

# State Council of Higher Education for Virginia Data Memo Addendum

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**Strategic Plan Development Project**

**September 14, 2014**

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## Introduction

The State Council of Higher Education for Virginia (SCHEV) has embarked on the development of a statewide strategic plan for higher education in Virginia. SCHEV has contracted with JBL Associates (JBLA), a research firm, to assist in the process. This document is one of a number of reports prepared by JBL Associates in fulfillment of its contract to assist SCHEV.

At a meeting held on August 12, 2014, the Council heard a presentation of results and findings from the work performed up to that point as part of the process of developing the statewide strategic plan for higher education. The presentation included findings from: a scan of the Economic, Socio-cultural, and Technological environment; a Gap Analysis of the labor workforce; individual and group interviews conducted during a series of regional site visits; and other pertinent information. During the subsequent discussion, several inquiries were made by the Council for additional information and analysis related to the information presented. The purpose of this addendum is to address those inquiries. It is not intended as a stand-alone report, but rather as a companion piece to the previously completed Data Memo.

Following is a list of the items and information requested by the Council at the meeting:

1. Tax effort in support of higher education in the fifty states
2. Breakdown of public college and university costs
3. Graduation rates for private, non-profit institutions
4. Completion and transfer rates for community colleges in Virginia
5. Virginia's rank on various higher education measures
6. Information on VCU Commonwealth Education Poll, 2013-14
7. Cost of remediation
8. Examples of rural research and development clusters that work

On the following are pages are data, tables and analysis in response to each of these inquires.

The data reported in Sections 2 and 5, and some in Section 4, were obtained from an organization called College Measures. According to its website, College Measures "is a partnership between the American Institutes for Research and Matrix Knowledge, focused on using data to drive improvement in higher education outcomes in the United States." College Measures uses data from a variety of sources, including the Department of Education's Integrated Postsecondary Education Data System (IPEDS) and the Beginning Postsecondary Survey, among others, to provide comprehensive reporting on a number of institutional and state-level measures. Given the complex nature of obtaining and calculating these measures directly from the original sources, and given that the American Institutions for Research is a well-regarded institution, using their data rather than duplicating them from the original sources was considered a suitable approach for this Addendum.

**1. Tax effort in support of higher education in the fifty states**

Table 1 provides information from the State Higher Education Executive Officers' (SHEEO) 2013 report on financing higher education. It shows Virginia's rank on three measures of tax effort compared with other states: higher education support per capita (VA=0.78, US=1.00), higher education support per \$1,000 in personal income (VA=0.70, US=1.00), and allocation of tax revenues to higher education (VA=5.9%, US=6.5%). Overall, these rankings indicate that Virginia is providing less financial support to higher education than the national average.

**Table 1. Perspectives on State and Local Government Higher Education Funding Effort, by State**

State	FISCAL 2012		FISCAL 2012		FISCAL 2011		
	Higher Education Support <sup>1</sup> Per Capita <sup>2</sup> (FY12)	Indexed to U.S. Average	Higher Education Support <sup>1</sup> Per \$1000 of Personal Income <sup>2</sup> (FY12)	Indexed to U.S. Average	Tax Revenues and Lottery Profits <sup>3</sup> (thousands FY11)	Higher Education Support <sup>1</sup> (thousands FY11)	Allocation to Higher Education
Alabama	310	1.20	8.64	1.46	13,878,574	1,545,862	11.1%
Alaska	489	1.89	9.90	1.67	7,292,155	342,936	4.7%
Arizona	238	0.92	6.57	1.11	21,801,798	1,829,939	8.4%
Arkansas	351	1.36	9.91	1.67	10,043,904	1,039,395	10.3%
California	301	1.16	6.47	1.09	186,347,208	13,284,669	7.1%
Colorado	135	0.52	2.96	0.50	21,905,268	826,911	3.8%
Connecticut	265	1.02	4.43	0.75	23,051,980	1,076,131	4.7%
Delaware	232	0.90	5.26	0.89	4,359,252	212,456	4.9%
Florida	188	0.73	4.58	0.77	66,451,093	4,117,296	6.2%
Georgia	273	1.06	7.29	1.23	31,978,843	2,956,868	9.2%
Hawaii	368	1.42	8.22	1.39	6,572,749	511,556	7.8%
Idaho	223	0.86	6.47	1.09	4,748,909	369,905	7.8%
Illinois	344	1.33	7.52	1.27	60,241,923	4,082,449	6.8%
Indiana	237	0.92	6.22	1.05	23,382,683	1,564,731	6.7%
Iowa	260	1.01	5.92	1.00	12,717,129	816,500	6.4%
Kansas	338	1.30	7.85	1.32	11,828,382	982,316	8.3%
Kentucky	287	1.11	8.04	1.36	14,768,718	1,305,941	8.8%
Louisiana	269	1.04	6.71	1.13	16,748,785	1,582,177	9.4%
Maine	204	0.79	5.08	0.86	6,104,214	276,690	4.5%
Maryland	326	1.26	6.05	1.02	29,623,694	1,915,389	6.5%
Massachusetts	182	0.70	3.25	0.55	36,643,309	1,214,704	3.3%
Michigan	209	0.81	5.45	0.92	36,829,597	2,392,572	6.5%
Minnesota	239	0.92	5.09	0.86	26,944,640	1,355,673	5.0%
Mississippi	337	1.30	10.01	1.69	9,269,168	1,070,402	11.5%
Missouri	178	0.69	4.56	0.77	19,907,050	1,140,961	5.7%
Montana	207	0.80	5.37	0.91	3,445,412	215,411	6.3%
Nebraska	418	1.62	9.29	1.57	7,832,609	773,664	9.9%
Nevada	171	0.66	4.49	0.76	10,214,320	550,169	5.4%
New Hampshire	63	0.24	1.27	0.22	5,373,504	137,555	2.6%
New Jersey	247	0.96	4.50	0.76	54,079,940	2,262,312	4.2%
New Mexico	442	1.71	12.38	2.09	7,290,889	955,241	13.1%
New York	283	1.09	5.32	0.90	147,783,146	5,810,643	3.9%
North Carolina	388	1.50	10.23	1.73	34,146,855	3,979,395	11.7%
North Dakota	492	1.90	8.96	1.51	4,715,270	311,678	6.6%
Ohio	189	0.73	4.73	0.80	45,862,578	2,452,882	5.3%

State	FISCAL 2012		FISCAL 2012		FISCAL 2011		
	Higher Education Support <sup>1</sup> Per Capita <sup>2</sup> (FY12)	Indexed to U.S. Average	Higher Education Support <sup>1</sup> Per \$1000 of Personal Income <sup>2</sup> (FY12)	Indexed to U.S. Average	Tax Revenues and Lottery Profits <sup>3</sup> (thousands FY11)	Higher Education Support <sup>1</sup> (thousands FY11)	Allocation to Higher Education
Oklahoma	272	1.05	6.70	1.13	12,079,985	1,146,744	9.5%
Oregon	196	0.76	5.01	0.85	14,635,979	845,320	5.8%
Pennsylvania	149	0.58	3.31	0.56	56,731,548	2,217,823	3.9%
Rhode Island	172	0.67	3.75	0.63	5,435,143	164,610	3.0%
South Carolina	195	0.75	5.57	0.94	14,014,932	991,647	7.1%
South Dakota	217	0.84	4.79	0.81	2,807,134	196,616	7.0%
Tennessee	219	0.85	5.66	0.95	19,371,103	1,659,586	8.6%
Texas	300	1.16	7.04	1.19	91,803,271	7,664,204	8.3%
Utah	255	0.99	7.21	1.22	9,057,134	734,872	8.1%
Vermont	144	0.56	3.23	0.55	3,161,519	94,227	3.0%
Virginia	<b>202</b>	<b>0.78</b>	<b>4.17</b>	<b>0.70</b>	<b>32,597,182</b>	<b>1,924,067</b>	<b>5.9%</b>
Washington	197	0.76	4.29	0.72	28,559,757	1,592,882	5.6%
West Virginia	293	1.13	8.35	1.41	7,533,381	535,119	7.1%
Wisconsin	272	1.05	6.46	1.09	25,750,186	1,797,708	7.0%
Wyoming	639	2.47	12.63	2.13	3,673,312	413,563	11.3%
<b>U.S.</b>	<b>\$259</b>	<b>1.00</b>	<b>\$5.93</b>	<b>1.00</b>	<b>\$1,351,397,114</b>	<b>\$87,242,367</b>	<b>6.5%</b>

1. Higher Education Support = State and local tax and non-tax support for public and independent higher education. Includes special purpose appropriations for research-agricultural-medical.

2. Population and personal income data from U.S. Census Bureau and Bureau of Economic Analysis.

3. State and local tax revenues data from U.S. Census Bureau; lottery profits data from North American Association of State and Provincial Lotteries.

Source: SHEEO, State Higher Education Finance FY 2013, 2014, <http://www.sheeo.org/projects/shef-%E2%80%94state-higher-education-finance>

## 2. Breakdown of public college and university costs

Tables 2 and 3 below, show institutional costs, as reported by each institution, for the two-year and four-year public institutions in Virginia, respectively. As a rule of thumb, it is reasonable to expect instruction to account for about half of the total cost per student in community colleges. However, it is also important to keep in mind that factors such as the institution's mission, size and location can also affect the allocation of costs. Generally, smaller colleges have higher costs per FTE than do larger colleges that can take advantage of their scale to reduce per student costs.

**Table 2. Cost per student at public two-year colleges**

Institution	Total Cost per Student (FTE, \$)	Instruction Cost per Student (FTE, \$)	Student Services Cost per Student (FTE, \$)	Academic Support Cost per Student (FTE, \$)	Operational and Maintenance Cost per Student (FTE, \$)	Institutional Support Cost per Student (FTE, \$)
Blue Ridge CC	8,062	4,270	523	963	875	1,431
Central VA CC	7,090	4,283	432	690	668	1,017
Dabney S Lancaster CC	11,909	6,323	708	1,388	1,141	2,349
Danville CC	8,563	5,050	570	705	900	1,338
Eastern Shore CC	11,448	6,257	1,113	1,066	922	2,090
Germanna CC	7,248	3,715	656	1,112	690	1,075
J Sargeant Reynolds CC	7,757	4,314	578	725	898	1,242
John Tyler CC	6,888	3,467	690	462	982	1,287
Lord Fairfax CC	8,555	3,830	818	1,132	683	2,092
Mountain Empire CC	8,846	5,149	960	888	704	1,145
New River CC	7,648	4,103	397	1,023	697	1,428
Northern Virginia CC	8,825	4,527	799	1,123	1,115	1,261
Patrick Henry CC	7,901	3,814	761	1,134	588	1,604
Paul D Camp CC	11,345	5,613	761	728	912	3,331
Piedmont Virginia CC	8,116	4,308	851	839	853	1,265
Rappahannock CC	10,081	4,919	676	1,384	1,447	1,655
Richard Bland College	9,082	3,191	1,153	348	1,444	2,946
Southside VA CC	8,363	5,352	599	679	496	1,237
Southwest VA CC	10,155	5,099	1,597	1,116	842	1,501
Thomas Nelson CC	6,923	3,307	759	614	865	1,378
Tidewater CC	7,650	4,169	705	458	949	1,369
VA Highlands CC	9,362	5,070	1,204	1,144	925	1,019
VA Western CC	7,322	4,109	640	792	802	979
Wytheville CC	8,796	4,508	855	1,267	798	1,368

Source: <http://www.collegemeasures.org>

The detailed cost breakdown in Table 3 shows relatively high expenditures for instruction relative to total cost per student at the four-year institutions when compared with the two-year institutions.

**Table 3. Cost per student at public four-year colleges**

Institution	Total Cost per Student (FTE, \$)	Instruction Cost per Student (FTE, \$)	Student Services Cost per Student (FTE, \$)	Academic Support Cost per Student (FTE, \$)	Operational and Maintenance Cost per Student (FTE, \$)	Institutional Support Cost per Student (FTE, \$)
Christopher Newport U.	12,716	6,460	1,378	1,734	1,098	2,046
College of William and Mary	20,477	12,508	1,806	2,856	1,086	2,221
George Mason U.	15,882	10,563	988	1,721	1,249	1,361
James Madison U.	12,259	7,541	830	1,782	977	1,129
Longwood U.	12,926	7,060	908	1,677	1,071	2,210
Norfolk State U.	10,953	6,123	719	1,301	947	1,863
Old Dominion U.	12,623	7,103	739	2,258	1,049	1,474
Radford U.	11,013	7,000	619	1,035	494	1,865
U. of Virginia's College at Wise	12,964	6,099	968	1,864	1,853	2,180
U. of Mary Washington	13,316	6,750	1,398	2,033	769	2,366
U. of VA-Main Campus	24,478	15,112	2,022	3,116	2,462	1,766
VA Commonwealth U.	16,232	11,550	603	1,878	776	1,425
VA Military Institute	27,008	11,798	3,711	3,825	4,090	3,584
Virginia Tech	12,926	9,711	497	1,038	842	838
VA State U.	13,141	8,105	908	787	1,101	2,240

Source: <http://www.collegemeasures.org>

### 3. Graduation rates for private, non-profit institutions

Per the request of the Council, the graduation rates for Virginia's private institutions are included below. Additional information on student success at Virginia institutions is available through the SCHEV Research website.

**Table 4. Four and six year graduation rates for FTIC students entering full-time at private, 4-yr. institutions and completing at original institution**

Institution	W/in 4yrs Students entering in Fall 2008 <sup>1</sup>	W/in 6yrs Students entering in Fall 2006 <sup>1</sup>
Averett University	22.0	12.6
Bluefield College	28.9	27.0
Bridgewater College	53.8	56.0
Christendom College	16.8	11.5
Eastern Mennonite University	45.9	57.2
Eastern Virginia Medical School	—	83.3
Emory and Henry College	31.2	48.8
Ferrum College	14.1	28.4
Hampden-Sydney College	60.1	67.4
Hampton University	37.5	56.2
Hollins University	54.6	55.5
Jefferson College of Health Sciences	42.1	63.5
Liberty University	16.4	42.6
Lynchburg College	36.5	57.2
Mary Baldwin College	35.2	47.1
Marymount University	27.6	49.6
Randolph College	36.6	48.9
Randolph-Macon College	55.0	55.9
Regent University	24.4	35.6
Roanoke College	51.5	65.3
Shenandoah University	35.5	35.2
Southern Virginia University	13.7	22.5
Sweet Briar College	58.8	57.6
University of Richmond	73.3	80.2
Virginia Intermont College	—	10.2
Virginia Union University	30.6	37.8
Virginia Wesleyan College	42.2	48.3
Washington and Lee University	81.5	89.6

— Not available

1. Most recent cohorts for which data are available.

Source: SCHEV Research, "Graduation Rates, 3-10 years, by Subcohorts," 2014,  
<http://research.schev.edu/gradrates/subcohorts.asp>.

#### **4. Completion and transfer rates for community colleges in Virginia**

During the strategic planning presentation to the Council, two tables showing the national standard IPEDS graduation rates for public institutions were presented. The Council expressed an interest in seeing additional, more detailed information. The following tables, presented in response to the Council's requests, are based largely on data obtained from the SCHEV Research website. SCHEV collects, reviews and publishes a wealth of information on student success at both public and private, non-profit institutions in Virginia. The reports available through the SCHEV Research website describe enrollments and completions, but they also provide a great deal of insight into issues such as outcomes for transfer students, persistence rates and post-completion wages among many others. The purpose of this Addendum is not present a comprehensive analysis of student success rates in Virginia, but rather to identify a few key highlights that are of relevance to the strategic planning process and to respond to the request made by the Council.

Table 5, below, reports the normal and extended-time graduation rates for first-time-in-college, full-time students in public, two-year institutions, by institution, in the most recent year for which data were available. Because these institutions serve many students seeking sub-baccalaureate degrees as well as students seeking to transfer to four-year colleges, a single graduation rate cannot fully capture the full extent of the success these colleges have. Therefore, the table presents graduation rates that include students who completed any degree at the institution where they started (the original institution) and a separate rate showing students who started at the indicated institution and then went on to complete any degree at any other institution in Virginia. Not available in all states, these metrics provided by SCHEV Research are more effective at capturing the full extent of public two-year colleges' success in their various institutional missions. The table includes both normal-time-to-completion and extended-time-to-completion graduation rates. The normal-time-to-completion rates for the two-year institutions are for completion within three and four years, for which the most recent cohort available was 2008. The extended-time-to-completion rates are for five and six years, for which the 2006 cohort was selected to maintain a similar time frame with the normal-time-to-completion rates reported.

These metrics show the variability in graduation rates among two-year colleges. The four-year graduation rate for the total of all public, two-year institutions is 24.4 percent, but the rate ranges from 16.1 percent at Tidewater Community College to 44 percent at Wytheville Community College. Much of this variation likely results from differences in the student populations among the campuses. Tidewater Community College is located in Norfolk, which a relatively high concentration of military families, many of whom move often and thus are less likely to complete a credential at the institution where they start.

The data in Table 6 are from IPEDS, via College Measures, and included the combined graduation and transfer-out rates, both overall and for a variety of racial and ethnic groups. Unlike the cohort lifecycle graduation rates reported by SCHEV, the graduation and transfer-out rates reported by IPEDS are mutually exclusive, and taken together can present a measure of student success – though it is not as comprehensive as the lifecycle data collected and reported by SCHEV.

**Table 5. Normal and extended time-to-completion graduation rates for FTIC students entering full time at public, 2-yr institutions**

Institution	Normal time				Extended time			
	(Entering in 2008-2009) <sup>1</sup>				(Entering in 2006-2007) <sup>2</sup>			
	Graduated from original institution, any degree (%)		Graduated from any institution, any degree (%)		Graduated from original institution, any degree (%)		Graduated from any institution, any degree (%)	
	W/in 3yrs	W/in 4yrs	W/in 3yrs	W/in 4yrs	W/in 5yrs	W/in 6yr	W/in 5yrs	W/in 6yr
<b>Total Public Two-Year Institutions</b>	17.7	24.4	18.4	27.4	24.5	27.1	31.6	37.2
<b>Virginia CC System</b>	17.7	24.3	18.3	27.3	24.4	27.0	31.4	37.0
<b>Blue Ridge CC</b>	19.7	26.4	20.6	31.5	24.4	27.8	36.1	43.6
<b>Central Virginia CC</b>	25.8	33.3	26.5	38.6	28.0	29.8	38.3	43.2
<b>Dabney S. Lancaster CC</b>	35.3	41.2	35.8	44.6	27.6	30.2	36.5	40.1
<b>Danville CC</b>	21.0	28.2	22.2	31.7	37.6	39.5	43.1	46.8
<b>Eastern Shore CC</b>	26.6	38.0	27.2	39.2	27.0	30.3	29.5	35.2
<b>Germanna CC</b>	15.9	22.8	16.3	26.6	33.1	36.0	43.5	50.1
<b>J Sargeant Reynolds CC</b>	10.7	16.2	11.2	17.8	18.7	21.0	25.0	29.8
<b>John Tyler CC</b>	11.2	16.9	11.7	19.4	21.0	22.8	28.7	34.2
<b>Lord Fairfax CC</b>	28.2	34.6	29.4	38.8	29.2	31.0	40.2	44.0
<b>Mountain Empire CC</b>	25.4	31.7	26.2	33.7	29.4	30.6	31.9	34.7
<b>New River CC</b>	22.8	29.2	24.4	35.1	22.9	24.1	33.4	37.3
<b>Northern Virginia CC</b>	16.5	25.1	16.8	27.9	21.8	25.4	29.5	37.0
<b>Patrick Henry CC</b>	29.3	35.7	30.2	38.1	33.1	36.3	39.7	44.3
<b>Paul D Camp CC</b>	22.8	26.5	22.8	29.7	26.6	27.1	31.4	33.3
<b>Piedmont Virginia CC</b>	20.1	25.8	21.4	32.0	24.5	26.4	35.1	40.8
<b>Rappahannock CC</b>	25.4	32.0	26.6	36.4	29.1	30.4	38.1	43.6
<b>Richard Bland College</b>	19.8	24.8	20.8	30.7	30.7	32.1	45.3	50.6
<b>Southside Virginia CC</b>	24.0	29.2	25.8	32.1	34.6	37.5	38.2	41.9
<b>Southwest Virginia CC</b>	30.0	35.3	31.7	40.6	28.1	29.3	33.4	36.2
<b>Thomas Nelson CC</b>	9.9	16.1	10.2	18.0	19.2	21.5	23.8	28.4
<b>Tidewater CC</b>	11.1	16.8	11.4	18.2	21.0	23.8	25.5	30.8
<b>Virginia Highlands CC</b>	19.3	24.6	20.7	28.3	29.8	31.8	37.0	39.3
<b>Virginia Western CC</b>	19.5	24.7	20.8	30.2	21.1	23.8	29.7	36.2
<b>Wytheville CC</b>	36.1	44.0	36.9	48.6	46.9	49.7	54.3	57.7

1. Most recent cohort for which four-year graduation data were available.  
 2. Cohort selected to maintain similar timeframe with graduation of normal-time cohort.  
 Source: SCHEV Research, "Graduation Rates, 3-10 years, by Subcohorts," 2014,  
<http://research.schev.edu/gradrates/subcohorts.asp>.

**Table 6. Three-year IPEDS completion and transfer rates for public, 2-yr public institutions in Virginia, by race/ethnicity, 2011 (2008 cohort)**

Institution	Overall (%)	White (%)	Black (%)	Hispanic (%)	Asian (%)	Pacific Islander (%)	American Indian & Alaskan Native (%)	Non Resident Alien (%)	2 or More Races (%)	Unknown (%)
Blue Ridge CC	35.3	37.4	10.0	23.5	33.3	0.0	0.0	ND*	0.0	42.3
Central VA CC	34.3	40.1	15.6	11.8	ND*	ND*	0.0	100.0	100.0	14.3
Dabney S Lancaster CC	38.1	38.5	33.3	ND*	ND*	ND*	50.0	ND*	ND*	25.0
Danville CC	33.8	40.6	25.4	36.4	0.0	ND*	0.0	ND*	50.0	0.0
Eastern Shore CC	39.8	50.8	18.4	66.7	100.0	0.0	ND*	100.0	ND*	25.0
Germanna CC	34.0	35.8	27.5	35.3	35.3	0.0	40.0	66.7	0.0	19.2
J Sargeant Reynolds CC	27.3	30.6	21.8	27.3	22.9	0.0	0.0	25.0	ND*	35.5
John Tyler CC	26.9	30.0	19.4	31.3	29.4	ND*	21.4	ND*	0.0	32.1
Lord Fairfax CC	35.2	34.8	28.2	38.9	75.0	0.0	100.0	0.0	ND*	50.0
Mountain Empire CC	24.9	24.8	25.0	100.0	ND*	ND*	0.0	ND*	100.0	0.0
New River CC	37.6	39.5	27.0	0.0	0.0	0.0	100.0	25.0	ND*	30.0
Northern Virginia CC	32.6	35.0	21.1	29.4	39.9	27.1	36.8	36.2	100.0	35.3
Patrick Henry CC	30.8	33.2	27.1	14.3	ND*	ND*	0.0	ND*	100.0	50.0
Paul D Camp CC	30.6	34.8	27.5	0.0	ND*	ND*	0.0	ND*	ND*	50.0
Piedmont Virginia CC	32.2	33.8	11.9	22.2	27.3	ND*	0.0	ND*	100.0	60.0
Rappahannock CC	36.3	37.6	24.3	41.7	50.0	ND*	100.0	ND*	100.0	61.5
Richard Bland College	50.7	59.1	39.4	54.5	55.6	ND*	0.0	100.0	66.7	36.8
Southside VA CC	31.9	36.1	25.5	55.6	50.0	ND*	0.0	ND*	100.0	33.3
Southwest VA CC	30.0	30.1	33.3	0.0	100.0	ND*	25.0	ND*	ND*	0.0
Thomas Nelson CC	27.0	35.1	14.4	29.3	35.3	10.0	50.0	0.0	33.3	26.1
Tidewater CC	21.8	26.8	15.4	20.3	22.1	14.8	18.8	55.6	37.5	18.9
VA Highlands CC	30.5	31.2	7.7	0.0	100.0	ND*	0.0	ND*	0.0	ND*
VA Western CC	33.2	34.6	18.9	40.0	63.6	50.0	28.6	25.0	100.0	35.7
Wytheville CC	37.1	37.7	15.4	40.0	0.0	ND*	0.0	ND*	ND*	100.0

\*ND: No Data available

Source: <http://www.collegemeasures.org>

Table 7 reports the normal and extended-time-to-completion graduation rates for Virginia's public, four-year colleges. These colleges do not serve a large population of students seeking to transfer-out; rather, they are the recipients of many transfer-in students. Therefore, rather than reporting the graduation rates for students who completed at the original institution and for students who completed at any institution, this table presents the graduation rates for first-time-in-college students and for students who transferred-in from other colleges within the state. The majority of those transferring in are likely to be from the state's public, two-year institutions, but transfers from all in-state institutions are included.

**Table 7. Four and six year graduation rates for FTIC students entering full-time and all new in-state transfer students at public, 4-yr. institutions**

Institution	FTIC, Full-Time at Entry		All New In-State Transfers <sup>1</sup>	
	W/in 4yrs Students entering in Fall 2008- 2009 <sup>2</sup>	W/in 6yrs Students entering in Fall 2006- 2007 <sup>3</sup>	W/in 4yrs Students entering in Fall 2008- 2009 <sup>2</sup>	W/in 6yrs Students entering in Fall 2006- 2007 <sup>3</sup>
<b>Total Public Four-year Institutions</b>	46.6	69.2	59.3	65.8
<b>Christopher Newport University</b>	53.7	67.1	60.7	64.7
<b>College of William and Mary</b>	78.6	89.4	85.5	85.5
<b>George Mason University</b>	36.9	61.4	59.9	63.4
<b>James Madison University</b>	57.2	80.0	76.0	77.4
<b>Longwood University</b>	44.4	60.7	65.1	69.3
<b>Norfolk State University</b>	9.6	33.8	35.5	49.8
<b>Old Dominion University</b>	17.0	47.0	47.3	57.7
<b>Radford University</b>	33.8	59.7	67.7	76.0
<b>University of Mary Washington</b>	60.8	76.1	60.0	66.0
<b>University of Virginia</b>	85.9	93.1	81.2	90.0
<b>UVa's College at Wise</b>	22.7	42.0	42.1	54.2
<b>Virginia Commonwealth University</b>	29.1	54.8	55.4	60.7
<b>Virginia Military Institute</b>	50.5	69.4	61.1	84.6
<b>Virginia State University</b>	21.0	42.6	55.1	51.5
<b>Virginia Tech</b>	57.6	83.3	76.8	87.0

1. Includes students transferring in with or without AA/AS degrees.

2. Most recent cohort for which four-year graduation data were available.

3. Cohort selected to maintain similar timeframe with graduation of four-year cohort.

Source: SCHEV Research, "Graduation Rates, 3-10 years, by Subcohorts," 2014,  
<http://research.schev.edu/gradrates/subcohorts.asp>.

Table 8, below, provides additional detail, showing the counts of students graduating from Virginia's public, four-year institutions from the cohorts indicated. Again, these cohorts were selected so that the most recent data available would reflect their outcomes in the normal and extended times to completion. For transfer-in students, the times to completion are less, because they have probably completed some coursework prior to transferring.

**Table 8. Number of full time students, by FTIC and transfer status, graduating within normal and extended time-to-completion and percent of full time graduates that are transfer students from public, 4-yr institutions**

Institution	Normal time (Entering 2008-2009) <sup>1</sup>			Extended time (Entering 2006-2007) <sup>2</sup>		
	FT, FTIC Students (W/in 4 years)	FT, Transfer Students (W/in 3 years)	Percent Transfer, of full- time	FT, FTIC Students (W/in 6 years)	FT, Transfer Students (W/in 5 years)	Percent Transfer, of full- time
Christopher Newport University	671	69	9%	872	95	10%
College of William and Mary	1,102	212	16%	1,225	220	15%
George Mason University	997	1,211	55%	1,633	1,371	46%
James Madison University	2,318	382	14%	3,130	575	16%
Longwood University	498	94	16%	676	165	20%
Norfolk State University	106	78	42%	368	130	26%
Old Dominion University	524	573	52%	1,074	804	43%
Radford University	686	323	32%	1,167	498	30%
University of Mary Washington	538	141	21%	759	181	19%
University of Virginia	2,818	456	14%	2,891	489	14%
University of Virginia's College at Wise	104	38	27%	198	84	30%
Virginia Commonwealth University	1,144	1,157	50%	2,081	886	30%
Virginia Military Institute	214	6	3%	285	15	5%
Virginia State University	313	70	18%	395	121	23%
Virginia Tech	3,171	570	15%	4,240	693	14%

1. Most recent cohort for which four-year graduation data were available.

2. Cohort selected to maintain similar timeframe with graduation of four-year cohort.

Source: SCHEV Research, "Student Success Index," 2014, [http://research.schev.edu/gradrates/success\\_index.asp](http://research.schev.edu/gradrates/success_index.asp)

Table 9 provides IPEDS success data for the public, four-year institutions comparable to that presented in Table 7 for the two-year institutions.

**Table 9. Six-year completion and transfer rates for four-year public colleges in Virginia, 2011 (2005 cohort)**

Institution	Overall (%)	White (%)	Black (%)	Hispanic (%)	Asian (%)	Pacific Islander (%)	American Indian & Alaskan Native (%)	Non-Resident Alien (%)	2 or More Races (%)	Unknown (%)
Christopher Newport U.	67.4	69.3	56.0	53.3	69.6	100	75.0	0.0	75.0	53.6
College of William and Mary	89.9	91.8	81.9	90.2	85.7	ND*	84.6	90.0	80.0	87.7
George Mason U.	65.9	64.6	65.4	66.0	66.6	ND*	44.4	71.7	ND*	70.4
James Madison U.	80.1	82.5	75.4	83.7	80.1	95.0	81.8	71.8	80.0	53.7
Longwood U.	61.2	61.7	57.4	52.2	53.3	ND*	87.5	83.3	0.0	33.3
Norfolk State U.	35.6	14.3	38.9	0.0	0.0	0.0	0.0	50.0	40.0	10.7
Old Dominion U.	49.1	69.6	66.4	60.0	58.0	56.3	100.0	44.4	61.1	33.1
Radford U.	60.1	60.7	62.4	49.1	50.0	100.0	50.0	25.0	ND*	66.7
UVA's College at Wise	42.1	42.4	38.2	30.0	33.3	ND*	100.0	75.0	ND*	ND*
U. of Mary Washington	76.0	75.9	72.0	100.0	75.6	ND*	100.0	100.0	ND*	75.8
U. of VA-Main Campus	93.4	95.0	85.7	91.4	94.3	ND*	100.0	85.4	ND*	93.7
VA Commonwealth U.	56.1	55.5	54.1	51.3	67.5	ND*	56.0	34.6	ND*	58.2
VA Military Institute	71.3	72.1	60.0	62.5	83.3	ND*	0.0	100.0	ND*	ND*
Virginia Tech	82.8	84.4	70.7	79.6	81.9	ND*	75.0	67.1	ND*	81.4
VA State U.	43.9	20.0	45.1	50.0	0.0	ND*	0.0	0.0	0.0	16.7

\* ND: No Data available

Source: <http://www.collegemeasures.org>

## 5. Virginia's rank on various higher education measures

The following tables show Virginia's rank on several strategic measures relevant to the strategic plan, including: graduation and retention rates, cost of instruction, cost of completion, number of completions per 100 FTE students, cost of attrition and student loan default rate.

There are two ways to report operating expenses in colleges and universities. The first is direct educational costs, which includes spending on instruction, student services and the education share of spending on central academic and administrative support, operations and maintenance. The second is education and general expenses, which is a more inclusive measure and includes the sum of education and related expenses, research and related expenses, public service and related expenses, and scholarships and fellowships.

- Instructional costs include expenses of the colleges, schools, departments and other instructional divisions of the institution and expenses for departmental research and public service that are not separately budgeted. They include expenditures for general academic instruction, occupational and vocational instruction, community education, preparatory and adult basic education, as well as regular, special and extension sessions for both credit and non-credit activities.
- Academic support costs include activities and services that support the institution's primary missions of instruction, research and public service. Examples include libraries, museums and galleries; demonstration school or veterinary and dental clinics if they support the instructional program; media services; academic deans (not department chairpersons); academic personnel development, course and curriculum development; and information technology related to academic support.
- Cost per student is determined by dividing total spending on direct educational costs by the number of full-time-equivalent students.
- Cost per completion or degree provides a rough indication of productivity in higher education. This measure uses the education and related expenses (for all students) and divides it by all completions awarded in the same year. Completions are calculated by summing degrees and certificates. Certificates of between one and two years are given a weight of .5, while certificates of 2-4 years and associate's degrees are given a weight of 1.
- Cost of attrition is the estimated cost of students dropping out within the first year.

Table 10 looks at how Virginia ranks among the fifty states for public two-year institutions, while Table 11 shows strategic metrics for each of Virginia's public two-year institutions. Tables 12 and 13 provide the comparable reports for Virginia's public four-year institutions.

Table 10, below, shows how Virginia compares to the other states for public two-year institutions. Virginia's 1<sup>st</sup> year retention compares well, with a rank 11<sup>th</sup>, but with a rank of 40<sup>th</sup>, the graduation rate is relatively low. Virginia also ranks low on measures of efficiency, 40<sup>th</sup> for cost per student and 44<sup>th</sup> for cost per completion, yet fares well on measures of productivity, ranking 17<sup>th</sup> on completion rate per 100 FTE students and 19<sup>th</sup> on cost of attrition.

Table 10. Virginia's rank compared with other states on two-year public college measures

State	Completion & Progression				Efficiency				Productivity				Gainful Employment	
	Graduation Rate		1st Year Retention Rate		Cost per Student (FTE)		Cost per Completion		Completion per 100 FTE Students		Cost of Attrition <sup>1</sup>		Student Loan Default Rate	
	Rate (%)	Rank	Rate (%)	Rank	Rate (\$)	Rank	Rate (\$)	Rank	Rate (%)	Rank	Rate (mil. \$)	Rank	Rate (%)	Rank
AL	39.5	19	80.4	46	9,154	27	53,278	26	17	30	32.4	9	16.1	16
AK	15.4	51	72.0	52	44,210	1	564,522	1	8	52	0.5	51	ND**	ND**
AZ	36.3	24	82.6	28	8,245	38	44,821	39	18	22	26.2	15	15.6	17
AR	35.1	28	81.4	38	9,117	29	44,333	42	21	14	13.6	30	16.8	13
CA	39.0	20	88.4	2	7,991	42	64,670	10	12	51	92.0	3	15.5	20
CO	35.0	29	81.7	34	8,032	41	55,648	23	14	48	10.4	34	19.0	4
CT	32.7	38	83.8	13	12,387	8	76,425	4	16	40	13.4	31	8.8	46
DE	23.3	50	83.9	12	13,591	5	81,876	2	17	37	5.3	37	12.1	37
FL	46.0	11	84.4	9	8,299	37	29,097	50	29	3	13.9	29	14.1	25
GA	29.1	43	80.5	45	9,137	28	62,502	12	15	47	30.8	11	11.1	41
GU	61.1	2	85.9	5	17,305	2	75,206	5	23	5	0.6	49	ND**	ND**
HI	32.5	39	85.2	6	10,939	12	65,315	8	17	35	4.7	40	15.5	19
ID	35.5	26	81.8	32	7,982	43	45,658	35	17	28	2.7	46	18.1	9
IL	46.9	10	83.5	19	9,290	25	57,017	19	16	39	48.0	4	14.4	24
IN	24.1	49	78.2	50	6,911	19	44,765	40	15	45	15.1	26	17.1	11
IA	43.0	15	81.4	39	9,323	24	43,778	43	21	11	24.9	18	18.5	5
KS	51.3	5	83.2	23	10,286	19	54,707	24	19	19	18.0	24	11.4	39
KY	35.0	30	82.9	24	7,075	47	45,180	38	16	43	11.0	33	20.6	3
LA	30.3	41	81.1	41	7,063	48	42,086	45	17	33	14.7	28	14.8	22
ME	41.2	18	82.3	30	8,891	32	41,194	47	22	9	4.1	41	13.7	26
MD	37.4	22	83.7	15	13,026	6	73,321	6	18	25	31.3	10	10.3	44
MA	33.6	35	83.6	18	10,605	14	60,175	15	18	27	23.3	20	12.3	35
MI	42.2	16	81.4	37	10,602	15	53,781	25	20	16	43.2	5	16.9	12
MN	50.7	7	81.1	42	10,370	17	48,058	33	22	10	27.8	13	12.2	36
MS	48.0	9	83.2	22	8,202	39	40,579	48	20	15	25.2	17	16.2	14
MO	41.3	17	82.6	27	6,421	51	40,057	49	16	41	18.5	22	15.9	16
MT	45.6	13	81.2	40	12,105	9	55,835	21	22	8	3.0	44	12.8	30
NE	44.5	14	83.7	17	10,098	21	56,540	20	18	24	8.6	35	10.7	43
NV	33.3	37	87.6	3	8,608	34	61,198	14	14	50	0.6	48	15.5	18
NH	25.3	47	82.5	29	11,399	10	51,913	28	22	7	3.0	45	8.2	47
NJ	34.5	32	84.9	7	8,316	36	50,086	32	17	36	35.8	8	11.1	40
NM	25.5	46	82.3	31	8,635	33	50,472	31	17	31	13.3	32	21.8	2
NY	35.2	27	84.3	10	10,749	13	59,342	17	18	23	100.1	1	13.6	28
NC	34.7	31	83.2	21	10,330	18	58,493	18	18	26	41.5	6	18.4	6
ND	52.5	4	82.8	25	12,708	7	50,813	30	25	4	3.2	42	6.2	49
OH	26.2	45	79.2	49	9,189	26	55,654	22	17	38	35.8	7	18.2	8
OK	33.5	36	79.4	48	7,746	46	41,795	46	19	21	14.8	27	18.4	7
OR	35.6	25	81.6	35	11,114	11	65,102	9	17	32	18.2	23	13.6	27
PA	37.3	23	82.6	26	10,473	16	60,163	16	17	29	29.8	12	12.5	33
PR	67.3	1	92.3	1	3,347	52	6,793	52	49	1	0.4	52	ND**	ND**
RI	29.2	42	84.7	8	9,774	23	61,886	13	16	42	3.1	43	6.7	48

State	Completion & Progression				Efficiency				Productivity				Gainful Employment	
	Graduation Rate		1st Year Retention Rate		Cost per Student (FTE)		Cost per Completion		Completion per 100 FTE Students		Cost of Attrition <sup>1</sup>		Student Loan Default Rate	
	Rate (%)	Rank	Rate (%)	Rank	Rate (\$)	Rank	Rate (\$)	Rank	Rate (%)	Rank	Rate (mil. \$)	Rank	Rate (%)	Rank
SC	33.9	34	80.3	47	9,059	30	63,074	11	14	49	26.4	14	12.6	32
SD	53.6	3	86.8	4	8,937	31	27,915	51	32	2	2.3	47	9.4	45
TN	24.3	48	80.7	44	7,959	44	47,488	34	17	34	22.1	21	14.5	23
TX	38.9	21	81.8	33	7,945	45	51,217	29	16	44	93.4	2	15.5	21
UT	34.4	33	81.0	43	8,322	35	44,663	41	19	20	5.1	39	11.1	42
VT	14.1	52	81.5	36	9,975	22	52,573	27	19	18	0.5	50	17.2	10
VA	<b>30.5</b>	<b>40</b>	<b>84.0</b>	<b>11</b>	<b>8,188</b>	<b>40</b>	<b>42,722</b>	<b>44</b>	<b>19</b>	<b>17</b>	<b>24.8</b>	<b>19</b>	<b>12.4</b>	<b>34</b>
WA	48.1	8	83.7	16	10,253	20	45,445	36	23	6	16.2	25	12.6	31
WV	26.7	44	77.3	51	6,804	50	45,330	37	15	46	5.2	38	25.9	1
WI	45.8	12	83.4	20	16,578	3	79,694	3	21	12	25.7	16	11.4	38
WY	51.2	6	83.7	14	13,791	4	66,563	7	21	13	5.9	36	13.0	29

\*\* ND: No Data available

1. Amount spent by the college to educate first-year degree-seeking students (first-time, full-time) who did not begin a second year.

Source: <http://www.collegemeasures.org>

Table 11, below, provides a detailed look at individual public two-year colleges in Virginia. This table includes a salary to cost ratio, which measures the relationship between cost per completion and the early career median pay for graduates of the institution. Cost per completion provides a measure of productivity that considers operational costs and graduation rates. By this measure Mountain Empire Community College is the most expensive at \$60,942 per degree granted and Patrick Henry Community College is the least expensive at \$30,733, however these costs may reflect differences in size of the institution and the programs offered. Smaller colleges have higher per student costs than do larger colleges. Additionally, some colleges may offer expensive programs such as nursing or high tech majors that require smaller classes and expensive equipment to operate and maintain.

**Table 11. Strategic measures for public two-year colleges**

Institution	Graduation Rate (%)	First-Year Retention (%)	Cost per Student (FTE, \$)	Cost per Completion	Completions per 100 FTE Students	Cost of Attrition <sup>1</sup> (mil. \$)	Student Loan Default Rate (%)	Salary to Cost Ratio (%)
Blue Ridge CC	35.3	84.1	8,062	33,187	24	0.7	13.1	ND**
Central VA CC	34.3	83.0	7,090	35,941	20	0.5	0.0	87.64
Dabney S Lancaster CC	38.1	84.2	11,909	57,282	21	0.3	10.8	ND**
Danville CC	33.8	83.9	8,563	47,581	18	0.6	15.4	63.47
Eastern Shore CC	39.8	82.1	11,448	58,128	20	0.2	0.0	ND**
Germanna CC	34.0	85.2	7,248	33,360	22	0.8	0.0	115.11
J Sargeant Reynolds CC	27.3	81.3	7,757	53,387	15	1.4	14.4	69.49
John Tyler CC	26.9	80.2	6,888	48,929	14	1.2	12.3	77.46
Lord Fairfax CC	35.2	85.9	8,555	37,551	23	0.7	0.0	92.41
Mountain Empire CC	24.9	84.3	8,846	60,942	15	0.7	0.0	49.23
New River CC	37.6	83.3	7,648	43,911	17	0.5	12.8	71.96
Northern Virginia CC	32.6	88.6	8,825	40,185	22	4.9	ND**	96.55
Patrick Henry CC	30.8	84.1	7,901	30,733	26	0.5	0.0	109.65
Paul D Camp CC	30.6	76.9	11,345	53,454	21	0.4	0.0	81.00
Piedmont Virginia CC	32.2	83.2	8,116	42,668	19	0.4	11.3	75.47
Rappahannock CC	36.3	84.5	10,081	58,502	17	0.4	0.0	67.69
Richard Bland College	50.7	84.0	9,082	49,808	18	0.7	9.9	ND**
Southside VA CC	31.9	84.4	8,363	42,032	20	0.7	0.0	73.04
Southwest VA CC	30.0	83.5	10,155	42,095	24	0.7	0.0	79.58
Thomas Nelson CC	27.0	83.3	6,923	37,882	18	1.0	13.1	90.81
Tidewater CC	21.8	80.7	7,650	49,120	16	5.3	11.5	63.72
VA Highlands CC	30.5	81.5	9,362	36,011	26	0.6	0.0	89.42
VA Western CC	33.2	85.2	7,322	43,241	17	0.8	12.9	81.17
Wytheville CC	37.1	83.7	8,796	40,683	22	0.6	8.7	96.60

\*\* ND: No Data available

1. Amount spent by the college to educate first-year degree-seeking students (first-time, full-time) who did not begin a second year.

Source: <http://www.collegemeasures.org/>

Table 12 shows that Virginia’s public four-year institutions compare very well on graduation rate and 1<sup>st</sup> year retention, ranking 3<sup>rd</sup> and 2<sup>nd</sup>, respectively. In the graduation rate rankings, Virginia trails Vermont and Delaware, both of which serve much smaller populations. Virginia’s institutions are near the middle of the states on cost per student at 27<sup>th</sup>, but lag somewhat on cost per degree at 36<sup>th</sup> despite having the 18<sup>th</sup> best cost of attrition. On the gainful employment measure of student loan default rate, Virginia compares poorly to the other states, with a rank of 45<sup>th</sup>.

**Table 12. Virginia’s rank compared with other states on four-year public college measures**

State	Completion & Progression				Efficiency		Productivity				Gainful Employment	
	Graduation Rate		1st-Year Retention Rate		Cost per Student (FTE)		Cost per Degree		Cost of Attrition <sup>1</sup>		Student Loan Default Rate	
	Rate (%)	Rank	Rate (%)	Rank	Rate (\$)	Rank	Rate (\$)	Rank	Rate (mil. of \$)	Rank	Rate (%)	Rank
AL	48.7	38	77.7	27	15,428	26	64,885	26	72.0	13	7.7	16
AK	27.3	52	71.1	48	19,347	9	117,909	2	14.6	46	8.6	11
AZ	57.2	22	79.4	21	14,579	32	54,473	41	57.9	19	7.0	23
AR	42.9	47	71.4	47	10,561	54	43,499	53	37.2	29	10.2	5
CA	64.7	8	87.2	1	18,674	11	69,174	17	173.1	2	4.3	46
CO	54.1	30	75.7	35	15,922	23	69,308	16	73.0	12	6.6	25
CT	62.5	12	82.0	13	23,297	2	83,437	6	28.2	33	4.4	40
DE	70.5	2	85.2	6	22,593	4	97,909	3	16.0	43	5.5	32
DC	15.8	54	50.8	54	30,537	1	165,411	1	4.9	52	12.7	2
FL	62.8	10	86.3	4	12,851	40	42,987	54	61.1	13	5.5	33
GA	53.3	31	78.9	22	11,992	45	50,982	48	73.7	11	7.1	22
GU	27.0	53	76.0	33	12,151	44	73,191	11	1.3	54	4.3	44
HI	52.2	32	77.2	30	22,335	5	82,287	7	12.5	48	4.4	39
ID	38.5	50	69.8	53	11,518	52	53,122	45	21.6	39	10.0	6
IL	62.8	11	78.4	23	20,631	6	72,736	12	113.6	5	5.4	35
IN	54.9	27	77.5	28	16,420	19	69,162	18	103.3	8	7.8	15
IA	69.6	4	84.9	7	16,387	20	66,770	22	27.7	34	3.8	48
KS	54.3	29	75.4	37	14,676	30	56,307	37	41.4	27	6.4	26
KY	47.5	42	72.6	43	14,986	28	64,255	27	71.9	14	8.8	10
LA	43.4	46	73.4	40	11,025	53	51,189	47	53.7	20	7.3	21
ME	49.2	36	70.5	50	14,585	31	61,725	33	19.7	42	8.2	13
MD	60.6	16	84.0	11	17,486	13	62,960	30	36.0	30	7.5	19
MA	56.7	24	80.9	16	16,671	18	66,719	23	47.8	23	5.9	28
MI	61.5	14	81.8	14	17,294	15	68,406	20	107.4	6	6.4	27
MN	57.8	20	78.3	24	15,793	25	62,972	29	45.6	25	4.2	47
MS	50.0	35	77.4	29	11,651	50	52,917	46	28.5	32	8.5	12
MO	55.0	26	75.0	38	12,865	39	53,448	43	62.2	15	7.7	18
MT	46.3	44	70.1	51	11,845	47	56,141	38	19.9	41	7.3	20
NE	56.8	23	78.2	25	11,612	51	50,418	50	20.1	40	4.4	42

State	Completion & Progression				Efficiency		Productivity				Gainful Employment	
	Graduation Rate		1st-Year Retention Rate		Cost per Student (FTE)		Cost per Degree		Cost of Attrition <sup>1</sup>		Student Loan Default Rate	
	Rate (%)	Rank	Rate (%)	Rank	Rate (\$)	Rank	Rate (\$)	Rank	Rate (mil. of \$)	Rank	Rate (%)	Rank
NV	46.2	45	77.1	31	16,353	21	70,905	14	22.1	38	5.8	31
NH	69.5	5	80.8	17	14,194	35	54,616	40	14.7	45	3.2	53
NJ	67.0	7	84.3	9	17,411	14	64,120	28	52.3	21	4.9	37
NM	40.9	48	71.8	45	11,833	48	54,271	42	23.7	35	13.1	1
NY	60.6	15	84.2	10	18,365	12	67,933	21	106.8	7	5.2	36
NC	60.3	17	82.6	12	16,948	16	66,176	24	78.5	10	6.9	24
ND	49.0	37	73.2	41	14,834	29	69,817	15	22.3	37	3.4	51
OH	57.9	19	75.6	36	16,314	22	62,469	31	156.1	3	9.1	8
OK	47.7	41	72.9	42	11,965	46	50,472	49	47.5	24	9.4	7
OR	55.8	25	79.7	20	12,951	38	53,424	44	28.8	31	4.9	38
PA	63.4	9	80.9	15	18,992	10	76,737	9	119.8	4	5.4	34
PR	38.9	49	86.4	3	12,220	42	74,173	10	15.5	44	8.8	9
RI	57.3	21	79.9	19	13,642	36	59,734	34	10.8	49	5.9	29
SC	61.5	13	78.0	26	14,447	33	62,270	32	51.9	22	5.8	30
SD	48.4	39	71.7	46	11,821	49	55,496	39	14.6	47	4.3	43
TN	47.8	40	72.2	44	15,915	24	71,429	13	80.2	9	8.1	14
TX	50.2	34	74.7	39	12,762	41	48,119	51	203.4	1	7.7	17
UT	50.6	33	76.7	32	12,156	43	45,028	52	23.7	36	4.4	41
VT	75.8	1	85.3	5	22,965	3	90,082	5	8.2	50	2.3	54
VI	32.3	51	70.0	52	16,855	17	90,592	4	2.0	53	12.7	3
VA	<b>71.0</b>	<b>3</b>	<b>87.0</b>	<b>2</b>	<b>15,365</b>	<b>27</b>	<b>57,481</b>	<b>36</b>	<b>58.4</b>	<b>18</b>	<b>4.3</b>	<b>45</b>
WA	67.9	6	84.4	8	19,725	8	68,750	19	39.5	28	3.8	49
WV	46.6	43	70.6	49	14,196	34	65,867	25	41.5	26	11.3	4
WI	59.6	18	80.2	18	13,326	37	58,574	35	60.0	17	3.3	52
WY	54.4	28	75.7	34	20,363	7	82,254	8	7.6	51	3.7	50

1. Amount spent by the colleges to educate first-year undergraduate students (first-time, full-time) who did not begin a second year.

Source: <http://www.collegemeasures.org/>

Within the state, shown in Table 13 below, the public four-year institutions show more variation on cost and productivity measures than did the two-year colleges. This reflects their differences in mission, enrollment and share of graduate students. Radford University has the lowest cost to produce a graduate at \$43,113 and VMI the highest at \$142,120. It is worth noting that costs are surprisingly low at Virginia Tech, given that it is a major research university.

Cost per degree is a meaningful measure of high-level efficiency in higher education. If cost per degree was used as a performance metric, each college in Virginia could use its own history as baseline and be rewarded for improvement over time. Improvements could be made by graduating more students,

graduating them in a shorter time and/or by reducing expenditures that did not contribute to successful outcomes. This would enable the state to promote the desired outcomes while allowing the institutions the greatest possible freedom in achieving gains.

**Table 13. Strategic measures for public four-year colleges**

Institution	Completion and Progression		Efficiency	Productivity		Gainful Employment	
	Graduation Rate (%)	1st-Year Retention Rate (%)	Cost per Student (FTE, \$)	Cost per Degree (\$)	Cost of Attrition <sup>1</sup> (mil. of \$)	Student Loan Default Rate (%)	Ratio of Student Loan Payments to Earnings <sup>2</sup> (%)
Christopher Newport U.	67.4	84.7	12,716	54,102	2.4	2.7	5.6
College of William and Mary	89.9	96.1	20,477	70,163	1.2	0.9	4.0
George Mason U.	65.9	86.4	15,882	49,600	5.7	1.4	5.4
James Madison U.	80.1	91.4	12,259	47,058	4.2	2.1	5.4
Longwood U.	61.2	80.7	12,926	55,778	2.6	2.7	5.2
Norfolk State U.	35.6	73.8	10,953	57,908	2.6	17.1	ND**
Old Dominion U.	49.1	80.4	12,623	49,219	6.7	5.7	5.7
Radford U.	60.1	74.3	11,013	43,113	5.7	3.1	6.5
UVA's College at Wise	42.1	71.1	12,964	80,832	1.3	9.5	ND**
U. of Mary Washington	76.0	83.4	13,316	49,512	2.1	1.4	5.0
U. of VA-Main Campus	93.4	97.5	24,478	85,278	2.1	1.6	5.2
VA Commonwealth U.	56.1	85.2	16,232	62,576	8.9	4.7	ND**
VA Military Institute	71.3	82.4	27,008	142,120	2.1	4.6	5.0
Virginia Tech	82.8	92.5	12,926	46,707	5.1	2.6	5.9
VA State U.	43.9	65.4	13,141	72,705	5.6	10.5	ND**

\*\* ND: No Data available

1. Amount spent by the college to educate first-year undergraduate students (first-time, full-time) who did not begin a second year.

2. Median starting pay data presently available for 950 of the 1,575 colleges featured on this website.

Source: <http://www.collegemeasures.org/>

**6. Information on VCU Commonwealth Education Poll, 2013-14**

The Council asked a question about the Commonwealth Education Poll. A copy of the study is included with this addendum and is available online from the VCU Commonwealth Educational Policy Institute website at <http://www.cepi.vcu.edu>.

Two of the questions relevant to higher education are included here:

*Would you be willing or not willing to pay higher taxes so that K-12 school funding could be increased?*

Age Group	Percent willing to pay higher taxes
18-34	73%
35-44	73%
45-64	49%
65+	43%

Source: Commonwealth Education Poll 2013-2014

This finding highlights the possibility that an aging population may make it harder to find support to raise taxes to increase funding for education in general.

*Would you be willing to pay taxes in order to keep the program at its current level?*

Program	Percent willing to pay higher taxes
Public schools	70%
Mental health services	69%
Aid to low-income families	62%
Transportation	52%
Public universities and higher education	49%
Prisons	21%

Source: Commonwealth Education Poll 2013-2014

This result suggests that in an environment of limited funds, higher education might not fare as well as other state programs.

## 7. Cost of remediation

Colleges do not publish the direct cost of providing remedial education, which makes it difficult to generate valid cost estimates. Most studies overestimate the cost of remedial education in college because they convert the number of students taking remediation into full-time equivalent students and multiply the result by the average cost for enrolling a student. The problem is that, on average, it does not cost as much to enroll a student in a developmental education class as it does in other classes.

The Board of Regents in Ohio is one of the few states that have reliable cost data for remedial education. They found that 38 percent of incoming freshmen were taking remedial coursework, but this equaled only 5 percent of full-time students and around 3.6 percent of undergraduate instructional costs. Remedial classes are often taught by part-time faculty members that are paid by the class, which accounts for the lower cost of these courses.

Options for reducing the costs include making the remedial sequence shorter and more intense, using technology to help assess the student's strengths and weaknesses in a self-paced format, embedding the remedial work in the regular curriculum with special tutorial help, dual-enrolling students in remedial education while they are in high school, providing pre-assessment brush-ups, and improving readiness assessments so that students start at the correct level. In the long-run, reductions in costs will be realized by reducing the number of students requiring remediation and increasing the number who succeed if remediation is required.

## 8. Examples of rural research and development clusters that work

Rural research clusters must be tied to local economic needs in order to prosper. However, local businesses in small towns and rural regions may not always have the resources to become participating partners with research and development efforts. For this reason, the best models for rural research centers combine education with industries that are already well developed and relevant to their communities: agriculture, education or healthcare. Combining research efforts with these existing operations may prove more successful than initiating new, stand-alone efforts. Following are four examples of rural research efforts, one national, two from Virginia, and one from neighboring North Carolina.

- **Virginia Middle School Alliance/REL Appalachia:** The Virginia Middle School Alliance is aimed at increasing middle schools' capacity to use data to inform instructional decision-making and improve student outcomes. This alliance focuses on building middle school educators' capacity to identify struggling students who need additional support, as well as selecting, implementing and monitoring interventions to support those students.
- **Virginia Cooperative Extension:** This program brings the resources of Virginia's land-grant universities, Virginia Tech and Virginia State University, to the people of the Commonwealth. The centers established by the program help people learn how to use knowledge to improve the quality of their lives. VA Extension agents and specialists form a network of educators whose classrooms are the communities, homes and businesses of Virginia where they provide research-based solutions to the problems facing many Virginians. To better utilize their resources, the universities form collaborations with hundreds of public and private partners and volunteers, who help them connect with larger and more diverse audiences.
- **Rural Health Research Centers:** This is a federally funded program in the Department of Health and Human Services designed to help policy-makers better understand the problems that rural communities face in accessing quality, affordable health care and leading healthier lives. The Research Centers work to understand the ways in which the health of rural Americans can be improved, analyze the implications of federal and state policy options and communicate research results to policy-makers and others who may take action. Virginia appears not to have any funded centers, even though the Commonwealth has several rural health initiatives.
- **The North Carolina Rural Economic Development Center:** This center operates multifaceted programs with four overarching goals:
  - Serve as the state's rural policy leader and advocate
  - Develop strategies to bring about economic and social transformation
  - Deliver resources for rural people, businesses and communities
  - Equip rural leaders to succeed in the 21st century

The center is a private, nonprofit organization funded by both public and private sources and led by a board of directors. Higher education institutions in Virginia could be founding partners of such an organization in the Commonwealth. The VCCS Rural Horseshoe initiative could be a starting point for developing rural economic development centers in Virginia.