# **2021 SIX-YEAR PLAN NARRATIVE (Part II)**

**INSTITUTION:**  Virginia Cooperative Extension & Agricultural Experiment Station (VCE/VAES)

**OVERVIEW**

The totality of the six-year plan should describe the institution’s goals as they relate to state goals found in the *Pathways to Opportunity: The Virginia Plan for Higher Education*; the Higher Education Opportunity Act of 2011 (TJ21); and the Restructured Higher Education Financial and Administrative Operations Act of 2005.

The instructions under institutional mission and alignment to state goals, below, ask for specific strategies, in particular related to equity, affordability and transformative outcomes. Other sections will offer institutions the opportunity to describe additional strategies to advance institutional goals and state needs. ***Please be as concise as possible with responses and save this narrative document with your institution’s name added to the file name.***

**SECTIONS**

**Section A. Pandemic Impact:** Briefly discuss, in one to two paragraphs, how the pandemic has impacted your institution. What things did your institution already have in place that proved helpful? What lessons were learned? What short-term changes have been made? What long-term changes will be made? What are the concerns moving forward?

**RESPONSE:**

The COVID-19 pandemic created unprecedented operating challenges which impacted every facet of the agency’s operations. Building relationships and collaborating with members of Virginia’s agricultural industry is fundamental to the success of not only the VCE/VAES, but also critical to the future success of the state economy. The past year has required Extension Agents and Specialists to become even more agile in their response to the needs of Virginia’s communities. Because the work of the Commonwealth’s agricultural and natural resources economy did not stop because of COVID-19, the VCE/VAES utilized online tools to communicate and deliver research and outreach to its constituents across the Commonwealth. This increased reliance on internet-based constituent contact magnified the need to further enhance the agency’s information technology infrastructure. Investment by the 2021 General Assembly enabled initial improvements to this critical infrastructure. VCE was also heavily engaged through 4-H and FFA, as well as our family and consumer science programs which supported efforts to supplement educational opportunities for youth when school was virtual or when students needed locations to access the internet. Additionally, VCE played a key role in encouraging individuals to receive vaccinations. Finally, the pandemic resulted in a significantly closer working relationship with Virginia State University, a broader audience for programs delivered virtually, and new and stronger partners with health care providers and state agencies. Additional planned investment will lead to a more resilient and effective VCE/VAES in the years to come.

**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:**

The Virginia Cooperative Extension and the Virginia Agricultural Experiment Station — the two organizations that make up Virginia Agency 229 — play integral roles in Virginia’s land-grant system.

The mission of the Virginia Agricultural Experiment Station is to perform basic and applied research on agricultural, environmental, natural, and community resource issues related to the future needs of Virginia, the region, the nation, and the world.

The Virginia Cooperative Extension helps lead the engagement mission of Virginia Tech and Virginia State University, the commonwealth’s land-grant universities. Building local relationships and collaborative partnerships, the VCE helps people put scientific knowledge to work through learning experiences that improve economic, environmental, and social well-being.

These missions are not expected to change over the six-year period, though continued assessment of the agency’s effectiveness will inform the underlying strategies to ensure that VCE/VAES continues to make a positive impact on the Commonwealth’s citizens and economy.

Strategies: Part 3 – Academic-Financial Plan

The VCE/VAES is a General Fund agency which generates limited nongeneral Fund revenue. The agency’s nongeneral fund share of ongoing costs such as salaries, fringes, and current operations are displayed in Part 3. Strategic initiatives to advance the agency’s impact are detailed in Part 4 as General Fund requests.

Strategies: Part 4 – General Fund Requests

Building resilience in our communities across the Commonwealth is fundamental to the mission of the Virginia Cooperative Extension and Agricultural Experiment Station (VCE/VAES). Supporting the economic prosperity, furthering research and discovery, and educating our citizens leads to greater prosperity in communities that have struggled to keep pace in an innovation-based economy. Virginia’s ability to transform ideas into new enterprises relies upon public investment in targeted initiatives that catalyze research, development, and commercialization. With campus research facilities and 11 Agricultural Research and Extension Centers (ARECs), the Virginia Cooperative Extension & Agricultural Experiment Station (Agency 229) is ideally positioned to significantly enhance its network of public-private research and Extension partnerships and position the Commonwealth as a leader in the rapidly growing AgTech sector. Strategic investment in the VCE/VAES will strengthen the agency’s capacity to conduct translational research and help build resilience in communities across the Commonwealth.

This strategy represents a continuation of a multi-year commitment by the Commonwealth to promote innovation and strengthen human capital through four primary elements: Internet Connectivity, Modernization of Research Equipment, Critical Personnel, and Market Competitiveness. The initial funding for much of this request was provided by the 2021 General Assembly, including one-time funding to update and enhance the agency’s internet connectivity. The remaining investment in research equipment and personnel is scheduled to continue over 3 additional years (through 2025).

Building Resilience: Extension Specialists

The people of VCE/VAES form the fundamental competitive advantage of the Commonwealth. Our agricultural and forestry economies are buoyed by the expertise of Extension Agents and Specialists focused on solving Virginia’s challenges. This strategy includes both Extension Agents and Specialists in targeted fields across Virginia. The 2021 General Assembly has provided funding for 12 additional Extension Agents that will be combined with one-third of salary and fringes from local sources. Additionally, funding has been provided for 2 Extension Specialists out of the total of 6 positions needed across the state. This request is for the remaining 4 Extension Specialists, incrementally funded over the next 2 years.

Building Resilience: Extension Agency Salary Competitiveness

This request is designed to enhance the ability of Agency 229 to recruit and retain Extension Agents by addressing the market competitiveness of their compensation. The knowledge, experience, and relationships that Extension Agents develop during their tenure are extremely valuable to the Commonwealth. These agents are community assets and provide opportunities for youth to become productive citizens, deliver programs that support food safety and security and health for Virginia’s families, and promote and facilitate community viability.

Because of these valuable contributions and relationships, Extension Agents are often recruited away by private organizations, diluting the impact of the agency’s service to the Commonwealth. A market study conducted by the agency found a gap of more than 10% to that of the average Extension Agent salary at Land Grant institutions across the country. Greater gaps exist when compared to our Commonwealth’s teachers and industry partners. The Commonwealth’s statewide 5% compensation program in 2021 helps with the need for additional salary support for the agency and allowed the agency to make an important initial step towards competitive compensation; however, the need to enhance Extension Agent salaries will take sustained investment over the next three years to achieve a cumulative average increase of 10% by 2025 relative to accelerating compensation markets.

Building Resilience: Research Equipment

To support the growing technological needs of Virginia’s agricultural industry, Agency 229 needs innovative equipment designed to collect large and complex field and analytical data sets, efficiently analyze samples, interpret and visualize large data sets, facilitate acceleration of technological innovations and share results with growers, industry, and public agencies. Much of this strategy was funded by the 2021 General Assembly, which provided $2,450,000 of the total need of $3,740,000. This request is for the remainder of the research equipment need: $1,290,000. These investments include:

1. Smart sensors for detecting disease, stress in crops and animals, crop fertility needs, environmental conditions, virtual fencing technologies, and facial recognition.
2. Autonomous systems for crop and animal management such as drones, robotics, LIDAR technologies, acoustic and visual technologies for pest management, and GIS.
3. Precision farm equipment with advanced navigation systems such as planters, harvesters, and chemical applicators.
4. Advanced laboratory analytical equipment, rapid analysis, and advanced equipment for high throughput screening for crop and animal genomics studies, phenomics, metabolomics, and rapid genetic material selection for crops and animals.
5. State-of-the-art acoustic and visual technologies for animal behavior and pest management studies.

Reduce the Need for Internal Reallocations - Operation & Maintenance and Inflation

As previously described in Section E., operation and maintenance of new facilities and inflationary cost increases such as utilities and operations will drive substantial costs during the planning period. As a General Fund agency with limited opportunity to generate nongeneral fund resources, the provision of the traditional state share of these costs (95 percent) will mitigate significant internal reallocations (reductions) and maximize the agency’s ability to positively contribute to the Commonwealth’s agriculture and natural resources economy.

**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:**

Not applicable to this agency. The VCE/VAES is a General Fund agency which does not generate tuition revenue.

**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:**

Not applicable to this agency. The VCE/VAES is a General Fund agency which does not generate tuition revenue.

**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:**

Advance Faculty Salary Competitiveness

The success of the university is due in large measure to its outstanding faculty who are committed to excellence in education, research, and outreach. In a competitive, global marketplace that values human capital, the highest quality employees in the organization are constantly being recruited by peer institutions, industry, and research centers around the world. Attracting and retaining the caliber of faculty needed to maintain and improve upon existing success is becoming increasingly competitive. While compensation is only one factor that contributes to the university’s ability to attract and retain the best faculty, it remains a major consideration. In addition, the replacement of faculty is far more expensive than the cost to retain those persons for whom the university has already invested significant time and resources. Maintaining an annual merit process that rewards top faculty for their efforts is fundamental to keeping pace with the market and mitigating turnover.

Increase Staff Salaries

Much like faculty, the slow pace of growth of staff compensation has negatively influenced retention and recruitment efforts at the agency, a trend likely to accelerate as the local labor market continues to tighten. Competitively compensating the hard-working staff at the agency is a key factor in ensuring a highly productive and innovative organization. This supports 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.

Nongeneral Fund for Current Operations

In addition to known cost drivers in the agency’s plan, the agency assumes that unknown and unavoidable costs will rise over time. These include unfunded mandates, software contract escalation, health and safety cost increases, maintenance expenses, and other unforeseen cost drivers.

Operation & Maintenance of New Facilities

Operations and maintenance support is a primary cost driver in the future budget. Facilities must be open year-round in order for the university to deliver its mission of providing programming for the citizens of the Commonwealth. The agency has two previously approved capital projects that are scheduled to open during the planning period: the Livestock and Poultry Research Facilities 1, and the VA Seafood AREC. Addressing operation and maintenance of facilities will ensure maximum facility service life and the prevention of building deficiencies. In addition, rising costs of contracts, utility service, internet connectivity for off-campus locations, and other mandated or required operating costs must be addressed to maintain the delivery of agency services to the citizens of the commonwealth.

Utility Cost Increases

Rising costs of contracts, utility service, internet connectivity for off-campus locations, and other mandated or required operating costs must be addressed to maintain the delivery of agency services to the citizens of the commonwealth.

**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:** N/A

**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:** N/A

**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:** N/A

**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 Virginia agriculture industry represents a significant portion of commerce for the Commonwealth. Virginia Tech’s Virginia Cooperative Extension and Agriculture Experiment Station (VCE/AES) agency provides critical production and operation research to advance and protect these industries. The profitability, and therefore long-term sustainability of these industries depend directly on the capacity of the agency to create and translate new novel technologies. The VCE/AES continues to work with the Commonwealth on solutions to improve research facilities across the agency, ensuring agriculture research and extension continues to meet the needs of the 21st century economy. Agency 229 programs touch every sector of Virginia’s economy. Innovative and applied research, education and training, and direct assistance to Virginians have led to nationwide recognition of Virginia as a producer of superior agricultural products, better business management practices, and environmental stewardship that improves quality of life and attracts millions of tourists annually.

The VCE/AES top priority for capital outlay improvements call for system-wide enhancement and replacement to research facilities across the Commonwealth. A brief description of the Improve Research Facilities project is listed below.

The focus of this capital project is on improved facilities at Center Woods and Agricultural Research and Extension Centers (ARECs) across the state to sustain and advance research supporting the Commonwealth’s agricultural industries. The current facilities at Center Woods and ARECs across the state are too small and have deteriorated beyond maintenance, which increasingly degrades program operations.

Center Woods serves the Department of Fisheries and Wildlife Conservation program within the College of Natural Resources and Environment. It is located in a mature wooded area covering approximately 45 acres adjacent to main campus. It is the ideal location for work with wild animals and fish, serves as the staging location for field research and class field trips, andplays a critical role in providing a quality learning experience for undergraduate and graduate students. This unique resource provides students critical in-person learning opportunities that are expected by commercial and government employers. This project would meet the current program needs through the addition of modern research laboratories, as well as the corresponding office, and field support spaces.

The VC/AES operates 11 ARECs that support a variety of key industries in the Commonwealth through research and extension programs. Research conducted at the ARECs is designed to provide knowledge that will enhance the quality of individual and family life and the social and economic vigor of Virginia. With the median age of facilities at some ARECs reaching over 50 years old, many existing research laboratories and supporting facilities across the ARECs are in poor condition, have surpassed their functional life expectancy, are not appropriate for conducting experiments required to respond to modern agricultural issues, and cannot support demand for the program activities. This project will improve the research facilities at Center Woods and at 10 of the ARECs across the Commonwealth to provide appropriate of office, research and laboratory, field support, and field storage spaces at these locations.

To meet the expectations of all VCE/AES constituents, including citizens, students, faculty and industry partners, the agency requires improved and expanded spaces to support in-person and hands-on learning and research of essential skills, techniques, and topics.

**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:**

Restructuring opportunities are discussed in detail in the Agency 208 (University Division) submission.

**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:**

The VCE/VAES was able to make measured progress towards the goals in the 2019 Six-Year plan submission. While unavoidable cost drivers and fixed cost increases continue to stress the agency, continued investment by the Commonwealth to enhance internet connectivity across its facilities, modernize equipment, and support Agency personnel will enable Agency 229 to increase the efficiency, resiliency, and sustainability of the Commonwealth’s agricultural and natural resources industry.

The VCE/VAES was able to make measured progress towards the goals in the 2019 Six-Year plan submission. While unavoidable cost drivers and fixed cost increases continue to stress the agency, continued investment by the Commonwealth to enhance internet connectivity across its facilities, modernize equipment, and support Agency personnel will enable Agency 229 to increase the efficiency, resiliency, and sustainability of the Commonwealth’s agricultural and natural resources industry. Major efforts were made to establish the Center for Advanced Innovation in Agriculture (CAIA). CAIA’s visionis to foster informed decisions using agricultural technologies and analytics for growth of the agriculture and natural resources industries. Through this vision, we anticipate that CAIA will contribute to increased overall efficiencies, resilience, sustainability, and security of agricultural and food systems. In support of this vision, CAIA’s missionis to leverage science and technology to create transformative solutions to support agriculture and food systems, the environment, and communities throughout the Commonwealth and beyond. The idea behind formation of this Center has grown out of the 2018 Agriculture and Natural Resources. The agency continues to attract industry to the Commonwealth, increase agri-business productivity, produce award-winning research, enhance food safety, and spin off new discoveries. Research and outreach programs conducted by the Virginia Cooperative Extension and Agricultural Experiment Station positively impact citizens on a daily basis Cooperative Extension and Agricultural Experiment Station activities is critical to maintaining the critical competitive and cultural advantages provided by the agency.

Collectively, Agency 229 provides a significant return on investment to the Commonwealth as every $1 of General Fund support generates an additional $1.29 in economic impact. Enhancing state support of the Virginia Cooperative Extension and Agricultural Experiment Station activities is critical to maintaining the critical competitive and cultural advantages provided by the agency. A recent study by the department of Agricultural and Applied Economics at Virginia Tech indicates that 20% of the Commonwealth’s agricultural productivity is due to investment in research and Extension programs through Agency 229.

**Section L. Diversity, Equity and Inclusion (DEI) Strategic Plan:** Provide an update on the completion status of your institution’s plan that is being coordinated with the Governor’s Director of Diversity, Equity and Inclusion. If a copy of the plan is available, please include it when your institution submits its initial plan. If a copy of the plan is not available for July 1 or if changes are made, please provide a copy with your institution’s final plan submission on October 1.

**RESPONSE:**

The Diversity, Equity and Inclusion (DEI) Strategic Plan is discussed in detail in the Agency 208 (University Division) submission.

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

**RESPONSE:**

Contributions of Agency 229 to economic development are described in the Agency 208 (University Division) submission.

In addition, Agency 229 maintains a website documenting its economic impact in counties throughout the Commonwealth. More information can be found: <https://www.agency229.cals.vt.edu/impact.html>

Additional information on how the Commonwealth benefits from investment in agricultural research is attached.