**REVISED 2022 SIX-YEAR PLAN NARRATIVE (Part II)**

**Section B. Institutional Mission, Vision, Goals, Strategies, and Alignment to State Goals:** Provide a statement of institutional mission and indicate if there are plans to change the mission over the six-year period.

Provide a brief description of your institutional vision and goals over the next six years, including numeric targets where appropriate. Include specific strategies (from Part 3 – Academic-Financial Plan and Part 4 – General Fund Request) related to the following state themes and goals:

* **Equitable:** Close access and completion gaps. Remove barriers to access and attainment especially for Black, Hispanic, Native American and rural students; students learning English as a second language; students from economically disadvantaged backgrounds; and students with disabilities.
* **Affordable:** Lower costs to students. Invest in and support the development of initiatives that provide cost savings to students while maintaining the effectiveness of instruction.
* **Transformative:** Expand prosperity. Increase the social, cultural and economic well-being of individuals and communities within the Commonwealth and its regions. This goal includes efforts to diversify staff and faculty pools.

Strategies also can cross several state goals, notably those related to improved two-year and four-year transfer, and should be included here. If applicable, include a short summary of strategies related to research. The description of any strategy should be one-half page or less in length. Be sure to use the same short title as used in the Part 3 and Part 4 worksheets. If federal stimulus funds will fund activities and are included in Part 3 as reallocations, please note how they will be used.

**RESPONSE:**

**Mission Statement:** *Inspired by our land-grant identity and guided by our motto, Ut Prosim (That I May Serve), Virginia Tech is an inclusive community of knowledge, discovery, and creativity dedicated to improving the quality of life and the human condition within the Commonwealth of Virginia and throughout the world.*

In the fall of 2020, Virginia Tech completed revisions to its long-term strategic plan: **The Virginia Tech Difference: Advancing Beyond Boundaries.** Based on the university’s vision, motto, and core values, the framework of the plan is centered around four strategic pillars:

1. Advance Regional, National, and Global Impact
2. Elevate the Ut Prosim (That I May Serve) Difference
3. Be a Destination for Talent
4. Ensure Institutional Excellence

The university’s Academic-Financial Plan and General Fund requests support these key areas. Revisions for 2022 are technical in nature.

Strategies: Part 3 – Academic-Financial Plan

**1) Advance Regional, National, and Global Impact**

Facilitate Recruitment of Talented and Diverse Mid-Career Faculty and Bolster Retention of Promising Early-Career Faculty

Critics of the modern university often lament the rise of disciplinary specialization, the tendency of scholars to isolate knowledge production within disciplinary boundaries and constrictive paradigms of understanding. Working with leaders spanning several academic departments, Virginia Tech launched the ‘Destination Areas’ initiative, a framework for transdisciplinary learning with an overarching goal of discovering holistic and novel solutions to complex problems. The Destination Areas initiative seeks to elevate partnerships with university Research Institutes and other prominent industry partners, providing students with unique externally funded experiential learning opportunities.

The university’s commitment to transdisciplinary learning will continue to enhance its ability to attract and retain scholars who seek the autonomy and flexibility to pursue groundbreaking scholarship beyond traditional disciplinary boundaries. While the university has been successful in the recruitment of early-career faculty, additional investment is needed to bolster early-career strength with targeted recruitment of mid-career faculty and the retention of promising early-career scholars. The university will target professional development opportunities and scholarship support to assist mid-career faculty as they ascend the promotion and tenure career ladder. Resources will be allocated to support retention packages and provide shared infrastructure.

Advance Evidence-Based, Student Centered Learning

Nourishing an active commitment to solve complex problems requires engagement with the world beyond the confines of the classroom and traditional degree pathways. VT-shaped Learning is a unique pedagogical approach which integrates practical and liberal education by complementing disciplinary depth with experiential learning, interdisciplinary collaboration, and engagement with multiple stakeholders inside and outside the university. The university continues to explore strategies that will enable students to explore career opportunities and apply skills in a professional setting while maintaining progress toward degree completion. This VT-shaped learning approach also cultivates critical values like curiosity, empathy, civility, adaptability, and resiliency which prepare students not only for meaningful careers, but also for the role of engaged citizen, neighbor, and community leader. In addition, a strong emphasis on cultural competency positions students for success in an increasingly diverse and pluralistic world. The university plans to enhance and expand VT-shaped learning opportunities in the 2022-24 biennium with nongeneral funds and the reallocation of existing resources. Support from partnerships in the public and private sector will also facilitate a robust exchange of ideas and help the university advance opportunities for life-long learning.

Expand Graduate Enrollment in High Demand Disciplines

The university aspires to increase graduate student enrollment with an emphasis on awarding degrees in fields that will position the Commonwealth as a global leader for innovation. Further development of Virginia Tech’s Innovation Campus will allow the university to remains a leader in the convergence of research and education. In the spring of 2022, over 200 master’s level students were enrolled in Tech Talent Investment Program courses with an emphasis on the completion of collaborative, externally sponsored projects with Boeing and Collins Aerospace. As a foundational partner to the Virginia Tech Innovation Campus, Boeing provided scholarships to seven students to fund their graduation education in computer science and engineering. The university has also expanded its master’s degree in information technology (MIT) program which brings together a variety of courses within the College of Engineering and the Pamplin College of Business. The MIT program recently launched cutting-edge courses and certificates to meet market demand in artificial intelligence, machine learning, innovation, and entrepreneurism. Graduate education remains a key component of the university research mission and reinforces the university’s reputation as a leader in innovation, technological development and entrepreneurship. Enrollment growth and externally sponsored research revenue will be utilized to support the instructional needs of this initiative.

**2) Elevate the Ut Prosim Difference**

Academic Advisement & Enhancements that Reduce Time-to-Degree

As part of a holistic approach to student advising, the university has partnered with the Education Advisory Board to utilize [Navigate](https://www.registrar.vt.edu/campus.html), a platform that brings together predictive analytics and communications to support academic advising and tutoring. Navigate helps advisors provide students with a degree roadmap designed around their unique academic strengths and past successes. This process also helps identify areas of additional support, ultimately improving retention and graduation rates. Through continued investment in jobs market analytics software, students and advisors have the ability to access data-driven information on desired skill sets, experiential learning experiences and potential earnings by discipline. This data-driven approach promotes efficacy in the advising process and empowers students to draw connections between their pathway-to-degree and potential career paths.

To accelerate degree completion, the university is developing course offerings in formats designed to reduce time-to-degree and contribute to the sticky pathways that grow the state’s talent pipeline. In parallel, the university will continue its expansion of on-campus, on-line, and hybrid course offerings during summer and winter which provide students with additional opportunities to complete degree requirements and to embed experiential learning opportunities into the transcriptible curriculum. Virginia Tech is also working with faculty to incorporate research-based approaches to course design and delivery that facilitate a personalized adaptive learning experience, allowing students to learn in ways that suit their individual strengths and aptitudes. This will be accomplished through the combined use of multi-modal course design (allowing multiple ways to engage learners) with learning technologies designed to help both learners and instructors more fully understand the learning progress through the use of analytics.

Increase student financial aid for low- and middle-income state undergraduates.

As a modern land grant institution, Virginia Tech remains very sensitive to student access to higher education, including student cost and borrowing levels. As a Restructured Level III institution, the university takes seriously its Management Agreement commitment to mitigate tuition increases and reduce the unmet need for Virginia residents. These goals are also enshrined in the university’s *Advancing Beyond Boundaries* strategic plan which calls on the university to grow enrollment of underrepresented and underserved students. In addition, the university maintains its impactful Funds for the Future scholarship program, which protects most returning students with financial need from tuition rate increases, and the Virginia Tech Grant, which seeks to further reduce student need. Virginia Tech’s multi-faceted approach to reducing financial barriers will further enhance its status as an engine of social and economic mobility for all Virginians.

The primary goal of investment in student financial aid is to reduce the net price for Virginians in the first through third income quintiles, ensuring that financial obstacles are mitigated for low- and middle-income students. A family’s socioeconomic status should not be a constraint on a student’s educational outcomes, including enrollment decisions and progress toward degree completion. Achievement of the university’s access and affordability goals will require investment from multiple fund sources including federal, state, private, and institutional support. Virginia Tech appreciates increased state investment in student financial aid as provided by the 2022 General Assembly.

**3) Be a Destination for Talent**

Enhance Recruitment Efforts of Talented, Diverse Faculty and Staff

Awakening intellectual curiosity and humility is a critical first step for nurturing understanding, tolerance, and recognition of racial, ethnic, religious, and socioeconomic differences. Awareness of differences not only illuminates one’s own customs and culture but provides a critical foundation for success in an increasingly globalized and interconnected world. As the university continues to build on its momentum in diversifying its student population, progress in recruiting a more diverse faculty and staff remains a top priority. The university’s Division of Human Resources has implemented a more focused and deliberate approach to the recruitment and hiring of diverse candidates for faculty positions. Since 2010, Virginia Tech’s Future Faculty Diversity Program, an annual four-day conference designed to increase faculty representation from traditionally underrepresented populations, has expanded the faculty pipeline by cultivating meaningful relationships with prospective scholars, particularly in high priority research areas. The university also continues to work closely with its colleges to design an incentive and partnership structure to advance faculty diversity.

Support Faculty Startup and Development

The development of promising areas of early research often confronts a chicken vs. egg dilemma: Funding agencies steer grants to research proposals with credible preliminary data. Yet, credible preliminary data requires an infusion of initial resources to produce. To address this challenge, Virginia Tech’s investment institutes provide seed funding programs to assist new faculty to establish and expand their research programs. One such program, the Junior Faculty Program, sponsored by the Institute for Critical Technology and Applied Science, has played a pivotal role in the development of new research projecting; the Program helped to secure $13.5 million in external grants from 2019-2021. Additional investment from the Commonwealth can supplement on-going university efforts to facilitate the development of research platforms and enhance the foundation of the university’s overall research enterprise.

In addition to faculty startup funding, the university supports numerous programs designed to enhance the stature and development of its teaching and research faculty. The University provides resources to overcome financial barriers related to publishing and the dissemination of long-form, peer-reviewed scholarship. The university also offers a collaborative series of learning workshops and mentorship opportunities to cultivate the growth of new and aspiring academic leaders. On-going investment in faculty success initiatives will ensure Virginia Tech remains a hub for engaged scholarship and learning, groundbreaking innovation, and transformative research.

Human Resources Enhancements

In 2019, the Division of Human Resources began a comprehensive review process to improve communication and transactions with its internal and external stakeholders. This review process has led to the continued implementation of the following improvements and efficiencies:

* *Job Architecture Review* – The HR Division conducted a comprehensive review of job levels, titles, pay grades, and career paths. This development of a single job architecture framework will enable successful enterprise-wide talent engagement, consistent compensation practices, and increased accuracy in HR data reporting and strategic planning and forecasting. Ultimately, an effective job architecture will lead to increased retention and job satisfaction for the university’s talented workforce.
* *Streamlined Processes and Practices* – The HR Division continues to assess, validate, and improve its policies and procedures in alignment with university mission and vision, to clarify roles and responsibilities related to compliance, and to increase opportunities to shift to electronic workflows.
* *Technology Roadmap* – a cohesive plan to incorporate technologies consistently across campus and departments. As a result of this effort, the HR division is developing a new One-Stop Shop with enhanced functionality that will allow managers, supervisors, and employees to find answers and forms for all of their HR transactions.
* *Realignment* – to provide a more effective structure to complete work across the university, HR partners are being deployed to departments to assist with human capital decisions and the development of departmental systems and protocols. The HR partners also collaborate with the newly aligned HR Centers of Expertise designed around employee relations, total rewards, talent management, and policy and compliance.
* *New Hire Center* – a mobile-friendly onboarding portal for all new employees which consolidates a number of required documents into one place, including tax forms.

The university’s human capital is its most vital resource. Continued implementation of these HR strategies is a university-funded initiative that will enhance the university’s ability to effectively steward Virginia Tech Talent and achieve the university’s mission.

**4) Ensure Institutional Excellence**

Enhance Institutional Transformation and Effectiveness through Investments in Technology and Critical Support Services

While the university ranks well below most peers in terms of administrative spending per student, we continue to explore opportunities to reduce the cost of the administrative enterprise and enhance the effectiveness of support functions across campus. In April 2019, the university launched an administrative transformation initiative to more effectively align its financial and operation resources towards the achievement of the aspirational vision outlined in the university’s Advancing Beyond Boundaries strategic plan. This ambitious process began with the management consulting firm Deloitte initiating a comprehensive administrative and operations analysis, including a review of current work processes to identify opportunities for improvement. The results of the review led to the ongoing implementation of best practices to deliver services, the leveraging of technology to automate and simplify processes and reduce transaction times, the professionalization of workplaces, and the development and use of cost-effective and administrative-efficient operating principles. This initiative has bolstered the existing culture of continuous improvement, empowering employees to identify and adopt innovative approaches, systems, processes, and structures that will ensure administrative and operations work is aligned with the university’s strategic priorities. These processes are university-funded initiatives that are expected to reduce long-term costs and increase efficiencies, allowing resources to be recycled into a continuous improvement process.

Compliance

In addition to the efficiency initiative described above, the university will continue to allocate funding to ensure compliance with federal and state mandates, including obligations related to Title IX, the Americans with Disabilities Act, the Freedom of Information Act and online-security (OARC). Funding will be used to hire additional compliance officers and safety personnel, as well as enhancing accessibility both in the physical and virtual space. In addition, the university must provide resources for the phased implementation of the U.S. Department of Education’s Campus Cybersecurity Program advancing compliance with NIST800.171 Information Security Standards for Controlled Unclassified Information (CUI) to protect data used in the administration of federal student aid programs.

Strategies: Part 4 – General Fund Requests

Avoid In-State Tuition Increase

In order to support inflationary costs and make modest progress towards university initiatives, a 4.9% annual increase to in-state undergraduate tuition in 2023-24 is assumed in this plan. This strategy will provide incremental resources to support shared state and university goals such as faculty and staff compensation. In order to hold in-state tuition flat and continue to make progress towards these goals, incremental state support can be provided to mitigate this increase. Fully funding this General Fund request can ensure that tuition does not increase in 2023-24.

Increase Need-based Student Financial Aid for Virginia Undergraduates

The Commonwealth’s ability to cultivate human capital, particularly in emerging technological fields, has enhanced its reputation as a destination for firms seeking a highly-skilled, innovative workforce. As the largest producer of resident undergraduate degrees and STEM-H undergraduate degrees, Virginia Tech continues be a vital partner for achieving the Commonwealth’s ambitious talent development goals. Additional state investment in student financial support for need-based Virginia undergraduates will further enhance Virginia Tech’s ability to be an engine for economic development and mobility. Virginia undergraduates at Virginia Tech receive $874 less in state aid per student than the Virginia public doctoral average. Addressing this gap would help the university realize its access and affordability goals, including the reduction of undergraduate student debt. Targeted state investment of $4.8 million per year over four years for resident undergraduate student financial aid will close the university’s $19.3 million shortfall as compared with the other Virginia public doctoral institutions, reducing financial barriers for all Virginia residents who choose to attend Virginia Tech.

Increase Affordable Access to Medical Education for the Commonwealth

As the Commonwealth’s only MD-granting school in western Virginia, VTCSOM has an opportunity to build on its success to grow enrollment and increase the number of physicians in the Commonwealth, particularly in southwest Virginia. Since its establishment in 2008, the Virginia Tech Carilion School of Medicine (VTCSOM) has produced outstanding graduates capable of improving the quality and efficiency of care. The medical school’s unique pedagogical approach emphasizes small group learning and immersive research, enabling students to examine real-life cases and emerge prepared to manage uncertainties like the COVID-19 pandemic. Enrolling the first class in 2010, the school has now enrolled 12 classes and graduated 8 classes, with a 99 percent matching rate into top-tier residencies across the country. Feedback from residency program directors reveals that VTCSOM graduates arrive prepared to think critically about patient care and develop into leaders in their communities of practice. The school’s new curricular domain of health systems science and interprofessional practice will further enhance the skills of VTCSOM graduates to improve care in the health systems and communities in which they practice, particularly those in rural areas.

The medical school program also provides a gateway for the graduates who train in Virginia residency programs to continue to practice in Virginia. According to the Virginia Hospital and Healthcare Association, the probability of retaining physicians who attend both medical school and residency training in Virginia is 64.3%.

Carilion Clinic’s pivotal role in supporting clinical education and VTCSOM’s use of small innovative academic departments to deliver preclinical education allow for efficient use of resources currently and as we grow. The school’s current class cohort size of 49 is poised to grow to 100, leading to a total future enrollment level of 400 medical students. However, VTCSOM has not been appropriated any operating support from the Commonwealth. With General Fund support, VTCSOM can ensure that additional seats are available for Virginia residents and institute an in-state tuition rate that is $15,000 lower than the out-of-state rate.

Advance Research in Frontier Areas

In partnership with the Commonwealth, Virginia Tech’s research enterprise has grown prominently compared to the most competitive Research Intensive (R1) universities in the United States over the past two decades. With total annual research expenditures of over $535 million from federal, state, private, and institutional sources, Virginia Tech currently ranks #49 nationally in the latest NSF Higher Education Research and Development (NSF HERD) survey. Sponsored research awards increased 15% in fiscal year 2020. The recently released QS World University Rankings which assess universities on metrics related to research and teaching quality found that Virginia Tech ranked among the top 26 percent of world institutions. As a leading comprehensive land-grant university, Virginia Tech has a diverse and balanced portfolio of competitively funded programs that align with its well-established strengths in engineering and technology, agriculture and life science, computational and data sciences together with its more recent growth in health sciences and technology. Virginia Tech’s portfolio includes programs that span from basic discovery-driven science to applied use-inspired research that often engages industry partners. This research has produced transformative advances in the health, well-being, safety and security of the citizens of the Commonwealth and beyond.

To advance promising areas of university research and position Virginia Tech to compete for a growing federal research allocation, direct state investment remains crucial for the strategic growth of research infrastructure and capacity as well as new partnerships with industry. The university envisions targeted opportunity for investment in the following research initiatives:

* Health Sciences – Virginia Tech is leveraging its successful partnerships with both the Children’s National Hospital and the Fralin Biomedical Research Institute to accelerate development of breakthroughs in new pediatric cancer treatments and technologies. In 2019, the university launched a partnership with Children’s National Hospital to develop a 12,000 square foot biomedical research facility within the Children’s National Research and Innovation Campus. This new partnership builds upon an already fruitful relationship between faculty from the Children’s National Research Institute and the Fralin Biomedical Research Institute who have collaborated on research grants, publications, and shared intellectual property for more than a decade. Combining FBRI’s strength in neurobiology including brain cancer with Children’s National research in pediatric cancer, developmental neuroscience and intellectual disabilities will lead to significant advancements in translational research and novel treatments that will save children’s lives.
* National Security (NSI) – Bringing together faculty, programs, and resources from the Virginia Tech Applied Research Corporation, the Hume Center for National Security, six Virginia Tech colleges and other related entities including the Innovation Campus, the National Security Institute serves both undergraduate and graduate students by providing research, symposia, seminars, and other experiential learning opportunities within the security, defense, and intelligence communities. In 2021, numerous experiential learning projects engaged nearly 1,000 undergraduate and graduate students in national security priorities such as autonomous drones, Russian disinformation, diplomacy, and security in coastal zones. The NSI also leverages growing demand for national defense related research and has further catalyzed the Commonwealth’s fertile start-up eco-system for defense-oriented companies and affiliates in commercial non-defense sectors, including cyber security of autonomous vehicles and remote sensing from small satellites. As a thematic research institute, the NSI will be funded primarily through federal research contracts and grants, particularly applied research grants. Additional investment will come from industry partners and individual philanthropists who support the NSI’s mission, vision, and research. Future growth will be in expanding tenure-track faculty in national security research across more Virginia Tech colleges and engaging more students in experiential learning projects
* Quantum Research – Virginia Tech continues to push boundaries across the quantum frontiers with an extensive and diverse portfolio in quantum sciences and engineering and cross-cutting strengths in related disciplines and applications including computational chemistry, nanoelectronics, cryptography, neural networks, and communications across the depths of space. In January 2022, Virginia Tech announced the creation of the *Virginia Tech Center for Quantum Information Science and Engineering* which will produce groundbreaking research in key areas, including quantum computing, networking, materials, and cryptography, and help guide research agendas through NSF-sponsored workshops and collaboration with national laboratories. emergence and evolution of quantum information science. The Center will complement ongoing substantial research in coding and software at the new Center for Quantum Architecture and Software Development at the Innovation Campus which was founded in November 2021 through a commitment from Northrop Grumman, a longstanding strategic partner of the university. Continued leadership in quantum research and the development of quantum technologies remains a priority for Virginia Tech and of strategic importance for economic growth and national security.

Provide Operations & Maintenance (O&M) funding for New Facilities in 2023-24

Incremental state investment by the 2022 General Assembly provided the General Fund share of O&M funding for projects coming on-line in FY23. This request represents the General Fund share of O&M for additional approved capital projects coming online in the second year of the biennium. The nongeneral fund share is reflected in the 3-Academic-Financial portion of the six-year plan.

Support Growth in VMSDEP Waivers

The 2019 General Assembly expanded the eligibility of the VMSDEP program, extending the benefit to survivors and dependents of all service-related deaths and disabilities of at least 90 percent. Prior to this change, a dependent or spouse was eligible for benefits only if the member’s death or disability was incurred during active military operations. Since the passage of this expansion, growth in the VMSDEP rapidly accelerated with the number of program applications reaching historic highs in August 2022. Enhanced marketing and advising by state and federal veterans’ services agencies has also raised the visibility of the program. SCHEV estimates system-wide costs could increase substantially in the future with potential projected growth reaching $87 million in FY24.

Virginia Tech has already experienced a dramatic growth in the number of waivers required under VMSDEP. At steady state before this expansion, the program cost the university $710,698 in waivers of tuition and fees in 2018-19. Over the last four years, program growth has accelerated to a projected $8.1 million for 2022-23. The university projects $9.3 million in waivers in 2023-24. This request is designed to provide additional General Fund support to meet the growing demand for VMSDEP waivers.

**Section C. In-state Undergraduate Tuition and Fee Increase Plans:** Provide information about the assumptions used to develop tuition and fee information the institution provided in the Excel workbook Part 1. **The tuition and fee charges for in-state undergraduate students should reflect the institution’s estimate of reasonable and necessary charges to students based on the institution’s mission, market capacity and other factors.**

**RESPONSE:**

Providing an affordable education and predictable pricing for Virginia’s families is a fundamental component of Virginia Tech’s land grant mission. Of the Commonwealth’s 15 public four-year institutions, Virginia Tech’s total cost for in-state undergraduates ranks 10th. Virginia Tech held in-state undergraduate tuition and fee increases to no more than 2.9 percent since 2016-17, including freezes of tuition in 2019-20 and 2020-21.

As detailed on schedule 1 of the attached Six-Year Plan, the university is instructed to project future in-state tuition and fee increases assuming no new General Fund. Based on the university’s financial needs including inflationary cost increases, continued progress towards established faculty compensation goals, and the implementation of academic initiatives that will enhance the availability and quality of a Virginia Tech education, the university can reasonably expect in-state tuition and fees to increase at an annual pace of inflation plus one to two percent (an estimate of 4.9 percent is used for planning purposes). This allows the university to address fixed and inflationary costs and make modest progress on strategic initiatives and quality enhancement. Due to the university’s consistently below average tuition for Virginia residents and the statewide trend of increases, an annual increase of 4.9 percent should maintain the university’s position as a substantial value for Virginia residents.

Supported by an investment of new unrestricted General Fund support in the recently passed state budget for 2022-24, the university was able to mitigate tuition increases for in-state undergraduates in the first year of the biennium from a planned 4.9 percent to 3.0 percent; well below inflationary levels. In addition, the university will allocate one-time resources to support a tuition mitigation scholarship to offset the remaining in-state undergraduate increase, resulting in a net $0 increase in the first year of the biennium.

**Section D. Tuition and Other Nongeneral Fund (NGF) Revenue:** Provide information about factors that went into the calculations of projected revenue, including how stimulus funds may mitigate tuition increases.

**RESPONSE:**

Nonresident undergraduates are not subsidized by the Commonwealth; therefore, ultimate decisions will be guided by market competition and enrollment demand. As they must cover the cost of their education, an inflationary increase of 2.9% has been used as a placeholder for planning purposes. The same 2.9% placeholder is used for graduate tuition. Federal stimulus support is one-time, and is therefore not a replacement for base revenue or tuition increases.

**Section E. Other Budget Items:** This section includes any other budget items for which the institution wishes to provide detail. Descriptions of each of these items should be one-half page or less.

**RESPONSE:**

**Other Budget Items:**

Advance Faculty Salary Competitiveness

Although compensation is only one factor that contributes to the university’s ability to attract and retain the best faculty, it remains the predominant consideration, particularly as Virginia Tech seeks to be a destination for talent. A sustained annual merit program is required for Virginia Tech to achieve the state’s shared goal of reaching competitive compensation of peer institutions. The latest data shows that the university’s actual faculty salary currently ranks at the 30th percentile. The substantial, multi-year compensation increase approved by the 2022 General Assembly will help the university to attract and retain talented faculty.

Increase Staff Salaries

As the post-pandemic economic recovery continues, the pace of hiring in the local labor market continues to increase. Competitively compensating the hard-working support staff at the university is a key factor in ensuring a highly productive and innovative organization. Sustained annual merit processes will support a multi-year strategy to position the university at the median of the competitive market, enabling the university to compete for talented staff that support continued university excellence. The substantial, multi-year compensation increase approved by the 2022 General Assembly will help the university to attract and retain talented staff.

Library Inflation

Addressing the rising costs of journals and other library materials is central to maintaining and enhancing the value of the university’s library collection to both students and researchers. Additional investment is needed to offset the increasing costs of subscription-based resources and information platforms, ensuring continued access to information on cutting-edge research across a variety of subject areas. The university’s expanding research programs require access to new resources, journals and other databases outside the current collection. These costs will be managed by the university.

Utility Cost Increases and Inflation

Rising costs of utility service, leases, and other fixed costs must be addressed to maintain consistent delivery of institutional services. The university is experiencing significant inflationary cost drivers.

**Section F. Enrollment Projections:** Include in this section information about how your institution developed its enrollment projections, whether your institution is concerned about future enrollment trends, and, if so, what planning is underway to address this concern. How have enrollment plans been impacted by the pandemic? For example, does your institution plan on enrolling more online students?

**RESPONSE:**

Development of Enrollment Projections

Enrollment projections at Virginia Tech consist of two primary components: predicting continuing student enrollment and estimating new student yield. Continuing student enrollment is forecast based on the current student body composition and the persistence and matriculation patterns of recent cohorts. The model parameters are estimated via longitudinal tracking of individual students over time and summarizing the data by cohort, tuition status, student type, and student level. This permits an analysis of sufficient granularity for informing high level institutional management strategies.

New undergraduate student and transfer enrollments are estimated after continuing student models are completed and are adjusted to support the university’s goal of 30,000 undergraduate students. The number of offers required to achieve the desired yield is determined via predictive models trained with historical data. Similarly, new graduate student enrollments are forecasted in alignment with strategic plan initiatives. Namely, the goals to increase total graduate student enrollment to 7,900 by 2024 and meet obligations for the Tech Talent Investment Program.

Impact of Pandemic and Future Planning

In the highly competitive landscape of student recruitment, Virginia Tech continues to receive record levels of undergraduate applications. For fall 2022 admission, the university received 45,214 first-year applications, an increase of 7 percent over the previous record of 42,084 set in 2021. There is no immediate concern about future enrollment trends in regards to volume. The most notable enrollment challenge during the pandemic was the recruitment of out-of-state and international students. Decreases in yield for these student types required broad adaptive strategies, especially in terms of fiscal management. As we move away from the pandemic, plans have been modified and are aimed at recovering enrollments of those student types. Generally speaking, the university does not intend to use online students to augment undergraduate enrollment. However, online and hybrid programming may play a key role in increasing graduate student enrollment, particularly professionally-oriented masters programs.

**Section G. Programs and Instructional Sites:** Provide information on any new academic programs, including credentials and certificates, new instructional sites, new schools, or mergers supported by all types of funding, that the institutions will be undertaking during the six-year period. Note that as part of the revised SCHEV program approval process, institutions will be asked to indicate if a proposed new program was included in its six-year plan. Also, provide information on plans to discontinue any programs.

**RESPONSE:**

Virginia Tech will continue to provide innovative academic programming at the undergraduate and graduate levels. Undergraduate planning includes programming in the fields of behavior decision science and plant science (program merger). Graduate program planning includes the fields of data science, environmental security, neuroscience, global sustainability, human-centered technology design, and water resources science. Graduate certificate programming plans include fields such as macromolecular science and engineering, mechanical engineering, geo-energy, religion, and disaster resilience. The institution plans to discontinue academic programming in the fields of biomedical technology design, career and technical education, and educational research. Additionally, stand-alone undergraduate academic programming in horticulture and crop and soil environmental science will be discontinued as part of the aforementioned program merger. New schools are under development in the areas of environmental security and in animal science. Virginia Tech also continues to engage in plans to establish the Innovation Campus as a new instructional and research site in northern Virginia.

**Section H. Financial Aid:** Discuss plans for providing financial aid, not including stimulus funds, to help mitigate the impact of tuition and fee increases on low-income and middle-income students and their families, including the projected mix of grants and loans. Virginia’s definitions of low-income and middle-income are based on HHS Poverty Guidelines. A table that outlines the HHS guidelines and the definitions is attached.

**RESPONSE:**

Virginia Tech’s student financial aid programs are designed to support student access, enrollment, retention and graduation goals. The university provides access to low- and middle-income students with demonstrated financial need through multiple funding sources, including the use of unfunded scholarships as prescribed in §23.1-612 of the Code of Virginia, and as required by the university’s management agreement.

A key innovation in meeting this need is the university’s Funds for the Future program, which ensures a predictable tuition rate for returning students. Starting with the incoming class of 2005, the university has protected continuing students with financial need from tuition and fee increases with the Funds for the Future program. The program provides tuition increase protection for families with adjusted gross incomes to $100,000, capturing both low and middle-income students with need.

Additionally, the Virginia Tech Grant has been retooled to better support low and middle-income students with the greatest financial need. The university also supports other, smaller programs that assist low and middle-income students. The university’s Virginia resident graduates continue to track lower than their national peers in the percentage who take out student loans and their average debt at graduation. And, as an indicator of debt moderation and employment success of Virginia Tech graduates, the university’s 3-year Cohort Default Rate is 1.2%; the third lowest among Virginia public four-year institutions and among the university’s national SCHEV peer group.

This six-year plan includes strategies to increase the need-based financial aid for Virginia undergraduates, with the goal of reducing student indebtedness and expanding access and affordability. Making progress towards this goal will require incremental resources from a variety of sources. State support for student financial aid has been extremely helpful in supporting access and affordability for Virginia residents, and the university plans to continue to support the goal of reducing the net price for Virginia residents in the first through third income quintiles.

For 2022-23, the university will allocate one-time resources to support a tuition mitigation scholarship to offset the in-state undergraduate increase, resulting in a net $0 increase in the first year of the biennium.

**Section I. Capital Outlay: Discuss the impact, if any, that the pandemic has had on capital planning, such as decreasing the need for space or other aspects. Provide information on your institution’s main Education and General Programs capital outlay projects, including new construction as well as renovations that might be proposed over the Six-Year Plan period that could have a significant impact on strategies, funding, student charges, or current square footage. Do not include projects for which construction (not planning) funding has been appropriated. Special Note: The requested information is for discussion purposes only and inclusion of this information in the plans does not signify approval of the projects.**

**RESPONSE**

The university is grateful to the Commonwealth for the inclusion of Randolph Hall into the Capital Construction Pool, and we are eager to continue the mutually beneficial partnership between the university and the Commonwealth to advance engineering instruction.

The COVID-19 period of remote instruction and operations reinforced the university’s need for in-person programming and space to support it. This is true for nearly all instruction and research programs, especially for science, engineering, health, and other laboratory-intensive disciplines. Thus, coming out of the COVID-19 remote operations, the university’s long-range space and facility planning reflects in-person operations. Regarding administration and support operations, the university gained valuable experience and adopted practices that are likely to influence the amount, location, and type of space in long-range planning. The university is piloting some concepts and the results of those efforts will be included the university’s next Six-Year Capital Outlay plan and the university’s space management program.

The university’s (Agency 208) top priorities in its Capital Outlay Plan call for new and improved facilities for health sciences instruction and research and new facilities for chemistry and physics instruction and research. A brief description of each project is listed below.

* The project for health sciences instruction and research includes a new 100,000 gross square foot facility to double the enrollment of the Virginia Tech-Carilion School of Medicine (VTCSOM) and 51,000 gross square feet to increase the space for the Fralin Biomedical Research Institute. Both programs are located in Roanoke, Va. The budget, in 2022 dollars, is $133.4 million, composed entirely of General Fund support.
* The project to improve chemistry and physics instruction and research space includes 53,000 gross square feet of new construction and 71,100 square feet of renovations. The budget, in 2022 dollars, is $107.1 million including $76.8 million General Fund and $30.3 million nongeneral fund support.

**Section J. Restructuring:** Provide information about any plans your institution has to seek an increased level of authority, relief from administrative or operational requirements, or renegotiation of existing management agreements.

**RESPONSE:**

In the seventeen years since the General Assembly passed the Restructured Higher Education Financial and Administrative Operations Act of 2005, Virginia Tech has experienced significant benefits through its ability to locally manage university processes and resources, which translate into benefits for the Commonwealth. Particularly in a period of constrained resources and growing fixed costs, the flexibility provided through Restructuring has allowed the university to make progress in important strategic areas. The benefits of the Restructuring Act permeate the operating culture of the university and facilitate decision-making at the ground level where the university can deploy efficient and specialized solutions to meet our management needs. More recently, enhanced flexibility on the fixed enrollment cap of non-resident undergraduates will allow the university to strengthen revenues and continue momentum on the implementation of innovative academic programs and the development of human capital to meet evolving market demand.

Ensuring the continuation of existing tenets of the Restructuring partnership, as well as opportunities for enhancements, can further bolster the operational environment and lead to greater outcomes for the Commonwealth and institutions. These include:

* Retention of E&G interest earnings: existing benefit, yet elimination of the escrow requirement can ensure that university resources can be reliably budgeted and reduce pressure on other nongeneral fund sources (i.e. tuition).
* Talent recruitment and retention: university management of compensation and benefit programs for faculty and university staff (existing benefit, occasionally limited by state compensation restrictions).
* Resource planning: Assurance that nongeneral fund balances (e.g. rate savings) will remain with Virginia Tech.
* Additional Procurement Authority: Reconsider daily eVA transactional posting, moving to an annual fee if necessary. Ability to implement and maintain university small purchase and travel Pcard program.
* Equipment Trust Fund: conduct a review of the ETF process to streamline, expedite, and loosen restrictions. This could include moving to a post-audit rather than pre-approval process, among other potential enhancements.
* Tuition and Fee Authority: Ensure Board of Visitors authority over tuition and fee decisions. Simplify the calculation of athletic fee compliance by eliminating annual increase calculation, avoiding unintended consequences of annual volatility in athletic revenue.
* Increased Flexibility over Academic Program Approval: Increased flexibility regarding academic program approval is especially critical in rapidly developing research and industry domains such as computer and data science and biomedical research. The current program approval process can be cumbersome, and in some cases, the process is derailed for seemingly minor details. Our faculty are committed to delivering academic programs that meet the needs of students and employers, and any delay in the offering of these programs risks losing Virginia’s competitive advantage in recruiting talented students and faculty as well as industry investment. To position the program approval process to more effectively meet the needs of future students, representation from SCHEV can collaborate with IPCA to work towards a mutual consensus on principles of redesign of a more responsive academic program approval process. This is an opportune time to redesign the program approval as we reconsider how higher education operates on the other side of the pandemic.

**Section K. Evaluation of Previous Six-Year Plan:** Briefly summarize progress made in strategies identified in your institution’s previous six-year plan. Note how additional general fund support and reallocations were used to further the strategies.

**RESPONSE:**

Disrupted by the pandemic, the university’s progress towards many of the goals enumerated in the 2019 six-year plan was impacted. Yet with the Commonwealth’s continued support, including the avoidance of budget reductions and the incremental support for pandemic-related costs, the university was able to make positive contributions towards several major initiatives outlined in our previous Six-Year Plan. A fundamental goal of the 2019 six-year plan was expanding affordability and access to Virginia undergraduate students, and to that end the university was able to freeze tuition and E&G fees in both 2019-20 and 2020-21. This was possible with the support of the Commonwealth and sustained enrollment demand. Enhanced flexibility to manage out-of-state enrollment, granted by the 2020 General Assembly, has also contributed to the university’s ability to address costs while mitigating in-state tuition increases. Additional General Fund investment for undergraduate student financial aid was leveraged with increased institutional support to expand access to low- and middle-income Virginia students. In addition, the state’s 2021-22 support for faculty and staff salary increases allowed the university to take steps towards addressing a top priority of retaining and attracting a talented workforce.

Other significant progress includes:

* Enrollment Growth and Access
	+ In fall 2020, total enrollment included a record 21,441 Virginia undergraduates; an increase of 6,197 students over the university’s pre-Restructuring level of fall 2004.
	+ Demand for a Virginia Tech education continues to grow. Applications exceeded 40,000 this year; more than double those received for fall 2014.
	+ For fall 2020, underrepresented and underserved students, including low income, first-generation, veteran and underrepresented minority students, comprised 39% of the entering class; The overall percentage of underrepresented minority students in the entering class increased from 15% in fall 2019 to 19% in fall 2020.
* Research
	+ Estimated total FY20 research expenditures totaled $555 million with $340 million coming from external sources, a more than 6% increase over the prior year; Sponsored projects awards increased by 15%.
	+ Progress continued for the Virginia Tech Commonwealth Cyber Initiative with $85 million in active research grants in cyber related areas; Researchers are building an AI and 5G testbed that will support advanced research and development in the cyber realm.
	+ Virginia Tech’s Link+License+Launch, a team of scientists, engineers, business developers, consultants, entrepreneurs, intellectual property attorneys, and technology transfer professions, executed more than 30 licenses in 2020, including several faculty-led startups.
	+ Notable examples of translational research include:
		- Drucker Film Technologies – surface coating that inactivates viruses, including COVID-19.
		- Dive Technologies – with faculty and students in Electrical and Computer Engineering, developed autonomous underwater vehicles.
		- Mayfair Group – working with Computer Science, developed an AI platform to analyze legal trends and risks.
	+ Fralin Biomedical Research Institute (FBRI)
		- FRBI scientists joined a collaborative team at the Children’s National Research and Innovation Center in the fight to stop pediatric cancer;
		- In 2020, the Fralin Institute opened its new 139,000 sq. ft. research facility in Roanoke;
		- Currently, there are 33 faculty research teams at FBRI with 100 active grants totaling over $120 million.
* Academic Initiatives
	+ Recognized by industry for its impact across several research areas, Virginia Tech’s College of Engineering recorded three top 10 placements and eight total placements in the top 20 in the 2021 U.S. News and World Report’s graduate program rankings.
	+ The university continues to develop and implement an education model which seeks to integrate disciplinary concepts and skills with interdisciplinary capacities though embedded experiential learning opportunities. Matching appropriate experiential learning opportunities to Virginia’s Tech diverse disciplines requires careful design. Opportunities include:
		- Undergraduate Research – courses and outside experiences connect key course concepts and questions to systematic investigation and research.
		- Internships – provides students with direct experience in a professional setting.
		- Study Abroad – provides educational opportunities abroad including field research, internship programs, and study overseas.
		- Service Learning – designs experiences that position the student to perform a sustained task in the community and reflect on their contribution and impact.

**Section M. Economic Development Annual Report:** Provide a copy of any report your institution has produced about its economic development contributions.

**RESPONSE:**

The ongoing work of implementing Virginia Tech’s [Beyond Boundaries](https://beyondboundaries.vt.edu/) vision has shaped important institutional contributions over the last year that are stimulating economic development across the commonwealth. Key goals and themes connecting these efforts include:

Increasing Virginia Tech’s regional, national, and global ***Impact***.

Elevating the ***Ut Prosim Difference*** by addressing the current interconnected crises in public health, social equity, and economic vitality, along with longer-term post-COVID restructuring and building more resilient systems.

Bringing a uniquely ***Transdisciplinary***, high-impact approach to engagement, discovery, and learning.

Building on the university’s unique position to respond to the state’s challenging ***Urban-Rural Divide***.

A sampling of projects and initiatives advancing the vision include university-led, public-private partnerships in community development and real estate; research activities with direct relevance to key state industries; and high impact programs designed to meet the needs of local families, community partners, and business.

**Innovation Campus**

Virginia Tech continues work on the [Innovation Campus](https://vt.edu/innovationcampus/index.html), focusing on graduate education in computer science and computer engineering, in partnership with the Commonwealth of Virginia and the private sector. Located near Amazon’s HQ2 in Northern Virginia, the Innovation Campus is already bringing industry, government, and academia together to develop a dynamic approach to project-based learning and research that will shape the region and the state’s future innovation economy.

Virginia Tech opened its Innovation Campus HQ adjacent to the future Innovation Campus location. This space houses the campus executive offices and features a café-style area for student workgroups, seminars, and community engagement. Construction began on the Academic 1 Building in September 2021.Scheduled to open in 2024, the Academic 1 Building will provide instructions, research, office, and support spaces for the graduate programs in Computer Sciences and Computer Engineering. These programs will enhance Virginia’s competitive advantages in the development of human capital, bring together public and private sector partners in the commercialization of groundbreaking technologies, and accelerate growth of the Commonwealth’s science and technology ecosystem.

Also, this year Boeing has been named as the first foundational partner of the Virginia Tech Innovation Campus in Alexandria, Virginia. A $50 million, multiyear commitment from the company will help jump-start Virginia Tech’s effort to create the most diverse graduate technology campus in the United States. Boeing’s commitment will provide student scholarships, foster the recruitment of world-class faculty and researchers, and fund STEM pathway programs for underserved K-12 students looking to pursue a college degree and enter high-tech career sectors.

The Innovation Campus will eventually make its home on 3.5 acres in the first phase of a new mixed-use development and innovation district JBG Smith is developing near the future Potomac Yard Metrorail Station. Construction of the first academic building, an 11-story, 300,000 square-foot structure, is on track to start this summer and open to students in 2024. Plans call for two additional buildings, each about 150,000 square feet, as the campus grows. At its full build-out, the Innovation Campus will host approximately 750 master’s and 200 doctoral students and graduate 550 master’s and 50 doctoral candidates annually.

**Smart Farm Innovation Network™**

Virginia Tech launched a community-based agricultural research network throughout Virginia. [The Smart Farm Innovation Network™](https://caia.cals.vt.edu/smartfarm.html) connects Virginia Tech’s interdisciplinary researchers and Virginia Cooperative Extension specialists and agents to producers and the commercial sector to develop and deploy a wide array of innovative technologies that will increase overall efficiency, resilience, and sustainability of agricultural and natural resources production systems.

The network is made up of about 120 interconnected locations — the Blacksburg campus, 11 Agricultural Research and Extension Centers (AREC), and 108 Virginia Cooperative Extension local unit offices. The network leverages the university’s existing infrastructure to capitalize on its proximity to agricultural and natural resources industries around the commonwealth and on the state’s soil, climate, and geographic diversity.

The Controlled Environment Agriculture Innovation Center (CEA-IC) is one of the key nodes on the network. The center is a newly established joint initiative between Virginia Tech School of Plant and Environmental Sciences, Virginia Seafood AREC, and the Institute for Advanced Learning and Research, in Danville, Virginia. This testbed attracts domestic and international partnership industries, including controlled environment agriculture and aquaculture producers, energy, materials, cyber-biosecurity, and others. CEA-IC is working with multiple private partners including hydroponic greenhouse startup Sunny Farms -- which just announced plans to build a 1.2 million square foot greenhouse in Virginia Beach, among the largest on the East Coast -- and AeroFarms, which is located in Pittsylvania County and is building a $53 million indoor vertical farm.

**Responding to COVID and related crises**

All parts of the university worked hard to come to terms with the health, social, and economic crises of the last year. Pivoting to share the intellectual capital of the university with community partners, including research and testing equipment, faculty expertise, and student talent, was an important part of Virginia Tech’s contribution to the commonwealth’s effort to find a pathway to economic recovery.

[The Molecular Diagnostics Lab at the Fralin Biomedical Research Institute at VTC](https://fbri.vtc.vt.edu/research/research-centers/molecular-diagnostics-lab.html) worked to improve COVID-19 testing efficiency and effectiveness. They made it possible for Virginia Tech to detect and trace COVID infections early in the pandemic, providing a reliable testing resource that made it possible to continue university operations and keep our campus and community safe. Their COVID-19 lab analysis, in collaboration with Schiffert Health Center, analyzed over 100,000 tests, 40 percent of which were completed for local health districts outside of the university community. This played an important role in reopening the regional economy, garnering support from GO Virginia, a state economic development program, among others.

[The Big Event at Virginia Tech](https://vtbigevent.org/), a student run service program, teamed up with Downtown Blacksburg, Inc. [to support local businesses](https://www.wdbj7.com/2021/04/07/downtown-blacksburg-inc-and-the-big-event-team-up-to-help-local-business-and-students/). Students are matched with companies for mini-internships, providing technical assistance with marketing, e-commerce, and other areas where small business needed help pivoting to the challenges created by the crisis.

[Virginia Tech’s Center for Economic and Community Engagement](https://cece.vt.edu/) received support from the US Economic Development Administration through the CARES Act. These funds are used to assist Virginia communities with economic recovery planning. The Center for Economic and Community Engagement’s researchers have worked in places ranging from Wytheville and Blacksburg to Roanoke County and Newport News, assisting communities that were changed by the pandemic in building new visions and opportunities. Some of the economic recovery work includes exploring technology-focused opportunities in the Hampton Roads region’s robotics sector and conducting strategic planning for two regional economic development organizations in far Southwest Virginia — the Virginia Coalfields Economic Development Authority and Virginia Industrial Advancement Alliance.

Commitment to Academic Freedom

Virginia Tech commits to supporting freedom of expression and inquiry, free speech, academic freedom, and diversity of thought. In compliance with [§ 23.1-401](https://law.lis.virginia.gov/vacode/title23.1/chapter4/section23.1-401/) of the Code of Virginia, the university submits an annual report to the Governor and the chairs of the House Committee on Education and the Senate Committee on Education and Health of related university procedures and policies and complaints of alleged violations. The most recent report (2021) can be found [here](https://policies.vt.edu/assets/VTSpeechOnCampus.pdf).

Per new language in Item 144.U included in the 2022-24 biennial budget, the university further commits to these principles.

Virginia Tech takes its commitment to Free Speech and protecting the First Amendment rights seriously. There is a [strong statement on the VT website](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpolicies.vt.edu%2FSpeechOnCampus&data=05%7C01%7Ctoriw75%40vt.edu%7C1d46bdf991fb4e9dfab308da5f806d6f%7C6095688410ad40fa863d4f32c1e3a37a%7C0%7C0%7C637927302442073197%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=yEx4hlGGMFeSNHeW025gPro7u6pHqei9X6lbW0uWoi0%3D&reserved=0) that informs students both about the University’s position and how to address any concerns students might have. In addition, there are existing co-curricular programs and others currently under development (e.g., Civic & Democracy Leadership Initiative) that are designed to prepare students to lead with a deep commitment to democratic ideals, civic practices and freedom of speech. The university demonstrates its commitment to free speech by hosting discussions on campus involving proponents of different viewpoints, such as the recent public conversation involving professors Cornel West and Robert George, titled “I See You: Navigating Free Speech and Civil Discourse.”