Part 1B: Tuition and Fees Predictability Plans for Institutions with Undergraduate Tuition Differentials
University of Virginia

In-State Undergraduate Tuition and Fees Predictability Plans

Instructions: Provide no less than three years (the worksheet allows for four years based on the biennial budget structure) of planned increases in in-state undergraduate tuition and mandatory E&G fees and mandatory non-E&G fees. The tuition and fee charges for in-state undergraduate students should reflect the institution's estimate of reasonable and necessary charges to students based on the mission, market capacity and other factors. Plans shall include a range of tuitions based on available state resources, but must contain a scenario that includes the assumption of no new state general fund support (SCENARIO 1). Add scenarios and tables, if more are needed, and provide brief information about the assumptions for each scenario. Include more detailed information about assumptions used to calculate increases in Section B of the Narrative document. Include anticipated tuition and fee charges affecting first-year students. For institutions that have differential tuition and fee charges by program or level, provide (a) anticipated tuition and fee charges for majority students; (b) a weighted average charge of all first-year students (with a detailed worksheet as attachment); and (c) additional spreadsheets with associated anticipated charges for all undergraduate students by program and level. (Please do not alter the shaded cells that contain formulas.)

In-State Undergraduate Tuition and Mandatory E&G Fees

	2019-20	2020-21		2021-22		2022-23		2023-24	
	Charge	Charge	% Increase	Charge	% Increase	Charge	% Increase	Charge	% Increase
Scenario 1: No new GF									
Majority First-Year Students	14,148	14,714	4.0%	15,303	4.0%	15,918	4.0%	16,554	4.0%
All First-Year Students	15,132	15,936	5.3%	16,772	5.2%	17,625	5.1%	18,509	5.0%
Scenario 2:									
Majority First-Year Students	14,148	14,646	3.5%	15,162	3.5%	15,692	3.5%	16,241	3.5%
All First-Year Students	15,132	15,863	4.8%	16,620	4.8%	17,381	4.6%	18,173	4.6%
Scenario 3:									
Majority First-Year Students	14,148	14,572	3.0%	15,010	3.0%	15,460	3.0%	15,924	3.0%
All First-Year Students	15,132	15,785	4.3%	16,457	4.3%	17,130	4.1%	17,823	4.0%

Assumptions for:

Scenario 1: No new GF	UG Tuition & Mandatory E&G Fees 4.0% increase.
Scenario 2	UG Tuition & Mandatory E&G Fees 3.5% increase.
Scenario 3	UG Tuition & Mandatory E&G Fees 3.0% increase.

In-State Undergraduate Mandatory Non-E&G Fees

	2019-20	2020-21		2021-22		2022-23		2023-24	
	Charge	Charge	% Increase	Charge	% Increase	Charge	% Increase	Charge	% Increase
Scenario 1: No new GF	2,484	2,657	7.0%	2,735	2.9%	2,816	3.0%	2,899	2.9%
Scenario 2	2,484	2,657	7.0%	2,735	2.9%	2,816	3.0%	2,899	2.9%
Scenario 3	2,484	2,657	7.0%	2,735	2.9%	2,816	3.0%	2,899	2.9%

Assumptions for:

All Scenarios	Non E&G fees 3.0% increase every year, $50 Student Activity Fee every year & $100 Student Health fee in 2020-21 only

Part 2: Tuition and Other Nongeneral Fund (NGF) Revenue
University of Virginia

Tuition and Fee Increases and Nongeneral Fund (NGF) Revenue Estimates Based on the Assumption of No New General Fund (GF)

Instructions: Based on enrollment changes and other institution-specific assumptions, provide the total revenue for educational and general (E&G) programs, by student level and domicile. Provide other anticipated NGF revenue, tuition used for financial aid (Program 108) and anticipated non-E&G fee revenue for in-state undergraduates and then all other students.(Please do not alter the shaded cells that contain formulas.)

Items	2018-2019 (Estimated) Total Revenue	2019-2020 (Estimated) Total Revenue	2020-2021 (Planned) Total Revenue	2021-2022 (Planned) Total Revenue
E&G Programs				
Undergraduate, In-State	$165,636,000	$170,442,000	$178,833,000	$190,180,000
Undergraduate, Out-of-State	$231,319,000	$241,715,000	$253,860,000	$265,481,000
Graduate, In-State	$40,988,000	$46,219,000	$49,008,000	$51,160,000
Graduate, Out-of-State	$101,993,000	$103,177,000	$110,572,000	$115,614,000
Law, In-State	$12,650,000	$14,948,000	$15,471,000	$16,012,000
Law, Out-of-State	$44,007,000	$44,843,000	$46,413,000	$48,037,000
Medicine, In-State	$15,200,000	$15,115,000	$15,115,000	$15,115,000
Medicine, Out-of-State	$18,738,000	$20,886,000	$20,886,000	$20,886,000
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
Other NGF	$39,732,000	$40,924,000	$42,152,000	$43,417,000
Total E&G Revenue - Gross	$670,263,000	$698,269,000	$732,310,000	$765,902,000
Total E&G Revenue - Net of Financial Aid	$532,806,000	$553,570,000	$579,257,000	$604,297,000
Tuition used for Financial Aid (Pgm 108)	$137,457,000	$144,699,000	$153,053,000	$161,605,000
Non-E&G Fee Revenue				
In-State undergraduates	$32,902,000	$34,523,000	$35,707,000	$36,932,000
All Other students	$22,964,000	$23,960,000	$24,783,000	$25,633,000
Total non-E&G fee revenue	$55,866,000	$58,483,000	$60,490,000	$62,565,000

Academic and Financial Plan

3A: Six-Year Plan for Academic and Support Service Strategies for Six-year Period (2020-2026)

Instructions for 3A: In the column entitled "Academic and Support Service Strategies for Six-Year Period (2020-2026)," please provide short titles to identify institutional strategies associated with goals in the Virginia Plan. Provide a concise description of the strategy in the Description of Strategy column (column J). Within this column, provide a specific reference as to where more detailed information can be found in the Narrative document. Note the goal(s) with which the strategy is aligned with the Virginia Plan (in particular, the related priority areas) in the VP Goal column and give it a Priority Ranking in column A. Additional information for 2022-2026 should be provided in column K (Two Additional Biennia). Strategies for student financial aid, other than those that are provided through tuition revenue, should not be included on this table; they should be included in Part 4, General Fund Request, of the plan. If an institution wishes to include any information about FTEs or fringe benefit adjustments (using DPB's FY2020 start-up instructions available by the end of May), it should list them as strategies in the Academic Plan not the Financial Plan. Funding amounts in the first year should be incremental. However, if the costs continue into the second year, they should be reflected cumulatively. Additional rows for strategies must be added before the gray line. Please update total cost formulas if necessary.
ASSUME NO ADDITIONAL GENERAL FUND IN THIS WORKSHEET.

			SECTION A: ACADEMIC AND SUPPORT SERVICE STRATEGIES FOR SIX-YEAR PERIOD (2020-2026)							
			Biennium 2020-2022 (7/1/20-6/30/22)						Description of Strategy	Two Additional Biennia
Priority Ranking	Strategies (Short Title)	VP Goal	2020-2021			2021-2022			Concise Information for Each Strategy	Information for 2022- 2026
			Total Amount	Reallocation	Amount From Tuition Revenue	Total Amount	Reallocation	Amount From Tuition Revenue		
1	IPPA	1,2,3,4	$3,165,100	$3,165,100	$0	$3,949,000	$3,949,000	$0	Performance pilot, detailed in Section H of the narrative, that will advance the Commonwealth's higher education goals and objectives as outlined in *The Virginia Plan for Higher Education.* (additional details available on page 2 [high-level overview] and pages 20-37 of the narrative)	Performance pilot that will advance the Commonwealth's higher education goals and objectives as outlined in *The Virginia Plan for Higher Education*.
2	SuccessUVA	1,2	$0	$0	$0	$0	$0	$0	Expand efforts to attract more first-generation and under-represented students and provide them with the resources and support that they need. Funding to be provided by other institutional resources. (additional details available on page 2 of the narrative)	Expand efforts to attract more first-generation and under-represented students and provide them with the resources and support that they need.
3	Third-Century Faculty Initiative	3,4	$2,808,333	$0	$2,808,333	$4,459,873	$0	$4,459,873	Invest in innovative hiring programs to recruit the very best researchers, teachers, and mentors. Additional funding will be necessary and will be provided by other institutional resources. (additional details available on page 3 of the narrative)	Invest in innovative hiring programs to recruit the very best researchers, teachers, and mentors.
4	Pathways to Research Preeminence	3,4	$0	$0	$0	$0	$0	$0	Invest in research infrastructure; focus on pressing issues that will allow UVA to be an international leader in research; and provide funding to launch and grow research initiatives. Funding to be provided by other institutional resources. (additional details available on page 3 of the narrative)	Invest in research infrastructure; focus on pressing issues that will allow UVA to be an international leader in research; and provide funding to launch and grow research initiatives.
5	School of Data Science	3,4	$5,802,168	$0	$5,802,168	$11,954,337	$0	$11,954,337	Position UVA as a leader in research and leverage the power of data across all disciplines. Additional funding will be necessary and will be provided by other institutional resources. (additional details available on page 3 of the narrative)	Position UVA as a leader in research and leverage the power of data across all disciplines.
6	Bachelors Completion	2	$2,800,000	$0	$2,800,000	$4,100,000	$0	$4,100,000	Expand degree-completion opportunities and other offerings for skill development. Additional funding will be necessary and will be provided by other institutional resources. (additional details available on page 4 of the narrative)	Expand degree-completion opportunities and other offerings for skill development.
7	Economic Development	3,4	$0	$0	$0	$0	$0	$0	Graduate students with the skills needed in a rapidly changing world; fuel growth through innovation and entrepreneurship; and promote collaboration among academia, government, and industry. Funding to be provided by other institutional resources. (additional details available on page 4 of the narrative)	Graduate students with the skills needed in a rapidly changing world; fuel growth through innovation and entrepreneurship; and promote collaboration among academia, government, and industry.
8	Citizen Leaders for the 21st Century	2	$0	$0	$0	$0	$0	$0	Prepare students to be productive servant-leaders in a diverse, globally connected world, regardless of their careers or professions. Funding to be provided by other institutional resources. (additional details available on pages 4 and 5 of the narrative)	Prepare students to be productive servant-leaders in a diverse, globally connected world, regardless of their careers or professions. Funding to be provided by other institutional resources.

Academic and Financial Plan

3A: Six-Year Plan for Academic and Support Service Strategies for Six-year Period (2020-2026)

Instructions for 3A: In the column entitled "Academic and Support Service Strategies for Six-Year Period (2020-2026)," please provide short titles to identify institutional strategies associated with goals in the Virginia Plan. Provide a concise description of the strategy in the Description of Strategy column (column J). Within this column, provide a specific reference as to where more detailed information can be found in the Narrative document. Note the goal(s) with which the strategy is aligned with the Virginia Plan (in particular, the related priority areas) in the VP Goal column and give it a Priority Ranking in column A. Additional information for 2022-2026 should be provided in column K (Two Additional Biennia). Strategies for student financial aid, other than those that are provided through tuition revenue, should not be included on this table; they should be included in Part 4, General Fund Request, of the plan. If an institution wishes to include any information about FTEs or fringe benefit adjustments (using DPB's FY2020 start-up instructions available by the end of May), it should list them as strategies in the Academic Plan not the Financial Plan. Funding amounts in the first year should be incremental. However, if the costs continue into the second year, they should be reflected cumulatively. Additional rows for strategies must be added before the gray line. Please update total cost formulas if necessary.
ASSUME NO ADDITIONAL GENERAL FUND IN THIS WORKSHEET.

	SECTION A: ACADEMIC AND SUPPORT SERVICE STRATEGIES FOR SIX-YEAR PERIOD (2020-2026)									
			Biennium 2020-2022 (7/1/20-6/30/22)						Description of Strategy	Two Additional Biennia
Priority Ranking	Strategies (Short Title)	VP Goal	2020-2021			2021-2022			Concise Information for Each Strategy	Information for 2022- 2026
			Total Amount	Reallocation	Amount From Tuition Revenue	Total Amount	Reallocation	Amount From Tuition Revenue		
	Total 2020-2022 Costs (Included in Financial Plan 'Total Additional Funding Need')		$14,575,601	$3,165,100	$11,410,501	$24,463,210	$3,949,000	$20,514,210		

3B: Six-Year Financial Plan for Educational and General Programs, Incremental Operating Budget Need 2020-2022 Biennium

Instructions for 3B: Complete the lines appropriate to your institution. As completely as possible, the items in the Academic Plan (3A) and Financial Plan (3B) should represent a complete picture of the institution's anticipated use of projected tuition revenues. For every strategy in 3A and every item in 3B of the plan, the total amount and the sum of the reallocation and tuition revenue should equal one another. Two additional rows, "Anticipated Nongeneral Fund Carryover" and "Nongeneral Fund Revenue for Current Operations" are available for an institution's use, if an institution cannot allocated all of its tuition revenue to specific strategies in the plan. Also, given the long standing practice that agencies should not assume general fund support for operation and maintenance (O&M) of new facilities, O&M strategies should not be included in an institution's plan, unless they are completely supported by tuition revenue. **Please do not add additional rows to 3B without first contacting Jean Huskey.**

Assuming No Additional General Fund	2020-2021			2021-2022		
Items	Total Amount	Reallocation	Amount From Tuition Revenue	Total Amount	Reallocation	Amount From Tuition Revenue
Total Incremental Cost from Academic Plan[1]	$14,575,601	$3,165,100	$11,410,501	$24,463,210	$3,949,000	$20,514,210
Increase T&R Faculty Salaries ($)	$7,506,877	$2,502,292	$5,004,585	$16,264,726	$5,089,612	$11,175,114
T&R Faculty Salary Increase Rate(%)[2]	3.00%		3.00%	3.00%		3.00%
Increase Admin. Faculty Salaries ($)	$1,128,557	$376,186	$752,371	$2,445,181	$765,154	$1,680,027
Admin. Faculty Salary Increase Rate (%)[2]	3.00%		3.00%	3.00%		3.00%
Increase Classified Staff Salaries ($)	$0	$0	$0	$76,378	$0	$76,378
Classified Salary Increase Rate (%)[2]	0.00%		0.00%	0.00%		0.00%
Increase University Staff Salaries ($)	$8,367,582	$2,802,279	$5,565,303	$17,451,549	$5,692,756	$11,758,793
University Staff Salary Increase Rate (%)[2]	3.00%		3.00%	3.00%		3.00%
O&M for New Facilities	$280,239	$0	$280,239	$301,479	$0	$301,479
Addt'l In-State Student Financial Aid from Tuition Rev	$2,910,000	$0	$2,910,000	$6,059,000	$0	$6,059,000
Addt'l Out-of-State Student Financial Aid from Tuition Rev	$5,444,000	$0	$5,444,000	$10,848,000	$0	$10,848,000
Anticipated Nongeneral Fund Carryover	$0	$0	$0	$0	$0	$0
Nongeneral Fund for Current Operations	$0	$0	$0	$0	$0	$0
Library Enhancement	$674,000	$0	$674,000	$1,382,000	$0	$1,382,000
Utility Cost Increase	$2,000,000	$0	$2,000,000	$3,838,000	$0	$3,838,000
Total Additional Funding Need	$42,886,857	$8,845,857	$34,041,000	$83,129,522	$15,496,522	$67,633,000

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.

Part 4: General Fund (GF) Request
University of Virginia

Requesting General Fund Support

Instructions: Indicate items for which you anticipate making a request for state general fund in the 2020-22 biennium. The item can be a supplement to a strategy or item from the academic and financial plan or it can be a free-standing request for which no tuition revenue would be used. If it is a supplement to a strategy or item from the academic and financial plan, then describe in the Notes column how additional general fund will enhance or expand the strategy. Requests for need-based financial aid appropriated in program 108 should be included here. If additional rows are added, please update the total costs formulas.

Priority Ranking	Strategies (Match Academic-Financial Worksheet Short Title)	VP Goal	2020-2021		2021-2022		Notes
			Total Amount	**GF Support**	**Total Amount**	**GF Support**	
1	Health Insurance Premiums		$3,456,000	$1,211,000	$3,932,000	$1,377,000	Additional details available on page 7 of the narrative
2	O&M for New Facilities		$280,240	$96,963	$301,479	$104,312	Additional details available on page 7 of the narrative
3	Utilities		$2,000,000	$610,200	$3,838,000	$1,171,000	Additional details available on page 7 of the narrative
4	Commonwealth Research Cost Share Pool		$10,000,000	$10,000,000	$0	$0	Additional details available on page 7 of the narrative
5	Virginia Humanities Curriculum and Humanities Ambassadors		$1,000,000	$1,000,000	$1,000,000	$1,000,000	Additional details available on page 7 of the narrative
			$16,736,240	$12,918,163	$9,071,479	$3,652,312	

Header spanning: Initiatives Requiring General Fund Support / Biennium 2020-2022 (7/1/20-6/30/22)

Part 5: Financial Aid Plan
University of Virginia

FINANCIAL AID PLAN

Instructions: *Provide a breakdown of the projected source and distribution of tuition and fee revenue redirected to financial aid. To ensure compliance with the state prohibition that in-state students not subsidize out-of-state students and to provide the review group with a scope of the strategy, projections must be made for each of the indicated categories. Please be aware that this data will be compared with similar data provided by other institutional offices in order to ensure overall consistency. (Please do not alter shaded cells that contain formulas.)*

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

*2018-19 (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	$165,636,000	$32,677,000	19.7%	$32,677,000
Undergraduate, Out-of-State	$231,319,000	$43,851,000	19.0%	$43,851,000
Graduate, In-State	$40,988,000	$7,560,000	18.4%	$7,560,000
Graduate, Out-of-State	$101,993,000	$42,139,000	41.3%	$42,139,000
First Professional, In-State	$27,850,000	$2,269,000	8.1%	$2,269,000
First Professional, Out-of-State	$62,745,000	$8,961,000	14.3%	$8,961,000
Total	$630,531,000	$137,457,000	21.8%	$137,457,000
Total from Tuition & Other NGF Revenue worksheet	$670,263,000	$137,457,000	20.5%	
In-State Sub-Total	$234,474,000	$42,506,000	18.1%	$42,506,000

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	$170,442,000	$34,011,000	20.0%	$34,011,000
Undergraduate, Out-of-State	$241,715,000	$46,799,000	19.4%	$46,799,000
Graduate, In-State	$46,219,000	$8,741,000	18.9%	$8,741,000
Graduate, Out-of-State	$103,177,000	$43,149,000	41.8%	$43,149,000
First Professional, In-State	$30,063,000	$2,623,000	8.7%	$2,623,000
First Professional, Out-of-State	$65,729,000	$9,376,000	14.3%	$9,376,000
Total	$657,345,000	$144,699,000	22.0%	$144,699,000
Total from Tuition & Other NGF Revenue worksheet	$698,269,000	$144,699,000	20.7%	
In-State Sub-Total	$246,724,000	$45,375,000	18.4%	$45,375,000
Additional In-State	$12,250,000	$2,869,000	23.4%	$2,869,000

2020-21 (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	$178,833,000	$36,289,000	20.3%	$36,289,000
Undergraduate, Out-of-State	$253,860,000	$49,648,000	19.6%	$49,648,000
Graduate, In-State	$49,008,000	$9,281,000	18.9%	$9,281,000
Graduate, Out-of-State	$110,572,000	$45,416,000	41.1%	$45,416,000
First Professional, In-State	$30,586,000	$2,715,000	8.9%	$2,715,000
First Professional, Out-of-State	$67,299,000	$9,704,000	14.4%	$9,704,000
Total	$690,158,000	$153,053,000	22.2%	$153,053,000
Total from Tuition & Other NGF Revenue worksheet	$732,310,000	$153,053,000	20.9%	
In-State Sub-Total	$258,427,000	$48,285,000	18.7%	$48,285,000
Additional In-State	$11,703,000	$2,910,000	24.9%	$2,910,000
Additional In-State from Financial Plan		$0	%	

2021-22 (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	$190,180,000	$38,931,000	20.5%	$38,931,000
Undergraduate, Out-of-State	$265,481,000	$52,888,000	19.9%	$52,888,000
Graduate, In-State	$51,160,000	$9,693,000	18.9%	$9,693,000
Graduate, Out-of-State	$115,614,000	$47,240,000	40.9%	$47,240,000
First Professional, In-State	$31,127,000	$2,810,000	9.0%	$2,810,000
First Professional, Out-of-State	$68,923,000	$10,044,000	14.6%	$10,044,000
Total	$722,485,000	$161,606,000	22.4%	$161,606,000
Total from Tuition & Other NGF Revenue worksheet	$765,902,000	$161,605,000	21.1%	
In-State Sub-Total	$272,467,000	$51,434,000	18.9%	$51,434,000
Additional In-State	$14,040,000	$3,149,000	22.4%	$3,149,000
Additional In-State from Financial Plan		$0	%	

* 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.

Part 6: Economic Development Annual Report for 2018-19
University of Virginia

ECONOMIC DEVELOPMENT: CONTRIBUTIONS (HB515; which was enacted as Chapter 149, Virginia Acts of Assembly, 2016 Session)

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.

*Instructions: The reporting period is FY19. **THE REPORT IS NOT DUE UNTIL OCTOBER 1.** 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 do not alter shaded cells that contain formulas.) Please note the narrative question at the bottom of the page. The response should be provided in the separate Narrative document, Section J.*

6A: Provide information for research and development (R&D) expenditures through June 30, 2019 by source of fund with a breakdown by Science and Engineering (S&E) specific and non-S&E. (Definition: The response is an unaudited version of the data to be submitted to the NSF Higher Education R&D [HERD] Survey in early 2020.)

VA PLAN Strategy Reference	6A: Research and Development (R&D) Expenditures by Source of Fund			
	Source of Funds	***S&E**	**Non S&E**	**Total**
4.3	Federal Government	$257,028,809	$19,321,549	**$276,350,359**
	State and Local Government	$2,754,995	$4,521,799	**$7,276,794**
	Institution Funds	$194,623,748	$21,544,461	**$216,168,209**
	Business	$25,897,984	$173,084	**$26,071,068**
	Nonprofit Organizations	$27,304,227	$9,196,653	**$36,500,879**
	All Other Sources	$42,602,747	$8,544,049	**$51,146,796**
	Total	**$550,212,510**	**$63,301,595**	**$613,514,105**
	* S&E - Science and Engineering			

6B: 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	6B: General Questions	Yes	No	Number/Amount	Comments
4.1	1. Does your institution offer an innovation- or entrepreneurship-themed student living-learning community (student housing)?		X		
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. (Definition: Incubation or accelerator programs are structured multi-week or multi-month programs for which a cohort of start-up companies are chosen; includes mentoring and connections to investors)	X			External partners can access incubation/accelerator programs through multiple windows: application into the iLab's Incubator program, UVA's iCorps program or Catalyst.
4.2	3. 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			Multiple programs and components comprise UVA's entrepreneurship infrastructure. These programs reach across the University and are not hosted together in one centralized location. The iLab, for example, is one center for entrepreneurial activity. External people/companies gain access through regularly hosted public events and individual meetings with iLab staff.
4.2	4. Does your institution use Entrepreneur(s)-in-Residence? (Definition: EIRS are usually experienced founders of high-growth start-up companies who partner with a university to explore active research projects and seek out opportunities to commercialize the products of research; alternatively, an EIR could be a grad student, post-doc, business major, etc., who assists to evaluate IP and provide assessments of market pull potential, business planning, etc.)	X			There is no formal EIR program, but many former or current entrepreneur executives participate in programs within several schools (e.g., McIntire and Darden) as mentors.

4.1	5. Number of students paid through externally funded research grants or contracts.			1542	Number of students paid from any sponsored award in FY2019. Does not include students paid by the Hospital but does include students paid by the School of Medicine.
4.1	6. Please answer Yes if (i) your institution's written tenure policy specifically mentions the development of intellectual property and/or the commercialization of research; or (ii) the policies of any schools or other divisions mention IP and/or commercialization as a consideration for promotion and tenure; or (iii) the instructions for compiling a P&T portfolio include providing information about patents, licenses, and other commercialization activities? If Yes, please provide a brief explanation in the comments field. If No, use the comments field to describe other ways a promotion and tenure committee might value those contributions, if any.	X			The University encourages each school to define how commercialization fits into its promotion and tenure policy since this can vary by discipline. In most cases, this appears in either research or service (or both). Some schools have created a separate category outside of the traditional three (research, teaching, and service) which encompasses this.
4.2	7. Does your institution or an affiliated entity offer translational research and/or proof of concept funding? If yes, please provide the dollar amount awarded in FY19 in the number/amount field. In the comments field, please provide the number of grants awarded; additional comments can also be entered if needed.	Yes		$2,000,000	3
4.2	8. Does your institution or an affiliated entity offer a seed fund or venture capital 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? If yes, please provide dollar amount awarded in FY19 in the number/amount field and the number of awards made in the comments field.	Yes		$1,053,550	Awards can be made to companies formed by University alumni. Four investments were made in FY19, with follow-on funds reserved for future financing rounds.

VA PLAN Strategy Reference	6C: Research and Commercialization Grants	No.	$ Value	College	Department
4.3	SBIR - Small Business Innovation Research	2	$342,516	College of Arts and Sciences	AS-Chemistry
		1	$15,999	College of Arts and Sciences	AS-Physics
		2	$208,000	Curry School of Education	CU-Kinesiology
		1	$140,000	School of Engineering and Applied Science	EN-CAB
		5	$360,000	School of Engineering and Applied Science	EN-Elec/Computer Engr Dept
		1	$70,000	School of Engineering and Applied Science	EN-Eng Sys and Environment
		1	$82,966	School of Engineering and Applied Science	EN-Mech/Aero Engr Dept
		1	$63,789	School of Medicine	MD-INMD Pulmonary
		1	$74,000	School of Medicine	MD-NESC Neuroscience
		1	$74,366	School of Medicine	MD-NEUR Neurology
		1	$48,000	School of Medicine	MD-PEDT Developmental
		1	$3,225	School of Medicine	MD-PHMR Phys Med & Rehab
		1	$73,840	School of Medicine	MD-RADL Rad Research
	STTR - Small Technology Transfer Research	1	$297,516	College of Arts and Sciences	AS-Chemistry
		3	$323,000	School of Engineering and Applied Science	EN-Elec/Computer Engr Dept
		1	$57,500	School of Engineering and Applied Science	EN-Mat Sci/Engr Dept
		1	$90,000	School of Engineering and Applied Science	EN-Mech/Aero Engr Dept

VA PLAN Strategy Reference	6D: Table 1 - All Activity for FY 2018-19	No.
4.2	1. Number of Intellectual Property disclosures received	238
	2. Number of Provisional Patent Applications filed during the year	125
	3. Number of Patent Applications filed during the year (by type)	
	Design	0
	Plant	0
	Utility	44
	Total	44
	4. Total number of Patent Applications pending (by type)	
	Design	0
	Plant	0
	Utility	231
	Total	231
	5. Number of Patents awarded during the year (by type)	
	Design	0
	Plant	0
	Utility	52
	Total	52

VA PLAN Strategy Reference	6D: Table 2 - All Activity for FY 2018-19	Principal Place of Business in VA	Principal Place of Business Outside VA
4.2	1. Total number of intellectual property licenses executed in FY18-19	22	56
	2. Number of start-ups created through IP licensing in FY18-19	9	0
	3. Amount of licensing revenue in FY18-19 resulting from all intellectual property licenses	$1,467,697	$1,807,945
	4. Number of jobs created as a result of university start-ups	12	0

VA PLAN Strategy Reference	6D: Table 3 - Research Supported by Persons or Nongovernmental Entities	Principal Place of Business in VA	Principal Place of Business Outside VA
4.2	1. Value of funds received (not expended) from persons or nongovernmental entities to support research	$10,796,951	$55,397,370
	2. Number of patents awarded during the year (by type) developed in whole or part from research projects funded by persons or nongovernmental entities:	This is a subset of Table 1, #5.	
	a. Design Patent	0	0
	b. Plant Patent	0	0
	c. Utility Patent	3	4
	d. Total	**3**	**4**
	3. Number of assignments of intellectual property interests to persons or nongovernmental entities (definition: "assignment" is the outright conveyance, sale and transfer of the IP, in contrast to "license" of IP rights, which is the contractual permission given to another party to use the IP)	0	0

VA PLAN Strategy Reference	6E: General Questions - VCCS Specific	Number	Comments
4.1	1. Number of training programs leading to workforce certifications and licensures.		
	2. Number of students who earned industry recognized credentials stemming from training programs.		
	3. Number of industry-recognized credentials obtained, including certifications and licenses.		
	4. Number of Career/Technical Education certificates, diplomas and degrees awarded that meet regional workforce needs.		

NARRATIVE REQUIREMENT (Section J):

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.

Detailed description of UVA's contributions to stimulate economic development included on pages 40-46 and 53-56 of UVA's narrative document.

2019 SIX-YEAR PLAN: NARRATIVE

INSTITUTION: UNIVERSITY OF VIRGINIA

OVERVIEW:

The totality of the six-year plan should describe the institution's goals as they relate to goals of The Virginia Plan for Higher Education, the Higher Education Opportunity Act of 2011 (TJ21) and the Restructured Higher Education Financial and Administrative Operations Act of 2005. The instructions under institutional mission and alignment to state goals, below, ask for specific strategies around four priority areas. Other sections will offer institutions the opportunity to describe additional strategies to advance institutional goals and state needs. *Please be as concise as possible with responses and save this narrative document with your institution's name added to the file name.*

SECTION A. INSTITUTIONAL MISSION, VISION, GOALS, STRATEGIES, AND ALIGNMENT TO STATE GOALS:

Provide a statement of institutional mission and indicate if there are plans to change the mission over the six-year period.

Provide a brief description of your institutional vision and goals over the next six years, including numeric targets where appropriate. Include specific strategies (from Part 3 – Academic-Financial Plan and Part 4 – General Fund Request) related to the following areas: (1) access and enrollment, particularly for underrepresented students; (2) retention, completion and time to degree; (3) affordability and funding; and (4) workforce alignment and retention of graduates. Strategies also can cross several state goals, notably those related to improved two-year and four-year transfer, and should be included here. If applicable, include a short summary of strategies related to research. The description of any strategy should be one-half page or less in length. Be sure to use the same short title as used in the Part 3 and Part 4 worksheets.

<u>**RESPONSE**</u>**:**

The University of Virginia's mission is reflected in its *Mission Statement* that was revised in 2013 and approved by SCHEV in 2014.

The University of Virginia is a public institution of higher learning guided by a founding vision of discovery, innovation, and development of the full potential of talented students from all walks of life. It serves the Commonwealth of Virginia, the nation, and the world by developing responsible citizen leaders and professionals; advancing, preserving, and disseminating knowledge; and providing world-class patient care.

We are defined by:
- Our enduring commitment to a vibrant and unique residential learning environment marked by the free and collegial exchange of ideas;
- Our unwavering support of a collaborative, diverse community bound together by distinctive foundational values of honor, integrity, trust, and respect;
- Our universal dedication to excellence and affordable access.

1

Strategic Priorities

The University of Virginia (UVA) is currently working on a new 10-year strategic plan, to be implemented starting in the fall of 2019, with the goal of being the best public university in 2030, and one of the very best in the world, whether public or private. The 2030 plan, *A Great and Good University*, is built around four overarching goals that provide strategic direction for the University and further the goals of *The Virginia Plan for Higher Education* and the Virginia Higher Education Opportunity Act (HEOA). The first is to strengthen our foundation, which means supporting our students, faculty, and staff. The second is to cultivate the most vibrant community in higher education, to prepare our students to be servant-leaders in a diverse and globally connected world. The third is to enable discoveries that enrich and improve lives, and the fourth is to make UVA synonymous with service.

Initiatives

The initiatives outlined below align with both the University's new strategic plan and multi-year financial plan, and these initiatives advance the priorities of the Commonwealth, as outlined in *The Virginia Plan for Higher Education*.

1. Institutional Partnership Performance Agreement (IPPA)

Pursuant to the provisions of HB2653 (Delegate Cox)/SB1628 (Senator Dunnavant) enacted by the 2019 General Assembly and approved by the Governor, the University of Virginia (UVA) and the University of Virginia's College at Wise (UVA-Wise) are working with the Commonwealth to develop a performance pilot proposal that will advance the Commonwealth's higher education goals and objectives as outlined in The Virginia Plan for Higher Education. The collective strategies will demonstrate the commitment of both UVA and UVA-Wise to advance the economic competitiveness of the Commonwealth and to help Virginia achieve its goal of becoming the best-educated state in the nation.

VIRGINIA PLAN GOALS 1, 2, 3, AND 4

2. SuccessUVA

SuccessUVA will significantly expand the University's efforts to attract more first-generation and under-represented students. Access UVA has transformed our student body by enabling us to attract and retain outstanding and diverse students. With SuccessUVA, we will work to expand our financial aid programs and philanthropic efforts to enable more low- and middle-income students to attend the University and provide them with the support that they need to thrive on Grounds and beyond. Toward these ends, we will construct a new Health and Wellness Center to provide care for and promote the well-being of our students, support initiatives to foster resilience, and create an expanded Multicultural Student Center to support programming for our increasingly diverse student body.

VIRGINIA PLAN GOALS 1 AND 2

3. Third-Century Faculty Initiative

This initiative will expand the existing Bicentennial Professorships and invest in innovative hiring programs, which will help us recruit the very best researchers, teachers, and mentors to the University of Virginia and will especially strengthen our capabilities in strategic priority areas of discovery. A truly excellent faculty will be diverse by every measure because diversity is essential to excellence. We will also provide faculty the tools and support they need to take advantage of the latest developments in pedagogy, including experiential and online delivery. We will recruit talented and diverse doctoral students and post-doctoral fellows to develop future scholars and teachers, enhance our research and teaching, and help recruit and retain faculty. And we will include post-doctoral fellows in an expanded PhD-Plus program, designed to prepare academics to become influential professionals in a diverse array of sectors and fields.

VIRGINIA PLAN GOALS 3 AND 4

4. Pathways to Research Preeminence

To help us move from prominent to preeminent in research, our approach will be three-fold:
1. First, we will continue to make strategic investments in research infrastructure and with support from the Commonwealth, substantially upgrade Alderman Library.
2. Second, we will focus on a discrete set of pressing challenges and opportunities that require collaboration across disciplines and schools and where UVA can be an international leader in important fields of research. We have identified five priority areas that represent major societal challenges and opportunities and draw on our existing strengths: Democracy, Environmental Resilience and Sustainability, Precision Medicine, the Brain and Neuroscience, and Digital Technology and Society. In each area, we will take a coordinated approach through institutes, centers, and labs to amplify the impact of our faculty's work, and we will recruit and support doctoral and post-doctoral fellows who will partner with faculty.
3. Third, we will create a Catalyst Fund that will provide seed funding to help launch and grow research initiatives. Preference will be given to applications that involve collaboration across disciplines and schools.

VIRGINIA PLAN GOALS 3 AND 4

5. School of Data Science

In June 2019, the Board of Visitors unanimously approved the creation of a School of Data Science. Approved by SCHEV in September 2019, the new school will position the University as a leader in 21st century research and will be based on a foundation of collaboration—a "School without Walls," specifically intended to leverage the power of data across all disciplines by helping integrate data science across our Grounds. The school will begin with a residence-based master's degree but plans to add a certificate program for undergraduates, an undergraduate degree, a doctoral program, and an online master's degree.

VIRGINIA PLAN GOALS 3 AND 4

6. Bachelor's Completion and Certificate Programs

We will greatly expand educational opportunities, both in person and online, for working adults in the Commonwealth and beyond—especially the 1.1 million Virginians who have some college credits but have not yet received a degree. Through our many schools, we will continue to address these needs and will develop a central portal through which people can discover our diverse offerings, including our own staff seeking to gain additional skills and knowledge for career advancement at UVA. Through our School of Continuing and Professional Studies, we will scale our bachelor's completion program and provide a high-quality, easily accessible, and affordable education.

VIRGINIA PLAN GOAL 2

7. Economic Development

The University of Virginia is committed to serving as a valued economic development partner for the region and the Commonwealth. Our role in economic development is to promote high-impact collaboration among academia, government, and business; fuel growth through innovation and entrepreneurship; and graduate students with the skills needed in a rapidly changing world. We will proactively engage in the following areas:

- **Innovation and Entrepreneurship:** Address real-world problems through translatable academic discovery and entrepreneurship. Create high-value partnerships with local, regional, and state allies to provide a robust array of resources that support innovation, start-up formation, and the entrepreneurial ecosystem.
- **Talent Development:** Provide students with skills needed in today's workplace. Partner with industry to understand current and future needs and offer relevant courses, programs, workshops, certificates, etc.
- **Targeted Industry Growth:** Join forces with regional and state public and private partners to accelerate robust, enduring, and inclusive economic growth across Virginia. Facilitate corporate connections to UVA and leverage resources as appropriate to help grow existing business and to attract new industry to the Commonwealth.
- **Support for Rural Virginia:** Spur and enhance economic development in rural Virginia through the Appalachian Prosperity Project (APP) and the Rural Virginia Initiative, with a focus on community-based participatory research, entrepreneurship, and access to healthcare.

VIRGINIA PLAN GOALS 3 AND 4

8. Citizen-Leaders for the 21st Century

The University's ultimate aim for our students is to prepare them to be productive servant-leaders in a diverse, globally connected world, regardless of their careers or professions. Toward this end, UVA will build on existing programs and experiences inside and outside the classroom in three ways:

1) UVA will investigate opportunities to house all first- and second-year students on Grounds and provide ways for third- and fourth-year students to stay connected to the University communities.
2) Second, we will enable our undergraduate students to develop the knowledge, perspective, experience, and skills necessary to lead in a globally connected world by providing them with the opportunity for at least one international experience before they graduate.
3) Third, as a public institution, we have a particular commitment to preparing students for a life of public service. We will define the competencies necessary to pursue public service and identify both curricular and co-curricular opportunities for professional, graduate, and undergraduate students to meet those competencies.

VIRGINIA PLAN GOAL 2

SECTION B. TUITION AND FEES PREDICTABILITY PLANS:

Provide information about the assumptions used to develop tuition and fee charges shown in PART 1. The tuition and fee charges for in-state undergraduate students should reflect the institution's estimate of reasonable and necessary charges to students based on the institution's mission, market capacity and other factors. Include information, if applicable, on tuition increase plans for program- and level-specific charges or on any other alternative tuition and fee arrangement.

RESPONSE:

UVA modeled three scenarios for undergraduate tuition and fee increases over the biennium: 4.0%, 3.5%, and 3.0%, with 3.5% as the primary scenario. These increases align with the University's multi-year financial plan and are based on standard cost of living increases, assuming no additional general fund support.

The University currently charges varying tuition rates by school and by year. In December 2017, the Board of Visitors approved a multi-year plan to increase tuition rates for the Schools of Architecture, Engineering, Nursing, the Batten School of Public Policy, and the McIntire School of Commerce. Included in the rates for 2020-21 and 2021-22 are incremental increases of $1,000 per year for first-year students in both the School of Nursing and the School of Engineering. Additionally, in March 2019, the Board of Visitors approved a multi-year plan to create an upper-class rate increase for students in the College of Arts and Sciences. Beginning in the 2021-22 academic year, the tuition rate for third-year students in the College of Arts and Sciences will be $2,700 higher than the rate for first-, second-, and fourth-year students. The incremental revenue generated from the increased rate will be used to hire additional faculty to decrease class size, address needed improvements to lab space, and increase specialized career support for undergraduate students.

In December 2017, the Board of Visitors approved a multi-year plan to increase the component of the University's mandatory non-E&G fee by $100 per year for three years to address increases in student health volume in the areas of general medicine, counseling and psychological services, and accessibility needs across Grounds. Included in the rates for 2020-21 is a $100 increase for all regular session students, which completes the three-year plan.

SECTION C. OTHER BUDGET ITEMS:

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

RESPONSE:

Five items are included on the GF Request tab for which UVA will make a request for state general funds in the 2020-22 biennium.

1. The GF portion for the estimated increase in the employer premiums for the UVA Health Plan. By long-standing agreement with the Commonwealth, UVA established its own health plan which is operated by a third-party administrator, and the state provides a share of funding for health insurance based on the lesser of the UVA premium or the state's CovaCare premium. Under this model, the state is able to realize the general fund's share of the University's health plan savings estimated at $4.2 million.
2. The incremental increases in operations and maintenance (O&M) for new facilities coming online during the 2020-22 biennium (consistent with the survey submitted to SCHEV on June 17, 2019).
3. Projected increases in utility costs.
4. Funding to establish a fund to enable the Virginia Economic Development Partnership to collaborate with institutions of higher education on large scale solicitations that integrate industry, university, and academia collaborations.
5. Incremental funding for the Virginia Humanities to create curriculum materials for K-12 schools, establish a network of Humanities Ambassadors in public schools and libraries across the state, and support classroom visits by program staff to teach students how to use the resources.

SECTION D. PROGRAMS AND INSTRUCTIONAL SITES:

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

RESPONSE:

Making Virginia the best-educated state by 2030 (in terms of post-secondary credentials) while providing the education needed to support a skilled and educated workforce for Virginia's New Virginia Economy continues to be a focus of the post-secondary credentials (undergraduate degrees, graduate degrees, and certificates) offered by the schools of the University. Although we do not anticipate opening any additional instructional sites, over the next six years we will generally focus on three areas:

Data Science
The new School of Data Science will train students to be responsible practitioners and leaders in an increasingly data-driven society; to undertake, in collaboration with other schools, leading-edge interdisciplinary, open research; to catalyze research discovery through shared data and analytical techniques; and to serve the University, the local community, the Commonwealth, the nation, and the world by applying data science to seek the truth and maximize societal benefit. We expect that the School of Data Science will offer degree and certificate programs at the undergraduate and graduate levels.

Job Growth Areas
UVA will also expand our offerings in such areas as information technology, statistics, the life sciences, cybersecurity, education (to address the teaching shortage), media studies, autonomous systems, and advanced manufacturing. In the area of computer science, we plan to add a stand-alone Bachelor of Arts degree. We expect that these degree and certificate programs will be at both the undergraduate and graduate levels.

The Liberal Arts
Many students come to UVA to receive a broad-based liberal arts education that will prepare them to be successful in both their personal and professional lives. The College of Arts and Sciences is piloting a new curriculum that gives each student this broad-based education no matter their major or degree program. We also expect that students will want to pursue studies that are more in-depth than the new curriculum will provide. We expect degree programs at the undergraduate and graduate levels in topics such as area studies, American Studies, and digital humanities.

We additionally expect that a number of our schools will partner to offer degrees that leverage their strengths. In the fall of 2018, for example, the McIntire School of Commerce and the Darden Graduate School of Business launched a new joint Master of Science in Business Analytics (MSBA) degree. Leveraging existing resources, this new program offers students an

opportunity to focus on the role and application of data analytics in business. With the creation of a school of data science, we expect degree programs combining data science and areas related to medicine/nursing, public policy, and business.

SECTION E. FINANCIAL AID:

TJ21 requires "plans for providing financial aid to help mitigate the impact of tuition and fee increases on low-income and middle-income students and their families, including the projected mix of grants and loans." Virginia's definitions of low-income and middle-income under TJ21 are based on HHS Poverty Guidelines. A table that outlines the HHS guidelines and the definitions is attached.

RESPONSE:

The University of Virginia's Board of Visitors authorized AccessUVA, the University's financial aid program, in February 2004 and re-authorized the program in August 2013; AccessUVA is intended to ensure that an undergraduate education at the University is available to all students regardless of their financial circumstances. UVA accepts students on their academic merit, regardless of their ability to pay. UVA is one of only two public universities nationally, and the only public university in the Commonwealth, that has a "need blind" admissions policy and meets 100% of demonstrated need (for U.S. students). This program is a cornerstone of UVA's commitment to the transformative power of education for all, regardless of means, and AccessUVA continues to be successful in increasing socioeconomic diversity and reducing student loan debt for undergraduate students. This program continues to rightly bring the University significant recognition as the premier need-based aid program for a public institution in the United States.

Under AccessUVA, UVA limits need-based loans over four years to $4,000 for low-income Virginians and $18,000 for all other Virginians who demonstrate financial need. Sixty-six percent of UVA's students graduate with no debt. Of the 34% of students who graduated with debt in 2018, the average need-based debt was $11,159 for in-state undergraduates and $17,467 for out-of-state undergraduates. Some students choose to take additional loans to cover their estimated family contribution or other expenses. When these additional loans are included, the average total debt for in-state undergraduates is $22,706 and for out-of-state students it is $29,767.

In 2016, the University committed $13.5 million to create Cornerstone Grants to provide additional funding for full-time Virginia students who do not receive at least $2,000 in grants and do not qualify for AccessUVA (those with family income less than $125,000 and assets less than $150,000). The University, with the support of the Board of Visitors, also committed $200 million from strategic funds to establish the Bicentennial Scholars Program to create a permanent, sustainable endowment for need-based scholarships. As of June 2019, the University has raised $153.7 million in private support for undergraduate need-based financial aid under the auspices of the Bicentennial Scholars Program.

In addition to meeting demonstrated financial need (about 1/3 of undergraduates), the Board of Visitors is committed to minimizing base tuition increases for all undergraduates and providing predictability for Virginia families with an optional four-year, fixed-price base tuition. Perhaps most critical to ensuring affordability for all, the University's outstanding graduation rates ensure that the vast majority of UVA students (89%) graduate with a degree in four years. That

proportion increases to 94% when a six-year graduation rate is considered. These graduation rates are the highest among public universities in the Commonwealth and among the highest nationally.

We have not made a specific request for state funds to support undergraduate need-based aid, but we encourage the Governor and General Assembly to continue their strong support for students who, on their own, might not be able to afford to attend college.

SECTION F. CAPITAL OUTLAY:

Provide information on your institution's top two Education and General Programs capital outlay projects, including new construction as well as renovations, that might be proposed over the Six-Year Plan period that could have a significant impact on strategies, funding, student charges, or current square footage. Do not include projects for which construction (not planning) funding has been appropriated.

RESPONSE:

On June 7, 2019, the Board of Visitors approved the University's 2019 Multi-Year Major Capital Plan, which is used as a planning tool and as support for state capital project funding priorities. The projects included below currently represent the highest priorities of the Academic Division.

Maintenance Reserve
Maintenance Reserve Funding is critical for the repair and replacement of plant, property, and equipment to maintain or extend the useful life of Educational & General (E&G) facilities. In 2004, the University engaged in a multi-year program to improve the condition of the University's facilities and reduce the deferred maintenance backlog. One metric used to assess deferred maintenance is the Facilities Condition Index (FCI). An FCI of five percent means the facilities are in good condition while anything over 10 percent indicates that facilities are in poor condition. In 2004, the University's FCI was 10.6 percent. Through significant investments in UVA's facilities, the overall FCI decreased to five percent by FY2014-15. Achieving this goal required allocation of additional resources to the annual operating maintenance budget, renewal of whole buildings through renovation, and the careful use of the maintenance reserve appropriation. We still have many buildings in need of major repair so the maintenance reserve appropriation will continue to play a critical role in maintaining UVA's FCI at five percent.

Physics Building Renewal ($50.0 million)
The University conducted a comprehensive analysis and planning study of STEM facilities that considered space and infrastructure supply and demand, projected space needs, curriculum innovations, and building renewal needs for the STEM facilities on Grounds through 2025. The STEM study identified several buildings as outdated with deteriorated infrastructure including Gilmer Hall, the Chemistry Building, the Physics Building, and several others. The renewal of the Physics Building, constructed in 1954, will renovate and modernize nearly 135,000 GSF of research and instructional space, and will encompass a number of significant improvements: renewing mechanical systems for improved energy performance; installing fire detection and suppression systems; repairing the exterior envelope and structure; and renewing interior systems, finishes, and furnishings. The General Assembly authorized planning for the Physics Building renewal during the 2016 Session. The University submitted schematic design documents and a CR-2 to the Department of General Services in April 2019. Detailed planning documents are expected to be ready for submission in late July 2019, and the University will request construction funding for this project during the 2020 legislative session.

Virginia Autonomous Systems Testing Facility ($10.0 million)

Autonomous systems research is an active area of growth and an opportunity for UVA's School of Engineering and Applied Science (SEAS) to differentiate itself among peer institutions. SEAS has identified and grown thematic areas of research that cut across departments, one of which is cyber-physical systems in which more than 30 faculty across five departments are engaged. Eight faculty are directly engaged in autonomous systems hardware research that requires access to large-scale, high-bay, controlled testing space for aerial, ground, and aquatic robotic systems. The lack of this type of space is currently a limiting factor for further advancing these academic and research programs. The Virginia Autonomous Systems Testing (VAST) Facility, recently approved by the UVA Board of Visitors, will facilitate UVA's ability to continue recruiting the highest-caliber faculty and students; address the acute need for flexible high-bay space on Grounds; and create opportunities for collaborative instruction, experiential learning, and research centered around next-generation technologies. The estimated total project cost for the VAST facility is $10.0 million, and the University will submit a capital request for $5.0 million in state support for the construction of this facility.

SECTION G. RESTRUCTURING:

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

RESPONSE:

Public institutions of higher education and the Commonwealth of Virginia are now in the second decade of operating under the Restructured Higher Education Financial and Administrative Operations Act (Restructuring Act), and for Level III institutions such as the University of Virginia, its associated management agreement. Restructuring has provided UVA critical flexibility to manage its operations in the changing higher education environment, in part brought about by the severe economic downturn of the last decade, which, among other challenges, has resulted in continued material disinvestment in higher education by most states including the Commonwealth of Virginia. Of notable exception is the 2019 General Assembly session that resulted in a significant investment in higher education allowing all institutions to hold tuition and E&G fee rates flat for the coming year.

This document reiterates many of the suggestions made in our 2017 six-year plan submission related to modifications to the operational relationship between UVA and the Commonwealth. We believe this is a conversation that is vital to all public institutions in the Commonwealth, given what we perceive to be the accelerating competitive environment in higher education across the country where financial challenges and competition for talent – students, faculty, and staff – could lead to suboptimal performance and the possible failure of some institutions.

In responding to this request, we have set forth (1) major policy modifications, (2) business process improvements, and (3) organizational excellence partnerships that we propose be considered as we look to the next phase of Restructuring. In offering these suggestions, we explain the underlying rationale, as the reality of our experience in many cases is not consistent with the public perception of these issues. We believe that our proposals have the potential to further the competitive position of all public institutions in the Commonwealth, which we believe needs to be a higher, if not the ultimate, policy priority given the challenges facing public institutions in the state. We further believe that our proposals support economic development in the Commonwealth.

(1) Policy Modifications
There are several policies laid out in the Restructuring Act or in other legislation that, if modified, would allow institutions to operate more efficiently and to better respond to our constituents.

Financial Stability
Since FY1989-90, UVA's inflation-adjusted unrestricted educational and general (E&G) appropriation per in-state student has declined by 55.5 percent, from $18,917 to $8,417 in 2018-2019. Additionally, shortfalls in the Commonwealth's tax revenues usually result in mid-year downward budget adjustments. In 2019-20, the general fund appropriation represents 8.7% of the operating budget for UVA's Academic Division, compared with 33.2% in 1989-90. We are

grateful for the increase of 8.8% in the state appropriation for 2019-20—the direct link between additional state appropriations and the ability for UVA to hold in-state tuition constant for one year—and we are optimistic that this reinvestment in higher education is a result of a longer-term strategy to support higher education in the Commonwealth.

Long-term planning and organizational success depend on the ability of an institution to predict and manage all of its revenue sources. To that end, we would like to explore alternatives that will ensure the stability and predictability of annual general fund appropriations. Additionally, we hope that our capital budget allocations remain at no less than current levels and believe that increased appropriations can easily be justified for research-related investments given the potential economic impact on the Commonwealth.

Enrollment Management

Pursuant to budget language first introduced in 2004-05 and still in effect today, public institutions in the Commonwealth are limited in the percentage of out-of-state undergraduate students they enroll. When this language was added to the budget, it simply set a threshold in that year and that figure was not tied to historical averages, to a uniform percentage across the Commonwealth, or to an analysis that would have suggested appropriate ratios across schools in the Commonwealth. The University, therefore, requests that Item 4-2.01[1] be removed from the 2020-2022 biennial budget and future budget bills. Greater enrollment flexibility across all public institutions would benefit the Commonwealth in three ways.

First, it would help attract, develop, and retain talent to the Commonwealth. UVA's academic reputation puts us in a position to attract remarkably strong students from across the country and internationally. UVA is consistently ranked as one of the top public universities in the country, and as a top-tier national university, whether public or private. UVA is also a member of the Association of American Universities, a membership organization composed of the 62 leading research universities in the country, both public and private.

Over the past decade, UVA has seen a steady increase in interest among out-of-state students in attending the University. Applications from these students have increased by 105%—compared to an increase of 54% from in-state applicants. Between 2014 and 2018, 70% of applicants to UVA were out-of-state students. Despite the interest and the talent of that out-of-state pool, UVA must turn the vast majority of these students away. For the class of 2022 (students who entered in fall 2018), UVA's out-of-state offer rate was 21% and the out-of-state yield rate was 24%. Students offered admission to UVA—both in and out-of-state—are a remarkably talented group, with SAT scores averaging 1,430 which is at the top of the nationwide pool.

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[1] This is the relevant provision: "d) The Boards of Visitors or other governing bodies of institutions of higher education shall not increase the current proportion of nonresident undergraduate students if the institution's nonresident undergraduate enrollment exceeds 25 percent. Norfolk State University, Virginia Military Institute, Virginia State University, and two-year public institutions are exempt from this restriction."

The desire to attract talent to the Commonwealth has always been a priority, but it is especially urgent at this moment because the Commonwealth has a flat high school population, combined with high growth in jobs in Northern Virginia. UVA is in a very strong position to attract out-of-state talent and subsequently develop programs such as internships in high-demand areas of job growth that will increase the odds that the talent will stay and contribute to the economic vitality of the Commonwealth.

As Speaker Cox remarked to the GO Virginia Foundation Board meeting in September 2018, "We need to convince talented young Virginians to stay in the state and get their degree or certificate here. And we also need to market our top-ranked higher education system to many more talented out-of-staters. We need to be a magnet for talented Virginians and non-Virginians. And once we recruit, educate, and train them, we need to connect them to good jobs right here in the Commonwealth, so they stay." The University would like to partner with the Commonwealth to focus efforts to recruit these highly talented out-of-state students.

Second, permitting flexibility in the proportion of out-of-state students can be a key strategy to ensuring that all public universities continue to be part of a thriving system of public higher education in the Commonwealth. With flat growth in the high school population in the Commonwealth, the competition for those students among the Commonwealth's colleges and universities intensifies. Greater enrollment flexibility will thus be of benefit to the broader system of public higher education in the Commonwealth.

Third, this could relieve pressure on in-state tuition rates. Over time, given economic downturns and rising costs of mandated government services (e.g., K-12 education and Medicaid), the Commonwealth has understandably had difficulty in keeping pace with growing higher education enrollment and with general cost increases needed to maintain academic quality. In FY2019-20, the state provides just under $9,400 per in-state student at UVA; in 1989-90, the state provided nearly $19,000 per in-state student (in inflation-adjusted dollars). Out-of-state students require no support from the state. Having the option to enroll more out-of-state students could reduce the need to raise in-state tuition to meet costs, thus making UVA one of the very best values in higher education, especially for in-state students.

Tuition Setting
The authority of the Board of Visitors to establish tuition and fees is codified in the enabling legislation of the University, in the Restructuring Act, in the Management Agreement, and in the Higher Education Opportunity Act of 2011. The ability of an institution to control all of its revenue sources is critical to long-term planning and organizational success. Yet in recent years, there have been a number of formal and informal calls or mandates to minimize tuition increases. This is understandable given the public perception of the cost of higher education, but oftentimes it is premised on erroneous, if not completely inaccurate, information. Since FY1989-90, on a per-student basis, UVA's cumulative undergraduate tuition increase has been less than the decrease in general funds UVA receives from the Commonwealth; using inflation-adjusted dollars, general fund appropriations per in-state student decreased $10,500 over the 30-year period, while tuition increased by $9,934. Over time, UVA's Board of Visitors has

demonstrated a strong commitment to minimizing tuition increases in order to provide access for all Virginians. Over the last three years, tuition and E&G fees for in-state students have increased less than three percent on average annually. Additional state funding provided by the tuition moderation fund in FY2019-20 allowed the University to implement a one-year freeze of tuition and E&G fees for in-state undergraduate students at 2018-2019 levels. Moreover, we have demonstrated this commitment even when facing frequent unfunded obligations imposed by both the state and federal governments (including pension liability). Per-student support for higher education by the Commonwealth ranks 43rd lowest in the country (source: SHEF 2018 Data by the State Higher Education Executive Officers). While no specific policy modifications are required at present, this is a critical governance policy issue and it should be re-emphasized that the authority to establish tuition and fees rests solely with the Boards of Visitors of Virginia's public higher education institutions.

Human Resources
We would like to explore the opportunity to renegotiate aspects of the Human Resources policy included in the Management Agreement with the goal of re-examining current policies around transferring classified employees into the University staff system and the applicability of state human resources policies (e.g., layoff, probation) to University staff.

The Restructuring Act and the subsequent Management Agreement allowed Level III institutions to create human resources systems separate from the state system. We are prohibited, however, from involuntarily transferring existing employees to our new systems. As a result, most of UVA's staff employees are members of the Virginia Retirement System; all UVA employees are subject to the state grievance procedure; and the University is governed by the state workers' compensation policy.

Eleven years after establishing the UVA human resources system for staff employees, through new hires and voluntary conversion of classified employees to University staff, there remain 1,023 state classified employees in the Academic Division, or 14 percent of our total salaried staff workforce. Managing two separate human resources systems for staff is inefficient and is becoming increasingly difficult as the number of state classified employees continues to decline.

The University of Virginia employs just over 22,000 faculty, staff, and team members across its Academic Division, Health System, and UVA-Wise. In 2015, we began a project to transform the way we deliver HR services in order to advance our mission and strategic goals. An external consultant collaborating with us on this project developed an HR Maturity Model that defines service levels over 12 separate lines of HR business. The service levels range from "Basic" to "Leading." The transformed UVA HR service delivery model was implemented in 2018, and the new Workday system went live in January 2019, which will allow the University to move closer to the "Leading" service level across each of the 12 competencies. In some cases, the dual system of staff employment and the limits placed on classified state employees by the state-managed system present barriers to achieving a "Leading" designation.

Financial Incentives
We propose that the state permanently restore financial incentives provided for in the Code of Virginia's restructuring language (i.e., procurement card rebates and interest on Educational & General balances), and that the state revisit the eVA transactional model. We acknowledge that awarding of these incentives is provided in FY2020 in the amended 2018-20 biennial budget (Chapter 854 of the 2019 Acts of Assembly). We additionally suggest that the state eliminate the practice of reverting cost savings from payments from students, federal research, and philanthropy back into the general fund.

Financial Aid
The University's new strategic plan has as one of its strategic goals to recruit and support exceptionally talented, diverse, and service-oriented students, regardless of their economic circumstances. To do this we need to marshal all available resources to address the financial need of prospective students. The state should provide new financial aid resources on a prospective basis so that resources are available to recruit first-generation and under-represented students, many of whom have need. In addition, there should be no restrictions on the use of in-state tuition revenue for financial aid for in-state students or on out-of-state tuition revenue for financial aid for out-of-state students.

Long-Range Planning
The inability to accumulate appropriate reserves, both capital and operating, in the educational and general program – as we do for auxiliary enterprises – hampers the ability to develop meaningful multi-year plans. A non-reverting fund subject to certain limitations would allow an institution to make investments that it could not otherwise make within an annual appropriation of general and non-general funds in E&G (e.g., major equipment purchases, anticipation of new faculty hires). The 2018 General Assembly included a provision in the budget that allows institutions to hold a reserve equivalent to 3 percent of its general fund appropriation. The next step in this authority should be to approve a reserve equivalent to 3 percent of the total of general funds and nongeneral funds in E&G. For an institution like UVA, whose nongeneral fund appropriation represents nearly 82 percent of its total E&G appropriation, this additional flexibility would add to the ability to buffer against future revenue reductions and mitigate the need to increase in-state tuition rates in times of economic downturn.

(2) Business Process Improvements
In addition to the policy modifications proposed above, we have identified several transactional/technical amendments to streamline operations and improve efficiency, all of which would require legislative action:

- Revisit the eVA transactional fee assessments and consider implementing an annual eVA fee.
- Revisit daily transactional posting in eVA and eliminate the requirement to post business opportunities, solicitations, and sole-source purchases.
- Exclude procurement card transactions from eVA's compliance calculations and transactional funding model.

- Restore procurement card rebate or consider allowing institutions to establish and manage a procurement card program.
- Eliminate requirement to post RFP advertisements over $50,000 in a newspaper.
- Allow non-VASCUPP member institutions to access cooperative contracts negotiated by the Virginia Higher Education Procurement Cooperative without prior approval from the Department of General Services.
- Remove the requirement to escrow interest earnings on tuition balances.
- Move to a true sum sufficient non-general fund appropriation, where non-general fund appropriation is simply equal to non-general fund activity. Eliminate appropriation, allotment, and approval actions related to all non-general funds (including but not limited to tuition and fees, auxiliary revenues, and sponsored research activity).
- Relieve required reporting by DHRM for HR activities that are covered under the Management Agreement (i.e., performance management scores).

(3) Organizational Excellence Partnerships between Higher Education Institutions and Central State Agencies

There are also opportunities for improvement in the business and academic processes between central state agencies and institutions of higher education that would enhance efficiency and effectiveness. We propose that the state:

- Develop consistent grant-making procedures across state agencies.
- Re-examine the Equipment Trust Fund process.
- Explore opportunities to streamline the Comprehensive Annual Financial Report (CAFR).
- Eliminate non-value-added reporting requirements.

As we explore new opportunities for additional authorities we would like to pursue, we recognize the ongoing need to demonstrate our commitment and contributions to the Commonwealth through various accountability measures. The strategies included in our six-year plan address many of these items, as do the additional sections related to our economic development efforts, intellectual property assignments, and externally sponsored research. We welcome the opportunity to discuss these issues with the Op-6 group and members of the General Assembly, and we believe the outcome of these discussions would benefit both the Commonwealth and institutions of higher education in Virginia.

SECTION H. INSTITUTIONAL PARTNERSHIP PERFORMANCE AGREEMENT FOR THE UNIVERSITY OF VIRGINIA AND THE UNIVERSITY OF VIRGINIA'S COLLEGE AT WISE:

For this topic, any institution that wishes to include a Performance Pilot and provided notification by April 1 to relevant parties, should select one or more of the strategies presented in the institution's Academic and Financial plan (PART 3) and General Fund Request (PART 4) that constitute(s) "one innovative proposal" as defined in subsection F of § 23.1-306. Describe the proposal, the proposed performance measures and the requested authority or support from the Commonwealth.

<u>**RESPONSE:**</u>

<u>**Performance Pilot Summary**</u>
Pursuant to the provisions of HB2653 (Delegate Cox)/SB1628 (Senator Dunnavant) enacted by the 2019 General Assembly and approved by the Governor, the University of Virginia (UVA) and the University of Virginia's College at Wise (UVA-Wise) are proposing a performance pilot that will advance the Commonwealth's higher education goals and objectives as outlined in *The Virginia Plan for Higher Education*. The strategies outlined below demonstrate the commitment of both UVA and UVA-Wise to advance the economic competitiveness of the Commonwealth and to help Virginia achieve its goal of becoming the best-educated state in the nation. In support of these goals and objectives, UVA and UVA-Wise will engage in initiatives to create a framework for a robust talent development pipeline—beginning with K-12 education and extending beyond traditional four-year and graduate degrees to include reskilling and upskilling programs—and to increase the access to and affordability of higher education. The narrative that follows outlines our collective commitments to the Commonwealth—talent development, access, and affordability—and UVA's request of the Commonwealth for greater flexibility around enrollment management.

Role of Higher Education in Virginia's New Economy

> "An educated population and well-trained workforce increase economic competitiveness, improve the lives of individuals and support greater community engagement."
> -State Council of Higher Education in Virginia (SCHEV) Strategic Plan

The Commonwealth is well-positioned to seize promising economic opportunities in rapidly growing industry sectors such as information technology, life sciences, cybersecurity, autonomous systems, and advanced manufacturing. Success in capturing these opportunities depends largely on Virginia's ability to prepare a workforce for a technology-driven future.

Meeting the demand for top talent is a key priority for both public and private sectors. Employers cite the availability of a skilled and educated workforce as the primary factor in site selection and business expansion. The Virginia Chamber of Commerce's *Blueprint Virginia 2025* notes that investing in a well-trained talent supply pipeline is a critical foundation for economic competitiveness and business growth. Legislators are placing a high priority on

technology talent, internships, and access to higher education. The major objective of *The Virginia Plan* is to make Virginia the best-educated state by 2030, in part by supporting both traditional degrees and certificates. To accomplish this worthy goal and advance the New Virginia Economy, higher education needs to attract and develop talent by going beyond its traditional role and expanding educational opportunities and offerings for all citizens.

Digital literacy, skills in information technology, and the ability to innovate are universal needs for today's global knowledge economy. UVA currently serves workforce needs across the Commonwealth by instilling relevant skills and competencies within all levels of education, beginning with K-12 and extending through undergraduate, graduate, and adult education. UVA cultivates industry, school, and community partnerships to prepare the workforce needed for Virginia's technology-driven future. And UVA-Wise continues to seek opportunities to recruit and train more students through expanding technology programs and collaborating with local technology companies to create paid internships for its students. But we can, and will, do more.

Talent Development: Building Upon Innovative Programs
UVA and UVA-Wise have been successful in piloting a number of innovative programs that promote a more robust and inclusive talent pipeline. These programs underpin our distinctive *Talent Development Strategy* using a framework that will meet varying educational needs at different life stages. The Commonwealth's bold workforce goals will only be met if we can reach all segments of the population and empower Virginians for a technology-driven future.

Our *Talent Development Strategy* includes several goals and related initiatives that UVA and UVA-Wise plan to initiate and/or expand to advance the objective of building a more educated and well-trained workforce in Virginia. In K-12 education, we will develop programs to address Virginia's teacher shortage; expand and enhance programs to develop and retain high-quality teachers; and create resources for teaching computer science. In post-secondary/higher education, we will increase degrees in computer science and related fields; enhance access to internships and other experiential learning opportunities; expand degree completion, reskilling, and upskilling programs; and provide post-baccalaureate education to meet evolving workforce needs. For each of these goals, we will identify metrics that we will track as we pursue our strategies and implement the related initiatives.

K-12 Education

Goal	Initiative	Performance Metrics
(1) Develop programs to address Virginia's teaching shortage	– Bachelor of Science in Education	– Enroll 200 students in the BSEd program (total for all cohorts) by FY2024-25
(2) Expand programs that facilitate ways of preparing and retaining high-quality teachers	– Curry School Teaching Fellows – Classroom Simulator – Center for Teaching Excellence	– Expand number of Teaching Fellows from 6 to 15 by FY2022-23 – Expand Classroom Simulator to 400 practicing teachers by FY2021-22 – Increase enrollment in CTE courses by 400 (from 1,900 to 2,300) by FY2021-22

Goal	Initiative	Performance Metrics
(3) Create and deploy statewide a system of curricular and teacher resources to ensure K-12 students learn computer science skills	– K-12 Design Academy – Southwest Virginia Education Blueprint for the Digital World	– Develop and deliver instructional resources and training materials by FY2022-23 – Develop and implement a strategic plan to provide the education and skills required for a digital world, focusing on the Southwest region of the Commonwealth

Goal 1: Develop programs to address Virginia's teaching shortage

Bachelor of Science in Education
During the 2015-16 school year, the national teacher shortage was estimated to be approximately 64,000 teachers[2], a number that has more than doubled in the last two years.[3] Trends in Virginia reflect a similar dramatic increase in the need for teachers. The number of unfilled teacher positions across Virginia has increased by 40 percent in the past 10 years. In October 2016, over 1,000 fully-funded teacher positions remained vacant in districts across Virginia.[4] Additionally, the Virginia Department of Education's 2018-19 Critical Shortage Area list cites Special Education and Elementary —which in Virginia includes Early Childhood—as the top two critical shortage areas in the Commonwealth.[5]

UVA recently received approval for Bachelor of Science programs in elementary education, special education, and early childhood education (BSEd). The new degree program will decrease the number of years required to become a teacher, and it will reduce costs to teachers. Students will also be spared the additional expense of graduate study.

In addition, many classrooms in Virginia are staffed by teachers who are not yet fully certified. Uncertified teachers are defined as those who are working toward certification but have not yet met the state requirements for a professional teaching license. UVA's BSEd Teacher Education program will provide high-quality preparation that ensures graduates have met all certification requirements and are eligible for a professional license upon graduation.

We also propose consideration of a pilot teacher loan-forgiveness program for BSEd students that would draw attention to the new degree program and reduce the debt burden that may deter graduates from entering the teaching profession. The Commonwealth's program could offer loan forgiveness to teachers who serve for a minimum of five years in Title I, low-performing, or hard-to-staff schools that do not meet federal program requirements. Further study is needed to estimate the cost of the proposed loan-forgiveness program.

[2] LPI Analysis of Civil Rights Data Collection, Public-Use Data File 2013-14, National Center for Education Statistics
[3] EPI analysis of Current Employment Statistics public data series and U.S. Department of Education (2015): http://www.epi.org/publication/teacher-employment-may-have-weathered-recent-storms-but-schools-are-still-short-327000-public-educators/
[4] Executive Directive 14 (2017), December 11, 2017 http://www.doe.virginia.gov/news/news_releases/2017/12_dec11_gov.shtml
[5] Critical Teaching Shortage Areas in Virginia http://www.doe.virginia.gov/teaching/workforce_data/index.shtml

Goal 2: Expand programs that facilitate ways of preparing and retaining high-quality teachers

Curry School Teaching Fellows
Traditionally, teacher preparation has been the work of universities, while induction into the profession and mentor-based teacher training have been the work of the school divisions that hire new teachers. Now, Curry School faculty, staff, and alumni are partnering to bridge the gap between teacher preparation and teacher induction through the Teaching Fellows program. Early results are promising: placement rates have improved and turnover rates have decreased. The program has been warmly received by partner schools, in part due to the high cost associated with each separation, recruitment, and training of a new teacher, estimated by the Learning Policy Institute at $20,000 per turnover.

Partnerships between the Curry School and public schools in Albemarle County, Augusta County, Chesterfield County, Frederick County, Goochland County, and Virginia Beach City facilitate a new way of preparing and retaining high-quality teachers. Each school division selects from among Curry teacher candidates in its areas of critical need (e.g., middle school, STEM, special education, and elementary education) and from among those who best represent the student populations they will serve. The school divisions hire "fellows" for a year-long residency that incorporates both the traditional fall student-teaching semester and the following spring semester as well.

During the year, fellows work in instructional support roles and as co-teachers under the guidance of mentor teachers carefully identified by school division leadership and trained by Curry School faculty members. They also receive four semesters of individualized, systematic coaching, helping them to refine their teaching practices for the entire year of the fellowship and their first year of teaching.

The Commonwealth has offered funding to support these programs in the past. Sustained funding would allow UVA to attract more student teachers and engage more fellows in Virginia schools. Each fellow will receive a full-tuition package and a one-year living stipend during the teacher preparation year, together estimated at $35,000 per fellow per year, although stipends vary widely depending on the school division. Upon receiving a fellowship, fellows will sign an agreement providing that they will:
- successfully complete UVA's Master of Teaching program—including all VDOE licensure requirements—prior to beginning the required service;
- serve as a full-time teacher for no fewer than three academic years immediately after successfully completing the Master of Teaching program; and
- teach in a shortage area in a high-need school in their host school division.

Classroom Simulator
Improving teacher preparation and teacher professional development in the Commonwealth of Virginia would have broad and deep benefits to talent development. Using a simulated (i.e.,

virtual) teaching environment, the Curry School is seeking to rigorously determine how teacher education programs can better prepare aspiring teachers to provide effective instruction on their first day in the classroom. Given teacher shortages and low enrollment in teacher preparation programs across the United States, it is essential that we thoughtfully design teacher preparation programs so they are built around evidence of what does, and does not, make for an effective teacher from day one.

Flight simulators, medical patient simulators, and first-responder simulators provide useful examples for what may become a simulated teacher training environment for Virginia's teachers. Even as we test the best simulator available to educators today, we are designing a new approach to simulation that will improve outcomes for teachers.

With additional support, we could expand use of our simulator to provide practicing teachers across the Commonwealth with high-quality, online, personalized professional development. Teachers could select from evidence-based training options in areas of great need including, but not limited to, positive behavioral interventions and supports (PBIS), counselor education, trauma-informed teaching, parent-teacher conferences, and instruction focused on students' strengths.

Additional support for a classroom simulator would also allow us to engage student teachers in ways that would prepare them for success on day one. Unlike teachers who train in conventional programs, our teachers will have opportunities to test and re-test techniques with virtual students. Unlike the challenges of real-time instruction, we can stop instruction, redirect, rewind, and retry. Participants improve skills quickly through repetition and the opportunity to apply several approaches to the same task in short order. Simulations are based on real classroom experiences and are designed to challenge teachers to build on strengths and address existing weaknesses.

Students and teachers from across the Commonwealth could participate in training and simulation development. UVA will offer training to 200 teachers in the inaugural year and 400 teachers in the second year at an estimated cost of $500 per participant. On-going annual support in the amount of $90,000 would provide funding for the necessary licensing and related personnel support, resulting in estimated total costs of $190,000 in FY2021 and $290,000 in FY2022.

Center for Teaching Excellence (CTE) at UVA-Wise
The Center for Teaching Excellence at UVA's College at Wise provides outreach, continuing education, and professional development for preK-12 educators through workshops, training, and coursework. In addition, as a core part of its mission, the CTE works directly with provisionally-licensed teachers to fulfill the mandated coursework requirements for full licensure. In 2017-18, the CTE worked with 1,050 provisionally-licensed teachers.

During the 2018-19 academic year, the CTE enrolled over 1,900 Virginia teachers in over 160 course sections. This represented an increase of over 10% in enrollment compared to the

previous year, reflecting historic trends in CTE enrollment. Since 2008, the CTE has served over 22,000 preK-12 educators. As a result of our tuition reduction program for licensed teachers in Virginia, we have saved educators and school divisions over $6 million.

The CTE's current enrollment target projects a 10 percent growth per year over the next two years to reach 2,300 teachers. We are entering a critical transition period as we restructure programs to address recent legislative changes. Specifically:
- (1)   The teaching licensure requirements were rewritten last year and will affect all new provisionally-licensed teachers, creating the need for a transition period during which the CTE will continue to offer courses to meet the previous requirements as current license holders complete their coursework, while also developing and implementing the curriculum required for newly-hired teachers.
- (2)   With the elimination of the credit-bearing course requirement for teacher recertification, the CTE will develop non-credit options that have the potential to reach significantly more teachers.

Additional funding in the amount of $76,500 for FY2020-21 and $72,000 for FY2021-22 would provide the additional investment required to meet the CTE's targeted enrollment growth over the next two years and to address the two programmatic initiatives highlighted above. Additional funding would be used to support curriculum development, conference presentations, and an additional staff member, among other related costs.

Goal 3: Create and deploy statewide a system of curricular and teacher resources to ensure K-12 students learn computer science skills

K-12 Design Academy
Computer science (CS) is the backbone of many crucial aspects of today's society. Despite national efforts to encourage preK-12 CS education and the many resources that have been developed to help students gain greater understanding of the fundamentals of computing, the transformative potential of CS in preK-12 settings has not yet been fully achieved, especially for female students and students from traditionally under-represented backgrounds in STEM. A critical factor for encouraging participation in CS is the dearth of quality CS teacher preparation or professional development opportunities. The Commonwealth has recognized the need for all students to learn CS, and new Virginia CS K-12 standards require all students to have CS experience. To meet these new standards, the Commonwealth must support its existing practitioners and upcoming teachers.

With state investment of $548,100 in FY2020-21 and $553,000 in FY2021-22 (and $553,000 in FY2022-23), the Curry School will work with other schools of education in Virginia to develop K-12 educational materials and training opportunities to prepare the Virginia workforce for the digital future, including professional development for K-12 teachers to integrate coding and other skills, and a repository of vetted CS curricular materials. The proposed K-12 Design Academy would complement the professional development workshops offered through CodeVA by focusing on strengthening CS in teacher education, as well as advancing research on student and teacher learning of CS. The Academy would develop teacher education programs

and certificates offered by the Curry School to address requirements for teaching CS and prepare all preservice teachers at UVA to understand computational concepts as part of their training. The Academy would be a collaboration with faculty in the CS department at UVA who have a long history of providing professional development to teachers at a national level focused on promoting diversity and access to computer science. The Academy would also leverage Curry School faculty with expertise in STEM+CS student and teacher learning, as well as experience conducting and researching STEM+CS professional development and student learning of STEM+CS concepts.

Southwest Virginia Education Blueprint for the Digital World
The technologies connecting today's global economy provide access to unprecedented economic opportunity for rural, underserved communities. Trained and connected people in rural communities may now become part of a global workforce, and access to rural broadband opens employment opportunities. As Southwest Virginia continues to grow its information technology workforce, the region is leveraging assets critical to successful technology operations. Key to the region's growth in the information technology sector is the expansion of technology programs offered at UVA-Wise. In support of the Commonwealth's efforts to meet the needs of employers in the information technology sector, UVA-Wise is implementing several strategies to increase the pipeline of students into technology programs and harness technology and the digital age to improve student success and global competitiveness. With support from a UVA Strategic Investment Fund grant, UVA-Wise has engaged an early intervention coordinator to identify students who are struggling in math or programming courses and connect them proactively with tutoring resources. UVA-Wise has also added faculty to support cybersecurity courses, enabling the creation of programs and activities that appeal to students pursuing information technology degrees, such as cyber competitions, international cyber/ entrepreneurship residential camps, and a student cybersecurity club. UVA-Wise anticipates that these initiatives will help its efforts to recruit and retain students interested in technology-focused degrees and careers.

A common refrain and misconception today is that "technology permeates all facets of life." Another is that Millennials and Generation Z are "digital natives." These refrains may be true in affluent urban epicenters around the United States; however, in many rural regions around the country, technology is absent or limited in homes, schools, and workplaces.

The goal of the proposed Southwest Virginia Education Blueprint is to develop a regional workforce strategy that will provide the education and skills required for a digital world. This strategic plan will serve as a roadmap for educators, employers, state and federal agencies, legislators, and others as they consider programs, policies, resource deployment, and economic development opportunities in Southwest Virginia. Through the Appalachian Prosperity Project that has developed blueprints for entrepreneurship, advanced manufacturing, and health, UVA-Wise and UVA will convene key strategic stakeholders employing their expertise and experience to consider the unique challenges and opportunities of the region. The blueprint will serve as a comprehensive plan for the region to define priorities and guide actions, inventory existing programs, and outline steps to leverage existing assets to fill identified gaps. The

development process of the blueprint will begin in winter 2020 with an estimated cost of $22,000 covered with existing institutional resources (the cost of implementation will be defined during this process and may result in a future funding request).

Post-secondary/Higher Education

Goal	Initiative	Performance Metrics
(1) Increase degrees awarded in computer science-related fields	– Tech Talent Proposal[6] (increase number of Bachelor and Master's degrees in Computer Science)	– Meet degree targets as outlined in Tech Talent proposal (pending approval)
(2) Provide degrees and certificates to meet increased demand for workers with data science skills	– Certificates and online Master's Degree Program in Data Science	– By FY2023-24, generate at least 400 undergraduate certificates in Data Science annually and confer 90 master's or doctoral degrees annually
(3) Expand student internship opportunities with Virginia employers	– Internship Placement Program – Online Comprehensive Skill Development with Internship – WiseWorks – Hire Virginia	– Expand internship opportunities at UVA from 200 to 500 by FY2022-23 and at UVA-Wise from 15 to 55 by FY2021-22 – Conduct pre- and post-assessments to measure skill development and evaluate student intern performance – Measure post-graduation job placement rates of students participating in internships – Increase number of localities served by Hire Virginia from one to eight by FY2020-21
(4) Expand programs that help adults with some college credit complete their degree	– Bachelor-completion programs (e.g., Bachelor of Interdisciplinary Studies and Bachelor of Professional Studies programs)	– Performance metrics, including specific enrollment targets, are in progress and a proposal will be completed in fall 2019 focusing on increasing the number of degree-completion programs and addressing gaps in educational attainment for under-represented students

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[6] UVA submitted Tech Talent proposal on 05.03.19; College at Wise preparing proposal to submit on 11.01.19

Goal	Initiative	Performance Metrics
(5) Develop a future-ready workforce through reskilling and upskilling programs (provide key skills needed by businesses located in Virginia)	– Noncredit certificates – Technical training programs in high-demand fields (e.g., coding, data analytics, cybersecurity, financial technology)	– Performance metrics, including specific enrollment targets, are in progress and a proposal will be completed in fall 2019 focusing on increasing the number of Virginians completing noncredit certificates at UVA
(6) Provide ongoing post-baccalaureate education to meet evolving workforce needs	– Executive education offerings	– Track enrollment in executive education programs against market demands

Goal 1: Increase degrees awarded in computer science-related fields

Tech Talent Proposal
UVA submitted its Tech Talent proposal on May 3, 2019, committing to increase undergraduate degrees, master's degrees, and certificates in fields designed to prepare our graduates for careers in the new economy. The College at Wise is preparing to submit a Tech Talent proposal on November 1, 2019.

Goal 2: Provide degrees and certificates to meet increased demand for workers with data science skills

Certificates and Online Master's Degree Program in Data Science
Through the existing Data Science Institute, the Master of Science in Data Science program offers an 11-month integrated curriculum that focuses on real-world learning and interdisciplinary knowledge. UVA has been pursuing and will continue to pursue educational opportunities that will meet the needs of the future workforce, and data science is a critical piece of that effort. As a result of a $120 million gift from a generous alumnus, UVA is working to establish a new School of Data Science (pending state approval), which will enormously expand the University's and the Commonwealth's capabilities in this and related areas. While most of the money is reserved for two purposes: (1) building a facility to house the new school including instructional space, and (2) endowing faculty positions, a portion of the gift will also be used to fund graduate assistantships and postdoctoral positions. Pending SCHEV approval, UVA will create an enrollment plan for the School of Data Science to address the needs for tech talent and other University and Commonwealth priorities (e.g., addressing the teaching shortage). By FY2023-24, the University anticipates generating a minimum of 400 undergraduate certificates in Data Science annually, and seeks to produce an additional 90 new master's or doctoral degrees annually.

Data Science is a strategy in UVA's six-year plan, and related funding information is included in the academic financial plan.

Goal 3: Expand student internship opportunities with Virginia employers

Internship Placement Program
The Career Center currently administers the Internship Placement Program—a credit-bearing academic class plus internship placement in local businesses, start-ups, and non-profit organizations. Placements may last for a semester, academic year, or summer. The associated course educates students on organizational behavior and dynamics; employer-led tracks within the courses allow students to acquire additional knowledge in areas like Agile/Project Management, Strategy and Design, and Healthcare. Currently, 200 students participate each year, with placements at 120 locations, primarily in Charlottesville. With additional resources to recruit more companies and teach more sections of the academic class, the program has the potential to reach 500 students by academic year 2022-23. One barrier to the program is that low-income students cannot afford to participate, especially in summer internships, because they need income from part-time work and/or living expenses. For those who qualify, the program needs the ability to provide a stipend to low-income students that will enable them to participate in the internship program. Estimated costs for these stipends are $1,500 per semester during the academic year and $4,000 for a summer internship. The total resources needed to expand would be one business development officer at $150,000 and stipend funding for low-income students estimated at $60,000 annually.

Online Comprehensive Skill Development with Internship
A comprehensive, integrated approach would meet the needs of UVA students and help them develop skills that employers need, while engaging alumni at a deeper level. A comprehensive program will, on the student side, help narrow the skills gap, create more experiential education opportunities, and enhance student self-discovery. On the employer side, the program will create more engaged alumni partners who sponsor internships and serve as mentors. The proposed program includes an online learning component through Radify. Skills developed through Radify include data science, design, software development, and more. Upon completion of the 4-week online program, students would attend industry-focused academies that immerse students into experiential, case-based programs to educate them on disciplines like healthcare, business, and analytics, taught on-location by alumni and employer partners. Finally, these students would then be placed in a UVA-sourced, credit-bearing internship for the summer or an academic semester to enhance and deepen their learning. We are currently piloting this program with 50 students using institutional resources to cover Radify's per-student fee and to provide each intern a $1,200 stipend. Expanding this program to 200+ students per year would require one full-time staff member at $100,000; in addition, the University requests $200,000 to provide a portion of the stipend needs each year. In awarding stipends supported by the Commonwealth, preference will be given to students with demonstrated need. The remaining stipend and program costs would be covered by employers and other partners, as well as by institutional resources. The role of the staff member would entail course planning, curriculum development around high-need skill areas, student registration, completion tracking, coordination and facilitation of team and individual projects that engage employers and industry partners, and development of transition plans for students following completion of the program.

WiseWorks

UVA-Wise offers WiseWorks, an internship program coordinated through the Office of Career Discovery and Planning and the Office of Economic Development and Engagement. This program is designed to incentivize the creation of paid internships for UVA-Wise students. The program's goal is to place students in internships with technology companies with a long-term goal of offering paid internships to students across all disciplines. Typically, the cost of the internship is shared between UVA-Wise and the employer of record. To date, students have been able to complete internships virtually and several have received and accepted job offers after their internships ended. Given the success of the program with technology companies and the expanding need for talent beyond technical skills into communications and marketing, UVA-Wise seeks to expand the WiseWorks program, which currently funds internships for 15 students in technology fields, to serve an additional 40 students phased-in over two years for those enrolled in non-technical fields. The estimated cost to expand WiseWorks is $50,000 the first year for 20 additional students and $100,000 the second year for an additional 20 students (for a total of 40 new students over the biennium), averaging $2,500 per student.

Hire Virginia

Hire Virginia is a state-wide recruiting partnership designed to engage Virginia-based university students with employers in various geographies around the Commonwealth. All students who attend a Virginia college or university are invited to attend the event, and may participate in an Interview Day, Career Fair, and additional events that help promote the location's culture and community. This program was piloted in 2018 in Hampton Roads, with positive feedback from local Economic Development Authorities, Chambers of Commerce, companies, and students. The pilot event engaged 40 companies across Hampton Roads and more than 250 students. In addition to a career fair, the program leveraged a centralized job and internship portal that was shared by students across the partnering universities.[7] The cost of expanding this initiative to four cities in 2020 and eight cities in 2021 would be $50,000 and $100,000, respectively. This funding would cover the administrative support for the events, as the actual event costs are borne by the companies and locations. The pilot event hosted in fall 2018 raised $45,000 through employer fees and Economic Development sponsorships.

<u>Goal 4: Expand programs that help adults with some college credit complete their degree</u>

Bachelor-completion programs (e.g., BIS and BPS programs)

As the world evolves, people across the Commonwealth of Virginia and the nation will have increased needs for developing skills to help them prepare for new jobs or career advancement. UVA will greatly expand educational opportunities, both in person and online, for working adults in the Commonwealth and beyond—especially the 1.1 million Virginians who have some college credits but have not yet received a degree. Through our many schools, UVA will continue to address these needs and develop a central portal through which people, including our own staff seeking to gain additional skills and knowledge for career advancement at UVA, can discover our diverse offerings.

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[7] UVA, James Madison, Norfolk State, Old Dominion, Radford, VCU, Virginia Tech, William and Mary

Through the School of Continuing and Professional Studies (SCPS), UVA will create a model to scale the bachelor's completion program and provide a high-quality, easily accessible, and affordable education. A major Commonwealth-wide initiative around Bachelor completion offers an opportunity to learn from and partner with other academic institutions including community colleges, other four-year colleges, and emerging, non-traditional providers; and will:

- Anchor UVA's community engagement strategy and serve new populations of students beyond UVA's Charlottesville Grounds, including Southwest Virginia and UVA-Wise.
- Offer high-quality, flexible, and affordable online and in-person education.
- Leverage UVA's strength in undergraduate education to propel more students in their lives and careers.

The University's bachelor-completion initiatives appear as a strategy in the six-year plan, and related funding information is included in the academic financial plan.

Goal 5: Develop a future-ready workforce through reskilling and upskilling programs

Noncredit Certificates and Technical Training Programs in High-Demand Fields
UVA is also exploring the feasibility of developing non-credit certificates and programs that build on SCPS' strengths and support Virginia's goals to develop a competitive, future-ready workforce for all regions of Virginia. Currently, the University is evaluating strategic partnership opportunities that will allow SCPS to offer boot camps that provide technical training in high-demand fields such as coding, data analytics, cybersecurity, and financial technology. We are also evaluating a set of noncredit certificates that are responsive to employer needs and help Virginians advance their careers. The goal for this initiative is to expand SCPS noncredit program offerings in order to help Virginians who are under-employed or seeking a career change develop the skills and competencies that employers are seeking.

Goal 6: Provide ongoing post-baccalaureate education to meet evolving workforce needs

Executive Education Offerings
Northern Virginia provides a significant opportunity to increase our impact by growing our research footprint, reaching more students, and developing new partnerships. Anchored by our business, engineering, data science, and medical schools, the emerging grounds in Northern Virginia will offer graduate and professional degree programs, certificates in high-demand fields, and expanded research capacity.

An executive education, professional services hub based in Rosslyn will present the following opportunities:

- A collaborative executive education and lifelong learning capability that leverages a large, unmet demand for continuing credentialing and education while working;
- A public-facing research unit supporting sizable market demand for data-based, policy-related research, with the ability to serve corporate and government clients;
- A suite of graduate and professional programs combining units from business, engineering, and data science schools;

- Degree and non-degree educational programs that respond to unmet demand in emergent fields such as artificial intelligence, cybertechnology, data science, internet of things, and information security;
- Related STEM/Data Science programs, combined with business and management education; and
- Research programs that leverage the developing clinical, behavioral, population, and survey capabilities at the Inova Fairfax site.

An integrated cluster of clinical, health, and population research, education, and commercialization efforts based at Inova Fairfax will facilitate the following offerings over the longer term:

- A research center leveraging intellectual assets from data science, medical engineering, and systems engineering;
- Infrastructure and space co-located with a medical center to support related research activities (e.g., behavioral research spaces, a survey research office, and computer-aided design and manufacturing); and
- Given UVA's collaboration with Inova, potential educational programs in nursing and public health.

UVA's Commitment to Access and Affordability

Through AccessUVA, UVA offers admission on a need-blind basis, meets 100% of demonstrated financial need, and minimizes student debt after graduation to make the University accessible to students, regardless of socioeconomic status. The University's new strategic plan sets out SuccessUVA as a key initiative that will not only expand our financial aid offerings for Virginians and non-Virginians who attend UVA, but also make higher education in general more accessible for Virginians. The University intends to further limit overall debt, provide tuition predictability for families, and expand experiential learning opportunities for students with financial need. In particular, UVA seeks to reach more underserved students, including low- and middle-income and first-generation students; community college transfers; military veterans; racial and ethnic minorities; and students from other under-represented populations.

No Loans for Low-Income Students

The University will remove loans from the financial aid packages for our students from low-income households, defined as having total income at or below two times the federal poverty level (e.g., $51,500 for a family of four). This action will eliminate need-based borrowing (currently up to $4,000 over 4 years for Virginians who qualify) and should enable the University to reach and enroll high-achieving students concerned about taking on debt in order to attend UVA. Given UVA's current student profile, we expect that the total cost to eliminate loans for low-income Virginians will be about $1 million annually.

In addition, for the 2019-2020 year, the University enhanced its financial aid program with two new commitments. First, Virginia students with family income up to and including $80,000, and with typical assets, will receive grants equal to their tuition and fees. Second, Virginia students with family income up to and including $30,000, and with typical assets, will receive grants equal to tuition, fees, room, and board.

Stipends for Internships/Experiential Learning Opportunities

As noted above, one barrier to participating in summer internships and other experiential learning opportunities for some students is the associated costs (e.g., housing, living expenses, etc.). For qualifying students with demonstrated need, UVA will initiate a pilot program that will provide stipends to help defray costs associated with participating in summer internship and other experiential learning opportunities. Associated costs for this initiative are described above in the Internship Placement Program and Online Comprehensive Skill Development with Internship sections.

Guaranteed Tuition Plan

The University currently offers an optional four-year tuition guarantee plan. We will explore the possibility of implementing a cohort pricing model for the 2020-21 academic year, where an entering class will pay the same annual tuition for four successive years. The approach would provide predictable tuition rates that allow students and families to better understand their financial commitment for their entire undergraduate career.

[Virginia College Advising Corp](#)

UVA launched the Virginia College Advising Corps (VCAC) in the fall of 2005 as a public-service program to address the widening gap in college access for low-income, first-generation, and under-represented students. VCAC's mission is to increase the number of these students entering and completing higher education. VCAC places recent college graduates, primarily from UVA and UVA-Wise, in high schools across the Commonwealth. These near-peer college advisers assist high school students and their families with college searches, essay writing, SAT/ACT prep, college applications, FAFSA completion, scholarship searches, college visits, and successfully transitioning to post-secondary education. College advisors serve full-time in their placement sites for two years, become mentors within the school setting, and are often the key person providing encouragement for students to persist in their education beyond high school. In the 2019-20 academic year, 41 advisors will serve 47 partner high schools.

VCAC has a proven track record of success including, but not limited to, the following outcomes/results:

- Over time VCAC partner high schools see an average increase in post-secondary enrollment anywhere between two and 17 percentage points, with a program average of nine percentage points.
- VCAC erases the achievement gap for low-income and under-represented students in key college-going milestones including successfully submitting a college application and completing the FAFSA.
- In 2017-18, 28 college advisers served just under 5,800 seniors, directly helping 3,082 students to enroll. Indicative of the program's central tenant of finding the best match and fit for students, of the 53 percent enrollment rate, 29 percent enrolled at four-year institutions and 24 percent at two-year institutions.
- In 2017-18, advisors helped to bring over $48 million in institutional aid and $7.5 million in scholarships to students in localities across the Commonwealth. In 2018-19, VCAC is on track to help students leverage over $60 million in institutional aid and $9 million in scholarships.

- The data-driven, results-oriented approach to college advising has resonated in high schools across the Commonwealth, and VCAC has expanded from 13 advisors in 2012 to 41 in 2019. High schools frequently contact VCAC to request partnership.

The VCAC program served as a model for the national College Advising Corps, now present in 16 states and over 700 high schools. And as college enrollment rates in the U.S. have declined for eight consecutive years, other state legislatures have been investing in College Advising Corps programs due to their proven results in postsecondary enrollment, which in turn leads directly to enhanced economic development. For example, Texas provides $2 million annually in support of 110 advisers; North Carolina is implementing these programs in all 100 counties across the state; and in November 2018, Utah announced that it was expanding its presence into every public high school.

In addition, several of the recommendations in SCHEV's recent report entitled The Cost of Doing Nothing around outreach and advising link directly to VCAC's mission:
- Offer college-readiness and financial literacy programs for families of middle and high school students as a resource for postsecondary planning.
- Scale a case management/social worker intervention model to provide support to students, especially first-generation students, in navigating college processes (e.g., structured counseling/coaching in decision-making and strategies for success).
- Foster mentoring programs that target and support specific types of students/needs.

Expanding the VCAC program would not only help address several of the recommendations of The Cost of Doing Nothing report, but will also help Virginia meet the challenge of becoming the best-educated state in the nation by 2030. To help in these efforts, VCAC seeks to further expand its outreach to additional districts and high schools in the Commonwealth. The goal is to add 29 advisors over a three-year period; by the end of FY2023, VCAC would have 70 full-time advisors and be able to serve more than 15,000 high-school seniors annually. VCAC will use the SCHEV college access resources study to target districts for expansion, and work closely with the Department of Education and the Secretary of Education to assess statewide needs and prioritize placement of the additional advisors in the districts with the greatest needs. The near-peer, full-time advising model works in both urban and rural districts, and in all geographic regions of the Commonwealth. One of the keys to success is the recruitment of outstanding college advisers.

The estimated cost for each additional advisor is approximately $50,000 annually, resulting in a total ongoing cost of $1.45 million to hire an additional 29 advisors. UVA requests state general funds for one-quarter of the annual costs—or $12,500 per advisor. Based on the proposed phased implementation, the GF request is $112,500 in FY2021 for nine additional advisors, $237,500 in FY2022 for 19 additional advisors (nine from the previous year plus 10 more), and $362,500 for 29 additional advisors in FY2023 and beyond (19 from the prior two years plus 10 more). The remaining costs will be raised by VCAC through a combination of private philanthropy, federal, institutional, and school system funding.

To date, VCAC has primarily, but not exclusively, recruited graduates from UVA and UVA-Wise for these roles. As part of the proposed expansion, VCAC will continue to build and enhance partnerships with other institutions of higher education in the Commonwealth to recruit, hire, and train their graduates to serve as VCAC advisors, providing them with valuable public service experience and assisting them launch their future careers.

VCAC will assess the impact of the proposed expansion through the following metrics:
- Hire and place 29 additional advisors by FY2022-23 for a total of 70 advisors serving high schools across the Commonwealth (9 advisors in FY2020-21, 10 additional advisors in FY2021-22, 10 additional in FY2022-23).
- Increase number of low-income, under-represented, and first-generation students served by VCAC by approximately 8,000 students by FY2022-23 (after full implementation of growth plan).
- Track increases in postsecondary enrollment rates among partner high schools (expect increase between two and nine percentage points over time).

UVA and UVA-Wise Deferred Admission Agreement
A pilot program implemented for the 2019-20 academic year provides Virginian applicants placed on the UVA waitlist for the College of Arts and Sciences an opportunity to enroll at UVA-Wise for one year. After completing 30 hours of transferrable credit at UVA-Wise with a 3.0 cumulative GPA or better, if they desire, students will be automatically transferred to UVA's College of Arts and Sciences. To date, 23 students have committed to UVA-Wise for the 2019-20 academic year. We will review the results of the pilot year, as well as the criteria for automatic transfer, to determine whether the program should be extended beyond 2019-20.

Reduced Tuition for Residents of the Appalachian Region
UVA-Wise is situated centrally within the Appalachian Region and in the southwest corner of the Commonwealth. Rural Virginia is experiencing an aging and declining population base, while at the same time, Virginia's K-12 enrollment is stagnant. This creates a challenge. Given the unique nature of the primary service area of UVA-Wise, it is important for UVA-Wise to provide academic opportunity to the citizens just across our state boundaries who are a significant component of our regional economic base.

To help address this issue, in 2019 the General Assembly passed legislation amending § 23.1-507 of the *Code of Virginia*, allowing the Board of Visitors to enact a reduced-rate tuition for students who (1) reside within the federally designated Appalachian Region defined in 40 U.S.C. § 14102; (2) are domiciled in the Appalachian Region; and (3) are entitled to in-state tuition charges at a public institution of higher education in the Appalachian Region. This legislation provides a tool for UVA-Wise to enhance enrollment growth while also strengthening the regional workforce, and it increases the engagement zone for UVA-Wise with students who are familiar with the area in which UVA-Wise is situated. Students who attend UVA-Wise often desire to stay within southwest Virginia after graduating. Recruiting students who are "native" to the broader region reinforces this tendency, providing an enhanced workforce for the region. UVA-Wise currently anticipates 25 out-of-state students from the Appalachian Region to enroll for fall 2019, and an additional 75 students to enroll for fall 2020.

Enrollment growth will have a direct economic impact on the region beyond what UVA-Wise itself will experience. Per a recent economic impact study conducted by Tripp Umbach, regional spending increases by nearly $155,000 for every 50 additional students attending UVA-Wise. This spending creates two additional jobs and generates approximately $8,550 in state and local taxes.

The timing of this legislation comes as UVA-Wise is updating and enhancing its marketing efforts. While targeted to students, this will provide additional visibility for the entire region coinciding with regional economic development efforts. The region's diligence in developing its infrastructure is creating a highly-marketable area with a lower cost of doing business. UVA-Wise is seen as a critical piece of this infrastructure, providing employment and, more importantly, educational opportunity.

UVA's "Ask" of the Commonwealth: Enrollment Management Flexibility

Pursuant to budget language first introduced in 2004-05 and still in effect today, public institutions in the Commonwealth are limited in the percentage of out-of-state undergraduate students they enroll. When this language was added to the budget, it simply set a threshold in that year and that figure was not tied to historical averages, to a uniform percentage across the Commonwealth, or to an analysis that would have suggested appropriate ratios across schools in the Commonwealth. The University, therefore, requests that Item 4-2.01[8] be removed from the 2020-2022 biennial budget and future budget bills. Greater enrollment flexibility across all public institutions would benefit the Commonwealth in three ways.

First, it would help attract, develop, and retain talent to the Commonwealth. UVA's academic reputation puts us in a position to attract remarkably strong students from across the country and internationally. UVA is consistently ranked as one of the top public universities in the country, and as a top-tier national university, whether public or private. UVA is also a member of the Association of American Universities, a membership organization composed of the 62 leading research universities in the country, both public and private.

Over the past decade, UVA has seen a steady increase in interest among out-of-state students in attending the University. Applications from these students have increased by 105%—compared to an increase of 54% from in-state applicants. Between 2014 and 2018, 70% of applicants to UVA were out-of-state students. Despite the interest and the talent of that out-of-state pool, UVA must turn the vast majority of these students away. For the class of 2022 (students who entered in fall 2018), UVA's out-of-state offer rate was 21% and the out-of-state yield rate was 24%. Students offered admission to UVA—both in and out-of-state—are a remarkably talented group, with SAT scores averaging 1,430 which is at the top of the nationwide pool.

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[8] This is the relevant provision: "d) The Boards of Visitors or other governing bodies of institutions of higher education shall not increase the current proportion of nonresident undergraduate students if the institution's nonresident undergraduate enrollment exceeds 25 percent. Norfolk State University, Virginia Military Institute, Virginia State University, and two-year public institutions are exempt from this restriction."

The desire to attract talent to the Commonwealth has always been a priority, but it is especially urgent at this moment because the Commonwealth has a flat high school population, combined with high growth in jobs in Northern Virginia. UVA is in a very strong position to attract out-of-state talent and subsequently develop programs such as internships in high-demand areas of job growth that will increase the odds that the talent will stay and contribute to the economic vitality of the Commonwealth.

As Speaker Cox remarked to the GO Virginia Foundation Board meeting in September 2018, "We need to convince talented young Virginians to stay in the state and get their degree or certificate here. And we also need to market our top-ranked higher education system to many more talented out-of-staters. We need to be a magnet for talented Virginians and non-Virginians. And once we recruit, educate, and train them, we need to connect them to good jobs right here in the Commonwealth, so they stay." The University would like to partner with the Commonwealth to focus efforts to recruit these highly talented out-of-state students.

Second, permitting flexibility in the proportion of out-of-state students can be a key strategy to ensuring that all public universities continue to be part of a thriving system of public higher education in the Commonwealth. With flat growth in the high school population in the Commonwealth, the competition for those students among the Commonwealth's colleges and universities intensifies. Greater enrollment flexibility will thus be of benefit to the broader system of public higher education in the Commonwealth.

Third, this could relieve pressure on in-state tuition rates. Over time, given economic downturns and rising costs of mandated government services (e.g., K-12 education and Medicaid), the Commonwealth has understandably had difficulty in keeping pace with growing higher education enrollment and with general cost increases needed to maintain academic quality. In FY2019-20, the state provides just under $9,400 per in-state student at UVA; in 1989-90, the state provided nearly $19,000 per in-state student (in inflation-adjusted dollars). Out-of-state students require no support from the state. Having the option to enroll more out-of-state students could reduce the need to raise in-state tuition to meet costs, thus making UVA one of the very best values in higher education, especially for in-state students.

SECTION I. EVALUATION OF PREVIOUS SIX-YEAR PLAN:

Briefly summarize progress made in strategies identified in your institution's previous six-year plan. Note how additional general fund support and reallocations were used to further the strategies.

RESPONSE:

Priority 1: Making a World-Class Education Affordable
At UVA, the accessibility and affordability of a quality education is based on a student's academic performance, talent and character and not on their ability to pay. The University of Virginia's Board of Visitors authorized AccessUVA, the University's financial aid program, in February 2004 and re-authorized the program in August 2013; AccessUVA is intended to ensure that an undergraduate education at the University is available to all students regardless of their financial circumstances. UVA accepts students on their academic merit, regardless of their ability to pay. UVA is one of only two public universities nationally, and the only public university in the Commonwealth, that has a "need blind" admissions policy and meets 100% of demonstrated need (for U.S. students). This program is a cornerstone of UVA's commitment to the transformative power of education for all, regardless of means, and AccessUVA continues to be successful in increasing socioeconomic diversity and reducing student loan debt for undergraduate students. This program continues to rightly bring the University significant recognition as the premier need-based aid program for a public institution in the United States.

Under AccessUVA, UVA limits need-based loans over four years to $4,000 for low-income Virginians and $18,000 for all other Virginians who demonstrate financial need. Sixty-six percent of UVA's students graduate with no debt. Of the 34% of students who graduated with debt in 2018, the average need-based debt was $11,159 for in-state undergraduates and $17,467 for out-of-state undergraduates. Some students choose to take additional loans to cover their estimated family contribution or other expenses. When these additional loans are included, the average total debt for in-state undergraduates is $22,706 and for out-of-state students it is $29,767.

In 2016, the University committed $13.5 million to create Cornerstone Grants to provide additional funding for full-time Virginia students who do not receive at least $2,000 in grants. (those with family income less than $125,000 and assets less than $150,000). The University with the support of the Board of Visitors also committed $200 million from strategic funds to establish the Bicentennial Scholars Program to create a permanent, sustainable endowment for need-based scholarships. As of June 2019, the University has raised $153.7 million in private support for undergraduate need based financial aid under the auspices of the Bicentennial Scholars Program.

In addition to meeting demonstrated financial need (about 1/3 of undergraduates), the Board of Visitors is committed to minimizing base tuition increases for all undergraduates and providing predictability for Virginia families with an optional four-year, fixed-price base tuition. Perhaps most critical to ensuring affordability for all, the University's outstanding graduation rates ensure that the vast majority of UVA students (89%) graduate with a degree in four years. That

proportion increases to 94% when a six-year graduation rate is considered. These graduation rates are the highest among public universities in the Commonwealth and among the highest nationally. The University's commitment to affordability is recognized regularly in national rankings; most recently, UVA was named the second Best-Value Public University for 2019 by *U.S. News and World Report*, the Best Value Public College by the 2018 *Princeton Review*, and the seventh Best-Value Public College by *Money Magazine*.

Priority 2: Assemble a Distinguished, Diverse Faculty
Over the past two years, several University initiatives to recruit and support a distinguishing, diverse faculty have been productive. This is particularly true for the University's Cluster and ToPs (Target of Opportunity) hiring initiatives. These two initiatives were meant to complement and supplement the traditional faculty hiring processes. The Cluster program provides incentives for schools or departments to collaborate in their hiring efforts when they seek to fill faculty positions in interdisciplinary fields with the potential for broader social impact. The ToPs initiative seeks highly sought-after scholars – individuals who are not on the job market but would enhance UVA's faculty excellence if successfully recruited.

To date, the University has hired 35 faculty members into 14 clusters and made 9 ToPs hires. Overall, these programs have resulted in hiring more faculty whose expertise crosses traditional disciplinary boundaries, and whose research has the potential to have broad social impact. From autism to cloud-scale data analytics, from resiliency in the face of environmental change to cybersecurity, faculty hired through these initiatives are on the cutting edge of solving real world problems.

In addition to these two programs, the University has taken measures to offer more competitive start-up packages and significantly expanded our Dual-Career Program (DCP). Beginning in FY2017, the University committed to funding 50% of the start-up costs for incoming faculty members teaching in the undergraduate schools. In FY2017 and FY2018, the University contributed a total of $17 million to start-up packages, and the total is projected to rise to just under $25 million by the end of the current fiscal year. This one-time investment has enabled UVA to offer competitive packages to over 200 faculty members over the past three years. The UVA Dual-Career Program assists the spouses and partners of current and prospective UVA faculty who are seeking employment in the Charlottesville area. This year, the DCP worked with over a hundred partners and spouses, 85 of whom were new to UVA, and launched two websites.

The University has continued to deliver effective faculty leadership development programs that foster and support faculty leadership at the departmental, school, and University levels. Our signature program, Leadership in Academic Matters, annually serves 60 individuals, faculty and academic leaders, from across the University. In addition, we offer regular workshops and retreats for department chairs and deans to support them in their roles as both leaders and mentors to their faculty.

Priority 3: Implement the Quality Enhancement Plan (QEP)

The goal of the University's QEP is to create a culture of writing, typically known as Writing across the Curriculum (WAC). In this culture, students expect to be challenged and guided in their writing endeavors; faculty members recognize that writing is crucial to a strong education in any discipline; and administrators expect students and faculty to place writing at the center of the institution's collective search for knowledge.

Building on a new universal first-year writing requirement that began in the University's College and Graduate School of Arts & Sciences in the fall of 2017, the QEP focused on three interrelated areas: faculty preparation, curriculum, and infrastructure support.

Of primary importance in supporting these efforts has been the hire of a Director for Writing Across the Curriculum, T. Kenny Fountain. Starting in the summer of 2018, Mr. Fountain's primary charge is to support and facilitate his faculty colleagues' work across Grounds to generate models of writing instruction and course curricula tailored to disciplinary conventions. Mr. Fountain also collaborates with academic departments to provide easily accessible tools and information via the web designed to support faculty writing instruction.

Faculty members also receive support and preparation from the Academic and Professional Writing Program, housed in the University's College and Graduate School of Arts and Sciences. Each summer, this program offers a week-long seminar in the Teaching of Writing, designed to assist faculty in developing effective writing instruction. Of the 16 faculty members who participated in May of 2018, all reported increased confidence in teaching writing. An additional 16 faculty members participated in 2019.

The primary infrastructure support required to achieve the QEP's goals is the creation of online learning platforms to facilitate student writing and enable peer review. In addition, and consistent with Writing Across the Curriculum pedagogy, robust online resources will be made available to faculty to provide guidance on ways to improve undergraduate student writing, with emphasis on writing unique to disciplines. To this end, the University has identified a priority list for technology infrastructure and begun to pilot a set of tools.

The University set up a formal plan for assessing the impact of the QEP. This includes pre- and post- surveys to assess student and faculty perceptions related to writing, as well as concrete changes in the curriculum and course enrollments. During the base-line year for the QEP, academic year 2017-2018, the University administered three surveys and gathered other current state information against which to benchmark at a later date.

Priority 4: Research

The University has set an ambitious goal to double its research portfolio over ten years. The strategy to achieve this goal is multi-faceted and includes diversifying the research portfolio, recruiting new collaborative and cross-disciplinary faculty, developing a more robust research infrastructure, and building regional and public-private partnerships while continuing to develop and support pan-University research priorities: (1) bioscience, bioengineering, neuro and

cognitive science; (2) computational systems science and modeling (i.e., Data Science); (3) environment, sustainability, and resilience; and (4) catalyzing transdisciplinary research on infectious diseases worldwide. The University will also pursue additional pan-University or school-specific research priorities, not included above, as faculty expertise converges with opportunities presented by private enterprise, local and state government, the federal government, and/or other strategic initiatives.

Supporting initiatives include, but are not limited to:

- **Increasing research support** from large corporations, small businesses, NGOs, foundations, venture capitalists, state government, local government, and non-traditional federal agencies.
    - University-sponsored research increased 11.5% in FY2018 and is up over 7% through quarter 3 of FY2019.
    - With funds from the Semiconductor Research Corporation, the University of Virginia School of Engineering and Applied Science has been selected to establish a 5-year $29.7 million national center to remove a bottleneck built into computer systems that separates memories that store data from the processors that operate on the data.
    - The University has received nearly $15 million in funding from the Bill and Melinda Gates Foundation over a two-year period to support critical infectious disease and child malnutrition research around the world.
    - The UVA Curry School of Education has been an instrumental partner with the Commonwealth in developing education research and strategies for Kindergarten readiness and literacy screening across the state.

- **Leveraging the UVA Research Park** to serve the local defense and intelligence community, provide a transition zone for successful startup companies, and optimize space allocation for the University.
    - The Advanced Research Institute (ARI) at the UVA Research Park has expanded and gained government approval for its secure operations capabilities, which continue to support industry and government partners.
    - In addition, the non-secure meeting and classroom space has allowed hosting business development meetings with the defense community as well as large training/workshop sessions that bring together government, industry, and academic participants.
    - ARI has continued the "Grounds on the Go" discussion seminar series at the UVA Research Park, featuring multiple UVA researchers and programs.
    - ARI is hosting the Sixth Annual Commonwealth Conference on National Defense and Intelligence. This year's event will draw more than 300 registrants, 50 companies, and 40 government agencies, departments, and organizations. Once again, UVA/ARI is jointly hosting the event with 6 other commonwealth universities: Virginia Commonwealth University, Old Dominion University, Virginia Tech, Virginia State University, George Mason University, and William and Mary.

- o New for 2019, ARI has been working jointly with the National Security Policy Center to develop discussion-based workshops for the national security community that provide the opportunity to bring faculty experts directly to national security challenges.

- **Establishing a research resources center (ResearchNET)** to provide faculty (particularly newly-hired faculty) access to training and support for high-quality targeted proposals to agencies and foundations; to increase large-scale center applications; to support multi-investigator interdisciplinary research proposals; and to develop key research seed funding programs to fill gaps in the research support ecosystem.
  - o The Team supported the development of a successful National Science Foundation (NSF) proposal from UVA-Wise. The proposal from Principal Investigator Josephine Rodriguez, titled "Bridging the Natural Sciences and Liberal Arts to Increase Retention, Graduation, and Career Preparedness," is the largest ever NSF award received by UVA-Wise.
  - o The Team provided proposal development support for the successful proposal to the William M. Keck Foundation submitted by Professor Michael Wiener in the Department of Molecular Physiology and Biological Physics. The proposal received a three-year, $1 million award to develop a new and better way to map out the submicroscopic world.
  - o The Team coordinated a successful effort to increase the number of faculty elected as Fellows of the American Association for the Advancement of Science (AAAS). A record five UVA faculty members received this honor in November 2018. UVA sponsored a total of 27 annual memberships in order to strengthen the pipeline of future nominees from the University.
  - o Professor Edward Egelman of the School of Medicine was elected to the prestigious National Academy of Sciences in April 2019.

- **Increasing research and expanding medical translational research**, including cancer clinical trials and focused ultrasound surgery, so that laboratory discoveries are converted into new methods to diagnose and treat illness and augment cancer outreach and prevention activities.
  - o Researchers aim to make diabetes management easier and more effective through the development of automated insulin delivery.
    - An NIH-funded, pivotal clinical trial was completed and will be presented publicly shortly; it is expected this will lead to FDA licensure of this "artificial pancreas" in the next couple of years.
    - Licensing, royalties, and external funding have generated over $30 million in the last 4 years to support this effort.
    - In addition, the faculty-owned company TypeZero Technologies, which was supported by the UVA Venture Fund, was sold to Dexcom and Tandem, creating new jobs and licensing technology that may bring additional royalties to the University.

- o The UVA School of Medicine-funded Translational Health Research Institute of Virginia (iTHRIV) integrates and uses health-related data to improve the health of citizens of the Commonwealth; facilitates connections to bring together corporations, non-profit organizations, public schools, and state and federal health departments to collaborate on health-related research that ultimately will benefit the public; and prepares the next generation of healthcare researchers through education and career development opportunities.
  - ▪ Faculty from the Schools of Medicine, Nursing, Education, Engineering, and the Data Sciences Institute collaborated with colleagues from Virginia Tech/Carilion and Inova Health System to submit a successful UVA-led Clinical and Translational Sciences Award (CTSA) application to the NIH.
  - ▪ The new 5-year award, funded in February 2019, will bring approximately $23 million to this research effort. The team is working with the Virginia Commonwealth University CTSA and others within the state to apply for additional funding for translational projects in several disease areas, including opioid misuse.
- o This year, the University of Virginia Cancer Center was named one of the top institutions in the country for cancer research by the National Cancer Institute (NCI). UVA is an NCI-designated Cancer Center, which comes with a five-year, $15 million grant for research, faculty hiring, and clinical trials.
  - ▪ UVA is preparing to apply for NIH Comprehensive status for its Cancer Center in 2021, which will require robust cancer therapeutics trials and a cancer prevention and control/population research program.
  - ▪ Recent faculty hires in cancer prevention and epidemiology, cancer clinical trials, and cancer cell therapeutics are positioning the institution for the successful application for this award.
  - ▪ During the past 2 years, UVA also launched two initiatives that will better support future cancer clinical trials, including a successful application for Association for the Accreditation of Human Research Protection Programs, Inc. (AAHRPP) accreditation, as well as a streamlining of the start-up procedures for new clinical trials (CR Connect), using Lean processes.
- o In the Neurosciences, the School of Medicine worked within the school and with colleagues across Grounds in the Brain Institute to develop several translational initiatives. In partnership with the Curry School of Education and Human Development, the School of Medicine participated in cluster hires to bring autism researchers to UVA.
  - ▪ The School of Medicine successfully recruited a senior researcher from George Washington who transferred an NIH-funded Autism Center of Excellence to UVA. Faculty from the School of Medicine, Curry School of Education, and College and Graduate School of Arts & Sciences are collaborating to explore additional research and development funding opportunities in Autism research, and plan to partner with the Autism Center at Inova.

- In partnership with the Commonwealth, UVA pioneered the use of focused ultrasound (FUS) as a non-invasive, therapeutic technology that focuses multiple beams of ultrasound energy on a point deep in the body to treat the targeted area without damaging surrounding tissue.
  - This research currently is approved to treat essential tremor and uterine fibroids, and studies using FUS as a potential treatment for Parkinson's Disease and more effective drug delivery to the brain are ongoing.

Supporting initiatives to promote economic development and enhance the innovation ecosystem include, but are not limited to:

- Continuing the **partnership with Inova and the Commonwealth** leveraging Virginia Research Investment Fund strategic resources.
  - In the fall of 2016, Inova and UVA announced a comprehensive research and education partnership to accelerate joint discovery and the application of translational medical research. Approximately 20% of UVA medical students will begin their 3rd and 4th year clerkships at the Inova campus beginning in 2021.
    - The Commonwealth, Inova Health System, the University of Virginia, and George Mason University all agreed to form a comprehensive research partnership. The Virginia Research Investment Committee (VRIC) voted to release $20 million that had been appropriated in the two-year state budget for a building to accelerate Virginia as a leader in global life sciences and research that will also fuel economic growth in the region. The approximate $110 million project that will be financed primarily by $55 million each from UVA and the Inova Center for Personalized Health at the hospital system's campus in Fairfax County.
    - George Mason is contributing $1 million to the project. Research themes are being developed for this effort and include public health sciences, genomics, bioinformatics, bioengineering, and data sciences and health analytics.

- **Accelerating technologies** based on UVA-related research to market through UVA Seed and Venture funds.
  - The UVA Seed Fund has made six initial and two following-on investments (totaling $2.1 million) since its inception.
  - These investments are part of a larger capital raise by our syndicate partners of $33 million.
  - In the past year, the UVA Licensing & Ventures Group (LVG) negotiated several external investments in companies based on University technology.
    - TypeZero Technologies, Inc. is a digital health and personalized medicine company dedicated to revolutionizing the treatment and management of type 1 and type 2 diabetes. The company was acquired by DexCom, Inc. in September 2018 for $13 million, marking the first exit for the UVA LVG

Seed Fund and resulting in a payment to UVA LVG of $397,416 in equity proceeds and $583,655 in patent costs reimbursement.

- Discovered by UVA Professor of Cell Biology and Ophthalmology Dr. Gordon Laurie, TearSolutions' first-in-class therapy is a synthetic form of the protein lacritin which targets the root causes of dry-eye disease. The company is currently conducting Phase II clinical trials.
- Mission Secure, Inc., based on research from the lab of Dr. Barry Horowitz, has created cybersecurity solutions that not only make systems more complex and costly to attack but also take corrective action against cyber-attacks. The now patented MSI Platform provides monitoring, detection and corrective capabilities to the oil and gas, power, transportation and defense industries.
- 510 Kardiac Devices, Inc. is an early stage medical device company co-founded by Dr. Scott Lim of the UVA Health System. The company's device, the Lim Transseptal System (LTS), works to increase the efficacy of operations on the left side of the heart. The company is pursuing FDA approval of the device.
- Ceres Nanosciences, founded by UVA alumnus Ross Dunlap, develops and commercializes innovative sample collection and preparation products based on its proprietary and patented NanoTrap particle technology. In July 2018, the company received Breakthrough Device designation from the FDA for its point-of-care NanoTrap Lyme Antigen Test System.
- BrightSpec, Inc. is a life science instrumentation company based on the research and patented technologies of UVA Chemistry Professor, Brooks Pate. The company is shaping the field of analytical chemistry by commercializing its patented new measurement technique, molecular rotational resonance spectroscopy (MRR).
- DSTI is a medical device company developing a Spinal Cord Stimulation (SCS) product-platform to enhance treatment for chronic back pain and other spinal cord injuries. The company's IP2 technology is based on collaborative research and joint intellectual property from UVA and the University of Iowa.

- Increasing **graduate student enrollment** to support high-priority research areas and build a talent pool in these areas.
  - Consistent with the stated goals of the six-year plan, graduate enrollment has consistently risen in recent years with concentrated growth in areas of high research priority.
  - Since 2015, University-wide graduate enrollment has increased from 6,398 in fall of 2015 to 7,168 in fall of 2018 for an overall increase of 12%.
  - Growth in the School of Engineering and Applied Science accounts for much of this increase, with numbers rising from 680 to 990 over the same period of time—a 46% increase in enrolled students.

- o Maximizing the impact of increased graduate enrollment on economic and societal priorities is actively being supported through the development of PhD Plus, a new initiative intended to help open the aperture of career paths for PhD students across all fields.
- o Funded through a $2.2 million award from the University's Strategic Investment Fund, PhD Plus seeks to conjoin a wide variety of professional skills and competencies with the deep research-based training that is the hallmark of the PhD in order to create a new generation of researchers who are capable of becoming leaders and influencers in every sector and field.
  - ▪ Examples of training modules available through the PhD Plus program include: a Startup Series in commercialization and entrepreneurship; Science Policy; Consulting; and Research Communication. With the program's launch in January 2019, every expectation is that it will contribute significantly to building a consistent pipeline of talent from the University to the larger scientific workforce.

- Increasing **engagement and coordination with other universities** in the Commonwealth of Virginia.
  - o Created a new leadership group of Senior Research Officers (SRO) across the Commonwealth to better coordinate priorities across institutions when communicating with the VRIC and SCHEV.
  - o Leadership role in the Commonwealth Cyber Initiative (CCI), a $25-million statewide initiative. The effort partners higher education institutions and industry to build an ecosystem of cyber-related research, education, and engagement. The goal is to position Virginia as a world leader where cybersecurity meets data analytics, machine learning, and autonomous systems.

- Establishing the **3 Cavaliers (3C) program**, funded by the University's Strategic Investment Fund (SIF), to stimulate and support innovative research.
  - o With support from the SIF, developed and implemented the 3Cavaliers strategic seed-funding program for new, differentiating, collaborative, and cross-disciplinary research through branded "3C" for "Creative-Collaborative-Consequential."
  - o 114 projects were submitted and 77 were funded for a total of $4,530,000 in seed funds awarded to faculty from Medicine, Engineering, Education, Arts & Sciences, Architecture, Commerce, Business, Law, Leadership & Public Policy, Nursing, and the Library.
  - o Created a faculty expertise database with the purpose of faculty expertise discovery for fostering new collaboration on Grounds; contains over 2,700 profiles, which have active data feeds to automatically update sponsored funding, courses, and journal publications, daily.

Priority 5: Enhance the Student Educational Experience
Preparing students to become responsible citizen leaders and professionals requires providing an unparalleled academic and residential experience that supports their graduation and career development interests in a global economy, and their growth as educated citizens. These activities consist of academic, curricular, and co-curricular opportunities.

High-Impact Educational Experiences
The premier example of these efforts, combining academic, curricular, and co-curricular opportunities, is the New College Curriculum implemented by the College and Graduate School of Arts & Sciences. Launched in the fall of 2017 with approximately 500 students in the first cohort, the New College Curriculum is an innovative, comprehensive, and interdisciplinary general education curriculum composed of three main parts: the Engagements, the Literacies, and the Disciplines. The Engagement courses emphasize group work and discussion in a seminar-like environment with some of UVA's best faculty. Students enrolled in the New College Curriculum take two 2-credit courses, or one 4-credit course each semester in their first year. Outside the classroom, students attend a lecture series at the Paramount Theater with leading thinkers and scholars relevant to their current Engagement. In addition, UVA is collaborating with Piedmont Virginia Community College (PVCC) to broaden access to this curriculum and enable transfer students to participate in the Engagements courses. While the Engagements cultivate mindsets that are fundamental to learning in the Liberal Arts, the Literacies equip students with the necessary skills and fluencies needed to succeed in a rapidly-transforming world. The three literacies include: Rhetoric for the 21st Century; World Languages; and Quantification, Computation, and Data Analysis. The Disciplines ask students in the New College Curriculum to explore the varied ways our faculty approach knowledge, learning, and discovery. Students in the New College Curriculum must earn 3 credits in each of the seven discipline categories.

In year two, the second cohort grew to 800 students. Over the next few months the College will complete an official assessment and is anticipating launching a third cohort of over 1,000 students in the fall of 2019.

International Experiences
In addition to efforts like the one described above, the University has worked diligently to expand student opportunities for international experiences. With just over 3,100 students (undergraduate and graduate/first-professional degree) and over 200 faculty and staff participating in education abroad activities this past year, UVA has made real gains in this area. Remarkably, out of those 3,000+ students, nearly 450 of the undergraduates pursued education abroad activities that included field-based, experiential learning opportunities in 2018-19. In the Open Doors 2018 report published by the Institute for International Education, UVA ranks #12 in the U.S. (up from #24) for the number of students awarded credit for education abroad. This is the fourth year that UVA has made the top 25, a list mostly populated by much larger institutions. Open Doors 2018 ranks UVA #24 among doctoral granting institutions for undergraduate participation in education abroad at 45.1%. In this category, most schools ahead of the University are independent institutions, e.g., Wake Forest University.

Expanding student opportunities for international experiences requires close collaboration between multiple stakeholder groups at all levels of the institution. UVA is privileged to have an International Studies Office that crosses and works closely with school and faculty leadership in this area. Building on previous successes, this collaboration has yielded a second Global First program, UVA Valencia First: Globalization in a World Setting. In fall 2019, 34 new UVA students, including five transfer students, will begin their studies in London or Valencia. The Valencia First program includes a STEM track designed to serve pre-health students. Twenty-two students, a record, are enrolled in the UVA in Valencia fall semester engineering track, now in its fourth year. UVA's College of Arts and Sciences and the International Studies Office are collaborating with a South African company, iXperience, to deliver education abroad programs that combine global studies with practical training in fields such as data science and full stack coding in Cape Town, Berlin, and Lisbon. Across the three sites, eighty-two UVA students are enrolled for summer 2019. New opportunities combining academic course work with practical training were also launched in Prague and Marrakech, and the curriculum of the longstanding summer internship program in Dublin has been revised.

Curriculum integration, i.e., the integration of global education opportunities into the curriculum, remains a priority across the schools for all students. In three undergraduate schools — the Batten School of Leadership and Public Policy, the School of Architecture, and the McIntire School of Commerce — these efforts have resulted in rates of participation in education abroad above 60%. As a part of the New College Curriculum, the Graduate School of Arts and Sciences is also working on integrating international opportunities in the curriculum. Graduate programs in the School of Architecture, Darden School of Business, and McIntire School of Commerce have integrated robust global education opportunities into their curricula.

Advising
The University has continued to make improvements and revisions to its range of advising services, including academic advising, career advising, and coaching. The Career Center continues to operate at levels previously reported. The opening of the Georges Student Center in the fall of 2017 has enabled the University to more fully implement a Total Advising model that provides real support to students.

The Georges Center now provides a centralized space for advising activities, so that students can find advising in the form of both resource referrals and many of the advising offices to which they might be referred in a single location. There are nearly 20 units that can be accessed in the Center on at least a weekly basis. These include:

- Athletics Tutoring
- Athletics Advising
- Contemplative Sciences Center
- Student Financial Services (SFS) Drop-in Staff Hours
- SFS Peer Educators
- Education Abroad Peer Advisors

- College Life Skills Coach
- Institutional Review Board
- Data Sciences Institute Admissions
- Internship Placement Program
- HR Student Worker Onboarding
- Pre-Health and Law Advising
- Office of Undergraduate Research

- Student Disability Access Center
- First-Year Writing Office Hours
- E-Portfolio Peer Consultant

Additionally, the availability of different types of spaces in the Center has allowed several units to deliver new types of programming that were not previously possible. For example, Student Financial Services launched a peer education program in the spring of 2019; as their regular location is far from central grounds, this was the ideal location for this program. Other units like the Contemplative Sciences Center have been able to significantly expand their programming, and offices like the Institutional Review Board's Social and Behavioral Sciences division and the Office of Undergraduate Research have been able to meet students in a much more convenient space than their off-grounds home offices. The staff of the Student Disability Access Center have reported that some of the students they see prefer to meet in the Center rather than in the clinical location because the appointment feels like less of a "big deal" when they just have to come to the library.

Support for Scholarships & Fellowships
In support of fellowships, we have launched the Office of Citizen Scholar Development, which uses the process of applying for fellowships as a catalyst for the development of our students as citizens and scholars, and as students who are both critically thoughtful and mutually committed to communities. While we have had many students go on to receive fellowships, including setting a high mark for Fulbright US Student Award recipients from the University each of the last two years, we are most proud of the fact that the Office of Citizen Scholar Development has had one-on-one interactions with over 750 students in academic year 2017-18 and over 1,000 students in academic year 2018-19 – and that those students represent every school and college at UVA.

Supporting a Student-Centered Learning Environment
As an institution with a strong tradition of student-centered and student-led learning, the University continues to innovate in this area. Two recent examples of this are the University's Thrive initiative, and the Center for Teaching Excellence's (CTE) efforts to provide faculty with resources and access to undergraduate students to provide teaching-related feedback.

The CTE regularly engages undergraduate students to serve as teaching consultants to faculty members. This occurs both through specific programs, such as the Course Design Institute, as well as through one-on-one consultations with undergraduate students. In the past two years (since the start of academic year 2017-18), CTE's undergraduate consultants have conducted 33 consultations with approximately 30 faculty members. Over the past two summers, as a part of the Course Design Institute, undergraduate consultants conducted approximately 50 consultations with 50 faculty. In addition, faculty members can work with the CTE to engage a trained teaching consultant to conduct mid-semester student focus groups. This allows a faculty member to get feedback that they can act on in real time. On average, CTE consultants conduct over 30 of these focus groups each semester.

Launched in the fall of 2018, UVA's Thrive initiative is an internal grant program to support faculty members wishing to incorporate new transformative learning experiences into their undergraduate course or who wish to partner with undergraduate students around the design or research of their courses. These small grants can be used by faculty to pay for expenses such as tickets, transportation, and meals; resources needed for fieldwork or research activities; fees for facilitators or workshop leaders; as well as costs associated with community projects, course co-design or co-research. Thus far, 37 projects have been funded at an average cost of just over $3,000 each.

Priority 6: Organizational Excellence: Resource Alignment & Optimization

As one of the nation's premier public universities, the University of Virginia pursues innovation, quality, and improvement leading to effective stewardship of its resources. The Organizational Excellence program seeks opportunities to enhance stewardship of resources through resource optimization and resource alignment to support and advance institutional priorities and mission activities.

Academic schools and administrative units contribute to the overall goals of organizational excellence, yielding measurable effectiveness and efficiency gains. In 2018-19, UVA schools, units, and service departments led more than 246 improvements, partnerships, and cost-savings efforts, illustrating the University community's commitment to continuous improvement.

The preliminary realized savings and reallocations for **FY2018-19 are $17.35 million** across the Academic Division.

Organizational Excellence Efforts in FY2018–19

Partnerships and Collaborations
Estimated Savings/Reallocations: $2.6 million

Through the utilization and leveraging of relationships within and beyond the University, cost and effort savings can be realized through the improvement of economies of scale, reductions in duplicated efforts, and the sharing of knowledge and resources. Furthermore, collaboration between offices/units can foster innovation through shared expertise in resolving process challenges or overcoming logistical obstacles.

Examples:
- Providing an internal conference for advancement professionals around Grounds rather than looking externally for training.
- Partnering with Virginia Tech to provide evening support to offset costs related to the Northern Virginia Center.
- Designing, developing, and implementing a shared online tool where faculty may report annual teaching, research, and service activities to improve accuracy of data and reduce the time required of faculty for such an administrative task.
- Collaborating to expand supplies recycling programs related to strategic sourcing.

- Using institutional licenses of software, such as Office 365 for the Microsoft Teams project management platform to improve communication.
- Partnering with the Darden School of Business, the School of Engineering and Applied Science (SEAS), and the School of Law to embed a dedicated mental health counselor with cost sharing between each school and Student Health.
- Collaborating among Student Affairs offices to provide programming and services to specific student populations, including first-generation students, high-financial-need students, and veterans.
- Delegating proposal signing authority to SEAS to remove a substantial fraction of proposals from the Office of Sponsored Programs' (OSP) review workflow to free up senior grant administrator bandwidth.
- Collaborating with numerous centers, academic departments, and partner offices to share costs and resources to bring prominent speakers to Grounds.
- Partnering with in-house University Communications to review marketing and recruitment materials rather than contracting with external consultants.

Cost Savings and Avoidance
Estimated Savings/Reallocations: $12.8 million

Maintaining the quality and breadth of services provided by the University is key to any strategies around cost savings or cost avoidance. Through the promotion of collaborative thinking and planning, administrative and academic units are able to realize reductions in expenses that positively impact the overall University's mission.

Examples:
- Lowering the cost of expensive textbooks through increased use of the textbook rental program and access to digital textbooks.
- Delivering ongoing sustainability initiatives for savings in utilities, technology peripherals, and paper products.
- Reducing travel-related expenses through utilization of teleconferencing tools, participating in webinars, and focusing on local conferences.
- Utilizing in-house services for various facilities-related projects, previously outsourced, including renovation and lighting installations.
- Reducing overall cost of outgoing processed mail through capitalizing on bulk and presort.
- Strategically supplementing in-house custodial staff with contract providers and temporary workers for remote locations and non-standard shifts.
- Reviewing comprehensive resource allocation in University Libraries to reallocate resources to meet strategic goals.
- Employing internal staff to support the strategic planning process, executive searches, and management consulting rather than contracting with external consultants.

<u>Process and Functional Improvements</u>
Estimated Savings/Reallocations: $1.9 million

Process and functional improvements hinge on the optimization of resources through a variety of means, including, but not limited to, consolidations, new delivery models, and discontinuation of obsolete or underutilized services. These allow effort savings to be redirected to higher value activities.

Examples:
- Consolidating student service-focused finance and human resource work across four areas to provide better financial data and process student requests.
- Renovating on-Grounds dining facilities to implement cashless register technology to improve speed of service.
- Implementing standardized naming conventions to improve access to reporting information and reduce staff workload.
- Revising data architecture and utilization of data visualization tools to reduce time spent on data access and analysis.
- Leveraging passenger and location data to reallocate buses from underutilized routes to underserved routes.
- Reviewing space utilization to reduce wasted space and reallocate for faculty use.
- Implementing integrated, cloud-based technology, such as HR Workday.

Organizational Excellence Efforts in FY 2017-18
In 2017-18, UVA schools, units, and service departments led more than 275 improvements, partnerships, and cost-savings efforts, illustrating the University community's commitment to continuous improvement. These collective efforts resulted in cost avoidance, driving down mandated costs, and efficiencies of approximately $22 million in the University's Academic Division budget.

Major institutional projects focused on enhancing core support services, processes, and systems in research administration, human resources, finance, and information technology. These projects intend to streamline processes, increase automation, improve data access and analytics, and enhance services to enable UVA mission-related activities and priorities.

Examples:
Cost-savings/avoidance:
- Institutional strategic sourcing of goods and services
- Contract negotiations and re-negotiations
- Shelf registration for external debt issuance
- Shared positions between different departments and schools
- Reduction in energy consumption and efficiency in energy use
- Consolidated administrative work across an entire division

- Internal consulting services that reduce costs associated with expensive external services

Improvements:
- Leveraging data intelligence on enrollment to align course offerings with student demand
- Integrated multi-tiered undergraduate admissions system
- Reorganized student services and admissions to provide better services to undergraduates, graduates, and executive education
- Shifting away from paper-based research grant processes to online proposal submissions
- Converted all gift and endowment files from paper to electronic
- Automation of budget adjustment workflow, eliminating a manual bi-monthly process

Partnerships:
- Launched a one-stop site for student, advisors, and faculty to locate important information, resources, opportunities, and support.
- Collaborative software created to systemize and manage records and follow-up actions across several departments
- Central processing unit for graduate applications
- Merged two academic departments in the School of Engineering and Applied Science into one

Priority 7: Economic Development
The University of Virginia is committed to serving as a strong economic development partner for the region and the Commonwealth. Our role in economic development is to graduate students with the skills needed in a rapidly changing world; fuel growth through research and innovation; and promote collaboration among academia, government, and industry.

Supporting initiatives include, but are not limited to:

- **Industry Attraction and Retention:** Work closely with regional and state partners to support economic development activities across Virginia. Facilitate connections to UVA during all phases of industry engagement and leverage resources as appropriate.
  - Amazon HQ2: Collaborated with the Virginia Economic Development Partnership on the Amazon HQ2 proposal, providing content on unique research assets/facilities and forecasts for increased computing degrees.
  - Industry Engagement: In collaboration with regional and state partners, hosted or participated in numerous industry site visits to showcase opportunities for corporate engagement through student recruitment, research, internships, faculty consulting, UVA Research Parks, etc.
  - Strategic Planning: Served as an active and engaged partner in strategic economic development planning efforts for the Central Virginia Partnership for Economic Development and Albemarle County.

- **Talent Development:** Provide students with skills needed in today's workplace. Partner with industry to understand current and future needs and offer relevant courses, programs, workshops, etc.
    - o Tech Talent Investment Fund (TTIF): Prepared submission for the TTIF to increase computer science, data science, and cybersecurity skills in response to industry needs.
    - o PhD Plus Program: Innovative program for PhD candidates and postdocs to introduce them to careers in industry and entrepreneurship.
    - o Internships at Local Start-Ups: Connect 30-35 student interns each semester with local start-up companies to develop real-world experience that complements classroom skills.

- **Research and Innovation:** Continue to provide support for industry-focused research and innovation at all levels including startup companies, proof-of-concept projects, IP licenses, industry-sponsored programs, etc.
    - o Catalyst Accelerator: Finalized plans for a high-growth accelerator to support 20 high-potential startups in the Central Virginia region. With support from GO Virginia, the City of Charlottesville, and Albemarle County, the Catalyst Accelerator will provide $20,000 grants, coaching, workspace, programming, and additional resources to each startup.
    - o Licensing and Ventures Group (LVG) Seed Fund: This $10 million fund, managed by LVG, continued to invest in faculty, staff, student, and alumni companies. A similar $15 million fund exists in coordination with/supporting the Health System.
    - o Industry-Sponsored Research: Partnered with industry resulting in over $25 million in industry-sponsored research.

- **Support for Rural Virginia:** Spur and enhance economic development in Southwest Virginia through the Appalachian Prosperity Project (APP), with a continued focus on (1) K-12 education support; (2) business support/entrepreneurship; and (3) access to healthcare.
    - o Telemental Health Network: UVA launched the Appalachian Telemental Health Network, using $2.2 million in state funding and other sources. UVA Assistant Professor of Public Health Sciences and Director of the Mid-Atlantic Telehealth Resource Center Katharine Wibberly will partner with the Healthy Appalachia Institute to develop a network of providers for treating mental illness through telemedicine.
    - o Education support: Faculty in the Curry School of Education received an NSF grant to develop methods for integrating technology-enhanced engineering design projects and STEM curricula into early education with school systems in Virginia.
    - o Industrial Hemp Cluster Development: UVA biology Professor Michael Timko partnered with UVA-Wise faculty member Ryan Huish on a project aimed at creating industrial hemp and medicinal marijuana varieties suited for traditional

tobacco-growing regions. They are analyzing the impact of changing state regulations on the rapidly evolving industrial hemp industry.
- o <u>Appalachian Prosperity Project Symposium and Fellowships:</u> UVA hosted a symposium to showcase work in Southwest Virginia and to spur new faculty collaborations. Two APP fellowships were awarded to encourage faculty partnerships between UVA and UVA-Wise for economic development-based initiatives.

- **GO Virginia Initiative:** Partner with members of our regional council to advance the goals and objectives of GO Virginia, i.e., to grow and diversify the State's economy.
  - o <u>Catalyst Accelerator:</u> (See **Research and Innovation**, above.)
  - o <u>Venture Hub:</u> Address gaps in the local entrepreneurial ecosystem through a community-led "Venture Hub" in response to recommendations made in the Region 9 Growth and Diversification Plan.
  - o <u>CvilleBioHub:</u> Foster and support local emerging biotechnology cluster development by connecting UVA research with local life science entrepreneurs.

- **Rural Virginia Initiative (RVI):** Worked with Virginia Tech, Virginia State University, and UVA-Wise on a legislative mandate to create a white paper that considers the challenges facing rural Virginia. This white paper was submitted to the General Assembly on October 1, 2018 and included potential recommendations for consideration by the legislature, industry, faith communities, and others. As part of RVI Phase 2, UVA will lead a working group on Health Care and Community Well-being.

SECTION J. ECONOMIC DEVELOPMENT ANNUAL REPORT:

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:

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

RESPONSE:

The University of Virginia is committed to serving as a valued economic development partner for the region and the Commonwealth. Our role in economic development is to promote high-impact collaboration among academia, government, and business; fuel growth through innovation and entrepreneurship; and graduate students with the skills needed in a rapidly changing world. We will proactively engage in the following areas:

- **Innovation and Entrepreneurship:** Address real-world problems through translatable academic discovery and entrepreneurship. Create high-value partnerships with local, regional, and state allies to provide a robust array of resources that support innovation, start-up formation, and the entrepreneurial ecosystem.
- **Talent Development:** Provide students with skills needed in today's workplace. Partner with industry to understand current and future needs and offer relevant courses, programs, workshops, certificates, etc.
- **Targeted Industry Growth:** Join forces with regional and state public and private partners to accelerate robust, enduring, and inclusive economic growth across Virginia. Facilitate corporate connections to UVA and leverage resources as appropriate to help grow existing business and to attract new industry to the Commonwealth.
- **Support for Rural Virginia:** Spur and enhance economic development in rural Virginia through the Appalachian Prosperity Project (APP) and the Rural Virginia Initiative, with a focus on community-based participatory research, entrepreneurship, and access to healthcare.

The outcomes of UVA's recent efforts related to economic development in the Commonwealth are described above in Section I: Evaluation of Previous Six-Year Plan. The University's work in this area is addressed in both Research (Priority 4, pages 40-46) and Economic Development (Priority 7, pages 53-55).