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

Due: July 12, 2018

Institution:	***Virginia Tech***
Institution UNITID:	Agency 208

Individual responsible for plan

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Six-Year Plans - Part I (2018): 2018-20 through 2022-24
Virginia Tech
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)* .

Priority Ranking	ACADEMIC AND SUPPORT SERVICE STRATEGIES FOR SIX-YEAR PERIOD (2016-2022)												
	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		2019-2020		2018-2019 (revised)		2019-2020 (revised)			
				Total Amount	Amount From Tuition Revenue	Total Amount	Amount From Tuition Revenue	Total Amount	Amount From Tuition Revenue	Total Amount	Amount From Tuition Revenue		
3	Increase Access for Virginia Undergraduates and Support the Production of STEM-H Degrees in the Commonwealth.	1,2	Incr	$8,251,000	$5,784,333	$10,970,500	$6,037,167	$8,327,689	$7,977,689	$11,402,757	$5,836,877	Support continuing demand from Virginia residents for a Virginia Tech education in strategic areas including STEM-H degree production as financial support and instructional/residential space permit. Utilizes cost of education and 2B enrollment projections. Initiative includes new GF provided in Chapter 2.	Support continuing demand from Virginia residents for a Virginia Tech education in strategic areas including STEM-H degree production as financial support and instructional/residential space permit. Utilizes cost of education and 2B enrollment projections.
			Sav	$0	$0	$0	$0						
			Re	$0	$0	$0	$0	$350,000		$350,000			
4	Develop "Destination Areas": Invest in Strategic Market-Centered Instruction and Research Clusters including Adaptive Brain and Behavior, Data Analytics and Decision Sciences, Global Systems Science, Integrated Security, and Intelligent Infrastructure for Human-Centered Communities.	3,4	Incr	$3,633,952	$2,180,371	$7,351,975	$3,411,185	$2,035,014	$1,435,014	$5,743,137	$2,960,745	Invest in world-leading instruction and research clusters that are focused on addressing complex (regional, national and global) problems that intersect with Virginia Tech's core strengths, while engaging industry, supporting faculty, and preparing our students to be the next generation of leaders and doers. This is the core of our effort to transform Virginia Tech into a contemporary land-grant university. Without incremental GF support, the university will advance this initiative to the extent possible with NGF.	Invest in world-leading instruction and research clusters that are focused on addressing complex (regional, national and global) problems that intersect with Virginia Tech's core strengths, while engaging industry, supporting faculty, and preparing our students to be the next generation of leaders and doers. This is the core of our effort to transform Virginia Tech into a contemporary land-grant university.
			Sav	$0	$0	$0	$0						
			Re	$0	$0	$1,000,000	$0	$600,000		$600,000			
6	Establish a Learning Systems Innovation and Effectiveness Initiative *(Traditional Fund Split: 40% GF. NGF will support portion of progress.)*	2	Incr	$500,000	$300,000	$1,000,000	$600,000	$465,518	$465,518	$931,036	$577,242	Continue to develop and implement an outcomes-based approach to shaping the university's educational programs to meet the needs of the commonwealth's employers. Without incremental GF support, the university will advance this initiative to the extent possible with NGF.	Continue to develop and implement an outcomes-based approach to shaping the university's educational programs to meet the needs of the commonwealth's employers.
			Sav	$0	$0	$0	$0						
			Re	$0	$0	$0	$0						
7	Ensure Access for Low and Middle-Income Families by Continuing to Expand Need-Based Financial Aid to Undergraduate Students *(Unfunded Scholarships and State GF support)*	1	Incr	$2,060,694	$2,060,694	$4,121,388	$4,121,388	$2,141,142	$1,835,955	$4,223,208	$3,211,713	Continue to protect low and middle income students from tuition increases, and work to address aggregate unmet need of undergraduate students. Ensure competitive net cost for low- and middle-income Virginia students to enhance affordability. Initiative includes new GF provided in Chapter 2.	Continue to protect low and middle income students from tuition increases, and work to address aggregate unmet need of undergraduate students. Ensure competitive net cost for low- and middle-income Virginia students to enhance affordability.
			Sav	$0	$0	$0	$0						
			Re	$0	$0	$0	$0						
8	Expand Access to a Virginia Tech Education Through Development of Pathway Opportunities for Underserved Virginia Residents *(Traditional Fund Split: 40% GF. NGF will support portion of progress.)*	1,3,4	Incr	$1,066,250	$639,750	$1,066,250	$639,750	$500,000	$500,000	$1,012,888	$817,991	Enhance the university's pathways to success and accommodate a diversifying class of students while working towards reduced time-to-degree through unique non-traditional educational opportunities. Continue to work to identify opportunities to collaborate with other institutions in the Commonwealth. Without incremental GF support, the university will advance this initiative to the extent possible with NGF.	Enhance the university's pathways to success and accommodate a diversifying class of students while working towards reduced time-to-degree through unique non-traditional educational opportunities. Continue to work to identify opportunities to collaborate with other institutions in the Commonwealth.
			Sav	$0	$0	$0	$0						
			Re	$0	$0	$0	$0						
9	Enhance Degree Completion and Instructional Sharing with Other Institutions *Traditional Fund Split: 40% GF. NGF will support portion of progress.)*	2	Incr	$611,732	$367,039	$747,584	$448,550	$274,423	$274,423	$548,846	$548,846	Expand opportunities to share resources, build pathways, and establish partnership with high schools and institutions across the commonwealth to provide access to a Virginia Tech education, primarily in the area of Cybersecurity.	Expand opportunities to share resources, build pathways, and establish partnership with high schools and institutions across the commonwealth to provide access to a Virginia Tech education.
			Sav	$0	$0	$0	$0						
			Re	$0	$0	$0	$0						
10	Support Faculty Startup Packages, Particularly for New Faculty in the STEM-H fields, Including Equipment and Lab Renovation *(Traditional Fund Split: 40% GF. NGF will support portion of progress.)*	3	Incr	$2,000,000	$1,200,000	$4,000,000	$1,400,000	$736,486	$736,486	$2,159,742	$1,759,742	As STEM-H areas grow and degree offerings increase, faculty startup that allows the university to be successful in the competitive recruitment market will help ensure that students have access to the best and brightest faculty the discipline has to offer. Initiative utilizes reallocations and will be advanced to the extent possible with NGF alone.	As STEM-H areas grow and degree offerings increase, faculty startup that allows the university to be successful in the competitive recruitment market will help ensure that students have access to the best and brightest faculty the discipline has to offer.
			Sav	$0	$0	$0	$0						
			Re	$0	$0	$1,000,000	$0			$400,000			
12	Increase Graduate Enrollment in Strategic Areas *(100% NGF)*	2	Incr	$2,953,065	$2,953,065	$3,284,916	$3,284,916	$934,953	$934,953	$1,040,018	$1,040,018	The university will continue to advance graduate education as a source of innovation and entrepreneurship that leads to higher paying, high-value jobs that are vital for the continued success of the Virginia economy in the global marketplace.	The university will continue to advance graduate education as a source of innovation and entrepreneurship that leads to higher paying, high-value jobs that are vital for the continued success of the Virginia economy in the global marketplace.
			Sav	$0	$0	$0	$0						
			Re	$0	$0	$0	$0						
13	Integrate Virginia Tech Carilion School of Medicine (VTCSOM) into the University as the Ninth College *(100% NGF. Funded through tuition and other NGF support; no GF request). See Footnote 5)*	2,4	Incr	$14,103,053	$14,103,053	$14,261,637	$14,261,637	$14,409,428	$14,409,428	$14,467,920	$14,467,920	Continue to seek opportunities to collaborate and integrate operations of medical school with other university programs.	Continue to seek opportunities to collaborate and integrate operations of medical school with other university programs.
			Sav	$0	$0	$0	$0						
			Re	$0	$0	$0	$0						
14	Advance Institutional Efficiencies and Effectiveness, and Support Cost Containment Efforts *(100% NGF)*	3	Incr	$1,500,000	$1,500,000	$2,500,000	$2,000,000	$1,352,751	$852,751	$2,352,751	$1,852,751	The university will continually seek opportunities to employ more efficient and effective business practices that contain costs and ensure the effectiveness of the university's efforts.	The university will continually seek opportunities to employ more efficient and effective business practices that contain costs and ensure the effectiveness of the university's efforts.
			Sav	$0	$0	$0	$0	$0	$0	$0	$0		
			Re	$0		$500,000	$0	$500,000	$0	$500,000	$0		
15	Reallocation of Existing Resources to Support University Priorities *(100% NGF)*	3	Incr	$0	$0	$0	$0	$0	$0	$0	$0	To the extent possible, the university will reallocate existing resources to support strategic university priorities including academic advancements, support for faculty startup packages, and enhancing faculty compensation.	To the extent possible, the university will reallocate existing resources to support strategic university priorities including academic advancements, support for faculty startup packages, and enhancing faculty compensation.
			Sav	$0	$0	$0	$0	$0	$0	$0	$0		
			Re	$700,000	$0	$1,400,000	$0	$1,190,521	$0	$3,093,021	$0		
5	Advance Strategic Research Opportunities and Enhance Entrepreneurial and Innovation Ecosystem	3,4	Incr	$5,000,000	$0	$10,000,000	$0	$0	$0	$5,000,000	$0	$5 million of General Fund support in 2018-19 will allow the university to support infrastructure and faculty additions that enhance the university's competitive position for	$10 million of General Fund support in 2019-20 will allow the university to support infrastructure and faculty additions that enhance the university's competitive

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Priority Ranking	ACADEMIC AND SUPPORT SERVICE STRATEGIES FOR SIX-YEAR PERIOD (2016-2022)												
	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		2019-2020		2018-2019 (revised)		2019-2020 (revised)			
				Total Amount	Amount From Tuition Revenue	Total Amount	Amount From Tuition Revenue	Total Amount	Amount From Tuition Revenue	Total Amount	Amount From Tuition Revenue		
	Entrepreneurial and Innovation Ecosystem		Sa	$0	$0	$0	$0	$0	$0	$0	$0	securing new external research investment. State investment into emerging research opportunities will result in significant advances in knowledge and contribute to the economic development of the Commonwealth.	position for securing new external research investment. State investment into emerging research opportunities will result in significant advances in knowledge and contribute to the economic development of the Commonwealth.
	(100% General Fund Request)		Re	$0	$0	$0	$0	$0	$0	$0	$0		
11	Increase Support for Unique Military Activities	2,4	Incr	$451,082	$0	$451,082	$0	$0	$0	$173,215	$0	Virginia Tech's development of the Commonwealth's next generation of great leaders and citizens is reliant upon adequate support of the Unique Military Activities program. General Fund support will provide equitable funding to Virginia Tech's program, supporting adequate staffing and operational needs for delivering civilian and military leadership programs.	Virginia Tech's development of the Commonwealth's next generation of great leaders and citizens is reliant upon adequate support of the Unique Military Activities program. General Fund support will provide equitable funding to Virginia Tech's program, supporting adequate staffing and operational needs for delivering civilian and military leadership programs.
	(100% General Fund Request)		Sa	$0	$0	$0	$0	$0	$0	$0	$0		
			Re	$0	$0	$0	$0	$0	$0	$0	$0		
	Total 2018-2020 Costs												
	Incremental (Included in Financial Plan line 61)			$42,130,828	$31,088,306	$59,755,332	$36,204,593	$31,177,404	$29,422,217	$49,055,518	$33,073,845		
	Savings			$0	$0	$0	$0	$0	$0	$0	$0		
	Reallocation			$700,000	$0	$3,900,000	$0	$2,640,521	$0	$4,943,021	$0		

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Priority Ranking	ACADEMIC AND SUPPORT SERVICE STRATEGIES FOR SIX-YEAR PERIOD (2016-2022)											
	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		2019-2020		2018-2019 (revised)		2019-2020 (revised)			
			Total Amount	Amount From Tuition Revenue	Total Amount	Amount From Tuition Revenue	Total Amount	Amount From Tuition Revenue	Total Amount	Amount From Tuition Revenue		
	Six-Year Financial Plan for Educational and General Programs, Incremental Operating Budget **2018-2020 Biennium** **(Assuming No Additional General Fund)**											
	Items		2018-2019 Total Amount	2018-2019 Amount From Tuition Revenue	2019-2020 Total Amount	2019-2020 Amount From Tuition Revenue	2018-2019 (revised) Total Amount	2018-2019 (revised) Amount From Tuition Revenue	2019-2020 (revised) Total Amount	2019-2020 (revised) Amount From Tuition Revenue		
	Total Incremental Cost from Academic Plan[1]		$42,130,828	$31,088,306	$59,755,332	$36,204,593	$31,177,404	$29,422,217	$49,055,518	$33,073,845		
1	Increase T&R Faculty Salary Amount (state authorized salary increase), put NGF share amount in the tuition column and NGF share+state funding in the total column		$3,420,956	$3,420,956	$9,873,405	$9,873,405	$0	$0	$5,672,986	$3,517,251		
	Increase T&R Faculty Salary Amount (additional NGF salary increase), put NGF amount in both tuition and total columns		$0	$0	$0	$0	$5,561,751	$5,561,751	$10,100,140	$10,100,140	2018-19: 2% merit-based salary increase.	2019-20: 3.6% merit-based salary increase.
	T&R Faculty Salary Increase Rate (put state authorized salary increases in the total column, leave tuition column blank)		2.4%	2.4%	2.4%	2.4%	0.0%		2.0%			
	Additional NGF T&R Faculty Salary Increase Rate (put additional NGF salary increase rate in both tuition and total columns)		0.0%	0.0%	0.0%	0.0%	2.0%	2.0%	1.6%	1.6%		
1	Increase Admin. Faculty Salary Amount (state authorized salary increase), put NGF share amount in the tuition column and NGF share+state funding in the total column		$1,188,745	$1,188,745	$3,430,902	$3,430,902	$0	$0	$1,971,872	$1,222,561		
	Increase Admin. Faculty Salary Amount (additional NGF salary increase), put NGF amount in both tuition and total columns		$0	$0	$0	$0	$1,933,208	$1,933,208	$3,510,706	$3,510,706	2018-19: 2% merit-based salary increase.	2019-20: 3.6% merit-based salary increase.
	Admin Faculty Salary Increase Rate (put state authorized salary increases in the total column, leave tuition column blank)		2.4%	2.4%	2.4%	2.4%	0.0%		2.0%			
	Additional NGF Admin. Faculty Salary Increase Rate (put additional NGF salary increase rate in both tuition and total columns)		0.0%	0.0%	0.0%	0.0%	2.0%	2.0%	1.6%	1.6%		
	Increase Classified Salary Amount (state authorized salary increase), put NGF share amount in the tuition column and NGF share+state funding in the total column		$0	$0	$0	$0	$0	$0	$1,631,724	$1,011,669	N/A	2019-20: 2% across-the-board and 2% merit-based salary increase.
	Increase Classified Salary Amount (additional NGF salary increase), put NGF amount in both tuition and total columns		$0	$0	$0	$0	$0	$0	$0	$0		
	Classified Salary Increase Rate (put state authorized salary increases in the total column, leave tuition column blank)		0.0%	0.0%	0.0%	0.0%	0.0%		4.0%			
	Additional NGF Classified Salary Increase Rate (put additional NGF salary increase rate in both tuition and total columns)		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
2	Increase University Staff Salary Amount (state authorized salary increase), put NGF share amount in the tuition column and NGF share+state funding in the total column		$523,342	$523,342	$1,505,213	$1,505,213	$0	$0	$1,251,862	$776,155		
	Increase University Staff Salary Amount (additional NGF salary increase), put NGF amount in both tuition and total columns		$0	$0	$0	$0	$1,227,316	$1,227,316	$1,853,247	$1,853,247	2018-19: 2% merit-based salary increase.	2019-20: 3% merit-based salary increase.

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	Strategies (Short Title)	VP Goal	Cost: Incremental, Savings, Reallocation								Strategies	Strategies
			2018-2019		2019-2020		2018-2019 (revised)		2019-2020 (revised)			
			Total Amount	Amount From Tuition Revenue	Total Amount	Amount From Tuition Revenue	Total Amount	Amount From Tuition Revenue	Total Amount	Amount From Tuition Revenue		
	University Staff Salary Increase Rate (put state authorized salary increases in the total column, leave tuition column blank)		1.8%	1.8%	1.8%	1.8%	0.0%		2.0%			
	Additional NGF University Staff Salary Increase Rate (put additional NGF salary increase rate in both tuition and total columns)		0.0%	0.0%	0.0%	0.0%	2.0%	2.0%	1.0%	1.0%		
	Increase Number of Full-Time T&R Faculty[4] ($) *(Traditional Fund Split, 60% NGF)*		$0	$0	$0	$0	$0	$0	$0	$0		
	Increase Number of Full-Time T&R Faculty[4] (FTE)		0	0	0	0	0	0	0	0		
	Increase Number of Full-Time Admin. Faculty[4] ($)		$0	$0	$0	$0	$0	$0	$0	$0		
	Increase Number of Full-Time Admin. Faculty[4] (FTE)		0	0	0	0	0	0	0	0		
	Increase Number of Part-Time Faculty[4] ($)		$0	$0	$0	$0	$0	$0	$0	$0		
	Increase Number of Part-Time Faculty[4] (FTE)		0	0	0	0	0	0	0	0		
	Increase Number of Classified Staff [4]($)		$0	$0	$0	$0	$0	$0	$0	$0		
	Increase Number of Classified Staff [4](FTE)		0	0	0	0	0	0	0	0		
	Increase Number of University Staff [4]($)		$0	$0	$0	$0	$0	$0	$0	$0		
	Increase Number of University Staff [4](FTE)		0	0	0	0	0	0	0	0		
16	Library Enhancement[4]($) (Inflation)		$250,000	$250,000	$500,000	$500,000	$268,680	$268,680	$537,360	$537,360		
	Library Enhancement[4](FTE)		0	0	0	0	0	0	0	0		
	Technology Enhancement[4]($)		$0	$0	$0	$0	$0	$0	$0	$0		
	Technology Enhancement[4](FTE)		0	0	0	0	0	0	0	0		
18	O&M for New Facilities[4]($)		$846,484	$846,484	$2,422,896	$2,422,896	$238,533	$238,533	$1,032,363	$640,065		
	O&M for New Facilities[4](FTE)		0	0	0	0	0	0	0	0		
17	Fixed Cost Increases		$850,000	$850,000	$1,700,000	$1,700,000	$593,280	$593,280	$1,186,560	$1,186,560		
	NGF share of state authorized salary increase/bonus		$0	$0	$0	$0	$0	$0	$0	$0		
A19	Fringe/health insurance benefits increase		$0	$0	$0	$0	$3,755,248	$2,328,254	$9,388,120	$5,820,634	Utilizing approved 2018-20 fringe assumptions in Chapter 2.	Utilizing approved 2018-20 fringe assumptions in Chapter 2.
A20	VRS increase		$0	$0	$0	$0	$80,038	$49,624	$83,525	$51,785	Utilizing approved 2018-20 fringe assumptions in Chapter 2.	Utilizing approved 2018-20 fringe assumptions in Chapter 2.
21	Annualization of 2017-18 Salary Increase		$824,692	$494,815	$824,692	$494,815	$829,225	$499,348	$829,225	$499,348		
8	Additional In-State Student Financial Aid From Tuition Revenue		$175,000	$175,000	$275,000	$275,000	$522,475	$522,475	$772,475	$772,475		
	Others (Specify, insert lines below)		$0	$0	$0	$0	$0	$0	$0	$0		
D	Unavoidable Cost Increase Placeholder		$3,399,701	$3,399,701	$5,694,499	$5,694,499	$0	$0	$0	$0		
	Safety and Security Enhancement		$0	$0	$0	$0	$0	$0	$0	$0		
	Total Additional Funding Need		**$53,609,748**	**$42,237,349**	**$85,981,939**	**$62,101,323**	**$46,187,158**	**$42,644,686**	**$88,877,683**	**$64,573,800**		

Notes:
(1) Please ensure that these items are not double counted if they are already included in the incremental cost of the academic plan.
(2) If planned, enter the cost of any institution-wide increase.
(3) Enter planned annual faculty salary increase rate. Any salary increase entered here will be counted when calculating the gap to reach the 60th percentile ir
(4) Enter number of FTE change over the FY2018 level in appropriate columns.
5) Nongeneral Funds for this initiative include tuition, self-generated revenue, and private support.

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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)			Revised						
												2017-18 (Est.)	2018-2019 (Estimated)			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	Total Revenue	Student Charge	Rate Increase	Total Revenue	Student Charge	Rate Increase	Total Revenue
E&G Programs																		
Undergraduate, In-State	$10,941	$195,985,233	$11,263	2.9%	$205,104,260	$11,590	2.9%	$215,388,090	$11,926	2.9%	$223,203,357	$206,669,016	$11,595	2.9%	$216,260,033	$11,937	2.9%	$224,206,053
Undergraduate, Out-of-State	$28,064	$191,111,702	$29,047	3.5%	$208,167,661	$29,889	2.9%	$224,789,599	$30,756	2.9%	$233,626,548	$220,428,558	$29,883	2.9%	$225,558,459	$30,761	2.9%	$234,519,657
Graduate, In-State	$12,621	$18,632,110	$13,105	3.8%	$20,666,961	$13,485	2.9%	$21,941,709	$13,876	2.9%	$23,223,369	$18,972,807	$13,485	2.9%	$20,405,868	$13,876	2.9%	$21,595,353
Graduate, Out-of-State	$25,853	$34,637,827	$26,843	3.8%	$36,564,805	$27,621	2.9%	$38,974,465	$28,422	2.9%	$41,389,240	$34,502,966	$27,604	2.8%	$36,894,734	$28,405	2.9%	$39,144,963
Law, In-State	$0	$0	$0	%	$0	$0	%	$0	$0	%	$0	$0	$0	%	$0	$0	%	$0
Law, Out-of-State	$0	$0	$0	%	$0	$0	%	$0	$0	%	$0	$0	$0	%	$0	$0	%	$0
Medicine, In-State	$0	$0	$0	%	$0	$52,268	N/A	$2,863,329	$54,097	3.5%	$2,917,953	$0	$51,993	N/A	$3,379,545	$53,293	2.5%	$3,410,741
Medicine, Out-of-State	$0	$0	$0	%	$0	$52,268	N/A	$4,537,276	$54,097	3.5%	$4,604,894	$0	$51,993	N/A	$5,355,279	$53,293	2.5%	$5,382,575
Dentistry, In-State	$0	$0	$0	%	$0	$0	%	$0	$0	%	$0	$0	$0	%	$0	$0	%	$0
Dentistry, Out-of-State	$0	$0	$0	%	$0	$0	%	$0	$0	%	$0	$0	$0	%	$0	$0	%	$0
PharmD, In-State	$0	$0	$0	%	$0	$0	%	$0	$0	%	$0	$0	$0	%	$0	$0	%	$0
PharmD, Out-of-State	$0	$0	$0	%	$0	$0	%	$0	$0	%	$0	$0	$0	%	$0	$0	%	$0
Veterinary Medicine, In-State	$21,706	$6,667,886	$22,230	2.4%	$6,738,265	$22,675	2.0%	$6,873,030	$23,128	2.0%	$7,010,491	$7,070,260	$22,747	2.3%	$6,931,571	$23,316	2.5%	$7,104,861
Veterinary Medicine, Out-of-State	$48,842	$7,659,198	$50,029	2.4%	$7,719,715	$51,030	2.0%	$7,874,110	$52,050	2.0%	$8,031,592	$7,900,700	$51,280	2.5%	$7,941,058	$52,562	2.5%	$8,139,584
Other NGF		$68,496,379			$67,185,878			$73,888,326			$73,888,326	$65,949,254			$77,504,363			$78,661,192
Total E&G Revenue - Gross		$523,190,335			$552,147,544			$597,129,934			$617,895,770	$561,493,560			$600,230,911			$622,164,979
Total E&G Revenue - Net of Financial Aid		$521,809,731			$547,379,544			$588,861,934			$607,627,770	$557,014,176			$591,909,886			$611,617,487
E&G Revenue Used for Faculty Salary Increases		$6,467,685			$6,899,597			$4,609,701			$13,304,307	$4,434,017			$5,561,751			$4,739,812
Average T&R Faculty Salary Increase Rate		2.00%			2.00%			4.00%			4.00%	2.0%			0.0%			2.0%
Auxiliary Program																		
Mandatory Non-E&G Fees																		
Undergraduate	$1,911		$1,967	2.9%		$2,024	2.9%		$2,083	2.9%			$2,025	2.9%		$2,084	2.9%	
Graduate	$1,911		$1,967	2.9%		$2,024	2.9%		$2,083	2.9%			$2,025	2.9%		$2,084	2.9%	
Law	$0		$0	%		$0	%		$0	%				%			%	
Medicine	$0		$0	%		$0	%		$0	%			$752	N/A		$774	2.9%	
Dentistry	$0		$0	%		$0	%		$0	%				%			%	
PharmD	$0		$0	%		$0	%		$0	%				%			%	
Veterinary Medicine	$1,911		$1,967	2.9%		$2,024	2.9%		$2,083	2.9%			$2,025	2.9%		$2,084	2.9%	
Total Auxiliary Revenue (**ALL** including room and board)		$325,648,508			$333,952,282			$345,334,979			$356,475,967	$341,905,890			$349,345,926			$361,281,034
Total Tuition and Fees																		
Undergraduate, In-State	$12,852		$13,230	2.9%		$13,614	2.9%		$14,009	2.9%			$13,620	2.9%		$14,021	2.9%	
Undergraduate, Out-of-State	$29,975		$31,014	3.5%		$31,913	2.9%		$32,839	2.9%			$31,908	2.9%		$32,845	2.9%	
Graduate, In-State	$14,532		$15,072	3.7%		$15,509	2.9%		$15,959	2.9%			$15,510	2.9%		$15,960	2.9%	
Graduate, Out-of-State	$27,764		$28,810	3.8%		$29,645	2.9%		$30,505	2.9%			$29,629	2.8%		$30,489	2.9%	
Law, In-State	$0		$0	%		$0	%		$0	%			$0	%		$0	%	
Law, Out-of-State	$0		$0	%		$0	%		$0	%			$0	%		$0	%	
Medicine, In-State	$0		$0	%		$52,268	%		$54,097	3.5%			$52,745	N/A		$54,067	2.5%	
Medicine, Out-of-State	$0		$0	%		$52,268	%		$54,097	3.5%			$52,745	N/A		$54,067	2.5%	
Dentistry, In-State	$0		$0	%		$0	%		$0	%			$0	%		$0	%	
Dentistry, Out-of-State	$0		$0	%		$0	%		$0	%			$0	%		$0	%	
PharmD, In-State	$0		$0	%		$0	%		$0	%			$0	%		$0	%	
PharmD, Out-of-State	$0		$0	%		$0	%		$0	%			$0	%		$0	%	
Veterinary Medicine, In-State	$23,617		$24,197	2.5%		$24,699	2.1%		$25,211	2.1%			$24,772	2.4%		$25,400	2.5%	
Veterinary Medicine, Out-of-State	$50,753		$51,996	2.4%		$53,054	2.0%		$54,133	2.0%			$53,305	2.5%		$54,646	2.5%	

Student Financial Aid (Program 108)		$1,380,604			$4,768,000			$8,268,000			$10,268,000	$4,479,384			$8,321,025			$10,547,492
Sponsored Programs (Program 110)		$298,475,730			$337,064,294			$347,429,394			$357,847,496	$304,443,918			$314,714,180			$324,155,605
Unique Military Activities		$0			$0			$0			$0	$0			$0			$0
Workforce Development		$0			$0			$0			$0	$0			$0			$0
Other (Federal Work Study, Surplus)		$0			$0			$0			$0	$0			$0			$0

Six-Year Plans - Part I (2018): 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

***2016-17 (Actual) 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	$111,724	0.1%	$111,724
Undergraduate, Out-of-State	$191,111,702	$1,173,318	0.6%	$1,173,318
Graduate, In-State	$18,632,110	$91,435	0.5%	$91,435
Graduate, Out-of-State	$34,637,827	$4,127	0.0%	$4,127
First Professional, In-State	$6,667,886	$0	%	$0
First Professional, Out-of-State	$7,659,198	$0	%	$0
Total	$454,693,956	$1,380,604	0.3%	$1,380,604
Total from Finance-T&F worksheet	$523,190,335	$1,380,604	0.3%	
In-State Sub-Total	$221,285,229	$203,159	0.1%	$203,159

Upate 2016-17 Financial Aid if you have the actual data, and change the title from "Estimated" to "Actual".

	2017-18 (Planned)				2017-18 (Estimated)			
T&F Used for Financial Aid	Gross Tuition Revenue	Tuition Revenue for Financial Aid (Program 108)	% Revenue for Financial Aid	Distribution of 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	$206,669,016	$192,526	0.1%	$192,526
Undergraduate, Out-of-State	$208,167,661	$4,280,500	2.1%	$4,280,500	$220,428,558	$4,274,192	1.9%	$4,274,192
Graduate, In-State	$20,666,961	$30,000	0.1%	$30,000	$18,972,807	$9,667	0.1%	$9,667
Graduate, Out-of-State	$36,564,805	$0	%	$0	$34,502,966	$3,000	0.0%	$3,000
First Professional, In-State	$6,738,265	$0	%	$0	$7,070,260	$0	%	$0
First Professional, Out-of-State	$7,719,715	$0	%	$0	$7,900,700	$0	%	$0
Total	$484,961,666	$4,768,000	1.0%	$4,768,000	$495,544,306	$4,479,384	0.9%	$4,479,384
Total from Finance-T&F worksheet	$552,147,544	$4,768,000	0.9%		$561,493,560	$4,479,384	0.8%	
In-State Sub-Total	$232,509,485	$487,500	0.2%	$487,500	$232,712,082	$202,193	0.1%	$202,193
Additional In-State	$11,224,256	$284,341	2.5%	$284,341	$11,426,853	-$967	0.0%	-$967

	2018-19 (Planned)				2018-19 (Estimated)			
T&F Used for Financial Aid	Gross Tuition Revenue	Tuition Revenue for Financial Aid (Program 108)	% Revenue for Financial Aid	Distribution of 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	$216,260,033	$715,000	0.3%	$715,000
Undergraduate, Out-of-State	$224,789,599	$7,605,500	3.4%	$7,605,500	$225,558,459	$6,258,825	2.8%	$6,258,825
Graduate, In-State	$21,941,709	$30,000	0.1%	$30,000	$20,405,868	$30,000	0.1%	$30,000
Graduate, Out-of-State	$38,974,465	$0	%	$0	$36,894,734	$0	%	$0
First Professional, In-State	$9,736,360	$0	%	$0	$6,931,571	$467,200	6.7%	$467,200
First Professional, Out-of-State	$12,411,385	$0	%	$0	$7,941,058	$850,000	10.7%	$850,000
Total	$523,241,608	$8,268,000	1.6%	$8,268,000	$513,991,724	$8,321,025	1.6%	$8,321,025
Total from Finance-T&F worksheet	$597,129,934	$8,268,000	1.4%		$600,230,911	$8,321,025	1.4%	
In-State Sub-Total	$247,066,158	$662,500	0.3%	$662,500	$243,597,473	$1,212,200	0.5%	$1,212,200
Additional In-State	$14,556,673	$175,000	1.2%	$175,000	$10,885,390	$1,010,008	9.3%	$927,859
Additional In-State from Financial Plan		$175,000	1.2%			$522,475		

	2019-20 (Planned)				2019-20 (Estimated)			
T&F Used for Financial Aid	Gross Tuition Revenue	Tuition Revenue for Financial Aid (Program 108)	% Revenue for Financial Aid	Distribution of 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	$224,206,053	$965,000	0.4%	$965,000
Undergraduate, Out-of-State	$233,626,548	$9,505,500	4.1%	$9,505,500	$234,519,657	$8,235,292	3.5%	$8,235,292
Graduate, In-State	$23,223,369	$30,000	0.1%	$30,000	$21,595,353	$30,000	0.1%	$30,000
Graduate, Out-of-State	$41,389,240	$0	%	$0	$39,144,963	$0	%	$0
First Professional, In-State	$9,928,444	$0	%	$0	$7,104,861	$467,200	6.6%	$467,200
First Professional, Out-of-State	$12,636,486	$0	%	$0	$8,139,584	$850,000	10.4%	$850,000
Total	$544,007,444	$10,268,000	1.9%	$10,268,000	$534,710,471	$10,547,492	2.0%	$10,547,492
Total from Finance-T&F worksheet	$617,895,770	$10,268,000	1.7%		$622,164,979	$10,547,492	1.7%	
In-State Sub-Total	$256,355,170	$762,500	0.3%	$762,500	$252,906,267	$1,462,200	0.6%	$1,462,200
Additional In-State	$9,289,011	$100,000	1.1%	$100,000	$9,308,794	$250,000	2.7%	$1,462,200
Additional In-State from Financial Plan		$100,000	1.1%			$772,475		

** 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 (2018): FY2017-2018
Virginia Tech
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 Notes: *The reporting period is FY18. The metrics serve as a menu of items that institutions should respond to as applicable and when information is available to them. Leave fields blank, if information is unavailable. Please note the narrative question at the bottom of the page. The response should be provided in a separate WORD or PDF document, as an attachment, if the Part II (Narrative) is not being updated.*

NOTE: Responses represent aggregate contributions of both Agency 208 and Agency 229.

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.

VA PLAN Strategy Reference	Section A: Research and Development (R&D) Expenditures by Source of Fund			
	Source of Funds	***S&E**	**Non S&E**	**Total**
4.3	Federal Government	$ 181,379,000	$ 4,675,000	**$ 186,054,000**
	State and Local Government	54,368,000	1,403,000	**55,771,000**
	Institution Funds	220,903,000	4,913,000	**225,816,000**
	Business	40,421,000	50,000	**40,471,000**
	Nonprofit Organizations	7,215,000	37,000	**7,252,000**
	All Other Sources	7,054,000	7,000	**7,061,000**
	Total	**$ 511,340,000**	**$ 11,085,000**	**$ 522,425,000**
	** 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 contact Jean Mottley (jeanmottley@schev.edu) to assist with changes.

VA PLAN Strategy Reference	Section B: Grants, Contracts and Sub-Agreements by Discipline								
	Discipline	**Funding Source**							
		Federal	**State & Local**	**Business**	**Non-Profit**	**Institutional**	**Other**	**Total**	**<-In Progress**
	Computer & Information Sciences							$ -	
	Engineering							-	
	Geosciences, Atmospheric and Ocean Sciences							-	
	Life Sciences							-	
	Mathematics & Statistics							-	
	Physical Sciences							-	
	Psychology							-	
	Social Sciences							-	
	Other Science							-	
	Non-Science and Engineering (non-S&E)							-	
	Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	

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 Strategy Reference	Section C: General Questions	Yes	No	Number/Amount	Comments
4.1	1. Does your institution offer an innovation/ entrepreneurship/career-themed student living-learning community?	X			see: https://www.apex.vt.edu/innovate-living-learning-community/
4.1	2. Does your institution offer startup incubation/accelerator programs? If yes, please comment if people/companies external to the institution can access them and, if so, how.		X		VT does not have an active incubation/accelerator program
4.2	3. Does your institution offer maker-space? If yes, please comment if people/companies external to the institution can access it and, if so, how.		X		VT does not offer maker space
4.2	4. Does your institution have an entrepreneurship center? If yes, please comment if people/companies external to the institution can access it and, if so, how.	X			see: www.apex.vt.edu
4.2	5. Does your institution have Entrepreneur Executive(s)-in-Residence?		X		VT does not have an EIR program
4.1	6. Number of students paid through externally funded research grants or contracts.			1144	
4.1	7. Number of entrepreneurship degrees/ courses/programs (credit and noncredit) offered?			1 major and 1 minor, multiple non-credit activities.	See: www.apex.vt.edu
4.1	8. Number of academic units that have courses/programs requiring a capstone project, experiential learning activities, or internships.				Virginia Tech has many programs with these elements as both required and optional activities. A count of departments and programs is not readily available.
4.1	9. Does your institution's tenure policy support commercialization? If yes, please provide brief explanation in comments section.	X			Tenure requirements include citation of "Economic contributions and entrepreneurship", including start-up businesses, commercialization of discoveries, and other evidence of entrepreneurship.
4.2	10. Does your institution offer a seed fund that awards money to start-ups? If yes, please comment on whether it awards funding only to university-based start-ups or to the general public as well?		X		The VTC (Virginia Tech Carilion) Innovation Fund is a venture fund (not seed fund); supports university and Carilion start-ups (not general public). http://www.vtcinnovationfund.com/about/management/
4.2	11. Does your institution offer translational research and/or proof of concept funding? If yes, please provide dollar amount available in FY18 in the number/amount field.	X		~$75,000	The Catalyst program, supported by a US EDA i6 grant, will run through the remainder of this fical year with about $75,000 to spend
4.1	12. 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.	X		#995 / $750,010	See: Continuning Professional Education Center https://connect.cpe.vt.edu/

Section D: Provide information for research and commercialization grants by type, number, and dollar value with a breakdown by college and department. If additional rows are needed, please contact Jean Mottley (jeanmottley@schev.edu) to assist with changes.

VA PLAN Strategy Reference	Section D: Research and Commercialization Grants	No.	$ Value	College	Department
4.3	SBIR - Small Business Innovation Research	5	$86,021	College of Engineering	Aerospace and Ocean Engineering
			$220,000	College of Engineering	Civil & Environmental Engineering
			$190,000	College of Engineering	Mechanical Engineering
			$49,981	College of Science	Physics
			$207,102	College of Liberal Arts and Human Sciences	Center for Gerontology
	STTR - Small Technology Transfer Research	2	$75,000	College of Engineering	Aerospace and Ocean Engineering
			$81,456	College of Engineering	Civil & Environmental Engineering
			$180,000	Executive VP & Provost	Center for the Arts at VT
	CRCF - Commonwealth Research Commercialization Fund	3	$100,000	College of Engineering	Biomedical Engineering & Mechanics
			$300,000	Vice President for Research	Institute for Critical Technology and Applied Science
			$97,415	Vice President for Research	VT Carilion Research Institute
	*VBHRC - The Catalyst	2	$400,000	College of Science	Chemistry
			$500,000	Vice President for Research	VT Carilion Research Institute
	Commonwealth Health Research Board	1	$99,995	College of Veterinary Medicine	Vet Med Research & Graduate Studies
	VRIF - Virginia Research Investment Fund	2	$483,547	College of Engineering	Biomedical Engineering & Mechanics
			$391,729	Vice President for Research	Hume Center

****University must pay to be a member and collaborate with at least one other member university***

Section E. The Intellectual Property (IP) section captures information on disclosure, patent, and licensing activities. It is divided into two tables. Table 1 captures information regardless of source of funds or nature of entity to whom IP is transferred. Table 2 is required by § 23.1-102 subdivision 2 of the Code of Virginia. It details 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. 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 table captures 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.

VA PLAN Strategy Reference	Section E: Part 1 - All Patent Activity for FY 2017-18	No.
4.2	1. Number of Intellectual Property disclosures received	148
	2. Number of Provisional Patent Applications filed during the year	101
	3. Number of Patent Applications filed during the year (by type)	
	Design	0
	Plant	4
	Utility	50
	Total	54
	4. Total number of Patent Applications pending (by type)	
	Design	0
	Plant	4
	Utility	742
	Total	746
	5. Number of Patents awarded during the year (by type)	
	Design	0
	Plant	1
	Utility	25
	Total	26

VA PLAN Strategy Reference	Section E: Part 2 - Other Information	Principal Place of Business in VA	Principal Place of Business outside VA
4.2	1. Value of funds from persons or nongovernmental entities to support intellectual property research	$15,184,254	$49,628,479
	2. Number of patents awarded during the year (by type) developed in whole or part from external projects funded by persons or nongovernmental entities:		
	a. Design Patent	0	0
	b. Plant Patent	0	1
	c. Utility Patent	2	16
	d. Total	**2**	**17**
	3. Number of assignments of intellectual property interests to persons or nongovernmental entities	0	0
	4. Total number of intellectual property licenses executed in FY 17-18	12	33
	5. Number of start-ups created through IP licensing in FY17-18	6	1
	6. Amount of licensing revenue in FY17-18 resulting from all intellectual property licenses	$269,255	$1,077,020
	7. Number of jobs created as a result of university start-ups.	10	5

Section F: 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 F: General Questions - VCCS Specific	Number	Value	Comments
4.1	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.	N/A	N/A	N/A
	2. Number of training programs leading to workforce certifications and licensures.	N/A		N/A
	3. Number of students who earned industry recognized credentials stemming from training programs.	N/A		N/A
	4. Number of industry-recognized credentials obtained, including certifications and licenses.	N/A		N/A
	5. Number of Career/Technical Education certificates, diplomas and degrees awarded that meets regional workforce needs.	N/A		N/A

NARRATIVE REQUIREMENT:

Contributions to Economic Development – Describe the institution's contributions to stimulate the economic development of the Commonwealth and/or area in which the institution is located. *If applicable*, the information should include:

a. University-led or public-private partnerships in real estate and/or community redevelopment.
b. State industries to which the institution's research efforts have direct relevance.
c. High-impact programs designed to meet the needs of local families, community partners, and businesses.
d. Business management/consulting assistance.

Part II:

A. Institutional Mission:

Virginia Polytechnic Institute and State University (Virginia Tech) is a public land-grant university serving the Commonwealth of Virginia, the nation, and the world community. The discovery and dissemination of new knowledge remain central to its mission. Through its focus on teaching and learning, research and discovery, and outreach and engagement, the university creates, conveys, and applies knowledge to expand personal growth and opportunity, advance social and community development, foster economic competitiveness, and improve the quality of life.

B. Strategies

208 Program Strategies:

1. **Advance Faculty Salary Competitiveness to the 60th Percentile:** 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 our 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 our 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. The university's actual faculty salary currently ranks at the 33rd percentile of the SCHEV peer group for Virginia Tech: 20th out 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 pace with the market and mitigating turnover. SCHEV estimates peer salaries moving at an average of 2.8% per year. With a 2% statewide compensation process pending in 2019, the university plans to make limited progress through a combination of General Fund support and institutional nongeneral fund resources, supporting an approximate 3.6% merit-based program in 2019-20.

2. **Increase Staff Salaries:** Much like faculty, the slow pace of growth of staff compensation has negatively influenced retention and recruitment efforts at the university, a trend likely to accelerate as the local labor market continues to tighten. Competitively compensating the hard-working support staff at the university is a key factor in ensuring a highly productive and innovative organization. The university plans to implement the state's 2% statewide Classified Staff compensation process in 2019 (with an additional 2% merit-based action for Classified Staff), and a 3% merit-based compensation process for University-Staff. 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.

3. **Increase Access for Virginia Undergraduates and Support the Production of STEM-H Degrees in the Commonwealth:** The university has grown enrollment of resident undergraduates by 4,550 students since 2004. Despite this growth, demand continues to grow for a Virginia Tech education. A record of more than 32,000 students applied to be in the university's fall 2018 class. Demand is broad-based and impacts every college on campus. New and growing STEM-H degree offerings such as biomedical engineering, neuroscience, computational modeling and data analytics provide an opportunity to leverage the university's expertise to provide students with high-demand skills and knowledge to be successful in the evolving economy. The targeted commitment from the Commonwealth in support of degree growth goals in the fields of Data Science and Technology and Science and Engineering will further bolster the university's existing strengths in these demanding fields.

4. **Develop "Destination Areas": Invest in Strategic Market-Centered Instruction and Research Clusters:** The university will continue its investment in world-leading instruction and research clusters, including Adaptive Brain and Behavior, Data and Decision Sciences, Global Systems Science, Integrated Security, and Intelligent Infrastructure for Human-Centered Communities. Destination Areas courses directly support Virginia Tech's goal of becoming a strong model for the modern land-grant university with a global mission. By transcending traditional academic boundaries, the university's destination areas engage students and faculty to evaluate and address complex (regional, national and global) challenges in a holistic manner. Sustained investment in high-demand degree attainment and transdisciplinary research will allow the university to continue to attract and retain innovative and creative faculty and students who will strengthen Virginia's workforce and knowledge economy. While the university will make limited progress in 2018-19 with nongeneral fund support and reallocation of existing resources, this initiative envisions the traditional state fund split to fully develop Destination Areas in the future.

5. **Advance Strategic Research Opportunities and Enhance Entrepreneurial and Innovation Ecosystem:** As the Commonwealth's largest research institution and 43rd largest research program in the United States, Virginia Tech is advancing transdisciplinary knowledge in areas such as neuroscience, water, energy, cybersecurity, autonomous transportation, resiliency and nanoscience. The university continues to pursue promising economic development strategies designed to reward human capital and innovative entrepreneurship. In collaboration with the Commonwealth and private sector partners, these efforts remain crucial for realizing the growth potential of the university's research programs. The university is encouraged by recent state initiatives, such as the TEConomy Partners *Assessment of Virginia's Research Assets*, to develop a more cohesive and comprehensive framework for research, development, and commercialization. Providing students with opportunities to work directly with cutting-edge industries and to exercise their own entrepreneurial ideas remains a key facet of the university curriculum.

   The university envisions continued growth in research areas of existing success, including:

i. Health Sciences, specifically neuroscience
ii. Autonomous vehicle systems
iii. Cybersecurity

While it is a separate from the university's internal research portfolio, the new Commonwealth Cyber Initiative (CCI) will leverage Virginia Tech's considerable strengths in science and engineering and expertise in cybersecurity research to further catalyze innovation and commercialization in this field. This initiative will further enhance and facilitate the university's collaboration with the Virginia Research Investment Committee, partner institutions of higher education, and the private sector to meet critical state economic and workforce development goals, and will ensure that Virginia remains a global leader in the development of cutting-edge cyber technologies. The CCI is expected to generate new research activity at the university and opportunities for academic and research collaboration.

For other promising areas of university research, such as health sciences and autonomous vehicle systems, direct state investment remains crucial for the strategic growth of research infrastructure and capacity as well as new partnerships with industry. The Virginia Research Investment Fund provides an additional means to strengthen the university's technology transfer practices, expand opportunities for commercialization, and incentivize university-industry partnerships. Both of these fund sources remain critical for attracting talent to Virginia and creating new knowledge-intensive, high growth companies in the Commonwealth. Significant investments to support the university's research program are not possible without the support of General Fund resources.

6. **Establish a Learning Systems Innovation and Effectiveness Initiative:** A responsive learning environment requires a meaningful connection between its core activities of teaching, research, and service with the diverse array of communities the university serves. Working in tandem with the colleges and other university organizations, Learning Systems Innovation and Effectiveness will lead efforts to implement curricular innovation through a focus on purpose-driven learning, disciplinary depth, and cross-disciplinary integration. The synthesis of these objectives creates a unique structure to promote the development of experiential learning opportunities. Through participation in undergraduate research, internships, and service projects, students experience the unity of theory and practice and discover how their academic training translates into different contexts. The development and expansion of opportunities for experiential learning requires sustained, collaborative partnerships between internal and external stakeholders. The university's business engagement center will play a prominent role in developing these partnerships, helping both undergraduate and graduate students build relationships with external organizations and employers. The center will also explore innovative ways to help students understand the professional world they will encounter upon graduation. This initiative envisions the traditional state fund split. Without General Fund support, the university will move forward with partial implementation.

7. **Ensure Access for Low and Middle-Income Families by Continuing to Expand Need-based Financial Aid to Undergraduate Students:** As a land grant institution, Virginia Tech is very sensitive to student access to higher education, including student cost and borrowing levels. As a Restructured Level III institution, part of the university's Management Agreement includes a commitment to mitigate tuition increases and reduce the unmet need of Virginia residents. To fulfill these responsibilities, the university will continue its support of the Funds for the Future and Virginia Tech Grant financial aid programs. Funds for the Future protects returning students with financial need from tuition rate increases, while the Virginia Tech Grant program seeks to further reduce student need. In addition, the university's Presidential Scholarship Initiative enrolls an annual cohort of 85 Virginia undergraduate students (340 once fully implemented) from underserved areas and first-generation families, providing the full cost of tuition, fees, and room & board through a combination of aid resources.

   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. The plan represents the university's use of incremental nongeneral fund revenue to fund this initiative. Additional General Fund support of student financial aid will allow the university to make a greater impact on student access and affordability.

8. **Expand Access to a Virginia Tech Education Through Development of Pathway Opportunities for Underserved Virginia Residents:** Virginia Tech, the commonwealth's premier STEM-H institution, is committed to supporting the Statewide Strategic Plan for Higher Education. In order to increase access and affordability for all Virginians, while also optimizing student success for work and life, the university will expand upon existing, successful outreach programs to advance the university's College Access Collaborative through several programs. These initiatives envision the traditional state fund split. Without General Fund support, the university will move forward with partial implementation of the following initiatives:

   i. A comprehensive K-12 Pipeline initiative is a three-pronged approach that will 1) enhance outreach to underserved Virginians while students are in the K-12 system, 2) expand student financial aid to increase access to Virginia Tech, and 3) offer additional support networks for students while at the university to improve success and retention levels.
   ii. A premier Mechanical Engineering Technology pathway program in Southside Virginia is being explored through a partnership with Danville Community College. This initiative would deliver Mechanical Engineering courses taught by VT faculty to students intending to transfer to Virginia Tech. The program would include STEM mentorship/internship programs for local middle and high school students, the co-location of Virginia Tech collegiate faculty at the

Institute for Advanced Learning and Research, and significant partnerships with manufacturing industries in the commonwealth, including Goodyear, Kyocera, HAAS automation, and many others.

iii. In collaboration with Virginia Western Community College, establishment of a Life Sciences pathway in Roanoke. This initiative will build on the success of the Virginia Tech Health Sciences & Technology District.

iv. Partnership with Virginia State University, Virginia Tech's sister Land Grant institution, on an Undergraduate-to-Graduate pipeline to provide additional access for Virginia students to further their education in the state.

9. **Enhance Degree Completion and Instructional Sharing with Other Institutions:** Leveraging the 4VA platform and the Cybersecurity Range supported with an initial investment from the commonwealth, the university is expanding the use of data to improve the efficiency and effectiveness of its quality education. The university envisions recruiting industry leaders to share their experiences in data analytics and to provide industry exposure to students through internships and job placement opportunities.

   To support better course completion rates and thereby enhance timely degree completion, Virginia Tech is 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. 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 what is happening through the use of learning analytics. This approach will be developed in partnership with other institutions and made available to Virginia community colleges and high schools to help improve the preparation of students for the growing workforce in data analytics.

   Excellent student advising services are essential for helping students properly plan and execute an efficient course of study leading to their desired credential. Departments and colleges are continuing to shift to a model that relies more heavily upon professional advisors for students in order to provide continuity over an undergraduate student's career. Professional advising staff can assist students in this more technical process and allow faculty advising to focus on academic mentoring and career planning.

   To accelerate degree completion, incentives must be expanded to increase on-campus instruction and facility use over the summer and winter months. The university is working to implement strategies to increase the utilization of year-round instruction at the Blacksburg campus by leveraging: (1) Lower costs for students who take seat based courses in Blacksburg over the summer/winter sessions, (2) the expansion of summer/winter undergraduate research programs to provide meaningful, resume building employment for students, (3) the expansion of course offerings to meet the needs of students seeking to advance their plans of study toward early degree completion and (4)

an increase in available student financial aid to ensure access to non-traditional session enrollment. These initiatives envision the traditional state fund split. Without General Fund support, the university will move forward with partial implementation.

10. **Support Faculty Startup Packages, Particularly for New Faculty in the STEM-H Fields, Including Equipment and Lab Renovation:** Establishing and setting up a research facility or lab for a newly hired faculty member typically costs millions of dollars. Investment in advanced facilities and equipment is essential for faculty to successfully compete for research funding from the federal government and other private sources. The university continues to expand the number of faculty to adequately serve enrollment growth, and startup resources are a significant factor in our recruitment efforts. This initiative envisions the traditional state fund split. Without General Fund support, the university will be required to find alternative fund sources or reduce the magnitude of start-up resources.

11. **Increase Support for Unique Military Activities:** Virginia Tech's Corps of Cadets is one of six Senior Military Colleges in the United States, established by law, and one of only two that is a Corps within a public tier-one research university. The mission of the Corps, established in 1872, is to develop leaders of character for the Commonwealth and the country. The Corps' ability to fulfill its mission is predicated on the receipt of an equitable population-based level of support as other military programs in the commonwealth. Based on the state's per-student UMA General Fund formula, Virginia Tech Corps has a shortfall of $1,039,293 as compared to VMI. Addressing this shortfall over six years results in an annual incremental General Fund increase of $173,215 per year. This critical request allows the Corps to address mandatory cost increases and make critical programmatic enhancements to ensure mission success.

12. **Increase Graduate Enrollment in Strategic Areas:** The university will strive to increase graduate student enrollment with an emphasis on professional masters degrees and attracting leading doctoral level science, technology, engineering, mathematics, and health sciences (STEM-H) students. Graduate education is a key component of the university research mission and supports university efforts to remain 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.

13. **Integrate the Virginia Tech Carilion School of Medicine (VTSCOM) into the University as the Ninth College:** The university continues to meet key benchmarks as part of the integration process of the Virginia Tech Carilion School of Medicine. In June 2018, SCHEV sent the university notification of its final approval of integration, putting the medical school under the authority of the Virginia Tech's Board of Visitors. The university has also received official notice from the Southern Association of Colleges and Schools Commission on Colleges (SACS-COC) of its approval for the medical school to become

part of Virginia Tech. The medical school remains a focal point of regional economic development efforts in the health and life sciences sector. A recent economic impact study by the Center for Economic and Policy Studies Weldon Cooper Center for Public Service finds that the synergistic research, clinical, educational, and industrial collaboration activities at the Virginia Tech Carilion Health Sciences and Technology Campus will generate $465 million in economic output and employ over 3000 people by 2026. The VTCSOM will operate using tuition and Carilion/VT partnership revenue; therefore the university is not requesting General Fund support at this stage.

14. **Advance Institutional Efficiencies and Effectiveness to Support Cost Containment Efforts:** Improvement of university internal processes and infrastructure requires ongoing support of cost containment strategies. Reducing expenses, addressing capacity needs, and modernizing instructional and other university facilities will better position the university to address challenges such as student health, safety and environmental sustainability, while simultaneously enhancing its adaptability to a constantly changing regulatory environment. These are university-funded initiatives that are expected to bend future costs curves and potentially reduce long-term costs, allowing resources to be recycled into a continuous improvement process.

15. **Reallocation of Existing Resources to Support University Priorities:** In an environment of cost containment and limited capacity for revenue generation, the university plans to continue efforts to reallocate existing resources. Strategic reallocation will support university priorities including academic advancement, faculty startup packages, and other emerging needs.

16. **Library Enhancement:** 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.

17. **Utility and Fixed Cost Increases:** Rising costs of contracts, utility service, and other mandated or required operating costs must be addressed to maintain consistent delivery of institutional services. This is a university-funded initiative.

18. **Address Operation and Maintenance of New Facilities:** With new facilities coming on-line during the planning period, including the Health Sciences & Technology Building, and two current capital projects to renovate and up-fit existing facilities, 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 maximum facility service life and prevent building deficiencies. This is a university-funded initiative.

19. **Fringe/Health Insurance Benefits Increase:** Based on the assumptions used by the state in Chapter 2 of the 2018 Acts of the Assembly, the incremental cost of providing employee health insurance and other employment-related benefits is included utilizing the traditional fund split methodology.

20. **VRS Increase:** Based on the assumptions used by the state in Chapter 2 of the 2018 Acts of the Assembly, the incremental cost of Virginia Retirement System employer contributions is included utilizing the traditional fund split methodology.

21. **Annualization of 2017-18 Salary Increase:** This represents the cost of annualizing the statewide salary increase implemented on July 10, 2017. The university envisions a traditional fund split approach.

C. Financial Aid: 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 varying levels of tuition increase protection for families with adjusted gross incomes up to $99,999, 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 continues to allocate institutional resources to maintain the purchasing power of student financial aid programs and mitigate the impact of tuition increases on student borrowing. 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 just 1.4%; the third lowest of all Virginia public four-year institutions and the third lowest of the university's national SCHEV peer group.

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.

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

As the Commonwealth of Virginia makes strides to invest and grow its support of higher education, the university has been able to make progress towards several major initiatives in the Six-Year Plan. New General Fund support in the 2018-20 biennium will allow the university expand degree production in the key areas of Data Science & Technology, Science and Engineering, Healthcare, and Education. In addition, potential state funding for faculty and staff salary increases will allow university maintain its position relative to our peer institutions regarding compensation. Increases in fixed costs such as and health and retirement costs have limited the full implementation of some initiatives; however, the institution has been able to make significant advancements including:

Enrollment:

- In fall 2017, Virginia Tech set enrollment records with 4,365 Virginia freshmen.
- Total enrollment included 19,340 Virginia undergraduates, also a record.
- In 2017-18, the university continued its successful Winter Session, offering additional degree credit opportunities for students during the winter break. The Winter 2017 session delivered 6,931 student credit hours to 2,010 students.

Access and Affordability:

- Continued expansion of institutional student financial aid programs to support low- and middle-income families.
- Strengthening of the K-12 pipeline to serve all of Virginia.
- Establishment of the Virginia Tech Network for Engineering Transfer Students (VT-NETS) to support scholarships for low-income students from Virginia community colleges to pursue VT Engineering programs.
- Adoption of a new application model developed by the Coalition for Access, Affordability, and Success designed to encourage more lower-income and first generation students to apply early.

Student Outcomes:

- Demonstrating the university's commitment to both access and completion, the Virginia Tech's six-year graduation rate is up to 84 percent.
- Time-to-degree is down to just 4.05 years on average, even when including programs with required 5th year components. (IR)
- The university admitted 972 transfer students in Fall 2017; 711 from the Virginia Community College System.
- More than 81% of all transfer students to Virginia Tech graduate within four years.

- Payscale.com reports an average salary of $58,600 for early career graduates and $110,200 for mid-career alumni of Virginia Tech.
- A study by career website Zippia ranked Virginia Tech #1 in the Commonwealth for job placement.

Research and Economic Development:

- Health/Life science research has advanced rapidly at the university, including growth of the Virginia Tech Carilion Research Institute. The expansion of the medical research program, along with a growing core of highly skilled researchers and a current portfolio of $75 million in externally sponsored research, continues to play a key role in the revitalization of the Roanoke and Southwest Virginia economy.
- The Virginia Tech Water Study Research Team was named one of four regional winners of the 2018 Kellogg Foundation Community Engagement Scholarship Award and received the 2018 Scientific Freedom and Responsibility Award by the American Association for the Advancement of Science.
- The Virginia Tech Mid-Atlantic Aviation Partnership (MAAP) will manage operations Virginia's winning bid in the U.S. Department of Transportation's UAS Integration Pilot Program, a public-private sector initiative to explore safe applications of drone technology and the development of future regulation in this rapidly evolving field.
- The Virginia Tech Carilion Research Institute was awarded $1 million in combined grant funding from the Virginia Biosciences Health Research Corporation to develop innovative approaches to prevent opioid users from relapsing during treatment.

Recognition:

- U.S. News & World Report ranked several graduate programs in the top 20 nationwide (#2 Online Information Technology, #7 Civil Engineering, #6 Environmental Health Engineering, #7 Industrial/Manufacturing/Systems Engineering, #17 Evening MBA program)
- Virginia Tech ranks 2nd in Niche's Best College Campuses in America
- Princeton Review ranks Virginia Tech in the top ten in three categories:
  - Number 1 for "Their Students Love These Colleges"
  - Number 5 for "Best Quality of Life"
  - Number 6 for "Best Campus Food"

E. Tuition Rate Increases:

Virginia Tech is sensitive to the impact of rising operating costs on our students. As the commonwealth's senior Land Grant institution, Virginia Tech remains committed to providing access and opportunity to the citizens of Virginia. Tuition for resident undergraduates increased 2.9% for 2018-19, consistent with the Six-Year plan submitted in 2017. Moving

forward, the university hopes to minimize tuition increases to the greatest extent possible. Factors that impact tuition include General Fund support levels, enrollment growth, mandatory cost drivers such as health insurance, retirement, other employee related benefits, utility and lease costs, operation and maintenance of facilities, and the university's share of new academic and operating initiatives, such as the need for competitive compensation and robust financial aid programs. The university remains focused on controlling costs, restructuring areas of campus, and reallocating existing resources to support new initiatives without relying solely upon new revenue. Though the academic plan presented in this submission would traditionally drive the tuition rate significantly higher, the rate placeholders utilized in this plan reflects the university's continued efforts to mitigate increases to Virginia undergraduates.

In-state enrollment growth provides a limited mechanism to offset the impact of new costs on tuition levels. However, the growth of Virginia resident undergraduates presents a structural financial challenge to the university. Sustained investment by the Commonwealth enhances the university's ability to meet this challenge. Meanwhile, nonresident enrollment demand continues to grow, yet much of that demand remains unmet due to the 2003 General Assembly's percentage limitation of nonresident undergraduate enrollment. Granting the university greater autonomy to adjust its percentage of in-state/out-of-state enrollment would enhance its responsiveness to changing economic conditions and allow the university to meet the growing needs of in-state residents while simultaneously reducing pressure on in-state tuition.

F. Contributions to Economic Development:

Describe the institution's contributions to stimulate the economic development of the Commonwealth.

Virginia Tech's mission is to create, convey, and apply knowledge to "expand personal growth and opportunity, advance social and community development, foster economic competitiveness, and improve the quality of life." We contribute to economic development by facilitating the movement of new ideas to market and distributing the opportunity to broadly leverage those innovations. This activity grows our institution through partnerships and investments that strengthen regional economies across Virginia. We are able to contribute to the pool of skilled talent across the Commonwealth, foster innovation in partnership with industry, and support the development of vibrant places.

a. University-led or public-private partnerships in real estate and/or community development.

We broke ground this year on construction of Building One @ Tech Center Research Park, an 80,000-square-foot building that will be the first of several structures in the 50-acre park located in Newport News, Virginia. Tech Center is anchored by nearby federal research facilities like the Department of Energy's Jefferson National Lab and NASA-Langley, as well as leading firms like Canon.

Tenants in Building One @ Tech Center Research Park will have access to VT Knowledgeworks business acceleration program, videoconferencing, conference

rooms, research-grade internet speeds, networking events, and co-working space. The location of Tech Center Research Park in Newport News' Enterprise Zone includes economic and business incentives that will help grow this economically challenged area. Building One, which will open this fall, is almost completely pre-leased. Full plans for the park include nearly 1 million square feet of office and laboratory space.

An economic impact study by Magnum Economics projects that the research park, along with adjacent retail and residential components of the larger privately financed 100-acre Tech Center development, will create more than 5,500 new jobs in Newport News. Half of these jobs should be in the highest paying employment sector – professional, scientific, and technical services. The study also predicts the state and local tax impact of Tech Center at build-out to be in excess of $28 million annually.

b. State industries to which the institution's research efforts have direct relevance.

We are very pleased to lead the implementation of the Commonwealth Cyber Initiative. The 2018-20 Virginia budget includes $25 million that will leverage public institutions of higher education to build an ecosystem of cyber-related research, education, and engagement to position Virginia as a world leader in cybersecurity at the confluence of many industries concerned with data analytics, machine learning, and autonomous systems.

The initiative calls for a primary "hub" to be located in Northern Virginia and a network of "spoke" sites across the commonwealth with collaborating universities in Virginia and industry partners that will catalyze research, innovation, and the commercialization of cybersecurity technologies and address the state's need for growth of advanced degrees and professional training within the cyber workforce.

Currently, it is estimated more than 33,000 cybersecurity jobs in Virginia remain unfilled. Virginia Tech will receive up to $10 million over the next two years to launch the hub, including funds for facilities, equipment, student engagement, entrepreneurship programs and internships, and research faculty. An additional $10 million will be available to universities across the state to apply for matching funds to recruit innovative, entrepreneurial faculty to Virginia, as the initiative helps build capabilities at the hub and various spokes across the commonwealth. In addition, $5 million in capital funding will be used for renovations, space enhancements, and equipment.

c. High-impact programs designed to meet the needs of local families, community partners, and businesses.

Agency 229 is part of the fabric of the Commonwealth's key agricultural and forestry industry sectors. Activities performed by Agency 229 through the Virginia Cooperative Extension (VCE), its 107 local offices, and 11 Agricultural Research and Extension

Centers facilitate economic growth and technological innovation, and forge collaborative partnerships between researchers, agents, and industry stakeholders.

A detailed overview of the economic impacts of Agency 229 is presented in the Agency 229 narrative.

d. Business management/consulting assistance.

One of the largest companies producing farm equipment worldwide, Mahindra Group, joined the Virginia Tech Corporate Research Center in May to become its largest internationally headquartered tenant. Consulting directly with Virginia Tech faculty, Mahindra's new research center will seeks to create breakthrough products for North American markets.

Mahindra's U.S. presence will support research into new-generation farm equipment, including the latest in technology that envisions automating farm tasks. For example, mechanical engineering faculty are working with Mahindra to create a robotic arm on wheels that can move through a vineyard independently conducting pruning tasks.

Mahindra's center, called MaTC@Virginia (Mahindra AgTech Center at Virginia) complements work being done at Mahindra Research Valley in India and the company's other product development centers in Japan and Finland. Mahindra's presence in the VTCRC is only a part of its association with Virginia Tech. In India, Virginia Tech's Chennai-headquartered campus – called Virginia Tech, India – is close to Mahindra World City, an economic zone and industrial development covering 1,550 acres. This has made the university-industry collaboration convenient for Mahindra engineers who hope to "democratize technology" and bring technological innovations within affordable reach of small farmers worldwide.

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 2016-18 Biennium.

Supporting enrollment growth and facilitating STEM-H instruction is a primary goal of the university. The construction of a new Classroom Building facility (completed in summer 2016) was 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.

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 2020–2026 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.

Virginia Tech is sensitive to the total cost of education passed on to our students. We understand that resources are finite, and projects that impact the cost of attendance to our students undergo significant scrutiny and planning to ensure that students' value meets or exceeds the impact of any incremental costs. A project that may occur in the upcoming Six-Year Planning period envisions new student facilities to support enrollment growth; including but not limited to residential, dining, recreation, and student unions. Planning for these activities will be coordinated with actual growth and spending plans and balanced with the needs and impact on student costs. The university seeks to phase in projects over a multi-year planning period in an effort to control costs and minimize any potential impact on student fees.

H. Restructuring:

In the thirteen years since the General Assembly passed the Restructured Higher Education Financial and Administrative Operations Act of 2005, Virginia Tech has experienced significant benefits through the ability to locally manage university processes and resources. Particularly in a period of constrained resources and growing fixed costs, the flexibility provided through Restructuring has allowed the university to continue to make progress in important strategic areas, and has become the standard operating environment at Virginia

Tech. 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.

Given the resource constraints at the state level, the increasing dependency on cost containment, tuition and self-generated revenue, and the need to mitigate student costs and indebtedness, the university believes that a renewed focus on administrative and financial operational autonomy can yield additional opportunities to advance the strategic goals of both the university and the commonwealth.

Opportunities for additional flexibility and cost savings could include the following domains:

- The ability to develop and enact long-term plans.
- Expanded management authority regarding enrollment management, including enrollment mix, to strengthen revenues without significant tuition rate increases while assuring the delivery of a high quality education to an increasing number of Virginia students.
- Assured continuity of operation in the event that a state budget is not passed to honor student contracts and continue research programs.
- Define VT treasury as equivalent to State Treasury to eliminate unnecessary transactions.
- Procurement flexibility
- Ability to retain Legal Counsel
- Flexibility in the management of human resource and compensation programs
- Ability to explore alternative employee benefits programs that would result in ongoing cost savings to our students.
- Assured retention of nongeneral funds and savings by institutions
- Additional flexibility in leasing
- Explore expansion of capital budgeting authority to achieve cost-savings in small scale facilities and specifically in regard to agricultural industry-related facilities
- Reduced administrative requirements
- Streamlined access to state programs (e.g. VCBA)
- In areas where state agency operating reforms have provided authorities that exceed those originally provided by restructuring, the state should ensure that restructured institutions, at a minimum, maintain the authority granted to all state agencies.

Many of these opportunities can be explored through a collaborative university-state partnership designed to effectively align institutional initiatives and programs with the Commonwealth's strategic economic and workforce development objectives. A new partnership between the university and the state could be used to identify additional areas for the university to leverage its specific strengths and expertise, particularly in those industry clusters and sectors the Commonwealth has targeted for growth. Such a partnership could also be used to facilitate collaboration with business organizations and other private- and public sector partners across the region and state on mutually shared goals, including the expansion of experiential learning opportunities, the improvement of translational research and commercialization capacity, and the

retention of human capital. Finally, this initiative could further refine commitments and expectations related to student outcomes.

To remain competitive as a modern land grant university in a dynamic, global economy, the institution must continue its efforts to reconcile the competing challenges of promoting accessibility and affordability with funding commitments for key university initiatives, programs, and priorities. The university's ability to make strategic investments in cutting-edge technologies, the attraction and retention of top faculty, and the modernization of aging university infrastructure is further constrained by the uncertainty of future state appropriations and unpredictable cost drivers like health care and retirement benefits. The enhancement of the institution's managerial autonomy, particularly in areas such as enrollment and revenue management, would provide needed flexibility for the university to navigate these fiscal challenges while simultaneously achieving the mutual economic development objectives shared by the university and the Commonwealth. The university looks forward to continuing dialogue with the Commonwealth to further these critical shared goals.