding, and schedule for the entire project are determined.

RESOLUTION FOR A CAPITAL PLANNING PROJECT FOR THE COLLEGE OF VETERINARY MEDICINE TEACHING HOSPITAL RENOVATION AND EXPANSION

WHEREAS, the Campus Master Plan and the Six-Year Capital Outlay Plan include the renovation and expansion of the College of Veterinary Medicine's (CVM) Teaching Hospital; and,

WHEREAS, the hospital focuses on teaching and provides a hands-on learning experience where students, residents and interns work closely with CVM faculty and staff; and,

WHEREAS, the existing Teaching Hospital was constructed nearly forty years ago, and is no longer capable of meeting the demands of the school's growing academic program; and,

WHEREAS, the project is envisioned as the renovation of approximately 25,000 gross square feet (GSF) as well as an addition of approximately 32,000 GSF for a combined total of 57,000 GSF of updated, modern space for the CVM Teaching Hospital's academic program; and,

WHEREAS, a renovation and expansion will provide new exam rooms, surgery rooms, and service modules, community practice space as well as ICU, Intermediate Care Suite, physical therapy and pharmacy stores and the necessary support spaces; and,

WHEREAS, the university is requesting a $4.3 million planning authorization to complete working drawings and to fund the planning project with 100 percent non-general fund resources derived from private gifts and CVM cash reserves; and,

WHEREAS, the university may submit a subsequent request for full project funding after designs are underway and a firm scope, cost, funding plan, and schedule for the entire project are determined; and,

WHEREAS, under the 2006 Management Agreement between the Commonwealth of Virginia and Virginia Tech, the Board of Visitors has authority to approve the budget, size, scope, and overall funding of non-general funded major capital outlay projects.

NOW, THEREFORE, BE IT RESOLVED, that the university be authorized to move forward with a $4.3 million planning authorization to complete designs through working drawings for the College of Veterinary Medicine Hospital Renovation and Expansion project.

RECOMMENDATION:

That the resolution authorizing Virginia Tech to plan the College of Veterinary Medicine Hospital Renovation and Expansion project be approved.

August 28, 2024

Closed Session Agenda

COMPLIANCE, AUDIT, AND RISK COMMITTEE

The Inn at Virginia Tech, Latham A/B
August 28, 2024
8:00 am

	Agenda Item	**Reporting Responsibility**
1.	Motion to Begin Closed Session	Committee Member
2.	Update on Fraud, Waste, and Abuse Cases	Ryan Hamilton Sharon Kurek
3.	Discussion with the Vice President for Audit, Risk, and Compliance and Chief Risk Officer	Sharon Kurek
4.	Motion to End Closed Session	Committee Member

Closed Session Briefing Report

COMPLIANCE, AUDIT, AND RISK COMMITTEE

August 28, 2024

Compliance, Audit, and Risk Closed Session

1. **Motion to Begin Closed Session:** Motion to begin closed session.

2. **Update on Fraud, Waste, and Abuse Cases:** The Committee will receive an update on outstanding fraud, waste, and abuse cases.

3. **Discussion with the Vice President for Audit, Risk, and Compliance and Chief Risk Officer:** The Vice President will discuss employee performance and evaluation of performance of departments or schools of public institutions of higher education where such evaluation will involve discussion of the performance of specific individuals.

4. **Motion to End Closed Session:** Motion to end closed session.

Open Session Agenda

COMPLIANCE, AUDIT, AND RISK COMMITTEE

The Inn at Virginia Tech, Latham A/B
August 28, 2024
8:30 am

	Agenda Item	Reporting Responsibility
1.	Welcome and Acceptance of Agenda	Committee Chair
2.	Consent Agenda	Committee Chair
	a. Minutes from the June 10, 2024 Meeting	
	b. Update of Responses to Open Internal Audit Comments	
	c. Audit Plan Status Report	
	d. Internal Audit Reports	
	i. Data: Travel Compliance Monitoring	
	ii. Student Wellness and Counseling	
	iii. College of Architecture, Arts, and Design Policy Compliance Review	
	iv. Vice President for Student Affairs Policy Compliance Review	
	e. Status Update of the Audit of the University's Financial Statements	
	f. 2024 General Assembly Legislative Update	
3.	Internal Audit Reports	Ryan Hamilton
	a. Chemistry	
4.	OARC Annual Report for Fiscal Year 2023-24	Sharon Kurek
5.	OARC Strategic Plan	Sharon Kurek
6.	Discussion of Future Topics	Committee Chair

Open Session Briefing Report

COMPLIANCE, AUDIT, AND RISK COMMITTEE

August 28, 2024

Compliance, Audit, and Risk Open Session

1. **Welcome and Acceptance of the Agenda:** The chair of the Compliance, Audit, and Risk Committee will provide opening remarks and ask for acceptance of the open session agenda.

2. **Consent Agenda:** The Committee will consider for approval and acceptance the items listed on the Consent Agenda.

    a. **Minutes from the June 10, 2024 Meeting:** The Committee will review and approve the minutes of the June 10, 2024 meeting.

    b. **Update of Responses to Open Internal Audit Comments:** The Committee will review the university's update of responses to all previously issued internal audit reports. As of March 31, 2024, the university had 16 open recommendations. Zero audit comments were issued during the fourth quarter of the fiscal year. As of June 30, 2024, the university had addressed 13 comments, leaving 3 open recommendations in progress.

    c. **Audit Plan Status Report:** The committee will review the Audit Plan Status Report. The Office of Audit, Risk, and Compliance (OARC) has completed 81 percent of its audit plan, and 100 percent is underway, in accordance with the fiscal year 2023-24 annual audit plan.

    d. **Internal Audit Reports:** The following internal audit reports were issued by OARC since the June 10, 2024 meeting. Where applicable, management developed action plans to effectively address the issues in the report with a reasonable implementation timeframe. As noted above, OARC conducts follow-up on management's implementation of agreed upon improvements for previously issued audit recommendations.

        i. Data: Travel Compliance Monitoring: The audit received an effective rating. An observation with university-wide impact was noted related to timely submission of travel reimbursement requests.

ii. Student Wellness and Counseling: The audit received an effective rating. An observation with university-wide impact was noted related to user access controls over the student conduct system.

iii. College of Architecture, Arts, and Design Policy Compliance Review: The audit received a rating of improvements are recommended. Recommendations were noted related to the areas of wage payroll, P-14 appointments, I-9 verifications, expenditures, fixed asset management, university key control, information technology, and state vehicle management.

iv. Vice President for Student Affairs Policy Compliance Review: The audit received a rating of improvements are recommended. Recommendations were noted related to the areas of wage payroll, leave reporting, P-14 appointments, expenditures, information technology, and state vehicle management.

e. **Status Update on the Audit of the University's Financial Statements:** This report provides the current status of the audit of the university's financial statements for fiscal year 2023-24.

f. **2024 General Assembly Legislative Update:** This report provides an update on recent legislative changes that impact the Committee's responsibility for oversight of compliance and risk.

3. **Internal Audit Reports:** The following internal audit report was issued by OARC since the June 10, 2024 meeting. Where applicable, management developed action plans to effectively address the issues in the report with a reasonable implementation timeframe. As noted above, OARC conducts follow-up on management's implementation of agreed upon improvements for previously issued audit recommendations.

a. Chemistry: The audit received a rating of improvements are recommended. Observations were noted related to lab safety culture and key control. A low-priority recommendation of a less significant nature was noted related to service center billing.

4. **OARC Annual Report for Fiscal Year 2023-24:** The Committee will review the annual report for OARC. This report contains highlights from the past fiscal year's activities in the enterprise risk management (ERM), institutional compliance, and

internal audit programs. Acceptance of this report documents the Committee's review of the effectiveness of the internal audit function, including staffing resources, financial budget, training, objectivity, and reporting relationships as required by the Committee's charter.

5. **OARC Strategic Plan:** The Committee will review OARC's proposed strategic plan, including the mission, vision, strategic goals, and program objectives that will guide the department forward. OARC's goals are aligned to five strategic themes, including operational excellence, trust and partnerships, strategic value, culture and integrity, and knowledge and innovation. Each of the three functional programs (ERM, Compliance, and Internal Audit) have developed major objectives across "foundational," "leading practices," and "emerging" categories, which serve as a maturity spectrum of program development.

6. **Discussion of Future Topics:** The Committee will discuss topics to be covered in future committee meetings.

Closed Session Agenda

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

Latham Ballroom A/B, the Inn at Virginia Tech

9:30 a.m.

August 28, 2024

	Agenda Item	Reporting Responsibility
1.	Motion for Closed Session	Anna James
* 2.	Ratification of Personnel Changes Report	Simon Allen

*** Requires full Board approval**
 # Discusses Enterprise Risk Management topic(s)
+ Discusses Strategic Investment Priorities topic(s)

Briefing Report

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

August 28, 2024

Closed Session

1. **Motion for Closed Session**

* 2. **Ratification of Personnel Changes Report:** The Committee will review for ratification the quarterly Personnel Changes Report.

Open Session Agenda

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

Latham Ballroom A/B, the Inn at Virginia Tech

To begin immediately following the Finance and Resource Management Committee Closed Session

August 28, 2024

	Agenda Item	Reporting Responsibility
	1. Motion to Reconvene in Open Session	John Rocovich
	2. Welcome and Opening Remarks	Dave Calhoun
	3. Consent Agenda	Dave Calhoun
	a. Approval of Items Discussed in Closed Session	
	b. Approval of Minutes of the June 11, 2024 Meeting	
	c. Report on Higher Education Restructuring Institutional Performance Measures	
#	d. Report on Gramm-Leach-Bliley Act Compliance and IT Security	
*	e. Approval of Revisions to and Renewal of Related Corporations Affiliation Agreements	
*	f. Approval of Subscription-Based IT Arrangement (SBITA) with Amazon Web Services	
#+	4. Comprehensive Update on Advancement	Charlie Phlegar
*	5. Approval of Year-to-Date Financial Performance Report (July 1, 2023 – June 30, 2024)	Simon Allen Tim Hodge Rob Mann
	6. Financial Summary of Faculty and Staff Merit Programs	Simon Allen Bryan Garey
	7. Discussion of Future Agenda Topics and Closing Remarks	Dave Calhoun

*** Requires full Board approval**
 # Discusses Enterprise Risk Management topic(s)
+ Discusses Strategic Investment Priorities topic(s)

Briefing Report

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

August 28, 2024

Open Session

1. **Motion to Reconvene in Open Session**

2. **Welcome and Opening Remarks**

3. **Consent Agenda:** The Committee will consider for approval and acceptance the items listed on the Consent Agenda.

    a. **Approval of Items Discussed in Closed Session:** The Committee will review and approve the items discussed in closed session.

    b. **Approval of Minutes of the June 11, 2024 Meeting:** The Committee will review and approve the minutes of the June 11, 2024 meeting.

    c. **Report on Higher Education Restructuring Institutional Performance Measures:** The Committee will review a report on the Higher Education Restructuring Institutional Performance Standards (IPS), focusing on finance and administrative performance standards results for fiscal year 2023. In July 2024, the university reported on the performance of the finance and administrative measures for fiscal year 2023 to the Secretaries of Finance, Administration, and Education. The assessment of the academic measures is conducted by State Council for Higher Education of Virginia (SCHEV).

    This report provides information on the 17 finance and administrative measures and the university's performance for each of those measures. The university is in full compliance with 15 of these measures, performing outside of the targeted range on two finance and administrative measures.

    The report also provides information on SCHEV's assessment of the six academic measures, all of which the university met.

    # d. **Report on Gramm-Leach-Bliley Act Compliance and IT Security:** The Committee will review for acceptance a report on Gramm-Leach-Bliley Act (GLBA) compliance and associated IT security to meet the annual reporting requirement established by the Standards for Safeguarding Customer Information Rule 16 CFR Part 314, effective June 9, 2023.

* e. **Approval of Revisions to and Renewal of Related Corporations Affiliation Agreements:** The Committee will review for approval revisions to and renewal of Related Corporations Affiliation Agreements. As approved by the Board of Visitors, the university has entered into affiliation agreements with the following university-related corporations for the purpose of defining the relationship and requirements of university-related corporations: Virginia Tech Alumni Association, Inc., Virginia Tech Applied Research Corporation, Virginia Tech Athletic Fund, Inc., Virginia Tech Corps of Cadets Alumni, Inc., Virginia Tech Foundation, Inc., Virginia Tech India Research & Education Forum, Virginia Tech Innovations Corporation (formerly Virginia Tech Technology Services and Operations Corporation), Virginia Tech Intellectual Properties, Inc., and Virginia Tech Services, Inc.

* f. **Approval of Subscription-Based IT Arrangement (SBITA) with Amazon Web Services:** The Committee will review for approval a Subscription-Based IT Arrangement (SBITA) between the university and Amazon Web Services.

\# 4. **Comprehensive Update on Advancement:** Charlie Phlegar, Senior Vice President for Advancement, Committee will provide a comprehensive update on the fiscal year 2024 giving results and giving trends since the launch of the Advancement Model. This report also includes an update on the philanthropic participation rate and overviews of the Boundless Impact Campaign, Virginia Tech Advantage, Global Distinction, and VT Alumni Association.

*#+ 5. **Approval of Year-to-Date Financial Performance Report (July 1, 2023 – June 30, 2024):** The Committee will review for approval the Year-to-Date Financial Performance Report for July 1, 2023 to June 30, 2024 For the fourth quarter, budget adjustments were made to reflect revisions to projected revenues and expenditures. The report shows the actual revenues and expenses compared to the budgets and the overall status and expenditures of ongoing capital projects.

6. **Financial Summary of Faculty and Staff Merit Programs:** The Committee will receive a financial summary of the faculty and staff merit programs. The commonwealth's 2024-26 Appropriation Act includes a three percent adjustment for all salaried employees, effective June 10, 2024. This state-authorized compensation program was incorporated into the Faculty Compensation Plan and the University Budget approved by the Board of Visitors at the June 2024 meeting. Consistent with these approvals, the university implemented a three-percent across-the-board increase with minimum performance requirement rating for classified staff. Increases were effective June 10 for calendar year employees and August 10 for academic year employees.

7. **Discussion of Future Agenda Topics and Closing Remarks:** The Committee will discuss possible topics for future meetings and other topics as needed.

Open Joint Session Agenda

FINANCE AND RESOURCE MANAGEMENT COMMITTEE
AND BUILDINGS AND GROUNDS COMMITTEE

Latham Ballroom A/B, the Inn at Virginia Tech

11:00 a.m.

August 28, 2024

		Agenda Item	Reporting Responsibility
	1.	Update on Expanding the Research Vivarium Space Project	Simon Allen Dwyn Taylor Rob Mann
*	2.	Approval of Resolution for a Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion	Simon Allen Dwyn Taylor Rob Mann

*** Requires full Board approval**
 # Discusses Enterprise Risk Management topic(s)
+ Discusses Strategic Investment Priorities topic(s)

Briefing Report

JOINT FINANCE AND RESOURCE MANAGEMENT COMMITTEE
AND BUILDINGS AND GROUNDS COMMITTEE

August 28, 2024

Joint Open Session

1. **Update on Expanding the Research Vivarium Space Project:** The Committees will receive an update on the Research Vivarium space project. The university plans to partner with the Virginia Tech Foundation and the Corporate Research Center (CRC) to design and construct a new Research Vivarium. This project, located at the CRC, includes 68,000 gross square feet of research vivarium, laboratories, faculty and staff offices, and other support spaces. The $45 million budget is to be funded with Nongeneral funds serviced by university overhead.

* 2. **Approval of Resolution for a Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion:** The Committees will review for approval a resolution to plan the Veterinary Teaching Hospital renovation and expansion capital project. This is a $4.3 million planning authorization to complete designs through working drawings for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion project.

Financial Performance Report – Operating and Capital

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

July 1, 2023 to June 30, 2024

The Financial Performance Report of income and expenditures is prepared from two sources: actual accounting data as recorded at Virginia Tech and the annual budgets which are also recorded in the university accounting system. The actual accounting data reflect the modified accrual basis of accounting, which recognizes revenues when received rather than when earned and commitments to buy goods and services as encumbrances when obligated and as an expenditure when paid. The Original Budget was approved by the Board of Visitors at the June meeting. The Adjusted Budget reflects adjustments to incorporate actual experience or changes made during the fiscal year. These changes are presented for review by the Finance and Resource Management Committee and the Board of Visitors through this report. Where adjustments impact appropriations at the state level, the university coordinates with the Department of Planning and Budget to ensure appropriations are reflected accurately.

The July to June 2023-24 budget (year-to-date) is prepared from historical data which reflects trends in expenditures from previous years as well as known changes in timing. Differences between the actual income and expenditures and the year-to-date budget may occur for a variety of reasons, such as an accelerated or delayed flow of documents through the accounting system, a change in spending patterns at the college level, or increases in revenues for a particular area.

Quarterly budget estimates are prepared to provide an intermediate measure of income and expenditures. Actual revenues and expenditures may vary from the budget estimates. The projected year-end budgets are, however, the final measure of operating budget performance.

Capital program performance is measured against the Total Project Budget. The Total Project Budget amounts reflect appropriations and authorizations established by the State or Board of Visitors for each capital project. These amounts are recorded in the accounting system with revenue and expenditure budgets upon the effective date of each project, which normally occurs on July 1 or after Board of Visitors approval. Under restructuring authorities, university administration may make minor changes to a Total Project Budget, within ten percent, and the revised Total Project Budget is shown on the subsequent quarterly report. The Cumulative Expenditures reflect lifetime-to-date activity until a project is complete, and a project's life spans multiple fiscal years. The Annual Budgets are estimates of expected activity for a 12-month portion of the life of a project. Spending pace for a project may periodically slow or accelerate during a year for a variety of reasons including shifts in construction start dates, contractor performance or billing cycles, and supply chain disruptions. The Annual Budgets are revised accordingly and shown on the subsequent quarterly report.

RECOMMENDATION:

That the report of income and expenditures for the University Division and the Cooperative Extension/Agricultural Experiment Station Division for the period of July 1, 2023 through June 30, 2024 and the Capital Outlay report be accepted.

August 28, 2024

OPERATING BUDGET
2023-24
Dollars in Thousands

	July 1, 2023 to June 30, 2024			Annual Budget for 2023-24		
	Actual	Budget	Change	Original	Adjusted	Change
Educational and General Programs						
University Division						
Revenues						
General Fund	$265,218	$265,218	$0	$251,676	$265,218	$13,542 (9)
Tuition and Fees	700,891	699,038	1,853	699,830	699,038	-792 (10)
All Other Income	55,013	57,524	-2,511 (1)	56,127	57,524	1,397 (11)
Total Revenues	$1,021,122	$1,021,780	$-658	1,007,633	$1,021,780	$14,147
Expenses						
Academic Programs	$-614,675	$-618,925	$4,250	$-639,788	$-618,925	$20,863
Support Programs	-404,837	-402,855	-1,982	-367,845	-402,855	-35,010
Reserve Drawdown/(Deposit)	-1,610	0	-1,610 (2)	0	0	0
Total Expenses	$-1,021,122	$-1,021,780	$658	$-1,007,633	$-1,021,780	$-14,147 (9,10,11)
NET	$0	$0	$0	$0	$0	$0
CE/AES Division						
Revenues						
General Fund	$89,693	$89,693	$0	$89,041	$89,693	$652 (12)
Federal Appropriation	17,258	17,261	-3 (3)	15,646	17,261	1,615 (13)
All Other Income	1,966	1,634	332 (4)	1,129	1,634	505 (14)
Total Revenues	$108,917	$108,588	$329	$105,816	$108,588	$2,772
Expenses						
Academic Programs	$-102,380	$-102,645	$265	$-96,144	$-102,645	$-6,501
Support Programs	-5,950	-5,943	-7	-9,672	-5,943	3,729
Reserve Drawdown/(Deposit)	-587	0	-587 (5)	0	0	0
Total Expenses	$-108,917	$-108,588	$-329	$-105,816	$-108,588	$-2,772 (12,13,14)
NET	$0	$0	$0	$0	$0	$0
Auxiliary Enterprises						
Revenues	$471,049	$461,541	$9,508 (6)	$452,724	$461,541	$8,817 (6)
Expenses	-435,586	-471,664	36,078 (6)	-435,098	-471,664	-36,566 (6)
Reserve Drawdown/(Deposit)	-35,463	10,123	-45,586 (6)	-17,626	10,123	27,749 (6)
NET	$0	$0	$0	$0	$0	$0
Sponsored Programs						
Revenues	$500,208	$436,453	$63,755 (7)	$435,303	$436,453	$1,150 (15)
Expenses	-436,272	-436,453	181 (7)	-435,303	-436,453	-1,150 (15)
Reserve Drawdown/(Deposit)	-63,936	0	-63,936	0	0	0
NET	$0	$0	$0	$0	$0	$0
Student Financial Assistance						
Revenues	$60,888	$61,695	$-807	$50,857	$61,695	$10,838 (16)
Expenses	-60,809	-61,695	886	-50,857	-61,695	-10,838 (16)
Reserve Drawdown/(Deposit)	-79	0	-79	0	0	0
NET	$0	$0	$0	$0	$0	$0
All Other Programs *						
Revenue	$25,804	$25,604	$200	$16,181	$25,604	$9,423 (17)
Expenses	-21,157	-25,196	4,039 (8)	-16,181	-25,196	-9,015 (17)
Reserve Drawdown/(Deposit)	-4,647	-408	-4,239 (8)	0	-408	-408 (17)
NET	$0	$0	$0	$0	$0	$0
Total University						
Revenues	$2,187,988	$2,115,661	$72,327	$2,068,514	$2,115,661	$47,147
Expenses	-2,081,666	-2,125,376	43,710	-2,050,888	-2,125,376	-74,488
Reserve Drawdown/(Deposit)	-106,322	9,715	-116,037	-17,626	9,715	27,341
NET	$0	$0	$0	$0	$0	$0

* All Other Programs include federal work study, surplus property, local funds, and unique military activities.

Presentation Date: August 28, 2024

OPERATING BUDGET

1. University Division All Other Income revenues are lower than projected due to continuing education activities.
2. While the Commonwealth requires revenues and expenses be balanced for Educational and General Programs, year end balances are possible for continuing education programs.
3. The budget for federal revenue is established to match projected allotments from the federal government that are expected to be drawn down during the state fiscal year. All expenses in federal programs are covered by drawdowns of federal revenue up to allotted amounts. Federal revenue in the Cooperative Extension and Agriculture Experiment Station Division is consistent with the timing of federal drawdowns in FY24.
4. Revenues for All Other Income are higher than projected due to Cooperative Extension self-generated revenues.
5. While the Commonwealth requires that revenue and expenses be balanced for Educational and General Programs, variances in federal funds are possible due to the timing differences between drawdowns and expenses.
6. Quarterly and projected annual variances are explained in the Auxiliary Enterprises section of this report.
7. Historical patterns have been used to develop a measure of the revenue and expenditure activity for Sponsored Programs. Actual revenues and expenses may vary from the budget estimates because projects are initiated and concluded on an individual basis without regard to fiscal year. Total sponsored research revenues are higher than projected. The sponsored research expenditures are 11.7% higher than June 30, 2023.
8. Expenses for All Other Programs were lower than projected due to timing of expenditures and lower than projected Surplus Property activity.
9. As a result of the 2023 Special Session, the annual budget for the University Division General Fund was increased $9.2 million for general fund support of affordability, $2.4 million for the state share of salary and fringe benefit rate changes, and $3.0 million for nongeneral fund interest earnings and credit card rebates. The budget was decreased $1.1 million for the TTIP Masters Enrollment adjustment from the Commonwealth. The corresponding expenditure budgets have been adjusted accordingly.
10. The annual budget for Tuition & Fees was increased $0.3 million for tuition and fee budget finalization, $3.1 million to supplant nongeneral fund scholarships with general funds allocated for Student Financial Aid in the 2023 Special Session of the General Assembly, increased $2.7 million for Fall 2023 enrollment variances, driven primarily by higher than projected graduate enrollments, and increased $2.1 million for lower enterprise fund activity. The budget was decreased $8.2 million for BOV approved tuition rebate scholarship and $0.8 million for lower than projected summer and winter activity. The corresponding expenditure budgets have been adjusted accordingly.
11. The University Division All Other Programs Income budget was increased $1.0 million for VTCSOM Partnership share of FY23 carryover and $3.5 million for Veterinary Medicine self-generated earmarks. A technical adjustment decreased the All Other Income budget $3.0 million to align projected activity by fund source. The corresponding expenditure budgets have been adjusted accordingly.
12. The annual budget for Cooperative Extension/Agricultural Experiment State Division General Fund increased $0.7 million for the general fund share of the state compensation program and fringe benefits. The corresponding expenditure budgets have been adjusted accordingly.
13. The federal revenue budget in the Cooperative Extension/Agricultural Experiment Station Division has been increased $1.6 million for the carryover of federal funds to FY24. The corresponding expenditure budgets have been adjusted accordingly.
14. The All Other Income budget in the Cooperative Extension/Agricultural Experiment Station Division has been increased $0.5 million for higher than projected VCE self-generated revenue. The corresponding expenditure budgets have been adjusted accordingly

15. As a result of the 2023 Special Session of the General Assembly, Sponsored projects revenue and expenditure budgets were increased $1.0 million for Transcranial Magnetic Stimulation research at the Fralin Biomedical Research Institute and $0.15 million for Virginia Racing Revenue activity.

16. The student financial assistance revenue and expenditure budgets were decreased $0.6 million for the finalization of the Student Financial Aid budget, increased $3.1 million for General Fund Support of resident undergraduate students from the 2023 Special Session of the General Assembly, increased $0.4 million for the SCHEV Pell Initiative, increased $8.2 million for the tuition rebate scholarship, decreased $0.5 million to support tuition mitigation, increased $0.1 million due to higher than projected VMSDEP stipend activity, and increase $0.2 million for technical swap in the nongeneral fund scholarship program.

17. The projected annual budgets for All Other Programs were increased $0.6 million to finalize budgets and $0.2 million for increased Surplus Property business volume. The projected annual revenue budgets were increased $8.6 million for an approved capital plan. The projected annual expense budgets were increased $1.2 million for outstanding 2022-23 commitments that were initiated but not completed before June 30, 2023 and increased $7.5 million for the approved capital plan. The projected annual expense budgets were decreased $0.5 million for technical alignments.

AUXILIARY ENTERPRISES

Dollars in Thousands

	July 1, 2023 to June 30, 2024				Annual Budget for 2023-24			
	Actual	Budget	Change		Original	Adjusted	Change	
Residence and Dining Halls *								
Revenues	$170,894	$167,902	$2,992	(1)	$173,675	$167,902	$-5,773	(8,9)
Expenses	-161,360	-172,045	10,685	(1)	-170,541	-172,045	-1,504	(8,9,10)
Reserve Drawdown/(Deposit)	-9,534	4,143	-13,677	(1)	-3,134	4,143	7,277	(8,9,10)
Net	$0	$0	$0		$0	$0	$0	
Parking and Transportation								
Revenues	$26,026	$25,013	$1,013	(2)	$24,284	$25,013	$729	(9,11)
Expenses	-20,781	-24,448	3,667	(2)	-21,544	-24,448	-2,904	(9,10,11)
Reserve Drawdown/(Deposit)	-5,245	-565	-4,680	(2)	-2,740	-565	2,175	(9,10,11)
Net	$0	$0	$0		$0	$0	$0	
Telecommunications Services								
Revenues	$27,177	$26,726	$451		$27,790	$26,726	$-1,064	(9,12)
Expenses	-26,913	-31,679	4,766	(3)	-26,055	-31,679	-5,624	(9,10)
Reserve Drawdown/(Deposit)	-264	4,953	-5,217	(3)	-1,735	4,953	6,688	(9,10,12)
Net	$0	$0	$0		$0	$0	$0	
University Services * **								
Revenues	$66,580	$64,813	$1,767	(4)	$65,062	$64,813	$-249	(9)
Expenses	-63,936	-72,545	8,609	(4)	-63,538	-72,545	-9,007	(9,10,13)
Reserve Drawdown/(Deposit)	-2,644	7,732	-10,376	(4)	-1,524	7,732	9,256	(9,10,13)
Net	$0	$0	$0		$0	$0	$0	
Intercollegiate Athletics *								
Revenues	$105,663	$106,140	$-477		$95,786	$106,140	$10,354	(9,14)
Expenses	-99,352	-102,425	3,073	(5)	-91,010	-102,425	-11,415	(9,10,14)
Reserve Drawdown/(Deposit)	-6,311	-3,715	-2,596	(5)	-4,776	-3,715	1,061	(9,10,14)
Net	$0	$0	$0		$0	$0	$0	
Electric Service *								
Revenues	$45,615	$44,892	$723		$43,740	$44,892	$1,152	(9)
Expenses	-43,389	-44,490	1,101		-41670	-44,490	-2820	(9,10)
Reserve Drawdown/(Deposit)	-2,226	-402	-1,824		-2,070	-402	1668	(9,10)
Net	$0	$0	$0		$0	$0	$0	
Inn at VT/Skelton Conf. Center								
Revenues	$14,982	$13,500	$1,482	(6)	$11,840	$13,500	$1,660	(9,15)
Expenses	-12,595	-14,090	1,495	(6)	-12,905	-14,090	-1,185	(9,10,15)
Reserve Drawdown/(Deposit)	-2,387	590	-2,977	(6)	1,065	590	-475	(9,10,15)
Net	$0	$0	$0		$0	$0	$0	
Other Enterprise Functions ***								
Revenues	$14,112	$12,555	$1,557	(7)	$10,547	$12,555	$2,008	(9,16)
Expenses	-7,260	-9,942	2,682	(7)	-7,835	-9,942	-2,107	(9,10,16)
Reserve Drawdown/(Deposit)	-6,852	-2,613	-4,239	(7)	-2,712	-2,613	99	(9,10,16)
Net	$0	$0	$0		$0	$0	$0	
TOTAL AUXILIARIES								
Revenues	$471,049	$461,541	$9,508		$452,724	$461,541	$8,817	
Expenses	-435,586	-471,664	36,078		-435,098	-471,664	-36,566	
Reserve Drawdown/(Deposit)	-35,463	10,123	-45,586		-17,626	10,123	27,749	
Net	$0	$0	$0		$0	$0	$0	

* University Systems include Dormitory and Dining Hall System, University Services System, Intercollegiate Athletics System, and Electric Service System. The Systems were created to provide assurance to bond holders that system revenues are pledged for the payment of debt service and to allow for dedicated repair and replacement that are not subject to liens of any creditor of the university.

** University Services System includes Career & Professional Development, Center for the Arts, Health Services, Recreational Sports, Student Engagement & Campus Life, Cultural and Community Centers, Student Organizations, and the VT Rescue Squad.

*** Other Enterprise Functions include Golf Course, Hokie Passport, Library Café, Library Photocopy, Licensing & Trademark, Little Hokie Hangout, New Student and Family Programs, Pouring Rights, Software Sales, Tailor Shop and Clearing Accounts.

AUXILIARY ENTERPRISE BUDGET

1. Revenues in Residence and Dining Halls are higher than projected due to higher than budgeted self-generated revenues primarily from interest earnings and summer conferences. Expenses are lower than projected due to timing of operating expenses, one-time facility improvement projects, and replacement of furniture and equipment normally scheduled during the summer months.
2. Revenues in Parking and Transportation Services are higher than projected due to higher than budgeted permit and self-generated revenues. Expenses are lower than projected due to timing of operating expenses, Fleet Services vehicle replacement purchases, and transit equipment purchases.
3. Expenses in Telecommunications Services are lower than projected due to timing of network telecommunication projects.
4. Revenues for the University Services System are higher than projected due to higher than budgeted self-generated revenues. Expenses are lower than projected due to timing of operating expenses and facility projects scheduled for summer months.
5. Expenses for Intercollegiate Athletics are lower than projected due to timing of expenses and one-time facility and equipment projects.
6. Revenues for the Inn at Virginia Tech are higher than projected due to higher than budgeted self-generated revenue. Expenses are lower than projected due to timing of operating expenses and facility projects.
7. Revenue for Other Enterprise Functions are higher than projected due to increased business volume in New Student Programs and Software Sales. Expenses are lower than projected due to timing of operating expenses.
8. The annual revenue and expense budgets for Residence and Dining Halls were decreased $5.5 million for lower dining business volume and timing of Dining's Perry Place at Hitt Hall opening. The revenue budget was decreased for lower Steger Center enrollment and expense budget increased for higher operating costs.
9. In June 2023, the annual revenue, expense, and reserve budgets for Auxiliary Enterprises were adjusted for technical alignments and finalization of fixed cost estimates. In addition, the annual revenue, expense, and reserve budgets for Auxiliary Enterprises were adjusted for the state 2% compensation program and board approved comprehensive fee and room and board reductions.
10. The annual expense budget for Auxiliary Enterprises was increased $25.3 million for outstanding 2022-23 commitments and projects that were initiated but not completed before June 30, 2023.

Auxiliary Enterprise	Outstanding Commitments
Residence and Dining Halls	$ 5,312,170
Parking and Transportation	1,390,856
Telecommunication Services	5,524,952
University Services System	8,262,740
Intercollegiate Athletics	2,409,303
Electric Service	1,618,422
Inn at Virginia Tech	(295,630)
Other Enterprise Functions	1,105,743
Totals	**$ 25,328,556**

11. The annual expense and reserve budgets for Parking and Transportation Services were increased $2.0 million for transportation equipment maintenance. The revenue and expense budgets were increased $0.6 million for higher business volume.

12. The annual revenue and reserve budgets for Telecommunications Services were decreased by $1.0 million for timing of the residential network refresh project.

13. The annual expense and reserve budgets for the University Services System were increased $0.4 million for Rescue Squad ambulance replacement.

14. The annual revenue, expense, and reserve budgets for Intercollegiate Athletics were increased $1.1 million to accommodate the football team's participation in the Military Bowl. The annual revenue budget was increased $2.7 million for insurance proceeds, $3.0 million for IMG Learfield, $0.6 million for ACC network revenues, $1.0 million for interest earnings, $0.6 million for women's basketball revenues, $0.2 million for supplemental NCAA distribution, $0.2 million private support for sports operating projects, $0.7 million for Kentucky women's basketball coach buyout, and $0.6 million in self-generated revenues. The annual expense budget was increased $0.6 million for the board approved football locker room capital project, $1.0 million for stadium chairback seat agreement, $4.3 million for team travel and sports operating expenses, $0.8 million for recruiting, and $2.4 million for facility projects and maintenance, $0.9 million for salary adjustments and faculty leave payouts, $0.7 million for Marquette women's basketball coach buyout, $0.4 million for student athlete medical costs, partially offset by a decrease of $3.4 million for alignment of scholarship expenses to private fundraising.

15. The annual revenue, expense, and reserve budgets for The Inn at Virginia Tech and Skelton Conference Center were increased $0.5 million for higher than projected business volume.

16. The annual revenue, expense, and reserve budgets for Other Enterprise Functions were increased for scholarship expenses in Licensing and Trademark, technical accounting alignments, and $0.3 million for privately funded Corps of Cadets physical training area.

CAPITAL OUTLAY PROJECTS
AUTHORIZED AS OF JUNE 30, 2024
Dollars in Thousands

	PROJECT INITIATED	FISCAL YEAR ACTIVITY ANNUAL BUDGET	FISCAL YEAR ACTIVITY YTD EXPENDITURES	TOTAL PROJECT BUDGET STATE SUPPORT	TOTAL PROJECT BUDGET NONGENERAL FUND	TOTAL PROJECT BUDGET REVENUE BOND	TOTAL PROJECT BUDGET TOTAL BUDGET	TOTAL PROJECT BUDGET CUMULATIVE EXPENDITURES	
EDUCATIONAL AND GENERAL PROJECTS									
Design Phase									
Planning: New Business Building	Apr 2022	$ 800	$ 273	$ -	$ 8,000	$ -	$ 8,000	$ 1,173	(1)
Expand VT-C SOM & Fralin Biomedical Research Institute	Sept 2023	200	19	-	9,000	-	9,000	19	(2)
Improve Center Woods Complex	Nov 2023	100	17	550	296	-	846	17	(3)
Construction Phase									
Maintenance Reserve	On-going	18,728	23,240	39,175	-	-	39,175	37,811	(4)
Livestock & Poultry Research Facilities, Phase I	Oct 2016	3,340	3,056	31,764	-	-	31,764	24,990	(5)
Innovation Campus - Academic Building	Jul 2019	75,000	88,219	177,164	80,336	44,636	302,136	235,712	(6)
Undergraduate Science Laboratory Building	Jul 2017	28,000	38,247	90,412	-	-	90,412	70,970	(7)
Building Envelope Improvements	Aug 2022	3,500	4,421	-	13,580	33,620	47,200	5,835	(8)
Life, Health, Safety, Accessibility, & Code Compliance	Jul 2020	3,000	4,272	10,400	-	-	10,400	6,157	(9)
Mitchell Hall (Replace Randolph Hall)	Jul 2020	12,500	8,321	264,453	11,000.00	16,828	292,281	15,863	(10)
Equipment and Special Initiatives									
Fralin Biomedical Research Institute Equipment	Jul 2020	6,730	6,486	18,133	-	-	18,133	17,888	(11)
Equipment for Workforce Development	May 2021	2,000	1,627	34,444	-	-	34,444	12,144	(12)
Close-Out									
Data and Decision Science Building	Jul 2019	5,522	4,315	69,000	-	10,000	79,000	77,793	(13)
Commerce Street Property Acquisition	Jun 2023	555	552	-	555	-	555	552	(14)
Corps Leadership and Military Science Building	Jun 2019	6,000	7,316	-	21,600	30,400	52,000	49,580	(15)
Hitt Hall	Apr 2017	22,000	36,001	-	33,600	51,400	85,000	73,885	(16)
TOTAL EDUCATIONAL AND GENERAL PROJECTS		$ 187,975	$ 226,382	$ 735,494	$ 177,967	$ 186,884	$ 1,100,345	$ 630,391	

Education and General Projects

1. Planning: New Business Building: This planning project will design a 92,300 gross square foot building for the Pamplin College of Business. Preliminary designs are underway.

2. Planning: Expand Virginia Tech-Carilion School of Medicine and Fralin Biomedical Research Institute: This planning project will design a new 100,000 gross square foot building for the VT-C School of Medicine and renovate 51,000 gross square feet of the existing School of Medicine and Research Institute building to be backfilled by the Fralin Biomedical Research Institute. Procurement for AE and CM services is in process.

3. Planning: Improve Center Woods Complex: This project will demolish the existing 12 facilities that have surpassed their useful life and construct 25,900 GSF of research laboratories, research support spaces, equipment storage and offices. Schematic design is underway.

4. Maintenance Reserve: The total project budget reflects $3.27 million of carryforward from fiscal year 2022, $17.462 million appropriated for fiscal year 2023, and $18.446 million of new appropriations from the State for fiscal year 2024. The annual budget amount reflects the pace necessary to meet the state's 85 percent spending performance requirement. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

5. Livestock & Poultry Research Facilities, Phase I: The new swine, poultry, beef, and equine facilities are substantially complete. A supplement from the State to support the fifth and final bid package has been received. Construction of three hay barns and the demolition swine facilities past their useful life are underway with substantial completion expected December 2025.

6. Innovation Campus – Academic Building: This project will construct a new 300,000 gross square foot academic building with below grade parking as part of the Innovation Campus in Alexandria Virginia. Private funds have been infused into the project and the corresponding amount of debt has been reduced. Construction is underway with substantial completion expected January 2025. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

7. Undergraduate Science Laboratory Building: Construction of the 102,000 gross square foot science instruction laboratory building is underway with substantial completion expected August 2024. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

8. Building Envelope Improvements: This project will complete envelope improvements to four buildings. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

9. Life, Health, Safety, Accessibility, & Code Compliance: This project improves accessible pedestrian connectors in the North Academic District. The installation of two enclosed elevator towers for an accessible pathway from the ground level of Derring Hall to Burchard Plaza is under construction. Accessible pathway improvements from Perry Street to the Drillfield are under construction with substantial completion expected April 2025. Designs for accessible pathways between Patton Hall, Holden Hall, and McBryde Hall are underway. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

10. Mitchell Hall (Replace Randolph Hall): This state authorized project will replace Randolph Hall with an approximately 285,500 gross square foot building to accommodate engineering instruction and research. The Guaranteed Maximum Price (GMP–1) contract for demolition and early site work has been successfully negotiated. Demolition is underway. Pricing for the remainder of the project, GMP-2, is expected fall 2024.

11. Fralin Biomedical Research Institute Equipment: This funding supports the procurement and installation of specialized research equipment for the Fralin Biomedical Research Institute.

12. Equipment for Workforce Development: This project supports space and equipment purchases for the instructional programs associated with the Tech Talent Investment Program.

13. Data and Decision Sciences Building: The project is closed.

14. Commerce Street Property Acquisition: The project is closed.

15. Corps Leadership and Military Science Building: The project is complete and will be closed and financial accounts terminated when final invoices are received and paid. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

16. Hitt Hall: The project is complete and will be closed and financial accounts terminated when final invoices are received and paid. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

Capital Outlay Projects Authorized as of April 30, 2023 (Continued)

Dollars in Thousands

	PROJECT INITIATED	FISCAL YEAR ACTIVITY ANNUAL BUDGET	FISCAL YEAR ACTIVITY YTD EXPENDITURES	TOTAL PROJECT BUDGET STATE SUPPORT	TOTAL PROJECT BUDGET NONGENERAL FUND	TOTAL PROJECT BUDGET REVENUE BOND	TOTAL PROJECT BUDGET TOTAL BUDGET	TOTAL PROJECT BUDGET CUMULATIVE EXPENDITURES	
AUXILIARY ENTERPRISE PROJECTS									
Design Phase									
Planning: Student Life Village, Phase I	Jun 2023	$ 800	$ 314	$ -	$ 19,500	$ -	19,500	$ 314	(1)
Construction Phase									
Maintenance Reserve	On-going	12,000	14,247	-	14,247	-	14,247	14,247	(2)
Student Wellness Improvements	Jun 2016	22,500	41,170	-	25,574	44,426	70,000	56,457	(3)
Football Locker Room Renovations	Jun 2023	3,000	2,960	-	5,900	-	5,900	2,960	(4)
Close-Out									
Dietrick Renovation	Sept 2017	242	239	-	9,129	-	9,129	9,126	(5)
New Upper Quad Residence Hall	Jun 2019	5,000	5,136	-	16,071	25,929	42,000	39,492	(6)
Slusher Hall Renovation	Mar 2023	5,030	4,088	-	7,500	-	7,500	6,558	(7)
TOTAL AUXILIARY ENTERPRISE PROJECTS		$ 48,572	$ 68,154	$ -	$ 97,920	$ 70,355	$ 168,276	$ 129,154	
GRAND TOTAL		$ 236,547	$ 294,536	$ 735,494	$ 275,887	$ 257,239	$ 1,268,621	$ 759,545	

Auxiliary Enterprise Projects

1. Planning for Student Life Village, Phase I: The planning project will design the first phase of the Student Life Village which will include 1,750 new beds, dining service capacity to meet approximately 4,000 transactions per day, and recreational space of approximately 23,000 gross square feet. The new beds are intended to replace the existing beds in Slusher Hall, provide for approximately 620 new beds for the Global Business and Analytics Complex (GBAC), and 500 beds to allow for swing space to pull existing residence halls offline for refurbishment. Schematic design is underway.

2. Maintenance Reserve: The auxiliary maintenance reserve program covers 106 assets with a total replacement value of $1.4 billion. Projects are scheduled and funded by the auxiliary enterprises. The units prepare five-year plans that outline their highest priority deferred maintenance needs. The annual budget and total project budget reflect the spending plans of the auxiliary units on maintenance reserve work scheduled for fiscal year 2024. The annual and total budgets may be adjusted during the year depending on the actual spending activities of the auxiliary units provided expenditures do not exceed the total resources encumbered for the program. The total budget was increased during the fourth quarter and did not exceed the total resources encumbered for the program.

3. Student Wellness Improvements: This project will renovate War Memorial Hall to address program improvements, deferred maintenance, code requirements, and install air conditioning to the building. Construction is underway with substantial completion expected July 2024. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

4. Football Locker Room Renovation: The project will renovate approximately 4,200 square feet within the Jamerson Athletic Facility to provide a state-of-the-art hydrotherapy suite and restroom and shower improvements in the player's locker room. Construction is underway with substantial completion expected August 2024.

5. Dietrick Renovation: The project is closed.

6. New Upper Quad Residence Hall: The project is complete and will be closed and financial accounts terminated when final invoices are received and paid. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

7. Slusher Hall Renovations: The project is closed.

Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion

JOINT FINANCE AND RESOURCE MANAGEMENT COMMITTEE AND BUILDINGS AND GROUNDS COMMITTEE

August 9, 2024

The Campus Master Plan and the Six-Year Capital Outlay Plan include the renovation and expansion to the College of Veterinary Medicine's (CVM) Teaching Hospital. This project has been a high priority for the College and its teaching and research mission including its operational and fundraising efforts for multiple years.

The existing Teaching Hospital is a full-service veterinary facility providing primary and specialized care for both small and large animals on the main campus in Blacksburg, Virginia. The hospital focuses on teaching and provides a hands-on learning experience where students, residents and interns work closely with CVM faculty and staff. However, the current facility was constructed nearly forty years ago, and the small animal patient care and teaching facilities are no longer capable of meeting the current space demands of the school's growing academic program.

In 2019 a feasibility study for the project was completed, and a proposed solution to both the space quality and quantity constraints of small animal service is a renovation and expansion that is also needed to address potential accreditation issues for the Veterinary Teaching Hospital's program. The renovation and expansion will provide new exam rooms, surgery rooms, and service modules, community practice space as well as ICU, Intermediate Care Suite, physical therapy and pharmacy stores and the necessary support spaces. The project scope is envisioned as the renovation of approximately 25,000 gross square feet (GSF) as well as an addition of approximately 32,000 GSF for a combined total of 57,000 GSF of updated, modern space for the CVM Teaching Hospital's academic program.

The target total project budget is $43 million, and the funding plan calls for entirely nongeneral fund support. The funding sources include the use of a combination of nongeneral funds including private gifts, university overhead, CVM Hospital revenues, along with annual support for debt service. Sufficient private funds and CVM cash reserves are available to cover the $4.3 million costs to complete planning through working drawings. Thus, the university is ready to request a planning authorization and begin design work.

Under the 2006 Management Agreement between the Commonwealth of Virginia and the university, the Board of Visitors has the authority to approve the budget, size, scope, and funding of nongeneral fund capital outlay projects. This request is for a $4.3 million planning authorization to complete working drawings for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion project. A subsequent request for full project funding may be submitted after designs are underway and a firm scope, cost, funding, and schedule for the entire project are determined.

RESOLUTION FOR A CAPITAL PLANNING PROJECT FOR THE COLLEGE OF VETERINARY MEDICINE TEACHING HOSPITAL RENOVATION AND EXPANSION

WHEREAS, the Campus Master Plan and the Six-Year Capital Outlay Plan include the renovation and expansion of the College of Veterinary Medicine's (CVM) Teaching Hospital; and,

WHEREAS, the hospital focuses on teaching and provides a hands-on learning experience where students, residents and interns work closely with CVM faculty and staff; and,

WHEREAS, the existing Teaching Hospital was constructed nearly forty years ago, and is no longer capable of meeting the demands of the school's growing academic program; and,

WHEREAS, the project is envisioned as the renovation of approximately 25,000 gross square feet (GSF) as well as an addition of approximately 32,000 GSF for a combined total of 57,000 GSF of updated, modern space for the CVM Teaching Hospital's academic program; and,

WHEREAS, a renovation and expansion will provide new exam rooms, surgery rooms, and service modules, community practice space as well as ICU, Intermediate Care Suite, physical therapy and pharmacy stores and the necessary support spaces; and,

WHEREAS, the university is requesting a $4.3 million planning authorization to complete working drawings and to fund the planning project with 100 percent non-general fund resources derived from private gifts and CVM cash reserves; and,

WHEREAS, the university may submit a subsequent request for full project funding after designs are underway and a firm scope, cost, funding plan, and schedule for the entire project are determined; and,

WHEREAS, under the 2006 Management Agreement between the Commonwealth of Virginia and Virginia Tech, the Board of Visitors has authority to approve the budget, size, scope, and overall funding of non-general funded major capital outlay projects.

NOW, THEREFORE, BE IT RESOLVED, that the university be authorized to move forward with a $4.3 million planning authorization to complete designs through working drawings for the College of Veterinary Medicine Hospital Renovation and Expansion project.

RECOMMENDATION:

That the resolution authorizing Virginia Tech to plan the College of Veterinary Medicine Hospital Renovation and Expansion project be approved.

August 28, 2024

RESOLUTION OF APPRECIATION HONORING CARRIE H. CHENERY

WHEREAS, Carrie Chenery was appointed to the Board of Visitors in 2020. During her four-year tenure, she served as a member and chair of the Academic, Research, and Student Affairs Committee and as a member of the Compliance, Audit, and Risk Committee and the Executive Committee. She brought a unique perspective to the board on the role of the university in economic development and linkages to the academic, research, and outreach missions of the university; and

WHEREAS, an alumna of Virginia Tech, having earned her bachelor's in 2008 in environmental policy and planning and agricultural and applied economics, Carrie is a recipient of the Outstanding Alumni Award from the Virginia Tech College of Agriculture and Life Sciences. Additionally, she is a former Commonwealth of Virginia Governor's Fellow and a graduate of the Political Leaders Program through the Sorensen Institute for Political Leadership at the University of Virginia; and

WHEREAS, previously, Chenery served as Executive Director of the Shenandoah Valley Partnership, Assistant Secretary of Agriculture and Forestry for the Commonwealth of Virginia, Manager of Legislation and Policy at the Virginia Economic Development Partnership, and Director of Government Affairs at the Williams and Mullen law firm before founding Valley Pike Partners, a consulting firm that strives to bring the public and private sectors together; and

WHEREAS, Carrie has been named in the top 10 under 40 emerging business leaders in the Shenandoah Valley by the *Daily News-Record Business Journal* of Harrisonburg, as one of North America's Top 50 Economic Developers by Consultant Connect, and one of the Most Influential Virginians "On the Move" by *Virginia Business* magazine. She was also a gubernatorial appointee to the Virginia Economic Development Partnership Authority Board of Directors; and

WHEREAS, the administration and the members of the board truly appreciate Carrie's time and service, as well as have enjoyed getting to know her and her husband, Taylor, at board meetings and other university events;

NOW, THEREFORE, BE IT RESOLVED that the members of the Board of Visitors of Virginia Polytechnic Institute and State University hereby extend their sincere appreciation to Carrie Chenery for her outstanding service and for her faithful dedication to the university and its missions.

RECOMMENDATION:
That the resolution recognizing Carrie Chenery for her service as a member of the Board of Visitors be approved.

August 28, 2024

RESOLUTION OF APPRECIATION HONORING GRETA J. HARRIS

WHEREAS, Greta Harris was appointed to the Board of Visitors in 2016 and reappointed in 2020. During her eight-year tenure, Greta was a member of all the Board's current committees including the Executive Committee, as well as the former Academic Affairs Committee. She also chaired the Academic, Research, and Student Affairs Committee and the Buildings and Grounds Committee. As part of her legacy, she chaired the nominating committee that brought forth a slate of nominees resulting in the election of the first African-American Rector of Virginia Tech's Board of Visitors; and

WHEREAS, a person of strong conviction coupled with uncommon empathy and compassion, Greta spearheaded the Board's initiatives in equity and accessibility. With grace, wisdom, and patience, she guided the university to see and embrace a more inclusive view of its past and present and commit to meaningful steps to ensure a more equitable and inclusive future; and

WHEREAS, she earned a bachelor's in architecture from Virginia Tech in 1983 and a master's from Columbia University. In 2013, she became President and CEO of Better Housing Coalition, Richmond's largest nonprofit community development corporation. During her career, she has been involved in more than $750 million of investments in affordable housing for more than 20,000 modest-income individuals; and

WHEREAS, Greta has served her alma mater as a member of the College of Architecture, Arts, and Design Dean's Advisory Board and past member of the Virginia Tech Foundation Board. In 2016, she was named the Virginia Tech Black Alumni Philanthropist of the Year and in 2024 was honored with the Alumni Distinguished Service Award. She generously supports Virginia Tech's diversity and inclusion efforts, including the InclusiveVT Scholarship Fund, and is a member of the 1872 and Legacy Societies; and

WHEREAS, among her many accolades, Harris received the 2023 *Virginia Business* Women in Leadership Award, the National NeighborWorks Association's 2021 Practitioner of the Year Award, and the Ruth Coles Harris Leadership Institute 2021 Leadership Award, and was a 2020 Bold Women honoree by *Richmond Magazine*; and

WHEREAS, the administration and the members of the board have greatly enjoyed getting to know Greta over the past eight years and appreciate her service, as well as look forward to seeing her at other university events;

NOW, THEREFORE BE IT RESOLVED that the members of the Board of Visitors of Virginia Polytechnic Institute and State University hereby extend their sincere appreciation to Greta Harris for her outstanding loyalty and devoted service and for her faithful dedication to the university and its missions.

RECOMMENDATION:

That the resolution recognizing Greta Harris for her service as a member of the Board of Visitors be approved.

August 28, 2024

RESOLUTION OF APPRECIATION HONORING CHARLES B. "BRAD" HOBBS

WHEREAS, Brad Hobbs was appointed to the Board of Visitors in 2022. During his tenure on the board, Brad was a member of the Finance and Resource Management Committee and the Academic, Research, and Student Affairs Committee; and

WHEREAS, an alumnus of Virginia Tech, Brad earned his bachelor's in finance from the Pamplin College of Business in 1990; and

WHEREAS, Hobbs has served as the President and CEO of Hobbs & Associates, a family-owned, independent commercial heating, ventilation, and air conditioning (HVAC) business. Hobbs & Associates works with its business partners to create enduring community infrastructure such as schools and colleges, hospitals, military and municipal structures, entertainment venues, hotels, and multi-family housing. He led the company to become one of the nation's largest engineered product distribution companies with ten offices serving Virginia, Tennessee, Maryland, and Washington DC employing over 170 employees. Brad has launched several other successful businesses in the Southeast; and

WHEREAS, in addition to being an enthusiastic and generous supporter of Virginia Tech's intercollegiate tennis programs, he supports numerous philanthropic organizations through board service and leadership including the American Heart Association–Hampton Roads, Neptune Festival Board of Directors, Norfolk Christian Schools, Salvation Army, Virginia Beach United Methodist Church, and the Virginia Tech Athletic Foundation;

NOW, THEREFORE, BE IT RESOLVED that the members of the Board of Visitors of Virginia Polytechnic Institute and State University hereby extend their sincere appreciation to Brad Hobbs for his service and for his faithful dedication to the university and its missions.

RECOMMENDATION:
That the resolution recognizing Brad Hobbs for his service as a member of the Board of Visitors be approved.

August 28, 2024

RESOLUTION OF APPRECIATION HONORING L. CHRIS PETERSEN

WHEREAS, Chris Petersen was appointed to the Board of Visitors in 2016 and reappointed in 2020. During his eight-year tenure on the board that extended through the Covid pandemic, Chris was a member of the former Student Affairs and Athletics Committee; the Academic, Research and Student Affairs Committee; the Buildings and Grounds Committee; the Compliance, Audit, and Risk Committee; the Executive Committee; and the Governance and Administration Committee, which he has chaired for the past three years; and

WHEREAS, he received his bachelor's degree from Washington University and holds a Juris Doctor degree at Georgetown University; and

WHEREAS, Chris is a principal at Arbor Strategies LLC. His practice concentrates in legal and compliance services relating to the Patient Protection and Affordable Care Act, privacy, state small-group and individual insurance reform regulation, and the interaction between state and federal law. He also represents clients before the National Association of Insurance Commissioners, Congress, and federal agencies; and

WHEREAS, Petersen previously served as vice president of the state affairs/legal department of the Health Insurance Association of America. He has spoken extensively on insurance reform matters and also has testified before Congress on insurance reform and privacy issues. He is a member of the Virginia Bar Association, and is a member of the Board of Directors of the Professional Insurance Marketing Association and received their President's Distinguished Service Award; and

WHEREAS, the members of the board have truly appreciated Chris' time and service, as well as enjoying getting to know Chris and his wife, Michele, at board meetings and other university events.

NOW, THEREFORE, BE IT RESOLVED that the members of the Board of Visitors of Virginia Polytechnic Institute and State University hereby extend their sincere appreciation to Chris Petersen for his outstanding loyalty and devoted service and for his faithful dedication to the university and its missions.

RECOMMENDATION:

That the resolution recognizing L. Chris Petersen for his service as a member of the Board of Visitors be approved.

August 28, 2024

RESOLUTION OF APPRECIATION HONORING JEFFREY E. VEATCH

WHEREAS, Jeff Veatch was appointed to the Board of Visitors in 2016 and reappointed in 2020. During his eight-year tenure on the board, Jeff was a member of the Research Committee; the Academic, Research, and Student Affairs Committee; the Buildings and Grounds Committee; the Compliance, Audit and Risk Committee; and the Governance and Administration Committee. He brought to the board a laser focus on the student experience; and

WHEREAS, Jeff earned a bachelor's in finance from the Pamplin College of Business in 1993 and has been a generous supporter individually and with his family of the Pamplin College, intercollegiate athletics, and the Marion duPont Scott Equine Medical Center; and

WHEREAS, Veatch co-founded Apex Systems, a billion-dollar business primarily in the field of IT staff augmentation. Apex Systems is now a division of ASGN, Inc., the largest publicly traded IT staffing and services firm in America; and

WHEREAS, a further testament to Jeff's staunch support of his alma mater, his company recruits Pamplin students, and Jeff, along with his Apex partners, gifted $5 million to Pamplin's Center for Innovation and Entrepreneurship in 2014. As a result, the center was re-named the Apex System Center for Entrepreneurs and began an interdisciplinary program for students allowing them to visit startups and corporate innovation programs in Boston, Maryland, and D.C. as of 2015; and

WHEREAS, Veatch has been recognized as the Entrepreneur of the Year by Ernst and Young and was selected to the Philanthropic 50 by *Washington Life* magazine. He was a founding member of the effort to bring the Olympics to the Washington, D.C., region, and is on the board of ASGN, Inc. and Inova Health System. Additionally, he formed the Veatch Charitable Fund, which focuses on education, health care, and the community; and

WHEREAS, the members of the board have sincerely appreciated the time and support that Jeff has dedicated to the board and the university, as well as have enjoyed getting to know him and his wife, Amiya, over the course of these past eight years;

NOW, THEREFORE, BE IT RESOLVED that the members of the Board of Visitors of Virginia Polytechnic Institute and State University hereby extend their sincere appreciation to Jeff Veatch for his outstanding loyalty and devoted service and for his faithful dedication to the university and its missions.

RECOMMENDATION:

That the resolution recognizing Jeff Veatch for his service as a member of the Board of Visitors be approved.

August 28, 2024

MOTION TO BEGIN CLOSED MEETING

August 28, 2024

I move that the Board convene in a closed meeting, pursuant to § 2.2-3711, Code of Virginia, as amended, for the purposes of discussing:

1. Appointment of faculty to Emeritus status, the consideration of individual salaries of faculty, consideration of Endowed Professors, review of departments where specific individuals' performance will be discussed, and consideration of personnel changes including appointments, resignations, tenure, and salary adjustments of specific employees and faculty leave approvals.

2. The status of current litigation and briefing on actual or probable litigation.

3. Special awards.

all pursuant to the following subparts of 2.2-3711 (A), Code of Virginia, as amended, .1, .7, and .11.

Open Session Agenda

ACADEMIC, RESEARCH AND STUDENT AFFAIRS COMMITTEE

August 27, 2024

		Agenda Item	Reporting Responsibility
	1.	**Welcome**	N. Dye
	2.	**Review and Approve Open Session Agenda**	N. Dye
	3.	**Consent Agenda**	N. Dye
		a. Approval of June 11, 2024 Committee Meeting Minutes	
		b. Report of Reappointments to Endowed Chairs, Professorships, and Fellowships	
		c. Summary of the 2024-25 Faculty & Staff Merit Programs *(shared for information purposes only, from Finance and Resource Management Committee)*	
*		d. Resolution for Exclusion of Certain Officers/Directors	
*		e. Changes to Student Code of Conduct for 2024-25	
	4.	**Provost's Update**	C. Clarke
#	**5.**	**Student Affairs Update: Corps of Cadets**	F. Keene
#	**6.**	**Virginia Tech Global Distinction: Commonwealth Cyber Initiative**	D. Sui, L. da Silva
#*	**7.**	**Name, Image, Likeness Policy**	K. Heidbreder
	8.	**Closing Remarks and Adjourn**	N. Dye

* Requires Full Board Approval
# Discusses Enterprise Risk Management topic(s)

Open Session Briefing Report

ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE

August 27, 2024

	Agenda Item	Reporting Responsibility
	1. Welcome *The chair will welcome members and others to the committee's open session.*	N. Dye
	2. Review and Approve Open Session Agenda *The chair will review and ask for approval of the Open Session Agenda including items on the Consent Agenda.*	N. Dye
*	**3. Consent Agenda** *The committee will consider approval of items on the consent agenda including: approval of the June 11, 2024 committee meeting minutes, a report on six reappointments to endowed chairs, professorships, or fellowships, a summary of the 2024-25 faculty & staff merit programs shared for information purposes only from the Finance and Resource Management Committee, a resolution for the exclusion of certain officers/directors, and changes to the student code of conduct for 2024-25.*	N. Dye
	4. Provost's Update and Discussion *Cyril Clarke, executive vice president and provost, will update the committee on the university's academic initiatives.*	C. Clarke
#	**5. Student Affairs Update: Corps of Cadets** *Frances Keene, vice president for Student Affairs, will update the committee on key goals and student learning and student well-being efforts within the Virginia Tech Corps of Cadets.*	F. Keene
#	**6. Virginia Tech Global Distinction: Commonwealth Cyber Initiative** *Dan Sui, senior vice president for research and innovation and Luiz da Silva, executive director of the Commonwealth Cyber Initiative (CCI) will share the latest research and developments in the CCI*	D. Sui, L. Da Silva
#*	**7. Name, Image, Likeness Policy**	K. Heidbreder

* Requires Full Board Approval

Discusses Enterprise Risk Management topic(s)

Kay Heidbreder will present the proposed new Name, Image, and Likeness Policy for approval.

8. Closing Remarks and Adjourn N. Dye

The committee chair will provide closing remarks and adjourn the meeting.

_____

* Requires Full Board Approval

Discusses Enterprise Risk Management topic(s)

Welcome

ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE

The chair of the committee will welcome committee members and others to the committee open session.

Acceptance of Agenda

ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE

The chair of the committee will review and ask for acceptance of the Open Session Agenda and items as listed on the Open Session Consent Agenda.

Open Session Consent Agenda

ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE

August 27, 2024

a. Approval of June 11, 2024 Committee Meeting Minutes

b. Report of Reappointments to Endowed Chairs, Professorships, and Fellowships

c. Summary of the 2024-25 Faculty & Staff Merit Programs
(shared for information purposes only, from Finance and Resource Management Committee)

* d. Resolution for Exclusion of Certain Officers/Directors

* e. Changes to Student Code of Conduct for 2024-25

Committee Minutes

ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE

June 11, 2024

Committee Members Present: Carrie Chenery (chair), Brad Hobbs, Don Horsley.

Board Members Present: Ed Biane, Greta Harris

Constituent Representatives Present: Janice Austin (A/P faculty representative), LaTawnya Burleson (staff representative), Joe Merola (faculty representative), Will Storey (undergraduate student representative), Emily Tirrell (graduate and professional student representative).

Guests: Cyril Clarke, Al Cooper, Debbie Day, Juan Espinoza, Ron Fricker, Rachel Gabriele, Ellington Graves, Lindsay Haugh, Kay Heidbreder, Rachel Holloway, Cyndi Hutchinson, Frances Keene, Sharon Kurek, Justin Lemkul, Lu Liu, Mallory Miller, Leslie Onellana, Ellen Plummer, Jon Porter, Susan Slate, Kenneth Smith, Aimee Suprenant, Dan Sui, G. Don Taylor, Tracy Vosburgh.

OPEN SESSION

1. Welcome. C. Chenery, chair of the committee, welcomed attendees to the meeting.

2. Report of Closed Session Items. In Closed Session, the committee considered four appointments to emerita or emeritus status, 14 appointments to endowed chairs, professorships, or fellowships, two appointments with tenure, one appointment to tenure-to-title, one faculty research leave, and promotion, tenure, and continued appointments. The committee ratified the Personnel Changes Report which is shared with the Finance and Resource Management committee.

3. Review and Approval of Open Session Agenda.

4. Consent Agenda Items. Approval of April 9, 2024, Meeting Minutes, Report of Reappointments to Endowed Chairs, Professorships, and Fellowships, Report of the 2024-25 Faculty Compensation Plan, Resolution to Approve Revised Extension Tracks, Resolution to Revise Faculty Handbook Language on Nominations to University Distinguished Professor and Alumni Distinguished Professor, Resolution to Update the Faculty Handbook Description of Expectations for Promotion and Tenure, Resolution to Approve 2024 -2025 Student Code of Conduct, Resolution to Approve Organizational Change at the Off-Campus Northern Virginia Center Located in Falls Church.

The committee voted unanimously to approve the Open Session Agenda as presented including approval of all Consent Agenda items.

5. Provost's Update. C. Clarke, executive vice president and provost, provided updates to the committee. The search for the dean of the College of Agriculture and Life Science

and the search for the Commandant for the Corps of Cadets are nearing completion. Enrollment management, including admissions, continues to meet university goals. 52,362 applications were submitted for the 2024 undergraduate student admissions cycle, representing an 11% increase in comparison to the 2023 admissions cycle. Admissions processes were affected by the elimination of the university's Early Action cycle, the U.S. Supreme Court's decision on Affirmative Action, and the delay of implementation by the U.S. Department of Education, financial aid processes. The elimination of race and ethnicity as a factor in admissions resulted in an approximately 25% decrease in acceptances from underrepresented minority students including first generation students. The admissions cycle resulted in 7,674 acceptances, approximately 1% over the university's May 15th target. Over the summer, a higher "melt" rate is anticipated, which should settle undergraduate admissions very close to the enrolment target of 7,085. Enrollment management efforts include improving undergraduate student retention rates. Approximately 42% of total admissions are out-of-state and approximately 19% of these are International. 1,128 transfer students accepted admission and projections have us on target for the university's 1025 enrollment goal.

Provost Clarke highlighted 10 on-going projects with impact across the university. The provost continues to coordinate assessing budgetary reinvestment with an emphasis on periodic review of academic programs. A comprehensive review of the university's Office of Outreach and International Affairs will be undertaken with a focus on alignment with Global Distinction goals. The Destination Area 2.0 work will continue to support interdisciplinary "grand challenges" at VT. The university's vivarium space is under review for improvements and development of additional space. Northern Virginia regional administrative structure changes are under review led by Dean Julie Ross. Efforts continue to advance the development of the university's Health Sciences including healthcare partners, recruitment of physician scientists, and the Virginia Tech Patient Research Center. Experiential learning remains a priority including providing resources to support evidence-based instruction. The university's current and aspirational goals require more and improved space that is appropriate for teaching, learning, and research. A review is underway to identify space standards, utilization, and assignment. Technology initiatives underway to support infrastructure of the enterprise and respond to ongoing changes to the IT landscape. The university's commitment to Global Distinction remains a priority and spans all areas of the university.

6. Virginia Tech Global Distinction: Destination Areas Program. D. Sui, senior vice president for research and innovation, and D. Taylor, executive vice provost, who serve as co-chairs of the university's Global Distinction Steering Committee provided information and led discussion regarding the university's commitments to achieving global distinction. In February 2024, president T. Sands and provost C. Clarke appointed a steering committee to assess how the university's investments and policies can be resourced to advance Virginia Tech's distinction across diverse metrics. The committee continues to gather information on assets, capabilities, partnerships, identity, and reputation. In addition, the committee is assessing the ways in which the university's institutional culture is dedicated to achieving distinction in federal expenditures, top awards, prestigious and highly prestigious awards, faculty citations, books, sponsored research, numbers of postdoctoral associates, and awarding of doctoral degrees.

President Sands shared that Virginia Tech has momentum and is making strides towards achieving goals in many areas. It is important for the university to benchmark institutions with a land grant mission and to highlight its strengths. Advancing initiatives in the health sciences continues to be important to achieving global distinction. Frances Keene, vice president for student affairs, described the ways in which the division advances global distinction through collaborations with enrollment management and undergraduate education that advance student excellence.

7. Future Agenda Items and Adjourn. Future agenda items include updates on Global Distinction and on the provost's priorities. Committee members are encouraged to contact the chair with suggestions for future agenda items.

REPORT

Reappointments to Endowed Chairs, Professorships, or Fellowships (6)

August 27, 2024

The president and executive vice president and provost have confirmed the reappointment of the following faculty to endowed chair, professorship, or fellowship appointments with a salary and/or operating supplement provided by the endowment.

College of Engineering (5)

Josh Iorio	Preston and Catharine White Fellowship
Ashley Johnson	Preston and Catharine White Fellowship
Andrew McCoy	Yvan J. Beliveau Professorship
Georg Reichard	Preston and Catharine White Fellowship
Changmin Son	Rolls Royce Commonwealth Professor

College of Liberal Arts and Human Sciences (1)

Brandy Faulkner	Gloria D. Smith Professorship

RESOLUTION FOR EXCLUSION OF CERTAIN OFFICERS/DIRECTORS

WHEREAS, Virginia Polytechnic Institute and State University (Virginia Tech) was determined by the U.S. Department of Defense (DoD) to be a facility authorized to be eligible for access to classified information or award of classified contracts in 1960, and years following, with the most recent authorization in May 2022; and

WHEREAS, in accordance with the National Industry Security Program Operating Manual (NISPOM), Cognizant Security Agencies (CSAs) require that certain principal officers, directors, partners, regents, or trustees, and those occupying similar positions at institutions of higher education meet the personnel security clearance requirements established for the level of the institution's facility security clearance or be formally excluded; and

WHEREAS, the NISPOM permits the exclusion from the personnel clearance requirements of said principal officers et al. on the basis that these cited individuals shall not require, shall not have, and can be effectively excluded from access to all classified information disclosed to Virginia Tech, and do not occupy positions that would enable them to affect adversely corporate policies or practices in the performance of classified contracts, as determined by a CSA;

NOW, THEREFORE, BE IT DECLARED that the Virginia Tech Board of Visitors hereby formally appoints a managerial group with the authority and responsibility for the negotiation, execution, and administration of classified contracts (Key Management Personnel), consisting of the following principal officers within Virginia Tech: President; University Legal Counsel; Chief Contracting Officer; Senior Vice President and Chief Research and Innovation Officer; Senior Associate Vice President for Research and Innovation; Associate Vice President for Research and Innovation, Sponsored Program; Facility Security Officer; and Insider Threat Program Senior Official (specified by name in Attachment A); and

BE IT RESOLVED that the President, and the said managerial group, at the present time do possess the required security clearance, with the exception of the Associate Vice President for Research and Innovation, Sponsored Programs who is in the process of obtaining the required security clearance and is hereby excluded pursuant to this resolution until the time eligibility for access to classified information is granted by a cognizant security agency; and

BE IT RESOLVED FURTHER that in the future, when a CSA determines that additional Virginia Tech officials must be added to said managerial group and be granted personnel clearances or excluded from classified access pursuant to the NISPOM, such requirements shall be made and approved by the Key Management Personnel, and not the Board of Visitors, unless approval by the Board of Visitors is formally required by a CSA; and

LASTLY, BE IT RESOLVED, that the appended list of all members of the Board of Visitors and certain University Principal Officers (specified by name in Attachment B)

shall not require, shall not have, and can be effectively excluded from access to all classified information in the possession of Virginia Tech, and do not occupy a position that would enable them to affect adversely Virginia Tech policies or practices in the performance of classified contracts. A copy of this resolution shall be provided to CSAs as required by the NISPOM.

RECOMMENDATION

That this resolution be adopted.

August 28, 2024

ATTACHMENT A:

Key Management Personnel who must be granted personnel clearances or excluded from classified access pursuant to the NISPOM per Board of Visitors Resolution, August 28, 2024

President	Timothy D. Sands, Ph.D.
University Legal Counsel	Kay K. Heidbreder, Esq.
Chief Contracting Officer	Timothy D. Sands, Ph.D
Sr. VP and Chief Research & Innovation Officer	Daniel Sui, Ph.D.
Sr. AVP, Research & Innovation	James R. Heflin, Ph.D.
AVP, Sponsored Programs	Linda Feuster Duffy*
Facility Security Officer and Insider Threat Program Senior Official	John J. Talerico, III

*an application has been made for Ms. Duffy's clearance at the required level but has not been granted at the time of this report.

ATTACHMENT B:

Members of the Virginia Tech Board of Visitors to be excluded per Board of Visitors Resolution, August 28, 2024.

Edward H. Baine (Rector)
David L. Calhoun (Vice Rector)
Sandy Davis
Nancy Dye
William Holtzman
Donald Horsley (ex-officio)
Anna L. James
Starlette Johnson
Letitia A. Long
Ryan McCarthy
Jim Miller
J. Pearson
John Rocovich
Jeanne Stosser

List of Virginia Tech Principal Officers to be excluded per Board of Visitors Resolution, August 28, 2024

Executive Vice President and Provost	Dr. Cyril R. Clarke
Executive Vice President and Chief Operating Officer	Ms. Amy S. Sebring

RESOLUTION FOR UPDATES TO THE STUDENT CODE OF CONDUCT FOR THE 2024-25 ACADEMIC YEAR

WHEREAS, the Code of Virginia §23.1-412 mandates all public institutions of higher education to maintain and enforce non-academic student codes of conduct that uphold the values and expectations of their respective communities; and

WHEREAS, Virginia Tech is committed to fostering an environment that promotes academic integrity, respect, and responsibility among its students; and

WHEREAS, the Student Code of Conduct at Virginia Tech outlines the expectations for student behavior and the university's approach to managing instances of misconduct, applying to all enrolled students and student organizations; and

WHEREAS, it is the duty of the Virginia Tech Board of Visitors to ensure the Student Code of Conduct is reviewed and updated regularly to reflect best practices, legal requirements, and the evolving needs of the university community; and

WHEREAS, the university recognizes the importance of clear, understandable, and easily navigable policies to ensure students are well-informed of their rights and responsibilities; and

WHEREAS, these refinements aim to improve the overall comprehension and enforceability of the Student Code of Conduct, thereby facilitating a more respectful and responsible student body;

NOW, THEREFORE, BE IT RESOLVED that the Student Code of Conduct, applicable to undergraduate, graduate, professional students, and student organizations, be approved by the Board of Visitors, to include new language as outlined below (in red) to take effect upon approval of the board:

- (pg. 6) Section III. Jurisdiction: Virginia Tech reserves the right to address any behavior or act that potentially violates local, state, or federal law. When conduct violates both criminal law and the Student Code of Conduct, disciplinary action may be taken by the university, irrespective and separate from criminal action. At the university's discretion, the Office of Student Conduct may proceed with disciplinary action prior to a criminal trial or postpone action until after trial.

- (pg. 13) Section V. Prohibited Conduct: Other Prohibited Conduct: Prohibited Conduct: Violations of federal, state, or local laws, regulations, orders, or ordinances.

RECOMMENDATION:

That the updates to the student code of conduct for the 2024-25 academic year be adopted.

August 28, 2024

Provost's Update

ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE

August 27, 2024

Cyril Clarke, executive vice president and provost, will provide an update.

Virginia Tech

Corps of Cadets

UT PROSIM

A HOLISTIC WELL-BEING APPROACH TO THE NEW CADET EXPERIENCE

Frances Keene, Ph.D.

Vice President for Student Affairs

Academic Research, and Student Affairs Committee

Board of Visitors

August 27, 2024

STUDENT AFFAIRS
VIRGINIA TECH

CORPS OF CADETS: A LIVING LEARNING COMMUNITY

The Corps of Cadets is Virginia Tech's oldest living-learning community.

- Multi-generational living
- Integrated Peer Leadership program
- Curricular learning that includes training in military tactics
  - > 80% commission, 20% non-military
- Co-curricular learning
- Mission: Graduate leaders of exemplary character who are instilled with the values and skills essential for leadership success in service to the nation.



FIRST-YEAR CADET TRAINING PHASES

Red (Aug. 16 – Oct. 4)

- New Cadet Week
- Learning how to be a cadet
- Increased skills

White (Oct. 5 – Dec. 14)

- Building proficiency/experience being a cadet
- Increased responsibilities

Blue (Dec. 15 – Apr. 26)

- Learning to lead small teams
- Increased privileges

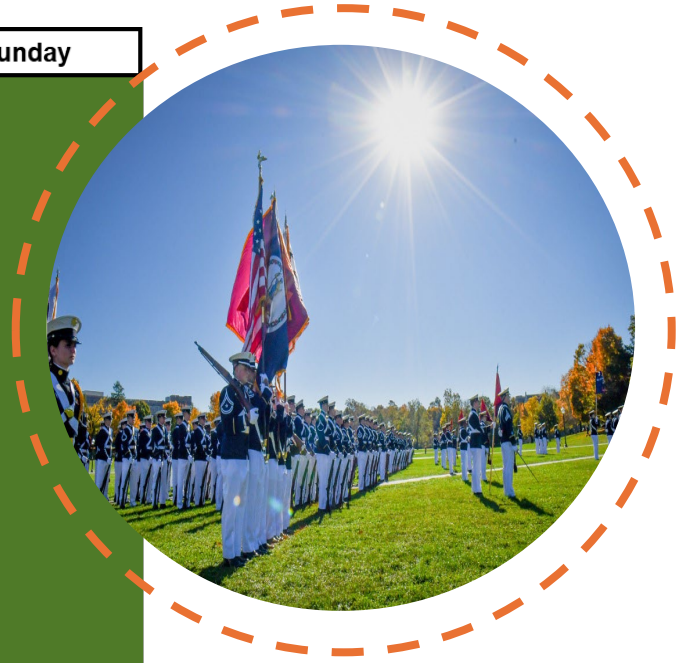


VIRGINIA TECH

CORPS OF CADETS MAJOR GENERAL W. THOMAS RICE CENTER FOR LEADER DEVELOPMENT

ACADEMIC YEAR SCHEDULE AND TRAINING

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
0530	Army PT	Citizen Leader Track PT 0510	Army PT	Citizen Leader Track PT 0510	Army PT Marine PT		
0630	Non-PT Day - Wake Up Shower, Get into Uniform						
0715	Online Training, Room / Uniform Inspections, and Morning Formation						
0800	Air Force PT Naval PT	Air Force PT Naval PT	Air Force PT Naval PT	Air Force PT Naval PT		Approved Phase Training	
0900							
1000							
1100							
1200	Green space is free and scheduled class times Including Corps / VPI / ROTC Classes						
1300							
1400						Fall: VT Home Football Games ROTC Training Spring: Corps or ROTC Training	
1530		VPI / ROTC Labs		Corps Lab			
1600							
1700							
1800							ECQ Study Hours
1900	Evening Call to Quarters Study Hours 4 hours for First-Year Cadets 2 hours for Sophomores In rooms or approved study locations				Approved Phase Training		
2000							
2100							
2200						Later: Pass (within 50 miles)	
2300							



VIRGINIA TECH

CORPS OF CADETS MAJOR GENERAL W. THOMAS RICE CENTER FOR LEADER DEVELOPMENT

WELL-BEING ADDITIONS AND ENHANCEMENTS

- Early, comprehensive, preparation discussions, skill building, and expectation setting
- Increased knowledge and training for Corps of Cadets leadership, health & well-being leadership teams, and student leaders
- New staff and increased staffing during critical times
- Increased knowledge and training for new cadets and returning cadets over the course of the semester



VIRGINIA TECH

CORPS OF CADETS MAJOR GENERAL W. THOMAS RICE CENTER FOR LEADER DEVELOPMENT

STUDENT VOICES









VIRGINIA TECH

CORPS OF CADETS MAJOR GENERAL W. THOMAS RICE
CENTER FOR LEADER DEVELOPMENT

CORPS OF CADETS HEALTH AND WELL-BEING RESOURCES

In Case of Emergency call 911

Color Guide

- High Risk - Emergency/crisis
- Medium Risk - Want to take action to support health and wellness
- Low Risk - Want to learn more about health and wellness (routine/sustained support)

*There is no correct order for utilizing these resources

VTCC/RWB Student Leaders — START HERE

Start here. Will help you learn more about these resources and the best place to start.

- Peer Leadership
- Private, not confidential
- May share information with RWB and Deputy Commandant staff
- Seek out for support

Deputy Commandant & Senior Enlisted Advisor

Immediate Corps of Cadets resource.

- Advisement/Leadership Coaching
- Private, not confidential
- Seek out for support
- Seeking support for Privacy related issues (i.e. Personal, Academics, Medical, and Mental Health) is not jumping the chain of command.

RWB Case Managers

Your RWB Case Managers can provide support navigating campus resources and mental health service options.

- Private, but not confidential
- Educational record documentation
- How? Drop-in or email us
- No referral needed

RWB Embedded Counselors

Embedded counselors are members of Cook Counseling who work with on-campus students, M-Th 2 p.m. - 10 p.m., Friday 12 p.m. - 4 p.m.

- Confidential resource
- Medical record documentation
- Minimal Reporting Requirements: risk of abuse or risk to self or others
- How? Can schedule online or drop-in
- No referral needed

Timely Care Talk Now

Talk Now offers immediate access to speak with a counselor via their app. This app also has online resources for mindfulness and mental health self-care.

- Consultative service with a mental health professional
- Medical record documentation
- Minimal Reporting Requirements: risk of abuse or risk to self or others
- How? Download the TimelyCare app and set up and account
- No referral needed

Cook Triage Services

Your starting place to enter Cook Counseling services and develop a plan of action and connection to resources.

- Confidential resource
- Medical record documentation
- Minimal Reporting Requirements: risk of abuse or risk to self or others
- How? Call Cook for a triage appointment **540-231-5448**
- No referral needed
- Non-mandatory reporter

Cook Psychiatry

These are physicians who work with medication management for diagnosed psychiatric conditions.

- Confidential resource
- Medical record documentation
- Minimal Reporting Requirements: risk of abuse or risk to self or others
- How? Your referral source will help you get started
- Referrals required from Cook staff, Schiffert providers, or a community provider
- Non-mandatory reporter

Cook Embedded Counselor

This member of Cook Counseling works on Upper Quad with cadets, offering both individual appointments and drop-in hours.

- Confidential
- Drop-In Hours are a non-recorded consultation
- Individual counseling results in traditional medical record documentation
- How? Visit Drop-In Hours or schedule an appt

Cook Individual & Group Therapy

Counselors can work with you on common issues among college students, such as life transitions, family issues, career concerns, or stress management, and/or can develop individual treatment plans for mental health concerns.

- Confidential resource
- Medical record documentation
- Minimal Reporting Requirements: risk of abuse or risk to self or others
- How? Your triage providers will help you get started
- Referral from Cook Triage team
- Non-mandatory reporter

Timely Care Individual Counseling

You can schedule up to 12 individual online counseling sessions with a counselor who meets your needs.

- Confidential resource
- Medical record documentation
- Minimal Reporting Requirements: risk of abuse or risk to self or others
- How? schedule through the TimelyCare app
- No referral needed

In Case of Emergency call 911

Schiffert Student Health
This is VT's campus medical services for students.
- Confidential resource
- Medical record documentation
- Minimal Reporting Requirements: risk of abuse or risk to self or others
- How? Make an appointment through the Healthy Hokie Portal or call **540-231-6444**
- No referral needed
- Non-mandatory reporter

Women's Center Embedded Advocate
Cadets can speak to an advocate who offers office hours on Upper Quad or seek services at the Women's Center on Washington Street.
- Confidential advocacy and counseling services.
- No medical record documentation
- No referral needed
- Non-mandatory reporter

Clergy/Interfaith Support
Connection with individuals from diverse religious, spiritual, and secular backgrounds.
- Private and confidential
- No documentation
- Non-mandatory reporter
- Schedule through Dean of Students Office or local community resource

Support Groups at Community Centers
Support groups are opportunities to discuss concerns and get support from peers like you. These support groups are supported by clinical staff.
- Peer support with clinician present
- Private, but not confidential
- Attendance documentation only
- Minimal Reporting Requirements: risk of abuse or risk to self or others
- How? Check the website of the related cultural center or the Cook Counseling website for times and locations
- No referral needed

Corps of Cadets Cultural/Identity-based Support Organizations
Opportunities for connection, belonging, and support from peers like you.
- Asian-American Cadet Org - Community for Asian American cadets in the VTCC
- Black Cadet Org - Community for black cadets in the VTCC
- Fenix - Community of Latin/Hispanic cadets
- Growing Leaders of Women (GLOW) - Community of women cadets, empowering, and supporting women's issues in the military
- HERO - Community for LGBTQ cadets and their allies

Hokie Wellness
Hokie Wellness offers experiences to support and improve mental well-being, including mental health workshops, The Connection Project, and a number of interactive tools on Hokie Wellness website.
- Non-medical coaching
- Private, but not confidential
- Attendance documentation only
- How? Visit hokiewellness.vt.edu or follow our social media for events
- No referrals needed

Health Coaching via Timely Care
Your opportunity to work with a coach, who is a trained health educator, to achieve health & well-being personal needs or goals.
- Private, but not confidential
- No medical record documentation
- Minimal Reporting Requirements: risk of abuse or risk to self or others
- How? Schedule through the TimelyCare app
- No referral needed

Hotlines:
Designed for anonymity, but immediate crises can usually be tracked.

988 Suicide & Crisis Lifelife
Military Crisis Line (**988, press 1**)

RAFT Crisis Hotline
(local 4p-8a, 24 hours weekend volunteers backed by clinicians):
540-961-8400

Crisis Text Line: Text **HOME to 741741**
National RAINN Sexual Assault Hotline:
1-800-656-4673

Key For Terms
Confidentiality - will not share, nor be asked to share, identifying information about you or the conversations that take place without your consent. **Exceptions can only be made in response to court orders, when child or elder abuse is involved, or if there are serious threats to hurt oneself or others**.

Educational Record - records that are directly related to a student and that are maintained by an educational agency or institution or a party acting for or on behalf of the agency or institution.

Mandatory Reporter - must report sexual misconduct offenses they are aware of no matter where the offense occurred – on or off campus.

Medical Record - systematic documentation of a single patient's medical history and care across time within one particular health care provider's jurisdiction.

Scan this QR code for more resources including a digital version of this document.

Virginia Tech Corps of Cadets: vtcc.vt.edu
Hokie Wellness: hokiewellness.vt.edu
Cook Counseling Center: ucc.vt.edu
Residential Well-being: rwb.vt.edu
Schiffert Health Center: healthcenter.vt.edu

Virginia Tech Corps of Cadets — UT PROSIM

HOKIE WELLNESS
VIRGINIA TECH

CORPS OF CADETS HEALTH AND WELL-BEING RESOURCES

Virginia Tech
UT PROSIM
Corps of Cadets

HOKIE WELLNESS
VIRGINIA TECH

STUDENT AFFAIRS
RESIDENTIAL WELL-BEING
VIRGINIA TECH

STUDENT AFFAIRS
COOK COUNSELING CENTER
VIRGINIA TECH

Commonwealth Cyber Initiative

CCI in brief

Luiz DaSilva

Executive Director, Commonwealth Cyber Initiative
Bradley Professor of Cybersecurity, Virginia Tech

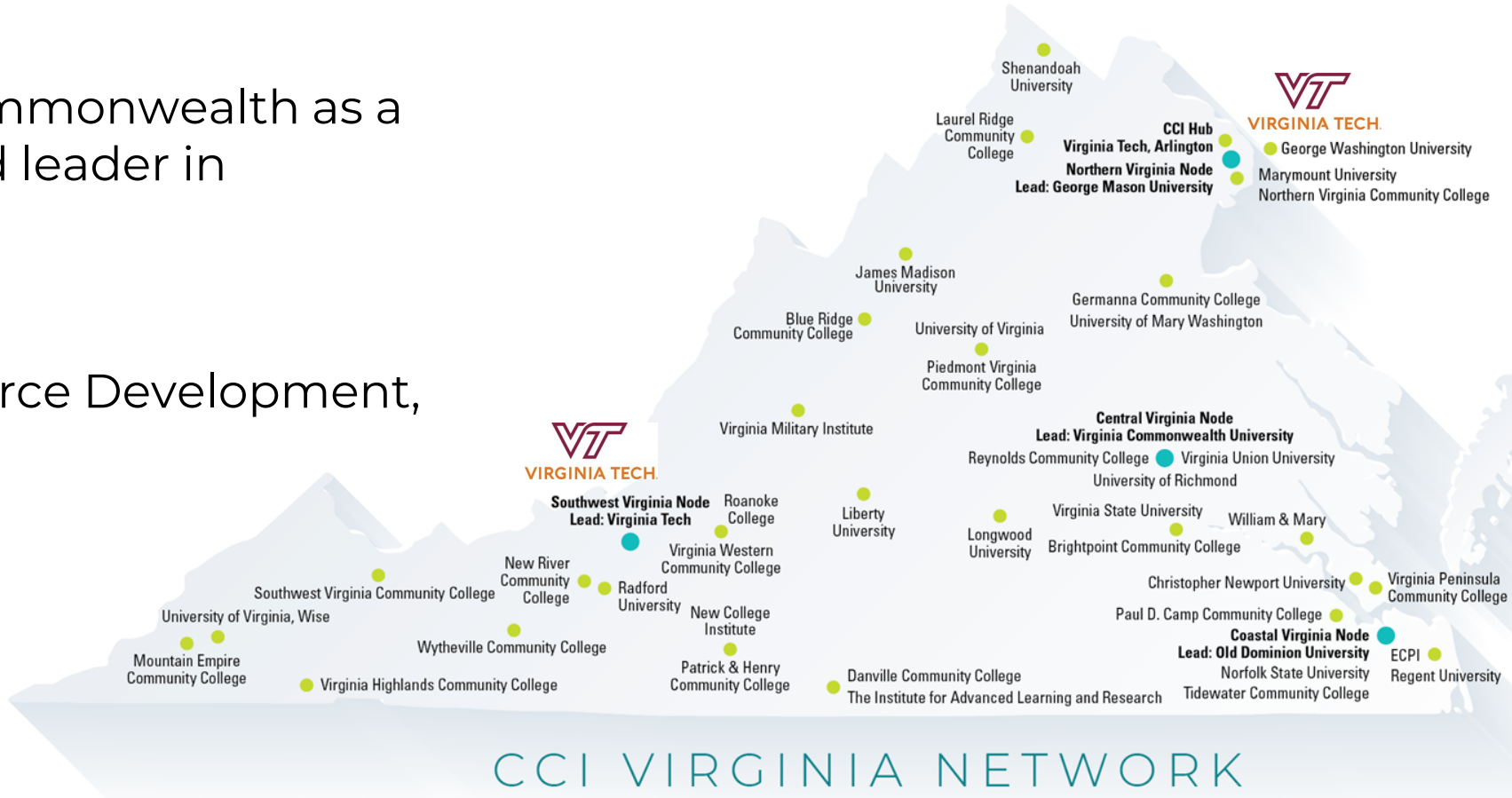
Academic, Research, and Student Affairs Committee
Board of Visitors
August 27, 2024

The Commonwealth Cyber Initiative

Vision:
Positioning the commonwealth as a globally recognized leader in cybersecurity

Mission Lines:
Innovation, Workforce Development, and Research

FIVE YEARS OF CCI



CCI VIRGINIA NETWORK

46 Higher Education Institutions
300+ faculty members

Workforce Development

CCI activities supported 863 jobs across VA in FY23 and added $97 million to the state's GDP



Women are 25% of the cyber workforce but 43% of CCI's undergraduate interns

Supporting Tomorrow's Cybersecurity Experts

Source: RTI Economic Impact Report

573
Interns + experiential learning participants

317
Research scientists + graduate assistants

301
Undergraduates supported

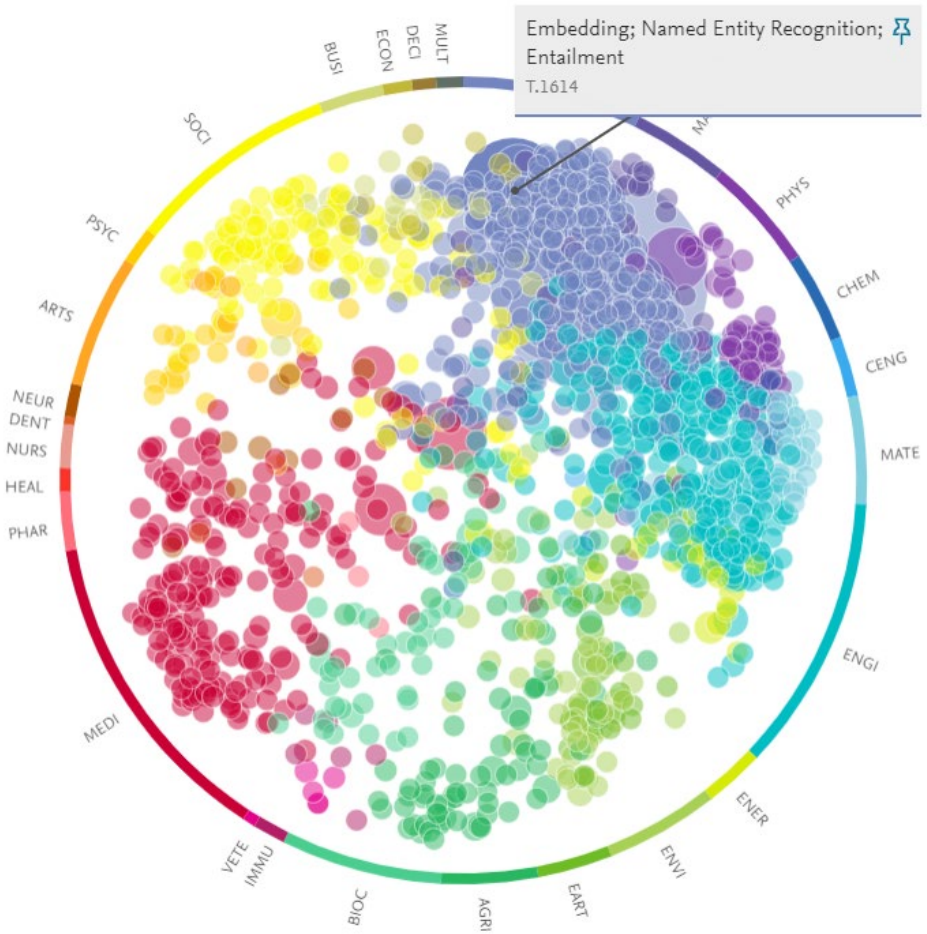
Research



CCI Soars with CHIPS Acts Grants

U.S. Commerce Secretary Gina Raimondo at the announcement of $42M grant under the Wireless Innovation Fund (VT, CCI Hub, 2024)

7.5 to 1



Subject area abbreviations

COMP	Computer Science
MATH	Mathematics
PHYS	Physics and Astronomy
CHEM	Chemistry
CENG	Chemical Engineering
MATE	Materials Science
ENGI	Engineering
ENER	Energy
ENVI	Environmental Science
EART	Earth and Planetary Sciences
AGRI	Agricultural and Biological Sciences
BIOC	Biochemistry, Genetics and Molecular Biology
IMMU	Immunology and Microbiology
VETE	Veterinary
MEDI	Medicine
PHAR	Pharmacology, Toxicology and Pharmaceutics
HEAL	Health Professions
NURS	Nursing
DENT	Dentistry
NEUR	Neuroscience
ARTS	Arts and Humanities
PSYC	Psychology
SOCI	Social Sciences
BUSI	Business, Management and Accounting
ECON	Economics, Econometrics and Finance
DECI	Decision Sciences
MULT	Multidisciplinary

Global Distinction

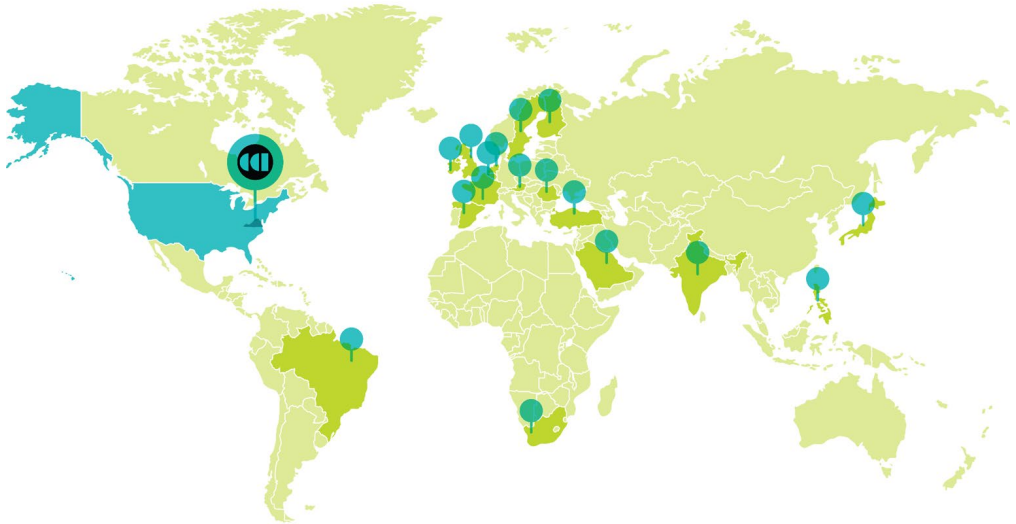
US/European Cybersecurity Workshop
May 22-23, 2024
Leuven, Belgium

60 Participants
35 Institutions
10 Countries



VIRGINIA TECH

"We engage world-class talent to pursue solutions to the most complex challenges facing out communities at home and abroad." President Sands
VT News 12/2023



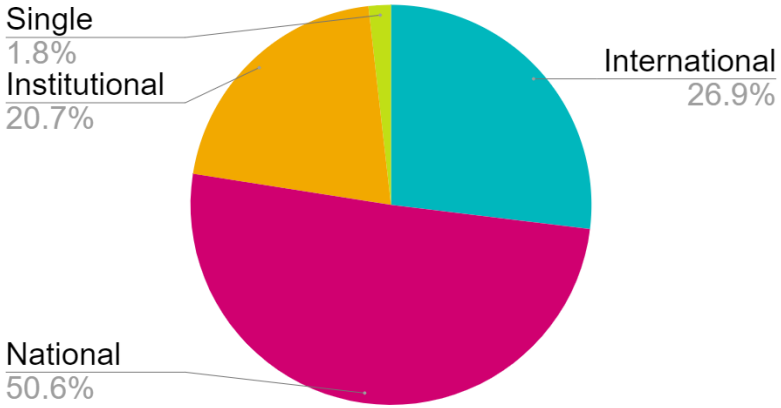


International Cyber Security Center of Excellence

INCS-CoE

Today's and tomorrow's most pressing global cyber challenges.

CCI Collaboration as of 4/9/24



Innovation



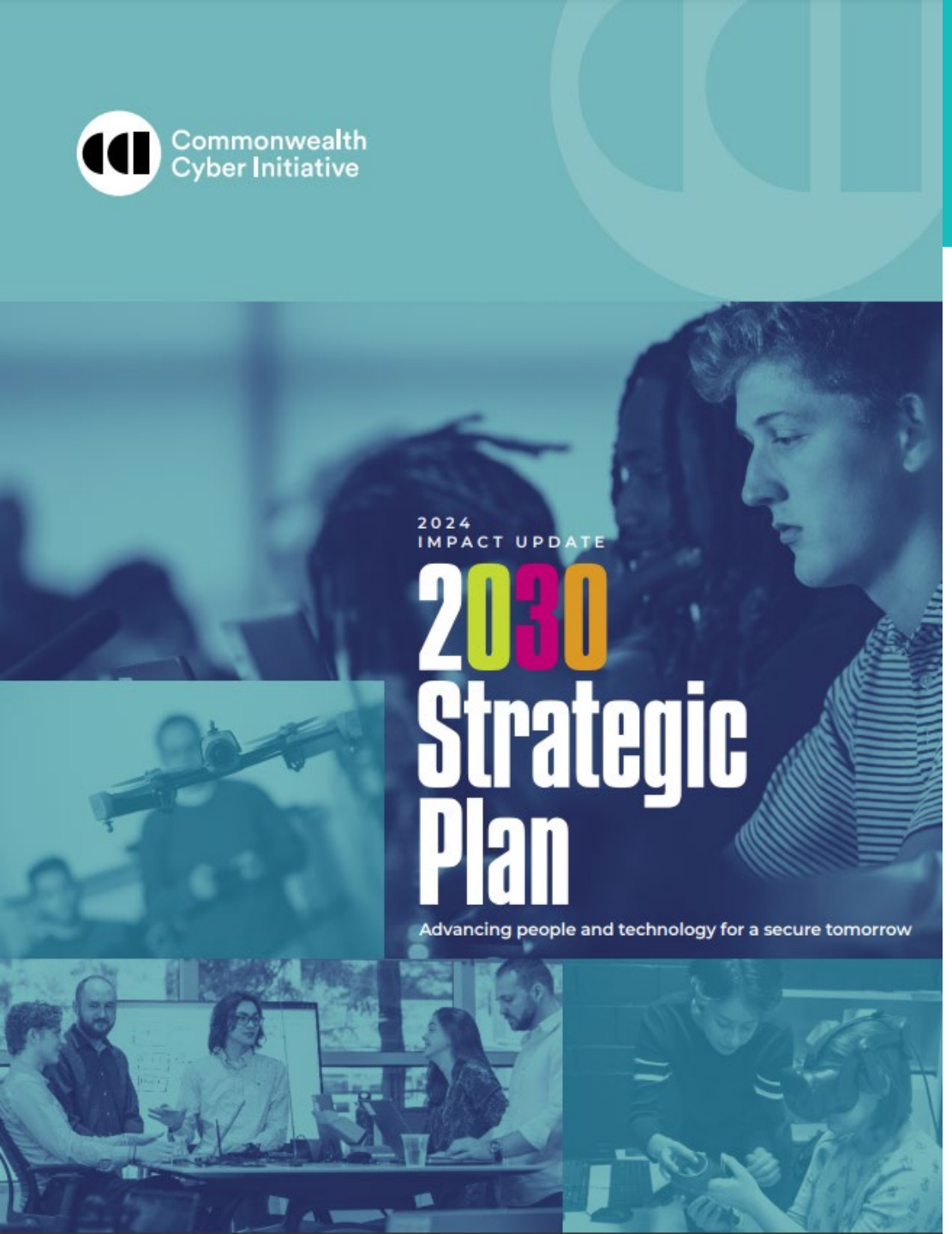
Engagement with CCI across all three mission lines

- Internships and experiential learning programs
- Innovation investments (CATUPULT, CCI Incubator and Accelerator)
- Partnering on research
- Venture Capitalist connections

Cybersecurity represents 27% of venture deals in VA in 2022/2023

Economic Impact





2030 Strategic Plan

To access CCI's Strategic Plan, Brochures, and One-pagers scan below:

RESOLUTION APPROVING THE POLICY ON STUDENT ATHLETE PARTICPATION IN NAME, IMAGE, LIKENESS OPPORTUNTIES

WHEREAS, effective 2021, the NCAA issued rules that permit student athletes to benefit financially from their Name, Image, and Likeness (hereinto referred to as NIL) for commercial purposes; and

WHEREAS, the Virginia General Assembly adopted legislation in 2022 regulating the scope of student athlete NIL activities in Virginia that was codified in §23.1-408.1, Code of Virginia, as amended; and

WHEREAS, the General Assembly, with the support of the Governor, amended §23.1-408.1, Code of Virginia, as amended, effective July 1, 2024; and

WHEREAS, §23.1-408.1, Code of Virginia, as amended, requires that an institution submit to the Board of Visitors for approval the institutional NIL policy; and

WHEREAS, a policy on student athlete participation in Name, Image, and Likeness opportunities has been developed that tracks the requirements of §23.1-408.1, Code of Virginia, as amended;

NOW, THEREFORE, BE IT RESOLVED, that the policy on Student Athlete Participation in Name, Image, Likness Opportunities be adopted.

RECOMMENDATION:

That the Policy on Student Athlete Participation in Name, Image, Likness Opportunities be adopted.

August 28, 2024

Policy on Student Athlete Participation in Name, Image, Likeness Opportunities

No. ####

Policy Effective Date:
08/27/24

Last Revision Date:
08/27/24

Policy Owner:
Whit Babcock,
Athletics Director

Policy Author:
(Contact Person)
Brandon Hall,
Executive Associate Athletics Director and Chief Financial Officer

Affected Parties:
Undergraduate
Graduate
Faculty
Staff
Other

1.0 Purpose

Section 23.1-408.1, Code of Virginia, as amended, authorizes creation by the university of a Name, Image, and Likeness (NIL) Program for student athletes.

2.0 Policy

Consistent with Section 23.1-408.1, Code of Virginia, this policy and any future modifications must be approved by the university's Board of Visitors.

2.1 Applicability of Policy

Virginia Tech permits student athletes to receive compensation for the use of their name, image, and likeness for actual services rendered by the student athlete related to their participation in the university's intercollegiate athletics program. This policy does not regulate activities that are not related to intercollegiate athletics, provided such activities do not impact the student athlete's eligibility under NCAA, athletic conference, or university rules. Further, this policy is separate from any other student athlete payments, including but not limited to scholarships, provided by the university.

2.2 Student athlete participation in Name, Image, and Likeness program

2.2.1 Student Athletes must register their NIL participation with the athletic department if the student anticipates receiving in excess of $600 per season and for any sums earned for work performed for university.

2.2.2 Student Athletes participating in the NIL program shall attend the athletic department educational program on money management once per academic year.

2.2.3 The university will not compensate student athletes for their NIL rights for participation in academic, or university athletic activities, including but not limited to practices, scrimmages, competitions, whether televised or not.

2.2.4 As a condition of intercollegiate athletic participation, student athletes are required to assign a full paid-up royalty free nonexclusive license to NIL rights to the university for participation in activities identified in subsection 2.2.3. above.

2.2.5 Student Athletes must remain in good standing with the university including academically, with Student Conduct, with the Honor System, and with the Corps of Cadets (if applicable) and remain enrolled to continue to participate in NIL activities as identified in this policy. Additionally, student-athletes must comply with all athletics policies including, but not limited to, the Student-Athlete Handbook and Policy 1036 (Student-Athlete Monitoring and Assistance Program) to participate in the NIL program.

2.3 Restrictions

2.3.1 Nothing in this policy shall be construed as an employment relationship between the student athletes and the university for their participation in the university's inter-collegiate athletics department.

2.3.2 Student Athletes participating in the NIL program shall not earn compensation in connection with any of the following:

a. Alcohol and alcoholic beverages;
b. Adult entertainment;
c. Cannabis, cannabinoids, cannabidiol, or other derivatives, not including hemp or hemp products;
d. Controlled substances as defined in Virginia Code § Section 54.-3401
e. Drug paraphernalia, as define in Virginia Code Section § 18.2-265.1
f. Tobacco, tobacco products, alternative nicotine products, nicotine vapor products, and similar products and devices;
g. Weapons, including firearms and ammunition for firearms; and
h. Casinos or gambling, including sports betting.

2.3.3 Without university written permission, student athletes may not use university marks, facilities, apparel, equipment, or intellectual property to earn NIL compensation.

3.0 NIL Activities Scope

3.1 The university may permit the use of certain university assets as an incentive to an outside entity that supports NIL opportunities for university student athletes subject to subsection 2.3.3 above. Specifically:

3.1.1 The Director of Athletics may permit use of university facilities assigned to the Athletics Department consistent with the delegated authority provided by the Vice President for Facilities.

3.1.2 The Director of Athletics may permit the use of other departmental resources, including but not limited to personnel and equipment for these purposes.

3.1.3 The use of university facilities or resources not assigned to the Athletics Department must be approved by the Executive Vice President and Chief Operating Officer or his or her designee. The use of Athletics trademark licensing or benefits may also be permitted if approved by the Director of Athletics.

3.2 The university may enter into an agreement with a third-party or affiliated entity to manage NIL activities.

3.2.1 Any third party or affiliated entity will be subject to the terms of a mutually written agreement.

3.3 Marketing activities by third parties and or an affiliated entity shall put forth factors to the University upon which NIL agreements with student athletes shall be administered, including such considerations as equity in marketing, fair student athlete compensation, and a matrix detailing factors such as audience interest and student athlete participation obligations.

4.0 Definitions

Conference means any athletic conference to which the university is a member.

NCAA means the National Collegiate Athletic Association.

NIL means Name Image and Likeness of a student athlete participating on an intercollegiate athletics team.

5.0 References

1. 23.1-408.1 Code of Virginia, as Amended.
https://law.lis.virginia.gov/vacode/title23.1/chapter4/section23.1-408.1/

6.0 Approval and Revisions

POLICY ON STUDENT ATHLETE PARTICIPATION IN NAME, IMAGE, AND LIKENESS OPPORTUNITIES (NIL)

Kay Heidbreder
University Legal Counsel

Board of Visitors
Academic, Research, and Student Affairs Committee

August 27, 2024

VIRGINIA TECH™

DEFINITION OF NIL

- NIL refers to the right of college athletes to monetize their NIL through product endorsements and other economic activities.
- Effective 2021, the NCAA permitted Student Athletes to engage in commercial activities and receive compensation for their NIL.

VIRGINIA NIL STATUE

- Per Section §23.1-408.1, effective July 1, 2022, Virginia Student Athletes permitted to participate in NIL opportunities administered by third parties.
- Section §23.1-408.1, was amended effective July 1, 2024, to authorize Universities to support Student Athlete NIL opportunities.

REQUIREMENTS OF STATUTORY AMENDEMENTS

- Board of Visitors policy approval
- Authorizes use of University resources and facilities to support NIL activities
- Prohibits Student Athletes from endorsing certain products

Examples:

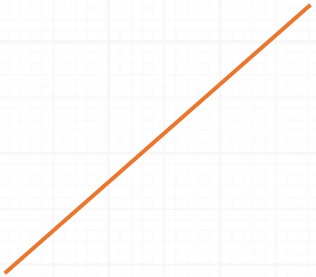
1. Controlled Substances
2. Sports betting
3. Weapons

KEY FEATURES OF VIRGINIA TECH POLICY

- Student Athletes must register their NIL participation if receiving in excess of $ 600 per year
- Mandatory education programming
- No compensation for participation in academic or university athletic activities

KEY FEATURES OF VIRGINIA TECH POLICY

- To participate, Student Athletes must remain in good standing and remain enrolled
- No compensation may come from student fees
- Athletic Director may permit use of athletic facilities and other athletic resources for support of NIL activities



Questions?

Closing Remarks and Adjournment

ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE

August 27, 2024

The chair of the Academic, Research, and Student Affairs Committee will provide closing remarks and adjourn the meeting.

Open Session Agenda

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

Tour departs at 2:00 p.m. from the Lobby of the Inn at Virginia Tech and Skelton Conference Center.

		Agenda Item	Reporting Responsibility
	1.	Tour of University Facilities a. Virginia-Maryland College of Veterinary Medicine b. War Memorial Hall	Dwyn Taylor

Open session meeting begins at 3:30 p.m.
in Latham Ballroom A/B of the Inn at Virginia Tech and Skelton Conference Center.

		Agenda Item	Reporting Responsibility
	2.	Welcome and Introductions	Committee Chair Dwyn Taylor
	3.	Consent Agenda a. Minutes from the June 2024 Committee Meeting	Committee Chair Dwyn Taylor
*		b. Resolution to Approve Revisions to the Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods	
	4.	Update from the Chief Operating Officer	Amy Sebring
# +	**5.**	Overview of the University's Physical Assets and Facilities Management Approach	Dwyn Taylor
# +	**6.**	Overview of the Capital Construction Program	Dwyn Taylor
# +	**7.**	Acceptance of the Capital Project Status Report	Dwyn Taylor
	8.	Future Agenda Items and Closing Remarks	Committee Chair

*** Requires Full Board Approval**
 # Discusses Enterprise Risk Management Topic(s)
+ Discusses Strategic Investment Priorities Topic(s)

Open Session Briefing Report

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

Tour departs at 2:00 p.m. from the Lobby of the Inn at Virginia Tech and Skelton Conference Center.

Open Session Meeting

1. **Tour of University Facilities:** The Committee will participate in a tour of university facilities.

    a. **Virginia-Maryland College of Veterinary Medicine:** The Committee will participate in a tour of Virginia-Maryland College of Veterinary Medicine. Established in 1978, Virginia-Maryland College of Veterinary Medicine is a leading biomedical teaching and research center. The college's locations include the main campus in Blacksburg, Virginia; the Animal Cancer Care and Research Center in Roanoke, Virginia; the Marion duPont Scott Equine Medical Center in Leesburg, Virginia, and the Gudelsky Veterinary Center in College Park, Maryland. The existing Teaching Hospital is a full-service veterinary facility providing primary and specialized care for both small and large animals on the main campus in Blacksburg, Virginia. The hospital focuses on teaching and provides a hands-on learning experience where students, residents and interns work closely with CVM faculty and staff. However, the current facility was constructed nearly forty years ago, and the small animal patient care and teaching facilities are no longer capable of meeting the current space demands of the school's growing academic program. The Campus Master Plan and the Six-Year Capital Outlay Plan include the renovation and expansion to the College of Veterinary Medicine's (CVM) Teaching Hospital. This project has been a high priority for the College and its teaching and research mission including its operational and fundraising efforts for multiple years. The renovation and expansion will provide new exam rooms, surgery rooms, and service modules, community practice space as well as ICU, Intermediate Care Suite, physical therapy and pharmacy stores and the necessary support spaces. The project scope is envisioned as the renovation of approximately 25,000 gross square feet (GSF) as well as an addition of approximately 25,000 GSF for a combined total of 50,000 GSF of updated, modern space for the CVM Teaching Hospital's academic program. The university is currently seeking a planning authorization for the project to complete working drawings for the project.

b. War Memorial Hall: The Committee will participate in a tour of War Memorial Hall. The recent War Memorial Hall renovation helps strengthen Virginia Tech's commitment to supporting student well-being through enhanced student health, wellness, counseling, and recreational sport resources and programs. The renovation includes improvements to classrooms, faculty offices, and research labs. War Memorial Hall houses Recreational Sports, faculty offices, research offices and labs that bring together health science with hands-on application of exercise, health, and well-being. War Memorial Hall renovations include new, refreshed, and expanded exercise and activity spaces; dedicated functional fitness space; mind and body studio; dance studio; wet classroom for aquatic and safety instruction; building system upgrades, including air conditioning; modernized general assignment classrooms; student gathering spaces; and administrative offices. Newly modernized locker rooms and bathrooms will include family changing rooms and all-gender spaces.

Open session meeting begins at 3:30 p.m.
in Latham Ballroom A/B of the Inn at Virginia Tech and Skelton Conference Center.

Open Session Meeting

2. **Welcome and Introductions:** The Committee Chair will convene the meeting and provide welcoming remarks.

3. **Consent Agenda:** The Committee will consider for approval the items listed on the Consent Agenda.

   a. Minutes from the June 2024 Committee Meeting: The Committee will review for approval the minutes from its June 2024 meeting.

   * **b. Resolution to Approve Revisions to the Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods:** The Committee will review for approval a resolution to revise the approval process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods. Pursuant to the Restructuring Act and in accordance with Chapter 780 (2016) Item 4-4.01 #1c and *Code of Virginia* §2.2-4378, 2.2.-4379, 2.2-4381 and 2.2-4383; the current applicable Virginia Tech Construction and Professional Services Manual; the current applicable Construction Management Procedures as adopted by the Secretary of Administration; and the current applicable Design-Build Procedures as adopted by the Secretary of Administration, the proposed university process is to be revised and adopted in response to the passage of Senate Bill 18 for use of these methods.

The university recommends that the resolution approving revisions to the Capital Construction Delivery Method Approval Process be approved.

4. **Update from the Chief Operating Officer:** The Committee will receive an update from Amy Sebring, Executive Vice President and Chief Operating Officer.

+ 5. **Overview of the University's Physical Assets and Investment Approach:** The Committee will receive an overview of the university's physical assets and investment approach from Dwyn Taylor, Vice President for Facilities and Chief Facilities Officer. Virginia Tech is committed to providing a safe, inclusive, accessible, sustainable, mission-centric, partner-focused, and cost-effective infrastructure that preserves, fosters, complements, and advances the university's distinct senses of place and service. Extensive land holdings, effectively maintained and growing facilities, and a modern inventory of equipment and systems provide a sound foundation for current programs and future initiatives.

+ 6. **Overview of the Capital Construction Program:** The Committee will receive an overview of the university's capital construction program from Dwyn Taylor, Vice President for Facilities and Chief Facilities Officer. The Facilities Division provides leadership in the administration and management of all major capital outlay projects, which are defined as projects with a total project cost of $3 million or more inclusive of all expenditures necessary to complete the project, and/or projects involving the construction of 5,000 square feet or more. Project managers work closely with sponsoring colleges and departments, future building users, and other project stakeholders to achieve project goals. Following project authorization by the Board of Visitors, project managers coordinate all phases of a project from initiation through completion and close-out.

+ 7. **Acceptance of the Capital Project Status Report:** The Committee will review for acceptance the quarterly capital project status report from Dwyn Taylor, Vice President for Facilities and Chief Facilities Officer. The current active portfolio of projects includes 19 authorized projects – active and complete (within a 1-year warranty phase) – with a total value of approximately $1 billion, adds approximately 1.2 million gross square feet of new construction, and renovates nearly 273,000 gross square feet of existing space.

The university recommends acceptance of the Capital Project Status Report and that reports in November 2024, March 2025, and June 2025 be included on the Committee's consent agenda.

8. **Future Agenda Items and Closing Remarks:** The Committee will discuss potential topics for inclusion on future meeting agendas.

Tour of University Facilities

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

The Committee will participate in a tour of university facilities.

Tour of College of Veterinary Medicine

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

Project Summary

Established in 1978, Virginia-Maryland College of Veterinary Medicine is a leading biomedical teaching and research center. The college's locations include the main campus in Blacksburg, Virginia; the Animal Cancer Care and Research Center in Roanoke, Virginia; the Marion duPont Scott Equine Medical Center in Leesburg, Virginia, and the Gudelsky Veterinary Center in College Park, Maryland.

The existing Teaching Hospital is a full-service veterinary facility providing primary and specialized care for both small and large animals on the main campus in Blacksburg. The hospital focuses on teaching and provides a hands-on learning experience where students, residents and interns work closely with CVM faculty and staff. However, the current facility was constructed nearly forty years ago, and the small animal patient care and teaching facilities are no longer capable of meeting the current space demands of the school's growing academic program. The Campus Master Plan and the Six-Year Capital Outlay Plan include the renovation and expansion to the College of Veterinary Medicine's (CVM) Teaching Hospital. This project has been a high priority for CVM and its teaching and research mission including its operational and fundraising efforts for multiple years.

The renovation and expansion will provide new exam rooms, surgery rooms, and service modules, community practice space as well as ICU, Intermediate Care Suite, physical therapy and pharmacy stores and the necessary support spaces. The project scope is envisioned as the renovation of approximately 25,000 gross square feet (GSF) as well as an addition of approximately 32,000 GSF for a combined total of 57,000 GSF of updated, modern space for the CVM Teaching Hospital's academic program. The university is currently seeking a planning authorization for the project to complete working drawings for the project.

Timeline (Construction Start/Target Completion)

- TBD

Delivery Method

- TBD

Gross Square Feet

- TBD

Current Phase

- Planning Authorization Recommended

Architect/Engineer

- TBD

Contractor

- TBD

Tour of War Memorial Hall

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

Project Summary

The War Memorial Hall renovation helps strengthen Virginia Tech's commitment to supporting student well-being through enhanced student health, wellness, counseling, and recreational sport resources and programs. The renovation includes improvements to classrooms, faculty offices, and research labs. War Memorial Hall houses Recreational Sports, faculty offices, research offices and labs that bring together health science with hands-on application of exercise, health, and well-being.

War Memorial Hall renovations include new, refreshed, and expanded exercise and activity spaces; dedicated functional fitness space; mind and body studio; dance studio; wet classroom for aquatic and safety instruction; building system upgrades, including air conditioning; modernized general assignment classrooms; student gathering spaces; and administrative offices. Newly modernized locker rooms and bathrooms will include family changing rooms and all-gender spaces.

Additional Design Features and Elements

- Improved accessibility
- New air handlers
- New hardwood gym floors

Timeline (Construction Start/Target Completion)

- Fall 2022/Summer 2024

Delivery Method

- CM-at-Risk

Gross Square Feet

- 204,000

Current Phase

- Close-Out

Architect/Engineer

- Cannon Design

Contractor

- Whiting-Turner

Welcome and Introductions

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

The Buildings and Grounds Committee Chair will open with welcoming remarks and introductions.

Consent Agenda

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

The Committee will consider for approval and acceptance the items listed on the Consent Agenda.

Consent Agenda

a. Minutes from the June 2024 Committee Meeting

* b. Resolution to Approve Revisions to the Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods

*** Requires full Board approval.**

Open Session Minutes

BUILDINGS AND GROUNDS COMMITTEE

Monday, June 10, 2024

Open Session Tour

The Buildings and Grounds Committee of the Board of Visitors of Virginia Polytechnic Institute and State University convened on Monday, June 10, 2024 at 3:30 p.m. in open session at the New Classroom Building to depart for a tour. A quorum of the Committee was present. Chair Harris presided.

Board members present: Ed Baine (Rector), Greta Harris (Committee Chair), Carrie Chenery, Sandy Cupp Davis, Nancy Dye, Brad Hobbs, Bill Holtzman, Donald Horsley, Chris Petersen, Janice Austin (A/P Faculty Representative), Will Storey (Undergraduate Student Representative), and Emily Tirrell (Graduate Student Representative)

University personnel and guests: President Tim Sands, Noah Alderman, Lynsay Belshe, Cassidy Blackmore, Leanne Bokinskie, Bob Broyden, Brock Burroughs, Chris Carwile, Cyril Clarke, Lance Collins, Joe Cooley, Carrie Cox, Jeff Earley, Alisha Ebert, Katrina Estep, Ron Fricker, Mark Gess, Brian Grove, Frances Keene, Brian Kleiner, Christophe Larroque, Liza Morris, Ed Nelson, Kelly Oaks, Rob Ogle, Leslie Orellana, Kim O'Rourke, Jeff Orzolek, Charlie Phlegar, William Poland, Nick Quint, Julia Ross, Amy Sebring, Todd Shelton, Brennan Shepard, Jill Sible, John Tarter, Don Taylor, Dwyn Taylor, Jon Clark Teglas, Teresa Thompson, Anthony Watson, Chris Yianilos, and Victor Zimbardi

1. **Tour of North Academic District Construction Sites:** The Committee toured campus construction sites in the North Academic District.

    a. **Undergraduate Science Laboratory Building:** The Undergraduate Science Laboratory consists of approximately 102,400 gross square feet of new construction at the intersection of West Campus Drive and Perry Street. The purpose of the facility is to provide adequate laboratory and classroom space to accommodate student interest and demand for science laboratory courses. The new facility also complements the adjacent Classroom Building completed in 2016. First included on the 2014-2020 Capital Outlay Plan, this $90.4 million project is funded entirely by state resources.

    b. **Life, Health, Safety, Accessibility, and Code Compliance:** Ensuring the safety, health, and accessibility of the campus environment is critical to the long-term success of the university and its service to the commonwealth. Three high-priority accessibility initiatives were identified by the university in the Life, Health, Safety, Accessibility, and Code Compliance category of the 2018-2024 Capital Outlay Plan. The university received total project

funding of $10.4 million in Life, Health, Safety, Accessibility, and Code Compliance funds from the state for three priority projects.

c. Transit Center: The Town of Blacksburg and the university entered a memorandum of understanding in 2012 and 2014 so that the town could develop the center to improve transit operations. The Town received grant funding from the Federal Transit Administration for the project and will operate the center through its department, Blacksburg Transit. The Transit Center is comprised of a new building, bus shelters, bus loop configurations to the east, west, and southwest, and will feature sustainable elements. The associated bus loops in the North Academic District of campus are aimed at improving the transit and alternate transportation services and safety of those services to Virginia Tech students, faculty, staff, and community. The center will centralize transit transfers and serve multiple modes of alternative transportation. The Transit Center is strategically located along the Infinite Loop and will provide administrative space for transit operations, multi-use meeting space, and information services.

d. Hitt Hall: Located in the North Academic District, the site is off West Campus Drive in an area bounded by Perry Street to the north, Derring Hall to the south, Bishop-Favrao Hall to the east, and the Classroom Building to the northwest. The approximately 100,000 gross square feet, three-story facility is organized in two wings around a central circulation link and collaboration space. Hitt Hall will provide an expansion of the Myers-Lawson School of Construction, add critical dining capacity, and include general assignment academic spaces in a new combined program facility for Virginia Tech. The $85 million project is split funded with $25 million in gifts, $13 million in internal lease funding, and $47 million in auxiliaries funding. This project was first proposed as part of the 2018-2024 Capital Outlay Plan.

The tour concluded at 5:15 p.m.

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Tuesday, June 11, 2024

Open Session Meeting

The Buildings and Grounds Committee of the Board of Visitors of Virginia Polytechnic Institute and State University convened on Tuesday, June 11, 2024 at 10:00 a.m. in open session in Classroom Building, Room 230. A quorum of the Committee was present. Chair Harris presided.

Board members present: Greta Harris (Committee Chair), Carrie Chenery, Sandy Cupp Davis, Bill Holtzman, and John Rocovich

University personnel and guests: President Tim Sands, Simon Allen, Nick Bahnkem, Lynsay Belshe, Leanne Bokinskie, Bob Broyden, Brock Burroughs, Joe Cooley, Jeff Earley, Alisha Ebert, Mark Gess, Dan Givens, Alan Grant, Robert Jackson, Chris Kiel, Lu Liu, Rachel Miles, Liza Morris, Nam Nguyen, Kelly Oaks, Saonee Sarker, Brennan Shepard, Ken Smith, Dan Sui, Dwyn Taylor, Jon Clark Teglas, Anthony Watson, and Lisa Wilkes

2. **Welcome and Introductions:** The Committee Chair convened the meeting and provided welcoming remarks.

3. **Consent Agenda:** The Committee approved the items listed on the Consent Agenda.

   a. **Minutes from the April 2024 Committee Meeting:** The Committee approved the minutes from its April 2024 meeting.

* b. **Resolution to Approve an Appointment to the Blacksburg-Virginia Polytechnic Institute Sanitation Authority:** The Committee approved an appointment to the Blacksburg-Virginia Polytechnic Institute Sanitation Authority. The university is requesting approval to appoint Dwyn Taylor, Vice President for Campus Planning, Infrastructure, and Facilities, as the Virginia Tech representative and member on the Blacksburg-Virginia Polytechnic Institute Sanitation Authority Board of Directors.

   The Committee recommended the resolution to the full Board for approval.

* c. **Resolution to Approve an Appointment to the Montgomery Regional Solid Waste Authority:** The Committee approved an appointment to the Montgomery Regional Solid Waste Authority. The university is requesting approval to appoint Dwyn Taylor, Vice President for Campus Planning, Infrastructure, and Facilities, as the Virginia Tech representative and member on the Montgomery Regional Solid Waste Authority Board of Directors.

   The Committee recommended the resolution to the full Board for approval.

* **d. Resolution to Approve an Appointment to the New River Valley Regional Water Authority:** The Committee approved an appointment to the New River Valley Regional Water Authority. The university is requesting approval to appoint Dwyn Taylor, Vice President for Campus Planning, Infrastructure, and Facilities, as the Virginia Tech representative and member on the New River Valley Regional Water Authority Board of Directors.

The Committee recommended the resolution to the full Board for approval.

* **e. Resolution to Approve the Demolition of University Buildings No. 0438 and No. 0440A**: The Committee approved an authorization to demolish university buildings no. 0438 and no. 0440A. The university requests approval to demolish buildings no. 0438 (Poultry Isolation Building) and No. 0440A (Cinder Block Chicken House) located at the Vet Med Research Center on Prices Fork Road, in Blacksburg, Montgomery County, Virginia. Constructed in 1955, these two buildings were formerly used for poultry teaching and research programs. The buildings have fallen into disrepair and are beyond their useful life. The university desires to demolish the structures prior to further deterioration. The university will obtain review from the Department of Historic Resources and the Art and Architecture Review Board, and any required approvals prior to the demolition of these structures.

The Committee recommended the resolution to the full Board for approval.

f. Acceptance of the Quarterly Capital Project Status Report: The Committee accepted the quarterly capital project status report. The current active portfolio of projects includes 16 authorized projects -- active and complete (within a 1-year warranty phase), has a total value of approximately $1.1 billion, adds approximately 1.3 million gross square feet of new construction, and renovates nearly 255,000 gross square feet of existing space.

4. Design Preview for the New Business Building: The Committee approved the design preview for the New Business Building. The Pamplin College of Business is nationally recognized for its business programs and is integral to Virginia Tech's delivery of instruction and research programming in support of the commonwealth. The New Business Building project will provide a consolidated location for the college, allowing the college to amplify program impact, as well as couple with the Data and Decision Sciences building to complete the academic facilities of the Global Business and Analytics Complex (GBAC). Once complete, GBAC will be a transformative academic and physical addition to the North Academic District. The prominent site, on the corner of Prices Fork Road and West Campus Drive, presents the university a valuable opportunity to create a new campus gateway at

this previously undeveloped primary intersection. The project is in preliminary design with working drawings anticipated to start in early 2025 and construction substantial completion anticipated for fall 2027. The project planning authorization, approved at the April 4, 2022 Board of Visitors meeting, includes $8 million of private gifts. The total project cost will be supported by a combination of private gifts, non-general fund cash, and university non-general fund debt.

5. **Design Preview and Review for the Life, Health, Safety, Accessibility, and Code Compliance – Priority 3:** The Committee approved the joint design preview and review for the Life, Health, Safety, Accessibility, and Code Compliance – Priority 3 project. Ensuring the safety, health, and accessibility of the campus environment is critical to the long-term success of the university and its service to the commonwealth. This project is the third of three high-priority accessibility initiatives identified by the university in the Life, Health, Safety, Accessibility, and Code Compliance category of the 2018-2024 Capital Outlay Plan. The project is scoped to create a new accessible route on an existing primary pedestrian corridor to support equal access to key Education and General funded facilities in the North Academic District. The project is in the working drawings phase with construction anticipated to begin late fall of 2024 and to attain substantial completion summer of 2025. The university received total project funding of $10.4 million in Life, Health, Safety, Accessibility, and Code Compliance funds from the state for three priority projects, $1.86 million of which will be applied to this third priority project.

6. **Discussion of Physical Accessibility Process and Progress:** The Committee participated in a discussion of physical accessibility process and progress with Bob Broyden, Interim Vice President for Campus Planning, Infrastructure, and Facilities, and Kelly Oaks, Associate Vice President for Equity and Accessibility. The discussion focused on physical accessibility in context, the 'community of practice' process, prioritization, funding options, integration within facilities planning, and recent progress. Over the last two years, the university has completed 20 physical accessibility projects totaling $5.3 million. Another 13 projects, valued at $22.7 million, are funded and underway.

7. **Annual Report of the University Building Official:** The Committee received the annual report from the University Building Official, Chris Kiel. The University Building Official has primary responsibility for the proper management for, and enforcement of, the Virginia Uniform Statewide Building Code (VUSBC) to ensure that construction projects conducted on property owned by the university are completed in compliance with the code, related laws, and regulations. The office serves as primary liaison with outside regulatory agencies on code issues that affect the design, construction, and approval to occupy new university facilities or maintain existing facilities. The office was established in July 2010 after the Restructured Higher Education Financial and Administrative Operations Act of 2005 and the Management Agreement with the Commonwealth of Virginia granted the university the authority to designate its own building official. Organizationally,

the University Building Official reports to the Board of Visitors through the Buildings and Grounds Committee.

8. **Update on the Utilities Master Plan:** The Committee received an update on the Utilities Master Plan from Nam Nguyen, Executive Director of Energy and Utilities. In 2018, Virginia Tech completed its most recent master planning effort resulting in 'Beyond Boundaries 2047: The Campus Plan. In 2020, Virginia Tech revised its Climate Action Commitment, setting sustainability goals and milestones thru 2050. The Utilities Master Plan will provide a comprehensive framework to ensure that future programmatic needs are met and that the university remains a leader in the field of higher education infrastructure. The project is underway and expected to be completed in late 2024.

9. **Future Agenda Items and Closing Remarks:** The Committee recognized two retiring administrators. Alan Grant will retire after 15 years in his role as Dean of the College of Agriculture and Life Sciences. Bob Broyden, Interim Vice President for Campus Planning, Infrastructure, and Facilities will retire after over 30 years serving his alma mater. Chair Harris closed the meeting by providing brief comments of reflection and points of progress regarding her time on the Board and the Committee.

The meeting adjourned at 11:34 a.m.

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Open Session Agenda

BUILDINGS AND GROUNDS COMMITTEE

Monday, June 10, 2024

Tour departs at 3:30 p.m. from the Classroom Building.

	Agenda Item	Reporting Responsibility
1.	Tour of North Academic District Construction Sites a. Undergraduate Science Laboratory Building b. Life, Health, Safety, Accessibility, and Code Compliance c. Transit Center d. Hitt Hall	Bob Broyden Dwyn Taylor

Tuesday, June 11, 2024

Open session meeting begins at 10:00 a.m. in the Classroom Building, Room 230.

	Agenda Item	Reporting Responsibility
2.	Welcome and Introductions	Greta Harris
3.	Consent Agenda a. Minutes from the April 2024 Committee Meeting * b. Resolution to Approve an Appointment to the Blacksburg-Virginia Polytechnic Institute Sanitation Authority * c. Resolution to Approve an Appointment to the Montgomery Regional Solid Waste Authority * d. Resolution to Approve an Appointment to the New River Valley Regional Water Authority * e. Resolution to Approve the Demolition of University Buildings No. 0438 and No. 0440A f. Acceptance of the Quarterly Capital Project Status Report	Greta Harris Bob Broyden
4.	Design Preview for the New Business Building	Liza Morris
5.	Design Preview and Review for Life, Health, Safety, Accessibility, and Code Compliance – Priority 3	Liza Morris
6.	Discussion of Physical Accessibility Process and Progress	Bob Broyden Kelly Oaks
7.	Annual Report of the University Building Official	Chris Kiel
8.	Update on the Utilities Master Plan	Nam Nguyen
9.	Future Agenda Items and Closing Remarks	Greta Harris

*** Requires Full Board Approval**
 # Discusses Enterprise Risk Management Topic(s)
+ Discusses Strategic Investment Priorities Topic(s)

Resolution to Approve Revisions to the Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

The Committee will review for approval a resolution to revise the approval process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods.

Pursuant to the Restructuring Act and in accordance with Chapter 780 (2016) Item 4-4.01 #1c and Code of Virginia §2.2-4378, 2.2.-4379, 2.2-4381 and 2.2-4383; the current applicable Virginia Tech Construction and Professional Services Manual; the current applicable Construction Management Procedures as adopted by the Secretary of Administration; and the current applicable Design-Build Procedures as adopted by the Secretary of Administration, the proposed university process is to be revised and adopted in response to the passage of Senate Bill 18 for use of these methods.

RESOLUTION TO APPROVE REVISIONS TO THE APPROVAL PROCESS FOR CONSTRUCTION MANAGER AT RISK AND DESIGN-BUILD CAPITAL PROJECT DELIVERY METHODS

WHEREAS, effective July 1, 2006, Virginia Polytechnic Institute and State University (Virginia Tech) operates as a Tier III institution in accordance with its Management Agreement and operational policies; and,

WHEREAS, pursuant to the Management Agreement, Virginia Tech has delegated authority relating to the procurement of goods, services, insurance, and construction services; and,

WHEREAS, a resolution for approval of the construction procurement approval process for capital project delivery was approved by the Board of Visitors June, 6, 2016 and August, 25, 2020;

WHEREAS, the Commonwealth of Virginia 2024 General Assembly passed legislation (Title 2.2 Chapter 43.1) regulating the types of construction procurement methods available for public institutions of higher education; and,

WHEREAS, the Department of General Services has reviewed and provided recommendations, which have been incorporated into the university's updated Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods; and,

WHEREAS, the Virginia Tech Construction and Professional Services Manual (VT CPSM) will be updated to reflect the approved procedures; and,

WHEREAS, the university submits for Board of Visitors approval the updated Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods; and,

WHEREAS, with the approval of these updated procedures, Virginia Tech confirms that all of the required Board-level policies and procedures are in place to comply with the changes to Title 2.2 Chapter 43.1;

NOW, THEREFORE, BE IT RESOLVED, that the university adopts the proposed Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods.

RECOMMENDATION:

That the above resolution approving revisions to the Capital Construction Delivery Method Approval Process be approved.

August 28, 2024

Virginia Polytechnic Institute and State University
Division of ~~Campus Planning, Infrastructure and~~ Facilities Procedure~~s~~

Approval Process for Construction Manager at Risk ~~(CMAR)~~ and Design-Build ~~(D-B)~~ Capital Project Delivery Methods

Date: ~~August 25, 2020~~
Revision: 3~~2~~

Purpose:

Pursuant to the Restructuring Act and in accordance with Chapter 780 (2016) Item 4-4.01 #1c and *Code of Virginia* §2.2-4378, 2.2.-4379, 2.2-4381 and 2.2-4383, ~~and~~ the Virginia Tech Construction and Professional Services Manual dated July 1, 2024 ("VT CPSM"); the current applicable Construction Management (CM) Procedures as adopted by the Secretary of Administration ("CM Procedure"); and the current applicable Design-Build (D-B) Procedures as adopted by the Secretary of Administration ("D-B Procedure"), the following process is revised and adopted in response to the passage of Senate Bill 18 for use of ~~(VT CPSM, January 24, 2020), the following process is adopted for use of the~~ Construction Manager at Risk (CMAR) and Design-Build (D-B) Capital Project Delivery Methods.

Responsible Staff:

Capital Construction ("CapCon") – the university unit responsible for administration, management and implementation of Major Capital Outlay Projects.

CapCon Project Manager ("PM") – coordinates with CapCon management and project stakeholders to recommend a project delivery method.

Procurement Department – university unit responsible for the procurement and contract administration of all Major Capital Outlay Projects.

Procurement Department Capital Construction Contracting Officer ("CCCO") – administers the capital outlay procurement process, reviews delivery method options, and manages contract development, approval and execution.

Assistant Vice President for ~~Capital~~ Design and Construction (AVPDC~~C~~) – provides CapCon leadership, manages operations, and recommends project delivery methods to meet university goals.

Vice President for ~~Campus Planning, Infrastructure and~~ Facilities (~~VPCPIF~~"VP Facilities") – approves project delivery methods and recommends contracts for execution.

Procedure:

A. Except for projects that use Design-Bid-Build delivery method, the construction delivery method for a capital outlay project shall be approved in writing by the ~~university's Vice~~

~~President for Campus Planning, Infrastructure, and Facilities (VPCPIF)~~ Virginia Department of General Services via the university's VP Facilities.

B. ~~In order T~~to obtain ~~the VPCPIF~~ approval and document ~~the university's~~this determination, a written recommendation for the CMAR or D-B project delivery method will be provided to ~~the VPCPIF~~VP Facilities through the ~~Assistant Vice President for Capital Construction (AVPCC)~~AVPDC, and from the ~~Capital Construction Project Manager (~~PM~~)~~ in consultation with the ~~Capital Construction Contracting Officer (~~CCCO~~)~~. The written recommendation will justify why ~~sealed bidding~~the design-bid-build delivery method, utilizing competitive sealed bidding, is not practicable and/or fiscally advantageous to the university. Such justification shall consider cost, schedule, complexity, and building use. Procurement procedures associated with these delivery methods shall be in accordance with the current applicable VT CPSM, which is in accordance with *Code of Virginia* §2.2-4378, 2.2.-4379, 2.2-4381 and 2.2-4383. ~~(Note: Specific procedures addressing procurement process requirements and associated guidance are provided within the VT CPSM dated July 1, 2024. In addition, the following will be considered in recommending the CMAR and D-B construction delivery method for each project:~~

~~Considerations for Adopting the CMAR Delivery Method~~

~~Construction Costs~~

~~Project Complexity (difficult site location, unique equipment, specialized building systems, multi-faceted program, accelerated schedule, historic designation, intricate phasing or other aspect that makes competitive sealed bidding impractical)~~

~~Building Use~~

~~Project Timeline~~

~~Need to perform Value Engineering and/or Constructability Analysis concurrent with design~~

~~Need for Quality Control and/or vendor pre-qualification~~

~~Need for Cost/Design Control~~

~~Need for Project phasing~~

~~Prior to using CMAR, the University shall request review and recommendations from Virginia Department of General Services, Division of Engineering and Buildings (DEB) regarding the proposed procurement method. The request for review shall be submitted utilizing the CMAR Procurement Review Submittal Form () and shall include the proposed project schedule and University's written determination that competitive sealed bidding is not practicable or fiscally advantageous. (VT CPSM, 7.2)~~

~~Considerations for Adopting the Design-Build Delivery Method~~

~~Construction Costs~~

~~Project Complexity (simplicity)~~

~~Building Use~~

~~Project Timeline~~

~~Need for a Single Point of Contact (DGS-30-901)~~

~~a.~~

~~C. General Guidelines for Both CMAR and D-B Projects~~
~~A Building Committee shall be approved by the VPCPIF to interview and recommend CMAR or D-B Team for a Capital Project. (VT-CPSM, 7.0.2)~~

C. The following general guidelines shall apply to university CMAR and D-B Projects:

1. At least five working days prior to the release of a CMAR or D-B Request for Qualifications ("RFQ"), the university will provide to DGS for review and approval a copy of its written determination for using either delivery method together with the appropriate relevant DGS Procurement Review Submittal Form signed by the VP Facilities or his/her designee.

DEB APPROVAL: Upon DEB approval of the use of the CMAR or D-B delivery method, Virginia Tech will proceed with issuance of the RFQ.

DEB DENIAL: In the event DEB denies the CMAR or D-B Request and if Virginia Tech elects to proceed with the project using a CMAR or D-B delivery method despite denial by DEB, the following approval process shall be followed:

a. **Projects greater than $65 million:**

1) **Funded in whole or in part from state general funds**

i. DGS shall present the written denial to the BOV.
ii. Virginia Tech shall obtain approval by a majority vote of the BOV.
iii. Upon obtaining approval from the BOV, a representative from DEB/DGS to the extent DGS deems practicable, shall be included in the process for the selection of a contractor following such approval by the BOV.

2) **Funded in whole from non-general funds**

i. DGS shall present the written denial to the BOV.
ii. Virginia Tech shall obtain approval by a majority vote of the BOV.

b. **Projects less than $65 million:**

1) **Funded in whole or in part from state general funds**

i. In this unique instance, Virginia Tech shall obtain approval from the Chairman of the House Committee on Appropriations and the Senate Committee on Finance and Appropriations, or their

designees, and a representative of the Department of General Services. (VT CPSM, 7.0.10).

2) **Funded in whole from non-general funds**

i. DGS shall present the written denial to the BOV.
ii. Virginia Tech shall obtain approval by a majority vote of the BOV.

3) Upon obtaining approval by a majority vote by the BOV, the following shall be maintained in the procurement file: a written statement of Virginia Tech's decision not to follow the DEB decision, its reasons therefor, and the vote of the BOV shall be maintained in the procurement file. (VT CPSM, 7.0.10)

~~1. a signed Procurement Review Submittal Form (Department of General Services [DGS] 30-456 or DGS 30-471) to DGS for review. Upon receipt of DGS' recommendation, the university shall consider DGS comments and document the university's final determination and planned course of action in the project file and provide a copy to DGS for information.~~

~~2. The university shall have in its employ or under contract a licensed architect or engineer with professional competence appropriate to the project who shall i.) advise regarding the use of CMAR or D-B for that project and will ii.) assist with the preparation of the Request for Proposal (RFP) and evaluation of proposals.~~

~~3. The RFQ and RFP will include criteria for contractor selection and will establish a two-step (RFQ/RFP) contractor selection method.~~

~~4. The CCCO shall issue a RFQ in accordance with the Manual.~~

~~5. The RFQ will be posted for no less than 30 calendar days on eVA, the Commonwealth statewide electronic procurement system. It will include a CMAR or D-B justification to support why sealed bidding is not practicable and/or fiscally advantageous.~~

~~6. The selection committee shall evaluate the firms' RFQ responses and any other relevant information and shall determine three to five offerors deemed best qualified with respect to the criteria established for the project in the RFQ to then receive the RFP. Prior CMAR or D-B experience or experience with DEB shall not be required as a prerequisite for award of a contract. However, in the selection of a contractor, the university may consider the experience of each contractor on comparable projects.~~

~~7. The RFQ evaluation process shall evaluate an offeror's experience for a period of ten prior years to determine whether the offeror has constructed, by any method of project delivery, at least three projects similar in program and size. (CMAR 2020, C.3.e and D-B 2020, C.3.e)~~

~~8. The RFQ evaluation process shall result in a short list of three to five offerors to receive the RFP. If available, the short list shall include a minimum of one DSBSD-Certified Small Business that meets the minimum requirements for prequalification. (CMAR 2020, C.3.d and D-B 2020, C.3.d)~~

~~9. For CMAR Projects~~

~~a. At least 90 percent of the construction work shall be subcontracted by the Construction Manager through publicly advertised competitive sealed bidding to the maximum extent practicable.~~

~~b. The contract with the Construction Manager at Risk shall be entered into no later than the completion of the Schematic Design Phase unless prohibited by authorization of funding restrictions.~~

~~c. The establishment of interim GMP contracts for early release packages of construction work are permitted.~~

~~d. GMP early release packages are limited to clearly identifiable, scheduled foundation/site preparation and long lead material procurement. Ideally, they should be for work to be performed during the initial phase of the project and billable at 100 percent before the next phase of the project. (VT CPSM, 7.2)~~

~~e. The GMP for the project shall be established based on Working Drawings, unless waived by the VPCPIF.~~

~~f. The criteria for the use of CMAR as set forth in the Chapter is germane and shall be limited to projects with a construction value that is in excess of $26,000,000. With proper justification for complex projects, the Director of the Department of General Services may grant a waiver of this requirement. (CMAR 2020, B.)~~

~~10. For D-B Projects~~

~~a. At the RFP stage, separate technical and cost proposals are required. (VT CPSM, 7.3)~~

~~b. Sealed Technical Proposals as described in the RFP shall be submitted to the Building Committee.~~

~~c. The Committee will evaluate the Technical Proposals based on the criteria contained in the RFP. D-B offerors will be informed of any adjustments necessary to make their Technical Proposals fully compliant with the requirements of the RFP. (VT CPSM, 7.3.1)~~

~~d. Separately sealed Cost Proposals shall remain sealed until evaluation of the Technical Proposals and the design adjustments are completed.~~

~~e. After evaluation and ranking the committee shall conduct negotiations with two or more offerors submitting the highest ranked proposals. Cost shall be a critical component in evaluations.~~

~~f. The Committee shall evaluate and rank the Technical Proposals. The University will then open the cost proposals and apply the criteria for award as specified in the RFP. (VT CPSM, 7.3.1)~~

~~g. The University may require that offerors make design adjustments necessary to incorporate project improvements and/or additional detailed information identified during design development. (VT CPSM, 7.3.1)~~

~~h. The University shall award the contract to the offeror who is fully qualified and has been determined to have provided the best value in response to the RFP. (VT CPSM, 7.3.1)~~

Reporting:

~~The University~~Virginia Tech shall report on completed projects that employ the CMAR or D-B delivery methods annually or as needed upon request by DGS.

References:

- Construction Management (CM) Procedures as adopted by the Secretary of Administration effective January 1, 2020
- Design-Build (D-B) Procedures as adopted by the Secretary of Administration effective, January 1, 2020.
- Virginia Tech Management Agreement.
- Virginia Tech Construction and Professional Services Manual, ~~January 24~~July 1, 2024.~~20~~

Approval and Revisions:
Initial Adoption
Approved by the Board of Visitors on June 6, 2016

Revision 1
Update Approved by the Board of Visitors on September 11, 2017

Revision 2
Update Approved by the Board of Visitors on August 25, 2020

Revision 3
Update Approved by the Board of Visitors on August 28, 2024

Virginia Polytechnic Institute and State University
Division of Facilities Procedure

Approval Process for Construction Manager at Risk and Design-Build Capital Project Delivery Methods

Date:
Revision: 3

Purpose:

Pursuant to the Restructuring Act and in accordance with Chapter 780 (2016) Item 4-4.01 #1c and *Code of Virginia* §2.2-4378, 2.2.-4379, 2.2-4381 and 2.2-4383; the current applicable Virginia Tech Construction and Professional Services Manual ("VT CPSM"); the current applicable Construction Management (CM) Procedures as adopted by the Secretary of Administration ("CM Procedure"); and the current applicable Design-Build (D-B) Procedures as adopted by the Secretary of Administration (D-B Procedure), the following process is revised and adopted in response to the passage of Senate Bill 18 for use of Construction Manager at Risk ("CMAR") and Design-Build ("D-B") Capital Project Delivery Methods.

Responsible Staff:

Capital Construction ("CapCon") – the university unit responsible for administration, management and implementation of Major Capital Outlay Projects.

CapCon Project Manager ("PM") – coordinates with CapCon management and project stakeholders to recommend a project delivery method.

Procurement Department – university unit responsible for the procurement and contract administration of all Major Capital Outlay Projects.

Procurement Department Capital Construction Contracting Officer ("CCCO") – administers the capital outlay procurement process, reviews delivery method options, and manages contract development, approval and execution.

Assistant Vice President for Design and Construction ("AVPDC") – provides CapCon leadership, manages operations, and recommends project delivery methods to meet university goals.

Vice President for Facilities ("VP Facilities") – approves project delivery methods and recommends contracts for execution.

Procedure:

A. Except for projects that use Design-Bid-Build delivery method, the construction delivery method for a capital outlay project shall be approved in writing by the Virginia Department of General Services via the university's VP Facilities.

B. To obtain approval and document this determination, a written recommendation for the CMAR or D-B project delivery method will be provided to VP Facilities through the AVPDC, and from the PM in consultation with the CCCO. The written recommendation will justify why the design-bid-build delivery method, utilizing competitive sealed bidding, is not practicable and/or fiscally advantageous to the university. Such justification shall consider cost, schedule, complexity and building use. Procurement procedures associated with these delivery methods shall be in accordance with the current applicable VT CPSM, which is in accordance with *Code of Virginia* §2.2-4378, 2.2.-4379, 2.2-4381 and 2.2-4383.

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         iii. Upon obtaining approval from the BOV, a representative from DEB/DGS to the extent the DGS deems practicable, shall be included in the process for the selection of a contractor following such approval by the BOV.

      2) **Funded in whole from non-general funds**

         i. DGS shall present the written denial to the BOV.
         ii. Virginia Tech shall obtain approval by a majority vote of the BOV.

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      1) **Funded in whole or in part from state general funds**

         i. In this unique instance, Virginia Tech shall obtain approval from the Chairmen of the House Committee on Appropriations and the Senate Committee on Finance and Appropriations, or their designees, and a representative of the Department of General Services. (VT CPSM, 7.0.10).

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Reporting:

Virginia Tech shall report on completed projects that employ the CMAR or D-B delivery methods annually or as needed upon request by DGS.

References:

- Construction Management (CM) Procedures as adopted by the Secretary of Administration effective January 1, 2020.
- Design-Build (D-B) Procedures as adopted by the Secretary of Administration effective January 1, 2020.
- Virginia Tech Management Agreement.
- Virginia Tech Construction and Professional Services Manual, July 1, 2024.

Approval and Revisions:

Initial Adoption
Approved by the Board of Visitors on June 6, 2016

Revision 1
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Update Approved by the Board of Visitors on August 25, 2020

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Update Approved by the Board of Visitors on August 28, 2024

UPDATE FROM THE CHIEF OPERATING OFFICER

AMY SEBRING
EXECUTIVE VICE PRESIDENT AND CHIEF OPERATING OFFICER

AUGUST 27, 2024

DISCUSSION

Overview of the University's Physical Assets and Investment Approach

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

The Committee will receive an overview of the university's physical assets and investment approach from Dwyn Taylor, Vice President for Facilities and Chief Facilities Officer. Virginia Tech is committed to providing a safe, inclusive, accessible, sustainable, mission-centric, partner-focused, and cost-effective infrastructure that preserves, fosters, complements, and advances the university's distinct senses of place and service. Extensive land holdings, effectively maintained and growing facilities, and a modern inventory of equipment and systems provide a sound foundation for current programs and future initiatives.

OVERVIEW OF THE UNIVERSITY'S PHYSICAL ASSETS AND FACILITIES MANAGEMENT APPROACH

DWYN TAYLOR
VICE PRESIDENT FOR FACILITIES AND CHIEF FACILITIES OFFICER

August 27, 2024

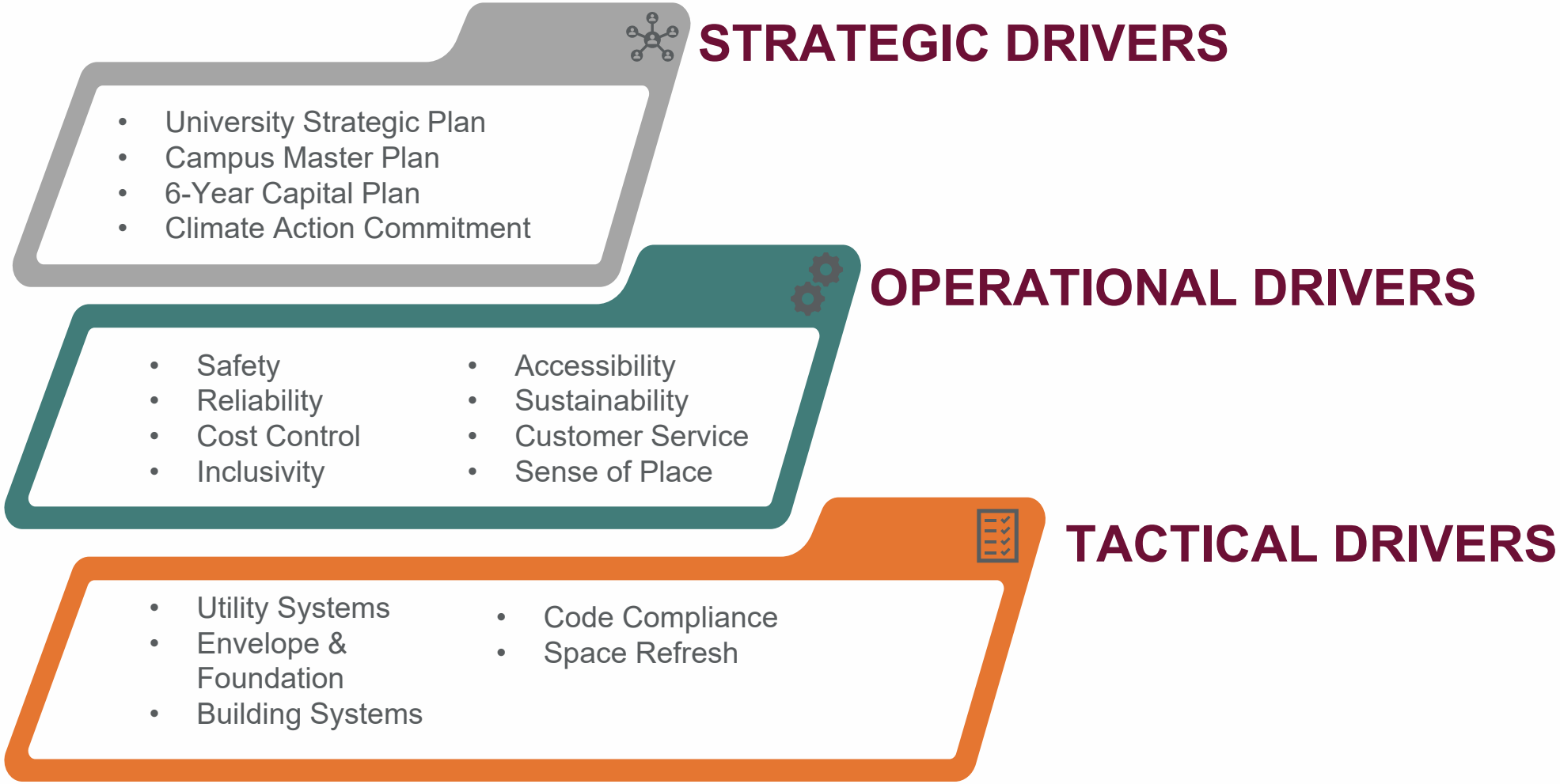
ASSET OVERVIEW

VIRGINIA TECH™

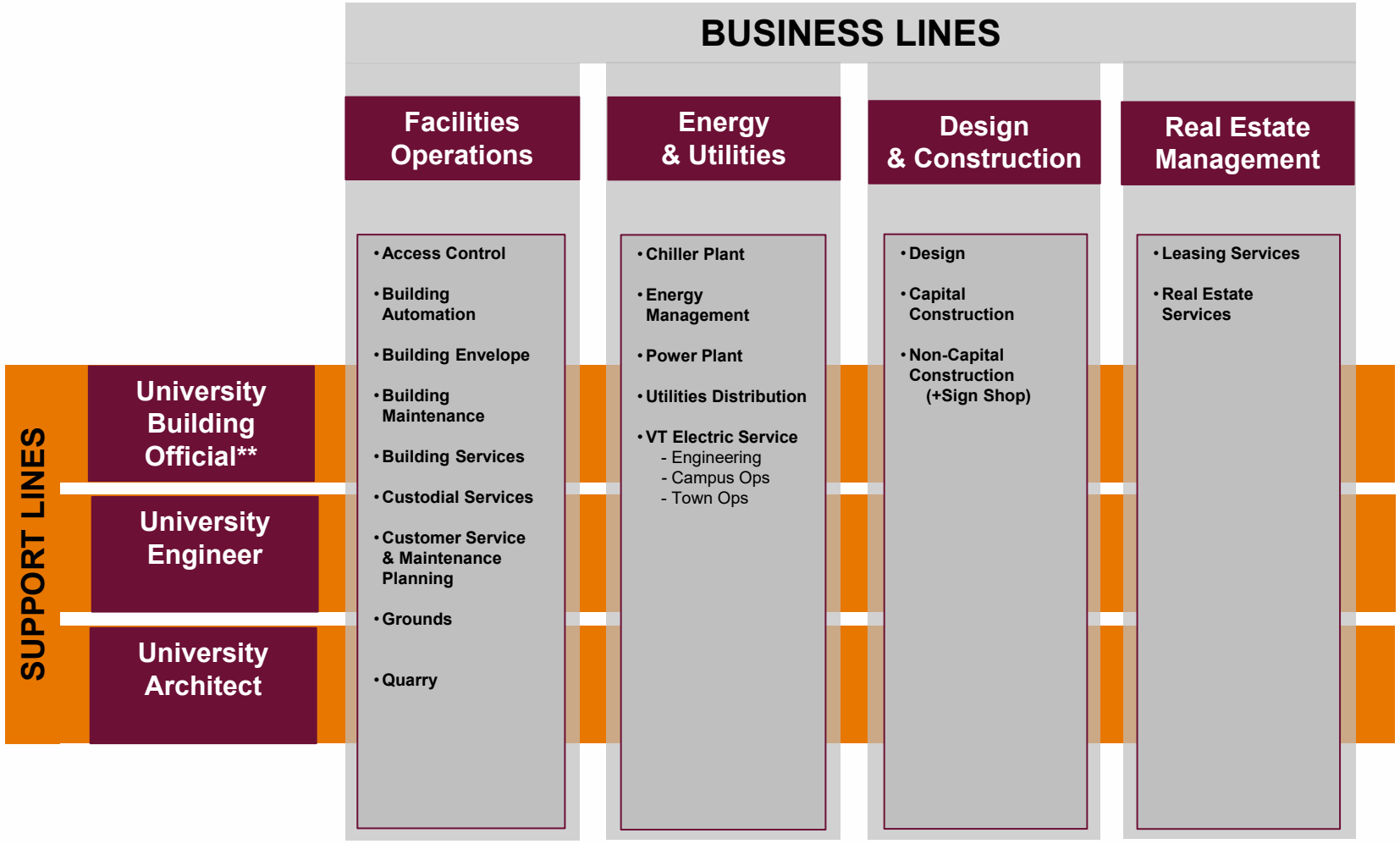
ACRES	BUILDINGS	SIDEWALKS & PATHWAYS	UTILITY INFRASTRUCTURE
15,684	1,069 Structures ---- 15,000,000 GSF	54 Miles	15 Miles



MANAGEMENT FRAMEWORK



FACILITIES DIVISIONAL UNITS



***Note: University Building Official derives authority from and reports to the Board of Visitors*

CARE & SERVE

As members of the Facilities Team, we're charged with the stewardship of our campus -- the buildings, grounds and infrastructure -- in Blacksburg and across the university's footprint throughout the Commonwealth. *Stewardship is "the careful and responsible management of something entrusted to one's care."*





Mission/Vision

To deliver, operate, maintain, and sustain the highest quality facilities, grounds, and infrastructure to ensure Virginia Tech can fulfill its mission and offer the best possible environment for all who live, work, and visit within the university. To be the strongest, most professional and caring team of servants we can.



DISCUSSION



FACILITIES
VIRGINIA TECH

Care & Serve

As members of the Facilities Team, we're charged with the stewardship of our campus--the buildings, grounds and infrastructure--in Blacksburg and across the university's footprint throughout the Commonwealth. Stewardship *is "the careful and responsible management of something entrusted to one's care."*

Together, as stewards, let's...

Care:

- **For Each Other – Treat all with dignity and respect. Mentor at every opportunity. Be honest.**
- **For Our Campus(es) – Strive to sustain the unique beauty and allure of all facilities and grounds.**
- **For Our Stuff – Treat our gear, equipment, tools and assets as if they were your own.**
- **For Ourselves – Practice a healthy lifestyle. Maintain work/life balance. Focus on your loved ones.**

Serve:

- **The University – Honor by our actions the students, faculty, and staff who are Virginia Tech.**
- **The Community – Visitors' first impressions only happen once. What we do affects those around us.**
- **Globally – Our investment in Virginia Tech ultimately touches others around the world.**
- **With Humility – Servant leadership starts with each one of us regardless of role or station.**

Mission/Vision:

To deliver, operate, maintain and sustain the highest quality facilities, grounds and infrastructure to ensure Virginia Tech can fulfill its mission and offer the best possible environment for all who live, work and visit within the university.

To be the strongest, most professional and caring team of servants we can.

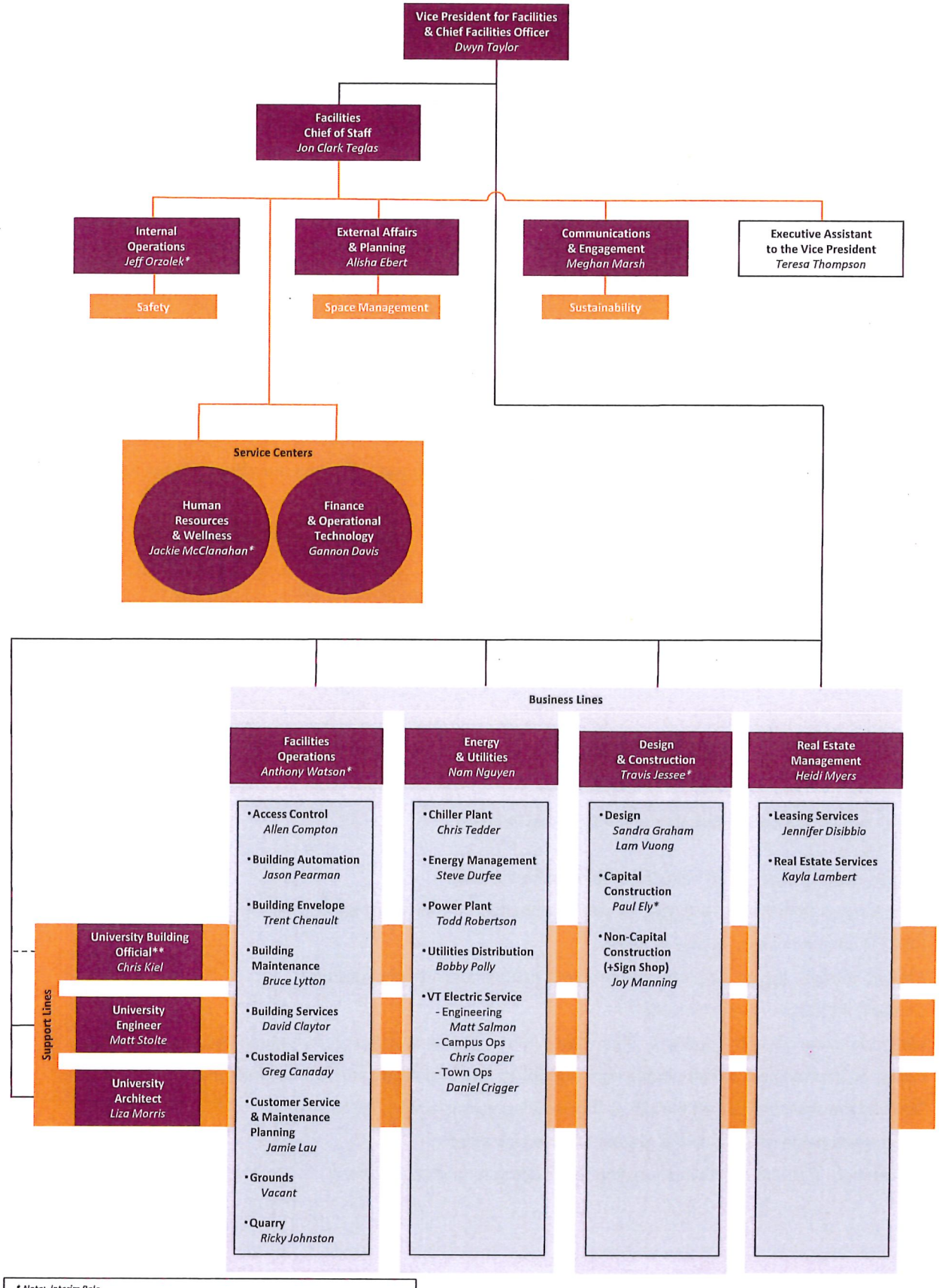
I'm honored to serve as your Chief Facilities Officer. I commit to providing the utmost care and focused servant leadersh within my capability and to creating an environment that empowers each person to optimize professional growth ar opportunity. In turn, I ask each member of the Facilities Team to:

- Always do your best — no matter how demanding the task.
- Care for your teammates — CARE for your teammates. Consistently encourage one another.
- NEVER compromise on quality or safety.
- Always, always, always be professional in your actions and communications.
- Do the right thing — even if it hurts.
- Meet commitments and deadlines. If you can't, inform your leadership chain beforehand.
- Foster an environment where people know it's OK to make mistakes and to learn from them.
- Don't let me drive the bus off the cliff — if something seems wrong, tell me.
- If you see a piece of trash on the ground, please pick it up!
- Remember: If you're not having fun, you're not doing it right! Go Hokies!

Dwyn Taylor
Ut Prosim

FACILITIES
VIRGINIA TECH

AS OF: 25 JUN 2024



* Note: Interim Role

Overview of the Capital Construction Program

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

The Committee will receive an overview of the university's capital construction program from Dwyn Taylor, Vice President for Facilities and Chief Facilities Officer. The Division of Facilities provides leadership in the administration and management of all major capital outlay projects, which are defined as projects with a total project cost of $3 million or more inclusive of all expenditures necessary to complete the project, and/or projects involving the construction of 5,000 square feet or more. Project managers work closely with sponsoring colleges and departments, future building users, and other project stakeholders to achieve project goals. Following project authorization by the Board of Visitors, project managers coordinate all phases of a project from initiation through completion and close-out.

OVERVIEW OF THE **CAPITAL CONSTRUCTION PROGRAM**

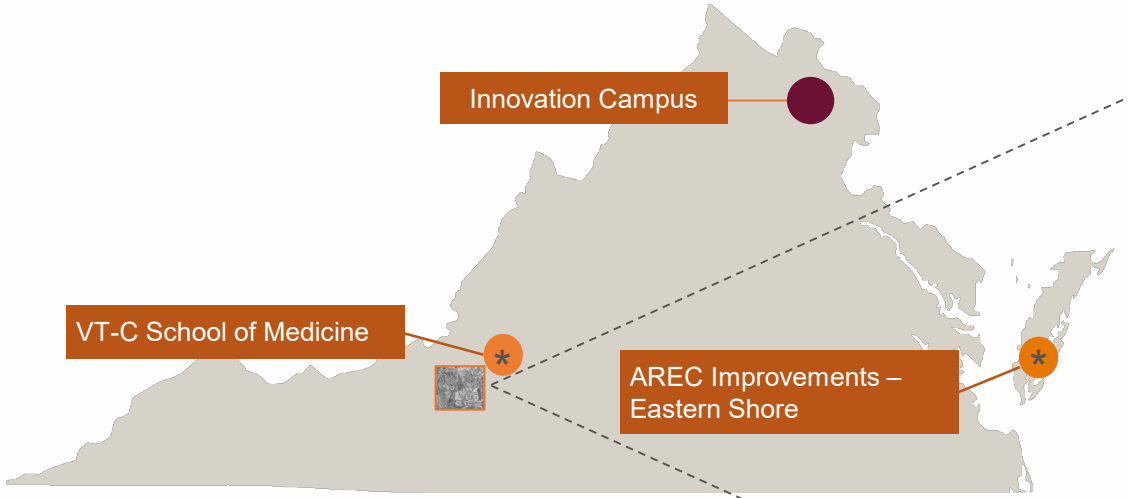
DWYN TAYLOR
VICE PRESIDENT FOR FACILITIES AND CHIEF FACILITIES OFFICER

AUGUST 27, 2024

PROGRAM

Current Portfolio:

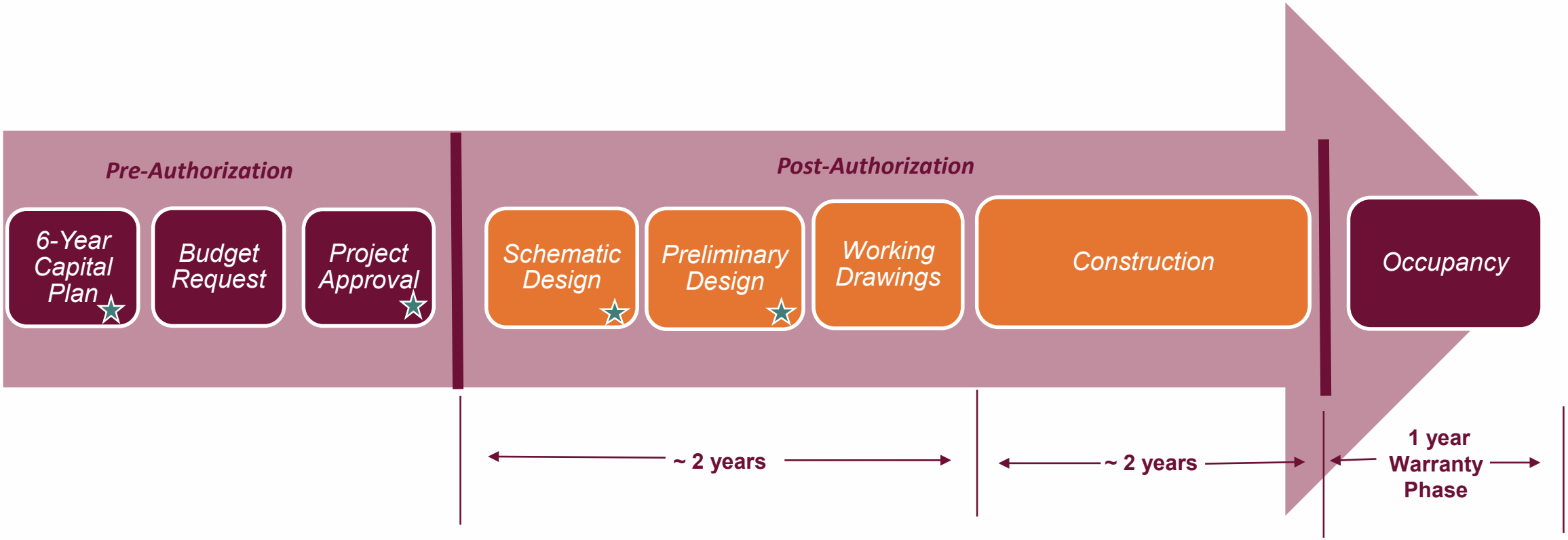
- 19 authorized projects -- active and complete (w/in 1-year warranty phase)
- Total value of ~$1.0B
- Adds ~1.2M gross square feet (GSF) of new construction
- Renovates nearly 273K GSF of existing space





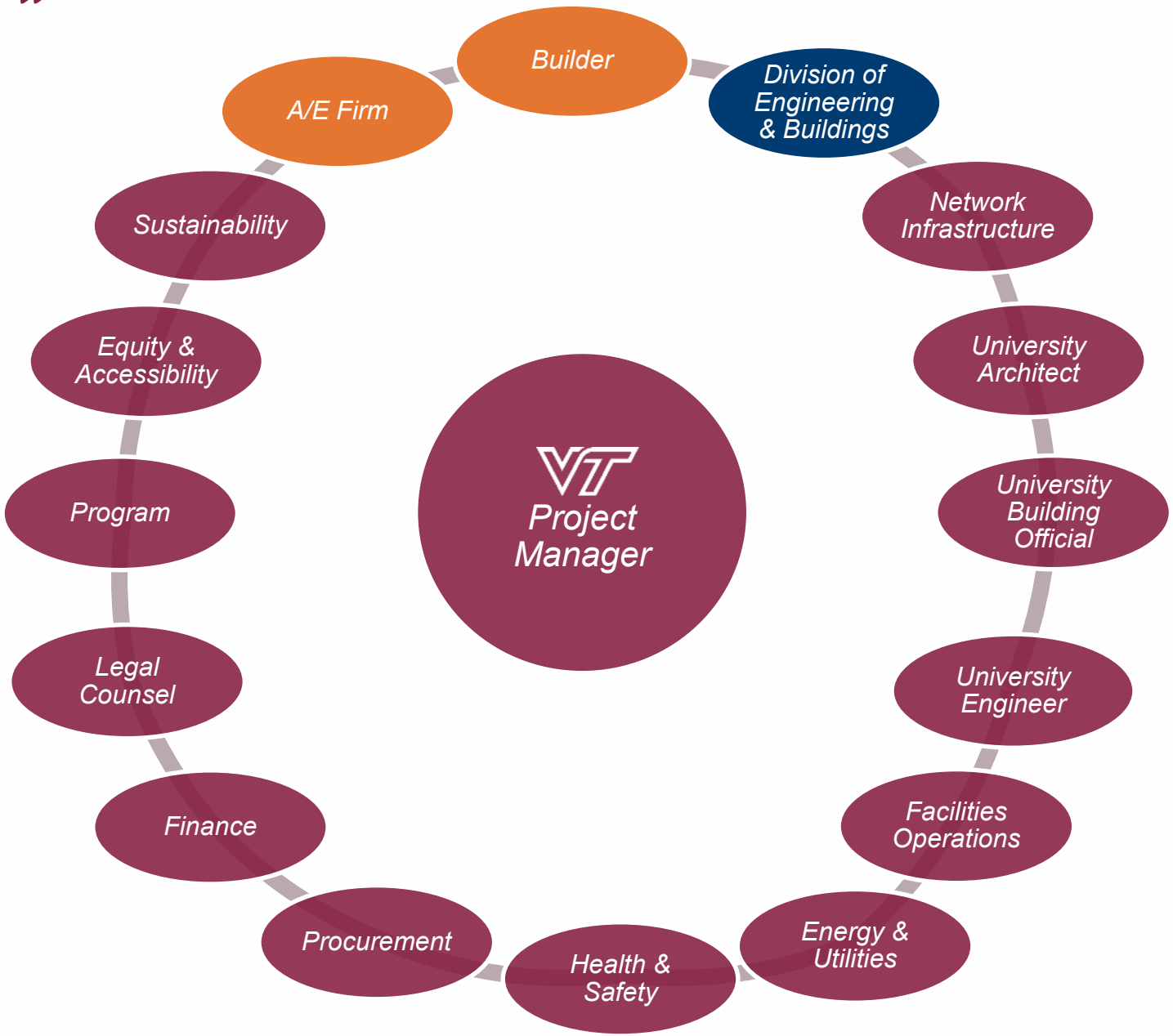
Blacksburg Campus

OVERALL PROCESS



★ - *Buildings and Grounds review & approval*

OUR PROJECT MANAGERS--
THE "HUB"



ENSURING DESIGN EXCELLENCE



Control Measures at each Phase of Design



Broad Stakeholder Input



Emphasize Partnership

Schematic Design - Preliminary Design - Working Drawings - Market Analysis - Construction Contract Awarded

ENSURING CONSTRUCTION EXCELLENCE



Competitive Sealed Bids “Design-Bid-Build”



Construction Manager at Risk

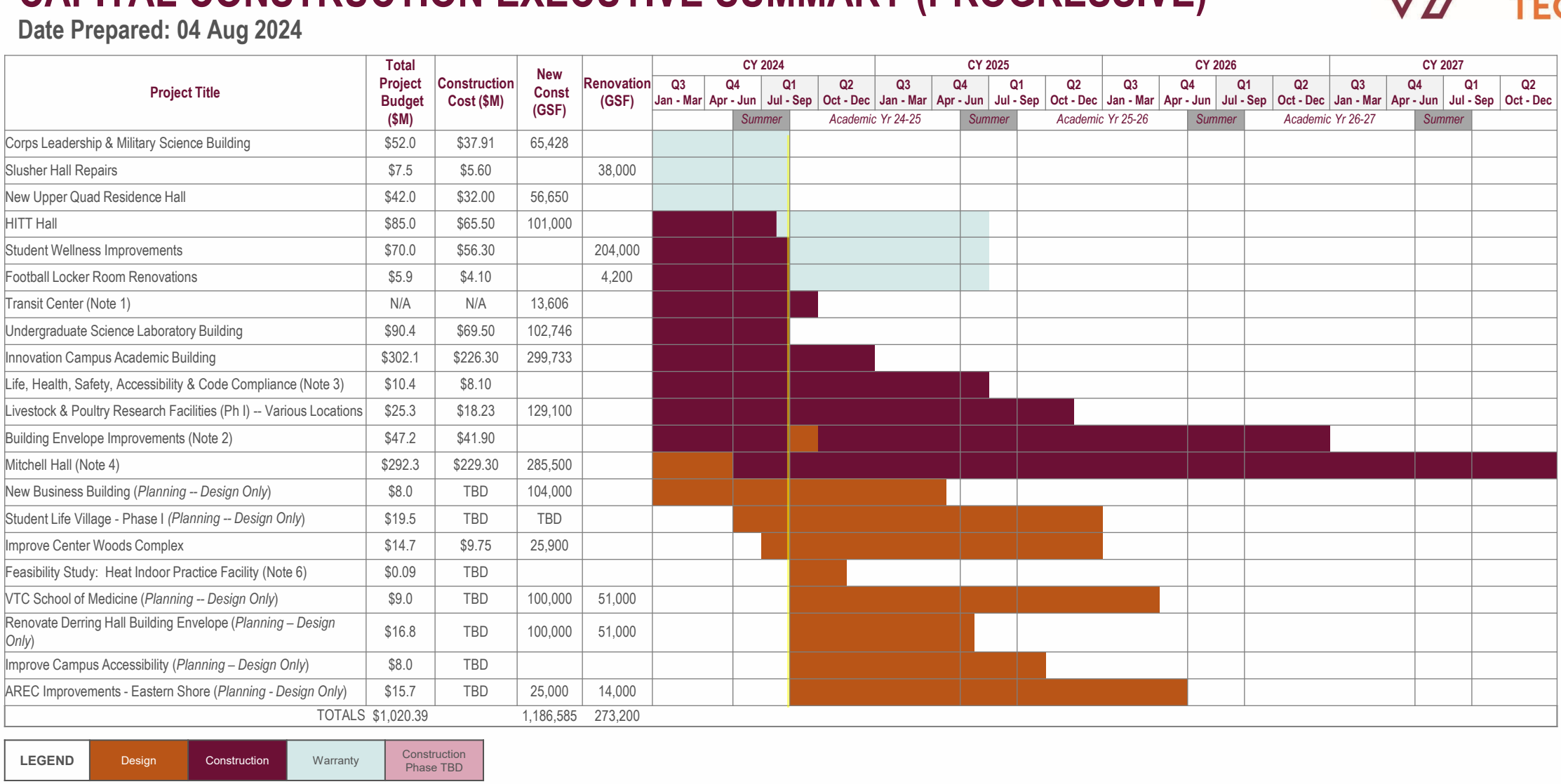


Design - Build

CAPITAL CONSTRUCTION EXECUTIVE SUMMARY (PROGRESSIVE)

Date Prepared: 04 Aug 2024

Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)
Corps Leadership & Military Science Building	$52.0	$37.91	65,428	
Slusher Hall Repairs	$7.5	$5.60		38,000
New Upper Quad Residence Hall	$42.0	$32.00	56,650	
HITT Hall	$85.0	$65.50	101,000	
Student Wellness Improvements	$70.0	$56.30		204,000
Football Locker Room Renovations	$5.9	$4.10		4,200
Transit Center (Note 1)	N/A	N/A	13,606	
Undergraduate Science Laboratory Building	$90.4	$69.50	102,746	
Innovation Campus Academic Building	$302.1	$226.30	299,733	
Life, Health, Safety, Accessibility & Code Compliance (Note 3)	$10.4	$8.10		
Livestock & Poultry Research Facilities (Ph I) -- Various Locations	$25.3	$18.23	129,100	
Building Envelope Improvements (Note 2)	$47.2	$41.90		
Mitchell Hall (Note 4)	$292.3	$229.30	285,500	
New Business Building (*Planning -- Design Only*)	$8.0	TBD	104,000	
Student Life Village - Phase I (*Planning -- Design Only*)	$19.5	TBD	TBD	
Improve Center Woods Complex	$14.7	$9.75	25,900	
Feasibility Study: Heat Indoor Practice Facility (Note 6)	$0.09	TBD		
VTC School of Medicine (*Planning -- Design Only*)	$9.0	TBD	100,000	51,000
Renovate Derring Hall Building Envelope (*Planning – Design Only*)	$16.8	TBD	100,000	51,000
Improve Campus Accessibility (*Planning – Design Only*)	$8.0	TBD		
AREC Improvements - Eastern Shore (*Planning - Design Only*)	$15.7	TBD	25,000	14,000
TOTALS	$1,020.39		1,186,585	273,200



LEGEND	Design	Construction	Warranty	Construction Phase TBD

NOTE 1 Non-Virginia Tech project

NOTE 2 Building Envelope Improvements includes four (4) phases: (1) Lane Stadium (Scheduled to complete in summer 2024) followed by (2) Torgerson, (3) Hahn, and (4) Inn at Virginia Tech which are currently unscheduled

NOTE 3 Life, Health, Safety Acc. & Code Compliance includes three (3) phases: (1) Derring Steps Elevator Towers (scheduled to complete in June 2024) followed by Green Link Priorities 2 (currently underway) & 3 (currently in design)

NOTE 4 Multiple GMPs results in design/construction overlap (fast track)

PLANNING: IMPROVE CENTER WOODS COMPLEX

Design-Bid-Build – State Authorized



Status

- Schematic Design underway

Next Actions

- Continue design efforts

Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Improve Center Woods Complex (*Planning – Design Only*)	$846K	TBD	TBD																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: TBD

Builder: TBD

INNOVATION CAMPUS – ACADEMIC BUILDING

CM at Risk – State Authorized

Status

- Construction 82% complete



Next Actions

- Anticipated completion late fall 2024/early 2025



Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Innovation Campus Academic Building	$302.1	$226.3	299,733																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: Smith Group

Builder: Whiting-Turner

DISCUSSION

Why Does It Cost So Much?

Understanding the High Cost of Building a Better University

By Donald J. Guckert, P.E., APPA Fellow, and Jeri Ripley King, APPA Fellow



Planning, design, and construction organizations in higher education perform our services on the forward edge of an ever-changing world. We provide increasingly complex facilities under shortening timelines and proliferating code and regulatory requirements, while we address emerging technologies, expanding concerns about indoor air quality, and growing demands for the use of sustainable design and construction practices. Underpinning our efforts to meet these challenges, we continue to hear the same question echoed by our governing boards, administration, and customers: "Why does it cost so much?"

The answer is found in the myriad of details and choices that flow from the institution's vision, values, strategic plan, stewardship responsibilities, total-cost-of-ownership analysis, risk tolerance, and the health and safety of the community.

A SENSE OF PLACE

Building designs are viewed as a way to enhance and preserve our institutional heritage, while providing an attractive environment in which to learn, discover, and live. We do not just build or renovate structures; we create a "sense of place." The sense of place is what connects us emotionally to our institutions.

Our universities use the appearance of the campus and the experiential opportunities that the facilities offer as a competitive edge to attract the diminishing pool of incoming students, as well as faculty and staff. The appearance of the buildings and grounds influences prospective students and other visitors to campus and is used in online and other marketing efforts. Research from Washington State University and APPA's own study, *The Impact of Facilities on the Recruitment and Retention of Students*, discovered that prospective students reach their decisions within the first ten minutes of walking on campus.

The appearance of our campus comes at a cost. In constructing a new building for the campus environment, we seek architectural designs that convey emotions and create reactions that may range from stimulating debates over the architecture to conveying notions of continuity and timelessness. Often the designs include prominent building entrances; buried utilities in tunnels and chases; hidden downspouts in interior walls; screened waste receptacles; discrete access for service vehicles; and extensive landscaping, courtyards, and wayfinding. These little extras add a lot to the quality of the built campus environment.

Land must be used carefully, balancing the need for buildings with gathering places, green spaces, and circulation. This drives us to optimize building footprints by building upward to conserve precious campus real estate. The resulting multiple stories require more costly foundations and structures designed to meet seismic and wind-loading standards. Stair towers and elevators consume project resources and decrease the percentage of assignable space. All these factors lead to a higher cost per square foot.

"Indoor air quality concerns and awareness, which were heightened during the pandemic, are driving investments in better air filtration systems and increased ventilation rates."

CODES, REGULATIONS, AND STANDARDS

Code requirements have a tremendous impact on cost. The type of occupancy determines the applicable code requirements. The large assemblies found in most university facilities dictate the highest level of life safety design, including stair towers, fire-rated corridors, fireproofing on structural members, fire alarm systems, sprinklers, and smoke evacuation systems. Even the grade of carpeting in a campus facility is selected to minimize concerns about flame spread.

In addition to codes, building design and construction must meet numerous legislative mandates, standards, and regulations. The list reads like alphabet soup: ADA, EPA, OSHA, ASHRAE, and the list continues. These requirements govern building designs, accessibility, removal of hazardous waste, asbestos, lead paint, stormwater runoff, construction dust control, noise control, and more. Then there are the building and occupancy permits, construction contracts, consulting agreements, testing and commissioning services, and requirements by donors and funding agencies that must be met and managed.

The type of facility and its occupancy also drives ventilation requirements. Labs require more ventilation than classrooms; classrooms require more ventilation than offices. Increased ventilation leads to upsizing HVAC systems, because outside air must be heated or cooled prior to being delivered to the finished space. Indoor air quality concerns and awareness, which were heightened during the pandemic, are driving investments in better air filtration systems and increased ventilation rates. The cost of these improvements has been profoundly felt on renovation project budgets, where much of the budget is consumed by HVAC costs.

INSTITUTIONAL AND STATUTORY REQUIREMENTS

Institutional and statutory requirements can drive up costs, too. Contractors are generally required to provide the highest industry coverage for insurance and bonding, and construct in accordance with industry standards. Architects are required to furnish professional liability insurance. Public owners must follow state procurement statutes, which generally increase design and bidding costs and often constrain the use of more cost-effective delivery approaches. Many institutions require contractors pay prevailing wages, equating to union-scale.

An often-overlooked impact on cost is the institutional expectation that construction activities will be conducted with minimal disruption to campus life. The campus is a protected



environment that accommodates learning, social interaction, discovery, living, dining, recreation, and public service. As invited guests into this haven, contractors are required to conduct their activities in a manner that minimizes the impact on the institution's primary missions.

Functioning campuses are not ideal construction sites. Project costs go up dramatically when universities restrict access to building sites, limit space for staging, require off-campus parking, enforce jobsite cleanliness, add fencing and protection, restrict construction vehicle movement, limit noise and hours of operation, and impose complex phasing schemes to accommodate academic calendars.

TIME IS MONEY

Demanding schedules are an inherent part of educational design and construction efforts. Often, we aggressively work toward the inflexible dates of academic calendars, residence hall occupancies, and athletic event schedules. In research environments, the need to be up-and-running is paramount, and faculty recruitment start-up agreements too often overpromise on the timing of lab and office renovations. When the education environment demands design and construction projects to be delivered on increasingly shorter timelines, this drives up the cost of construction and renovation projects.

In general, shortening the allotted time for construction will drive up costs. A five-month renovation will be unaffordable if it must be completed during the summer break. When bidding an aggressive schedule, contractors will increase their bids to reflect overtime payments to workers, incentive payments to vendors, reduced worker productivities, and contingencies to cover the risks of completing a project late.

Conversely, easing the five-month schedule to six months will yield savings. When there is extra time in the schedule, the contractor's risk is reduced because it facilitates effective coordination among subcontractors, provides sufficient time for fabrication and delivery of materials and equipment, and offers other accommodations that result in a more cost-effective project delivery. This is especially true when market conditions are experiencing disruptive supply-chain conditions and shortages of available contractors and skilled trades workers.

COMPLEXITY

We build state-of-the-art research facilities, high-occupancy performance and athletic venues, heavily trafficked and technological learning environments, and living and social environments that must facilitate and heighten the user experience. The facilities we build are among the most challenging in the building construction industry.

Program activities dictate the need for classrooms, laboratories, meeting rooms, and offices. While grouping one type of activity per facility would reduce costs, our buildings rarely house only one type of activity. In addition, program activities must meet the functional requirements of the campus environment. For example, our classrooms and auditoriums, which demand larger column-free spans, are usually on the lower levels of a building.

The lower levels may then have to support upper floors that are designed to accommodate heavy floor loadings for books, furnishings, and lab equipment. Inverting these spaces, by placing the column-free classrooms on the upper floors and the heavy load-bearing spaces on the lower floors, would be more cost effective, but less functional in a campus setting.

Our facilities must provide healthy environments with adequate ventilation and filtration systems while accommodating a mix of functions and heavy traffic. To manage this, we install technically controlled complex building systems. These systems are designed for extreme conditions: the hottest and coldest temperatures, the highest and lowest humidity, and the strictest climate control for the highest occupancy.

In addition, we recognize that the design of a mechanical system represents the greatest opportunity for energy conservation and carbon reduction. Incremental investments in energy-efficient mechanical systems will yield a lower stream of future utility costs, so we pay a little more now to save a lot later.

MAINTAINABILITY, SUSTAINABILITY, RELIABILITY, AND LONGEVITY

Higher education, more than any other built community and commercial environment, constructs buildings to last beyond our lifetimes. Every institution envisions itself in existence into perpetuity. Making long-term investment choices separates higher education from the vast array of other building environments.

With many people using university facilities in frequent cycles throughout the course of extended daily operating hours, the components of our facilities must be of a quality to withstand heavy use and abuse. Our requirement for durability raises the price of doors, door hardware, carpeting, entranceways, floor tile, and restroom fixtures, but it lowers the future cyclical costs of maintaining and replacing lower-quality, less durable products.

The way we use our facilities demands that we construct utility

systems to high reliability standards. This often results in paying for system redundancies, backup generators, uninterruptible power supply (UPS) systems, and connecting to central utility systems.

Sustainability is another factor impacting construction costs within higher education. Facilities are being designed and constructed under governing sustainable design principles using materials certified as manufactured from renewable sources and building and system designs that utilize progressive methods and technologies to conserve energy and reduce waste streams. Pursuing Leadership in Energy and Environmental Design (LEED) certification brings positive recognition and validation sought by many institutions seeking to demonstrate their commitment to sustainability. However, this comes at a higher incremental cost.

In large part, our universities choose to make these initial investments because of the benefits they will provide in driving down the institution's total cost of ownership over the life of the building.

"Our universities choose to make these initial investments because of the benefits they will provide in driving down the institution's total cost of ownership over the life of the building"

TECHNOLOGY, SECURITY, AND INCLUSION

Advances in technology, increasing concerns about security, and efforts to provide more inclusive environments have emerged in recent years as contributors to the high cost of campus construction.

Institutions have moved from simply complying with the requirements of the Americans with Disabilities Act (ADA) to embracing universal design and inclusivity. Examples of going beyond legal and code requirements include adding hearing loops in public assembly spaces and providing gender-neutral restrooms and prayer rooms.

Issues with campus safety and security have risen over time to rank at or near the top of the list of concerns that parents have. In addition, research labs are requiring tighter security from a variety of threats. To help manage the safety and security of campus facilities, common campus security systems include card and biometric access, programmable locking systems, security cameras, motion sensors, and other technologies.

Technological investments in our built environments are bringing artificial intelligence, machine learning, and data analytics benefits to the operation of our facilities. Emerging and matured smart building systems are mitigating operational risks, enabling predictive maintenance practices, lowering energy consumption, and providing improved user experiences. Although the first costs are higher, the benefits from these technologies are providing a very attractive return on investment.

WHY DOES IT COST SO MUCH?

Construction costs mirror the values and aspirations of the institution. The initial cost of construction or renovation is but a small fraction of the total investment our institutions will make in staffing, operating, and conducting our mission within these facilities. The resulting high cost of construction is caused by the accumulation of investments in all the hundreds of incremental decisions that go into building a durable, productive, and stimulating environment that creates safe, healthy, enriching, and inspiring experiences for our faculty, staff, and generations of students.

YOUR HOUSE ON CAMPUS

Donald J. Guckert and Jeri Ripley King

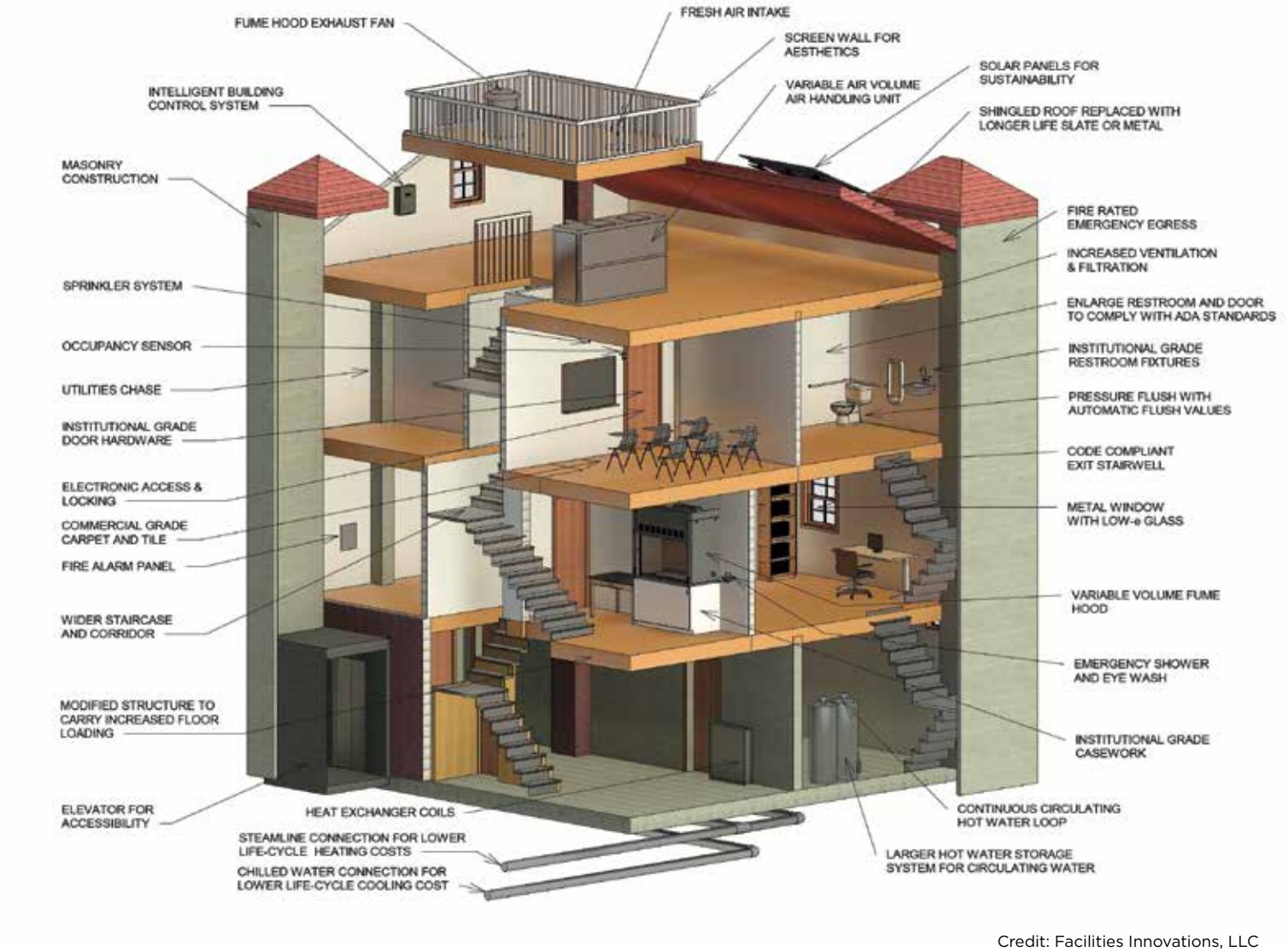


"You've got to be kidding! I could build a nice house for that amount!!"

How many times have we heard that the cost of a "simple" renovation would buy a high-end home in a nice neighborhood? Customers typically react with sticker shock over the cost of a campus renovation when they receive the initial project estimate. This is the point at which worlds collide, where the institutional construction world of the project manager meets the customer's residential construction frame-of-reference.

Trying to justify the costs of institutional construction within a residential frame of reference is not easy. These two types of construction are a world apart. However, just for the fun of it, we wondered what would it take to renovate your house into a campus facility? Let's suppose this facility is located on campus and you request that we renovate the living room into a classroom, the kitchen into a lab, and the bedroom into an office. Let's take a walk through your house to see what we will need to do.

To begin with, we'll need to make the facility safe



Credit: Facilities Innovations, LLC

and accessible. We'll add an elevator to the second floor, and an exit stair tower connecting all floors to the outside. To make this building look like it belongs on our campus, we'll arrange for matching towers and give the building an identifiable look. Unfortunately, this will add considerable cost and space to the building, while not adding any space for program needs. After we widen the interior hallways and stairways for increased traffic and install a utility chase from the basement to the attic, we will actually reduce the amount of assignable space.

As a university facility, the house will fall under a different classification as far as building codes are concerned. This means we'll need to replace the $20 battery-operated smoke detectors with a $20,000 fire protection system. This system, which includes a fire alarm panel, wired sensors, and sprinkler system, meets all the requirements of the local fire marshal. To inhibit the spread of flames and smoke from one room to another, we have to reconstruct the walls that separate the rooms from the hallway and make them fire-rated walls. This is not cheap! Neither are the solid doors mounted to the metal doorframes that we'll use to replace the house's hollow doors and wooden frames. For durability we'll need to upgrade all the door hardware. Installing a new card access system will bring us into compliance with institutional policies pertaining to safety and security.

We know the budget for this renovation is limited. Before the money runs out, we need to look at the mechanical systems. By code, our lab, classroom, of-

fice, and restroom spaces require controlled outside ventilation that your house doesn't have. The small air conditioning unit and gas furnace will have to go. With the big increase in filtered airflow, it wouldn't keep up after the first five minutes. Our house will need dependable and code-compliant mechanical systems. For redundancy and efficiency, we'll connect to chilled water and steam from our central utilities plant.

Finally, we move to the kitchen. To convert it to a lab, we'll take out the $800 kitchen stove and hood, and replace it with a $35,000 variable-flow fume hood. Fortunately, we won't need a strobic air fan for that hood; you don't even want to think about that cost. Those kitchen cabinets will come out to allow for the built-in lab casework. The refrigerator will have to go, too. In its place will be a $15,000 environmental chamber.

We'll open up the walls when we install the lab gases, electrical conduits, and corrosion-resistant plumbing. While we are inside the walls, let's replace the wooden studs with more durable metal studs that resist fire and termite damage. To complete this "kitchen remodeling," we'll replace the vinyl flooring with a $10,000 epoxy floor, and the Formica counters with epoxy resin.

We're going to need to remove the ceilings in order to increase the number of floor joists necessary to handle the increased weight of office, lab, and classroom furnishings and equipment. While the ceiling is open, we'll install the circulating hot water system designed to serve the lab and restroom, and we'll upsize the mechanical ductwork to meet the new airflow requirements. Speaking of airflow, that "whooshing" sound will be distracting in the classroom so we will need to put in sound-attenuation devices.

To meet institutional standards, the wooden windows will need to be replaced with metal, commercial-grade windows that have energy-efficient glazing. Similarly, the roof shingles will need to be replaced with slate, due to concerns about lifecycle maintenance and architectural consistency. While we're on the roof, let's screen the unsightly mechanical systems. Oh yeah, we can't forget to do something about the pigeons.

Let's look at the outside again, just for a minute. Only the front façade was bricked when your house was originally constructed, so we'll need to install bricks on the other three sides. After all, your house is now on campus and our university is trying to project a certain sense of place.

At this point, we have more scope than budget. Money is running out, and there are more things we need to do to bring your house into compliance with our institutional standards.

What happened here? In trying to comply with the more stringent codes, reduce future operating costs, address aesthetic requirements, and meet programmatic needs, we exceeded the funds available for this renovation. For the money this renovation will cost, you really could build a nice house. But, not on our campus!

Don Guckert is vice president of APPA Advisors, a member service providing customized assessments of educational facilities organizations. He previously served as the associate vice president for facilities management for the University of Iowa and as director of planning, design & construction for the University of Missouri. Don is an APPA Fellow, professional engineer, a Past APPA President, and current dean and faculty member for APPA's Institute for Facilities Management. He can be reached at dguckert@appa.org. **Jeri King** is a retired assistant director of facilities management for the University of Iowa. She is an APPA Fellow, former APPA Vice President for Information and Research, recipient of APPA's Meritorious Service Award, editor of Effective and Innovative Practices for the Strategic Facilities Manager, and coauthor of two award-winning *Facilities Manager* articles. She can be reached at jeriking@aol.com.

Ratification of the Capital Outlay Plan for 2024-2030

JOINT FINANCE AND RESOURCE MANAGEMENT COMMITTEE AND BUILDINGS AND GROUNDS COMMITTEE

July 20, 2023

Background:

At the March 2023 meeting, the Board of Visitors reviewed a resolution requesting approval of the university's 2024-2030 Capital Outlay Plan (Plan). The Plan includes two attachments with lists of projects: i) Attachment A is a prioritized listing of projects requesting General Fund support that require review and approval by the General Assembly and ii) Attachment B is a listing of entirely nongeneral fund projects that may be authorized by the Board of Visitors. The resolution further requests authorization to submit Capital Budget Requests to the state, in accordance with future guidance from the state and based on the projects listed in Attachment A of the Plan. The resolution was approved, and the university has proceeded accordingly.

On May 25, 2023, the state issued instructions for the preparation and submission of Capital Budget Requests for the 2024-2026 Biennial Budget. The deadline for submission of the Capital Budget Requests to the state was June 22, 2023, and the university prepared and submitted its requests by the due date. The state instructions, consultation with the Department of Planning and Budget, and consultation with state budget policy makers resulted in adjustments to the Plan approved in March. The list below covers the main points of guidance provided by the state to the university:

i. the submission to the state is limited to projects requesting some portion of General Fund resources in their budget and projects requesting to participate in the state's nongeneral fund bond pools,

ii. each agency may submit only a subset of its highest priorities for General Fund support,

iii. supplement funding for projects previously approved for construction will be considered top budget priorities,

iv. agencies should include small, medium, and large size projects in their submission,

v. agencies are encouraged to include maintenance reserve-like projects that are beyond the $2 million capital budget threshold and extend the useful life of an asset, and

vi. for projects being submitted, the state provided prescribed unit construction cost values and escalation rates to estimate the total project costs to the mid-point of construction.

In response to the instructions and guidance, Virginia Tech made the following adjustments to Attachment A of the Plan. Attachment B of the Plan, the list of entirely nongeneral fund projects, has not changed.

Attachment A:

i. retitled two projects to better align with state budget priorities: the Hahn Hall South Renovation and Expansion project (priority #2 in the University Division) and the System-wide Agricultural Research and Extension Centers Improvements, Phase I project (priority #2 in the Cooperative Extension / Agriculture Experiment Station Division),

ii. inserted the Derring Hall Envelope Repair project to align with the state's funding priorities for Maintenance Reserve-like projects, and

iii. revised the budget amounts for the six projects submitted to use the state's updated prescribed unit cost for construction and escalation rates, which made the amounts higher than the university's original estimates.

The instructions limited the number of budget requests for the 2024-2026 biennium to a subset of the institution's highest priorities in Attachment A. The table below summarizes the subset of six projects submitted for the 2024-2026 biennium.

	Dollars in Thousands			
	General Fund	Nongeneral Fund	Nongeneral Debt	Total
University Division				
1. Virginia Tech-Carilion School of Medicine and Fralin Biomedical Research Institute Expansion	$ 153,700	$ -	$ 30,000	$ 183,700
2. Chemistry/Physics Facilities Renovation & Expansion (Formerly titled Hahn Hall South)	100,500	-	40,900	141,400
3. Life, Health, Safety, Code Compliance Package	8,000	-	-	8,000
4. Derring Hall Envelope Repair (New Item)	16,800	-	-	16,800
Total University Division Projects	$ 279,000	-	$ 70,900	$ 349,900
Cooperative Extension / Agriculture Experiment Station Division				
1. Center Woods Complex Improvements	$ 14,700	$ -	$ -	$ 14,700
2. Agricultural Research and Extension Center Improvements (Formerly titled System-wide AREC Improvements, Phase I)	25,200	-	-	25,200
Total CE/AES Division Projects	$ 39,900	$ -	$ -	$ 39,900
GRAND TOTAL	$ 318,900	$ -	$ 70,900	$ 389,800

State Capital Budget Review and Approval Process:

The next steps for the state's 2023 budget session include at least five major phases as summarized below:

1) A state appointed Six-Year Capital Outlay Plan Advisory Committee (staffed by several central agencies and offices) will review all 2024-2030 capital plans submitted by agencies and institutions over the summer of 2023. This phase will include ongoing interactions by the university to best position its projects.

2) By November 1, 2023, the Six-Year Capital Outlay Plan Advisory Committee will provide a set of recommendations to the Governor, Chairman of the Senate Finance Committee, and Chairman of House Appropriations Committee to update the state's capital outlay plan for the 2024-2030 period.

3) On December 20, 2023, the Governor is scheduled to present to the General Assembly a bill proposing the state's updated capital outlay plan and a budget bill including planning funds or full funding for high priority items in the plan.

4) The legislature may amend the proposed plan and the proposed funding program in the Executive Budget Bill during the 2024 General Assembly. Depending on the overall size of the capital program and the amount of General Fund support for its projects, the university may submit legislative amendments for projects. This phase includes ongoing interactions by the university until a budget bill is passed.

5) July 1, 2024, the state's updated 2024-2030 plan, capital funding program, and list of projects for the 2024-2026 biennium becomes effective.

In recognition of the adjustments in accordance with the instructions and guidance from state policy makers, the university is requesting ratification of an amended Attachment A of the Capital Outlay Plan for 2024-2030, attached. Attachment B of the Plan, the list of entirely nongeneral fund projects, remains as approved during the March 2023 meeting.

Recommendation:

That the Six-Year Capital Outlay Plan listing of projects shown on Attachment A for the period 2024 through 2030 be ratified for budget consideration with the state.

August 29, 2023

ATTACHMENT A

General Fund Six-Year Capital Outlay Plan for 2024-2030

as of July 20, 2023

		Dollars in Thousands Escalated to the Mid-point of Construction			
		General Fund	Nongeneral Fund	Debt	Total
University Division					
1	Virginia Tech-Carilion School of Medicine and Fralin Biomedical Research Institute Expansion	$ 153,700	$ -	$ 30,000	$ 183,700
2	Chemistry/Physics Facilities Renovation and Expansion	100,500	-	40,900	141,400
3	Derring Hall Renovation	117,500	9,500	-	127,000
4	Newman Library Renovation	92,000	-	-	92,000
5	Robeson Hall Renovation	46,800	9,200	-	56,000
6	Classroom Renovations	25,000	-	-	25,000
7	Life, Health, Safety, Code Compliance Package	8,000	-	-	8,000
8	Derring Hall Envelope Repair	16,800	-	-	16,800
	Total University Division Projects	$ 560,300	$ 18,700	$ 70,900	$ 649,900
Cooperative Extension / Agriculture Experiment Station Division (CE/AES)					
1	Center Woods Complex Improvements	$ 14,700	$ -	$ -	$ 14,700
2	Agricultural Research and Extension Center Improvements	25,200	-	-	25,200
3	Relocate Animal-Based Facilities from Glade Road	41,000	-	-	41,000
4	Plant and Environmental Sciences Research Facility (HABB-II)	91,000	-	-	91,000
5	Renew Animal and Livestock Facilities	34,000	-	-	34,000
	Total CE/AES Division Projects	$ 205,900	$ -	$ -	$ 205,900
Total General Fund Capital Plan for 2024-2030		**$ 766,200**	**$ 18,700**	**$ 70,900**	**$ 855,800**

ATTACHMENT B

Nongeneral Fund Six-Year Capital Outlay Plan for 2024-2030

as of Februrary 27, 2023

	Dollars in Thousands Escalated to the Mid-point of Construction			
	General Fund	Nongeneral Fund	Debt	Total
Blacksburg & Roanoke Academic				
Architecture, Arts, & Design Renovations				
Renovate Architecture Annex	$ -	$ 5,200	$ -	5,200
Renovate Media Building	-	4,400	-	4,400
Renovate Squires Performance Spaces	-	3,800	-	3,800
Expand Vivarium Spaces	-	-	54,000	54,000
FBRI Cancer Research Facility	-	112,000	-	112,000
Pamplin College of Business	-	28,100	52,700	80,800
Renovate G. Burke Johnston Student Center	-	5,000	5,000	10,000
Veterinary Teaching Hospital Expansion	-	29,000	20,000	49,000
	-	187,500	131,700	319,200
Blacksburg Auxiliaries & Campus Services				
Food Processing Center and Warehouse	-	-	15,000	15,000
Football Locker Room Renovation	-	5,000	-	5,000
Mail Services Facility	-	3,000	-	3,000
Parking Garage	-	9,700	26,300	36,000
Replace Kmart Lease	-	-	11,000	11,000
Rescue Squad Facility	-	6,000	-	6,000
Student Life Village Phase I:				
Dining Component	-	-	40,000	40,000
Recreation Component	-	-	10,000	10,000
Residential Component	-	20,000	230,000	250,000
Utilities and Infrastructure	-	-	50,000	50,000
	-	43,700	382,300	426,000
Greater Washington D.C., Metro Area				
Children's National Lease Expansion, Phase II	-	-	6,000	6,000
Research Space Reconfiguration at VTRC-A	-	-	5,000	5,000
Upfit Floor 6 of Innovation Campus Academic Building I	-	9,000	-	9,000
	-	9,000	11,000	20,000
Total Nongeneral Fund Capital Plan for 2024-2030	**$ -**	**$ 240,200**	**$ 525,000**	**$ 765,200**
GRAND TOTAL SIX-YEAR CAPITAL OUTLAY PLAN	**$ 766,200**	**$ 258,900**	**$ 595,900**	**$ 1,621,000**

Acceptance of the Quarterly Capital Project Status Report

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

The Committee will review for acceptance the quarterly capital project status report from Dwyn Taylor, Vice President for Facilities and Chief Facilities Officer. The current active portfolio of projects includes 19 authorized projects – active and complete (within a 1-year warranty phase) – with a total value of approximately $1 billion, adds approximately 1.2 million gross square feet of new construction, and renovates nearly 273,000 gross square feet of existing space.

The university recommends acceptance of the Capital Project Status Report and that reports in November 2024, March 2025, and June 2025 be included on the Committee's consent agenda.



CAPITAL PROJECT STATUS REPORT

PREPARED FOR THE BUILDINGS AND GROUNDS COMMITTEE OF THE BOARD OF VISITORS

August 27, 2024



CAPITAL PROJECT PORTFOLIO

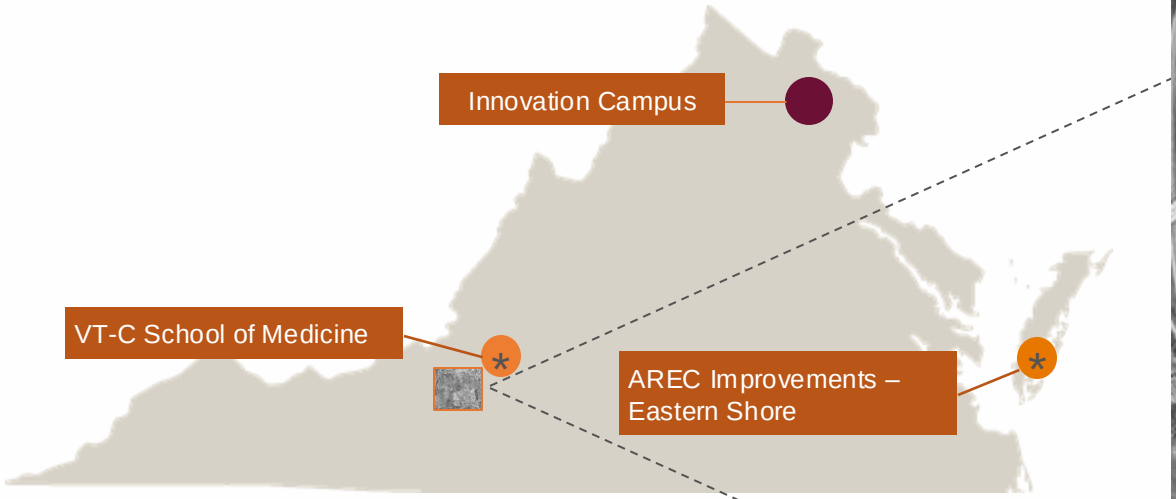
- 19 authorized projects -- active and complete (w/in 1-year warranty phase)
- Total value of ~$1.0B
- Generates ~1.2M gross square feet (GSF) of new construction
- Renovates nearly 273K GSF of existing space







CAPITAL PROJECT PORTFOLIO



LEGEND

- In Design
- Under Construction
- Warranty/Complete
- * Design Only

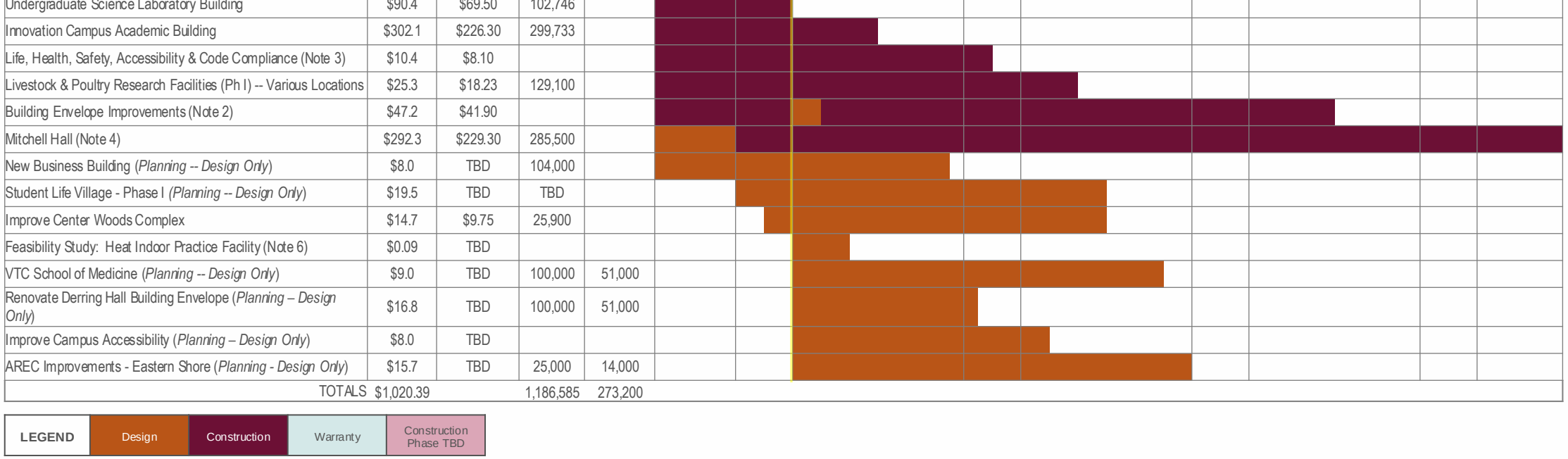


Blacksburg Campus

CAPITAL CONSTRUCTION EXECUTIVE SUMMARY (PROGRESSIVE)

Date Prepared: 04 Aug 2024

Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)
Corps Leadership & Military Science Building	$52.0	$37.91	65,428	
Slusher Hall Repairs	$7.5	$5.60		38,000
New Upper Quad Residence Hall	$42.0	$32.00	56,650	
HITT Hall	$85.0	$65.50	101,000	
Student Wellness Improvements	$70.0	$56.30		204,000
Football Locker Room Renovations	$5.9	$4.10		4,200
Transit Center (Note 1)	N/A	N/A	13,606	
Undergraduate Science Laboratory Building	$90.4	$69.50	102,746	
Innovation Campus Academic Building	$302.1	$226.30	299,733	
Life, Health, Safety, Accessibility & Code Compliance (Note 3)	$10.4	$8.10		
Livestock & Poultry Research Facilities (Ph I) -- Various Locations	$25.3	$18.23	129,100	
Building Envelope Improvements (Note 2)	$47.2	$41.90		
Mitchell Hall (Note 4)	$292.3	$229.30	285,500	
New Business Building (*Planning -- Design Only*)	$8.0	TBD	104,000	
Student Life Village - Phase I (*Planning -- Design Only*)	$19.5	TBD	TBD	
Improve Center Woods Complex	$14.7	$9.75	25,900	
Feasibility Study: Heat Indoor Practice Facility (Note 6)	$0.09	TBD		
VTC School of Medicine (*Planning -- Design Only*)	$9.0	TBD	100,000	51,000
Renovate Derring Hall Building Envelope (*Planning – Design Only*)	$16.8	TBD	100,000	51,000
Improve Campus Accessibility (*Planning – Design Only*)	$8.0	TBD		
AREC Improvements - Eastern Shore (*Planning - Design Only*)	$15.7	TBD	25,000	14,000
TOTALS	$1,020.39		1,186,585	273,200



NOTE 1 Non-Virginia Tech project

NOTE 2 Building Envelope Improvements includes four (4) phases: (1) Lane Stadium (Scheduled to complete in summer 2024) followed by (2) Torgerson, (3) Hahn, and (4) Inn at Virginia Tech which are currently unscheduled

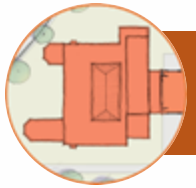
NOTE 3 Life, Health, Safety Acc. & Code Compliance includes three (3) phases: (1) Derring Steps Elevator Towers (scheduled to complete in June 2024) followed by Green Link Priorities 2 (currently underway) & 3 (currently in design)

NOTE 4 Multiple GMPs results in design/construction overlap (fast track)



IN DESIGN

PROJECTS IN DESIGN



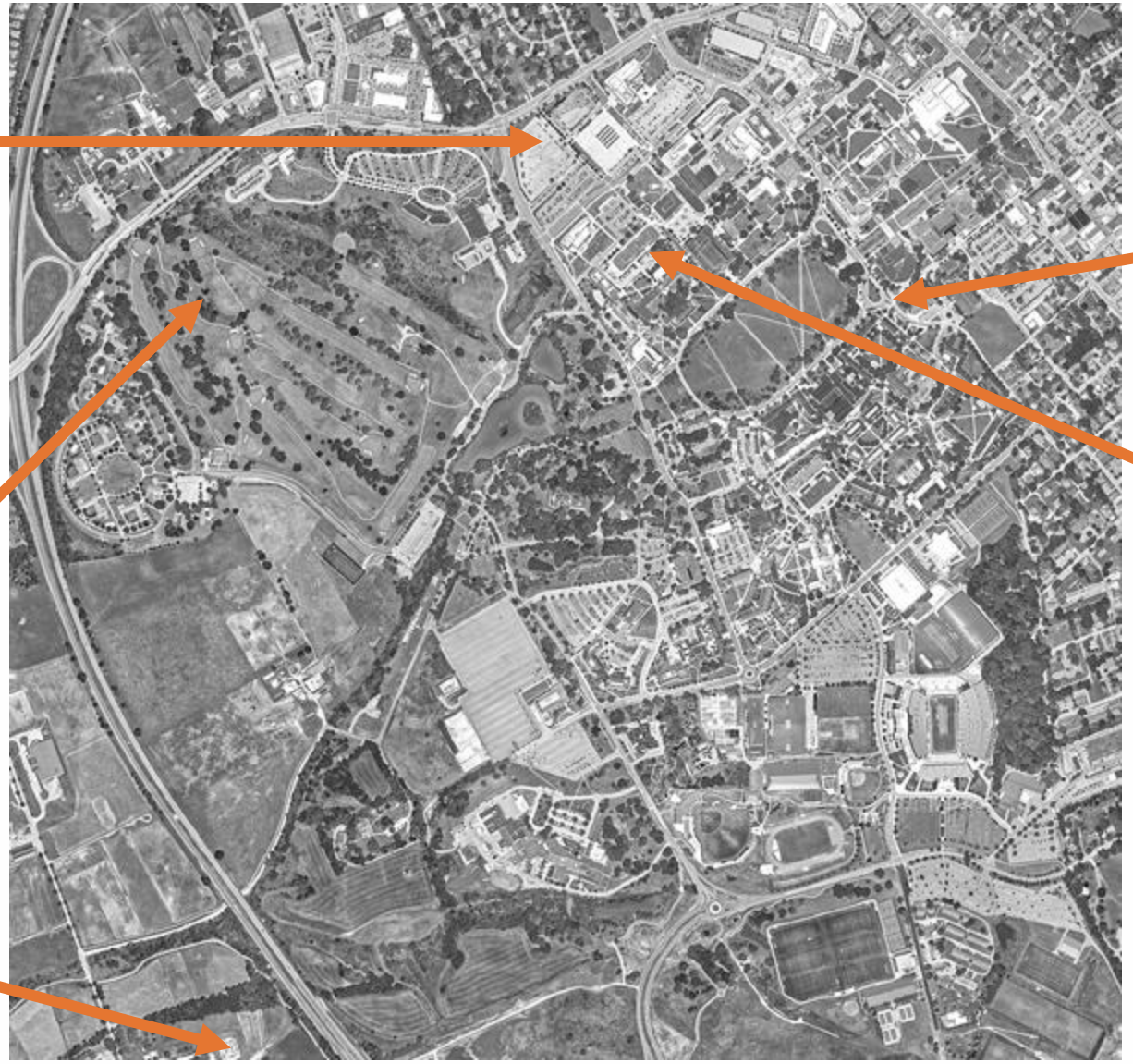
New Business Building*



Student Life Village – Phase I*



Improve Center Woods Complex*



Improve Campus Accessibility*



Renovate Derring Hall Building Envelope*



Virginia Tech-Carilion School of Medicine Expansion*
(Roanoke, VA)

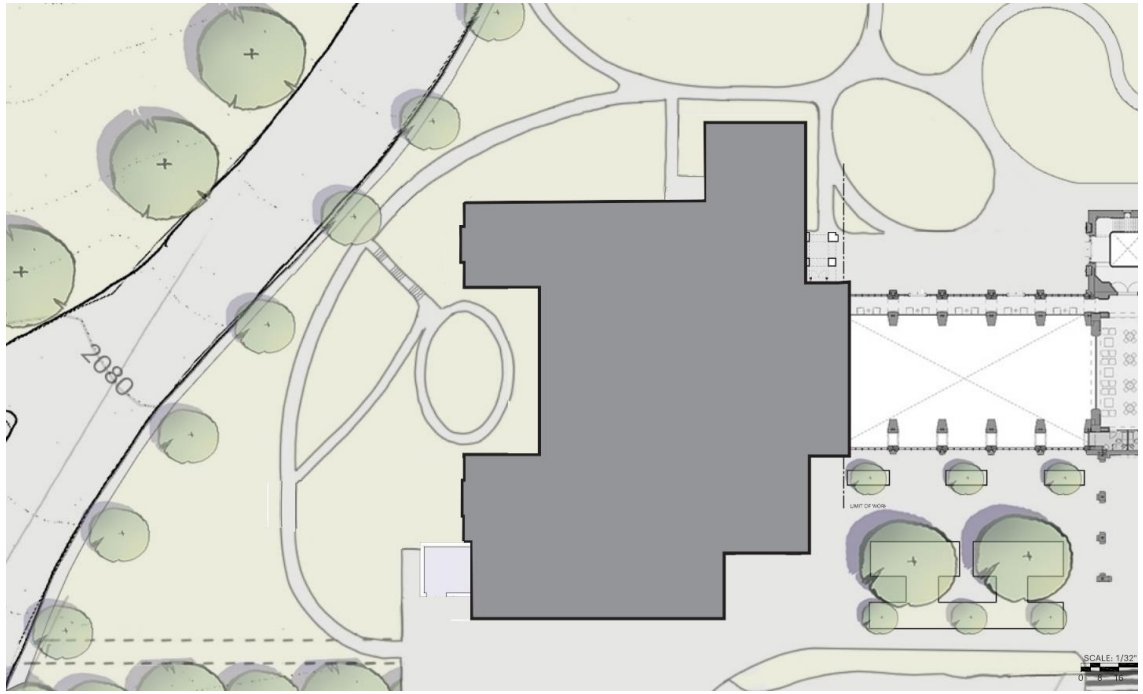


AREC Improvements – Eastern Shore*
(Painter, VA)



PLANNING: NEW BUSINESS BUILDING

CM at Risk – BOV Authorized



Status

- Preliminary Design underway
- CMaR pre-construction services contract underway

Next Actions

- Targeting BOV Construction Authorization in fall 2024

Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
New Business Building (*Planning – Design Only*)	$8.0	TBD	92,295																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: Moseley

Builder: Kjellstrom & Lee

PLANNING: STUDENT LIFE VILLAGE – PHASE 1

CM at Risk – BOV Authorized



Status

- Schematic Design underway
- CMaR in preconstruction services contract underway

Next Actions

- Continue design efforts

Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Student Life Village – Phase I (*Planning – Design Only*)	$19.5	TBD	TBD																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: Little/Boudreaux

Builder: Clark

PLANNING: IMPROVE CENTER WOODS COMPLEX

Design-Bid-Build – State Authorized



Status

- Schematic Design underway

Next Actions

- Continue design efforts

Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Improve Center Woods Complex (*Planning – Design Only*)	$846K	TBD	TBD																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: WPA

Builder: TBD

PLANNING: VIRGINIA TECH-CARILION SCHOOL OF MEDICINE EXPANSION

CM at Risk – State Authorized



Status

- Procurement of A/E for design services underway

Next Actions

- Finalize procurement of A/E and begin initial design
- Procure CMaR preconstruction services contract

Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Virginia Tech-Carilion School of Medicine Expansion (*Planning – Design Only*)	$9.0	TBD	TBD																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: VMDO

Builder: TBD

PLANNING: RENOVATE DERRING HALL BUILDING ENVELOPE

Design-Bid-Build – State Authorized



Status

- Design proposal underway

Next Actions

- Finalize procurement of design services contract

Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Renovate Derring Hall Building Envelope (*Planning – Design Only*)	$16.8	TBD																		

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: TBD

Builder: TBD

PLANNING: IMPROVE CAMPUS ACCESSIBILITY

Design-Bid-Build – State Authorized



Status

- Design proposal underway

Next Actions

- Finalize procurement of design services contract

Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Improve Campus Accessibility (*Planning – Design Only*)	$8.0	TBD																		

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: TBD

Builder: TBD

PLANNING: AREC IMPROVEMENTS – EASTERN SHORE

Design-Bid-Build – State Authorized



Status

- Design RFP advertised

Next Actions

- Finalize procurement of design services contract

Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
AREC Improvements – Eastern Shore (*Planning – Design Only*)	$15.7	TBD	25,000	14,000																

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: TBD

Builder: TBD



UNDER CONSTRUCTION

ACTIVE CONSTRUCTION PROJECTS



Transit Center
(ToB project)



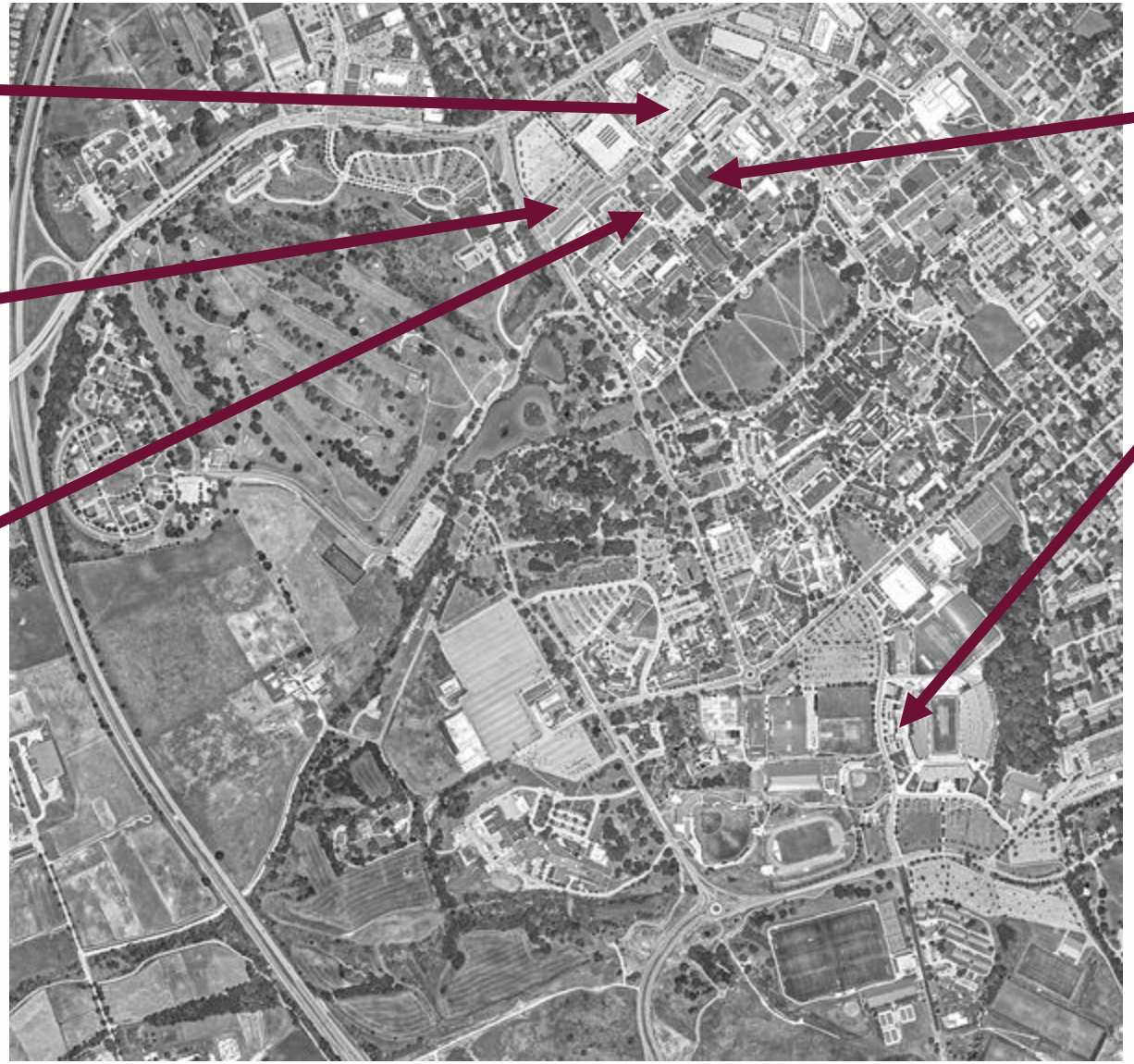
Undergraduate Science Laboratory Building



Life, Health, Safety, Accessibility, & Code Compliance



Livestock & Poultry Research Facilities – Phase I
(Various Locations)



Mitchell Hall



Building Envelope Improvements



Innovation Campus Academic Building
(Alexandria, VA)



UNDERGRADUATE SCIENCE LABORATORY BUILDING

CM at Risk – State Authorized

Status

- Construction 90% complete



Next Actions

- Complete construction and begin project close-out



Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Undergraduate Science Laboratory Building	$90.4	$69.5	102,746																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: ZGF

Builder: Skanska

INNOVATION CAMPUS – ACADEMIC BUILDING

CM at Risk – State Authorized

Status

- Construction 86% complete



Next Actions

- Anticipated completion late fall 2024/early 2025



Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Innovation Campus Academic Building	$302.1	$226.3	299,733																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: SmithGroup

Builder: Whiting-Turner

LIFE, HEALTH, SAFETY, ACCESSIBILITY, & CODE COMPLIANCE

Design-Bid-Build – State Authorized



Status

- Multi-phase execution
- Priority 1 Derring Exterior Elevators construction (Complete)
- Priority 2 Green Link construction underway (30% complete)
- Priority 3 Green Link under design

Next Actions

- Complete Priority 1 close-out
- Continue Priority 2 construction
- Finalize Priority 3 design and develop IFB

Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Life, Health, Safety, Accessibility & Code Compliance	$10.4	$8.1																		

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: Various

Builder: Various

LIVESTOCK & POULTRY RESEARCH FACILITIES – PHASE I (BID PACKAGE 5)

Design-Bid-Build – State Authorized

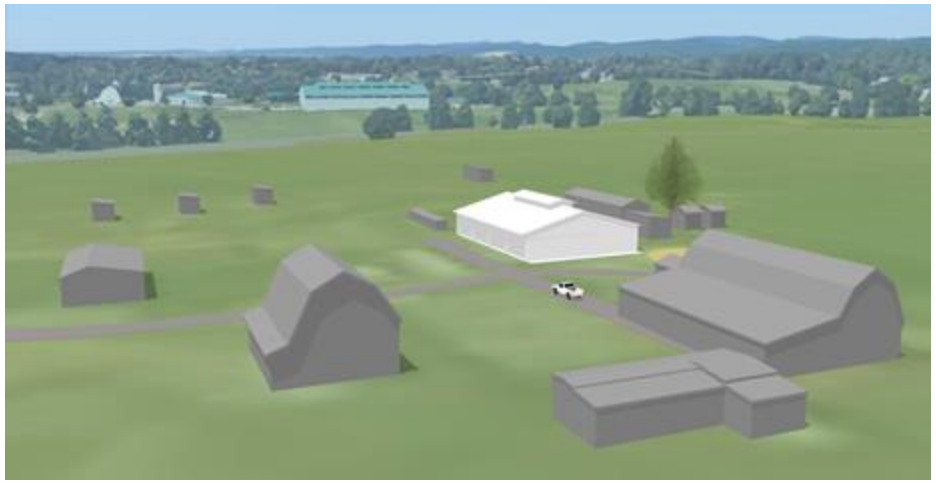
Status

- Bid package #5: Two of three barns under construction (25% complete)



Next Actions

- Complete 3 barns in sequence



Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Livestock & Poultry Research Facilities – Phase I – Various Locations	$25.3	$18.2	129,100																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: Spectrum Design

Builder: Various

BUILDING ENVELOPE IMPROVEMENTS

Design-Bid-Build – BOV Authorized

Status

- Envelope improvements planned for four buildings
- Construction on first building complete



Next Actions

- Complete Lane Stadium project close-out
- Issue IFB for next building (Torgersen Hall)



Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	*Academic Yr 24-25*			*Summer*	*Academic Yr 25-26*			*Summer*	*Academic Yr 26-27*			*Summer*		
Building Envelope Improvements	$47.2	$41.9																		

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: WJE

Builder: Carolina Restoration

MITCHELL HALL

CM at Risk – State Authorized

Status

- GMP-1 (demolition & early site package) underway
- GMP-2 (building construction) in development



Next Actions

- Demolish Randolph Hall
- Finalize GMP-2 and issue permits for construction (Fall 2024)



Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Mitchell Hall	$292.3	$229.3	285,500																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: Perkins & Will

Builder: Skanska

TRANSIT CENTER

Design-Bid-Build – Town of Blacksburg (ToB)

Status

- Construction 95% complete
- Bus loops operational







Next Actions

- Anticipated Transit Center building completion fall 2024



Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Transit Center	N/A	N/A	13,606																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: Wendel (ToB Contract)

Builder: WM Schlosser (ToB Contract)



PROJECTS UNDER WARRANTY

PROJECTS UNDER WARRANTY



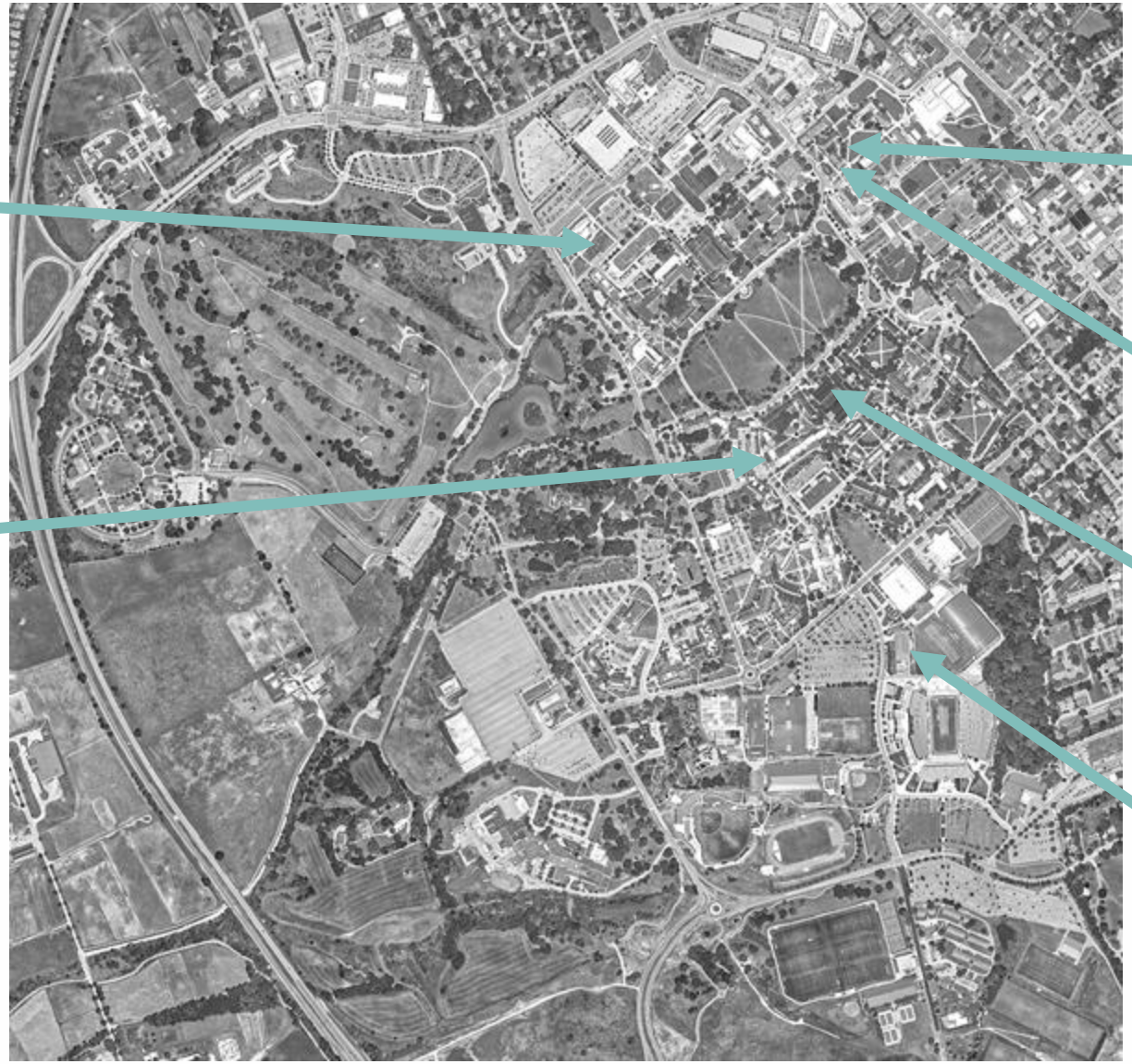
HITT Hall



Slusher Hall Repairs



Livestock & Poultry Research Facilities – Phase I
(Various Locations)



Corps Leadership & Military Science Building



New Upper Quad Residence Hall



Student Wellness Improvements



Football Locker Room Renovation

CORPS LEADERSHIP & MILITARY SCIENCE BUILDING

CM at Risk – BOV Authorized

COMPLETE

Status

- Project complete



Next Actions

- Close out project



Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Corps Leadership & Military Science Building	$52.0	$37.91	65,428																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: Clark-Nexen

Builder: Vannoy

SLUSHER HALL REPAIRS

Emergency – BOV Authorized

COMPLETE

Status

- Project complete



Next Actions

- Close out project



Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Slusher Hall Repairs	$7.5	$5.6		38,000																

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: Gresham Smith

Builder: Kesler

NEW UPPER QUAD RESIDENCE HALL

CM at Risk – BOV Authorized

COMPLETE

Status

- Project complete



Next Actions

- Close out project



Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
New Upper Quad Residence Hall	$42.0	$32.0	56,650																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: Clark-Nexen

Builder: Vannoy

LIVESTOCK & POULTRY RESEARCH FACILITIES – PHASE I (BID PACKAGES 1-4)

Design-Bid-Build – State Authorized

COMPLETE









Status

- Construction complete on bid packages 1 - 4

Next Actions

- Close out of bid packages 1 - 4

Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Livestock & Poultry Research Facilities Phase 1 – Various Locations	$25.3	18.2	129,100																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: Spectrum Design

Builder: Various

HITT HALL

CM at Risk – BOV Authorized

COMPLETE

Status

- Project complete



Next Actions

- Close out project



Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
HITT Hall	$85.0	$65.5	101,000																	

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: Cooper Cary

Builder: WM Jordan

STUDENT WELLNESS IMPROVEMENTS

CM at Risk – BOV Authorized

COMPLETE

Status

- Project complete



Next Actions

- Close out project



Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Student Wellness Improvements	$70.0	$56.3		204,000																

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: Cannon Design

Builder: Whiting-Turner

FOOTBALL LOCKER ROOM RENOVATION

Design-Bid-Build – BOV Authorized

COMPLETE

Status

- Project complete



Next Actions

- Close out project



Project Title	Total Project Budget ($M)	Construction Cost ($M)	New Const (GSF)	Renovation (GSF)	CY 2024				CY 2025				CY 2026				CY 2027			
					Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec	Q3 Jan - Mar	Q4 Apr - Jun	Q1 Jul - Sep	Q2 Oct - Dec
						Summer	Academic Yr 24-25			Summer	Academic Yr 25-26			Summer	Academic Yr 26-27			Summer		
Football Locker Room Renovation	$5.9	$4.1		4,200																

LEGEND	Design	Construction	Warranty	Construction Phase TBD

Designer: HNTB

Builder: Thor

DEFINITIONS

AUTHORIZATION:

- **State Authorized:** Authorized and funded (whole or in part) by the Virginia General Assembly
- **BOV Authorized:** Authorized and funded by the Virginia Tech Board of Visitors

DELIVERY METHODS:

- **Schematic Design Phase =** 0% to approximately 20% design complete
- **Preliminary Design Phase =** Approximately 20% to approximately 50% design complete
- **Working Drawing Phase =** Approximately 50% to 100% design complete

- **GMP =** Guaranteed Maximum Price

CONSTRUCTION METHODS

DESIGN-BID-BUILD (DBB):

- A/E completes full design
- Invitation For Bid (IFB) issued
- Contract awarded to lowest bidder

CONSTRUCTION MANAGER AT RISK (CMaR):

- A/E completes full design
- Prospective CMaR's compete for project during early stage of design
- CMaR selected based upon "best value" during Schematic Design phase
- When final designs are complete CMaR develops Guaranteed Maximum Price (GMP)

DESIGN-BUILD(D/B):

- A/E completes partial design ("criteria docs")
- D/B team (builder + A/E) compete for project and propose full price for project delivery
- Selection based upon "best value"
- D/B team completes design and executes construction.

Future Agenda Items and Closing Remarks

BUILDINGS AND GROUNDS COMMITTEE

Tuesday, August 27, 2024

The Committee Chair will discuss future agenda items and make closing remarks.

Open Session Agenda

COMPLIANCE, AUDIT, AND RISK COMMITTEE

The Inn at Virginia Tech, Latham A/B
August 28, 2024
8:30 am

	Agenda Item	Reporting Responsibility
1.	Welcome and Acceptance of Agenda	Committee Chair
2.	Consent Agenda	Committee Chair
	a. Minutes from the June 10, 2024 Meeting	
	b. Update of Responses to Open Internal Audit Comments	
	c. Audit Plan Status Report	
	d. Internal Audit Reports	
	i. Data: Travel Compliance Monitoring	
	ii. Student Wellness and Counseling	
	iii. College of Architecture, Arts, and Design Policy Compliance Review	
	iv. Vice President for Student Affairs Policy Compliance Review	
	e. Status Update of the Audit of the University's Financial Statements	
	f. 2024 General Assembly Legislative Update	
3.	Internal Audit Reports	Ryan Hamilton
	a. Chemistry	
4.	OARC Annual Report for Fiscal Year 2023-24	Sharon Kurek
5.	OARC Strategic Plan	Sharon Kurek
6.	Discussion of Future Topics	Committee Chair

Open Session Briefing Report

COMPLIANCE, AUDIT, AND RISK COMMITTEE

August 28, 2024

Compliance, Audit, and Risk Open Session

1. **Welcome and Acceptance of the Agenda:** The chair of the Compliance, Audit, and Risk Committee will provide opening remarks and ask for acceptance of the open session agenda.

2. **Consent Agenda:** The Committee will consider for approval and acceptance the items listed on the Consent Agenda.

    a. **Minutes from the June 10, 2024 Meeting:** The Committee will review and approve the minutes of the June 10, 2024 meeting.

    b. **Update of Responses to Open Internal Audit Comments:** The Committee will review the university's update of responses to all previously issued internal audit reports. As of March 31, 2024, the university had 16 open recommendations. Zero audit comments were issued during the fourth quarter of the fiscal year. As of June 30, 2024, the university had addressed 13 comments, leaving 3 open recommendations in progress.

    c. **Audit Plan Status Report:** The committee will review the Audit Plan Status Report. The Office of Audit, Risk, and Compliance (OARC) has completed 81 percent of its audit plan, and 100 percent is underway, in accordance with the fiscal year 2023-24 annual audit plan.

    d. **Internal Audit Reports:** The following internal audit reports were issued by OARC since the June 10, 2024 meeting. Where applicable, management developed action plans to effectively address the issues in the report with a reasonable implementation timeframe. As noted above, OARC conducts follow-up on management's implementation of agreed upon improvements for previously issued audit recommendations.

        i. Data: Travel Compliance Monitoring: The audit received an effective rating. An observation with university-wide impact was noted related to timely submission of travel reimbursement requests.

ii. Student Wellness and Counseling: The audit received an effective rating. An observation with university-wide impact was noted related to user access controls over the student conduct system.

iii. College of Architecture, Arts, and Design Policy Compliance Review: The audit received a rating of improvements are recommended. Recommendations were noted related to the areas of wage payroll, P-14 appointments, I-9 verifications, expenditures, fixed asset management, university key control, information technology, and state vehicle management.

iv. Vice President for Student Affairs Policy Compliance Review: The audit received a rating of improvements are recommended. Recommendations were noted related to the areas of wage payroll, leave reporting, P-14 appointments, expenditures, information technology, and state vehicle management.

e. **Status Update on the Audit of the University's Financial Statements:** This report provides the current status of the audit of the university's financial statements for fiscal year 2023-24.

f. **2024 General Assembly Legislative Update:** This report provides an update on recent legislative changes that impact the Committee's responsibility for oversight of compliance and risk.

3. **Internal Audit Reports:** The following internal audit report was issued by OARC since the June 10, 2024 meeting. Where applicable, management developed action plans to effectively address the issues in the report with a reasonable implementation timeframe. As noted above, OARC conducts follow-up on management's implementation of agreed upon improvements for previously issued audit recommendations.

a. Chemistry: The audit received a rating of improvements are recommended. Observations were noted related to lab safety culture and key control. A low-priority recommendation of a less significant nature was noted related to service center billing.

4. **OARC Annual Report for Fiscal Year 2023-24:** The Committee will review the annual report for OARC. This report contains highlights from the past fiscal year's activities in the enterprise risk management (ERM), institutional compliance, and

internal audit programs. Acceptance of this report documents the Committee's review of the effectiveness of the internal audit function, including staffing resources, financial budget, training, objectivity, and reporting relationships as required by the Committee's charter.

5. **OARC Strategic Plan:** The Committee will review OARC's proposed strategic plan, including the mission, vision, strategic goals, and program objectives that will guide the department forward. OARC's goals are aligned to five strategic themes, including operational excellence, trust and partnerships, strategic value, culture and integrity, and knowledge and innovation. Each of the three functional programs (ERM, Compliance, and Internal Audit) have developed major objectives across "foundational," "leading practices," and "emerging" categories, which serve as a maturity spectrum of program development.

6. **Discussion of Future Topics:** The Committee will discuss topics to be covered in future committee meetings.

Welcome and Acceptance of Agenda

COMPLIANCE, AUDIT, AND RISK COMMITTEE

August 28, 2024

The Chair of the Compliance, Audit, and Risk Committee
will offer welcoming remarks
and ask for acceptance of the Open Session agenda.

Consent Agenda

COMPLIANCE, AUDIT, AND RISK COMMITTEE

August 28, 2024

The Committee will consider for approval and acceptance the items listed on the Consent Agenda.

a. Approval of Minutes of the June 10, 2024 Meeting

b. Update of Responses to Open Internal Audit Comments

c. Audit Plan Status Report

d. Internal Audit Reports

   i. Data: Travel Compliance Monitoring

   ii. Student Wellness and Counseling

   iii. College of Architecture, Arts, and Design Policy Compliance Review

   iv. Vice President for Student Affairs Policy Compliance Review

e. Status Update of the Audit of the University's Financial Statements

f. 2024 General Assembly Legislative Update

Minutes

COMPLIANCE, AUDIT, AND RISK COMMITTEE
New Classroom Building, Room 260
June 10, 2024
9:30 am

Closed Session

Committee Members Present: Dave Calhoun (chair), Carrie Chenery, Nancy Dye, Tish Long (via Zoom), Chris Petersen, Jeff Veatch

Other Board Members Present: Ed Baine (Rector), Sandy Davis, Greta Harris, Don Horsley, John Rocovich

Virginia Tech Personnel: Simon Allen, Cyril Clarke, Suzanne Griffin, Rebecca Halsey, Ryan Hamilton, Kay Heidbreder, Sharon Kurek, Justin Noble, Kim O'Rourke, Timothy Sands, Amy Sebring

1. **Motion to Begin Closed Session:** Committee member Chris Petersen moved to begin closed session at 9:38 am.

2. **Update on Fraud, Waste, and Abuse Cases:** The Committee received an update on outstanding fraud, waste, and abuse cases.

3. **Discussion with the Vice President for Audit, Risk, and Compliance and Chief Risk Officer:** The Vice President discussed employee performance and evaluation of performance of departments or schools of public institutions of higher education where such evaluation involved discussion of the performance of specific individuals.

4. **Motion to End Closed Session:** Committee member Jeff Veatch moved to end closed session at 9:58 am.

Open Session

Committee Members Present: Dave Calhoun (chair), Carrie Chenery, Nancy Dye, Tish Long (via Zoom), Chris Petersen, Jeff Veatch

Other Board Members Present: Ed Baine (Rector), Sandy Davis, Greta Harris, Don Horsley, John Rocovich, Janice Austin, LaTawnya Burleson, Joe Merola, Will Storey, Emily Tirrell

Virginia Tech Personnel: Simon Allen, Lynsay Belshe, Eric Brooks, Cyril Clarke, Al Cooper, Corey Earles, Martha Glass, Ellington Graves, Suzanne Griffin, Derek Gwinn, Rebecca Halsey, Ryan Hamilton, Kay Heidbreder, Frances Keene, Sharon Kurek, Mike Mulhare, Justin Noble, Leslie Orellana, Kim O'Rourke, Sharon Pitt, William Poland, Paul Richter, Timothy Sands, Amy Sebring, Brennan Shepard, John Talerico, John Tarter, Rob Viers, Tracy Vosburgh, Melinda West

Guests: Megan Richard

1. **Welcome and Acceptance of Agenda:** The chair of the Compliance, Audit, and Risk Committee provided opening remarks and asked for acceptance of the Open Session agenda.

2. **Consent Agenda:** The Committee considered and approved the items listed on the Consent Agenda.

    a. **Minutes from the April 8, 2024 Meeting:** The Committee reviewed and approved the minutes of the April 8, 2024 meeting.

    b. **Update of Responses to Open Internal Audit Comments:** The Committee reviewed the university's update of responses to all previously issued internal audit reports. As of December 31, 2023, the university had 11 open recommendations. Nine audit comments were issued during the third quarter of the fiscal year. As of March 31, 2024, the university had addressed four comments, leaving 16 open recommendations in progress.

    c. **Audit Plan Status Report:** The committee reviewed the Audit Plan Status Report. The Office of Audit, Risk, and Compliance (OARC) has completed 63 percent of its audit plan, and 94 percent is underway, in accordance with the fiscal year 2023-24 annual audit plan.

d. **Internal Audit Reports:** The following internal audit reports were issued by OARC since the April 8, 2024 meeting. Where applicable, management developed action plans to effectively address the issues in the report with a reasonable implementation timeframe. As noted above, OARC conducts follow-up on management's implementation of agreed upon improvements for previously issued audit recommendations.

   i. Capital Campaign Processes and Reporting: The audit received an effective rating.

   ii. Institute for Critical Technology and Applied Sciences: The audit received a rating of improvements are recommended. Low-priority recommendations of a less significant nature were noted related to service center billing and lab safety training.

   iii. Parking Services: Permitting Processes: The audit received a rating of improvements are recommended. Low-priority recommendations of a less significant nature were noted related to use of license plate recognition (LPR) technology, voided parking permit processes, and Parking Services' rules and regulations.

   iv. IT: Internally Developed Software: The objective of the advisory engagement was to determine whether governance and controls over internally developed software were adequate and if best practices were deployed.

   v. IT: Inventory and Classification: The objective of the advisory engagement was to determine whether the 2023 inventory and classification efforts were suitably designed to support completeness and accuracy.

e. **Auditor of Public Accounts Intercollegiate Athletics Program Report:** The Committee received a report on the Auditor of Public Accounts (APA) Intercollegiate Athletics review for fiscal year 2023. The APA performed certain agreed upon procedures to evaluate whether the Schedule of Revenues and Expenses of the Intercollegiate Athletics Programs for fiscal year ended June 30, 2023 is in compliance with the National Collegiate Athletic Association (NCAA) bylaws. The review did not constitute an audit and therefore no opinion was issued.

f. **Report on Audits of University-Related Corporations:** The university-related corporations include Virginia Tech Applied Research Corporation; Virginia Tech Foundation, Inc.; Virginia Tech Intellectual Properties, Inc.; Virginia Tech Services, Inc.; Virginia Tech Innovations Corporation (VTIC); and Virginia Tech India Research and Education Forum (VTIREF). Consistent with the Board of Visitors' resolution establishing university-related corporations, each corporation is annually required to provide audited annual financial statements, management letters from external auditors, and management's responses to the university's president. Each corporation is also required to submit an annual certification stating that all procedures outlined in the resolution have been met. All corporations were in full compliance with the Board of Visitors' requirements regarding audits, except for VTIC whose audit has not yet been completed due to complexities related to the creation of a new subsidiary mid-year, Swiss Corporation (VT Swiss SA).

3. **Annual External Audit Scope Discussion with the Auditor of Public Accounts:** The Committee met with the APA for a discussion of the scope of the audit of the 2023-24 financial statements and the APA's plans for conducting and completing the audit.

4. **Overview of Athletics Compliance:** The Committee received an overview of athletics compliance and the changes in the external landscape, as related to the institution's enterprise risks.

5. **Enterprise Risk Management Update:** The Committee received an update of the Enterprise Risk Management (ERM) program activity during fiscal year 2023-24, including the refreshed governance structure, the updated enterprise risk landscape delineated by the university's tripartite mission and support environments, and the heat map with a focus on the top ten risks. The mapping of the enterprise risk landscape shows the alignment of risks with the two main university goals, the Virginia Tech Advantage and Virginia Tech Global Distinction.

6. **Audit Plan for Fiscal Year 2024-25:** OARC presented the Audit Plan for Fiscal Year 2024-25 to the Compliance, Audit, and Risk Committee for review and approval. An annual risk assessment was conducted to identify the entities that should receive audit attention in fiscal year 2024-25 and a core audit plan was developed in coordination with the university's ERM initiative. For fiscal year 2024-25, 24 audit projects and 6 management advisory services are proposed, with approximately 75 percent of OARC's available resources committed to the

completion of planned projects. A description of each project is provided within the audit plan. OARC's goal will be to complete 85 percent of the audit plan. The internal audit plan may be modified based on the external audit environment or changes in regulations, management, or resources. Committee member Long inquired of Internal Audit's use of artificial intelligence in audit processes and urged the exploration of its potential utility in both the internal auditing space and in all areas of the university's business processes. The committee approved the proposed audit plan.

7. **Compliance Plan for Fiscal Year 2024-25:** OARC presented the Compliance Plan for Fiscal Year 2024-25 to the Compliance, Audit, and Risk Committee for review and approval. As part of the process for developing the proposed plan, both a leadership survey and discussions with leadership were conducted to identify priority compliance risk areas for focus and to gain leadership insights. The proposed institutional compliance program plan for 2024-25 focuses on priority compliance risk areas in support of Virginia Tech's pursuit of its strategic goals. In addition, the plan correlates programmatic activities with the elements of an effective compliance program. The committee approved the proposed compliance plan.

8. **Discussion of Future Topics:** The Committee discussed topics to be covered in future committee meetings.

Update of Responses to Open Internal Audit Comments

COMPLIANCE, AUDIT, AND RISK COMMITTEE

June 30, 2024

As part of the internal audit process, university management participates in the opening and closing conferences and receives copies of all final audit reports. The audited units are responsible for implementing action plans by the agreed upon implementation dates, and management is responsible for ongoing oversight and monitoring of progress to ensure solutions are implemented without unnecessary delays. Management supports units as necessary when assistance is needed to complete an action plan. As units progress toward completion of an action plan, the Office of Audit, Risk, and Compliance (OARC) performs a follow-up visit within two weeks after the target implementation date. OARC is responsible for conducting independent follow up testing to verify mitigation of the risks identified in the recommendation and formally close the recommendation. As part of management's oversight and monitoring responsibility, this report is provided to update the Compliance, Audit, and Risk Committee on the status of outstanding recommendations. Management reviews and assesses recommendations with university-wide implications and shares the recommendations with responsible administrative departments for process improvements, additions or clarification of university policy, and inclusion in training programs and campus communications. Management continues to emphasize the prompt completion of action plans.

The report includes outstanding recommendations from compliance reviews and audit reports. Consistent with the report presented at the June Board meeting, the report of open recommendations includes three attachments:

- Attachment A summarizes each audit in order of final report date with extended and on-schedule open recommendations.
- Attachment B details all open medium and high priority recommendations for each audit in order of the original target completion date, and with an explanation for those having revised target dates or revised priority levels.
- Attachment C charts performance in implementing recommendations on schedule over the last seven years. The 100 percent on-schedule rate for fiscal year 2024 reflects closing 26 of 26 recommendations by the original target date.

The report presented at the June 10, 2024 meeting covered audit reports reviewed and accepted through March 31, 2024 and included 16 open medium and high priority recommendations. Activity for the quarter ending June 30, 2024 resulted in the following:

Open recommendations as of March 31, 2024	16
Add: medium and high priority recommendations accepted June 10, 2024	0
Subtract: recommendations addressed since March 31, 2024	13
Remaining open recommendations as of June 30, 2024	3

While this report is prepared as of the end of the quarter, management continues to receive updates from OARC regarding auditee progress on action plans. All other remaining open recommendations are progressing as expected and are on track to meet their respective target dates. Management continues to work conjointly with all units and provides assistance as needed to help with timely completion of action plans.

ATTACHMENT A

Open Recommendations by Priority Level

COMPLIANCE, AUDIT, AND RISK COMMITTEE

June 30, 2024

Report Date	Audit Name	Audit Number	Total Recommendations						
			ISSUED	COMPLETED	OPEN				
					Extended		On-schedule		Total
					High	Medium	High	Medium	Open
Mar 05, 2024	College of Veterinary Medicine	24-1715	4	3	-	-	-	1	1
Mar 22, 2024	Facilities Management	24-1699	1	-	-	-	-	1	1
Mar 25, 2024	IT Polilcy Compliance Review: Athletics	24-1706B	1	-	-	-	1	-	1
Totals:			**6**	**3**	**-**	**-**	**1**	**2**	**3**

ATTACHMENT B

Open Audit Recommendations

COMPLIANCE, AUDIT, AND RISK COMMITTEE

June 30, 2024

Report Date	Item	Audit Number	Audit Name	Recommendation Name	Priority		Target Date		Follow Up Status	Status of Recommendations with Revised Priority / Target Dates
					Original	Revised	Original	Revised / Current		
Mar 22, 2024	1	24-1699	Facilities Management	DSA Warehouse Inventory	Medium		Sep 15, 2024		1	
Mar 25, 2024	2	24-1706B	IT Polilcy Compliance Review: Athletics	Information Technology Controls	High		Apr 01, 2025		2	
Mar 05, 2024	3	24-1715	College of Veterinary Medicine	Fixed Asset Management	Medium		May 01, 2025		2	

Follow Up Status

1 Management confirmed during follow up discussions with OARC that actions are occurring and the target date has been or will be met. OARC will conduct testing after the due date to confirm that the Management Action Plan is implemented in accordance with the recommendations.

2 Target date is beyond current calendar quarter. Management has follow-up discussions with the auditor to monitor progress, to assist with actions that may be needed to meet target dates, and to assess the feasibility of the target date.

For Open Detail Report: “current calendar quarter” is used to refer to the current working quarter instead of the quarter being reported on.

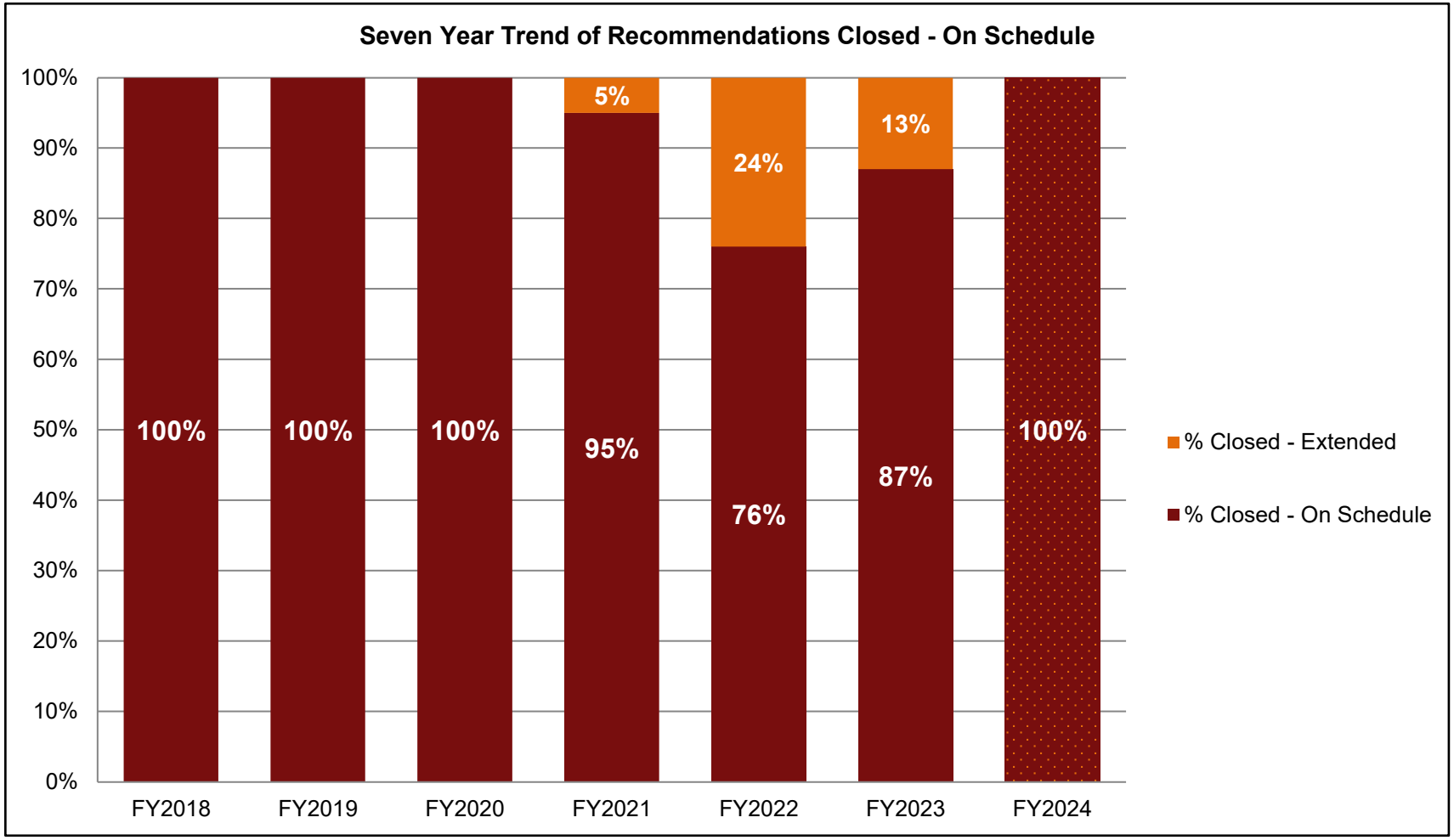
Presentation Date: August 28, 2024

ATTACHMENT C

Management Performance and Trends Regarding
Office of Audit, Risk, and Compliance Recommendations

COMPLIANCE, AUDIT, AND RISK COMMITTEE

June 30, 2024



Presentation Date: August 28, 2024

Audit Plan Status Report

COMPLIANCE, AUDIT, AND RISK COMMITTEE

August 28, 2024

Audit Plan Update

Audits were performed in accordance with the fiscal year 2023-24 annual audit plan at a level consistent with the resources of the Office of Audit, Risk, and Compliance (OARC). Since the June board meeting, five planned projects have been completed including three risk-based audits and two policy compliance reviews.

Six projects are currently underway, including:

- Four risk-based projects: Aerospace and Ocean Engineering, Real Estate Management, Sponsored Programs – Pre-Award/Contracts, and ADA Compliance.
- One policy compliance review: College of Agricultural and Life Sciences
- One advisory project: Athletics IT Security & Data Privacy

Further, one planned advisory review regarding research accounting processes has been deferred since the June board meeting based on available staff time.

In fiscal year 2023-24, OARC has completed 81 percent of its audit plan as depicted below.

FY 2023-24 Completion of Audit Plan

Audits	
Total # of **Audits** Planned	33
Total # of Supplemental **Audits**	3
Total # of Carry Forwards	4
Total # of Planned **Audits** Canceled or Deferred	9
Total **Audits** in Plan as Amended	31
Total **Audits** Completed	25
Audits - Percentage Complete	81%
Audits - Percentage Complete or Underway	100%
Note: Includes Policy Compliance Reviews and Advisory Services	

Internal Audit Reports

COMPLIANCE, AUDIT, AND RISK COMMITTEE

August 28, 2024

Background

This report provides a summary of engagements completed during this period, including policy compliance and risk-based reviews.

Consent Agenda Reports	**Rating**
Data: Travel Compliance Monitoring	Effective
Student Wellness and Counseling	Effective
College of Architecture, Arts, and Design Policy Compliance Review	Improvements are Recommended
Vice President for Student Affairs Policy Compliance Review	Improvements are Recommended
Reports for Discussion	**Rating**
Chemistry	Improvements are Recommended

Summary of Ratings

The Office of Audit, Risk, and Compliance's rating system has four tiers from which to assess the controls designed by management to reduce exposures to risk in the area being audited. The auditor can use professional judgment in constructing the exact wording of the assessment in order to capture varying degrees of deficiency or significance.

Definitions of each assessment option

Effective – The audit identified opportunities for improvement in the internal control structure, but business risks are adequately controlled in most cases.

Improvements are Recommended – The audit identified occasional or isolated business risks that were not adequately or consistently controlled.

Significant or Immediate Improvements are Needed – The audit identified several control weaknesses that have caused, or are likely to cause, material errors, omissions, or irregularities to go undetected. The weaknesses are of such magnitude that senior management should undertake immediate corrective actions to mitigate the associated business risk and possible damages to the organization.

Unreliable – The audit identified numerous significant business risks for which management has not designed or consistently applied controls prior to the audit. Persistent and pervasive control weaknesses have caused or could cause significant errors, omissions, or irregularities to go undetected. The weaknesses are of such magnitude that senior management must undertake immediate corrective actions to bring the situation under control and avoid (additional) damages to the organization.

RECOMMENDATION:

That the internal audit reports listed above be accepted by the Compliance, Audit, and Risk Committee.

August 28, 2024

Status Update of the Audit of the University's Financial Statements

COMPLIANCE, AUDIT, AND RISK COMMITTEE

August 11, 2024

The Auditor of Public Accounts (APA) began the audit of the university's financial statements for fiscal year 2023-24 with the entrance conference on April 29, 2024. The APA is currently in the initial stage of the audit where they review transactions and test internal controls over the university's financial processes. Through early July 2024, the audit seems to be progressing as planned, and the APA has not provided any audit comments or recommendations for improvements. At this time, we are not aware of any issues that would prevent the successful completion of the fiscal year 2023-24 audit by the targeted deadline of early November 2024.

2024 General Assembly Legislative Update

COMPLIANCE, AUDIT, AND RISK COMMITTEE

July 19, 2024

The following report highlights legislation of interest to Virginia Tech.

Admissions and Transfer

HB 48 & SB 46* Higher educational institutions, public; admissions applications, legacy admissions, etc.
Del. Dan Helmer & Sen. Schuyler VanValkenburg / Sen. Jeremy McPike
Prohibits any public institution of higher education from providing any manner of preferential treatment in the admissions decision to any student applicant on the basis of such student's legacy status, defined in the bill, or such student's familial relationship to any donor to such institution. ***SB 71 incorporated into SB 46**

HB 1365 Higher educational institutions, public; release of student transcripts.
Del. Betsy Carr
Requires each public institution of higher education to release an academic transcript directly to the employer or prospective employer of a student currently or formerly enrolled at such institution upon the request of the student. The bill also prohibits any public institution of higher education from conditioning the release of an academic transcript to a student currently or formerly enrolled at such institution on the payment of an outstanding debt if (i) such outstanding debt is less than $500; (ii) such outstanding debt is less than $1000 and such currently or formerly enrolled student received a Federal Pell Grant at any time during his enrollment; or (iii) such currently or formerly enrolled student has enrolled in a repayment plan and has made at least three consecutive monthly payments on such outstanding debt.

Agriculture, Environment, and Energy

HB 1135 & SB 402 Blue catfish; DACS, et al., to review efforts to create a market.
Del. Keith Hodges & Sen. Richard Stuart
Requires the Department of Agriculture and Consumer Services to convene a work group of relevant stakeholders in order to support and encourage coordination regarding efforts to create a robust and resilient market for blue catfish. The work group shall (i) review past and ongoing efforts to promote the creation of a market for blue catfish, (ii) identify and explore potential sectors for the blue catfish market, and (iii) identify any actions that the Commonwealth can take to promote and expand the market for blue catfish. The Department shall submit a report of the findings and recommendations of the work group to the Governor, the Secretary of Agriculture and Forestry, the Secretary of Natural and Historic Resources, and relevant committees of the General Assembly no later than September 1, 2025.

Benefits and Personnel

SB 7* & HB 18 Hate crimes and discrimination; ethnic animosity, nondiscrimination in employment, etc., penalties.
Sen. Bryce Reeves / Sen. Suhas Subramanyam
Provides that it is the policy of the Commonwealth to safeguard all individuals within the Commonwealth from unlawful discrimination in employment and in places of public accommodation because of such individual's ethnic origin and prohibits such discrimination. The bill also adds victims who are intentionally selected because of their ethnic origin to the categories of victims whose intentional selection for a hate crime involving assault, assault and battery, or trespass for the purpose of damaging another's property results in a higher criminal penalty for the offense. The bill also provides that no provider or user of an interactive computer service on the Internet shall be liable for any action voluntarily taken by it in good faith to restrict access to material that the provider or user considers to be intended to incite hatred on the basis of ethnic origin. ***SB 120 incorporated into SB 7**

Diversity and Inclusion

HB 566 SCHEV; membership to include representative of a historically black college or university.
Del. Alex Askew
Requires the membership of the State Council of Higher Education for Virginia to include at least one nonlegislative citizen member who has served as a chief executive officer of one of the Commonwealth's historically black colleges or universities. The bill has a delayed effective date of July 1, 2026.

HB 1452 State agencies and their appointing authorities; diversity, equity, and inclusion strategic plans.
Del. Alex Askew
Requires each state agency to submit its annual report assessing the impact of its diversity, equity, and inclusion strategic plans on the populations served by the agency and on the agency's workforce budget to the General Assembly, in addition to the Governor, by July 1 of each year.

Ethics Reform

HB 1044 & SB 159 Higher Education for Virginia, State Council of; membership, effective date.
Del. Sam Rasoul & Sen. Jennifer Boysko
Requires the membership of the State Council of Higher Education for Virginia to include at least one nonlegislative citizen member who has served as a chief executive officer of an accredited nonprofit private institution of higher education whose primary purpose is to provide collegiate, graduate, or professional education and not to provide religious training or theological education. The bill has a delayed effective date of July 1, 2026.

Freedom of Information Act

HB 816 & SB 244 FOIA; meetings held through electronic communication during declared states of emergency.
Del. Mike Cherry & Sen. Jeremy McPike
Provides that the provisions for conducting a meeting by electronic means due to a state of emergency stated in the Virginia Freedom of Information Act (FOIA) are declarative of existing law since March 20, 2020, with respect to the Governor's declared state of emergency due to COVID-19. Under the bill, any meeting by a public body using electronic communication means occurring from that date until July 1, 2021, and any otherwise lawful action taken at it is validated with respect to FOIA if the body provided public notice, public access, and public comment commensurate with the requirements of existing FOIA provisions regarding electronic and closed meetings. The bill is a response to the case Berry v. Bd. of Supervisors (Va. 2023) and is a recommendation of the Virginia Freedom of Information Advisory Council.

HB 818 & SB 36 Virginia Freedom of Information Act; amends definition of meeting, provisions or Act.
Del. Mike Cherry & Sen. Mamie Locke
Exempts certain public meetings from the definition of "meeting" under the Virginia Freedom of Information Act to clarify that three or more members of a public body may appear and participate in such public meeting without violating the Act, provided that no public business is transacted or discussed. The bill also exempts members of a public body who attend a public meeting of a second public body without violating the Act, provided that no public business is transacted or discussed. Finally, the bill defines "public business" as activity that a public body has undertaken or proposed to undertake on behalf of the people it represents. The bill states that its provisions are declarative of existing law.

SB 85 Virginia Freedom of Information Act; definition of "caregiver," remote participation in meetings.
Sen. Barbara Favola
Provides that for purposes of determining whether a quorum is physically assembled, an individual member of a public body who is a person with a disability or a caregiver, defined in the bill, and uses remote participation counts toward the quorum as if the individual was physically present. The bill also provides that the participation policy adopted by a public body, as required by the Virginia Freedom of Information Act, shall not prohibit or restrict any individual member of a public body who is participating in an all-virtual meeting or who is using remote participation from voting on matters before the public body. The bill is a recommendation of the Virginia Freedom of Information Advisory Council.

SB 324 Virginia Freedom of Information Act; charges for production of public records.
Sen. Danica Roem
Prohibits a public body from charging a requester for any costs incurred during the first two hours spent accessing or searching for requested records when such requester has

made four or fewer individual record requests to such public body within 31 consecutive days. The bill provides that for any additional time spent accessing or searching for such records, or when such requester makes five or more individual record requests to such public body within any 31-consecutive-day period, the public body shall not charge an hourly rate for accessing or searching for the records exceeding the lesser of the hourly rate of pay of the lowest-paid individual capable of fulfilling the request or $33 per hour.

The bill allows a public body to petition the appropriate court for relief from the $33 per hour fee cap upon showing by a preponderance of the evidence that there is no qualified individual capable of fulfilling the request for $33 per hour or less and requires such petition to be heard within seven days of when the petition is made, provided that the public body has sent and the requester has received a copy of the petition at least three working days prior to filing. The bill also provides that in certain instances a hearing on any petition shall be given precedence on a circuit court's docket over all cases that are not otherwise given precedence by law and that the time period the public body has to respond to a record request shall be tolled between the requester's receipt of the petition and the final disposition of the court. The bill prohibits a public body from charging a requester for any court costs or fees resulting from a petition. Finally, the bill directs the Virginia Freedom of Information Advisory Council to study whether public bodies should charge requesters and report on its findings by December 2024. The provisions of the bill do not become effective unless reenacted by the 2025 Session of the General Assembly.

SB 734 & HB 894 Virginia Freedom of Information Act; electronic meetings.
Sen. David Marsden & Del. Elizabeth Bennett-Parker
Amends the number of all-virtual public meetings that public bodies, with certain exceptions, may convene in a calendar year to no more than two times per calendar year or 50 percent of the meetings held per calendar year rounded up to the next whole number, whichever is greater. Current law limits the number of all-virtual public meetings to no more than two times per calendar year or 25 percent of the meetings held per calendar year rounded up to the next whole number, whichever is greater. The bill also provides that with respect to all-virtual public meetings, when audio-visual technology is available, a member of a public body shall, for purposes of a quorum, be considered absent from any portion of the meeting during which visual communication with the member is voluntarily disconnected or otherwise fails or during which audio communication involuntarily fails.

Miscellaneous

HB 843 & SB 426 Pari-mutuel wagering; historical horse racing, percentage retained for distribution.
Del. Terry Austin & Sen. Creigh Deeds
Provides that with respect to all authorized historical horse racing terminals, of the amount that a horse racing licensee retains from wagering on historical horse racing pools, 0.025 percent shall be provided to each of the following: (i) the Virginia Breeders Fund; (ii) the Virginia-Maryland Regional College of Veterinary Medicine, for its equine programs; (iii) the Virginia Horse Center Foundation; and (iv) the Virginia Horse Industry Board. The bill

also provides that, in addition to the amount horse racing licensees distribute to localities and the Problem Gambling Treatment and Support Fund under current law, such licensees shall distribute the remainder of the percentage retained to the Commonwealth as a license tax.

HB 1505 Intercollegiate athletics; student-athletes, compensation for name, image, or likeness.
Del. Terry Austin
Makes several changes to existing provisions of law relating to compensation of a student-athlete at a public or private institution of higher education in the Commonwealth (institution) for the use of the name, image, or likeness of such student-athlete, including (i) prohibiting any athletic association, athletic conference, or other organization with authority over intercollegiate athletics from preventing an institution, its supporting foundations, or an entity acting on its behalf from identifying, creating, negotiating, facilitating, supporting, engaging with, assisting with, or otherwise enabling a name, image, or likeness opportunity for a student-athlete; (ii) requiring each institution to develop and submit to the institution's governing board or similar governing body for approval policies or procedures that govern the compensation of a student-athlete for the use of his name, image, or likeness; and (iii) permitting any institution to provide assets, resources, or benefits as an incentive to individuals, companies, or other entities to provide money, benefits, opportunities, or services to an outside entity that supports name, image, or likeness opportunities for the institution's student-athletes.

SB 411 & HB 580 Animal testing facilities; DACR shall convene task force to identify potential deficiencies.
Sen. Jennifer Boysko & Del. Shelly Simonds
Requires the Department of Agriculture and Consumer Services, in collaboration with the State Council of Higher Education for Virginia, to convene a Task Force on Transparency in Publicly Funded Animal Testing Facilities for the purpose of identifying potential deficiencies in publicly funded animal testing facilities in the Commonwealth and recommending methods and context for making certain information about such animal testing facilities publicly available. The bill provides that the Task Force shall consist of legislators and certain enumerated stakeholders and shall report its findings to the House Committees on Agriculture, Chesapeake and Natural Resources, Finance, and Appropriations and the Senate Committees on Agriculture, Conservation and Natural Resources and Finance and Appropriations no later than November 1, 2024.

Procurement

HB 242 & SB 242 Virginia Procurement Act; competitive negotiation, exceptions to contractual terms.
Del. David Bulova and Sen. Jeremy McPike
Removes the prohibition on a public body from requiring an offeror to state in a proposal any exception to any liability provisions contained in a Request for Proposal for information technology. The bill also requires an offeror to state any exception to any contractual terms or conditions in writing at the time of responding to such Request for

Proposal, if so requested by the public body, which exception shall be considered during negotiations, but prohibits the public body from basing the scoring or evaluation on such exceptions when selecting offerors for negotiations. Current law only prohibits a public body from requiring an offeror to state in a proposal any exception to the liability provisions of the Request for Proposal. As introduced, the bill is a recommendation from the Public Body Procurement Work Group.

HB 1108 & SB 18* Virginia Public Procurement Act; construction management and design-build contracting.
Del. Betsy Carr / Del. Alfonso Lopez & Sen. Mamie Locke / Sen. Jeremy McPike
Limits the use of construction management or design-build contracts by state public bodies and covered institutions for complex projects. The bill requires state public bodies, covered institutions, and local public bodies to provide documentation of the processes used for the final selection of a contract to all the unsuccessful applicants upon request. The bill adds certain requirements for covered institutions, including posting all documents exchanged between the Department of General Services and the covered institution on the central electronic procurement website eVA and requires approval by the covered institution's board of visitors or governing board if the covered institution chooses to proceed with construction management or design-build against the recommendation of the Department. The bill requires a local public body to adopt a resolution or motion to use construction management or design-build prior to issuing a Request for Qualifications and to publish notice of such resolution or motion on its website or eVA. Finally, the bill provides that the Department shall report annually, for any construction management or design-build project, on the qualifications that made such project complex. ***HB 965 incorporated into HB 1108, SB 249 Incorporated into SB 18**

HB 1361* & SB 260 Va. Public Procurement Act, preference for goods produced in Virginia, U.S., & Va. Resident bidders.
Del. Michael Feggans/ Del. Mark Sickles/Del. Josh Thomas & Sen. Bill DeSteph
Provides that in the case of a tie bid, preference shall be given first to goods produced in Virginia or to goods, services, or construction provided by Virginia persons, firms, or corporations and second to goods produced in the United States or to goods, services, or construction provided by United States persons, firms, or corporations.
***HB 1154, HB 164, HB 341 all incorporated into HB 1361**

HB 1404* Small SWaM Business Procurement Enhancement Program; established, definitions, report.
Del. Terry Austin
Establishes the Small Business Procurement Enhancement Program with a statewide goal of 42 percent of certified small business utilization in all discretionary spending by state agencies and covered institutions in procurement orders, prime contracts, and subcontracts, as well as a target goal of 50 percent subcontracting to certified small businesses in instances where the prime contractor is not a small business for all new capital outlay construction solicitations that are issued. In addition, the bill provides for a small business set-aside for state agency and covered institution purchases of goods, services, and construction, requiring that purchases up to $100,000 be set aside for

award to certified small businesses and that purchases up to $10,000 be set aside for award to microbusinesses.

The bill also establishes the Women-owned and Minority-owned Business Procurement Enhancement Program with a statewide goal of 23.1 percent of certified women-owned and minority-owned business utilization in all discretionary spending by state agencies and covered institutions in procurement orders, prime contracts, and subcontracts. The bill creates the Division of Procurement Enhancement within the Department of Small Business and Supplier Diversity for purposes of collaborating with the Department of General Services, the Virginia Information Technologies Agency, the Department of Transportation, and covered institutions to further the Commonwealth's efforts to meet the goals established under the Small Business Procurement Enhancement Program and the Women-owned and Minority-owned Business Procurement Enhancement Program, as well as implementing initiatives to enhance the development of small businesses, microbusinesses, women-owned businesses, and minority-owned businesses in the Commonwealth.

Finally, the bill amends the Virginia Public Procurement Act to permit public bodies to establish purchase procedures, if adopted in writing, not requiring competitive sealed bids or competitive negotiation for single or term contracts for the purchase or lease of goods, or for the purchase of services, insurance, or construction, if the aggregate or the sum of all phases is not expected to exceed $125,000. Under current law, such purchase procedures may only be established for (i) goods and services other than professional services and non-transportation-related construction, if the aggregate or the sum of all phases is not expected to exceed $200,000; (ii) transportation-related construction, if the aggregate or sum of all phases is not expected to exceed $25,000; and (iii) professional services, provided that the aggregate or the sum of all phases is not expected to exceed $80,000. The bill has a general delayed effective date of January 1, 2025, and delayed effective dates of July 1, 2025, for covered institutions, and July 1, 2026, for certain university hospitals and medical centers. The provisions of the bill creating the Women-owned and Minority-owned Business Procurement Enhancement Program sunset on July 1, 2031. ***HB 716 incorporated into HB 1404**

Safety and Security

HB 163 Higher educational institutions, public; student identification cards, emergency services website.
Del. Joshua Cole
Requires each public institution of higher education to maintain and annually update as necessary to ensure accuracy and currency a website page that includes telephone numbers for certain emergency services enumerated in the bill and to include (i) the URL of such website page on each new digital student identification card and any replacement digital student identification card issued by the institution beginning with the 2024-2025 academic year and (ii) the URL of or a QR Code that directs to such website page on each new physical student identification card and any replacement physical student identification card issued by the institution beginning with the 2024-2025 academic year.

HB 713 Higher educational institutions, public; campus safety and emergency preparedness training.
Del. Luke Torian
Requires the governing board of each public institution of higher education to develop and implement policies requiring that a campus safety and emergency preparedness training program be provided to and completed by all first-year students by the last day of each student's first academic term and reviewed biennially by each returning student at such institution. The bill provides that such training program will focus on active shooter event preparedness and may be offered in any format and include any supplementary materials as the governing board of each such institution deems appropriate. Finally, the bill directs the State Council of Higher Education for Virginia to encourage private institutions of higher education to develop and implement policies requiring a campus safety and emergency preparedness training program be provided to each first-year student by the last day of each student's first academic term and reviewed biennially by each returning student at such institution.

HB 980 Higher ed. institutions; students who report acts of hazing or bullying, referral for support.
Del. Kathy KL Tran
Requires each public institution of higher education and nonprofit private institution of higher education to provide information about on-campus individuals or entities that are qualified to provide the appropriate ongoing mental and behavioral health support to any student who reports to the institution an act of hazing or an act of bullying experienced as the result of a report of an act of hazing.

HB 1342 Higher educational institutions, certain baccalaureate public; on-campus student health centers.
Del. Irene Shin
Requires each baccalaureate public institution of higher education to either (i) staff its on-campus student health center with at least one on-campus certified sexual assault forensic examiner for the purpose of administering a physical evidence recovery kit to any student who is in need of such a kit or (ii) enter into a memorandum of understanding with a local organization or entity that is capable of providing the services of a certified sexual assault forensic examiner for the purpose of administering a physical evidence recovery kit to any student who is in need of such a kit.

Student Assistance

HB 700 Certain individuals in foster care, etc.; parameters of higher education grants.
Del. Anne Ferell Tata
Adds the cost of room and board to the amount of the grants required to be provided by comprehensive community colleges to certain individuals who were in foster care or in the custody of the Department of Social Services or were considered a special needs adoption. Expands to include each public institution of higher education in the

Commonwealth the requirement to provide grants to certain individuals who were in foster care or in the custody of the Department of Social Services or were considered a special needs adoption; adds mandatory education and general fees and, in the case of baccalaureate public institutions of higher education, the cost of room and board to the amount of such grants; and makes eligible for such grants any individual who meets certain other eligibility criteria and was in foster care or in the custody of the Department of Social Services or was considered a special needs adoption at any time after he turned 14. Current law requires such an individual to have been in foster care or in the custody of the Department of Social Services or considered a special needs adoption at the time that his high school diploma or equivalency examination certificate was awarded. The bill also requires each public institution of higher education to identify at least one employee of the institution to serve as a point of contact for each enrolled student who was in foster care or in the custody of the Department of Social Services or was considered a special needs adoption in order to provide such student with support and guidance, including support and guidance relating to financial aid and any associated applications or other required paperwork.

HB 827* On-campus food insecurity; SCHEV to survey institutions to determine how they are addressing issue.
Del. Rae Cousins / Del. Shelly Simonds
Requires the State Council of Higher Education for Virginia to (i) survey each public institution of higher education to determine how each such institution is addressing on-campus food insecurity, including specific methods, programs, sources of funding, expenditures, communications strategies, and staffing; (ii) compile and make available to each such institution a guidance document containing best practices for leveraging all available resources and opportunities, including public benefits programs and donation programs, to ensure that students do not face food insecurity on campus; and (iii) report its findings and any recommendations to the Chairmen of the House Committee on Appropriations, the House Committee on Education, the Senate Committee on Education and Health, and the Senate Committee on Finance and Appropriations no later than November 1, 2024. ***HB 207 incorporated into HB 827**

Studies & Resolutions

SB 21 & HB 509 Students with disabilities; SCHEV to study process used to determine eligibility for accommodations.
Sen. Saddam Azland Salim & Del. Laura Jane Cohen
Requires the State Council of Higher Education for Virginia, in consultation with representatives of public institutions of higher education, students enrolled at public institutions of higher education, higher education disability accommodation professionals, and a subject matter expert, to (i) study the processes by which each public institution of higher education in the Commonwealth determines the eligibility for accommodations of an admitted or enrolled student with a temporary or permanent disability, (ii) identify in such processes any potential barriers to establishing eligibility, and (iii) make recommendations on reducing any such barriers and on the development and

establishment of a uniform accommodations eligibility determination in the Commonwealth.

SJ 15 Large animal veterinarians; Board of Veterinary Medicine, et al., to study shortage.
Sen. Travis Hackworth
Directs the Board of Veterinary Medicine, in consultation with the State Veterinarian, to complete a two-year study of the shortage of large animal veterinarians, with technical assistance provided by relevant stakeholders, including a member of the House of Delegates and a member of the Senate of Virginia, to be appointed by the Speaker of the House of Delegates and the Senate Committee on Rules, respectively.

HJ 84 Higher education institutions, public; displaying VA250 logo on all athletic uniforms.
Del. Terry Austin
Encouraging public institutions of higher education in Virginia to display the VA250 logo on all men's and women's athletic uniforms for the 2025-2026 academic year.

Technology

SB 222 Commonwealth information security; definitions, requirements.
Sen. John McGuire
Exempts cybersecurity information, defined in the bill, from the provisions of the Virginia Freedom of Information Act and the Government Data Collection and Dissemination Practices Act while in possession of the Virginia Information Technologies Agency (VITA). The bill requires VITA to keep such cybersecurity information confidential unless the Chief Information Officer or his designee authorizes publication or disclosure of reports or aggregate cybersecurity information.

SB 487* Artificial intelligence by public bodies; Joint Commission on Technology & Service to examine use.
Del. Lachresce Aird / Sen. Todd Pillion
Prohibits any public body from implementing any system that employs artificial intelligence, defined in the bill, unless such public body (i) performs an initial impact assessment and ongoing impact assessments of such system to ensure its use will not result in any unlawful discrimination against any individual or group of individuals or have any disparate impact on any individual or group of individuals and (ii) does not implement or ceases to use such system if such effects occur. The bill requires all public bodies that implement such systems to submit an annual report on such assessments and provide an inventory of all such systems used to the appropriate entity designated in the bill. The bill directs the Chief Information Officer of the Commonwealth to develop, publish, and maintain policies and procedures concerning systems that employ artificial intelligence and are used by public bodies. The bill creates the Commission on Artificial Intelligence to advise the General Assembly on issues related to artificial intelligence and make advisory recommendations on its findings. The Commission sunsets on July 1, 2027. The bill has a delayed effective date of July 1, 2025. ***SB 621 incorporated into SB 487**

VCCS

HB 1087 & SB 627 College and Career Ready Virginia Program and Fund; established and created.

Del. Carrie Coyner & Sen. Louis Lucas

Establishes the College and Career Ready Virginia Fund and requires the Department of Education and the Virginia Community College System to establish the College and Career Ready Virginia Program whereby each school board is required to offer each qualified high school student in the local school division access at the high school to the dual enrollment courses that are sufficient to complete the Passport Program and the former Uniform Certificate of General Studies Program, renamed in the bill as the Passport Plus Program, at a public institution of higher education at no cost to such students, beginning with course registrations for the fall term of the 2025 academic year. The bill establishes several enumerated duties for the Department and the System in the administration of the College and Career Ready Virginia Program, including the establishment of a work group to make recommendations no later than November 1, 2024, on the incorporation of a career and technical education program of coursework into the College and Career Ready Virginia Program.

Internal Audit Reports

COMPLIANCE, AUDIT, AND RISK COMMITTEE

August 28, 2024

Background

This report provides a summary of engagements completed during this period, including policy compliance and risk-based reviews.

Consent Agenda Reports	**Rating**
Data: Travel Compliance Monitoring	Effective
Student Wellness and Counseling	Effective
College of Architecture, Arts, and Design Policy Compliance Review	Improvements are Recommended
Vice President for Student Affairs Policy Compliance Review	Improvements are Recommended
Reports for Discussion	**Rating**
Chemistry	Improvements are Recommended

Summary of Ratings

The Office of Audit, Risk, and Compliance's rating system has four tiers from which to assess the controls designed by management to reduce exposures to risk in the area being audited. The auditor can use professional judgment in constructing the exact wording of the assessment in order to capture varying degrees of deficiency or significance.

Definitions of each assessment option

Effective – The audit identified opportunities for improvement in the internal control structure, but business risks are adequately controlled in most cases.

Improvements are Recommended – The audit identified occasional or isolated business risks that were not adequately or consistently controlled.

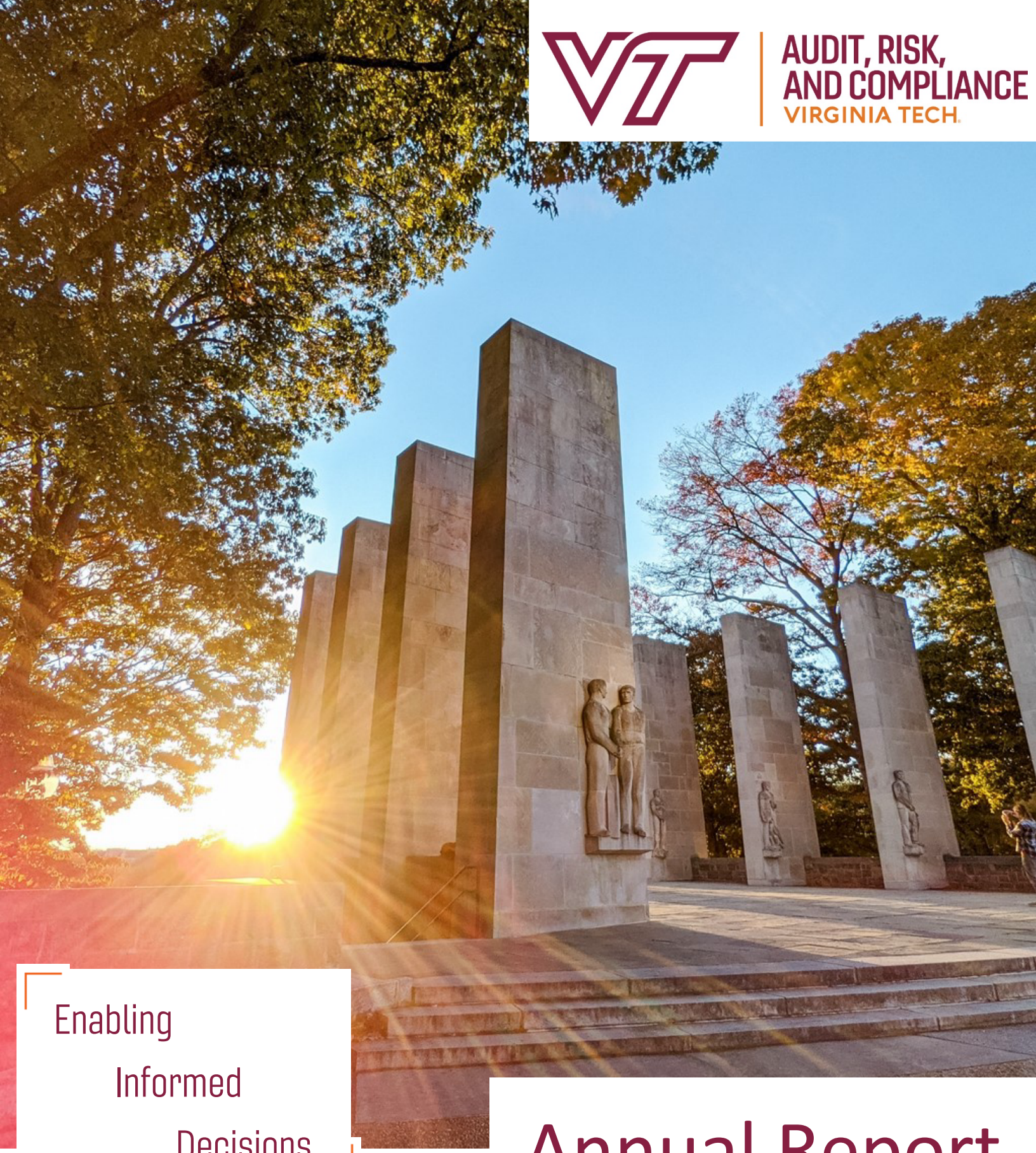
Significant or Immediate Improvements are Needed – The audit identified several control weaknesses that have caused, or are likely to cause, material errors, omissions, or irregularities to go undetected. The weaknesses are of such magnitude that senior management should undertake immediate corrective actions to mitigate the associated business risk and possible damages to the organization.

Unreliable – The audit identified numerous significant business risks for which management has not designed or consistently applied controls prior to the audit. Persistent and pervasive control weaknesses have caused or could cause significant errors, omissions, or irregularities to go undetected. The weaknesses are of such magnitude that senior management must undertake immediate corrective actions to bring the situation under control and avoid (additional) damages to the organization.

RECOMMENDATION:

That the internal audit reports listed above be accepted by the Compliance, Audit, and Risk Committee.

August 28, 2024



AUDIT, RISK, AND COMPLIANCE
VIRGINIA TECH

Enabling Informed Decisions

Annual Report

For the Fiscal Year Ended June 30, 2024

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A Year of Strategic Visioning and Implementation

Fiscal year 2023-24 was marked with intentional planning and thoughtful outreach regarding our holistic approach to risk management. Internally, OARC leadership convened several half-day retreats throughout the year to develop a strategic vision for each functional program and the overarching direction of the office. Externally, OARC enhanced outreach on the connected risk model to articulate synergies and differences between Enterprise Risk Management, Institutional Compliance, and Internal Audit. Ensuring the three programs have a cohesive direction continues to be a top priority as we launch OARC and its employees into fiscal year 2024-25 on an upward trajectory, continuing to help Virginia Tech effectively manage and mitigate its extensive risk profile.

OARC Mission and Vision

Mission: To enhance value through providing strategic insight, enabling informed decisions, and promoting integrity and compliance

Vision: To earn the trust and partnership of the VT community as we jointly navigate the complex landscape

State of Control Environment

The university's assurance functions within OARC continues to be a significant element of the university's overall control structure and a positive influence on the control environment. During fiscal year 2023-24, OARC examined and tested the operations and systems of internal control within a number of university departments to assist management and the Board of Visitors in the discharge of their oversight and fiduciary responsibilities.

As a result of the risk management, compliance, audit, and investigative work performed, no deficiencies representing significant control weaknesses were identified; however, a number of other areas requiring improvement were noted. The scope of engagements was not limited in any way by management or others, nor were there any instances where Internal Audit considered its independence or objectivity to have been impaired. Management and others were found to be conscientious, cognizant, and accepting of their responsibility for internal control as well as open, cooperative, and supportive of efforts.

Management has generally accepted audit issues and responded by developing action plans to address the concerns noted. These statements are made with the understanding that no system of internal control provides absolute assurance that controls are functioning effectively. These statements are also not meant to imply that fraud and other irregularities do not exist or, if they do exist, are certain to be detected. Decisions as to the level of risk that is tolerable and should be accepted by the university are the responsibility of management. That said, based on the work performed, OARC did not identify any areas where management decided to accept a level of risk that we believed to be unacceptable.



OARC did not identify any areas where management decided to accept a level of risk that we believed to be unacceptable.

FY 2023-24 Highlights

Enterprise Risk Management (ERM)

- Implemented new Risk & Compliance Governance Framework
- Reimagined risk assessment discussion, elevating cross-unit risks
- Refreshed risk landscape content and format to better connect risks to university strategy and priorities

Updated risk conversations and visuals

Institutional Compliance Program (ICP)

- Convened Risk & Compliance Advisory Group
- Increased engagement with campus-wide compliance owners
- Provided assistance on specific needs of high priority compliance areas

Continued to develop partnerships across campus and state

Internal Audit

- 81% of audit plan completed (25 engagements)
- 14 fraud, waste, or abuse cases initiated
- 4.4 out of 5 (89%) on client satisfaction surveys
- 71 management action plans closed

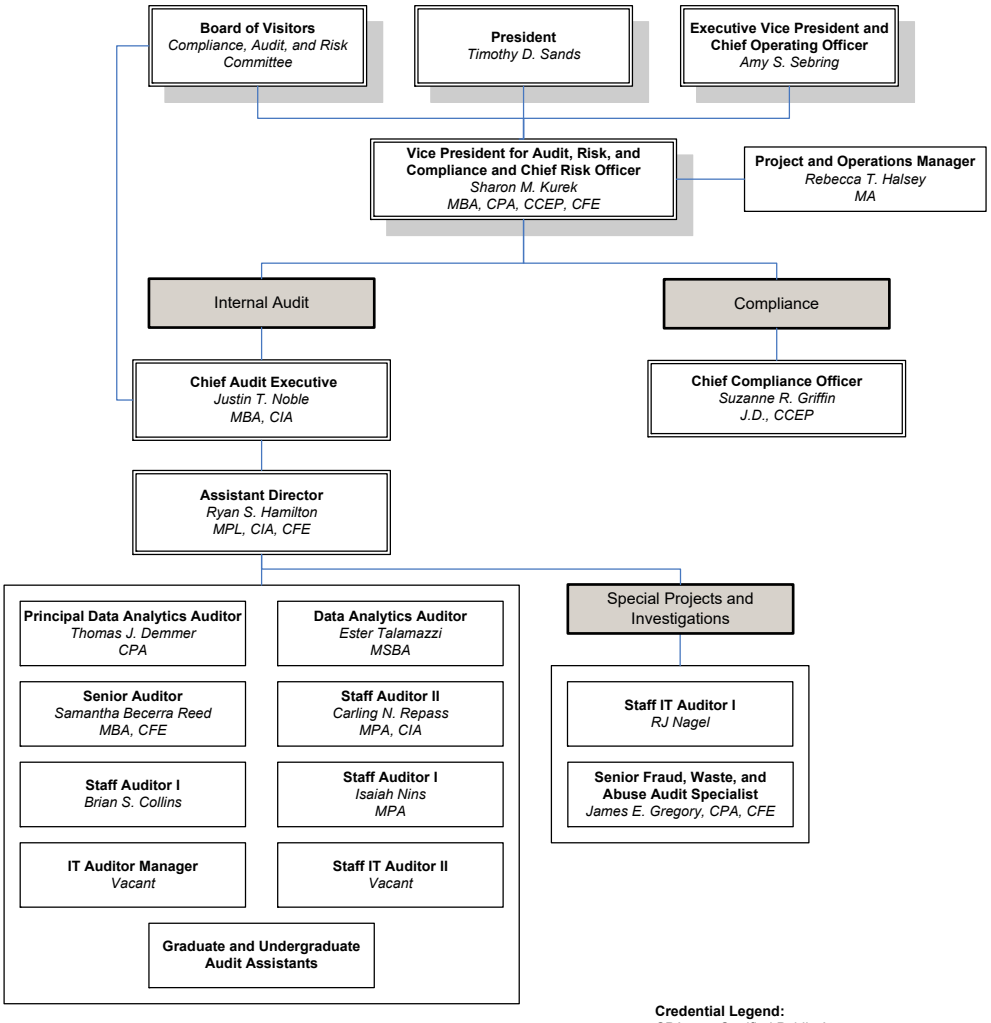
89% client satisfaction



Staffing and Resources

During the first half of the fiscal year, we successfully onboarded a senior auditor and a graduate assistant, but have unfortunately undergone significant staff turnover in the second half of the year. With three concurrent vacancies, the audit team has taken this opportunity to think strategically about staffing needs and potential use of external co-sourced engagements in the IT space. Subsequently, the office completed a search for senior auditor who will join the team this summer.

OFFICE OF AUDIT, RISK, AND COMPLIANCE
VIRGINIA TECH



Organizational Structure
July 2024

Credential Legend:

CPA	Certified Public Accountant
CIA	Certified Internal Auditor
CCEP	Certified Compliance & Ethics Professional
CFE	Certified Fraud Examiner
J.D.	Juris Doctor
MA	Master of Arts
MBA	Master of Business Administration
MPA	Master of Public Administration
MPL	Master of Policy Leadership
MSBA	Master of Science in Business Administration

Professional Service

OARC continues its longstanding tradition of professional engagement and service. Activities this year included:

- Association of College and University Auditors (ACUA)
  - Michael A. Dean, former Audit Manager, was a speaker at AuditCon
  - Sharon M. Kurek served as the ACUA liaison to University Risk Management and Insurance Association (URMIA), on the Member Awards committee, and was a speaker at AuditCon
  - Justin T. Noble served on the NCAA Task Force, as the ACUA liaison to National Association of College and University Business Officers (NACUBO), and was a speaker at AuditCon
- Institute for Internal Auditors Southwest Virginia Chapter
  - Justin T. Noble served on the Board of Governors, was elected as vice president, and invited to speak at the Virginia Training Academy
- Additional Service
  - Suzanne R. Griffin was appointed by the Commissioner of the Virginia Department of Agriculture and Consumer Services to the Task Force on Transparency in Publicly Funded Animal Testing Facilities
  - Ryan S. Hamilton was invited to speak at the Virginia Accounting and Auditing conference
  - Sharon M. Kurek was invited to speak at Deloitte's Symposium on Risk Management in Higher Education
  - Sharon M. Kurek and Justin T. Noble served on quality assurance review teams for peers to evaluate their conformance with professional standards

Professional Qualifications

OARC is proud of its staff and the depth of experience on the team. OARC staff has more than 144 years of combined experience in audit, risk, and compliance professions. Additionally, the staff has over 68 years of service to Virginia Tech. OARC maintains an extensive background with expertise in such high-risk areas in higher education as athletics and research and takes pride in the number of professional certifications held by our staff.

144

years of professional audit, risk, and compliance experience

Certification and Advanced Degrees

Professional Certifications			
3	Certified Public Accountants (CPA)	3	Certified Internal Auditor (CIA)
4	Certified Fraud Examiners (CFE)	2	Certified Compliance and Ethics Professional (CCEP)
Advanced Degrees			
1	Juris Doctor (JD)	2	Master of Science or Arts (Business Analytics, Political Science)
3	Master of Business Administration (MBA)	2	Master of Public Administration (MPA)
1	Master of Architecture (MArch)	1	Master of Policy Leadership (MPL)

Resourcing

The table below compares OARC's expenditures from fiscal year 2023-24 to fiscal year 2022-23. The majority of our expenses continue to support salaries and benefits, making up almost 90 percent of OARC expenditures. Costs related to office renovations declined sharply as the project wrapped up in early FY 2024. While OARC did not co-source an audit with an outside firm this year, OARC leadership did utilize two external consulting firms for various needs. A consulting agreement with Gartner allowed the office to leverage their extensive research library and content experts, and a contract with a law firm aided the compliance program in scoping out the foundation of a personal data privacy program, which will continue into this coming fiscal year. Software costs have largely stabilized with a multi-year contract for the new AuditBoard system which provides an integrated software solution for audit, risk, and compliance. Training expenses decreased with more attendance at in-state and online professional development opportunities. Overall, the fiscal year 2023-24 expenditures remained virtually level with fiscal year 2022-23 spending.

Analysis of Expenditures

Category	FY 2023-24	FY 2022-23
Salaries and Benefits	$2,244,862	$2,052,667
Furniture & Equipment	7,077	55,918
External Audit Services	0	182,614
Consulting Services	82,665	0
Operating Expenses	33,626	55,845
Personnel Expenses & Recruitment	22,089	17,696
Software	81,171	80,282
Training	35,244	68,533
Total	**$2,506,734**	**$2,513,555**

Enterprise Risk Management Program

OARC has coordinated Virginia Tech's ERM Program since its inception at the request of the Board of Visitors Compliance, Audit, and Risk (CAR) Committee in 2017. The ERM process, a key tool in setting strategic goals across the enterprise, is designed to identify potential events that may affect the university, manage those risks within the university's risk tolerance, and support the achievement of Virginia Tech's mission and objectives. The ERM program strengthens the university's ability to achieve its mission and strategic objectives through effective management of key risks and opportunities related to the achievement of strategic objectives. In this context, risk encompasses both negative events ("downside risk") and opportunities ("upside risk").

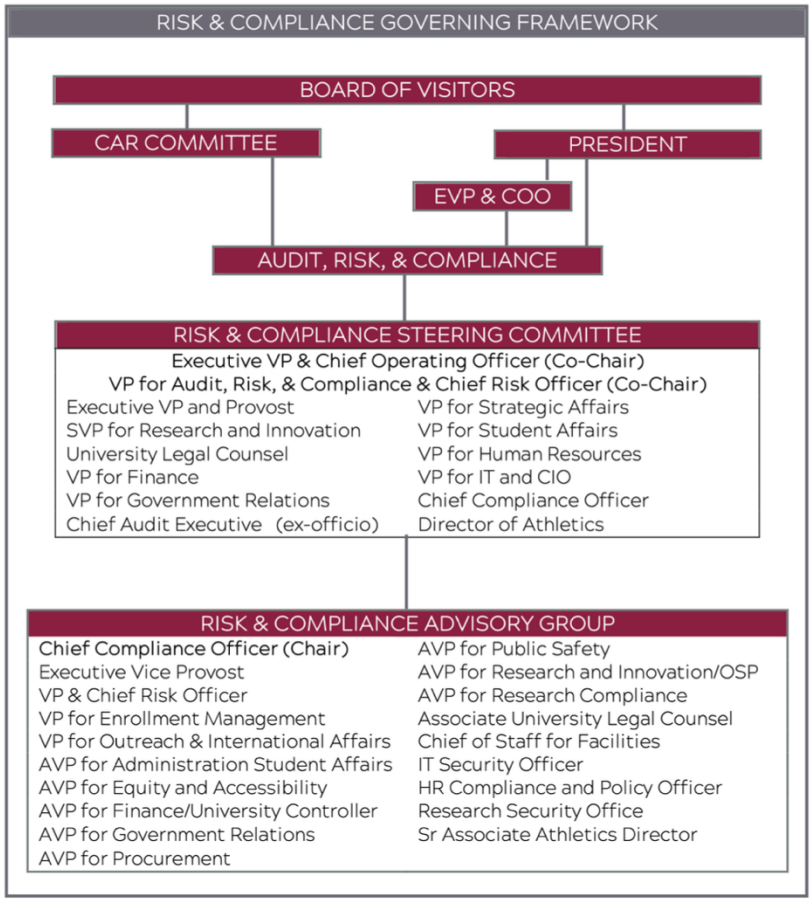
ERM-related activities that took place in fiscal year 2023-24, both planned and *ad hoc,* included:

- Implemented the new Risk & Compliance Governance Framework, with the Risk & Compliance Steering Committee and Advisory Committee
- Reimagined the annual risk assessment discussions, focusing on cross-unit risks
- Refreshed the risk landscape to better connect risks to university strategic priorities
- Reintroduced a heat map as a visualization of institutional risks

Governance Framework

We implemented the new Risk & Compliance Governance Framework this year. Each committee met four times during this fiscal year, participated in the reimagined annual risk assessment discussions, and served as critical communication hubs for important risk areas. The Steering and Advisory Committees:

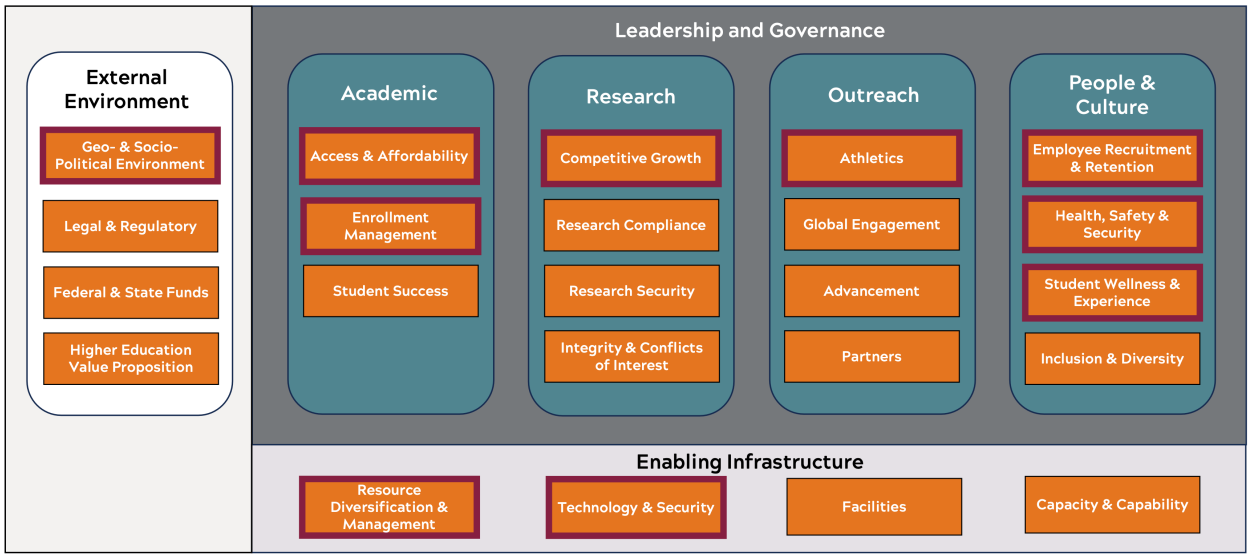
- Support the implementation and execution of the ERM and ICP programs
- Provide oversight and insight for strategic decision making and effective resource allocation
- Help to set program priorities and promote an institution-wide perspective related to risk and compliance



Enterprise Risk Landscape and Heat Map

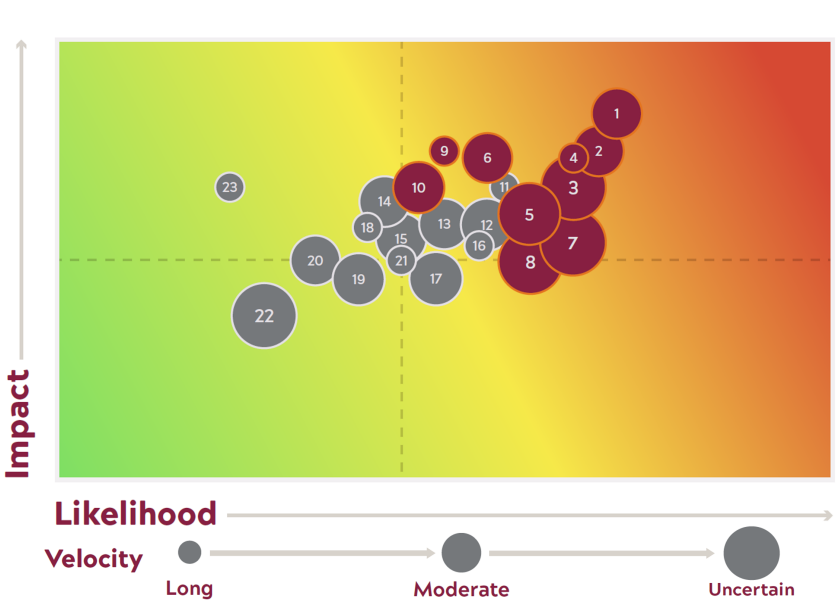
The enterprise risk landscape was updated to be delineated by the university's tripartite mission and support environments, and the heat map was reintroduced to provide a visualization of institutional risk with a focus on the top ten risks.

Enterprise Risk Landscape



Maroon border = Top 10 Risk

Heat Map of Enterprise Risks



Graph Legend

Number	Risk
1	Employee Recruitment & Retention
2	Resource Diversification & Management
3	Technology & Security
4	Access & Affordability
5	Geo & Socio-Political Environment
6	Enrollment Management
7	Athletics
8	Health, Safety & Security
9	Research: Competitive Growth
10	Student Wellness & Experience
11	Student Success
12	Legal & Regulatory
13	Research Compliance
14	Research Security
15	Inclusion & Diversity
16	Facilities
17	Capacity & Capability
18	Global Engagement
19	Federal & State Funds
20	Advancement
21	Partners
22	Integrity & Conflicts of Interest
23	Higher Education Value Proposition

Board Discussions on Enterprise Risks

OARC is pleased to see continued engagement with the identified enterprise risks across the Board of Visitors committees and the executive leadership team. Since the formation of the formal ERM program and introduction of the university's Enterprise Risk Landscape, 140 presentations and discussions highlighting ERM risk areas took place across the Board of Visitors' committees, with 36 occurring in this fiscal year. The 24 enterprise risks are depicted in the following graphic with the size corresponding to number of discussions.

23 of 24

enterprise risks discussed with the board



Institutional Compliance Program

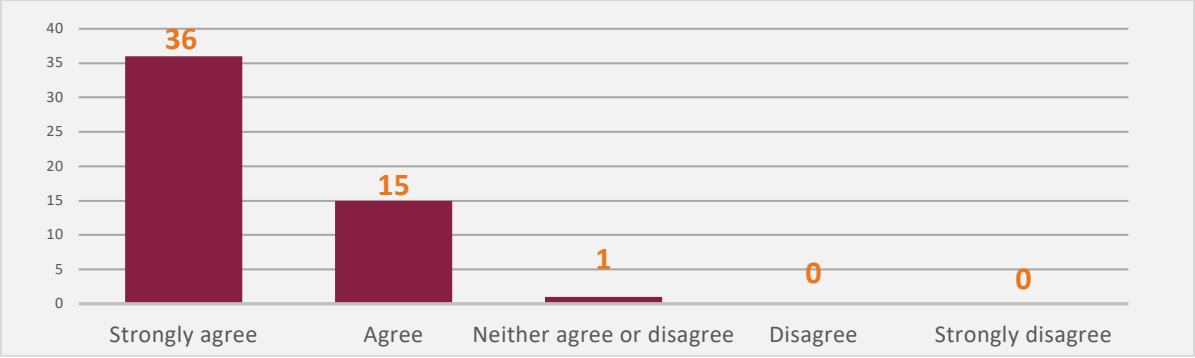
Virginia Tech is committed to integrity, a culture of compliance, and promoting the highest ethical standards for all employees. Since 2017, OARC has led the university's Institutional Compliance Program (ICP) in promoting and supporting a working environment reflecting its commitment to compliance with all relevant legal and regulatory requirements. The ICP is a resource that supports the Virginia Tech community in proactively meeting its compliance obligations and managing compliance risks.

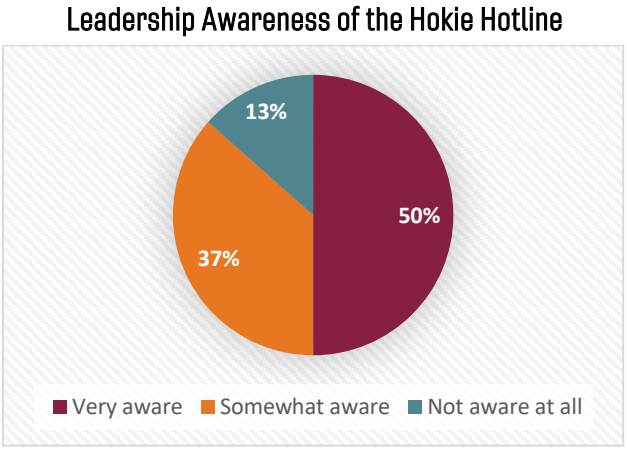
> **"One hallmark of an effective compliance program is its capacity to improve and evolve."**
>
> **-USDOJ Evaluation of Corporate Compliance Programs, March 2023**

In fiscal year 2023-24, ICP activities included:

- Convened Risk & Compliance Advisory Group
- Increased engagement with campus-wide compliance owners
- Provided assistance on specific needs of high priority compliance areas
- Launched personal data privacy review following process for engagement of third-party expertise
- Assumed role and responsibilities of state agency Regulatory Coordinator for Virginia Tech and achieved reduction in regulatory requirements per Governor's Executive Order Number 19
- Served on Research & Innovation Council, Policy Advisory Committee, and Title IX Policy & Practice Group
- Delivered outreach and education presentations on compliance topics to various groups including Research and Innovation Council, College of Veterinary Medicine, Fralin Biomedical Research Institute, College of Engineering, and College of Natural Resources and Environment
- Highlighted ethics and compliance in VT Daily communications during National Ethics & Compliance Week
- Served as chair of one search committee and as member on two other search committees
- From leadership surveys conducted in Spring 2024 (see charts below), measured the perception of Virginia Tech's ethical culture and awareness of the Hokie Hotline reporting mechanism, with a goal of improving results in future years by delivering on ICP work plan

Virginia Tech Promotes a Culture of Compliance & Ethics





Fraud, Waste, and Abuse

OARC conducts reviews of all state hotline and internal complaints alleging fraud, waste, and abuse. During fiscal year 2023-24, OARC:

- Investigated 14 cases, including 12 internal and two state hotline complaints
- Closed nine cases from prior fiscal years and 11 from fiscal year 2023-24

For the 20 cases completed:

- Zero of three state hotline cases were substantiated
- Eleven of 17 (65%) internally reported cases were substantiated

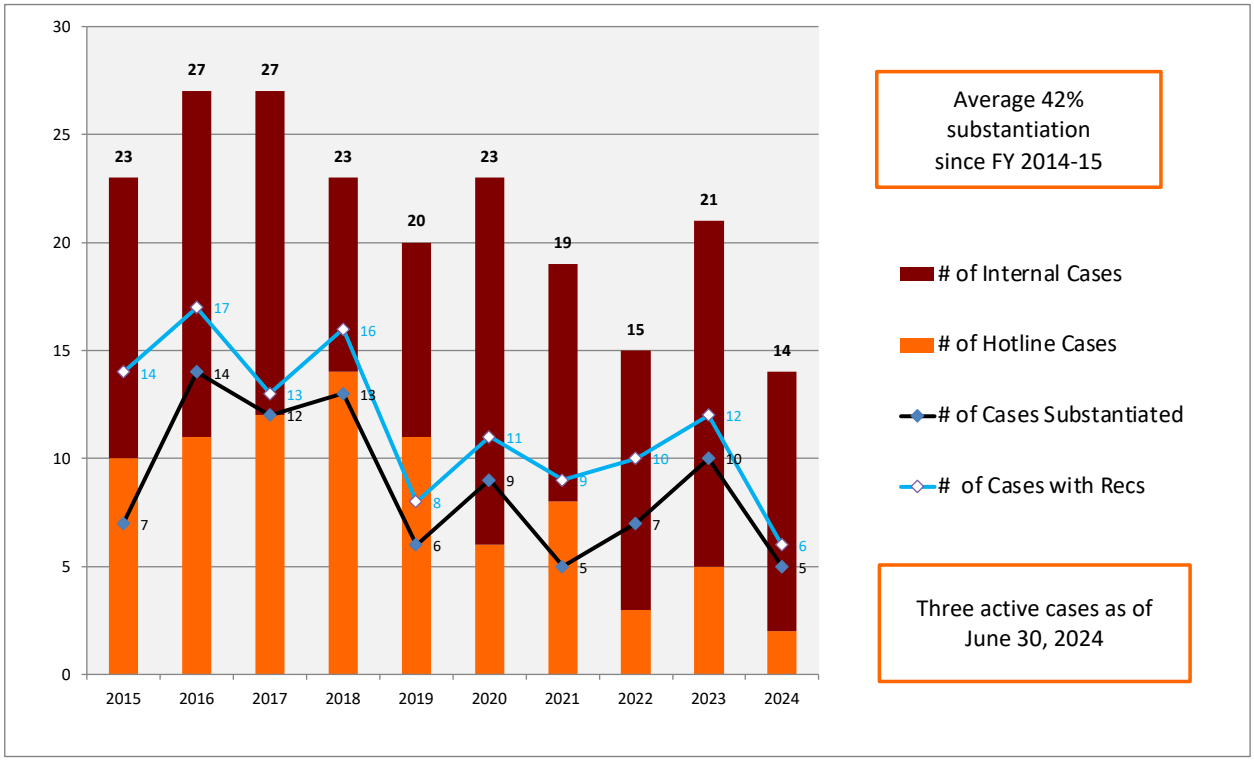
Since fiscal year 2014-15, approximately 57 percent of internally reported allegations have been substantiated, and 17 percent of state hotline cases have been substantiated, for a combined weighted average of 42 percent.

OARC maintains a fraud, waste, and abuse hotline service ("Hokie Hotline") that offers an easy, safe, secure, and anonymous platform to accept tips and complaints from all sources about potential fraud, waste, abuse, and noncompliance at the university. Two of the 12 internally investigated complaints mentioned above were received via the Hokie Hotline.

HOKIE HOTLINE

Since fiscal year 2014-15, approximately 73 percent of the allegations investigated by OARC have fallen within five general categories: improper use of university resources; abuse of authority; conflict of interest; misfeasance and waste; and leave or time abuse.

Historical Case Volume by Fiscal Year



Internal Audit

Internal Audit continued its role as the assurance and advisory arm within the university. Value-added engagements through traditional audits, a limited number of advisory activities, and providing insight through formal and informal means were hallmarks throughout the year. As depicted below, fiscal year 2023-24 began with 33 proposed engagements. A combination of changing risks, including the continued effects of staff vacancies and parental leave, led to the cancelation or deferment of nine audits. Coupled with three supplemental advisory reviews and four carry forward engagements, OARC ended the year with 31 planned audits, of which the team completed 25 as of this report. This results in a 81 percent completion rate for fiscal year 2023-24. Appendix A shows the status of each audit in the fiscal year 2023-24 audit plan.

Audit Plan Status

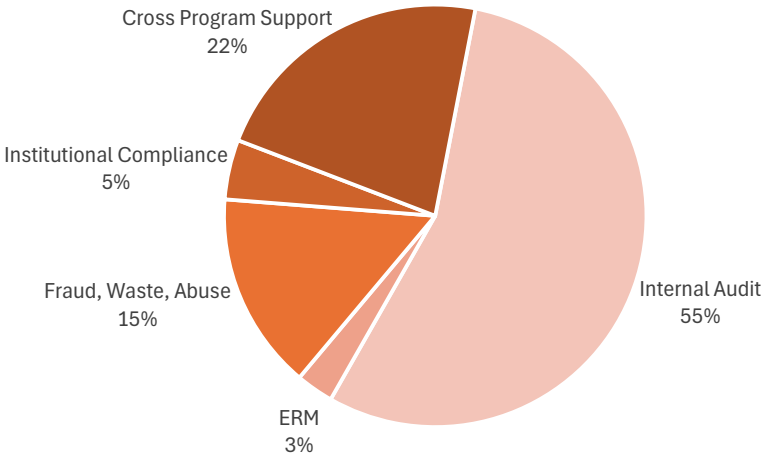
Audits	
Total # of Audits Planned	33
Total # of Supplemental Audits	3
Total # of Carry Forwards	4
Total # of Planned Audits Deferred and/or Canceled	9
Total Audits in Plan as Amended	**31**
Total Audits Completed	25
Audits – Percentage Complete	81%
Audits – Percentage Complete or Underway	100%
Note: Includes Policy Compliance Reviews and Advisory Services	

Effort

Of the 27,123 hours logged by OARC last year, 67% was charged directly to executing our core mission. The remaining 33% was spent on office administration, computer support, training, and compensated absences.

Of 18,175 core-mission hours, OARC spent:

- 55% on Internal Audit
- 22% on cross-program support (annual risk assessment, planning, and supervision)
- 15% of Fraud, Waste, and Abuse investigations
- 5% on Institutional Compliance
- 3% on ERM



Follow Up Activities and Management Corrective Actions

OARC conducts follow-up on management's implementation of agreed upon improvements for previously issued audit recommendations. Each audit recommendation—and its associated management corrective action—is given a rating of high, medium, or low priority. This judgment is made in a local context, and items identified as high do not necessarily convey material deficiencies or risks beyond the operating environment in which they were found. A primary objective of this classification is to drive a greater sense of urgency in completing the corrective action and completion of audit follow-up. The Compliance, Audit, and Risk (CAR) Committee receives the higher priority recommendations and associated management corrective actions. However, OARC and management closely monitor all outstanding recommendations to ensure they are adequately addressed by the responsible parties.

71

management corrective actions were closed

Of the 61 management corrective actions generated during fiscal year 2023-24 engagements, OARC categorized two (3%) as high priority. High-priority management corrective actions include those that are systemic or have a broad impact; have contributed to a significant investigation finding; are reportable conditions under professional literature; create health or safety concerns; involve senior officials; create exposures to fines, penalties, or refunds; or are otherwise judged as significant control issues. Open management corrective action plans at fiscal yearend have been outstanding an average of 277 days. Audits for fiscal year 2023-24 resulted in recommendations with ratings of high, medium, or low management corrective actions as follows:

Beginning # of management corrective actions	50
Management corrective actions added	61
Management corrective actions closed	71
Current # of open management corrective actions	40

Results of Surveys for Evaluating Internal Audit Services

After the completion of each engagement, the primary contacts within the area under review are provided a survey requesting their evaluation of the quality of the services provided. Feedback from the surveys is used to enhance the overall quality of the engagements and to ensure OARC is meeting its customer service focus. The survey responses are grouped into three categories:

89%

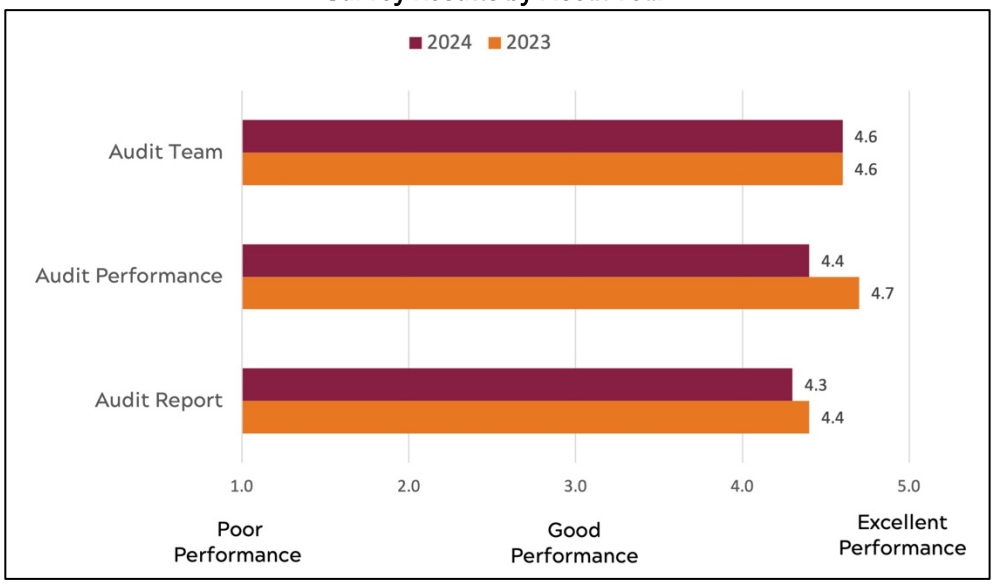
client satisfaction

Audit Team — Demonstrated technical proficiency; approached audit in an objective and professional manner; and effectiveness of conclusions and opinions.

Audit Performance — Discussed preliminary audit objectives, scope, and timing of audit; solicited and considered management concerns and suggestions in audit; and minimized disruption of auditee's daily activities as much as possible.

Audit Report — Written clearly; contained adequate explanations for observations; and recommendations improved or added value to auditee's departmental operation.

Survey Results by Fiscal Year



Overall, customer ratings were favorable. Attaining a cumulative average score of 4.4 on a 5-point scale exceeded OARC's goal of a 4.0 rating on survey feedback and resulted in 89% client satisfaction.

> **"The audit team was great and identified some areas that we can improve. [The team] was very professional throughout and the communication was excellent."**

Quality Assurance and Improvement Program

In accordance with requirements set forth by the Institute of Internal Auditors' International Standards for the Professional Practice of Internal Auditing, Internal Audit maintains a comprehensive Quality Assurance and Improvement Program. This program includes ongoing monitoring, periodic self-assessments, and an independent external assessment that should be conducted at a minimum of every five years. The on-going monitoring program consists of four elements: the supervisory review of project working papers, quality assurance reviews of individual audits, the pre-issuance review of reports, and periodic assessments of the quality control system. An external assessment of OARC was completed by Baker Tilly during fiscal year 2021-22, when the internal audit function received the highest rating possible of "generally conforms." A self-assessment will be conducted during fiscal year 2024-25.

The Institute of Internal Auditors has updated the International Professional Practices Framework to the Global Internal Audit Standards with an effective date of January 9, 2025. Internal Audit will utilize the planned self-assessment process in Spring 2025 to ensure on-going compliance with promulgated standards.

Appendix A: FY 2023-24 Audit Plan Status

The chart below outlines the status of the fiscal year 2023-24 audit plan, as amended.

FY 2023-24 Audit Plan Status

Audit Project	Risk Ranking	BOV Mtg
Risk-Based Audits		
ADA Compliance	Medium	Ongoing
Agricultural Research and Extension Centers	Medium	April 2024
Aerospace and Ocean Engineering	High	Ongoing
Athletics*	High	Canceled
Capital Campaign Processes and Reporting	High	June 2024
Chemistry	High	August 2024
Commonwealth Cyber Initiative	High	April 2024
Controller's Office – Fixed Assets	High	April 2024
Data: Leave and Time Reporting *(Carryforward from FY23)*	High	November 2023
Data: Sponsored Equipment Purchases	Medium	April 2024
Data: Travel Compliance Monitoring	Medium	Ongoing
Environmental Health and Safety	High	Deferred
Facilities Management	High	April 2024
Global Education Office/Visiting Scholars	High	Deferred
Gramm-Leach-Bliley Act Compliance *(Carryforward from FY23)*	Medium	April 2024
Human Resources: Hiring/Onboarding*	High	Canceled
Institute for Critical Technology and Applied Science	High	June 2024
IT: HIPAA Security	High	Deferred
IT: Policy Compliance Review Approach	Medium	April 2024
Parking Services – Permitting Processes	High	June 2024
Real Estate Management	Medium	Ongoing
School of Plant and Environmental Sciences	High	Deferred
Sponsored Programs – Pre-Award/Contracts	High	Ongoing
Strategic Enrollment Reporting	High	April 2024
Student Wellness and Counseling	High	August 2024
University Scholarships and Financial Aid* *(Carryforward from FY23)*	High	November 2023
VT Electric Service	High	November 2023

** Annual Audit on Different Components*

Audit Project	Risk Ranking	BOV Mtg
Policy Compliance Reviews		
College of Agricultural and Life Sciences		Ongoing
College of Architecture, Arts, and Design		August 2024
College of Veterinary Medicine		April 2024
Vice President for Student Affairs		August 2024

Additionally, OARC responded to management's request for advisory service and consultative guidance in the following areas:

- Athletics Data Privacy – This review is an ongoing effort to assist Athletics management in the evaluation and strengthening of their IT environment
- Athletics Media Rights – This review was conducted to assist management with contract negotiations
- CEUTTSS Review – This project was an agreed upon procedures review of grant program activity within the Center for European and Transatlantic Studies (CEUTTSS)
- High-risk Drug Inventory/Oversight – This review was canceled to be combined with the previous scope of work in the Environmental Health and Safety engagement
- IT: Distributed Software Development Practices – This review was requested by management to provide insight into distribute software practices and identify potential opportunities to strengthen the control environment
- IT: Electronic Signature Applications – This review identified opportunities to increase governance and oversight of e-signature applications
- IT: Inventory and Classification – This review was a repurposed risk-based engagement to conduct a post-implementation review of the university's inventory and classification projects
- Remote Working Compliance – This review was canceled as the Institutional Compliance program took the lead on these efforts
- Research Accounting Processes – This review was deferred due to the availability of staff hours

Appendix B: IIA Standards Disclosures



Per Charter:

The internal audit function will conduct its activities in accordance with the Institute of Internal Auditors' International Professional Practices Framework including the Core Principles for the Professional Practice of Internal Auditing, Definition of Internal Auditing, Code of Ethics, and *International Standards for the Professional Practice of Internal Auditing*.

MANDATORY GUIDANCE	
Core Principles	• Demonstrates integrity. • Demonstrates competence and due professional care. • Is objective and free from undue influence (independent). • Aligns with the strategies, objectives, and risks of the organization. • Is appropriately positioned and adequately resourced. • Demonstrates quality and continuous improvement. • Communicates effectively. • Provides risk-based assurance. • Is insightful, proactive, and future-focused. • Promotes organizational improvement.
Definition of Internal Auditing	Internal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.
Code of Ethics	Internal auditors are expected to apply and uphold the following principles: • Integrity – The integrity of internal auditors establishes trust and thus provides the basis for reliance on their judgment. • Objectivity – Internal auditors exhibit the highest level of professional objectivity in gathering, evaluating, and communicating information about the activity or process being examined. Internal auditors make a balanced assessment of all the relevant circumstances and are not unduly influenced by their own interests or by others in forming judgments. • Confidentiality – Internal auditors respect the value and ownership of information they receive and do not disclose information without appropriate authority unless there is a legal or professional obligation to do so. • Competency – Internal auditors apply the knowledge, skills, and experience needed in the performance of internal audit services.
International Standards for the Professional Practice of Internal Auditing	**Attribute Standards (1000 through 1300)** 1000 Purpose, Authority, and Responsibility 1100 Independence and Objectivity 1200 Proficiency and Due Professional Care 1300 Quality Assurance and Improvement Program **Performance Standards (2000 through 2600)** 2000 Managing the Internal Audit Activity 2100 Nature of Work 2200 Engagement Planning 2300 Performing the Engagement 2400 Communicating Results 2500 Monitoring Progress 2600 Communicating the Acceptance of Risks

OFFICE OF AUDIT, RISK, AND COMPLIANCE
VIRGINIA TECH™

ANNUAL REPORT

Sharon M. Kurek, CPA, CCEP, CFE, MBA
Vice President for Audit, Risk, and Compliance &
Chief Risk Officer

August 28, 2024



Mission & Vision Statements



Mission: To enhance value through providing strategic insight, enabling informed decisions, and promoting integrity and compliance

Vision: To earn the trust and partnership of the VT community as we jointly navigate the complex landscape

State of Control Environment

OARC did not identify any areas where management decided to accept a level of risk that we believed to be unacceptable.

No deficiencies representing significant control weaknesses were identified; however, a number of other areas requiring improvement were noted.

Overall, management:

- Accepts their responsibility for internal control and is supportive of audit efforts
- Generally accepts audit recommendations and responds by developing action plans to address concerns
- Did not limit the work performed and independence/objectivity was not impaired

FY 2023-24 Highlights

Enterprise Risk Management

- Implemented new Risk & Compliance Governance Framework
- Reimagined risk assessment discussion, elevating cross-unit risks
- Refreshed risk landscape content and format to better connect risks to university strategy and priorities

Updated risk conversations and visuals

Continued to develop partnerships across campus and state

89% client satisfaction

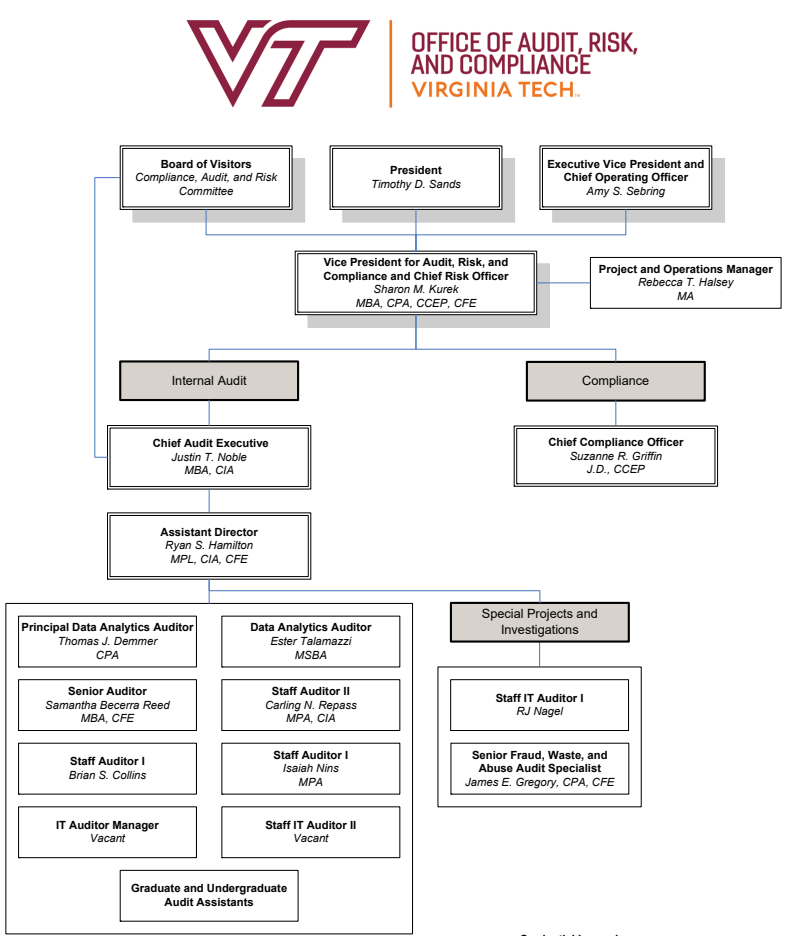
Institutional Compliance Program:

- Convened Risk & Compliance Advisory Group
- Increased engagement with campus-wide compliance owners
- Provided assistance on specific needs of high priority compliance areas

Internal Audit:

- 81% of audit plan completed (25 engagements)
- 14 fraud, waste, or abuse cases initiated
- 4.4 out of 5 (89%) on client satisfaction surveys
- 71 management action plans closed

STAFFING



Certification and Advanced Degrees

Professional Certifications			
3	Certified Public Accountants (CPA)	3	Certified Internal Auditor (CIA)
4	Certified Fraud Examiners (CFE)	2	Certified Compliance and Ethics Professional (CCEP)
Advanced Degrees			
1	Juris Doctor (JD)	2	Master of Science or Arts (Business Analytics, Political Science)
3	Master of Business Administration (MBA)	2	Master of Public Administration (MPA)
1	Master of Architecture (MArch)	1	Master of Policy Leadership (MPL)

144
years of professional audit, risk, and compliance experience

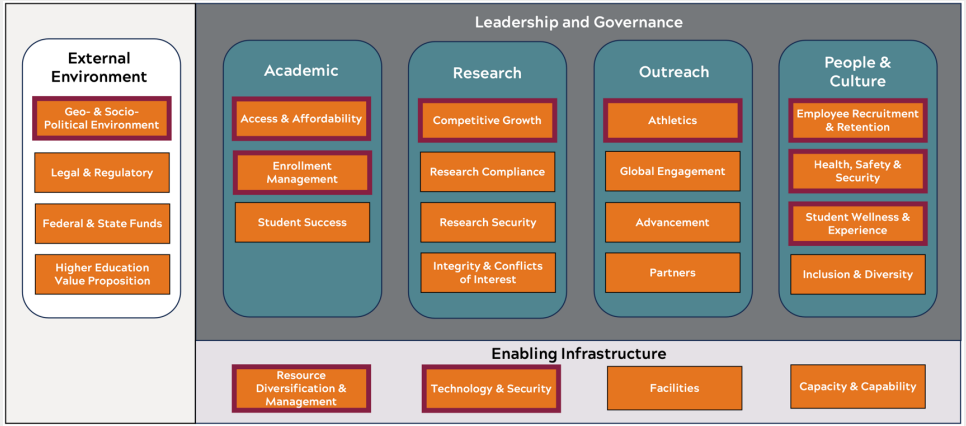
>68
years of Virginia Tech experience

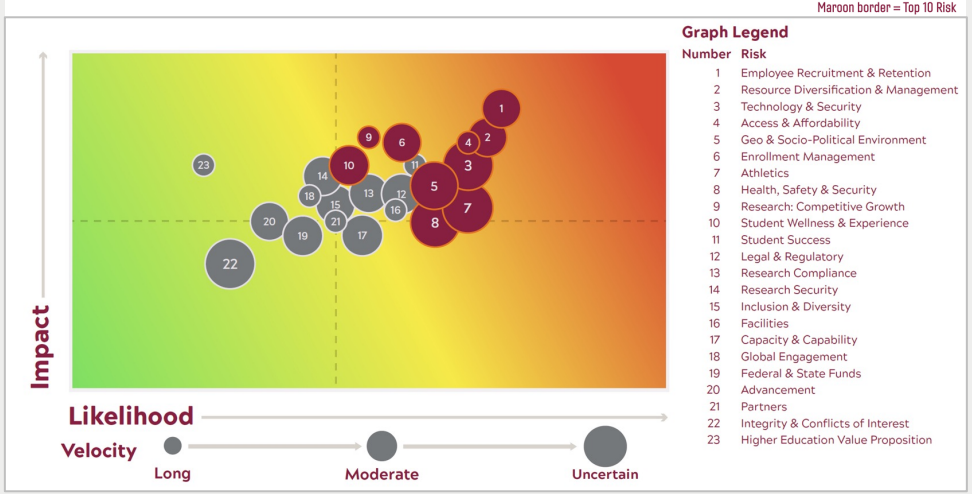
RESOURCING

Analysis of Expenditures

Category	FY 2023-24	FY 2022-23
Salaries and Benefits	$2,244,862	$2,052,667
Furniture & Equipment	7,077	55,918
External Audit Services	0	182,614
Consulting Services	82,665	0
Operating Expenses	33,626	55,845
Personnel Expenses & Recruitment	22,089	17,696
Software	81,171	80,282
Training	35,244	68,533
Total	**$2,506,734**	**$2,513,555**

Enterprise Risk Management





ERM-related activities include:

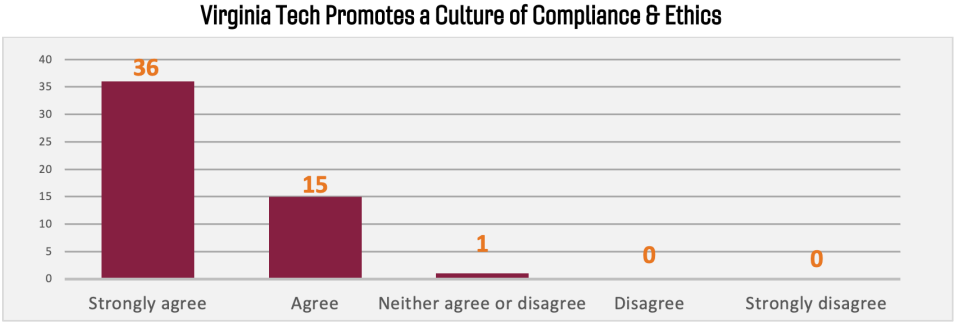
- Implemented the new Risk & Compliance Governance Framework
- Reimagined the annual risk assessment discussions, focusing on cross-unit risks
- Refreshed the risk landscape to align with university's tripartite mission and support environments
- Engaged all Board of Visitor committees on ERM topics
- Reintroduced a heat map as a visualization of institutional risks with a focus on the 'top ten risks'

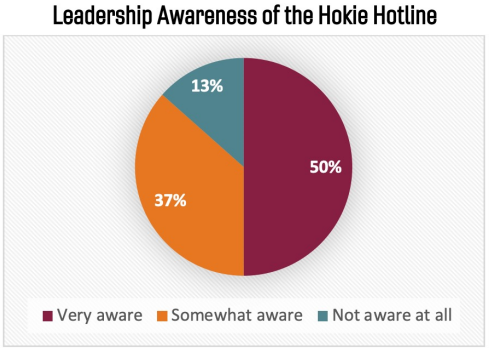
Institutional Compliance Program

Other highlights include:

- Launched personal data privacy review
- Assumed role and responsibilities of state agency Regulatory Coordinator
- Served on Research & Innovation Council, Policy Advisory Committee, and Title IX Policy & Practice Group
- Delivered outreach and education presentations on compliance topics to various groups
- Highlighted ethics and compliance in VT Daily communications during National Ethics & Compliance Week

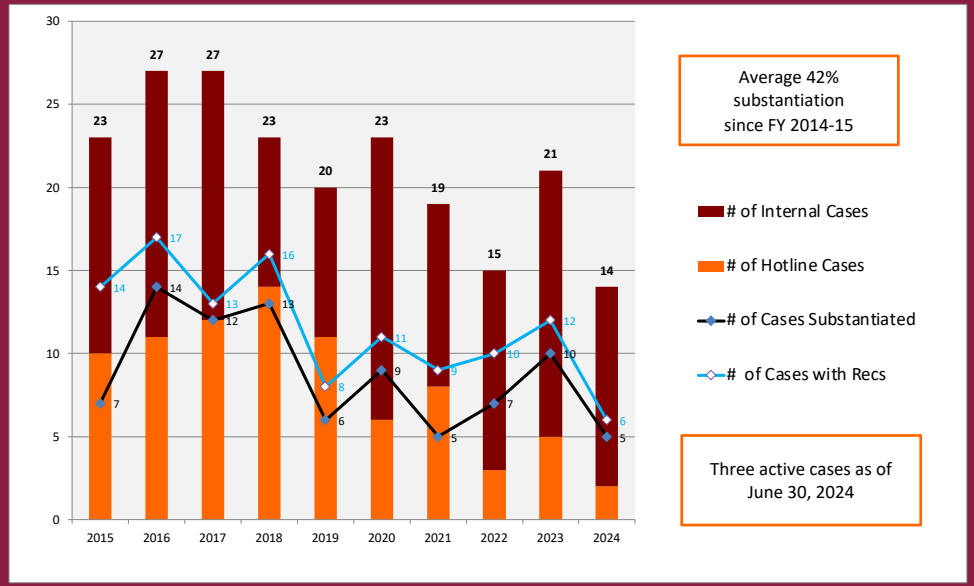
Leadership Survey: Perception of Virginia Tech's ethical culture and awareness of the Hokie Hotline reporting mechanism





Fraud, Waste, and Abuse

HOKIE HOTLINE



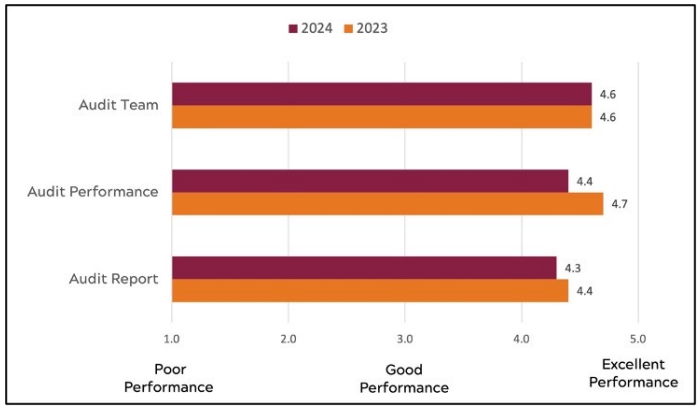
FY 2023-24 Audit Plan Metrics

Audit Plan Status

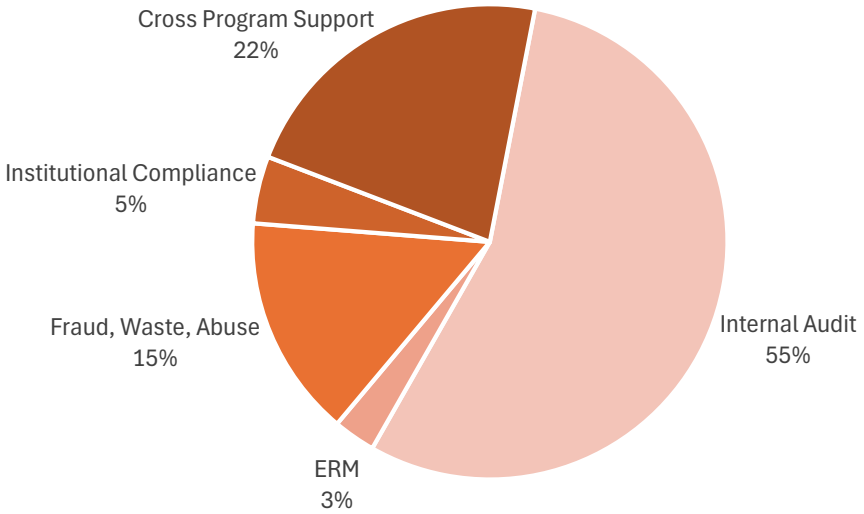
Audits	
Total # of Audits Planned	33
Total # of Supplemental Audits	3
Total # of Carry Forwards	4
Total # of Planned Audits Deferred and/or Canceled	9
Total Audits in Plan as Amended	**31**
Total Audits Completed	25
Audits – Percentage Complete	81%
Audits – Percentage Complete or Underway	100%

Note: Includes Policy Compliance Reviews and Advisory Services

Client Satisfaction Survey Results



Distribution of Direct Hours



Management Corrective Action Summary

Beginning # of management corrective actions	50
Management corrective actions added	61
Management corrective actions closed	71
Current # of open management corrective actions	40

IIA Requirements



The chief audit executive's reporting and communication to senior management and the board must include information about:

- The audit charter, including internal audit activity's purpose, authority, and responsibility
- Independence of the internal audit activity
- The audit plan and progress against the plan
- Resource requirements
- Results of audit activities
- Conformance with the Code of Ethics and the Standards, and action plans to address any significant conformance issues (Quality Assurance & Improvement Program)
- Management's response to risk that, in the chief audit executive's judgment, may be unacceptable to the organization



QUESTIONS?

Office of Audit, Risk, and Compliance: Strategic Plan

Sharon Kurek, VP for Audit, Risk, and Compliance &
Chief Risk Officer

VIRGINIA TECH

Office of Audit, Risk, and Compliance



Office of Audit, Risk, and Compliance



Office of Audit, Risk, and Compliance



Office of Audit, Risk, and Compliance: 5 Strategic Themes

Operational Excellence	Trust & Partnerships	Strategic Value	Culture & Integrity	Knowledge & Innovation
Embed a spirit of **continuous improvement** with a goal of uncompromising **quality** through all programs. Identify and deploy best practices, data-driven decision making, and process improvement mindsets to enhance the delivery of top-tier assurance, compliance, and advisory services.	Build a foundation of consistent communication, **transparency**, **integrity**, and reliability in all interactions. Foster empathy and understanding of different perspectives to help cultivate mutual **respect and collaboration** with a goal of establishing enduring relationships built on trust.	Create **alignment** with institutional **strategic objectives** to enable informed decisions and promote integrity and compliance. Work to enhance a balanced risk management program with an aim of overall excellence.	Champion both an **institutional culture** and workplace that upholds and models **ethical conduct**. Do so in a way that embraces diverse viewpoints, fosters professional growth, recognizes excellence, and thrives through the collective individual contributions.	Join knowledge and innovation together to **drive progress** and transform both university and office operations. Through the accumulation of information, skills, and expertise, develop ideas and processes that provide assurance, improve efficiency, and create value.

Office of Audit, Risk, and Compliance: Strategic Goals

Operational Excellence	Trust & Partnerships	Strategic Value	Culture & Integrity	Knowledge & Innovation
• Evolve a comprehensive understanding of risk university-wide • Use ERM to inform next-level engagement with stakeholders and audit planning approach • Serve and support priority compliance areas • Establish and deploy an agile audit framework • Improve audit follow-up processes through enhanced technology deployment • Update operating policies, manuals, and processes to align with new professional standards	• Foster purposeful connections with colleagues, leadership, and BOV • Utilize governance structure as a connective hub for communication on top risk and compliance areas • Facilitate greater alignment between risk and compliance owners, governance committees, & OARC to ensure optimal mitigation efforts • Connect, support, and educate compliance partner community	• Provide insights on enterprise and emerging risks to enhance executive decision-making • Develop and monitor KPIs & KRIs to understand impact, actions, and progress • Understand correlations and elevate cross-unit risks with high-impact, high-velocity results • Convene ad hoc task forces as sensitive or volatile risks arise • Ensure robust participation is established in future ERP system development/ deployment	• Promote a risk-aware and ethical culture • Establish individualized career pathing methodologies and determine training needs • Contribute compliance and ethics perspectives in policy creation and review • Engage campus stakeholders to encourage a values-based approach in connecting ethical principles with compliance	• Explore and pilot opportunities to deploy continuous assurance AI methodologies • Complete the integration of the cross-program technology solution and deploy to campus stakeholders • Define the visuals that leadership values most and identify data needed to produce them • Create risk-based dashboarding • Pilot and implement a self-assessment tool for compliance areas

Enterprise Risk Management: Strategy

Foundational	Leading Practices	Emerging
Risk-Aware Culture	Trusting Relationships	KRIs and KPIs	ERM to inform IA and ICP	Risk-Overview Dashboard
Risk Identification			Ad hoc work groups	

Major Objectives:
- Evolve a comprehensive understanding of risk university-wide
- Develop outreach and tools to encourage risk-aware culture
- Update risk statements and mitigation efforts through targeted outreach to risk owners
- Facilitate greater alignment of identified risks among risk owner, governance committees and OARC
- Utilize the governance structure as a connective hub for updates related to top risk and compliance areas

Major Objectives:
- Develop and monitor KPIs & KRIs to understand impact, actions, and progress
- Define the visuals that leadership values most and identify data that is needed to produce them
- Use enterprise risk management to inform next level engagement with stakeholders and refining audit planning approach
- Convene ad hoc task forces as sensitive or volatile risks arise

Major Objectives:
- Understand correlations and elevate cross-unit risks with high-impact, high-velocity results
- Create risk dashboard to assess progress towards risk mitigation
- Provide insights on enterprise-level and emerging risks to enhance executive decision-making

Institutional Compliance: Strategy

Foundational	Leading Practices	Emerging
Service & Support	Ethics & Integrity	Learn & Progress	Operational Support	Monitor & Review
Compliance Partner Community		Measure Effectiveness		

Major Objectives:
- Coordinate the personal data privacy project in support of university wide needs
- Connect, support, and educate compliance partner community
- Refresh ICP content on OARC website
- Serve and support priority compliance areas
- Support animal research priorities
- Pilot self-assessment framework tool with 3-5 compliance areas
- Contribute compliance and ethics perspectives in policy review

Major Objectives:
- Engage campus stakeholders to encourage a values-based approach in connecting ethical principles with compliance
- Growth into operational service area(s) as opportunities allow
- Expand self-assessment framework tool to majority of compliance areas
- Analyze processes in distributed compliance programs
- Prevention vs. detection levels within processes to assess maturity level

Major Objectives:
- Identify maturity level by compliance area
- Develop strategies to evolve in consultation with compliance area program leaders

Internal Audit: Strategy

Foundational

Agile & Responsive

Talent Development

Professional Standards



Major Objectives:

- Establish, train, and deploy agile auditing techniques
- Establish individualized career pathing methodologies
- Determine training needs to meet identified career paths
- Update operating policies, manuals, and processes updated to reflect new professional standards
- Prepare for an internal self-assessment in late FY 2025

Leading Practices

Technology Integration



Risk-based Data Dashboarding

ERP Deployment

Major Objectives:

- Complete the integration of the cross-program technology solution
- Deploy technology solution to campus stakeholders for improved follow-up processes
- Utilize templating processes for consistent and agile auditing approaches
- Create risk-based dashboarding for snapshot risk assessments in departmental audits and research compliance
- Ensure robust participation is established in future ERP system development/deployment

Emerging

Artificial Intelligence



Major Objectives:

- Explore and pilot opportunities to deploy continuous assurance AI methodologies



DISCUSSION

Discussion of Future Topics

COMPLIANCE, AUDIT, AND RISK COMMITTEE

August 28, 2024

The Chair of the Compliance, Audit, and Risk Committee will discuss agenda items for future meetings and adjourn the committee meeting.

Open Session Agenda

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

Latham Ballroom A/B, the Inn at Virginia Tech

To begin immediately following the Finance and Resource Management Committee Closed Session

August 28, 2024

	Agenda Item	Reporting Responsibility
	1. Motion to Reconvene in Open Session	John Rocovich
	2. Welcome and Opening Remarks	Dave Calhoun
	3. Consent Agenda	Dave Calhoun
	a. Approval of Items Discussed in Closed Session	
	b. Approval of Minutes of the June 11, 2024 Meeting	
	c. Report on Higher Education Restructuring Institutional Performance Measures	
#	d. Report on Gramm-Leach-Bliley Act Compliance and IT Security	
*	e. Approval of Revisions to and Renewal of Related Corporations Affiliation Agreements	
*	f. Approval of Subscription-Based IT Arrangement (SBITA) with Amazon Web Services	
#+	4. Comprehensive Update on Advancement	Charlie Phlegar
*	5. Approval of Year-to-Date Financial Performance Report (July 1, 2023 – June 30, 2024)	Simon Allen Tim Hodge Rob Mann
	6. Financial Summary of Faculty and Staff Merit Programs	Simon Allen Bryan Garey
	7. Discussion of Future Agenda Topics and Closing Remarks	Dave Calhoun

*** Requires full Board approval**
 # Discusses Enterprise Risk Management topic(s)
+ Discusses Strategic Investment Priorities topic(s)

Briefing Report

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

August 28, 2024

Open Session

1. **Motion to Reconvene in Open Session**

2. **Welcome and Opening Remarks**

3. **Consent Agenda:** The Committee will consider for approval and acceptance the items listed on the Consent Agenda.

    a. **Approval of Items Discussed in Closed Session:** The Committee will review and approve the items discussed in closed session.

    b. **Approval of Minutes of the June 11, 2024 Meeting:** The Committee will review and approve the minutes of the June 11, 2024 meeting.

    c. **Report on Higher Education Restructuring Institutional Performance Measures:** The Committee will review a report on the Higher Education Restructuring Institutional Performance Standards (IPS), focusing on finance and administrative performance standards results for fiscal year 2023. In July 2024, the university reported on the performance of the finance and administrative measures for fiscal year 2023 to the Secretaries of Finance, Administration, and Education. The assessment of the academic measures is conducted by State Council for Higher Education of Virginia (SCHEV).

    This report provides information on the 17 finance and administrative measures and the university's performance for each of those measures. The university is in full compliance with 15 of these measures, performing outside of the targeted range on two finance and administrative measures.

    The report also provides information on SCHEV's assessment of the six academic measures, all of which the university met.

    # d. **Report on Gramm-Leach-Bliley Act Compliance and IT Security:** The Committee will review for acceptance a report on Gramm-Leach-Bliley Act (GLBA) compliance and associated IT security to meet the annual reporting requirement established by the Standards for Safeguarding Customer Information Rule 16 CFR Part 314, effective June 9, 2023.

* e. **Approval of Revisions to and Renewal of Related Corporations Affiliation Agreements:** The Committee will review for approval revisions to and renewal of Related Corporations Affiliation Agreements. As approved by the Board of Visitors, the university has entered into affiliation agreements with the following university-related corporations for the purpose of defining the relationship and requirements of university-related corporations: Virginia Tech Alumni Association, Inc., Virginia Tech Applied Research Corporation, Virginia Tech Athletic Fund, Inc., Virginia Tech Corps of Cadets Alumni, Inc., Virginia Tech Foundation, Inc., Virginia Tech India Research & Education Forum, Virginia Tech Innovations Corporation (formerly Virginia Tech Technology Services and Operations Corporation), Virginia Tech Intellectual Properties, Inc., and Virginia Tech Services, Inc.

* f. **Approval of Subscription-Based IT Arrangement (SBITA) with Amazon Web Services:** The Committee will review for approval a Subscription-Based IT Arrangement (SBITA) between the university and Amazon Web Services.

\# 4. **Comprehensive Update on Advancement:** Charlie Phlegar, Senior Vice President for Advancement, Committee will provide a comprehensive update on the fiscal year 2024 giving results and giving trends since the launch of the Advancement Model. This report also includes an update on the philanthropic participation rate and overviews of the Boundless Impact Campaign, Virginia Tech Advantage, Global Distinction, and VT Alumni Association.

*#+ 5. **Approval of Year-to-Date Financial Performance Report (July 1, 2023 – June 30, 2024):** The Committee will review for approval the Year-to-Date Financial Performance Report for July 1, 2023 to June 30, 2024 For the fourth quarter, budget adjustments were made to reflect revisions to projected revenues and expenditures. The report shows the actual revenues and expenses compared to the budgets and the overall status and expenditures of ongoing capital projects.

6. **Financial Summary of Faculty and Staff Merit Programs:** The Committee will receive a financial summary of the faculty and staff merit programs. The commonwealth's 2024-26 Appropriation Act includes a three percent adjustment for all salaried employees, effective June 10, 2024. This state-authorized compensation program was incorporated into the Faculty Compensation Plan and the University Budget approved by the Board of Visitors at the June 2024 meeting. Consistent with these approvals, the university implemented a three-percent across-the-board increase with minimum performance requirement rating for classified staff. Increases were effective June 10 for calendar year employees and August 10 for academic year employees.

7. **Discussion of Future Agenda Topics and Closing Remarks:** The Committee will discuss possible topics for future meetings and other topics as needed.

WELCOME AND OPENING REMARKS

COMMITTEE CHAIR

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

Consent Agenda

a. Approval of Items Discussed in Closed Session

b. Approval of Minutes of the June 11, 2024 Meeting

c. Report on Higher Education Restructuring Institutional Performance Measures

d. Report on Gramm-Leach-Bliley Act Compliance and IT Security

* e. Approval of Revisions to and Renewal of Related Corporations Affiliation Agreements

* f. Approval of Subscription-Based IT Arrangement (SBITA) with Amazon Web Services

Committee Minutes

FINANCE AND RESOURCE MANAGEMENT COMMITTEE
Room 260, New Classroom Building
June 11, 2024

Open Session

Board members present: Ed Baine, LaTawnya Burleson – Staff Representative, David Calhoun, Sandy Davis, Nancy Dye, William Holtzman, Donald Horsley, John Rocovich, Emily Tirrell – Graduate and Professional Student Representative

University personnel and guests: Simon Allen, Callan Bartel, Lynsay Belshe, Leanne Bokinskie, Eric Brookes, Brock Burroughs, Corey Earles, Jeff Earley, Mike Friedlander, Bryan Garey, Martha Glass, Tim Hodge, Elizabeth Hooper, Anne Keeler, Christophe Larroque, Evan Lavender-Smith, Rob Mann, Elizabeth McClanahan, Nancy Meacham, Kim O'Rourke, Mark Owczarski, Charlie Phlegar, William Poland, Paul Richter, Julie Ross, Tim Sands, Amy Sebring, Cliff Shaffer, Brennan Shepard, John Tarter, Rob Viers, Tracy Vosburgh, Mike Walsh, Melinda West, Chris Yianilos

1. **Motion to Reconvene in Open Session**

2. **Welcome and Opening Remarks**

3. **Consent Agenda:** The Committee considered for approval and acceptance the items listed on the Consent Agenda.

    a. **Approval of Items Discussed in Closed Session**

    b. **Approval of Minutes of the April 8, 2024 Meeting**

    c. **Auditor of Public Accounts Intercollegiate Athletics Program Report for Year Ended June 30, 2023:** The Auditor of Public Accounts (APA) published its Intercollegiate Athletics Program review for fiscal year 2023. The APA performed certain agreed-upon procedures to evaluate whether the Schedule of Revenues and Expenses of the Intercollegiate Athletics Program for fiscal year ended June 30, 2023, was in compliance with the National Collegiate Athletic Association (NCAA) bylaws. The Schedules were found to be in material compliance.

* **d. Approval of 2024-25 Hotel Roanoke Conference Center Commission Budget:** The Committee reviewed for approval the 2024-25 Hotel Roanoke Conference Center Commission budget. The Hotel Roanoke Conference Center Commission was established by resolutions adopted by Virginia Tech and the City of Roanoke, under Commonwealth of Virginia enabling legislation. The enabling legislation provided that the Commission shall annually prepare and submit to both the City of Roanoke and Virginia Tech a proposed operating budget showing its estimated revenues and expenses for the forthcoming fiscal year. If the estimated expenses exceed the estimated revenues, the portion of the unfunded balance is to be borne equally by each participating party for the operation of the conference center.

* **e. Approval of Revisions to Policy 12005, Policy on Commemorative Tributes:** The Committee reviewed for approval revisions to Policy 12005, Policy on Commemorative Tributes. The proposed revisions to Policy 12005, Policy on Commemorative Tributes include removing the 12-month separation rule, which stipulates that buildings, physical facilities, or major academic units are not to be named for individuals employed by the university during the year preceding the naming, from the policy; this proposed change eliminates the need to grant exceptions to this rule. Other adjustments to this policy include establishing tiers and standards for recognition signage for both corporate and individual donors and formalizing the coordination between the Division of Campus Planning, Infrastructure, and Facilities (CPIF) and University Advancement in reviewing and recommending individual and corporate donor recognition.

* **f. Approval of Revision to the Resolution for Authority to Loan Funds to University-Related Corporation:** The Committee reviewed for approval a revision to the Resolution for Authority to Loan Funds to University-Related Corporation. The university desires to increase advance working capital to a university-related Swiss Corporation, VT Swiss SA, to cover three months of operations expenditures at the center. This proposed revision authorizes the university to increase loan working capital to a maximum of $500,000.

* **g. Notification of Provisions of the Appropriation Act Relating to Indebtedness of State Agencies:** The Committee reviewed for approval the notification of provisions of the Appropriation Act relating to indebtedness of state agencies. This is the university's annual notification to the Board of Visitors detailing the provisions of the Appropriation Act relating to indebtedness of state agencies, or unauthorized deficits.

*** Requires full Board approval**
 # Discusses Enterprise Risk Management topic(s)
+ Discusses Strategic Investment Priorities topic(s)

The Committee approved the items on the Consent Agenda and recommended the 2024-25 Hotel Roanoke Conference Center Commission budget, the Revisions to Policy 12005, Policy on Commemorative Tributes, the Revision to the Resolution for Authority to Loan Funds to University-Related Corporation, and the Notification of Provisions of the Appropriation Act Relating to Indebtedness of State Agencies to the full Board for approval.

4. **Update from the Chief Operating Officer:** The Committee received an update from the Executive Vice President and Chief Operating Officer, Amy Sebring. Amy began by thanking the Division of Finance for their work to close out the prior fiscal year and begin the new one. She also provided an update on the university's unchanged bond rating, the university's Six-Year Plan submission to the state, and the Virginia Tech Foundation's plans for Hotel Roanoke improvements.

Additionally, Amy introduced the university's new Vice President for Finance and Chief Financial Officer, Simon Allen.

\# 5. **Update on Advancement:** Charlie Phlegar, Senior Vice President for Advancement, provided a report on University Advancement's work on volunteer boards and their fundraising efforts including current engagement numbers, giving totals, projections of future support through bequests, and communications and marketing efforts.

*#+ 6. **Approval of 2024-25 University Operating and Capital Budgets:** The Committee reviewed for approval the proposed university operating and capital budgets for 2024-25.

The Operating Budget for the 2024-25 fiscal year has a recommended internal budget for all operations of $2.3 billion. This is an increase of $156.4 million, approximately 7.4 percent, over the adjusted budget for last year. The university's total General Fund allocation is estimated to be approximately $450.7 million, an increase of $37.5 million over last year's adjusted budget. General Fund revenues will provide $407.8 million in support for the instructional, research, and extension programs, $39.3 million for student financial assistance, and $3.6 million for the Unique Military Activities program. The increase in the General Fund will primarily be used to fund the salary increases included in the state budget.

The overall change in the budget includes an increase of $66.1 million attributable to the Educational and General programs and $22.4 million of projected growth in Auxiliary Enterprises. The Auxiliary Enterprise budget includes the budgets of four Auxiliary Systems; the Dormitory and Dining Hall System, the Electric Service Utility

System, the University Services System, and, the Athletic Facilities System, in accordance with the resolutions authorizing and securing revenue bonds. The university's Educational and General budget will be $1.2 billion and the Auxiliary Enterprise revenue budget is $480.4 million for fiscal year 2024-25. The projected annual budget for Sponsored Programs is $510.1 million, an increase of $73.6 million, or 16.9 percent higher than the adjusted budget for last year.

Understanding that strategic investments will not be realized solely through incremental new revenue, the university is planning for $25M of reinvestments over the next five years to support a portion of the multi-year initiative vision.

The Capital Budget capital outlay program for 2024-25 is comprised of 16 Educational and General projects and five Auxiliary Enterprise projects for a total of 21 projects. The total multi-year capital program for 2024-25 includes approximately $1.17 billion of authorizations with an annual expenditure budget of approximately $184 million for 2024-25.

The Committee recommended the 2024-25 University Operating and Capital Budgets to the full Board for approval.

* 7. **Approval of Resolution to Amend Delegation of Authority for Selected Personnel:** The Committee reviewed for approval the Resolution to Amend Delegation of Authority for Selected Faculty Personnel Actions. This resolution proposes the amendment of the delegation of authority to delegate the implementation of Board-approved faculty compensation plans, to conform with the new Policy 4005, Exceptional Recruitment and Retention Incentive Options Policy, and to authorize the university to evaluate and adjust the threshold for salary actions based on merit or market changes.

The Committee recommended the Resolution to Amend Delegation of Authority for Selected Personnel to the full Board for approval.

* 8. **Approval of 2024-25 Faculty Compensation Plan:** The Committee reviewed for approval the 2024-25 Faculty Compensation Plan. Based on the university's understanding of the state budget, a three percent faculty salary increase, effective on the July 1, 2024 paycheck, has been planned.

The university traditionally implements such state increases differentially on the basis of merit. In anticipation of this program, merit recommendations were developed during the spring of 2024, consistent with the proposed 2024-25 Faculty Compensation Plan. Implementation of this increase is subject to Board approval.

* **Requires full Board approval**
 # Discusses Enterprise Risk Management topic(s)
+ Discusses Strategic Investment Priorities topic(s)

To maintain and improve upon the university's standing relative to the 50th percentile of the Top 20 Land Grant peers, the higher levels of competing offers received by key faculty, and to minimize the high cost of turnover, the university will continue to explore opportunities to improve the competitiveness of Virginia Tech faculty compensation.

The Committee recommended the 2024-25 Faculty Compensation Plan to the full Board for approval.

* 9. **Approval of 2024-25 Compensation for Graduate Assistants:** The Committee reviewed for approval the proposed 2024-25 schedule of stipends and support for the health insurance program for graduate students. The university proposed a three percent increase in the stipend scale and the establishment of a minimum stipend of $2,682 per month.

The Committee recommends the 2024-25 Compensation for Graduate Assistants to the full Board for approval.

*#+ 10. **Approval of Graduate Candidacy Status Tuition Rate:** The Committee reviewed for approval the proposed Graduate Candidacy Status Tuition Rate.

In March 2021, the Board of Visitors approved a lower tuition rate for research and dissertation hours for doctoral students who have completed two years of course work, passed their preliminary exam, and are engaged in research and dissertation efforts. The reduced tuition rate for Candidacy Status is intended to incentivize time-to-degree for Ph.D. students, minimize the cost to research programs, and better position the university within the competitive market.

To further advance these goals and support the Virginia Tech Global Distinction initiative, the university proposes increasing the Candidacy Status discount from 10 percent to 15 percent, effective Fall semester 2024.

The Committee recommended the Graduate Candidacy Status Tuition Rate to the full Board for approval.

* 11. **Approval of Year-to-Date Financial Performance Report (July 1, 2023 – March 31, 2024):** The Committee reviewed for approval the Year-to-Date Financial Performance Report for July 1, 2023 to March 31, 2024. For the third quarter, budget adjustments were made to reflect revisions to projected revenues and

* **Requires full Board approval**
 # Discusses Enterprise Risk Management topic(s)
+ Discusses Strategic Investment Priorities topic(s)

expenditures. The report showed the actual revenues and expenses compared to the budgets and the overall status and expenditures of ongoing capital projects.

The Committee recommended the Year-to-Date Financial Performance Report to the full Board for approval.

12. **Discussion of Future Agenda Topics and Closing Remarks:** The Committee discussed possible topics for future meetings and other topics as needed.

There being no further business, the meeting adjourned at 10:42 a.m.

Open Session Agenda

FINANCE AND RESOURCE MANAGEMENT COMMITTEE
Room 260, New Classroom Building
9:00 a.m.
June 11, 2023

	Agenda Item	Reporting Responsibility
	1. Motion to Reconvene in Session	John Rocovich
	2. Welcome and Opening Remarks	Dave Calhoun
	3. Consent Agenda	Dave Calhoun
	a. Approval of Items Discussed in Closed Session	
	b. Approval of Minutes of the April 8, 2024 Meeting	
	c. Auditor of Public Accounts Intercollegiate Athletics Program Report for Year Ended June 30, 2023	
*	d. Approval of 2024-25 Hotel Roanoke Conference Center Commission Budget	
*	e. Approval of Revisions to Policy 12005, Policy on Commemorative Tributes	
*	f. Approval of Revision to the Resolution for Authority to Loan Funds to University-Related Corporation	
*	g. Notification of Provisions of the Appropriation Act Relating to Indebtedness of State Agencies	
	4. Update from the Chief Operating Officer	Amy Sebring
#	5. Update on Advancement	Charlie Phlegar
*#+	6. Approval of 2024-25 University Operating and Capital Budgets	Amy Sebring Tim Hodge Rob Mann
*	7. Approval of Resolution to Amend Delegation of Authority for Selected Personnel Actions	Amy Sebring
*	8. Approval of 2024-25 Faculty Compensation Plan	Tim Hodge
*	9. Approval of 2024-25 Compensation for Graduate Assistants	Tim Hodge
*#+	10. Approval of Graduate Candidacy Status Tuition Rate	Tim Hodge
*	11. Approval of Year-to-Date Financial Performance Report (July 1, 2023 – March 31, 2024)	Tim Hodge Rob Mann
	12. Discussion of Future Agenda Topics and Closing Remarks	Dave Calhoun

* **Requires full Board approval**
 # Discusses Enterprise Risk Management topic(s)
+ Discusses Strategic Investment Priorities topic(s)

Report on Higher Education Restructuring Institutional Performance Standards

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

July 31, 2024

Background

In 2005, the Virginia General Assembly passed the Restructured Higher Education Financial and Administrative Operations Act (Restructuring Act). This Act provided restructuring benefits and allowed all Virginia institutions of higher education to have more responsibility for their financial and operational activities.

For Virginia Tech, the Act also provided the opportunity to apply for additional "Level 3" authority and responsibilities. In 2005, Virginia Tech entered into a Management Agreement with the Commonwealth of Virginia under the Restructuring Act, offering increased management autonomy in exchange for high level accountability in several performance areas.

The Management Agreement became effective on July 1, 2006. It provides the university greater autonomy in the areas of capital outlay, leasing, procurement, information technology, finance, and human resources. This autonomy has enabled the institution to implement revised financial and administrative policies and business practices in specified areas to proactively address the needs of the institution. The Management Agreement was initially approved for a period of four years. Subsequently, legislation was approved granting the continuation of the Management Agreement. The 2014 General Assembly renewed the Level 3 restructured institutions' Management Agreements for an indefinite period. Along with Virginia Tech, the University of Virginia and the College of William and Mary were also granted Level 3 restructured status. Since that time, Virginia Commonwealth University, James Madison University, and George Mason University have also been granted Level 3 restructured status.

Accountability is an important part of the Restructuring Act, and all institutions of higher education have a common set of performance measures to achieve. The Institutional Performance Standards (IPS) are the primary performance metrics evaluated under the Restructuring Act. Until fiscal year 2010, the State Council of Higher Education of Virginia (SCHEV) annually assessed the degree to which individual public institutions of higher education met the financial and administrative management and education-related performance benchmarks set forth in the Appropriation Act in effect. The university provided an annual report to the committee on the status of compliance with these measures.

The Higher Education Opportunity Act passed in 2011 suspended the assessment of IPS measures until the Higher Education Advisory Council (HEAC) completed its review of the IPS measures and recommended a new set of reporting measures. In May, 2011 SCHEV certified all institutions as meeting the IPS measures for the 2011-12 to 2013-14 period. The 2013 General Assembly incorporated the recommended changes to the IPS measures proposed by HEAC in the Appropriation Act. The number of measures were reduced, and the assessment period changed from an annual reporting period to a biennial reporting period. The revised IPS measures continue to focus on two primary areas:

- Academic Measures: There are six education-related measures with a focus on enrollment. SCHEV monitors institutional compliance with these measures and has broad authority to certify institutions as having met these standards. In addition, SCHEV may develop, adopt, and publish standards for granting exemptions and ongoing modifications to the certification process.

- Finance and Administrative measures: There are 17 finance and administrative measures. HEAC retained all the finance and administrative measures from the previous reporting cycle. The Secretary of Finance through the Department of Planning and Budget (DPB) is responsible for monitoring institutional compliance with these measures.

Current Status of Performance Measures

- Academic Measures: SCHEV has performed the 2024 biennial assessment of the academic related measures. In June 2024, SCHEV reported that Virginia Tech has met all six academic standards. *Attachment A* details the six academic related measures and Virginia Tech's performance for the 2024 Biennial Assessment Results as reported by SCHEV.

- Finance and Administrative Measures: In July 2024, the university provided a report on the performance of the finance and administrative measures to the Secretaries of Finance, Administration, and Education. *Attachment B* provides a summary of the results reported to the state. Of the 17 measures, the university is in full compliance with 15 measures. There were two measures in which the university performed outside of the targeted performance range, and another that required additional explanation. Explanations for these were provided as detailed below.

Debt Management Standards

The debt management standard, *investment returns earned on operating cash balances over rolling three-year period*, (Item 2.b. on *Attachment B*) requires the institution to achieve a three-year average rate of return at least equal to the imoney.net money market index fund. The university's 0.76 percent performance slightly underperformed the benchmark, primarily due to approximately 50 percent of the operating cash balances being placed in a bond fund whose performance was impacted as interest rates rapidly increased during the period.

Human Resources Standards

The Human Resources standard, *number of internal employee transfers and promotions as a percentage of total number of new hires, transfers, and promotions*, (Item 5.a. on *Attachment B)* requires the institution to achieve a rate of internal progression within a range of 40-60 percent of the total salaried staff hires for the year. The university's 69 percent internal progression rate for FY23 exceeded this targeted range. This reflected Virginia Tech's investments to bolster the workforce, which include prioritization on retaining talent, career advancement opportunities, flexible work options, professional development activities, succession planning, and more.

Financial Standards

The Financial standard, *audit deficiencies*, (Item 1.b. on *Attachment B*) requires no significant audit deficiencies attested to by the Auditor of Public Accounts. No such deficiencies were identified for FY23, resulting in Virginia Tech's full compliance with the standard. However, Virginia Tech did continue two minor written audit comments from the prior year: one comment for improving the reporting timeliness of enrollment data to the National Student Loan Data System, and the other comment for improving compliance over enrollment reporting. The university is in the process of implementing corrective action plans to address these audit comments.

The university anticipates that SCHEV will perform an institutional assessment of the IPS measures by October 2024, in accordance with past assessment timelines.

Academic Performance Standards
2024 Biennial Assessment Results*

Institution	PM 1		PM 2		PM 3		PM 4		PM 5	PM 6
	21-22	22-23	21-22	22-23	21-22	22-23	21-22	22-23	Biennium	Biennium
VT	97.9%	99.7%	99%	106.2%	112%	122%	101%	98.3%	99**	174***

As reported to Virginia Tech by SCHEV in June, 2024

Performance Measures:

PM 1 - Institution meets at least 95 percent of its State Council-approved biennial projections for in-state undergraduate headcount enrollment.

Projections compared to Fall Headcount file

PM 2 - Institution meets at least 95 percent of its State Council-approved biennial projections for the number of in-state associate and bachelor degree awards.

Projections compared to Degrees Conferred file

PM 3 - Institution meets at least 95 percent of its State Council-approved biennial projections for the number of in-state STEM-H associate and bachelor degree awards.

Projections compared to Degrees Conferred file

PM 4 - Institution meets at least 95 percent of its State Council-approved biennial projections for the number of in-state, upper level - sophomore level for two-year institutions and junior and senior level for four-year institutions - program-placed, full-time equivalent students.

Projections compared to Course Enrollment file

PM 5 - Maintain or increase the number of in-state associate and bachelor degrees awarded to students from under-represented populations.

Actuals derived from the 2021-22 and 2022-23 Degrees Conferred Files and the last five years of financial aid data files prior to degree award.
Averages for the biennial period (2021-22 and 2022-23) under review were compared to averages of prior three-years (18-19, 19-20, and 20-21).

The score of 99 indicates that during this review period, VT increased the number of conferred degrees to students from under-represented populations by an average of 99 more than the threshold target of the prior three-year period's averages.

PM 6 - Maintain or increase the number of in-state two-year transfers to four-year institutions.

Actuals derived from the 2021-22 and 2022-23 Course Enrollment files (CE) and CE files from five years prior, Degree Conferred Files up to 10 years prior.
Averages for the biennial period (2021-22 and 2022-23) under review were compared with base year (2010-11) figures.

****The score of 174 indicates that during this review period, VT increased the number of transfer students by an average of 174 more than the threshold target of the 2010-11 academic year.***

Virginia Tech
Higher Education Restructuring Institutional Performance Standards
2022-23

	Measure	Metric Definition	Performance Goal	FY 2023 Performance	Result
1. Financial					
a.	Audit of Financial Statements	An unqualified opinion from the Auditor of Public Accounts upon the audit of the public institution's financial statements.	Full Compliance	Full Compliance	
b.	Audit Deficiencies	No significant audit deficiencies attested to by the Auditor of Public Accounts.	Full Compliance	Full Compliance [(1)]	
c.	Financial Reporting Standards	Substantial compliance with all financial reporting standards approved by the State Comptroller.	Full Compliance	Full Compliance	
d.	Accounts Receivable Standards	Substantial attainment of accounts receivable standards approved by the State Comptroller, including but not limited to, any standards for outstanding receivables and bad debts.	Full Compliance	Full Compliance	
e.	Accounts Payable Standards	Substantial attainment of accounts payable standards approved by the State Comptroller including, but not limited to, any standards for accounts payable past due.	Full Compliance	Full Compliance	
2. Debt Management					
a.	Bond Rating	The institution shall maintain a bond rating of AA- or better	Aa3/AA-	Aa1 Rating - Moody's	
b.	Investment Returns earned on operating cash balances over rolling three-year period	The institution achieves a three-year average rate of return at least equal to the imoney.net money market index fund	1.21%	0.76% [(2)]	
c.	Debt burden ratio	The institution maintains a debt burden ratio equal to or less than the level approved by the Board of Visitors in its debt management policy.	≤7%	4.10%	
3. Human Resources					
a.	Turnover percent as an indicator of classified staff stability and satisfaction	The institution's voluntary turnover rate for classified plus university/college employees will meet the voluntary turnover rate for state classified employees within a variance of 15 percent	8.60%	9.10%	
b.	Number of internal employee transfers and promotions as a percentage of total number of newly-hired, transferred and promoted	The institution achieves a rate of internal progression within a range of 40 to 60 percent of the total salaried staff hires for the fiscal year	40%-60%	69.3% [(2)]	
4. Procurement					
a.	SWAM Participation	The institution will substantially comply with its annual approved Small, Women and Minority (SWAM) procurement plan as submitted to the Department of Minority Business and Supplier Diversity; however, a variance of 15 percent from its SWAM purchase goal, as stated in the plan, will be acceptable	≥85%	107.0%	
b.	Procurement orders process through the Commonwealth's enterprise-wide internet procurement system (eVA)	The institution will make no less than 80 percent of purchase transactions through the Commonwealth's enterprise-wide internet procurement system (eVA) with no less than 75 percent of dollars to vendor locations in eVA	80% -Transactions 75% - Dollars	85.37% -Transactions 89.08% - Dollars	
5. Capital Outlay					
a.	Capital projects within budget [(3)]	The institution will complete capital projects (with an individual cost of over $1,000,000) within the budget originally approved by the institution's governing board at the preliminary design state for projects initiated under delegated authority, or the budget set out in the Appropriation Act or other Acts of Assembly which provides construction funding for the project at the preliminary design state. If the institution exceeds the budget for any such project, the Secretaries of Administration and Finance shall review the circumstances causing the cost overrun and the manner in which the institution responded and determine whether the institution shall be considered in compliance with the measure despite the cost overrun	100%	100%	
b.	Owner requested change orders	The institution shall complete capital projects with the dollar amount of owner requested change orders not more than 2 percent of the guaranteed maximum price (GMP) or construction price	≤2%	≤2%	
c.	Competitive rates for leased office space	The institution shall pay competitive rates for leased office space - the average cost per square foot for office space leased by the institution is within 5 percent of the average commercial business district lease rate for similar quality space within reasonable proximity to the institution's campus	5%	4.40% below market	
6. Information Technology					
a.	Project Management	The institution will complete major information technology projects (with an individual cost of over $1,000,000) on time and on budget against their managed project baseline.	100%	N/A [(4)]	
b.	Information Security	The institution will maintain compliance with institutional security standards as evaluated in internal and external audits. The institution will have no significant audit deficiencies unresolved beyond one year	Full Compliance	Full Compliance	

NOTE

(1) The university received no significant audit deficiencies from the APA but continued two minor written comments from prior year. Additional information is provided in the Letter to the Secretary of Finance.

(2) Additional information about this performance standard is provided in the Letter to the Secretary of Finance.

(3) The university capital project threshold was revised from $1 million to $2 million in 2011 and to $3 million in 2018. This change was pursuant to the State increasing its capital project threshold.

(4) There are no major information technology projects for the reporting period

Report on Gramm-Leach-Bliley Act Compliance and IT Security

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

July 10, 2024

Background

The *Gramm-Leach-Bliley Act* (GLBA), introduced as the Financial Services Modernization Act, was signed into law in late 1999. One objective of the act was to enhance consumer privacy and data security by imposing obligations on financial institutions that handle nonpublic personal information (NPI) in the offering of consumer financial products. GLBA mandates compliance with privacy and security rules related to student financial records because the university engages in the application, award and disbursement of student loans. The university agreed in the Program Participation Agreement for federal student financial aid programs to comply with the GLBA.

To achieve compliance, the university augmented existing information technology policies and standards with program, policies, and training to accomplish the following:

a. Safeguard the security and confidentiality of customer nonpublic personal financial information records.
b. Protect against any anticipated threats or hazards to the security or integrity of such records.
c. Protect against the unauthorized access to or use of such records or information that could result in substantial harm or inconvenience to customers.

Empowered by the GLBA, the Federal Trade Commission (FTC) issued *Part 314 – Standards for Safeguarding Customer Information* (Standards) to regulate the collection and disclosure of NPI by financial institutions. To formally comply with these regulations, the university implemented Policy 7025, Safeguarding Nonpublic Customer Information in 2004.

Effective June 9, 2023, updates to the Standards added elements that must be included in the university's written information security program. One of these elements requires the university's Qualified Individual to report in writing, regularly and at least annually, to the Board of Visitors on the overall status of the information security program, the compliance status, and material matters related information security program. The university will bring a report on the program at least annually, typically to the August board meeting, to meet this requirement. Management's 2024 report on GLBA compliance follows.

University GLBA Compliance Program

Policy 7025, Safeguarding Nonpublic Customer Information[i] details the university's compliance program. The policy is administered by the Information Technology Security Officer, therein named the university's Qualified Individual, and the departments that comprise the GLBA working group. The group includes the Information Technology Security Office (ITSO), the Office of the University Bursar, and University Scholarships and Financial Aid. This program addresses the privacy and security of nonpublic personal information subject to the GLBA and the revised safeguards rule.

Data Compliance Measures

The university has implemented the following measures to ensure compliance with the revised GLBA regulations:

a. Privacy Policies and Notices: Each identified department adheres to *Policy 7030, Policy on Privacy Statements on Virginia Tech Web Sites*[ii] and students receive annual notices[iii] including specific GLBA financial records information.

b. Data Classification: ITSO has implemented a data classification[iv] standard to categorize data based on sensitivity and to ensure appropriate safeguards are applied to protect nonpublic personal information.

c. Data Security Safeguards: The university has implemented technical, physical, and administrative standards[v] to protect nonpublic personal information from unauthorized access or disclosure. Safeguards for high-risk data[vi] include encryption, access controls, intrusion detection systems, employee training, and regular security assessments.

d. Vendor Management: During the procurement process, ITSO completes an initial security review of vendor services for financial solutions utilizing nonpublic personal data and student data covered in the related Family Educational Rights and Privacy Act (FERPA). Vendor contracts are assigned a contract manager at the department level, who by policy must ensure that vendors with access to nonpublic personal financial information are periodically assessed based on the risk they present and the continued adequacy of their safeguards. Assessment includes a review of related documents, such as the Service Organization Controls (SOC) report, and any identified compliance issues when deciding to renew or continue the vendor's financial services. When a third-party vendor is associated with an exposure of nonpublic personal financial data, it is the responsibility of the vendor to mitigate and report the exposure.

e. Incident Response Plans: ITSO developed an incident response plan[vii] that outlines steps to take if a security incident or data breach occurs, which includes procedures for addressing a breach of nonpublic personal information.

Risk Assessment

As part of our commitment to data protection, the university conducted a comprehensive risk assessment, incorporating the data collected to identify potential threats and vulnerabilities associated with handling nonpublic personal information subject to the GBLA rules. The assessment included the following steps:

a. Identification of Assets: Each department has identified the assets within its information systems that contain high-risk data, including nonpublic personal information.

b. Threat Identification: The GLBA working group has reviewed potential threats that could compromise the confidentiality, integrity, or availability of nonpublic personal information, such as unauthorized access, pretexting, data breaches, malware attacks, or physical theft.

c. Vulnerability Assessment: The GLBA working group has evaluated the existing security controls and safeguards in place to identify any weaknesses or vulnerabilities that malicious parties could exploit.

d. Risk Analysis: ITSO has reviewed identified departmental risk assessments. The GLBA team has conducted an annual risk assessment for the university analyzing the likelihood and impact of potential risks to prioritize and determine the level of risk associated with each identified threat. During the cycle year, one GLBA related vendor reported a data breach that involved one student record. Mitigation and reporting were promptly performed by the vendor. The university considers the vendor response to be adequate.

e. Risk Mitigation: Based on the risk analysis, the identified departments and the GLBA working group reviewed risk mitigation for the areas identified. Based on this year's Internal Audit feedback, a new vendor has been identified for service provider monitoring and evaluation. Employee training has been updated to include the topics of suspicious activity reporting and vendor management.

Compliance Status

The GLBA working group, through completion of the above, has determined that the university is currently in compliance with the Standards. In spring 2024, The Office of Audit, Risk, and Compliance completed an internal audit of the university's program and presented recommendations to the Board's Compliance, Audit, and Risk Committee. The audit received a rating of improvements are recommended. An observation was noted regarding third-party service provider management for GLBA compliance. A low priority

recommendation of a less significant nature was noted regarding security awareness training. Both the observation and the recommendation have been addressed, with implementation of the IT Vendor Risk Assessment Standard anticipated in fall 2024.

Ongoing Efforts

Each department within the university's GLBA compliance program remains committed to continuously improving data protection practices and risk management strategies. The Information Technology Security Officer, with the support of ITSO, the Office of the University Bursar, and University Scholarships and Financial Aid, will continue to monitor regulatory updates, conduct regular risk assessments, enhance security measures, provide training and awareness programs, and proactively address emerging threats to maintain the privacy and security of nonpublic personal information. The Information Technology Security Officer provides an Update on IT Security to the Board annually.

RECOMMENDATION

That the Report on Gramm-Leach-Bliley Act (GLBA) Compliance and IT Security be accepted by the Finance and Resource Management Committee.

August 28, 2024

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[i] https://policies.vt.edu/assets/7025.pdf

[ii] https://policies.vt.edu/7030.pdf

[iii] https://www.registrar.vt.edu/content/dam/registrar_vt_edu/documents/Updates/Annual-FERPA-Notification.pdf

[iv] https://it.vt.edu/content/dam/it_vt_edu/policies/Virginia-Tech-Risk-Classifications.pdf

[v] https://it.vt.edu/content/dam/it_vt_edu/policies/Minimum-Security-Standards.pdf

[vi] https://it.vt.edu/content/dam/it_vt_edu/policies/Standard-for-High-Risk-Digital-Data-Protection.pdf

[vii] https://security.vt.edu/docs/incident/incident_response.pdf

Revisions to and Renewal of University-Related Corporations Affiliation Agreements

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

August 9, 2024

In accordance with the Board of Visitors Bylaws, "Article III-Related Corporations," and as previously approved by the Board of Visitors, the university has entered into affiliation agreements with the following university-related corporations for the purpose of defining the relationship and requirements of the university-related corporations. Each corporation has its own board.

- Virginia Tech Alumni Association
- Virginia Tech Applied Research Corporation
- Virginia Tech Athletic Fund, Inc.
- Virginia Tech Corps of Cadets Alumni, Inc.
- Virginia Tech Foundation, Inc.
- Virginia Tech India Research & Education Forum
- Virginia Tech Innovations Corporation
- Virginia Tech Intellectual Properties, Inc.
- Virginia Tech Services, Inc.

The terms of these agreements expired on June 30, 2024, but remain in effect until replaced by a new agreement. In accordance with the Board of Visitors Bylaws, revisions to the format for these agreements as highlighted below are recommended:

- Incorporate requirements of the University-Related Corporations Audit Resolution approved by the Board of Visitors on March 31, 2008.
- Upon request by the university, each university-related corporation will review its annual operating budget, capital budget, and long-term program and funding plans, including any planned issuance or use of indebtedness, with the university before presenting any such budgets or plans to its board.
- A university-related corporation is a covered entity under the university's obligation to identify and report to the federal government financial support from foreign sources. The university-related corporation will coordinate with the university and its departments to report gifts and contracts received for the benefit of the university in accordance with university procedures.

See Attachment A for the proposed format changes and additions.

The proposed resolution authorizes the university to revise agreements for each university-related corporation with a term ending June 30, 2028 in the revised format as adjusted for any specific affiliation negotiations, applicable laws and regulations.

RESOLUTION FOR REVISIONS TO AND RENEWAL OF UNIVERSITY-RELATED CORPORATION AFFILIATION AGREEMENTS

WHEREAS, on May 29, 2020**,** the Board of Visitors approved renewal of affiliation agreements with the following university-related corporations for the purpose of defining the relationship and requirements of the university-related corporations.

- Virginia Tech Alumni Association
- Virginia Tech Applied Research Corporation
- Virginia Tech Athletic Fund, Inc.
- Virginia Tech Corps of Cadets Alumni, Inc.
- Virginia Tech Foundation, Inc.
- Virginia Tech India Research & Education Forum
- Virginia Tech Innovations Corporation
- Virginia Tech Intellectual Properties, Inc.; and
- Virginia Tech Services, Inc.

WHEREAS, the terms of these agreements expired on June 30, 2024, but remain in effect until replaced by a new agreement; and

WHEREAS, each corporation has its own board; and

WHEREAS, the revisions to the format for these agreements as highlighted below:

- Incorporate requirements of the University-Related Corporations Audit Resolution approved by the Board of Visitors on March 31, 2008
- Upon request by the university, each university-related corporation will review its annual operating budget, capital budget, and long-term program and funding plans, including any planned issuance or use of indebtedness, with the university before presenting any such budgets or plans to its board
- A university-related corporation is a covered entity under the university's obligation to identify and report to the federal government financial support from foreign sources. The university-related corporation will coordinate with the university and its departments to report gifts and contracts received for the benefit of the university in accordance with university procedures; and

WHEREAS, the Board of Visitors has the authority to authorize such revisions and affiliations,

NOW, THEREFORE BE IT RESOLVED, that revised agreements be extended for each university-related corporation with a term ending June 30, 2028 in the revised format as adjusted for any specific affiliate needs, applicable local laws and regulations.

RECOMMENDATION:

That revised agreements be extended for each university-related corporation with a term ending June 30, 2028 in the revised format as adjusted for any specific affiliate needs, applicable local laws and regulations, be approved.

August 28, 2024

AFFILIATION AGREEMENT BETWEEN
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY AND
"UNIVERSITY-RELATED CORPORATION NAME"

THIS AFFILIATION AGREEMENT ("Agreement"), dated as of "Month Day", 2024, is by and between VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY, a Virginia public corporation (the "University"), and "University-Related Corporation Name", a Virginia (or "Other State/Country") nonstock corporation, including each of its subsidiaries (the "Corporation"). The University and the Corporation are collectively referred to herein as the "Parties."

RECITALS

a. The University is an agency of the Commonwealth of Virginia that was established in 1872 for the purpose of providing higher education.

b. The Corporation is a Virginia (or "Other State/Country") nonstock corporation that was established in ("Year") to support and benefit the University and exists and operates as a separate, independent entity with its own officers and governing board.

~~c~~. The Corporation was created for the purpose of "Corporation's Business Purpose".

~~d~~c. The Corporation is a tax-exempt charitable organization under Section 501(c)(3) of the United States Internal Revenue Code (or "Other Legal Structure").

~~e~~d. The University acknowledges the contributions that the Corporation makes to advance the University's mission and goals, and desires ~~to be affiliated~~an ~~with~~affiliation with the Corporation to make available certain facilities, resources, and services to the Corporation for its use.

~~f.~~e. The University and the Corporation desire to set forth the basic terms of their relationship.

NOW, THEREFORE, in consideration of the mutual commitments herein contained, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. **Relationship between the Parties**

(a) Pursuant to Section 23.1-2601 of the Code of Virginia, the University is a state agency and is a Virginia public corporation.

(b) The Corporation is a separately incorporated Virginia (or "Other State/Country") nonstock corporation and is an organization described in Internal Revenue Code section 501(c)(3) (or "Other Legal Structure").

(c) The Corporation shall convey to the University upon written request of the Board of Visitors any interest in real property owned by the Corporation, which real property is and shall be indirectly owned by the University.

(d) The University is responsible for the compensation and evaluation of all University personnel. The Corporation is responsible for the compensation and evaluation of all its personnel. The Corporation agrees that it shall endeavor to provide a benefits and compensation plan for its employees that as nearly as practical matches that of the University.

(e) The Corporation agrees that it will provide the University with (i) a copy of its articles of incorporation and bylaws, as well as any amendments to such organizational documents; and (ii) a list of all directors, officers, and staff members and their relevant contact information including e-mail addresses and telephone numbers. ~~—~~The Corporation also agrees that, upon request by the University, it will review its annual operating budget, capital budget, and long-term program and funding plans, including any planned issuance or use of indebtedness, with the University before presenting any such budgets or plans to its Board. The University acknowledges ~~, however,~~ that the Corporation's Board has full power and authority with respect to ~~such budgets~~the Corporation's annual operating budget, capital budget, and long-term program ~~and~~ plans, including any planned issuance of use of indebtedness. Both parties also acknowledge the importance of considering impacts to and limitations on the University's debt rating when making financial decisions, ensuring alignment with the University's financial objectives, its goal of maintaining favorable borrowing terms and capacity, and its ability to meet the Commonwealth's debt rating standards required of covered institutions pursuant to Virginia's Higher Education Restructuring Act. Additionally, the Corporation will adhere to predefined parameters and guidelines set forth by its Board, and available for review by the university upon request, in making decisions related to debt issuance or utilization, ensuring responsible and strategic financial management.

(f) The Corporation agrees that it shall remain in good standing with the Virginia State Corporation Commission (if Virginia Corporation).

(g) The President of the University, or his or her designee, shall be responsible for communicating to the Corporation the University's priorities and strategic and long-term plans, as approved by the University's Board of Visitors.

2. **Corporation Board**

(a) The Corporation is an independent Virginia (or "Other State/Country") corporation with authority to appoint directors to serve on its Board in accordance with its articles

of incorporation and bylaws. The Parties agree, however, that the President of the University, or the President's designee, shall serve as a Corporation director and member of the Corporation's Executive Committee.

(b) The Corporation represents that the officers and board members of the Corporation were provided a copy of this Agreement and its Board~~they~~ authorized the person executing this Agreement on behalf of the Corporation to execute this Agreement.

(c) The Corporation agrees to provide, upon request by the University, a listing of the board members and officers of the Corporation annually.

(d) The Corporation agrees to provide, upon request by the University, copies of the approved minutes of all regular and special meetings of the Corporation's Board.

3. **Fundraising Activities**

The Parties acknowledge that the University is responsible for any fundraising activities of the University. The Corporation, as appropriate, will continue to support the University's fundraising efforts. Notwithstanding the foregoing, the solicitation of governmental grants and research contracts by the Corporation shall not be considered fundraising activities.

4. **Dealings with Third Parties**

(a) The University and the Corporation acknowledge that each is an independent entity, separate from the other, and neither shall hold itself out as being part of, controlled by, or acting on behalf of the other. Both Parties agree to take reasonable measures to ensure that third parties understand that the University and the Corporation are separate and independent entities. With respect to marketing, advertising, publicity, correspondence, contracts, and other formal means of communication, the Corporation will use its full corporate name to avoid confusion on the part of the third parties. All correspondence, solicitations, activities, and advertisements concerning the Corporation shall reflect the Corporation, the University, and the relationship between them appropriately.

(b) The Corporation shall prepare and timely file all of its tax returns and reports including information returns required under federal, state, and local laws. At the request of the Vice President for Finance and Chief Financial Officer, the Corporation shall provide copies of tax returns and reports that are publicly available information. The Corporation shall use its taxpayer identification number and its tax-exempt status in connection with purchases and sales by the Corporation, gifts to the Corporation, interest, and other income of the Corporation, and any other activity of the Corporation.

5. **Liability Insurance and Defense**

The Parties acknowledge that the University, the Commonwealth of Virginia, and the employees and agents of either will not be liable for any of the Corporation's contracts, torts, or other acts or omissions, or those by the Corporation's directors, officers, employees, or other staff, provided, however, that the limitations of liability stated herein shall not apply to faculty and staff of the University acting within the scope of their employment with the University. Further, the Parties acknowledge that neither the Corporation nor its directors, officers, employees, or staff are protected by the University's or the Commonwealth of Virginia's insurance policies or self-insurance plans in connection with the Corporation's activities, and the University and the Commonwealth will not provide any legal defense for the Corporation or any such person in the event of any claim against any of them.

6. **Non-Discrimination**

The Corporation agrees that it shall maintain a non-discrimination policy that is consistent with the University's Equal Opportunity/Affirmative Action Statement.

7. **Charges for Services**

The Parties agree to reimburse each other for the cost of services provided. To the extent that a rate schedule exists for these services, the appropriate rate will be charged. To the extent there is no rate schedule charge set for a service, the charged rate will be mutually agreed upon by the University and the Corporation. All business transactions shall be entered into by each side freely and independently.

8. **Use of Facilities, Resources, Services, and Marks**

(a) The University agrees that the Corporation is eligible to use the University's facilities, resources, and services (other than legal counsel), subject to availability and the policies and procedures of the University applicable to such facilities, resources and services.

(b) The University may accord the Corporation's personnel certain privileges related to the use of services and facilities generally available to University employees, subject to a separate written agreement between the Parties.

(c) Each Party grants, and the other accepts, a non-exclusive, non-transferrable royalty-free right and license to use the other's names and marks in connection with their operations, including as part of their names.

(d) The Corporation agrees that the use of ~~such~~ the University's names and marks will comply with University brand standards. The Corporation agrees that, in any creative work produced directly or ~~indication~~ indirectly for the Corporation, as it relates to any

University marks, the creative work's end application will fit the visual look and feel of the overall brand aesthetic and brand concept and will correctly use all University marks including logos and identity components. Creative work will include, but is not limited to: websites, applications, electronic communications, newsletters, advertisements, mailings, magazines, and other communication materials (digital and print).

(e) Nothing in this Agreement gives the other party any other right, title, or interest in the licensed marks, which remain the sole property of the other.

9. **Accounting Reports**

(a) The books and records of the Corporation shall be kept in accordance with generally accepted accounting principles.

(b) The Corporation shall provide to the Vice President for Finance and Chief Financial Officer a copy of the annual audited financial statements of the Corporation.

(c) The Corporation shall promptly disclose to the University any foreign gifts or contracts received on behalf or for the benefit of the University. This disclosure shall include all necessary information required for compliance with federal regulations, including but not limited to the amount, source, and purpose of the gift or contract.

10. **Audit**

(a) The Corporation shall have an Audit Committee, which reports to the Board of Directors of the Corporation, and which is comprised of individuals who are independent and separate from those who manage or administer the Corporation. Minutes from the Audit Committee meetings of the Corporation will be provided, upon request by the University.

(b) The Corporation at its expense shall have an annual audit performed by an external independent Certified Public Accountant (CPA) firm, and within six months of the Corporation's fiscal year end, shall provide copies to the University of its audited financial statements and management letter indicating any auditor concerns, if any, regarding financial and management matters, and suggestions for correction.

(c) The Audit Committee shall evaluate rotating the independent CPA firm or the audit team if a new CPA firm is not selected at least every five years.

(d) The chairman of the Audit Committee of the Corporation shall file an annual certification letter with the University stating that the procedures in (a)-(c) above have been followed.

(e) The Corporation agrees to participate in the University-related corporation internal audit program. All costs of both the annual audit and the internal audit work performed for the Corporation shall be paid by the Corporation.

~~**Audit**~~

~~The Corporation at its expense shall have an annual audit performed by an independent auditor, and shall provide copies of its financial statements, and related documents, produced in connection with the audit to the Senior Vice President and Chief Business Officer of the University. The Corporation agrees to participate in the University-related corporation internal audit program. All costs of both the annual audit and the internal audit work performed for the Corporation shall be paid by the Corporation.~~

~~10~~11. **No Partnership or Joint Venture**

No provision of this Agreement shall be deemed to create a partnership or joint venture between the University and the Corporation.

~~11~~12. **Dissolution**

Should the Corporation cease to exist or cease to be an organization described in Section 501(c)(3) of the Internal Revenue Code, the Corporation will transfer its assets to the University, or if it is no longer in existence to the Commonwealth of Virginia, any one or more affiliated entities with the University that are organized and operated exclusively for charitable and educational purposes within the meaning of Section 501(c)(3) and 170(c)(2)(B) of the Internal Revenue Code. If none of the University or its affiliated entities are then so described, the Corporation will distribute its assets and property to one or more organizations that are organized and operated exclusively for charitable and educational purposes within the meaning of Sections 501(c)(3) and 170(c)(2)(B) of the Internal Revenue Code. The Corporation agrees to transfer such assets and property in a manner that furthers the best interests of the University, as determined by its Board in consultation with the University.

~~12~~13. **Term and Termination of Agreement**

This Agreement shall become effective upon execution by both Parties and shall expire on June 30, ~~2024~~2028, but it will remain in effect past the expiration date unless (i) terminated by either Party, with or without cause, upon 90 days' prior written notice to the other, (ii) terminated by mutual written agreement of the Parties, or (iii) replaced by a new agreement.

~~13~~14. **Waiver**

Failure of either Party to enforce any of the provisions of this Agreement shall not be construed as a waiver of that, or any other, provision or any later breach thereof.

~~14~~15. **Notices**

Any notice under this Agreement shall be deemed given when deposited in the mail, postage prepaid, and addressed as follows:

If to the Corporation:

President
"Address"

If to the University:

President
Virginia Tech 210 Burruss Hall
Blacksburg, Virginia 24061

~~Senior~~ Executive Vice President and Chief ~~Business~~ Operating Officer
Virginia Tech
210 Burruss Hall
Blacksburg, Virginia 24061

With a copy to:
University Legal Counsel
Virginia Tech
236 Burruss Hall
Blacksburg, Virginia 24061

or to such other person, at such addresses, as either party may designate for itself and so notify the other party in writing.

~~15~~16. **Entire Agreement; Amendments**

This Agreement constitutes the entire agreement between the Corporation and the University concerning the subject matter, and it supersedes all prior written or oral agreements concerning this subject matter. This Agreement may not be amended except by written document executed by both Parties.

~~16~~17. **Governing Law**

This Agreement shall be governed by the laws of the Commonwealth of Virginia, regardless of its choice of law doctrine.

[Signatures Follow on Next Page]

IN WITNESS THEREOF, the Parties have executed this Agreement as of the date written above.

"UNIVERSITY-RELATED CORPORATION"	VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
By:_____ (Authorized Officer)	By:_____ (Authorized Officer)
Title: Chief Executive Officer	Title: President

Resolution for Subscription-Based Information Technology Arrangement with Amazon Web Services

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

August 7, 2024

The Division of Information Technology currently utilizes a Subscription-Based Information Technology Arrangement (SBITA) with Amazon Web Services that provides a wide range of scalable, secure, and cost-effective cloud computing solutions. Using Amazon Web Services offers numerous advantages for Virginia Tech operations including enhanced operational efficiency, reduced costs, improved security, and the ability to innovate and respond quickly.

Amazon Web Service supports various critical functions across campus, including data storage, computation, and application hosting. The future needs for Amazon Web Services include expanded cloud services, increased computing and storage capacity, and more robust data analytics capabilities to support academic, administrative, and research activities.

The existing agreement is valid through August 31, 2024. The renewal term rides a cooperative contract with a Private Pricing Agreement that differentiates our pricing model and discounts from the cooperative contract.

The Private Pricing Agreement with Amazon Web Services is confidential and will have a present value of up to $7 million depending on the contract term. The negotiated term includes options for one, three, and five-year periods beginning on September 1, 2024. Discounts and credits increase with the length of the renewal term.

The issuance of GASB Statement No. 96, implemented beginning July 1, 2022, requires Virginia Tech to recognize such agreements as an intangible right-to-use asset with a corresponding right-to-use liability thereby increasing the university's debt service to operations ratio.

While Virginia Tech seeks to define contracting arrangements well before the end of a contract term, the university is beholden to the time frame in which the vendor responds (in this case, Amazon Web Services) which did not align with required time frames for Board of Visitors approval.

Under the 2006 Management Agreement between the Commonwealth of Virginia and the university, the Board of Visitors has the authority to approve the budget, size, scope, debt issuance, and overall funding of capital projects, including long-term leases and subscription-based information technology arrangements. Prior to GASB Statement 96, SBITAs were approved by university administration through its internal budgeting and information technology procurement processes and reported as operating expenses in the year of payment. The Division of IT annual operating budget includes an amount sufficient to cover the annual cash outlay for subscription payments.

RESOLUTION FOR SUBSCRIPTION-BASED INFORMATION TECHNOLOGY ARRANGEMENT WITH AMAZON WEB SERVICES

WHEREAS, the Division of IT has an operational need for continued use of Amazon Web Services; and,

WHEREAS, the current term expires on August 31, 2024; and,

WHEREAS, the Division of IT annual operating budget includes an amount sufficient to cover the annual cash outlay for subscription payments; and,

WHEREAS, the maximum renewal term, including additional discounts and credits, has a present value up to $7 million and requires approval by the Board of Visitors prior to execution; and,

WHEREAS, under the 2006 Management Agreement between the Commonwealth of Virginia and Virginia Tech, the Board of Visitors has authority to approve the budget, size, scope, debt issuance, and overall funding of capital projects, including long-term leases and subscription-based information technology arrangements.

NOW, THEREFORE, BE IT RESOLVED, that Virginia Tech be authorized at the conclusion of negotiations to enter a subscription-based information technology arrangement for Amazon Web Services with a present value up to $7 million.

RECOMMENDATION:

That the above resolution authorizing Virginia Tech to enter a long-term subscription-based information technology arrangement with a present value up to $7 million be approved.

August 28, 2024

Comprehensive Update on Advancement

Charlie Phlegar, Senior Vice President for Advancement

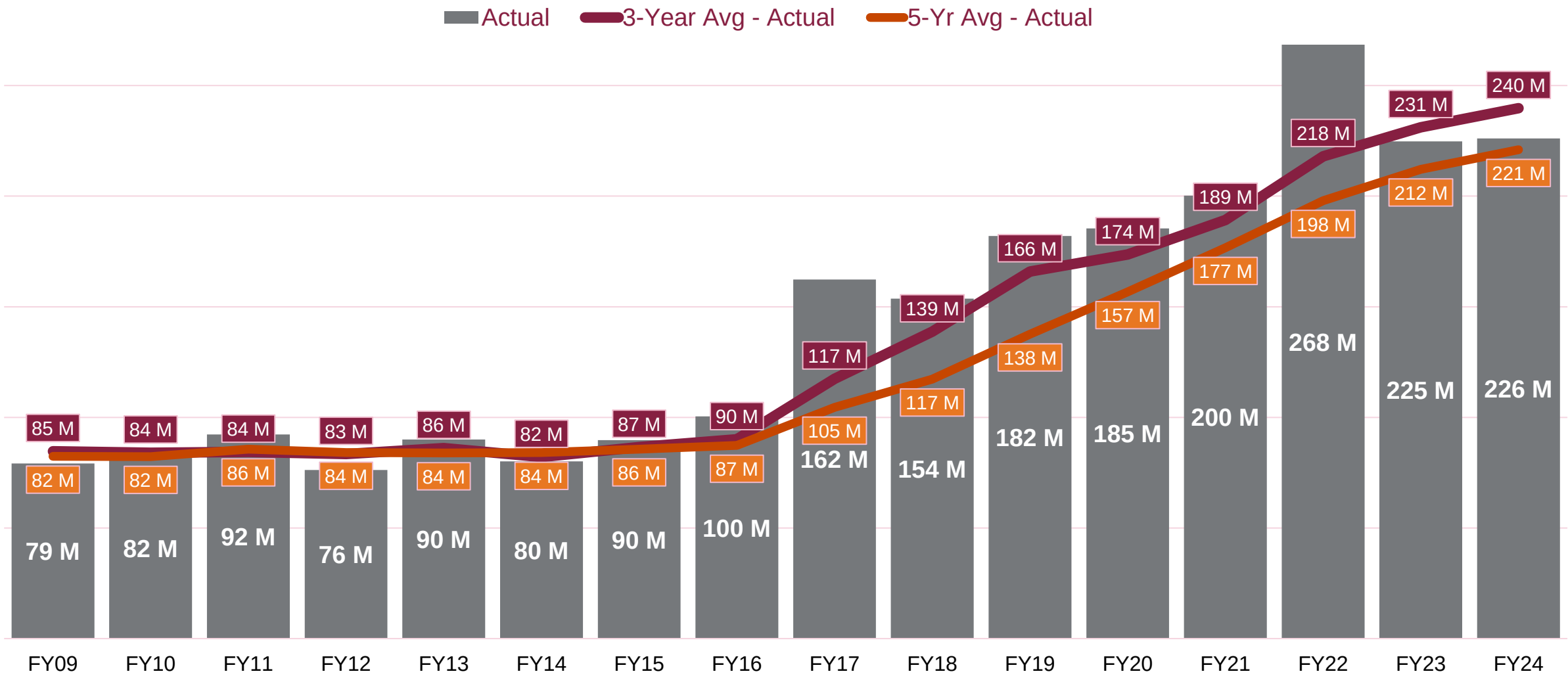
August 28, 2024

Year-End Giving Results

for the period July 1, 2023 – June 30, 2024

- New Gifts & Commitments
  - $**226,071,439**
  - Increased from $100,419,843 in FY16
- Cash
  - $**197,425,002**
  - Increased from $101,451,931 in FY16
- Three-year New Gifts & Commitments average of $**240 million**
- Five-year New Gifts & Commitments average of $**221 million**

New Gifts and Commitments 3-Year and 5-Year Average Comparison



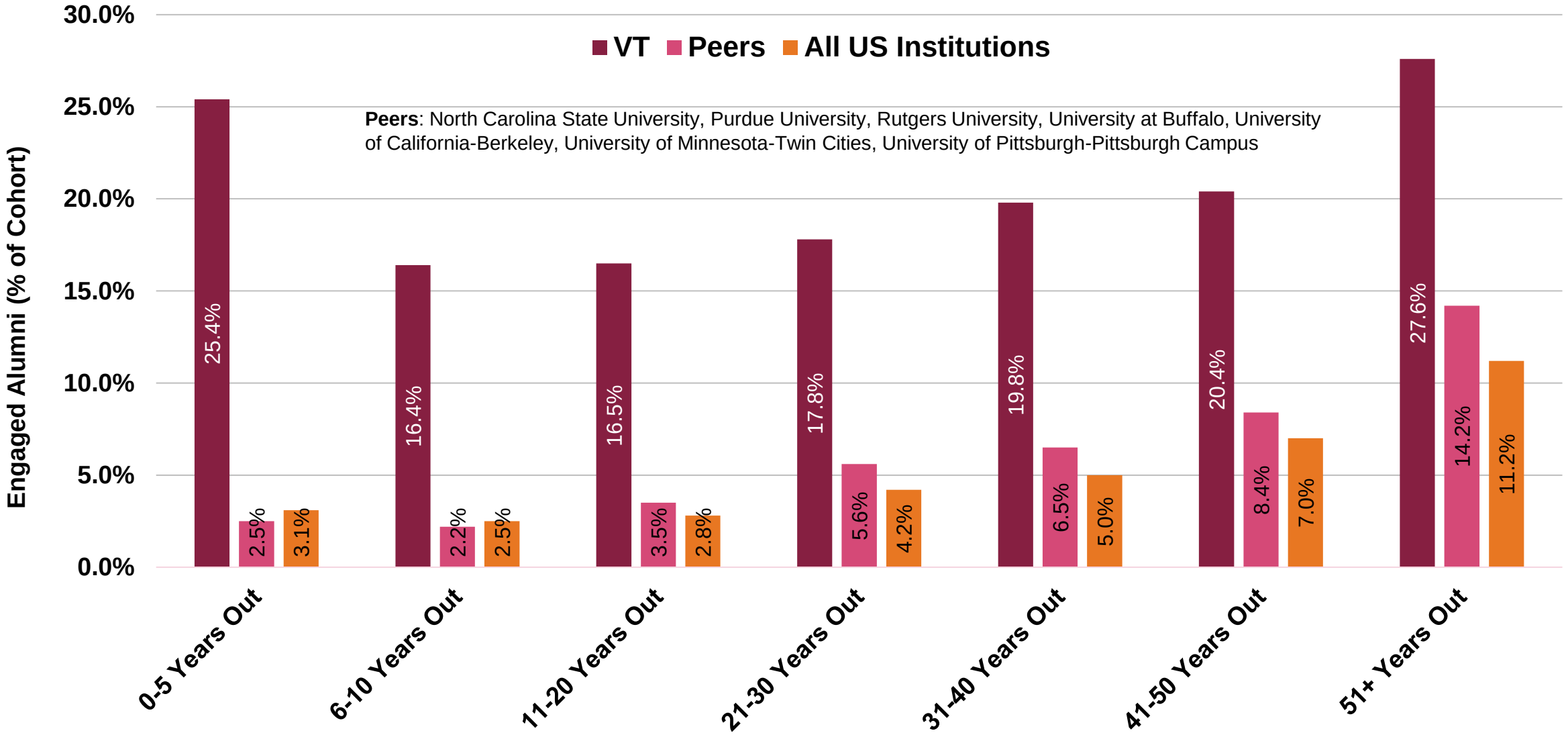
Note: Tracking of New Gifts and Commitments began in FY2016; prior years reflect cash amounts

Year-End Giving Results

for the period July 1, 2023 – June 30, 2024

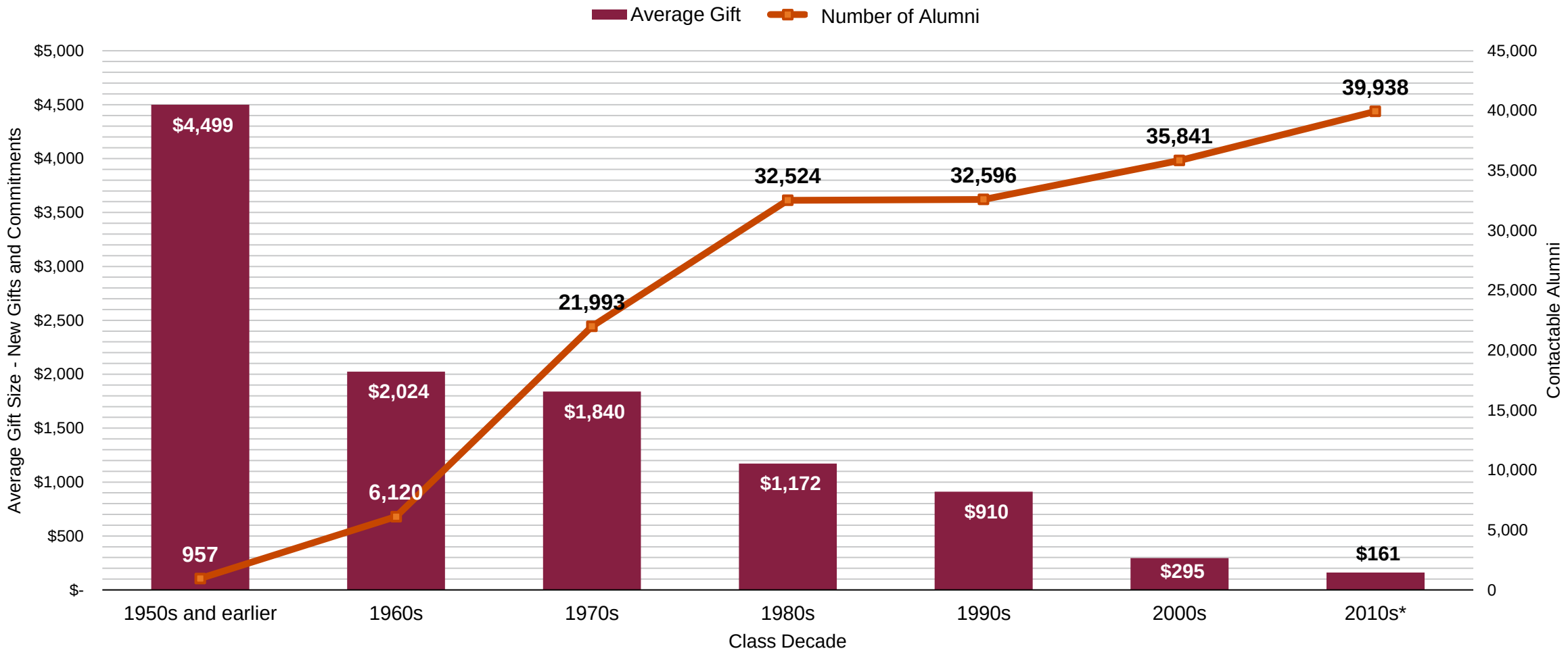
- Boundless Impact Campaign
  - $**1.644 billion** raised toward a $1.872 billion goal
- Undergraduate Alumni Participation
  - Sustained participation from FY22
  - Class of 2024: **49%** participation rate
  - Additional $1 billion over the next 20-years due to alumni base growth
- More than **67,784** total donors

Philanthropically Engaged Alumni
(by years out from graduation) FY23



***Source**: CASE Insights Strategic Benchmarking Report on Philanthropy (US) and Alumni Engagement, 2023*

Average Gift Size & Alumni by Class Year Decade



Presidential Priorities

- Virginia Tech Advantage
  - FY24 total: $**49,467,127**
  - FY24 goal: $25,875,000
  - $500 million over the next 10 years
- Global Distinction
  - FY24 total: $**85,590,635**
  - Areas include: Faculty, Staff, Post Doctorates, Graduate Students, Research, Capital Facilities

Near-Term Focus Areas

- Alumni Association
  - Committees focused on strategic work in support of university priorities
  - Strategic Issues Committee focused on supporting and advocating university strategic priorities
- Board alignment across the university
  - Leadership Council of Boards
- The university’s future success

Discussion

Financial Performance Report – Operating and Capital

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

July 1, 2023 to June 30, 2024

The Financial Performance Report of income and expenditures is prepared from two sources: actual accounting data as recorded at Virginia Tech and the annual budgets which are also recorded in the university accounting system. The actual accounting data reflect the modified accrual basis of accounting, which recognizes revenues when received rather than when earned and commitments to buy goods and services as encumbrances when obligated and as an expenditure when paid. The Original Budget was approved by the Board of Visitors at the June meeting. The Adjusted Budget reflects adjustments to incorporate actual experience or changes made during the fiscal year. These changes are presented for review by the Finance and Resource Management Committee and the Board of Visitors through this report. Where adjustments impact appropriations at the state level, the university coordinates with the Department of Planning and Budget to ensure appropriations are reflected accurately.

The July to June 2023-24 budget (year-to-date) is prepared from historical data which reflects trends in expenditures from previous years as well as known changes in timing. Differences between the actual income and expenditures and the year-to-date budget may occur for a variety of reasons, such as an accelerated or delayed flow of documents through the accounting system, a change in spending patterns at the college level, or increases in revenues for a particular area.

Quarterly budget estimates are prepared to provide an intermediate measure of income and expenditures. Actual revenues and expenditures may vary from the budget estimates. The projected year-end budgets are, however, the final measure of operating budget performance.

Capital program performance is measured against the Total Project Budget. The Total Project Budget amounts reflect appropriations and authorizations established by the State or Board of Visitors for each capital project. These amounts are recorded in the accounting system with revenue and expenditure budgets upon the effective date of each project, which normally occurs on July 1 or after Board of Visitors approval. Under restructuring authorities, university administration may make minor changes to a Total Project Budget, within ten percent, and the revised Total Project Budget is shown on the subsequent quarterly report. The Cumulative Expenditures reflect lifetime-to-date activity until a project is complete, and a project's life spans multiple fiscal years. The Annual Budgets are estimates of expected activity for a 12-month portion of the life of a project. Spending pace for a project may periodically slow or accelerate during a year for a variety of reasons including shifts in construction start dates, contractor performance or billing cycles, and supply chain disruptions. The Annual Budgets are revised accordingly and shown on the subsequent quarterly report.

RECOMMENDATION:

That the report of income and expenditures for the University Division and the Cooperative Extension/Agricultural Experiment Station Division for the period of July 1, 2023 through June 30, 2024 and the Capital Outlay report be accepted.

August 28, 2024

OPERATING BUDGET
2023-24
Dollars in Thousands

	July 1, 2023 to June 30, 2024			Annual Budget for 2023-24		
	Actual	Budget	Change	Original	Adjusted	Change
Educational and General Programs						
University Division						
Revenues						
General Fund	$265,218	$265,218	$0	$251,676	$265,218	$13,542 (9)
Tuition and Fees	700,891	699,038	1,853	699,830	699,038	-792 (10)
All Other Income	55,013	57,524	-2,511 (1)	56,127	57,524	1,397 (11)
Total Revenues	$1,021,122	$1,021,780	$-658	1,007,633	$1,021,780	$14,147
Expenses						
Academic Programs	$-614,675	$-618,925	$4,250	$-639,788	$-618,925	$20,863
Support Programs	-404,837	-402,855	-1,982	-367,845	-402,855	-35,010
Reserve Drawdown/(Deposit)	-1,610	0	-1,610 (2)	0	0	0
Total Expenses	$-1,021,122	$-1,021,780	$658	$-1,007,633	$-1,021,780	$-14,147 (9,10,11)
NET	$0	$0	$0	$0	$0	$0
CE/AES Division						
Revenues						
General Fund	$89,693	$89,693	$0	$89,041	$89,693	$652 (12)
Federal Appropriation	17,258	17,261	-3 (3)	15,646	17,261	1,615 (13)
All Other Income	1,966	1,634	332 (4)	1,129	1,634	505 (14)
Total Revenues	$108,917	$108,588	$329	$105,816	$108,588	$2,772
Expenses						
Academic Programs	$-102,380	$-102,645	$265	$-96,144	$-102,645	$-6,501
Support Programs	-5,950	-5,943	-7	-9,672	-5,943	3,729
Reserve Drawdown/(Deposit)	-587	0	-587 (5)	0	0	0
Total Expenses	$-108,917	$-108,588	$-329	$-105,816	$-108,588	$-2,772 (12,13,14)
NET	$0	$0	$0	$0	$0	$0
Auxiliary Enterprises						
Revenues	$471,049	$461,541	$9,508 (6)	$452,724	$461,541	$8,817 (6)
Expenses	-435,586	-471,664	36,078 (6)	-435,098	-471,664	-36,566 (6)
Reserve Drawdown/(Deposit)	-35,463	10,123	-45,586 (6)	-17,626	10,123	27,749 (6)
NET	$0	$0	$0	$0	$0	$0
Sponsored Programs						
Revenues	$500,208	$436,453	$63,755 (7)	$435,303	$436,453	$1,150 (15)
Expenses	-436,272	-436,453	181 (7)	-435,303	-436,453	-1,150 (15)
Reserve Drawdown/(Deposit)	-63,936	0	-63,936	0	0	0
NET	$0	$0	$0	$0	$0	$0
Student Financial Assistance						
Revenues	$60,888	$61,695	$-807	$50,857	$61,695	$10,838 (16)
Expenses	-60,809	-61,695	886	-50,857	-61,695	-10,838 (16)
Reserve Drawdown/(Deposit)	-79	0	-79	0	0	0
NET	$0	$0	$0	$0	$0	$0
All Other Programs *						
Revenue	$25,804	$25,604	$200	$16,181	$25,604	$9,423 (17)
Expenses	-21,157	-25,196	4,039 (8)	-16,181	-25,196	-9,015 (17)
Reserve Drawdown/(Deposit)	-4,647	-408	-4,239 (8)	0	-408	-408 (17)
NET	$0	$0	$0	$0	$0	$0
Total University						
Revenues	$2,187,988	$2,115,661	$72,327	$2,068,514	$2,115,661	$47,147
Expenses	-2,081,666	-2,125,376	43,710	-2,050,888	-2,125,376	-74,488
Reserve Drawdown/(Deposit)	-106,322	9,715	-116,037	-17,626	9,715	27,341
NET	$0	$0	$0	$0	$0	$0

* All Other Programs include federal work study, surplus property, local funds, and unique military activities.

Presentation Date: August 28, 2024

OPERATING BUDGET

1. University Division All Other Income revenues are lower than projected due to continuing education activities.
2. While the Commonwealth requires revenues and expenses be balanced for Educational and General Programs, year end balances are possible for continuing education programs.
3. The budget for federal revenue is established to match projected allotments from the federal government that are expected to be drawn down during the state fiscal year. All expenses in federal programs are covered by drawdowns of federal revenue up to allotted amounts. Federal revenue in the Cooperative Extension and Agriculture Experiment Station Division is consistent with the timing of federal drawdowns in FY24.
4. Revenues for All Other Income are higher than projected due to Cooperative Extension self-generated revenues.
5. While the Commonwealth requires that revenue and expenses be balanced for Educational and General Programs, variances in federal funds are possible due to the timing differences between drawdowns and expenses.
6. Quarterly and projected annual variances are explained in the Auxiliary Enterprises section of this report.
7. Historical patterns have been used to develop a measure of the revenue and expenditure activity for Sponsored Programs. Actual revenues and expenses may vary from the budget estimates because projects are initiated and concluded on an individual basis without regard to fiscal year. Total sponsored research revenues are higher than projected. The sponsored research expenditures are 11.7% higher than June 30, 2023.
8. Expenses for All Other Programs were lower than projected due to timing of expenditures and lower than projected Surplus Property activity.
9. As a result of the 2023 Special Session, the annual budget for the University Division General Fund was increased $9.2 million for general fund support of affordability, $2.4 million for the state share of salary and fringe benefit rate changes, and $3.0 million for nongeneral fund interest earnings and credit card rebates. The budget was decreased $1.1 million for the TTIP Masters Enrollment adjustment from the Commonwealth. The corresponding expenditure budgets have been adjusted accordingly.
10. The annual budget for Tuition & Fees was increased $0.3 million for tuition and fee budget finalization, $3.1 million to supplant nongeneral fund scholarships with general funds allocated for Student Financial Aid in the 2023 Special Session of the General Assembly, increased $2.7 million for Fall 2023 enrollment variances, driven primarily by higher than projected graduate enrollments, and increased $2.1 million for lower enterprise fund activity. The budget was decreased $8.2 million for BOV approved tuition rebate scholarship and $0.8 million for lower than projected summer and winter activity. The corresponding expenditure budgets have been adjusted accordingly.
11. The University Division All Other Programs Income budget was increased $1.0 million for VTCSOM Partnership share of FY23 carryover and $3.5 million for Veterinary Medicine self-generated earmarks. A technical adjustment decreased the All Other Income budget $3.0 million to align projected activity by fund source. The corresponding expenditure budgets have been adjusted accordingly.
12. The annual budget for Cooperative Extension/Agricultural Experiment State Division General Fund increased $0.7 million for the general fund share of the state compensation program and fringe benefits. The corresponding expenditure budgets have been adjusted accordingly.
13. The federal revenue budget in the Cooperative Extension/Agricultural Experiment Station Division has been increased $1.6 million for the carryover of federal funds to FY24. The corresponding expenditure budgets have been adjusted accordingly.
14. The All Other Income budget in the Cooperative Extension/Agricultural Experiment Station Division has been increased $0.5 million for higher than projected VCE self-generated revenue. The corresponding expenditure budgets have been adjusted accordingly

15. As a result of the 2023 Special Session of the General Assembly, Sponsored projects revenue and expenditure budgets were increased $1.0 million for Transcranial Magnetic Stimulation research at the Fralin Biomedical Research Institute and $0.15 million for Virginia Racing Revenue activity.

16. The student financial assistance revenue and expenditure budgets were decreased $0.6 million for the finalization of the Student Financial Aid budget, increased $3.1 million for General Fund Support of resident undergraduate students from the 2023 Special Session of the General Assembly, increased $0.4 million for the SCHEV Pell Initiative, increased $8.2 million for the tuition rebate scholarship, decreased $0.5 million to support tuition mitigation, increased $0.1 million due to higher than projected VMSDEP stipend activity, and increase $0.2 million for technical swap in the nongeneral fund scholarship program.

17. The projected annual budgets for All Other Programs were increased $0.6 million to finalize budgets and $0.2 million for increased Surplus Property business volume. The projected annual revenue budgets were increased $8.6 million for an approved capital plan. The projected annual expense budgets were increased $1.2 million for outstanding 2022-23 commitments that were initiated but not completed before June 30, 2023 and increased $7.5 million for the approved capital plan. The projected annual expense budgets were decreased $0.5 million for technical alignments.

AUXILIARY ENTERPRISES

Dollars in Thousands

	July 1, 2023 to June 30, 2024				Annual Budget for 2023-24			
	Actual	Budget	Change		Original	Adjusted	Change	
Residence and Dining Halls *								
Revenues	$170,894	$167,902	$2,992	(1)	$173,675	$167,902	$-5,773	(8,9)
Expenses	-161,360	-172,045	10,685	(1)	-170,541	-172,045	-1,504	(8,9,10)
Reserve Drawdown/(Deposit)	-9,534	4,143	-13,677	(1)	-3,134	4,143	7,277	(8,9,10)
Net	$0	$0	$0		$0	$0	$0	
Parking and Transportation								
Revenues	$26,026	$25,013	$1,013	(2)	$24,284	$25,013	$729	(9,11)
Expenses	-20,781	-24,448	3,667	(2)	-21,544	-24,448	-2,904	(9,10,11)
Reserve Drawdown/(Deposit)	-5,245	-565	-4,680	(2)	-2,740	-565	2,175	(9,10,11)
Net	$0	$0	$0		$0	$0	$0	
Telecommunications Services								
Revenues	$27,177	$26,726	$451		$27,790	$26,726	$-1,064	(9,12)
Expenses	-26,913	-31,679	4,766	(3)	-26,055	-31,679	-5,624	(9,10)
Reserve Drawdown/(Deposit)	-264	4,953	-5,217	(3)	-1,735	4,953	6,688	(9,10,12)
Net	$0	$0	$0		$0	$0	$0	
University Services * **								
Revenues	$66,580	$64,813	$1,767	(4)	$65,062	$64,813	$-249	(9)
Expenses	-63,936	-72,545	8,609	(4)	-63,538	-72,545	-9,007	(9,10,13)
Reserve Drawdown/(Deposit)	-2,644	7,732	-10,376	(4)	-1,524	7,732	9,256	(9,10,13)
Net	$0	$0	$0		$0	$0	$0	
Intercollegiate Athletics *								
Revenues	$105,663	$106,140	$-477		$95,786	$106,140	$10,354	(9,14)
Expenses	-99,352	-102,425	3,073	(5)	-91,010	-102,425	-11,415	(9,10,14)
Reserve Drawdown/(Deposit)	-6,311	-3,715	-2,596	(5)	-4,776	-3,715	1,061	(9,10,14)
Net	$0	$0	$0		$0	$0	$0	
Electric Service *								
Revenues	$45,615	$44,892	$723		$43,740	$44,892	$1,152	(9)
Expenses	-43,389	-44,490	1,101		-41670	-44,490	-2820	(9,10)
Reserve Drawdown/(Deposit)	-2,226	-402	-1,824		-2,070	-402	1668	(9,10)
Net	$0	$0	$0		$0	$0	$0	
Inn at VT/Skelton Conf. Center								
Revenues	$14,982	$13,500	$1,482	(6)	$11,840	$13,500	$1,660	(9,15)
Expenses	-12,595	-14,090	1,495	(6)	-12,905	-14,090	-1,185	(9,10,15)
Reserve Drawdown/(Deposit)	-2,387	590	-2,977	(6)	1,065	590	-475	(9,10,15)
Net	$0	$0	$0		$0	$0	$0	
Other Enterprise Functions ***								
Revenues	$14,112	$12,555	$1,557	(7)	$10,547	$12,555	$2,008	(9,16)
Expenses	-7,260	-9,942	2,682	(7)	-7,835	-9,942	-2,107	(9,10,16)
Reserve Drawdown/(Deposit)	-6,852	-2,613	-4,239	(7)	-2,712	-2,613	99	(9,10,16)
Net	$0	$0	$0		$0	$0	$0	
TOTAL AUXILIARIES								
Revenues	$471,049	$461,541	$9,508		$452,724	$461,541	$8,817	
Expenses	-435,586	-471,664	36,078		-435,098	-471,664	-36,566	
Reserve Drawdown/(Deposit)	-35,463	10,123	-45,586		-17,626	10,123	27,749	
Net	$0	$0	$0		$0	$0	$0	

* University Systems include Dormitory and Dining Hall System, University Services System, Intercollegiate Athletics System, and Electric Service System. The Systems were created to provide assurance to bond holders that system revenues are pledged for the payment of debt service and to allow for dedicated repair and replacement that are not subject to liens of any creditor of the university.

** University Services System includes Career & Professional Development, Center for the Arts, Health Services, Recreational Sports, Student Engagement & Campus Life, Cultural and Community Centers, Student Organizations, and the VT Rescue Squad.

*** Other Enterprise Functions include Golf Course, Hokie Passport, Library Café, Library Photocopy, Licensing & Trademark, Little Hokie Hangout, New Student and Family Programs, Pouring Rights, Software Sales, Tailor Shop and Clearing Accounts.

AUXILIARY ENTERPRISE BUDGET

1. Revenues in Residence and Dining Halls are higher than projected due to higher than budgeted self-generated revenues primarily from interest earnings and summer conferences. Expenses are lower than projected due to timing of operating expenses, one-time facility improvement projects, and replacement of furniture and equipment normally scheduled during the summer months.
2. Revenues in Parking and Transportation Services are higher than projected due to higher than budgeted permit and self-generated revenues. Expenses are lower than projected due to timing of operating expenses, Fleet Services vehicle replacement purchases, and transit equipment purchases.
3. Expenses in Telecommunications Services are lower than projected due to timing of network telecommunication projects.
4. Revenues for the University Services System are higher than projected due to higher than budgeted self-generated revenues. Expenses are lower than projected due to timing of operating expenses and facility projects scheduled for summer months.
5. Expenses for Intercollegiate Athletics are lower than projected due to timing of expenses and one-time facility and equipment projects.
6. Revenues for the Inn at Virginia Tech are higher than projected due to higher than budgeted self-generated revenue. Expenses are lower than projected due to timing of operating expenses and facility projects.
7. Revenue for Other Enterprise Functions are higher than projected due to increased business volume in New Student Programs and Software Sales. Expenses are lower than projected due to timing of operating expenses.
8. The annual revenue and expense budgets for Residence and Dining Halls were decreased $5.5 million for lower dining business volume and timing of Dining's Perry Place at Hitt Hall opening. The revenue budget was decreased for lower Steger Center enrollment and expense budget increased for higher operating costs.
9. In June 2023, the annual revenue, expense, and reserve budgets for Auxiliary Enterprises were adjusted for technical alignments and finalization of fixed cost estimates. In addition, the annual revenue, expense, and reserve budgets for Auxiliary Enterprises were adjusted for the state 2% compensation program and board approved comprehensive fee and room and board reductions.
10. The annual expense budget for Auxiliary Enterprises was increased $25.3 million for outstanding 2022-23 commitments and projects that were initiated but not completed before June 30, 2023.

Auxiliary Enterprise	Outstanding Commitments
Residence and Dining Halls	$ 5,312,170
Parking and Transportation	1,390,856
Telecommunication Services	5,524,952
University Services System	8,262,740
Intercollegiate Athletics	2,409,303
Electric Service	1,618,422
Inn at Virginia Tech	(295,630)
Other Enterprise Functions	1,105,743
Totals	**$ 25,328,556**

11. The annual expense and reserve budgets for Parking and Transportation Services were increased $2.0 million for transportation equipment maintenance. The revenue and expense budgets were increased $0.6 million for higher business volume.

12. The annual revenue and reserve budgets for Telecommunications Services were decreased by $1.0 million for timing of the residential network refresh project.

13. The annual expense and reserve budgets for the University Services System were increased $0.4 million for Rescue Squad ambulance replacement.

14. The annual revenue, expense, and reserve budgets for Intercollegiate Athletics were increased $1.1 million to accommodate the football team's participation in the Military Bowl. The annual revenue budget was increased $2.7 million for insurance proceeds, $3.0 million for IMG Learfield, $0.6 million for ACC network revenues, $1.0 million for interest earnings, $0.6 million for women's basketball revenues, $0.2 million for supplemental NCAA distribution, $0.2 million private support for sports operating projects, $0.7 million for Kentucky women's basketball coach buyout, and $0.6 million in self-generated revenues. The annual expense budget was increased $0.6 million for the board approved football locker room capital project, $1.0 million for stadium chairback seat agreement, $4.3 million for team travel and sports operating expenses, $0.8 million for recruiting, and $2.4 million for facility projects and maintenance, $0.9 million for salary adjustments and faculty leave payouts, $0.7 million for Marquette women's basketball coach buyout, $0.4 million for student athlete medical costs, partially offset by a decrease of $3.4 million for alignment of scholarship expenses to private fundraising.

15. The annual revenue, expense, and reserve budgets for The Inn at Virginia Tech and Skelton Conference Center were increased $0.5 million for higher than projected business volume.

16. The annual revenue, expense, and reserve budgets for Other Enterprise Functions were increased for scholarship expenses in Licensing and Trademark, technical accounting alignments, and $0.3 million for privately funded Corps of Cadets physical training area.

CAPITAL OUTLAY PROJECTS
AUTHORIZED AS OF JUNE 30, 2024
Dollars in Thousands

	PROJECT INITIATED	FISCAL YEAR ACTIVITY ANNUAL BUDGET	FISCAL YEAR ACTIVITY YTD EXPENDITURES	TOTAL PROJECT BUDGET STATE SUPPORT	TOTAL PROJECT BUDGET NONGENERAL FUND	TOTAL PROJECT BUDGET REVENUE BOND	TOTAL PROJECT BUDGET TOTAL BUDGET	TOTAL PROJECT BUDGET CUMULATIVE EXPENDITURES	
EDUCATIONAL AND GENERAL PROJECTS									
Design Phase									
Planning: New Business Building	Apr 2022	$ 800	$ 273	$ -	$ 8,000	$ -	$ 8,000	$ 1,173	(1)
Expand VT-C SOM & Fralin Biomedical Research Institute	Sept 2023	200	19	-	9,000	-	9,000	19	(2)
Improve Center Woods Complex	Nov 2023	100	17	550	296	-	846	17	(3)
Construction Phase									
Maintenance Reserve	On-going	18,728	23,240	39,175	-	-	39,175	37,811	(4)
Livestock & Poultry Research Facilities, Phase I	Oct 2016	3,340	3,056	31,764	-	-	31,764	24,990	(5)
Innovation Campus - Academic Building	Jul 2019	75,000	88,219	177,164	80,336	44,636	302,136	235,712	(6)
Undergraduate Science Laboratory Building	Jul 2017	28,000	38,247	90,412	-	-	90,412	70,970	(7)
Building Envelope Improvements	Aug 2022	3,500	4,421	-	13,580	33,620	47,200	5,835	(8)
Life, Health, Safety, Accessibility, & Code Compliance	Jul 2020	3,000	4,272	10,400	-	-	10,400	6,157	(9)
Mitchell Hall (Replace Randolph Hall)	Jul 2020	12,500	8,321	264,453	11,000.00	16,828	292,281	15,863	(10)
Equipment and Special Initiatives									
Fralin Biomedical Research Institute Equipment	Jul 2020	6,730	6,486	18,133	-	-	18,133	17,888	(11)
Equipment for Workforce Development	May 2021	2,000	1,627	34,444	-	-	34,444	12,144	(12)
Close-Out									
Data and Decision Science Building	Jul 2019	5,522	4,315	69,000	-	10,000	79,000	77,793	(13)
Commerce Street Property Acquisition	Jun 2023	555	552	-	555	-	555	552	(14)
Corps Leadership and Military Science Building	Jun 2019	6,000	7,316	-	21,600	30,400	52,000	49,580	(15)
Hitt Hall	Apr 2017	22,000	36,001	-	33,600	51,400	85,000	73,885	(16)
TOTAL EDUCATIONAL AND GENERAL PROJECTS		$ 187,975	$ 226,382	$ 735,494	$ 177,967	$ 186,884	$ 1,100,345	$ 630,391	

Education and General Projects

1. Planning: New Business Building: This planning project will design a 92,300 gross square foot building for the Pamplin College of Business. Preliminary designs are underway.

2. Planning: Expand Virginia Tech-Carilion School of Medicine and Fralin Biomedical Research Institute: This planning project will design a new 100,000 gross square foot building for the VT-C School of Medicine and renovate 51,000 gross square feet of the existing School of Medicine and Research Institute building to be backfilled by the Fralin Biomedical Research Institute. Procurement for AE and CM services is in process.

3. Planning: Improve Center Woods Complex: This project will demolish the existing 12 facilities that have surpassed their useful life and construct 25,900 GSF of research laboratories, research support spaces, equipment storage and offices. Schematic design is underway.

4. Maintenance Reserve: The total project budget reflects $3.27 million of carryforward from fiscal year 2022, $17.462 million appropriated for fiscal year 2023, and $18.446 million of new appropriations from the State for fiscal year 2024. The annual budget amount reflects the pace necessary to meet the state's 85 percent spending performance requirement. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

5. Livestock & Poultry Research Facilities, Phase I: The new swine, poultry, beef, and equine facilities are substantially complete. A supplement from the State to support the fifth and final bid package has been received. Construction of three hay barns and the demolition swine facilities past their useful life are underway with substantial completion expected December 2025.

6. Innovation Campus – Academic Building: This project will construct a new 300,000 gross square foot academic building with below grade parking as part of the Innovation Campus in Alexandria Virginia. Private funds have been infused into the project and the corresponding amount of debt has been reduced. Construction is underway with substantial completion expected January 2025. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

7. Undergraduate Science Laboratory Building: Construction of the 102,000 gross square foot science instruction laboratory building is underway with substantial completion expected August 2024. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

8. Building Envelope Improvements: This project will complete envelope improvements to four buildings. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

9. Life, Health, Safety, Accessibility, & Code Compliance: This project improves accessible pedestrian connectors in the North Academic District. The installation of two enclosed elevator towers for an accessible pathway from the ground level of Derring Hall to Burchard Plaza is under construction. Accessible pathway improvements from Perry Street to the Drillfield are under construction with substantial completion expected April 2025. Designs for accessible pathways between Patton Hall, Holden Hall, and McBryde Hall are underway. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

10. Mitchell Hall (Replace Randolph Hall): This state authorized project will replace Randolph Hall with an approximately 285,500 gross square foot building to accommodate engineering instruction and research. The Guaranteed Maximum Price (GMP–1) contract for demolition and early site work has been successfully negotiated. Demolition is underway. Pricing for the remainder of the project, GMP-2, is expected fall 2024.

11. Fralin Biomedical Research Institute Equipment: This funding supports the procurement and installation of specialized research equipment for the Fralin Biomedical Research Institute.

12. Equipment for Workforce Development: This project supports space and equipment purchases for the instructional programs associated with the Tech Talent Investment Program.

13. Data and Decision Sciences Building: The project is closed.

14. Commerce Street Property Acquisition: The project is closed.

15. Corps Leadership and Military Science Building: The project is complete and will be closed and financial accounts terminated when final invoices are received and paid. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

16. Hitt Hall: The project is complete and will be closed and financial accounts terminated when final invoices are received and paid. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

Capital Outlay Projects Authorized as of April 30, 2023 (Continued)

Dollars in Thousands

	PROJECT INITIATED	FISCAL YEAR ACTIVITY ANNUAL BUDGET	FISCAL YEAR ACTIVITY YTD EXPENDITURES	TOTAL PROJECT BUDGET STATE SUPPORT	TOTAL PROJECT BUDGET NONGENERAL FUND	TOTAL PROJECT BUDGET REVENUE BOND	TOTAL PROJECT BUDGET TOTAL BUDGET	TOTAL PROJECT BUDGET CUMULATIVE EXPENDITURES	
AUXILIARY ENTERPRISE PROJECTS									
Design Phase									
Planning: Student Life Village, Phase I	Jun 2023	$ 800	$ 314	$ -	$ 19,500	$ -	19,500	$ 314	(1)
Construction Phase									
Maintenance Reserve	On-going	12,000	14,247	-	14,247	-	14,247	14,247	(2)
Student Wellness Improvements	Jun 2016	22,500	41,170	-	25,574	44,426	70,000	56,457	(3)
Football Locker Room Renovations	Jun 2023	3,000	2,960	-	5,900	-	5,900	2,960	(4)
Close-Out									
Dietrick Renovation	Sept 2017	242	239	-	9,129	-	9,129	9,126	(5)
New Upper Quad Residence Hall	Jun 2019	5,000	5,136	-	16,071	25,929	42,000	39,492	(6)
Slusher Hall Renovation	Mar 2023	5,030	4,088	-	7,500	-	7,500	6,558	(7)
TOTAL AUXILIARY ENTERPRISE PROJECTS		$ 48,572	$ 68,154	$ -	$ 97,920	$ 70,355	$ 168,276	$ 129,154	
GRAND TOTAL		$ 236,547	$ 294,536	$ 735,494	$ 275,887	$ 257,239	$ 1,268,621	$ 759,545	

Auxiliary Enterprise Projects

1. Planning for Student Life Village, Phase I: The planning project will design the first phase of the Student Life Village which will include 1,750 new beds, dining service capacity to meet approximately 4,000 transactions per day, and recreational space of approximately 23,000 gross square feet. The new beds are intended to replace the existing beds in Slusher Hall, provide for approximately 620 new beds for the Global Business and Analytics Complex (GBAC), and 500 beds to allow for swing space to pull existing residence halls offline for refurbishment. Schematic design is underway.

2. Maintenance Reserve: The auxiliary maintenance reserve program covers 106 assets with a total replacement value of $1.4 billion. Projects are scheduled and funded by the auxiliary enterprises. The units prepare five-year plans that outline their highest priority deferred maintenance needs. The annual budget and total project budget reflect the spending plans of the auxiliary units on maintenance reserve work scheduled for fiscal year 2024. The annual and total budgets may be adjusted during the year depending on the actual spending activities of the auxiliary units provided expenditures do not exceed the total resources encumbered for the program. The total budget was increased during the fourth quarter and did not exceed the total resources encumbered for the program.

3. Student Wellness Improvements: This project will renovate War Memorial Hall to address program improvements, deferred maintenance, code requirements, and install air conditioning to the building. Construction is underway with substantial completion expected July 2024. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

4. Football Locker Room Renovation: The project will renovate approximately 4,200 square feet within the Jamerson Athletic Facility to provide a state-of-the-art hydrotherapy suite and restroom and shower improvements in the player's locker room. Construction is underway with substantial completion expected August 2024.

5. Dietrick Renovation: The project is closed.

6. New Upper Quad Residence Hall: The project is complete and will be closed and financial accounts terminated when final invoices are received and paid. Resources are available and sufficient to cover accelerated cash flows, and the project remains within the authorized total budget.

7. Slusher Hall Renovations: The project is closed.

Financial Performance Report
July 1, 2023 – June 30, 2024

Simon Allen, Vice President for Finance and Chief Financial Officer

Tim Hodge, Associate Vice President for Budget and Financial Planning

Rob Mann, Assistant Vice President for Capital Budgeting and Financing

August 28, 2024

Operating Sources & Uses | University Consolidated

Cash Basis - $ in Thousands

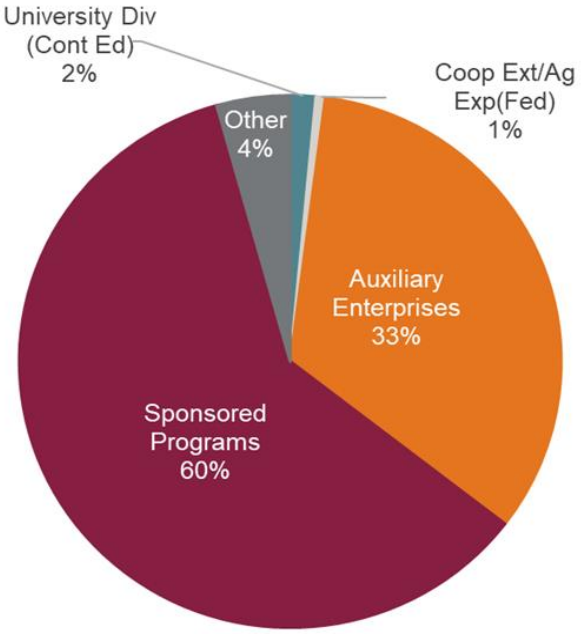
	FY22	FY23	FY24	FY24	
Sources	*Actual*	*Actual*	***Budget***	*Actual*	
Tuition & E&G Fees (net)	644,217	682,647	723,334	724,391	
State Appropriations	317,986	351,646	392,310	392,299	
Federal (VCE/AES)	15,912	13,605	17,261	17,258	
Federal, not sponsored(pandemic)	61,385	-	-	-	
Sponsored Programs(Direct & Indirect)	360,908	412,866	436,453	500,208	
Auxiliary Enterprise Revenue & Fees	388,506	430,535	461,541	471,049	
Other	65,632	66,204	84,762	82,783	
Total Operating Revenue	1,854,546	1,957,503	2,115,661	2,187,988	
Uses					
Personnel Costs					
Salaries, Stipends & Wages	860,380	933,668	1,024,129	1,023,248	
Fringe Benefits	259,910	274,582	313,540	301,066	
Financial Aid, Appropriated (a)	36,295	49,749	61,695	60,809	
General Expense & Services (Operating)	441,193	482,028	516,972	494,003	
Continuous Charges (utilities, leases, insurance	119,322	136,612	160,585	154,105	
Debt Service	31,816	34,611	48,456	48,436	
Total Operating Expenses	1,748,915	1,911,250	2,125,376	2,081,667	
Net from Operations	105,630	46,254	(9,715)	106,321	(b)

(a) In the Commonwealth of Virginia, appropriated student financial aid is a subset of the entire student financial aid program.

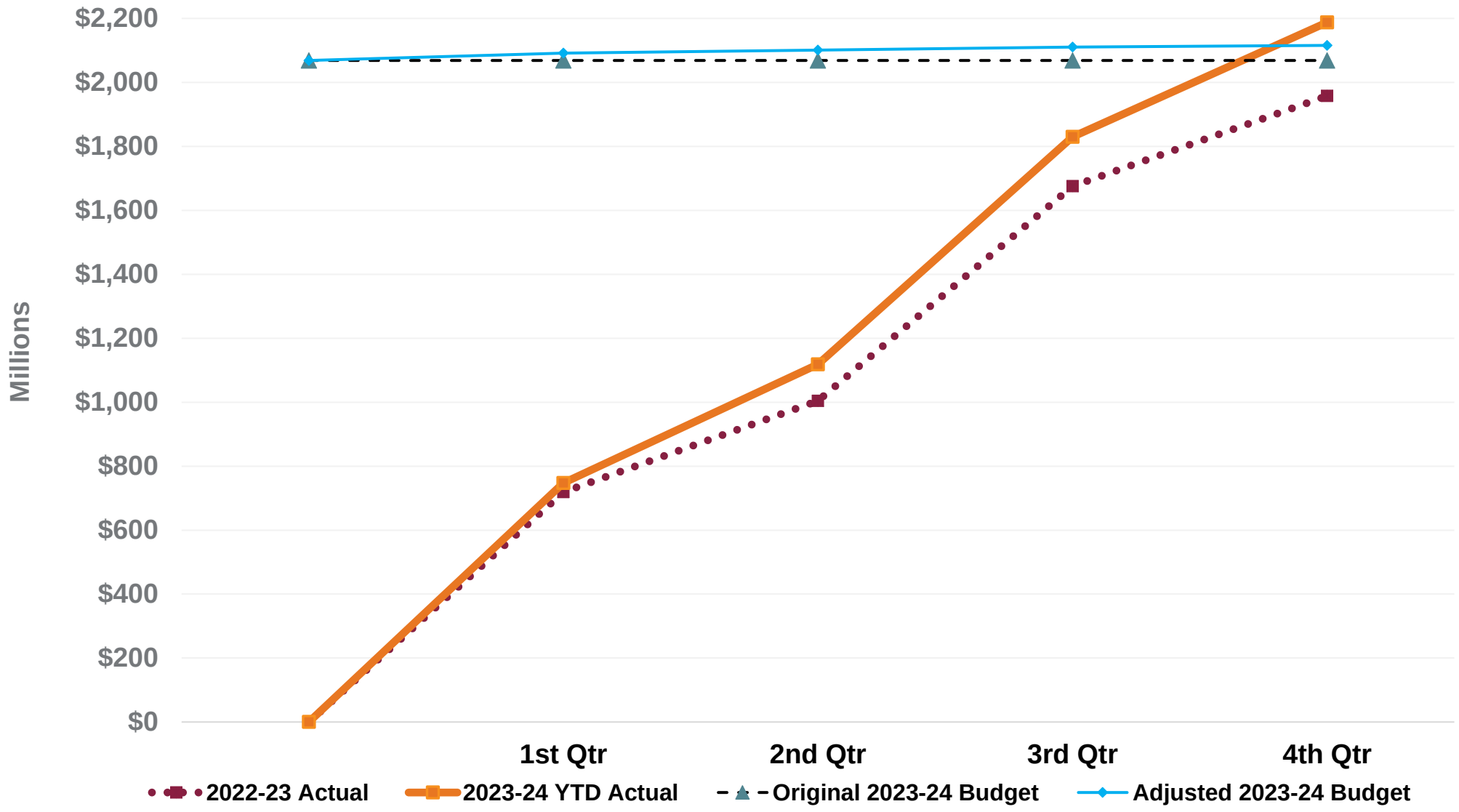
(b) While the University Division and Cooperative Extension/Agricultural Experiment Station Division E&G programs are balanced in accordance with state requirements, net from operations are possible with auxiliary enterprises (due to commitments, loan repayments), timing of external grant and contract activities, and certain capital activities. Obligations will be carried over and completed in the next fiscal year.

- Rating agencies expect 3-5% net
- VT's FY24 net is generated by several different business activities / timing:

Millions	
$ 20.7	Auxiliary Enterprise Carryover (estimate)
15.0	Repayment of Loans & Bond Covenant Requirements
2.1	Continuing Education & 229 Federal Timing
4.6	Committed Yet Unexpended Capital Funding
63.9	External Grants & Contracts Revenue
$ 106.3	Total



Operating Revenues



4th Quarter 2023-24

Financial Performance

Education and General

- Successfully closed fiscal year in both University Division E&G and Cooperative Extension/Agricultural Experiment Station Division, E&G cash fully utilized without deficit in accordance with State rules.

Sponsored Programs

- Growth in both Federal and non-federal Grants & Contract expenditures in FY24.

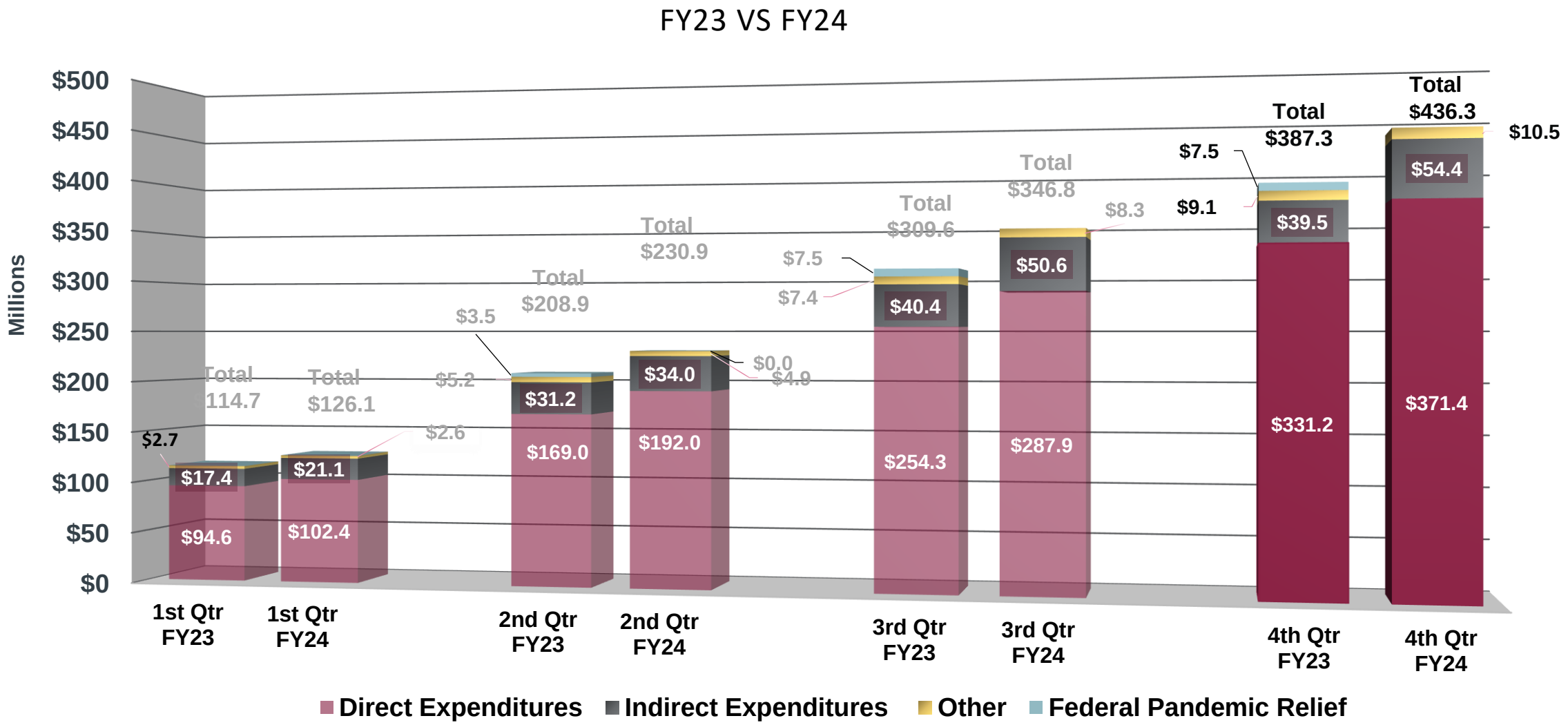
Auxiliary Enterprises

- Auxiliary loan repayments (underwritten by reserves) & expenses lower than projected due to product availability, long lead times, and staffing challenges
- Auxiliary temporary year end savings due to timing of incomplete projects (carryover)

Annual Budget Changes During the Quarter

- Athletics: $1.8 million revenue increase for self-generated and contract revenues as well as a $6.5 million expense increase for sports operating, facility projects, contracts, and team travel which reduced budgeted surplus.

Sponsored Program Expenditures



Capital Program

Key Program Updates

Mitchell Hall

- *Demolition and sitework underway*

Projects Effective July 1, 2024

- *Improve Campus Accessibility*
- *Planning for Eastern Shore AREC Improvements*
- *Planning for Renovate Derring Hall Exterior*

Projects Closed

- *Data and Decision Science Building*
- *Commerce Street Property Acquisition*
- *Dietrick Renovation*
- *Slusher Hall Renovation*

Maintenance Reserve Program

- *Achieved the state 85% expenditure requirement*

Capital Outlay Total Program

	1st Quarter Ended	2nd Quarter Ended	3nd Quarter Ended	4th Quarter
 Design	5	5	5	4
 Construction	9	10	10	10
 Equipment	2	2	2	2
 Closeout	6	6	6	7
Total Projects	22	23	23	23
Total Budget ($ in Thousands)	$1,259,024	$1,259,885	$1,266,374	$1,268,621
Total Expenditures ($ in Thousands)	$558,989	$620,829	$694,278	$759,545

Timing for Construction Pricing



Cumulative design expenses through June 30, 2024- $1,523,000

Projects Coming Online

July	August	October	January 2025	December 2025
Student Wellness Improvements- War Memorial Hall Undergraduate Laboratory Building	Football Locker Room Renovation	ADA & Code Compliance- Phase II	Innovation Campus – Academic Building	Livestock Haybarns

CALENDAR YEAR 2024

Cumulative construction expenses through June 30, 2024 - $471,003,000

Approval of Year-to-Date Financial Performance Report

July 1, 2023 – June 30, 2024

Recommendation:

That the report of income and expenditures for the University Division and the Cooperative Extension/Agriculture Experiment Station Division for the period of July 1, 2023 through June 30, 2024 and the Capital Outlay report be approved.

August 28, 2024

Financial Summary of Faculty and Staff Merit Programs

FINANCE AND RESOURCE MANAGEMENT COMMITTEE

August 9, 2024

Background

Through the authority of the Commonwealth of Virginia's *Restructured Higher Education Act of 2005* and subsequent Management Agreement between the Commonwealth and Virginia Tech, the university is empowered to adopt and implement human resources systems for university employees. Such systems include policies, classification, performance management, compensation, benefits, and other human resources procedures. This authority applies to teaching and research faculty (T&R), administrative and professional faculty (AP), and university staff. The Board of Visitors has subsequently delegated authority to implement compensation programs for these employees to the university administration.

Policies affecting faculty employees are governed by the university's Faculty Handbook and described in the annual Faculty Compensation Plan approved by the board each June. Consistent with the Faculty Handbook, each faculty member undergoes an annual performance evaluation informed by a Faculty Activity Report submitted by the faculty member and discussed with their supervisor. Those evaluations serve as the basis for the recommended faculty merit adjustment, and recommendations are reviewed as appropriate by multiple levels of the university.

The university operates two staff employee systems: university staff and classified staff. Classified staff are those hired prior to July 1, 2006, and remain subject to the Commonwealth's Virginia Personnel Act with policies established by the Virginia Department of Human Resources Management (DHRM). Salary programs for classified staff are normally appropriated by the state. Individuals hired in non-faculty positions on or after July 1, 2006, are designated as "university staff". Since 2008, classified staff have been provided the opportunity to convert to university staff. Conversions, natural attrition of classified staff, and new hires of university staff have resulted in a current workforce of 523 (15%) classified staff and 2,857 (85%) university staff.

In August 2008, following significant collaborative engagement with staff employees and managers, the university presented a package of human resources policies for university staff to the Board of Visitors. Under this program, the existing benefits and compensation programs were retained for university staff. In addition, the university adopted a more flexible performance management rating system for university staff based on the existing compensation principles for classified staff that was submitted to the state's DHRM in 2000. This modified system includes a more flexible process for differentiation between levels of performance and would become the basis for an annual merit pay program for university staff. The board subsequently approved the policies governing university staff with an effective date of October 2008, and delegated authority for approval of personnel

decisions affecting university staff in accordance with these policies to the president or designee.

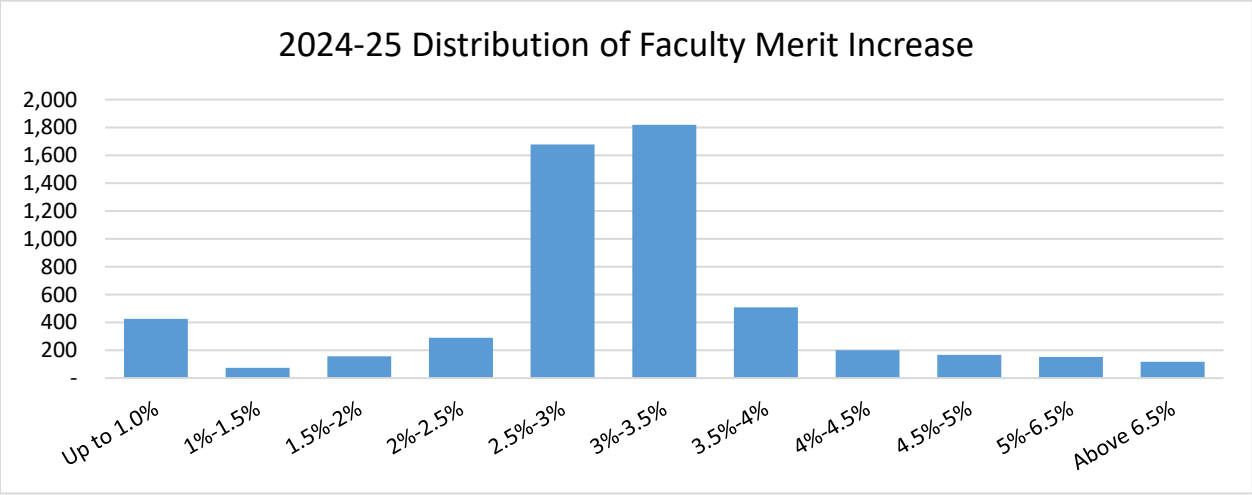
To assess performance, staff employees undergo an annual evaluation by their manager. Those evaluations and the employees' subsequent observed performance serve as the basis for the recommended merit adjustment.

2024-25 Merit Process

The commonwealth's 2024-26 Appropriation Act includes a three percent adjustment for all salaried employees, effective June 10, 2024. This state-authorized compensation program was incorporated into the Faculty Compensation Plan and the University Budget approved by the Board of Visitors at the June meeting. Consistent with these approvals, the university implemented a three percent merit program for faculty and university staff, and a three percent across-the-board increase with minimum performance requirement rating for classified staff. Increases were effective June 10 for calendar year (CY) employees and August 10 for academic year (AY) employees.

Faculty Merit Process Results

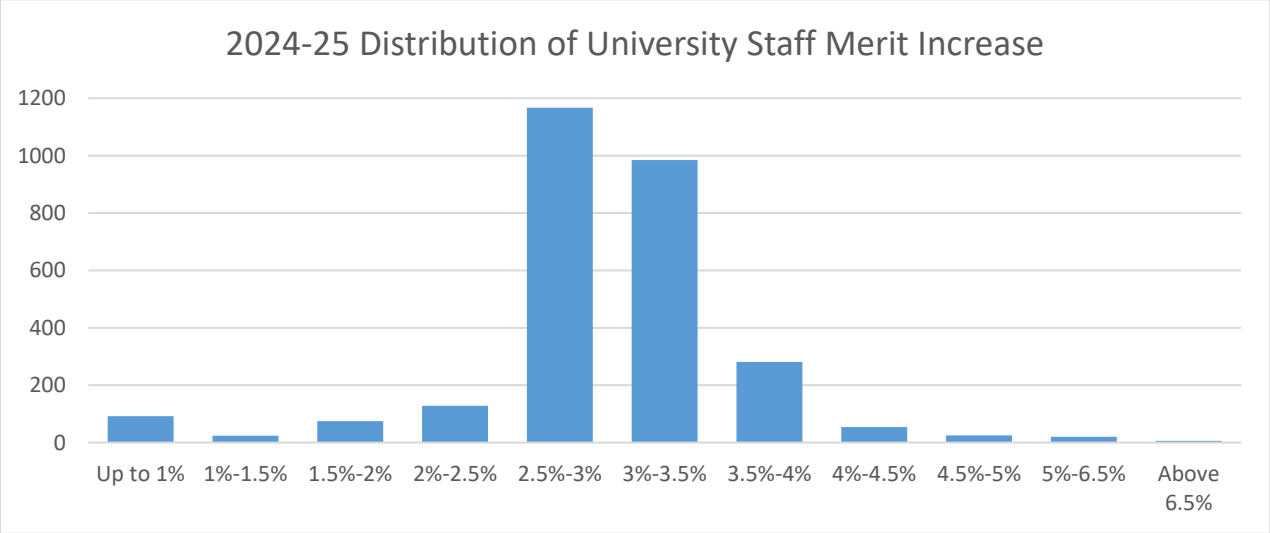
The merit process resulted in an average three percent merit increase for T&R and AP faculty, with salary increases differentiated based on performance. Eligibility was limited to T&R faculty hired on or prior to December 10, 2023, and AP faculty hired prior to March 10, 2024. The university implemented the results of the merit program in accordance with the parameters specified in the Appropriation Act and the university's Faculty Compensation Plan. While the overall faculty average adjustment is three percent, individual recommendations varied based upon employee performance and were distributed as follows:



**Adjustments of 0% occur for various reasons including ineligibility due to hire date, change of position or separation from the university, recent promotion or retention action, performance, contractual agreement, and other employment-related factors.*

University Staff Merit Process Results

This merit process resulted in an average three-percent staff increase for university staff, effective June 10, 2024. Only staff hired on or prior to March 10, 2024, were eligible for the increase. The university implemented the results of the merit program in accordance with the parameters specified in the Appropriation Act and the university's staff compensation policies. While the overall university staff average adjustment is three percent, individual recommendations varied based upon employee performance and were distributed as follows.



**Adjustments of 0% occur for various reasons including ineligibility due to hire date, change of position or separation from the university, recent promotion or retention action, performance, contractual agreement, and other employment-related factors*.

Financial Summary of Faculty and Staff Merit Programs

Simon Allen, Vice President for Finance & Chief Financial Officer

Bryan Garey, Vice President for Human Resources

August 28, 2024

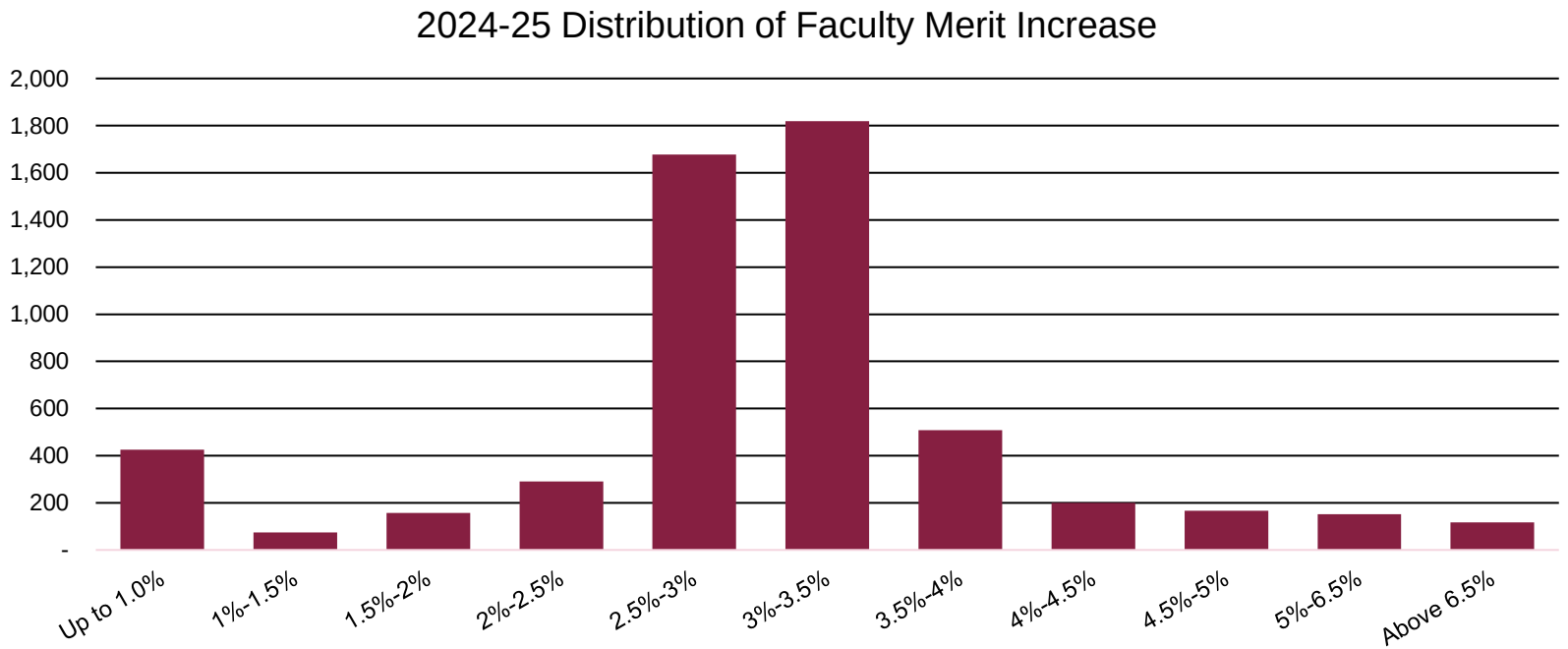
Background

- The Governor and General Assembly included a three-percent faculty and staff compensation program in the approved biennial budget.
- At the June meeting, the Board of Visitors approved the Faculty Compensation Plan and University Budget.
- University facilitated the merit process to differentiate and recognize performance, resulting in an average three-percent increase for faculty and university staff.
- Merit programs were implemented within the parameters specified in the Appropriation Act and the university's Faculty Compensation Plan and university staff policies
- The university is now summarizing the results of the process

2024-25 Faculty Merit Program Results

Average Increase

3%



**Adjustments of 0% occur for various reasons including ineligibility due to hire date, change of position or separation from the university, recent promotion or retention action, performance, contractual agreement, and other employment-related factors.*

T&R faculty hired on or prior to December 10, 2023, are eligible for the merit increase
Effective June 10 for calendar year (CY) faculty and August 10 for academic year (AY) faculty

2024-25 Staff Compensation Update

- Since 2006, the university has operated two staff personnel systems:

Classified Staff	University Staff
Governed by **Virginia Personnel Act** and policies developed by Virginia Department of Human Resources	Governed by human resources policies adopted by the **Board of Visitors** in August 2008
Compensation programs are initiated by the commonwealth University may not supplement or implement additional programs	Compensation programs are consistent with state approved programs University may supplement or implement additional programs
Hired prior to July 1, 2006	Hired on July 1, 2006, and after, or have converted from Classified Staff
15% of staff workforce	85% of staff workforce

2024-25 Staff Compensation Update

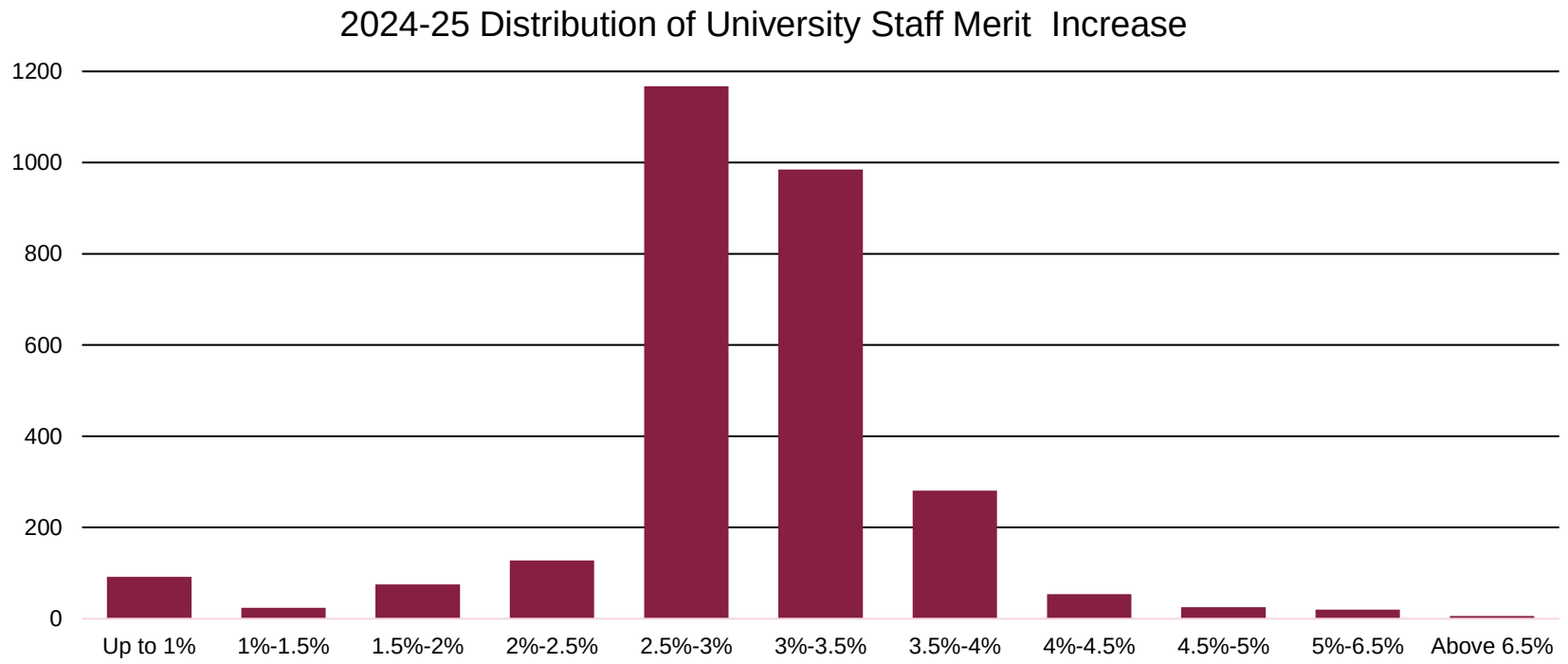
- The 2024 General Assembly approved a biennial budget with the following compensation actions:

	State Increase	Basis of Increase
Classified Staff	3.0%	Across-the-board
University Staff	3.0%	Merit

2024-25 University Staff Merit Program

Average Increase

3%



**Adjustments of 0% occur for various reasons including ineligibility due to hire date, change of position or separation from the university, recent promotion or retention action, performance, contractual agreement, and other employment-related factors.*

Increases are effective June 10, 2024, and appeared in employee paychecks on July 1, 2024. The average university staff salary increased from $52,388 to $53,959.

DISCUSSION

Discussion of Future Agenda Topics and Closing Remarks

Dave Calhoun

Finance and Resource Management Committee

Open Joint Session Agenda

FINANCE AND RESOURCE MANAGEMENT COMMITTEE
AND BUILDINGS AND GROUNDS COMMITTEE

Latham Ballroom A/B, the Inn at Virginia Tech

11:00 a.m.

August 28, 2024

		Agenda Item	Reporting Responsibility
	1.	Update on Expanding the Research Vivarium Space Project	Simon Allen Dwyn Taylor Rob Mann
*	2.	Approval of Resolution for a Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion	Simon Allen Dwyn Taylor Rob Mann

*** Requires full Board approval**
 # Discusses Enterprise Risk Management topic(s)
+ Discusses Strategic Investment Priorities topic(s)

Briefing Report

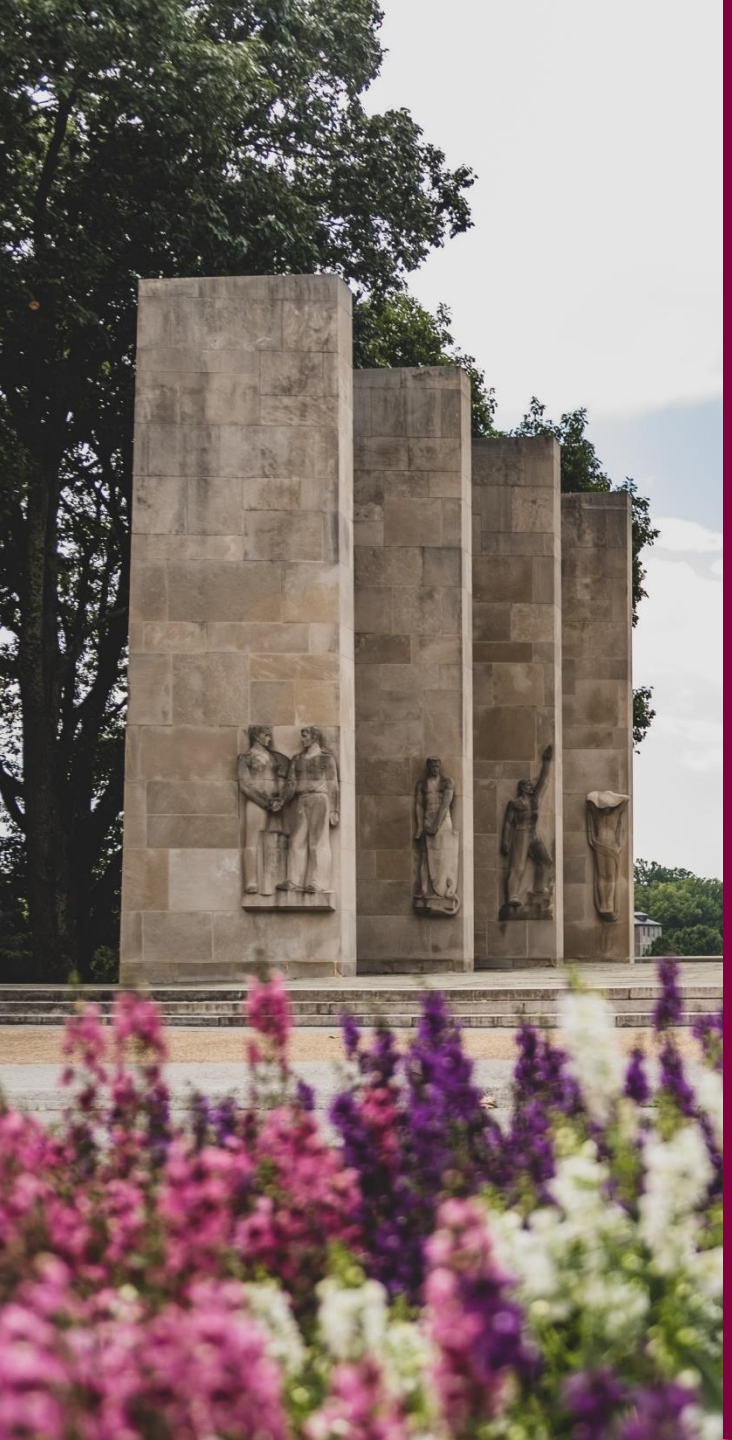
JOINT FINANCE AND RESOURCE MANAGEMENT COMMITTEE
AND BUILDINGS AND GROUNDS COMMITTEE

August 28, 2024

Joint Open Session

1. **Update on Expanding the Research Vivarium Space Project:** The Committees will receive an update on the Research Vivarium space project. The university plans to partner with the Virginia Tech Foundation and the Corporate Research Center (CRC) to design and construct a new Research Vivarium. This project, located at the CRC, includes 68,000 gross square feet of research vivarium, laboratories, faculty and staff offices, and other support spaces. The $45 million budget is to be funded with Nongeneral funds serviced by university overhead.

* 2. **Approval of Resolution for a Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion:** The Committees will review for approval a resolution to plan the Veterinary Teaching Hospital renovation and expansion capital project. This is a $4.3 million planning authorization to complete designs through working drawings for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion project.



Update on Expanding the Research Vivarium Space Project

ROB MANN
Assistant Vice President for Capital Budgeting and Financing

AUGUST 28, 2024

Update on Expanding the Research Vivarium Space Project

The university plans to partner with the Virginia Tech Foundation and Corporate Research Center to design and construct a new Research Vivarium



Included in the Six-year Capital Outlay Plan



Aligns with the university's Global Distinction priority on the Strategic Plan



And provides the most cost-efficient and timely solution for the research program

VIRGINIA TECH

Update on Expanding the Research Vivarium Space Project

Location:

- Corporate Research Center

Scope: 68,000 GSF

- Primarily research vivarium and laboratories,
- Also includes faculty and staff offices and other support spaces

Budget: $45 million

- Funding Plan: Nongeneral funds serviced by university overhead
- Break-even long-term lease arrangement with the VT Foundation



Corporate Research Center (CRC)

Questions





VIRGINIA TECH

Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion

JOINT FINANCE AND RESOURCE MANAGEMENT COMMITTEE AND BUILDINGS AND GROUNDS COMMITTEE

August 9, 2024

The Campus Master Plan and the Six-Year Capital Outlay Plan include the renovation and expansion to the College of Veterinary Medicine's (CVM) Teaching Hospital. This project has been a high priority for the College and its teaching and research mission including its operational and fundraising efforts for multiple years.

The existing Teaching Hospital is a full-service veterinary facility providing primary and specialized care for both small and large animals on the main campus in Blacksburg, Virginia. The hospital focuses on teaching and provides a hands-on learning experience where students, residents and interns work closely with CVM faculty and staff. However, the current facility was constructed nearly forty years ago, and the small animal patient care and teaching facilities are no longer capable of meeting the current space demands of the school's growing academic program.

In 2019 a feasibility study for the project was completed, and a proposed solution to both the space quality and quantity constraints of small animal service is a renovation and expansion that is also needed to address potential accreditation issues for the Veterinary Teaching Hospital's program. The renovation and expansion will provide new exam rooms, surgery rooms, and service modules, community practice space as well as ICU, Intermediate Care Suite, physical therapy and pharmacy stores and the necessary support spaces. The project scope is envisioned as the renovation of approximately 25,000 gross square feet (GSF) as well as an addition of approximately 32,000 GSF for a combined total of 57,000 GSF of updated, modern space for the CVM Teaching Hospital's academic program.

The target total project budget is $43 million, and the funding plan calls for entirely nongeneral fund support. The funding sources include the use of a combination of nongeneral funds including private gifts, university overhead, CVM Hospital revenues, along with annual support for debt service. Sufficient private funds and CVM cash reserves are available to cover the $4.3 million costs to complete planning through working drawings. Thus, the university is ready to request a planning authorization and begin design work.

Under the 2006 Management Agreement between the Commonwealth of Virginia and the university, the Board of Visitors has the authority to approve the budget, size, scope, and funding of nongeneral fund capital outlay projects. This request is for a $4.3 million planning authorization to complete working drawings for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion project. A subsequent request for full project funding may be submitted after designs are underway and a firm scope, cost, funding, and schedule for the entire project are determined.

RESOLUTION FOR A CAPITAL PLANNING PROJECT FOR THE COLLEGE OF VETERINARY MEDICINE TEACHING HOSPITAL RENOVATION AND EXPANSION

WHEREAS, the Campus Master Plan and the Six-Year Capital Outlay Plan include the renovation and expansion of the College of Veterinary Medicine's (CVM) Teaching Hospital; and,

WHEREAS, the hospital focuses on teaching and provides a hands-on learning experience where students, residents and interns work closely with CVM faculty and staff; and,

WHEREAS, the existing Teaching Hospital was constructed nearly forty years ago, and is no longer capable of meeting the demands of the school's growing academic program; and,

WHEREAS, the project is envisioned as the renovation of approximately 25,000 gross square feet (GSF) as well as an addition of approximately 32,000 GSF for a combined total of 57,000 GSF of updated, modern space for the CVM Teaching Hospital's academic program; and,

WHEREAS, a renovation and expansion will provide new exam rooms, surgery rooms, and service modules, community practice space as well as ICU, Intermediate Care Suite, physical therapy and pharmacy stores and the necessary support spaces; and,

WHEREAS, the university is requesting a $4.3 million planning authorization to complete working drawings and to fund the planning project with 100 percent non-general fund resources derived from private gifts and CVM cash reserves; and,

WHEREAS, the university may submit a subsequent request for full project funding after designs are underway and a firm scope, cost, funding plan, and schedule for the entire project are determined; and,

WHEREAS, under the 2006 Management Agreement between the Commonwealth of Virginia and Virginia Tech, the Board of Visitors has authority to approve the budget, size, scope, and overall funding of non-general funded major capital outlay projects.

NOW, THEREFORE, BE IT RESOLVED, that the university be authorized to move forward with a $4.3 million planning authorization to complete designs through working drawings for the College of Veterinary Medicine Hospital Renovation and Expansion project.

RECOMMENDATION:

That the resolution authorizing Virginia Tech to plan the College of Veterinary Medicine Hospital Renovation and Expansion project be approved.

August 28, 2024



Resolution for a Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion

ROB MANN
Assistant Vice President for Capital Budgeting and Financing

AUGUST 28, 2024



VIRGINIA TECH™

Resolution for a Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion

The Campus Master Plan, Six-Year Capital Outlay Plan, and University Debt Report include a capital project to renovate and expand the College of Veterinary Medicine Teaching Hospital.



Veterinary Teaching Hospital Expansion Rendering (from Feasibility Study)

Resolution for a Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion

- Scope: envisioned as an approximately 57,000 GSF total project
  - 25,000 GSF renovation of existing spaces
  - 32,000 GSF addition to CVM Hospital
- Target total project budget: $43 million
- Requesting a $4.3 million planning authorization to complete designs through working drawings for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion project.
- Nongeneral funds including CVM hospital revenues, university overhead, private gifts, and debt serviced by these resources.



Resolution for a Capital Planning Project for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion

NOW, THEREFORE, BE IT RESOLVED, that the university be authorized to move forward with a $4.3 million planning authorization to complete designs through working drawings for the College of Veterinary Medicine Teaching Hospital Renovation and Expansion project.

Recommendation

That the resolution authorizing Virginia Tech to plan the College of Veterinary Medicine Teaching Hospital Renovation and Expansion project be approved.

August 28, 2024