



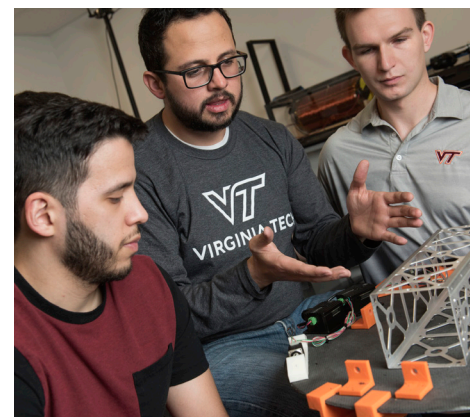
Tech Talent Investment Program | January 2025

VOEE

Virginia Office of Education Economics



STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA



Introduction

The Tech Talent Investment Program (TTIP), launched in 2019, is a historic \$1.1 billion, 20-year investment in Virginia’s tech talent pipeline. TTIP was conceived as part of Virginia’s 2018 winning proposal to Amazon for HQ2. Participating institutions have set goals to increase the number of BS and MS graduates in Computer Science and related fields by at least 30,000 over 20 years. Degree goals are equally divided between BS (16,000) and MS (16,000) programs. Thirteen institutions¹ and the Virginia Community College System participate in TTIP as of FY25.

TTIP is overseen by the Virginia Secretary of Finance, in consultation with the other designated reviewers: the Secretary of Education, the director of the Department of Planning and Budget, the director of the State Council of Higher Education for Virginia (SCHEV), the president of the Virginia Economic Development Partnership (VEDP), and the staff directors of the House Appropriations Committee and the Senate Finance and Appropriations Committee. SCHEV and the Virginia Office of Education Economics (VOEE) provide administrative support.

TTIP provides institutions with three different forms of support: operating expense support, equipment support, and capital support. The program is structured as a performance-based funding model, and institutions’ operating expense awards are contingent upon meeting certain targets. Each participating institution signed a memorandum of understanding (MOU) and committed to producing a number of new degrees in the fields of Computer Science, Computer Engineering, and Computer Software Engineering each year. They further specified the percentage of new degrees that would be attributable to growth of the institution (Organic Growth Percentage (OGP)). While the MOUs are clear about both targets, they only include a methodology for adjusting awards for underperformance related to degree production. Reductions for underperformance on Organic Growth are at the discretion of the Secretary of Finance, in consultation with the other designated reviewers.

The two master’s degree TTIP programs also committed to a one-to-one philanthropic match for TTIP funds. By June 30, 2029, the institutions must have raised funds equaling or exceeding all executed (FY20–FY29) and anticipated (FY30–FY39) grant payments. Reductions will be applied for any shortfalls starting with the FY30 grant payments.

Institutions received their first round of operating expense awards in December 2019 (FY20) and are eligible to continue receiving annual awards through FY39. The first three years of TTIP were a grace period, and institutions received their maximum operating expense awards, regardless of performance, in December 2020, 2021, and 2022 (FY21, FY22, and FY23). Awards were first adjusted for performance in FY24. Last year, institutions that failed to produce the target number of new degrees received commensurate reductions to their support, as outlined in their MOUs. The designated

¹ Radford University elected to withdraw from the program as of fall of 2024.

reviewers elected not to apply reductions related to Organic Growth for FY24 but committed to revisiting award calculations for FY25.

Between January and August of 2024, an extensive process was undertaken to develop a new methodology for TTIP award calculations, and the designated reviewers unanimously approved a new additive model at the August 26 Op Six meeting. The additive model necessitated updates to the original MOUs; however, several institutions expressed reservations about executing the amendments. As a result, after consulting with the other designated reviewers, the Secretary of Finance decided to implement a reductive model that could be applied within the parameters of the original MOUs.

For FY25, institutions that failed to produce the target number of new degrees received commensurate reductions to their support, as in FY24. Institutions that were not meeting their OGP targets also received reductions. Reductions were determined based on the 15 percent valuation of Reallocated Degrees compared to Organic Degrees, per the MOUs. However, rather than fully adjusting awards to reflect actual Organic Growth, the Secretary elected to apply only 50 percent of the reductions to compensate institutions for any uncertainty about the formula used to calculate OGP reductions.

Despite some institutions' underperformance, collectively, TTIP programs are far exceeding their overall targets. The bachelor's degree programs have more than doubled their goal, producing 2,520 new degrees through FY25 compared to a target of 1,155. The two master's degree programs have produced 1,345 new degrees versus a target of 1,262. For FY25, institutions received a total of \$23,651,931 in operating expense support. Over \$550 million in operating expense, equipment, and capital funds have been disbursed or allocated since the program began.

The Secretary of Finance and Secretary of Education intend to begin a comprehensive TTIP revision process in the spring of 2025 to ensure that the award methodology and other parameters continue to serve the objectives of the program, the Administration, and the Commonwealth.

Section § 23.1-1243 of the Virginia Code directs the Secretary of Finance, in consultation with the other designated reviewers, to submit an annual report to the chairs of the House Appropriations Committee and the Senate Finance and Appropriations Committee. The report should provide an update on the progress of each institution toward meeting its MOU targets and the total amount of grants awarded to each institution. The following tables include those analyses. Tables 1 and 2 report the degree progress of each TTIP institution through FY24, and Table 3 includes institutions' Organic Growth Percentages. Tables 4 through 7 include information about award distributions through FY25. Finally, Table 8 reports on the philanthropic match funds for TTIP master's degree programs.

Rachel O'Brien

Research Project Manager | Virginia Office of Education Economics

Phone: 804.839.2917 | Email: robrien@vedp.org

On the cover: *(left to right)* College of William & Mary, Christopher Newport University, University of Virginia, Virginia Commonwealth University, Old Dominion University, University of Virginia at Wise, Norfolk State University, George Mason University, Longwood University, James Madison University, University of Mary Washington, Virginia State University, Virginia Tech

Table 1A displays the number of degrees each institution produced in the fields of Computer Science, Computer Engineering, and Computer Software Engineering. The baseline year is 2018–2019. Institutions committed to producing additional degrees above baseline. For instance, the College of William and Mary graduated 62 students in the baseline year. In FY24, it produced 38 degrees above baseline, for a total of 129 cumulative new degrees between FY20 and FY24.

Table 1A
Eligible Bachelor's and Master's Degrees in Computer Science and Related Fields through FY24

BS-Granting Institution	Baseline (2018–19)	Cumulative New Degrees (2020–23)	New Degrees (2023–24)	Cumulative New Degrees (2020–24)
Christopher Newport University (CNU)	70	17	-4	13
College of William & Mary (CWM)	62	91	38	129
George Mason University (GMU)	307	314	115	429
James Madison University (JMU)	102	46	25	71
Longwood University (LU)	17	-8	0	-8
Norfolk State University (NSU)	17	11	10	21
Old Dominion University (ODU)	103	121	31	152
Radford University (RU)	53	-45	NA	NA
University of Mary Washington (UMW)	59	-1	10	9
University of Virginia (UVA)	239	235	186	421
University of Virginia at Wise (UVAW)	18	-20	-7	-27
Virginia Commonwealth University (VCU)	97	135	58	193
Virginia State University (VSU)	25	29	8	37
Virginia Tech (VT)	394	765	315	1080
Total		1690	785	2520
MS-Granting Institution				
George Mason University (GMU)	111	227	414	641
Virginia Tech (VT)	97	424	280	704
Total		651	694	1345

Table 1B displays the number of eligible associate degrees the Virginia Community College System (VCCS) produced. Eligible associate degrees are degrees conferred to students who then transfer to TTIP programs at four-year institutions. These data are only available on a two-year lag, so VCCS was evaluated based on its performance through FY23 for its FY25 award.

Table 1B
Associate Degrees by Students Who Transferred to TTIP Programs at Four-Year Institutions

System-Level Participant	Baseline (2018–19)	Cumulative New Degrees (2020–22)	New Degrees (2023–23)	Cumulative New Degrees (2020–23)
Virginia Community College System (VCCS)	325	118	85	203

Table 2A includes institutions’ actual and target new degrees through FY24. The third column lists the target number of cumulative new degrees for FY24 from each institution’s MOU. For instance, Christopher Newport University (CNU) produced 13 new degrees, compared to a commitment of 27 degrees. The fourth column displays institutions’ relative performance, and the final column indicates whether the institution met its target. CNU had only produced 48% of the degrees it committed to through FY24, so it did not meet its target.

Table 2A
Actual Versus Target New Bachelor's and Master's Degrees in Computer Science and Related Fields

BS-Granting Institution	Actual New Degrees (2020–24)	Target New Degrees (2020–24)	Performance Relative to Target (%)	Met Cumulative New Degree Production Target (Yes/No)
CNU	13	27	48	No
CWM	129	88	147	Yes
GMU	429	176	244	Yes
JMU	71	92	77	No
LU	-8	-4	NA	NA
NSU	21	9	233	Yes
ODU	152	102	149	Yes

Table 2A, Continued

Actual Versus Target New Bachelor's and Master's Degrees in Computer Science and Related Fields

BS-Granting Institution	Actual New Degrees (2020–24)	Target New Degrees (2020–24)	Performance Relative to Target (%)	Met Cumulative New Degree Production Target (Yes/No)
RU	NA	NA	NA	NA
UMW	9	81	11	No
UVA	421	248	170	Yes
UVAW	-27	2	0	No
VCU	193	61	316	Yes
VSU	37	18	206	Yes
VT	1080	212	509	Yes
Total	2520	1112	227	Yes
MS-Granting Institution				
GMU	641	265	242	Yes
VT	704	997	71	No
Total	1345	1262	107	Yes

Table 2B compares the Virginia Community College System's actual degree production to its target through FY23.

Table 2B

Actual versus Target New Eligible Associate Degrees through FY23

System-Level Participant	Actual New Eligible Degrees (2020–23)	Target New Eligible Degrees (2020–23)	Performance Relative to Target (%)	Met Cumulative New Degree Production Target (Yes/No)
VCCS	203	67	303	Yes

Table 3 includes institutions' actual and target Organic Growth. The second column displays the number of bachelor's or master's degrees the institution produced overall in FY19. Column 3 lists the cumulative new degrees produced by the institution overall between FY20 and FY24, and Column 4 lists the number of new TTIP degrees the institution produced over the same period. Organic Growth is calculated as the percent of new TTIP degrees that can be attributed to institutional growth. Institutions that produced fewer degrees overall since FY19 experienced 0% Organic Growth; institutions that produced at least as many new degrees overall as new TTIP degrees experienced 100% Organic Growth. The sixth column lists institutions' target Organic Growth, and the final column indicates whether an institution met its Organic Growth target. For instance, James Madison University produced 777 new degrees as an institution and 71 new TTIP degrees. It experienced 100% Organic Growth and exceeded its target of 80%.

Table 3
New Degrees in Computer Science and Related Fields from Institutional (Organic) Growth through FY24

BS-Granting Institution	Baseline Institutional Degrees (2018–19)	Cumulative New Institutional Degrees (2020–24)	Cumulative New Degrees in CS and Related Fields (2020–24)	Organic Growth (%)	Target Organic Growth (%)	Met Organic Growth Target (Yes/No)
CNU	1,087	-94	13	0	80	No
CWM	1,653	-253	129	0	100	No
GMU	5,734	1736	429	100	100	Yes
JMU	4,495	777	71	100	80	Yes
LU	977	-1104	-8	NA	95	NA
NSU	610	630	21	100	90	Yes
ODU	3,869	-856	152	0	90	No
RU	1,843	-1186	NA	NA	100	NA
UMW	1,021	-430	9	0	60	No
UVA	4,148	1133	421	100	0	Yes
UVAW	261	-166	-27	NA	1	NA
VCU	5,255	-1397	193	0	90	No

Table 3, ContinuedNew Degrees in Computer Science and Related Fields from Institutional (Organic) Growth through FY24

BS-Granting Institution	Baseline Institutional Degrees (2018–19)	Cumulative New Institutional Degrees (2020–24)	Cumulative New Degrees in CS and Related Fields (2020–24)	Organic Growth (%)	Target Organic Growth (%)	Met Organic Growth Target (Yes/No)
VSU	672	-228	37	0	90	No
VT	6,835	3040	1080	100	100	Yes

MS-Granting Institution	Baseline Institutional Degrees (2018–19)	Cumulative New Institutional Degrees (2020–24)	Cumulative New Degrees in CS and Related Fields (2020–24)	Organic Growth (%)	Target Organic Growth (%)	Met Organic Growth Target (Yes/No)
GMU	2,969	1226	641	100	72	Yes
VT	1,501	591	704	84	100	No

¹Organic Growth was not applicable to LU because it committed to producing fewer cumulative TTIP degrees between FY20 and FY24. ²Organic Growth was not applicable to UVAW because it did not produce any new cumulative TTIP degrees between FY20 and FY24. ³The VT MS program produced more new TTIP degrees than new degrees as an institution between FY20 and FY24, resulting in 84% Organic Growth.

Table 4A includes the operating expense support institutions received in FY25. The second column lists the maximum annual award institutions can receive for full performance for FY21–FY39 (initial FY20 awards were prorated). Column 3 indicates any reduction an institution received for not meeting its degree production target. Column 4 indicates the full reduction an institution not meeting its Organic Growth target would receive to fully adjust for the 15% valuation of Reallocated Degrees compared to Organic Degrees, and Column 5 indicates the 50% reduction that was applied in practice. Column 6 lists the final FY25 operating expense awards after both degree production and Organic Growth reductions.

For example, the University of Mary Washington was at 11% of its cumulative new degree target (see Table 2A). Therefore, it received an 89% reduction for degree production. UMW did not grow as an

institution between FY19 and FY24 and failed to meet its Organic Growth target of 60% (see Table 3). A further reduction of \$56,230 would fully adjust its award for the 15% valuation of Reallocated Degrees, but only 50% of that (\$28,115) was applied. UMW's final FY25 operating expense award after both reductions was \$44,653.

Table 4A
Operating Expense Support, FY25

BS-Granting Institution	Maximum Annual Award in MOU (for full performance) (\$)	Reduction for Under-performance on Eligible Degree Production (\$)	Support after EDP Reduction (\$)	Reduction for Under-performance on Organic Growth (\$)	50% Reduction for Under-performance on Organic Growth (\$)	Final Support after EDP Reduction and 50% Organic Growth Reduction (\$)
CNU	751,702	389,771	361,931	296,521	148,261	213,670
CWM	1,384,198	-	1,384,198	1,176,568	588,284	795,914
GMU	4,075,259	-	4,075,259	-	-	4,075,259
JMU	685,381	156,446	528,935	-	-	528,935
LU ¹	271,250	NA	271,250	NA	NA	271,250
NSU	241,601	-	241,601	-	-	241,601
ODU	1,480,916	-	1,480,916	1,238,143	619,071	861,845
RU	887,128	NA	NA	NA	NA	NA
UMW	654,911	582,143	72,768	56,230	28,115	44,653
UVA	821,285	-	821,285	-	-	821,285
UVAW ²	73,449	73,449	0	NA	NA	0
VCU	1,345,125	-	1,345,125	1,124,613	562,306	782,819
VSU	305,824	-	305,824	255,689	127,844	177,980
VT	9,695,499	-	9,695,499	-	-	9,695,499
Total	22,673,528		20,584,591			18,510,709

Table 4A, ContinuedOperating Expense Support, FY25

MS-Granting Institution	Maximum Annual Award in MOU (for full performance) (\$)	Reduction for Under-performance on Eligible Degree Production (\$)	Support after EDP Reduction (\$)	Reduction for Under-performance on Organic Growth (\$)	50% Reduction for Under-performance on Organic Growth (\$)	Final Support after EDP Reduction and 50% Organic Growth Reduction (\$)
GMU	1,722,478	-	1,722,478	-	-	1,722,478
VT	3,261,805	958,585	2,303,220	314,239	157,120	2,146,101
Total	4,984,283		4,025,698			3,868,579
System-Level Participant						
VCCS ³	1,272,643	-	1,272,643	NA	NA	1,272,643
Grand Total	28,930,454		25,882,932			23,651,931

¹LU was not subject to reductions for FY2024 or FY2025 because it did not commit to new cumulative degree production by those years. ²Organic Growth was not applicable to UVAW for FY2025 because it had not produced any new cumulative degrees and was at 0% of its target. ³The language of VCCS's MOU is unclear about Organic Growth reductions. Because of this ambiguity, the Secretary of Finance elected not to apply an Organic Growth reduction for FY2025, but this may be revisited in the future.

Table 4B includes the total operating expense support institutions received through FY25. The third column lists the support institutions received during the grace period from FY20 through FY23, and Column 4 includes institutions' FY24 awards after degree production reductions. Column 5 lists the final FY25 operating expense awards after both degree production and Organic Growth reductions. Finally, Column 6 is the total operating expense support institutions received between FY20 and FY25.

Table 4B**Operating Expense Support, FY20–FY25**

BS-Granting Institution	Maximum Annual Award in MOU (for full performance) (\$)	Grace Period Support (2020–23) (\$)	FY24 Support after EDP Reduction (\$)	FY25 Support after EDP Reduction and 50% Organic Growth Reduction (\$)	Total Operating Expense Support through 2025 (\$)
CNU	751,702	2,679,692	751,702	213,670	3,645,064
CWM	1,384,198	4,934,435	1,384,198	795,914	7,114,547
GMU	4,075,259	14,527,620	4,075,259	4,075,259	22,678,137
JMU	685,381	2,443,270	470,560	528,935	3,442,765
LU ¹	271,250	813,750	271,250	271,250	1,356,250
NSU	241,601	861,267	241,601	241,601	1,344,470
ODU	1,480,916	5,279,221	1,480,916	861,845	7,621,982
RU	887,128	3,162,464	-	NA	3,162,464
UMW	654,911	1,964,733	-	44,653	2,009,386
UVA	821,285	2,927,744	821,285	821,285	4,570,313
UVAW ²	73,449	220,347	-	0	220,347
VCU	1,345,125	4,795,149	1,345,125	782,819	6,923,093
VSU	305,824	1,090,212	305,824	177,980	1,574,016
VT	9,695,499	34,562,843	9,695,499	9,695,499	53,953,841
Total	22,673,528	80,262,746	20,843,219	18,510,709	119,616,674
MS-Granting Institution					
GMU MS	1,722,478	6,140,349	1,722,478	1,722,478	9,585,305
VT MS	3,261,805	11,627,792	2,191,767	2,146,101	15,965,660
Total	4,984,283	17,768,140	3,914,246	3,868,579	25,550,965

Table 4B, Continued

Operating Expense Support, FY20–FY25

System-Level Participant	Maximum Annual Award in MOU (for full performance) (\$)	Grace Period Support (2020–23)	FY24 Support after EDP Reduction (\$)	FY25 Support after EDP Reduction and 50% Organic Growth Reduction (\$)	Total Operating Expense Support through 2025 (\$)
VCCS ³	1,272,643	4,537,149	1,272,643	1,272,643	7,082,435
Grand Total	28,930,454	102,568,035	26,030,108	23,651,931	152,250,074

¹LU was not subject to reductions for FY2024 or FY2025 because it did not commit to new cumulative degree production by those years. ²Organic Growth was not applicable to UVAW for FY2025 because it had not produced any new cumulative degrees and was at 0% of its target. ³The language of VCCS’s MOU is unclear about Organic Growth reductions. Because of this ambiguity, the Secretary of Finance elected not to apply an Organic Growth reduction for FY2025, but this may be revisited in the future.

Table 5 includes the amount of equipment support institutions were eligible for through FY25. Equipment support is not subject to reductions, regardless of performance. Institutions request equipment funds on a reimbursement basis. They may request funds available in FY25 or a previous year.

Table 5

Equipment Support through FY25

BS-Granting Institution	2020–24 Support (\$)	2024–25 Support (\$)	Total Support through 2025 (\$)
CNU	100,000	-	100,000
CWM	288,932	-	288,932
GMU	3,360,603	929,889	4,290,491
JMU	15,000	-	15,000
LU	-	-	0
NSU	117,829	-	117,829
ODU	183,605	-	183,605
RU	9,730	NA	9,730

Table 5, ContinuedEquipment Support through FY25

BS-Granting Institution	2020–24 Support (\$)	2024–25 Support (\$)	Total Support through 2025 (\$)
UMW	398,297	-	398,297
UVA	9,000,000	-	9,000,000
UVAW	27,003	-	27,003
VCU	1,633,747	424,921	2,058,668
VSU	26,274	-	26,274
VT	23,988,800	5,533,200	29,522,000
Total	39,149,820	6,888,009	46,037,829
MS-Granting Institution			
GMU MS	4,500,000	1,000,000	5,500,000
VT MS	10,455,000	2,460,000	12,915,000
Total	14,955,000	3,460,000	18,415,000
System-Level Participant			
VCCS	-	-	-
Grand Total	54,104,820	10,348,009	64,452,829

Table 6 includes the amount of capital support institutions were eligible for through FY25. Capital support is not subject to reductions, regardless of performance. Institutions request capital funds on a reimbursement basis. They may request funds available in FY25 or a previous year.

Table 6Capital Support through FY25

BS-Granting Institution	2020–24 Support (\$)	2024–25 Support (\$)	Total Support through 2025 (\$)
CNU	200,000	-	200,000
CWM	1,565,049	-	1,565,049
GMU	17,344,470	1,131,161	18,475,631
JMU	900,000	-	900,000
LU	-	-	0
NSU	500,952	-	500,952
ODU	83,831	-	83,831
RU	-	NA	0
UMW	597,446	-	597,446
UVA	8,000,000	-	8,000,000
UVAW	157,519	33,754	191,273
VCU	-	-	0
VSU	840,761	-	840,761
VT	69,000,000	-	69,000,000
Total	99,190,028	1,164,915	100,354,943
MS-Granting Institution			
GMU	84,000,000	-	84,000,000
VT	167,733,333	-	167,733,333
Total	251,733,333	0	251,733,333

Table 6, ContinuedCapital Support through FY25

System-Level Participant	2020–24 Support (\$)	2024–25 Support (\$)	Total Support through 2025 (\$)
VCCS	2,500,000	200,000	2,700,000
Grand Total	353,423,361	1,364,915	354,788,276

Table 7 includes the total amount of support institutions received (operating expense support) or were eligible for (equipment and capital support) through FY25. FY24 and FY25 operating expense reductions decreased the total amount of support available to institutions.

Table 7Total Support through FY25

BS-Granting Institution	2020–24 Support (\$)	2024–25 Support (\$)	Total Support through 2025 (\$)
CNU	3,731,394	213,670	3,945,064
CWM	8,172,613	795,914	8,968,527
GMU	39,307,951	6,136,309	45,444,260
JMU	3,828,830	528,935	4,357,765
LU	1,085,000	271,250	1,356,250
NSU	1,721,649	241,601	1,963,250
ODU	7,027,574	861,845	7,889,418
RU	3,172,194	NA	3,172,194
UMW	2,960,476	44,653	3,005,129
UVA	20,749,028	821,285	21,570,313
UVAW	404,869	33,754	438,623
VCU	7,774,021	1,207,739	8,981,760
VSU	2,263,071	177,980	2,441,050

Table 7, ContinuedTotal Support through FY25

BS-Granting Institution	2020–24 Support (\$)	2024–25 Support (\$)	Total Support through 2025 (\$)
VT	137,247,142	15,228,699	152,475,841
Total	239,445,813	26,563,633	266,009,446
MS-Granting Institution			
GMU	96,362,827	2,722,478	99,085,305
VT	192,007,892	4,606,101	196,613,993
Total	288,370,719	7,328,579	295,699,298
System-Level Participant			
VCCS	8,309,792	1,472,643	9,782,435
Grand Total	536,126,324	35,364,855	571,491,179

Tables 8A and 8B include information about the philanthropic match funds reported by the two master’s degree programs. Table 8A lists the contributions reported by each institution for FY20 through FY24. Table 8B compares total contributions to the grant funds each institution has received or could receive. Column 2 is the total philanthropic contributions received by each institution. Column 3 is the total grant funds received through FY25 for each institution. Column 4 is the total grant funds each institution could have received for full performance over the lifetime of the program, and Column 5 is the total grant funds each institution could receive over the lifetime of the program after accounting for FY24 and FY25 reductions.

Table 8APhilanthropic Match Contributions for MS Program

MS-Granting Institution	2019–20 (\$)	2020–21 (\$)	2021–22 (\$)	2022–23 (\$)	2023–24 (\$)	Total (\$)
GMU MS	10,500,000	10,500,000	115,050	500,520	4,362,663	25,978,233
VT MS	46,402,865	50,003,095	12,617,380	1,154,292	885,717	111,063,349

Table 8BPhilanthropic Match Contributions for MS Programs Compared to Grant Funds

MS-Granting Institution	Total Philanthropic Match Contributions FY20–24 (\$)	Grant Funds FY20–25 (\$)	Maximum Grant Funds FY20–39 for Full Performance (\$)	Maximum Grant Funds FY20–39 Less FY24 and FY25 Reductions (\$)
GMU MS	25,978,233	99,085,305	125,000,000	125,000,000
VT MS	111,063,349	196,613,993	250,000,000	247,814,258