

**Six-Year Plans - Part I (2017): 2018-20 through 2022-24**

**Due: July 1, 2017**

**Institution:**

**Institution UNITID:**

**Individual responsible for plan**

**Name:**

**Email address:**

**Telephone number:**

**Six-Year Plans - Part I (2017): 2018-20 through 2022-24**  
**Virginia Cooperative Extension & Agricultural Experiment Station**

**ACADEMIC AND FINANCIAL PLAN**

Instructions: In the column entitled "Academic and Support Service Strategies for Six-Year Period (2018-2024)," please provide titles to identify strategies (for the three biennia of this six-year period) associated with goals in the Virginia Plan. Please use this title to identify a more detailed description of the strategy in the separate Word document (Part II - Narrative).

ACADEMIC AND SUPPORT SERVICE STRATEGIES FOR SIX-YEAR PERIOD (2016-2022)								
Priority Ranking	Biennium 2018-2020 (7/1/18-6/30/20)				Biennium 2020-2022 (7/1/20-6/30/22)		Biennium 2022-2024 (7/1/22-6/30/24)	
	Strategies (Short Title)	VP Goal	Cost: Incremental, Savings, Reallocation				Strategies	Strategies
			2018-2019		2019-20			
			Total Amount	Amount From Tuition Revenue	Total Amount	Amount From Tuition Revenue		
3	Advance Virginia Agriculture and Natural Resources Initiative to Grow the Future of the Commonwealth's Economy with Public-Private Partnerships <i>(100% GF Request)</i>	4	Incremental: \$2,500,000	\$0	\$5,000,000	\$0	Continue to leverage strength in agricultural biosciences to grow research that builds the commonwealth's economy and the health and competitiveness of the agricultural sector.	Continue to leverage strength in agricultural biosciences to grow research that builds the commonwealth's economy and the health and competitiveness of the agricultural sector.
			Savings: \$0	\$0	\$0	\$0		
			Reallocation: \$0	\$0	\$0	\$0		
4	Improve Compensation Levels for Extension Agents to Reduce Turnover and Enhance Service Levels to Commonwealth <i>(100% GF Request)</i>	4	Incremental: \$837,489	\$0	\$1,716,853	\$0	Continue to enhance the salary competitiveness of Virginia's Cooperative Extension Agents.	Continue to enhance the salary competitiveness of Virginia's Cooperative Extension Agents.
			Savings: \$0	\$0	\$0	\$0		
			Reallocation: \$0	\$0	\$0	\$0		
<b>Total 2018-2020 Costs</b>								
	Incremental (Included in Financial Plan line 61)		\$3,337,489	\$0	\$6,716,853	\$0		
	Savings		\$0	\$0	\$0	\$0		
	Reallocation		\$0	\$0	\$0	\$0		



**Six-Year Plans - Part I (2017): 2018-20 through 2022-24**  
**Virginia Cooperative Extension & Agricultural Experiment Station**

**Six-Year Financial Plan for Tuition and Fee Increases and Nongeneral Fund Revenue Estimates**

Items	2016-2017 (Estimated)		2017-2018 (Estimated)			2018-2019 (Planned)			2019-2020 (Planned)		
	Student Charge	Total Revenue	Student Charge	Rate Increase	Total Revenue	Student Charge	Rate Increase	Total Revenue	Student Charge	Rate Increase	Total Revenue
<b>E&amp;G Programs</b>											
Undergraduate, In-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
Undergraduate, Out-of-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
Graduate, In-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
Graduate, Out-of-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
Law, In-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
Law, Out-of-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
Medicine, In-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
Medicine, Out-of-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
Dentistry, In-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
Dentistry, Out-of-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
PharmD, In-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
PharmD, Out-of-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
Veterinary Medicine, In-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
Veterinary Medicine, Out-of-State	\$0	\$0	\$0	%	\$0	\$0	%	\$0	\$0	%	\$0
Other NGF		\$16,703,000			\$16,520,000			\$16,520,000			\$16,520,000
Total E&G Revenue - Gross		\$16,703,000			\$16,520,000			\$16,520,000			\$16,520,000
Total E&G Revenue - Net of Financial Aid		\$16,703,000			\$16,520,000			\$16,520,000			\$16,520,000
E&G Revenue Used for Faculty Salary Increases		\$0			\$0			\$0			\$0
Average T&R Faculty Salary Increase Rate		0.00%			0.00%			0.00%			0.00%
<b>Auxiliary Program</b>											
<b>Mandatory Non-E&amp;G Fees</b>											
Undergraduate	\$0		\$0	%		\$0	%		\$0	%	
Graduate	\$0		\$0	%		\$0	%		\$0	%	
Law	\$0		\$0	%		\$0	%		\$0	%	
Medicine	\$0		\$0	%		\$0	%		\$0	%	
Dentistry	\$0		\$0	%		\$0	%		\$0	%	
PharmD	\$0		\$0	%		\$0	%		\$0	%	
Veterinary Medicine	\$0		\$0	%		\$0	%		\$0	%	
Total Auxiliary Revenue (ALL including room and board)		\$0			\$0			\$0			\$0
<b>Total Tuition and Fees</b>											
Undergraduate, In-State	\$0		\$0	%		\$0	%		\$0	%	
Undergraduate, Out-of-State	\$0		\$0	%		\$0	%		\$0	%	
Graduate, In-State	\$0		\$0	%		\$0	%		\$0	%	
Graduate, Out-of-State	\$0		\$0	%		\$0	%		\$0	%	
Law, In-State	\$0		\$0	%		\$0	%		\$0	%	
Law, Out-of-State	\$0		\$0	%		\$0	%		\$0	%	
Medicine, In-State	\$0		\$0	%		\$0	%		\$0	%	
Medicine, Out-of-State	\$0		\$0	%		\$0	%		\$0	%	
Dentistry, In-State	\$0		\$0	%		\$0	%		\$0	%	
Dentistry, Out-of-State	\$0		\$0	%		\$0	%		\$0	%	
PharmD, In-State	\$0		\$0	%		\$0	%		\$0	%	
PharmD, Out-of-State	\$0		\$0	%		\$0	%		\$0	%	
Veterinary Medicine, In-State	\$0		\$0	%		\$0	%		\$0	%	
Veterinary Medicine, Out-of-State	\$0		\$0	%		\$0	%		\$0	%	
<b>Student Financial Aid (Program 108)</b>		\$0			\$0			\$0			\$0
<b>Sponsored Programs (Program 110)</b>		\$0			\$0			\$0			\$0
<b>Unique Military Activities</b>		\$0			\$0			\$0			\$0
<b>Workforce Development</b>		\$0			\$0			\$0			\$0
<b>Other (Specify)</b>		\$0			\$0			\$0			\$0

**Six-Year Plans - Part I (2017): 2018-20 through 2022-24**

**Virginia Tech**

**FINANCIAL AID PLAN**

**Note: If you do not have actual amounts for Tuition Revenue for Financial Aid by student category, please provide an estimate. If values are not distributed for Tuition Revenue for Financial Aid, a distribution may be calculated for your institution.**

**Allocation of Tuition Revenue Used for Student Financial Aid**

**2015-16 (Actual)**

T&F Used for Financial Aid	Gross Tuition Revenue	Tuition Revenue for Financial Aid (Program 108)	% Revenue for Financial Aid	Distribution of Financial Aid
Undergraduate, In-State	\$184,205,648	\$291,250	0.2%	\$291,250
Undergraduate, Out-of-State	\$176,853,876	\$929,000	0.5%	\$929,000
Graduate, In-State	\$17,355,145	\$142,727	0.8%	\$142,727
Graduate, Out-of-State	\$31,106,941	\$2,342	0.0%	\$2,342
First Professional, In-State	\$6,795,840	\$0	%	\$0
First Professional, Out-of-State	\$7,832,710	\$0	%	\$0
Total	\$424,150,160	\$1,365,319	0.3%	\$1,365,319
In-State Sub-Total	\$208,356,633	\$433,977	0.2%	\$433,977

**\*2016-17 (Estimated) Please see footnote below**

T&F Used for Financial Aid	Gross Tuition Revenue	Tuition Revenue for Financial Aid (Program 108)	% Revenue for Financial Aid	Distribution of Financial Aid
Undergraduate, In-State	\$195,985,233	\$83,957	0.0%	\$81,065
Undergraduate, Out-of-State	\$191,111,702	\$1,180,318	0.6%	\$1,176,318
Graduate, In-State	\$18,632,110	\$86,218	0.5%	\$88,981
Graduate, Out-of-State	\$34,637,827	\$4,127	0.0%	\$266,917
First Professional, In-State	\$6,667,886	\$0	%	\$0
First Professional, Out-of-State	\$7,659,198	\$0	%	\$0
Total	\$454,693,956	\$1,354,620	0.3%	\$1,613,281
Total from Finance-T&F worksheet	\$523,190,335	\$1,354,620	0.3%	
In-State Sub-Total	\$221,285,229	\$170,175	0.1%	\$170,046

**2017-18 (Planned)**

T&F Used for Financial Aid	Gross Tuition Revenue	Tuition Revenue for Financial Aid (Program 108)	% Revenue for Financial Aid	Distribution of Financial Aid
Undergraduate, In-State	\$205,104,260	\$457,500	0.2%	\$457,500
Undergraduate, Out-of-State	\$208,167,661	\$4,280,500	2.1%	\$4,280,500
Graduate, In-State	\$20,666,961	\$30,000	0.1%	\$30,000
Graduate, Out-of-State	\$36,564,805	\$0	%	\$0
First Professional, In-State	\$6,738,265	\$0	%	\$0
First Professional, Out-of-State	\$7,719,715	\$0	%	\$0
Total	\$484,961,666	\$4,768,000	1.0%	\$4,768,000
Total from Finance-T&F worksheet	\$552,147,544	\$4,768,000	0.9%	
In-State Sub-Total	\$232,509,485	\$487,500	0.2%	\$487,500
Additional In-State	\$11,224,256	\$317,325	2.8%	\$317,454

**2018-19 (Planned)**

T&F Used for Financial Aid	Gross Tuition Revenue	Tuition Revenue for Financial Aid (Program 108)	% Revenue for Financial Aid	Distribution of Financial Aid
Undergraduate, In-State	\$215,388,090	\$632,500	0.3%	\$632,500
Undergraduate, Out-of-State	\$224,789,599	\$7,605,500	3.4%	\$7,605,500
Graduate, In-State	\$21,941,709	\$30,000	0.1%	\$30,000
Graduate, Out-of-State	\$38,974,465	\$0	%	\$0
First Professional, In-State	\$9,736,360	\$0	%	\$0
First Professional, Out-of-State	\$12,411,385	\$0	%	\$0
Total	\$523,241,608	\$8,268,000	1.6%	\$8,268,000
Total from Finance-T&F worksheet	\$597,129,934	\$8,268,000	1.4%	
In-State Sub-Total	\$247,066,158	\$662,500	0.3%	\$662,500
Additional In-State	\$14,556,673	\$175,000	1.2%	\$175,000
Additional In-State from Financial Plan		\$175,000	1.2%	

**2019-20 (Planned)**

T&F Used for Financial Aid	Gross Tuition Revenue	Tuition Revenue for Financial Aid (Program 108)	% Revenue for Financial Aid	Distribution of Financial Aid
Undergraduate, In-State	\$223,203,357	\$732,500	0.3%	\$732,500
Undergraduate, Out-of-State	\$233,626,548	\$9,505,500	4.1%	\$9,505,500
Graduate, In-State	\$23,223,369	\$30,000	0.1%	\$30,000
Graduate, Out-of-State	\$41,389,240	\$0	%	\$0
First Professional, In-State	\$9,928,444	\$0	%	\$0
First Professional, Out-of-State	\$12,636,486	\$0	%	\$0
Total	\$544,007,444	\$10,268,000	1.9%	\$10,268,000
Total from Finance-T&F worksheet	\$617,895,770	\$10,268,000	1.7%	
In-State Sub-Total	\$256,355,170	\$762,500	0.3%	\$762,500
Additional In-State	\$9,289,011	\$100,000	1.1%	\$100,000
Additional In-State from Financial Plan		\$100,000	1.1%	

\* Please note that the totals reported here will be compared with those reported by the financial aid office on the institution's annual S1/S2 report. Since the six-year plan is estimated and the S1/S2 is "actual," the numbers do not have to match perfectly but these totals should reconcile to within a reasonable tolerance level. Please be sure that all institutional offices reporting tuition/fee revenue used for aid have the same understanding of what is to be reported for this category of aid.

Note: Virginia Tech utilizes limited "T&F Used for Financial Aid" to fund targeted institutional initiatives. Most institutional student financial aid is provided through need-based unfunded scholarships.

# Six-Year Plans - Part I (2017): FY2016-2017

## Virginia Cooperative Extension & Agricultural Experiment Station

### INTELLECTUAL PROPERTY ASSIGNMENTS AND EXTERNALLY SPONSORED RESEARCH

#### Background

The intellectual property (IP) worksheet captures report information for the most recently ended fiscal year as required by § 23.1-102 subdivision 2 of the Code of Virginia. Assignment of IP interests to persons or nongovernmental entities and the value of externally sponsored research funds received during the year from a person or nongovernmental entity by the institution, any foundation supporting the IP research performed by the institution, or any entity affiliated with the institution are captured by the worksheet. Information is sought on research that yields IP regardless of the project's intent. Information is sought about IP transferred as a result of either basic or applied research. The worksheet is structured to capture separate aggregate data on entities that have a principal place of business in Virginia and those with a principal place of business outside of Virginia.

#### Data Collection

**Special Note:** The information requested below pertains to the institution as well as any affiliated entity.

FY 2016-2017	Principal Place of Business in VA	Principal Place of Business outside VA
Number of assignments of intellectual property interests to persons or nongovernmental entities	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>
Value of funds from persons or nongovernmental entities to support intellectual property research	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>
Number of patents (by type) developed in whole or part from external projects funded by persons or nongovernmental entities:		
Patent Type - Design	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>
Patent Type - Plant	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>
Patent Type - Utility	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>
Total	0	0

**(1) See Agency 208 Submission for Aggregate Response.**

#### Definitions

**Assignment:** A transfer of ownership of Intellectual Property from one entity to another, including exclusive and royalty bearing licenses.

**Design Patent:** A patent that may be granted to anyone who invents a new, original, and ornamental design for an article of manufacture.

**Intellectual Property:** Creations of the mind – creative works or ideas embodied in a form that can be shared or can enable others to recreate, emulate, or manufacture them.

**Nongovernmental Entities:** An entity not associated with any federal, national or local government.

**Patent:** A property right granted by the Government of the United States of America to an inventor "to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States" for a limited time in exchange for public disclosure of the invention when the patent is granted.

**Plant Patent:** A patent that may be granted to anyone who invents or discovers and asexually reproduces any distinct and new variety of plant.

**Sponsored Research:** Research that is supported and compensated by a sponsoring agency.

**Utility Patent:** A patent that may be granted to anyone who invents or discovers any new, useful, and nonobvious process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof.

**Value of Funds:** Total value of all monetary and in-kind support provided by an external sponsor of Intellectual Property research.

**Six-Year Plans - Part I (2017): FY2016-2017**  
**Virginia Cooperative Extension & Agricultural Experiment Station**  
**ECONOMIC DEVELOPMENT: CONTRIBUTIONS (HB515)**

**Requirement:** As per § 23.1-306 (A) of the Code of Virginia each such plan and amendment to or affirmation of such plan shall include a report of the institution's active contributions to efforts to stimulate the economic development of the Commonwealth, the area in which the institution is located, and, for those institutions subject to a management agreement set forth in Article 4 (§ 23.1-1004 et seq.) of Chapter 10, the areas that lag behind the Commonwealth in terms of income, employment, and other factors.

**Special Note:** After a thorough review of existing documents and surveys, a workgroup comprised of mostly institutional members recommended that the following metrics be used to satisfy this reporting requirement. The reporting period is FY17. The metrics serve as a menu of items that institutions should respond to as applicable and available to them. Please leave fields blank, if information is unavailable.

**Section A:** Provide information for research and development (R&D) expenditures by source of fund with a breakdown by Science and Engineering (S&E) specific and non-S&E.

**NOTE: See Agency 208 Submission for Aggregate Response.**

VA PLAN	Section A: Research and Development (R&D) Expenditures by Source of Fund			
Strategy	Source of Funds	*S&E	Non S&E	Total
Reference	Federal Government			\$0.00
4.3	State and Local Government			\$0.00
	Institution Funds			\$0.00
	Business			\$0.00
	Nonprofit Organizations			\$0.00
	All Other Sources			\$0.00
	<b>Total</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
	* S&E - Science and Engineering			

**Section B:** Provide number and dollar value of grants, contracts and sub-agreements by discipline. If your institution prefers to report by industry, please modify table accordingly.

VA PLAN	Section B: Grants, Contracts and Sub-Agreements by Discipline						
Strategy	Discipline	Category					
Reference		Grants		Contracts		Sub-agreements	
4.3		No.	\$ Value	No.	\$ Value	No.	\$ Value
	Engineering						
	Physical Science						
	Environmental Science						
	Computer Science						
	Life Sciences						
	Psych/Social						
	Other Science						
	Non-Science and Engineering (non-S&E)						
	<b>Total</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>

**Section C:** For the following items, provide responses in appropriate fields. Insert an X for yes/no responses. Use Number/Amount field for other information. A Comments field has been provided for any special information your institution may want to provide.

VA PLAN	Section C: General Questions			
Strategy	Yes	No	Number/Amount	Comments
Reference				

4.1	Does your institution offer an innovation/ entrepreneurship/career-themed student living-learning community?				
4.1	Does your institution offer startup incubation/accelerator programs?				
4.2	Does your institution offer maker-space?				
4.2	Does your institution have an entrepreneurship center?				
4.2	Does your institution have Executive(s)-in-Residence?				
4.1	Number of students paid through externally funded grants or contracts.				
4.1	Number of entrepreneurship degrees/ courses/programs (credit and noncredit) offered?				
4.1	Number of entrepreneurship degrees/ courses/programs (credit and noncredit) offered?				
4.1	Pertaining to question above, number of participants of these degrees/courses/programs? Include degree programs with concentrations in entrepreneurship separately as well as special trainings for students and faculty.				
4.1	Number of academic units that have courses/programs requiring a capstone project, experiential learning activities, or internships.				
4.2	Number of intellectual property licenses executed.				
4.2	Amount of licensing revenue resulting from intellectual property licenses executed.				
4.2	Number of university start-ups from faculty intellectual property.				
4.5	Number of jobs created as a result of university start-ups during the last fiscal year.				
4.5	Average wages of alumni living (in-state).				
4.4	Number of outside organizations/businesses served, for example but not limited to companies working with your career center, companies sponsoring research, etc.				
4.4	Number of units offering K-12 STEM outreach programs.				
4.4	Count or estimate of K-12 STEM outreach program participants.				
4.4	Number of units offering other outreach/extension/public service programs related to STEM-H.				
4.4	Count or estimate of other outreach/extension/public service program participants.				
4.3	Number of Small Business Innovation Research Grants (SBIR and STTR).				
4.3	Dollar value of Small Business Innovation Research Grants (SBIR and STTR).				
4.3	Number of Commonwealth Research and Commercialization Fund awards (CRCF).				
4.3	Dollar value of CRCF awards.				
4.1	Does your institution's tenure policy support commercialization? If yes, please provide brief explanation in comments section.				
4.2	Does your institution offer a seed fund and/or proof of concept fund? If yes, provide dollar amount available in FY17 in the number/amount field.				
4.1	Does your institution offer continuing education programs to industry? If yes, please provide dollar value or headcount for such programs in the number/amount field.				

**Section D: These items are VCCS specific. Please provide responses in appropriate fields. A Comments field has been provided for any special information the VCCS may want to provide.**

VA PLAN Strategy Reference	Section D: General Questions - VCCS Specific	Number	Value	Comments
4.1	Number and value of federal, state or private grant resources to support development of, or access to, training programs leading to workforce credentials, certifications and licensures.			
4.1	Number of training programs leading to workforce certifications and licensures.			
4.1	Number of students who earned industry recognized credentials stemming from training programs.			
4.1	Number of industry-recognized credentials obtained, including certifications and licenses.			
4.1	Number of Career/Technical Education certificates, diplomas and degrees awarded that meets regional workforce needs.			

**Virginia Cooperative Extension & Agricultural Experiment Station  
2018-2024 Six-Year Plan****Part II:****A. Institutional Mission:**

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.

**B. Strategies****229 Program Strategies:**

- 1. Advance Faculty Salary Competitiveness to the 60<sup>th</sup> Percentile:** Virginia Tech is regularly ranked among the best institutions in the world. We owe this success to our outstanding faculty who are committed to excellence in education, research, and outreach. We know that the highest quality employees in our organization are constantly being sought out by peer institutions, industry, and research centers around the world. Attracting and retaining the caliber of faculty needed to maintain and improve upon our successes is becoming increasingly difficult. While compensation is only one factor that contributes to the university’s ability to attract and retain the best faculty, it is a major consideration. In addition, the replacement of faculty is far more expensive than the costs to retain those persons for whom the university has already invested significant time and resources. Competition for faculty across top-tier institutions is accelerating, creating an environment in which faculty are rewarded for mobility in addition to performance. The university’s actual faculty salary currently ranks at the 33<sup>rd</sup> percentile of the SCHEV peer group for Virginia Tech: 17th of 26 institutions in terms of salary competitiveness. Maintaining an annual merit process that rewards our top faculty for their efforts is fundamental to keeping up with the market and mitigating turnover. In the absence of a statewide compensation process, the university will make limited progress with nongeneral fund revenue alone, as represented by the nongeneral fund share displayed in the Six-Year Plan.
- 2. Increase Staff Salaries:** Much like faculty, the slow pace of growth of staff compensation has negatively impacted retention and recruitment efforts at the university.

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**2018-2024 Six-Year Plan**

The need to competitively compensate the hard-working support staff at the university is a key factor in ensuring a highly productive and innovative organization. The nongeneral fund portion is represented in the Six-Year Plan.

3. **Advance Virginia Agriculture and Natural Resources Initiative to Grow the Future of the Commonwealth's Economy with Public-Private Partnerships:** An integrated research and extension effort will be at the forefront of supporting a sustainable global agricultural and natural resource industry through its translational research, technology innovation and partnership and engagement with relevant private industries. A strong partnership with relevant industries is key to the success of this initiative.

The agency will create a new "**Center for Translational Research and Innovation in Agriculture and Natural Resources**" with the goals of enhancing the visibility of faculty programs, promoting interdisciplinary translational research, actively engaging with the agriculture and natural resources industry, developing new research and technology innovation pipelines, and translating agricultural innovations into commercial opportunities.

As part of this initiative, the program will develop a **consortium of industry partners** that would engage in communicating the needs of industry and providing/facilitating financial support to conduct translational research and extension programs, and assist with the development and commercialization of new technologies.

Industry support will be focused on needs identified through a planned **Agricultural and Natural Resources Innovation Summit** that will bring leaders of selected industry, government organizations and commodity groups to campus, identifying a prioritized list of industry's needs and tackling related challenges, based on the agency's strengths and core expertise.

There is a need to develop and maintain world-class program in order to attract industry to engage with the Center. Thus, it is critical that state funding be available to enhance the capability of the agency to deliver expertise and training on the rapidly developing products and technologies at our laboratories on campus and at our ARECs across the commonwealth. Providing the expertise and training to utilize and disseminate that technology will directly benefit the state's agricultural economy. Maintaining state-of-the-art technologies and technological expertise and capability requires base resources that can leveraged to provide continuous access to new and advanced technology. This is a General Fund initiative.

4. **Improve Compensation Levels for Extension Agents to Reduce Turnover and Enhance Service Levels to the Commonwealth:** The knowledge, experience, and relationships that Agents develop during their tenure are extremely valuable resources to the Commonwealth. Current compensation levels are creating issues, as Virginia currently ranks second to last in starting salaries of Extension Agents in the thirteen-state Southern Region. Ensuring competitive compensation for the hard-working Extension Agents across the Commonwealth will position the university to attract and

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**2018-2024 Six-Year Plan**

retain the most qualified professionals to help lead the Commonwealth's agricultural community to success, provide opportunities for youth to become productive citizens, and deliver programs that support food safety and security for Virginia's families. This is a General Fund initiative.

5. **Operation & Maintenance of New Facilities:** With new facilities coming on-line during the planning period, including the agency's Kentland improvements and the new Livestock Production & Poultry Research Facility, operation 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. Addressing operation and maintenance of facilities will ensure the maximum facility service life and the prevention of building deficiencies.
6. **Utility and Fixed Cost Increases:** Rising costs of contracts, utility service, and other mandated or required operating costs must be addressed to maintain the delivery of institutional services.
7. **Unavoidable Cost Increase Placeholder:** In addition to known cost drivers in the agency's plan, the agency assumes that unknown and unavoidable costs will rise over time. These could include unfunded mandates, software contract escalation, health and safety cost increases, maintenance expenses, and other unforeseen cost drivers. Figures in the plan represent the agency's nongeneral fund share of projected cost increases in the 2018-20 biennium.

**C. Financial Aid:** N/A

**D. Evaluation of Progress Towards Meeting the Goals of Current Six Year Plan:**

The university was able to make measured progress towards the goals in the 2016 Six-Year plan submission. Unavoidable cost drivers and fixed cost increases continue to stress the agency. Due to the inability to increase nongeneral fund resources, the ability of the agency to continue to serve the citizens of the Commonwealth and address emerging issues in the agricultural economy is almost entirely dependent upon General Fund support.

In spite of these challenges, the agency was successful in helping attract industry to the Commonwealth, increasing agri-business productivity, producing award-winning research, enhancing food safety, and spinning off new discoveries. Among these efforts were the study of strategies to combat the Zika virus, support of the Commonwealth's hop and barley production, household energy efficiency initiatives, and the Virginia Household Water Quality Program, to name a few.

Research and outreach programs conducted by the Virginia Cooperative Extension and Agricultural Experiment Station positively impact citizens on a daily basis. In addition to

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supporting research and industry, the VCE/AES and its 28,794 volunteers provided over 936,039 hours of service to communities in the commonwealth in FY16. Collectively, this agency provides a significant return on investment to the state as every \$1 of General Fund support generates an additional \$1.68 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.

For more information, please see the VCE/VAES 2016 annual report at:

<http://www.pubs.ext.vt.edu/VCE/VCE-885/VCE-885.html>

**E. Tuition Rate Increases:** N/A

**F. Contributions to Economic Development:** *Overall university contributions are discussed in detail in the Agency 208 (University Division) submission.*

**G. Capital Outlay Significantly Impacting E&G and NGF costs:**

Virginia Tech appreciates the significant support to advance enrollment growth, research and economic development by fully funding four high priority capital projects in the 2016 Session.

The Virginia agriculture industry represents a significant portion of commerce for the commonwealth. Virginia Tech's Cooperative Extension/Agriculture Experiment Station agency provides critical production and operation research to advance and protect these industries. The focus of the renewal of the Livestock and Poultry Research Facilities project is five specific animal programs that are in need of improved facilities to sustain and advance the commonwealth's industries. The specific sectors include sheep, poultry, swine, equine and beef cattle.

Supporting enrollment growth and facilitating STEM-H instruction is a primary goal of the university. The current construction of a new Classroom Building facility (expected to be complete in summer 2016) is the first phase of supporting needed instructional space; the second phase is the construction of an Undergraduate Science Laboratory Building that (approved for planning in the 2016 session) will provide much needed STEM-H instructional capacity. As the campus begins to utilize previously undeveloped portions of campus, the construction of the second phase of the Central Chiller Plant will allow the university to support new facilities without the addition of several individual and less efficient chiller installations. In addition, renovating and replacing existing instructional space in Holden Hall will allow the university to offer greater square footage to support instruction and lab space for engineering students and faculty. After these projects that support the instructional needs of the university, additional research space at the Virginia Tech Carilion Research Institute will allow continued growth of the university's research program to enhance the economy in both the Roanoke and New River Valleys.

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Virginia Tech continues to grow in undergraduate students, particularly in STEM-H majors. Over the past decade STEM-H majors have grown by 2,600, or 31 percent. Thus, as the total number of students is expanding, the number of STEM-H majors is growing at faster rate. Most of this growth will be in engineering, traditional sciences, as well as in new degree programs such as neuroscience. Meanwhile, during this period of expansion, the university last constructed an undergraduate laboratory facility in 2004 for instruction in chemistry and physics. The university's existing inventory of science laboratory instruction is now too small and generally outdated to accommodate the current demand for instruction spaces by engineering and science majors. The Undergraduate Science Laboratory project that was approved for planning in the 2016 General Assembly session would construct a new undergraduate science laboratory facility of 102,000 gross square feet to accommodate the growing demand for STEM-H degrees at Virginia Tech. The timing of this project is critical for the university in order to continue to support enrollment growth, especially for STEM-H majors.

In accordance with the state's traditional capital outlay process, the university has begun its internal work to develop the 2018–2024 Capital Outlay Plan. There are certain key focus areas that will be needed to continue to advance the instruction, research, economic development, and campus infrastructure at the university including: Data and Decision Sciences, Intelligent Infrastructure, Resilient Earth Systems, Integrated Security, and Global Business and Agriculture Systems.

**H. Restructuring:**

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