
STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA

**Virginia Enrollment
Demand Projection
for
2001-2010**

JULY 17, 2001

A SCHEV REPORT



EXECUTIVE SUMMARY

This report details where Virginia's system of higher education is today, and where it will likely be in 2010, with respect to the demand for higher education. It is the first in a five part series that, when completed in November 2001, will comprise Phase I of the State Council's Systemwide Master Plan for Virginia Higher Education. As with all good strategic planning efforts, the Council's Master Plan is intended to reflect an organic and continuous process. The primary purpose of Phase I is to detail the demand for, and supply of, higher education services in Virginia through 2010 and identify any gaps between the two. This information will set the stage for Phase II of the Systemwide Master Plan. In Phase II, the Council will develop and propose strategic planning initiatives aimed at addressing potential gaps between demand and supply and insuring that Virginia's system of higher education continues to be one of the strongest and most highly respected in the nation.

Each biennium the State Council works with Virginia's public colleges and universities, and the Governor's Department of Planning and Budget to develop student enrollment projections for each institution of higher education. These projections detail the number of students each institution expects to enroll over a six-year planning horizon based on current admissions trends, capacity, and institution policies regarding enrollment growth. Because they are constrained by capacity and institutional policy considerations, however, these student enrollment projections do not actually address the issue of future *enrollment demand* – the number of qualified students who would otherwise be expected to seek admission to Virginia's colleges and universities if space were available. To more adequately address this issue, provide information on system-wide (public and private) enrollment, and obtain more information on the likely characteristics and needs of future students through 2010, the State Council has augmented its current enrollment projection process by creating an *enrollment demand* projection model. This report is based on an analysis of the findings from that model.

What this analysis shows is that:

- Between 2000 and 2010, enrollment demand (undergraduate and graduate) across Virginia's system of higher education (public four-year, public two-year, private non-profit, and private for-profit institutions) will increase by approximately 38,296 students. The public institutions will account for 83 percent of this increase, or approximately 31,611 students. This contrasts with a 19,977 student increase in systemwide enrollment, and 22,495 student increase in public college and university enrollment, over the period from 1990 to 2000.
- This increase in enrollment demand is being driven in the main by a significant increase in the number of 15 to 24 year olds in Virginia. This "traditional" college age group has a high college enrollment rate (18.5 percent Virginians 15 to 24 years old attended a Virginia institution of higher education in fall 2000) and is responsible for the bulk of college and university enrollments (86 percent in private for profit institutions, 71 percent in private non-profit, 69 percent in public four-year, and 50 percent in public two-year institutions in fall 2000). Also important is the fact that almost all of this growth will take place in a handful of localities all located in the Interstate 95/Interstate 64 (I-95/I-64) corridor in the eastern portion of the Commonwealth.
- At the same time that Virginia's population of 15 to 24 year olds will be increasing, its population of 25 to 44 year olds will be declining. This is the age group that drives "non-traditional" enrollments in Virginia's colleges and universities.
- Those institutions of higher education whose institutional missions are primarily geared toward serving "traditional" students, and that draw a large proportion of their students from the I-95/I-64 corridor in the eastern portion of the Commonwealth, are likely to experience the greatest increase in enrollment demand. The two categories of institutions that fit both of these criteria are the public four-year and private for-profit institutions.

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INTRODUCTION

Pursuant to statutory mandate,¹ each biennium SCHEV works with Virginia's public colleges and universities, and the Governor's Department of Planning and Budget to develop student enrollment projections for each institution of higher education.² These projections detail the number of students each institution expects to enroll over a six-year planning horizon based on current admissions trends, capacity, and institution policies regarding enrollment growth. Because they are constrained by capacity and institutional policy considerations, however, these student enrollment projections do not actually address the issue of future *enrollment demand*—the number of qualified students who would otherwise be expected to seek admission to Virginia's colleges and universities if space were available. To more adequately address this issue, provide information on system-wide (public and private) enrollment, and obtain more information on the likely characteristics and needs of future students, SCHEV has augmented its current enrollment projection process by creating an *enrollment demand* projection model. A description of that model and the results obtained from it are provided in the section entitled *Where We Are Going*. To better understand where we are going, however, perhaps we should first take a look at *Where We Are*.

WHERE WE ARE

Virginia's system of higher education is comprised of eighty-eight colleges and universities in four sectors (public four-year, public two-year, private non-profit, and private for-profit).³ In fall 2000, these institutions of higher education had combined enrollments of 372,307 students.⁴ This represents a 19,977 student, or six percent, increase over 1990, with almost all of the increase occurring since 1997 (*see* Figure 1).

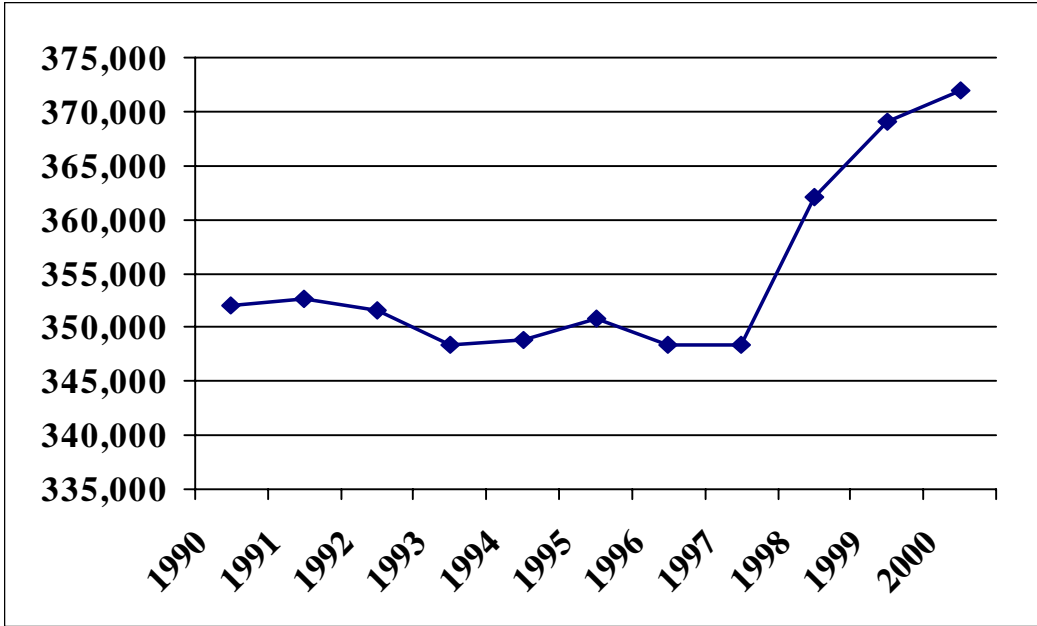
¹ Section 23-9.6:1.4 of the *Code of Virginia* tasks the State Council to, "...review and approve or disapprove all enrollment projections proposed by each public institution of higher education."

² SCHEV, in collaboration with staff from the institutions, the House Appropriations and Senate Finance Committees, and the Department of Planning and Budget, develops six-year projections, corresponding to the Commonwealth's six-year capital planning process, for each public four-year institution and Richard Bland College. Currently, projections are not made for the Virginia Community College System or Virginia's private institutions of higher education.

³ For a complete listing of these institutions, *see* Appendix A.

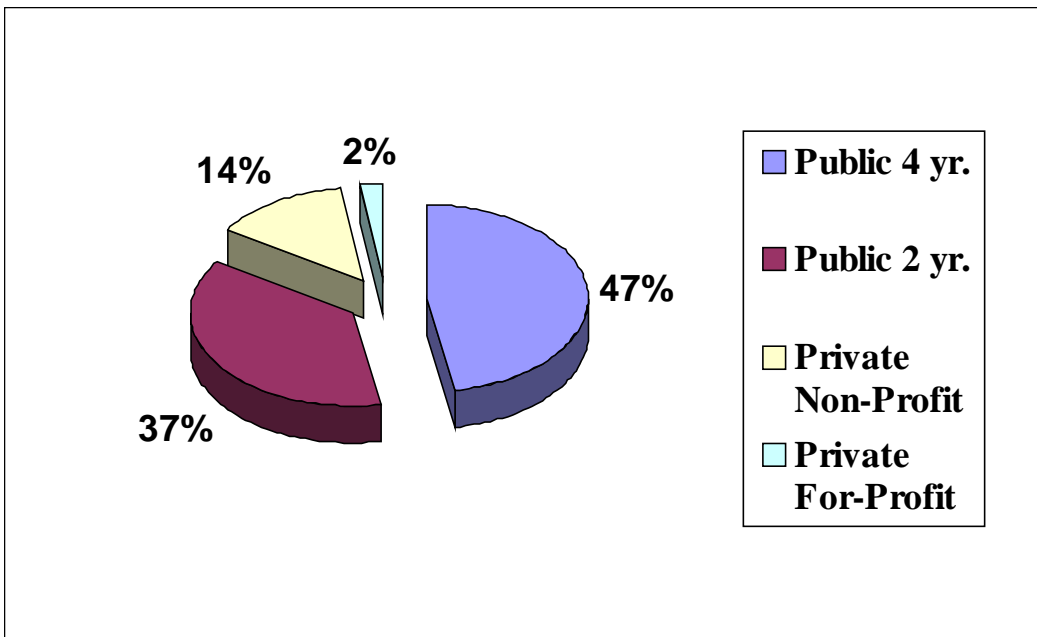
⁴ Data source: SCHEV student enrollment database. SCHEV's student enrollment database contains comprehensive data on current and prior enrollments in Virginia's public and private institutions of higher education.

Figure 1: Systemwide Headcount Enrollment, 1990-2000



A graphical depiction of fall 2000 enrollments showing the proportion of students in public four-year, public two-year, private non-profit, and private for-profit institutions is provided in Figure 2.⁵

Figure 2: Enrollment Distribution by Institution Type, Fall 2000 Headcount

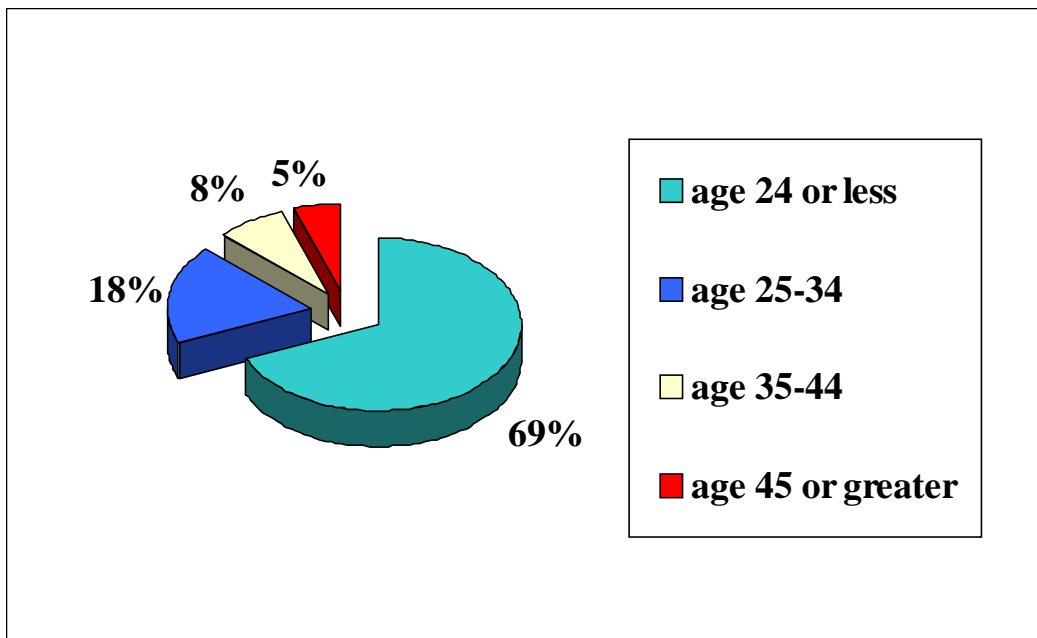


PUBLIC FOUR-YEAR INSTITUTIONS

Virginia has fifteen public four-year institutions of higher education. Six of these are doctoral degree granting institutions and nine are comprehensive institutions. In fall 2000, these institutions enrolled 175,742 students, a nearly ten percent, or 15,542 student, increase over 1990 enrollment. Looking more closely at fall 2000 enrollments in Virginia's public four-year institutions, we find that they were largely made up of Virginia residents (78 percent), full-time students⁶ (74 percent), and undergraduates (75 percent).⁷

As shown in Figure 3, another characteristic of fall 2000 enrollments in Virginia's public four-year institutions is that they were predominantly composed of "traditional" students, students who are 24 years of age or younger.⁸ As will be discussed more fully later, this is an important characteristic because traditional students enrolled at a four-year institution are more likely to live on campus and more likely to be enrolled as full-time, degree-seeking students. As a result, they are more likely to place significant demands on an institution's capital resources (*e.g.*, residence halls, classrooms, and laboratories).

Figure 3: 4-year Publics, Age Distribution, Fall 2000 Headcount



⁶ A full-time student is an undergraduate student who takes 15 or more credit hours each semester, or a graduate student who takes 12 or more credit hours each semester.

⁷ *supra*, note 4.

⁸ *ibid.*

Table 1 takes the data displayed in Figure 3 and breaks them down according to student level (*e.g.*, freshmen, sophomores, first-year graduate, etc.). As shown in this table, freshmen and sophomores were almost exclusively comprised of traditional students (97 and 93 percent respectively) in fall 2000. However, as one might expect, the modal age for graduate students tended to be older, typically in the 25 to 34 age category.

Table 1: 4-year Publics, Fall 2000 Headcount Enrollment by Student Level and Age

	24 or less	25 to 34	35 to 44	45 or greater
Freshmen	97.3%	1.8%	0.6%	0.3%
Sophomore	93.4%	4.5%	1.5%	0.6%
Junior	84.5%	10.1%	3.8%	1.6%
Senior/Fifth	73.1%	17.6%	6.4%	2.9%
Unclassified Undergraduate	31.0%	28.9%	22.8%	17.3%
Unclassified Graduate/First Professional	8.3%	35.6%	26.0%	30.1%
First Professional	43.5%	51.0%	4.7%	0.9%
Graduate - First Year	25.0%	46.5%	17.6%	10.9%
Graduate - Advanced	5.7%	53.8%	22.5%	18.0%

Figure 4 depicts the distribution of enrollments in public four-year institutions across various race/ethnicity categories.⁹ Here we see that in fall 2000, 74 percent of enrolled students were White, 16 percent Black, 7 percent Asian or Pacific Islander, 3 percent Hispanic, and less than 1 percent Native American.

Figure 4: 4-year Publics, Race/Ethnicity Distribution, Fall 2000 Headcount

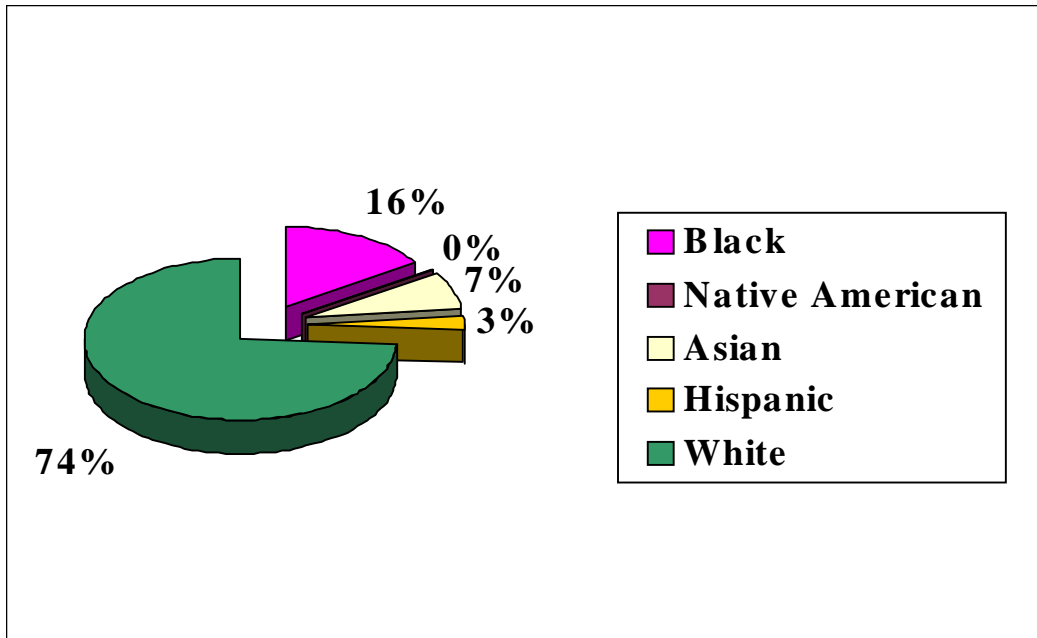
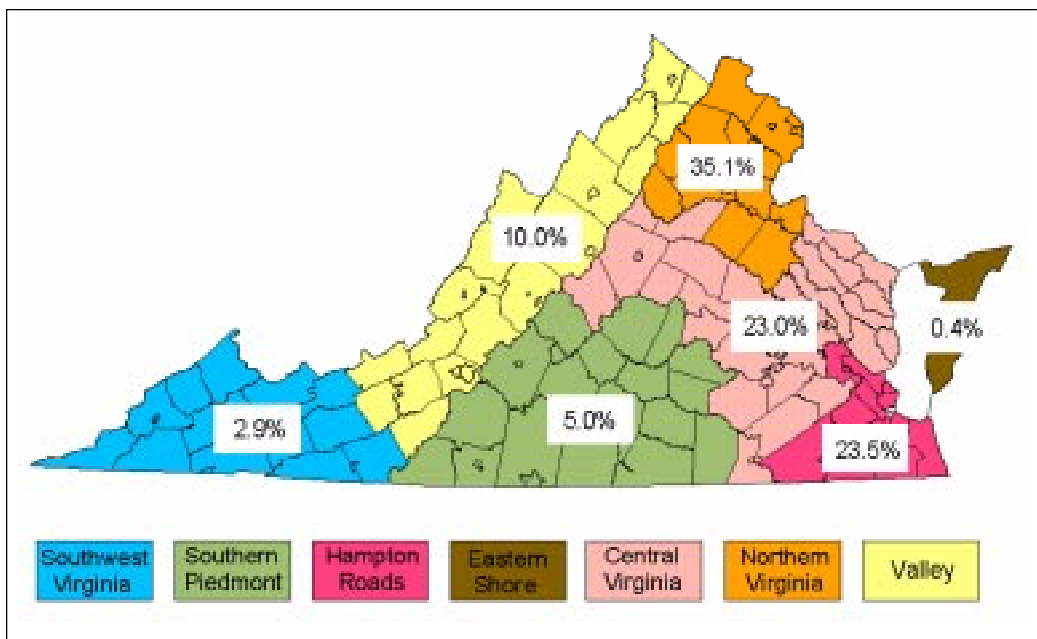


Figure 5 provides information on the service area of Virginia’s public four-year institutions.¹⁰ This figure depicts a map of Virginia divided into seven regions: Central Virginia, Eastern Shore, Hampton Roads, Northern Virginia, Southern Piedmont, Southwest Virginia, and the Valley.

Figure 5: 4-year Publics, Fall 2000 Service Area



¹⁰ *ibid.*

As can be seen from this map, nearly 82 percent of the in-state students enrolled in Virginia public four-year institutions in fall 2000 were drawn from the I-95/I-64 corridor comprised of Northern Virginia, Central Virginia, and Hampton Roads. The importance of this characteristic will become apparent later when we discuss those portions of the Commonwealth that are most likely to see significant population growth between 2000 and 2010. The remaining 18 percent of fall 2000 in-state enrollments were drawn from the Valley (10 percent), Southern Piedmont (5 percent), Southwest Virginia (3 percent), and Eastern Shore (less than 1 percent).

Table 2 takes the data depicted in Figure 5 and disaggregates them into institution-specific service areas. As this table demonstrates, whereas some institutions tend to draw their students primarily from specific regions of the state (*i.e.*, Christopher Newport, Norfolk State, and Old Dominion Universities from Hampton Roads; George Mason and Mary Washington Universities from Northern Virginia; and the University of Virginia at Wise from Southwest Virginia), others tend to have more broadly dispersed service areas (*i.e.*, the College of William and Mary, Longwood College, Radford University, Virginia Military Institute, and Virginia Tech).

Table 2: 4-year Publics, Fall 2000 Service Area

	CNU	CWM	GMU	JMU	LC
Central Virginia	15.6%	19.0%	2.7%	17.7%	28.8%
Eastern Shore	0.8%	0.5%	0.1%	0.2%	0.7%
Hampton Roads	73.3%	36.5%	2.4%	14.4%	15.6%
Northern Virginia	7.9%	34.0%	92.4%	42.5%	23.0%
Southern Piedmont	0.9%	3.7%	0.5%	4.9%	26.1%
Southwest Virginia	0.2%	1.0%	0.1%	0.6%	0.3%
Valley	1.3%	5.3%	2.0%	19.8%	5.4%

	MWC	NSU	ODU	RU	UVA
Central Virginia	13.8%	7.8%	7.4%	11.4%	26.7%
Eastern Shore	0.2%	0.9%	1.2%	0.4%	0.3%
Hampton Roads	7.9%	83.8%	73.8%	10.7%	12.7%
Northern Virginia	70.1%	3.5%	7.4%	19.2%	42.5%
Southern Piedmont	2.6%	3.3%	4.2%	10.0%	6.7%
Southwest Virginia	0.3%	0.1%	2.5%	11.0%	2.2%
Valley	5.2%	0.6%	3.5%	37.3%	8.9%

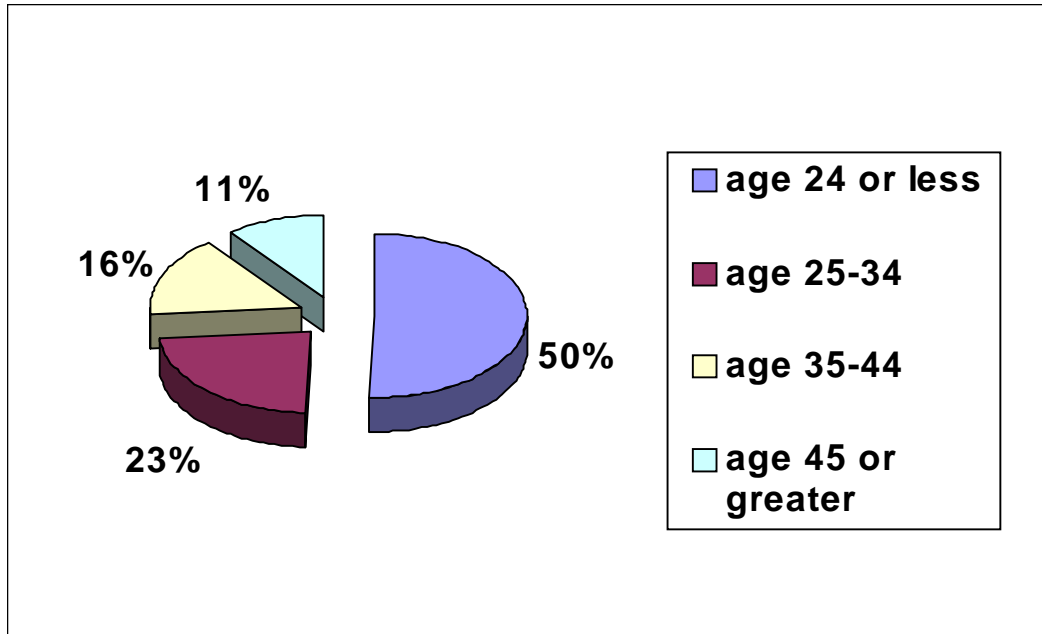
	UVA-W	VCU	VMI	VA Tech	VSU
Central Virginia	4.7%	74.4%	27.5%	14.3%	43.1%
Eastern Shore	0.0%	0.1%	0.5%	0.3%	0.4%
Hampton Roads	3.4%	9.0%	18.3%	12.9%	11.4%
Northern Virginia	5.0%	11.4%	27.1%	35.7%	6.0%
Southern Piedmont	2.5%	2.8%	8.0%	6.9%	5.7%
Southwest Virginia	81.6%	0.4%	3.7%	5.0%	0.1%
Valley	2.8%	1.8%	15.0%	24.8%	1.3%

PUBLIC TWO-YEAR INSTITUTIONS

Virginia has twenty-four public two-year institutions of higher education. Twenty-three of these are community colleges and one, Richard Bland College, is a two-year junior college. In fall 2000, these institutions enrolled 138,039 students, a more than five percent, or 6,953 student, increase over 1990 enrollment. Largely reflecting the mission of the community colleges – to provide community-based higher education and workforce development programs – fall 2000 enrollment in public two-year institutions tended to be much more heavily weighted toward in-state students (94 percent), part-time students (71 percent), and undergraduates (100 percent).¹¹

Also, in contrast to the public four-year institutions, enrollment in public two-year institutions tended to be more evenly distributed across a broad range of age categories. As shown in Figure 6, enrollment in fall 2000 was evenly split between traditional students (24 years of age or less) and non-traditional students (25 years of age or more).¹²

Figure 6: 2-year Publics, Age Distribution, Fall 2000 Headcount



¹¹*ibid.*

¹² *ibid.*

Breaking these data down according to student level, as show in Table 3, further confirms the more even distribution of enrollment across various age categories. As opposed to the public four-year institutions where almost all freshmen and sophomores fell into the traditional category, in the public two-year institutions more than two-fifths of freshmen and three-fifths of sophomores fell into the non-traditional category.

Table 3: 2-year Publics, Fall 2000 Headcount Enrollment by Student Level

	24 or less	25 to 34	35 to 44	45 or greater
Freshmen	58.2%	23.4%	12.6%	5.8%
Sophomore	37.9%	30.6%	20.2%	11.3%
Unclassified Undergraduate	50.5%	18.9%	15.9%	14.7%

Figure 7 shows the distribution of enrollments in public two-year institutions in fall 2000 across various race/ethnicity categories.¹³ In this case, the data indicate that 70 percent of enrolled students were White, 19 percent Black, 6 percent Asian or Pacific Islander, 4 percent Hispanic, 1 percent Native American.

Figure 7: 2-year Publics, Race/Ethnicity Distribution, Fall 2000 Headcount

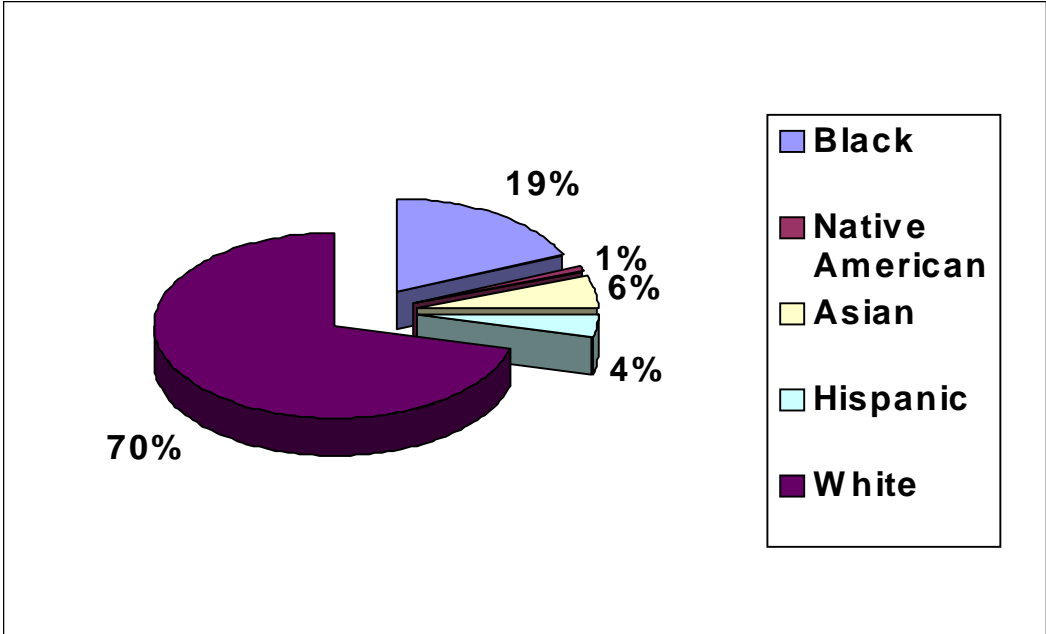
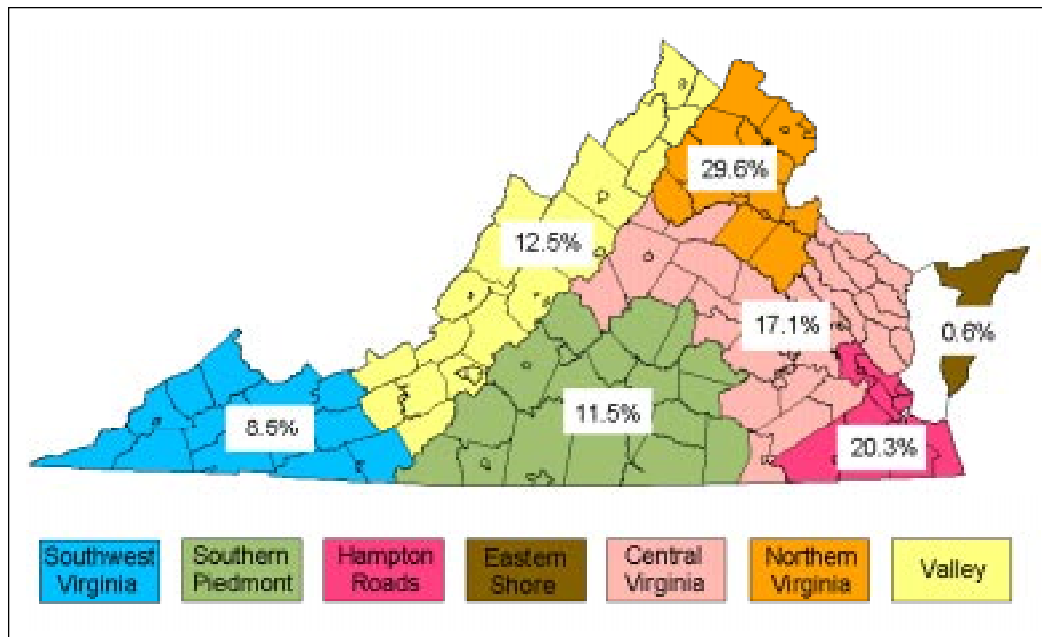


Figure 8 graphically depicts the service area for Virginia's public two-year institutions.¹⁴ Consistent with the Community Colleges' mission of providing local access to higher education services, the service area for the public two-year institutions tends to be more broadly dispersed across the Commonwealth than that of the public four-year institutions. For instance, whereas 82 percent of the in-state students enrolled in public four-year institutions in fall 2000 were from the I-95/I-64 corridor, only 67 percent of the in-state enrollments in the public two-year institutions were. The remaining 33 percent of fall 2000 in-state enrollments came from the Valley (13 percent), Southern Piedmont (11 percent), Southwest Virginia (9 percent), and the Eastern Shore (less than 1 percent).

Figure 8: 2-year Publics, Fall 2000 Service Area



¹⁴ *ibid.*

Table 4 further disaggregates these data, detailing the specific service areas for the Virginia Community College System and Richard Bland College.

Table 4: 2-year Publics, Fall 2000 Service Area

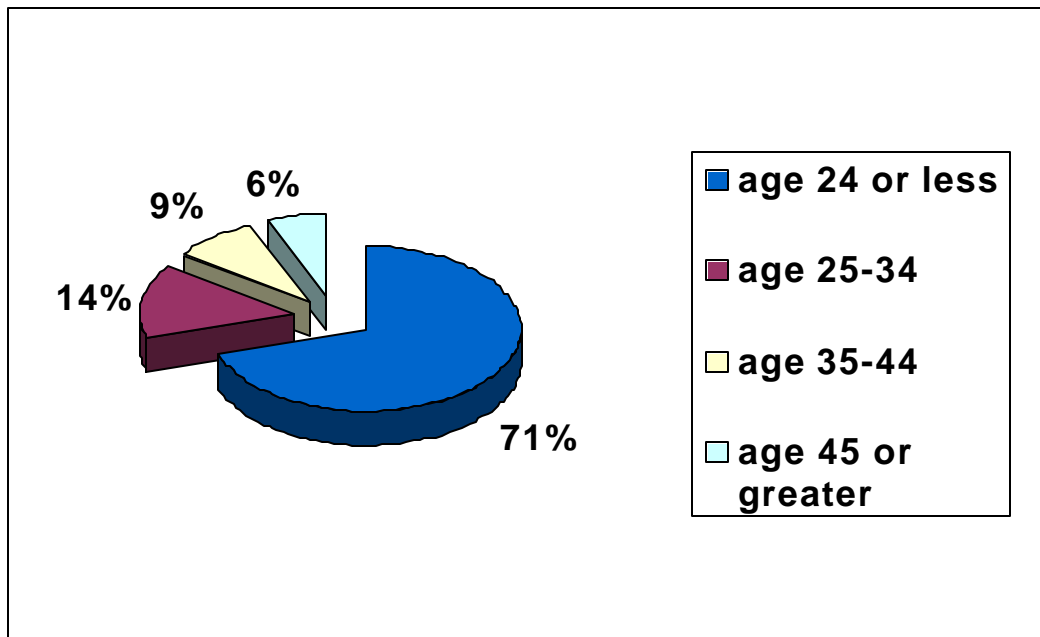
	VCCS	RBC
Central Virginia	16.3%	98.1%
Eastern Shore	0.6%	0.0%
Hampton Roads	20.5%	0.6%
Northern Virginia	29.9%	0.3%
Southern Piedmont	11.6%	1.0%
Southwest Virginia	8.5%	0.0%
Valley	12.6%	0.0%

PRIVATE NON-PROFIT INSTITUTIONS

Virginia has thirty-five private non-profit institutions of higher education. In combination, these institutions enrolled 50,635 students in fall 2000. This level of enrollment represents a 12 percent, or 6,833 student, decline from 1990. However, it is important to note that this decline is largely attributable to a single institution. Exclusive of that single institution, the private non-profit institutions grew by 14 percent, or 5,508 students between 1990 and 2000.

Except for the fact that private non-profit institutions enrolled a smaller proportion of in-state students in fall 2000 (53 percent as opposed to 79 percent in the public four-year institutions), their enrollment characteristics were very similar to the public four-year institutions.¹⁵ Like the public four-year institutions, fall 2000 enrollments at private non-profit institutions were largely full-time (80 percent), with a balance between undergraduate and graduate students (79 undergraduate percent

Figure 9: Private Non-Profits, Age Distribution, Fall 2000 Headcount



compared to 21 percent graduate students). Also like the public four-year institutions, fall 2000 enrollments at Virginia's private non-profit institutions were heavily weighted toward traditional students (*see* Figure 9).

¹⁵ *ibid.*

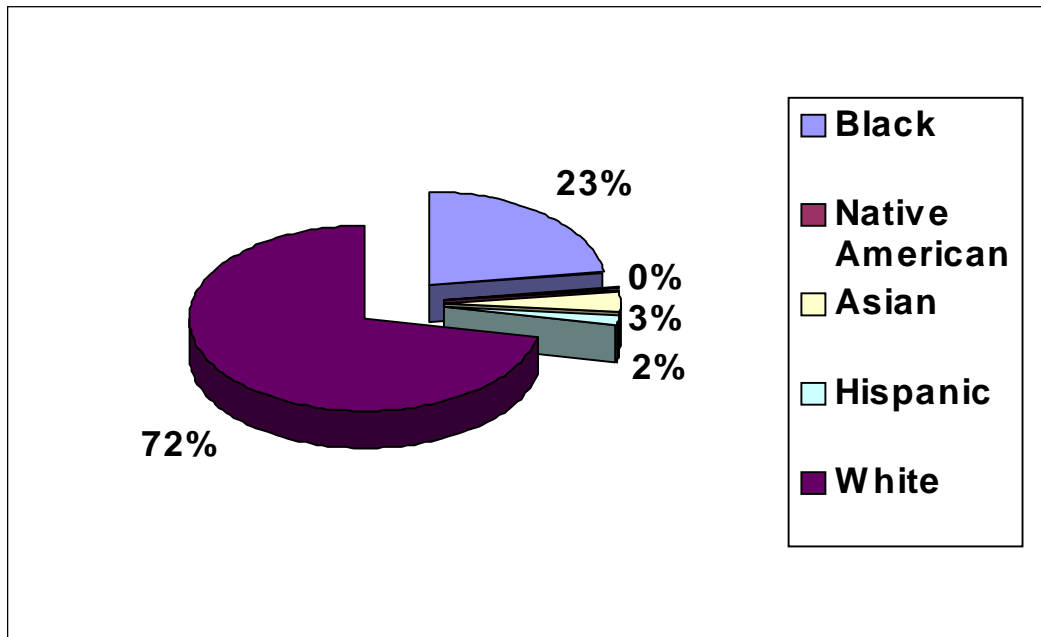
As shown in Table 5, this was again particularly true with respect to freshmen and sophomore enrollments, those students most likely to reside on campus.¹⁶

Table 5: Private Non-Profits, Fall 2000 Headcount by Student Level and Age

	24 or less	25 to 34	35 to 44	45 or greater
Freshman	90.9%	4.4%	3.1%	1.6%
Sophomore	89.4%	4.8%	3.5%	2.3%
Junior	83.6%	8.1%	5.5%	2.9%
Senior/Fifth	74.7%	12.0%	8.5%	4.8%
Unclassified Undergraduate	53.1%	20.8%	14.1%	2.0%
Unclassified Graduate/First Professional	6.9%	32.9%	25.9%	4.3%
First Professional	33.7%	43.8%	12.7%	9.8%
Graduate - First Year	15.9%	41.7%	25.1%	7.3%
Graduate - Advanced	4.4%	34.5%	35.3%	5.8%

Figure 10 graphically depicts the distribution of fall 2000 enrollments in the private non-profit institutions across various race/ethnicity categories. In this case, enrollments were comprised of 72 percent White, 23 percent Black, 3 percent Asian or Pacific Islander, 2 percent Hispanic, and less than 1 percent Native American.¹⁷

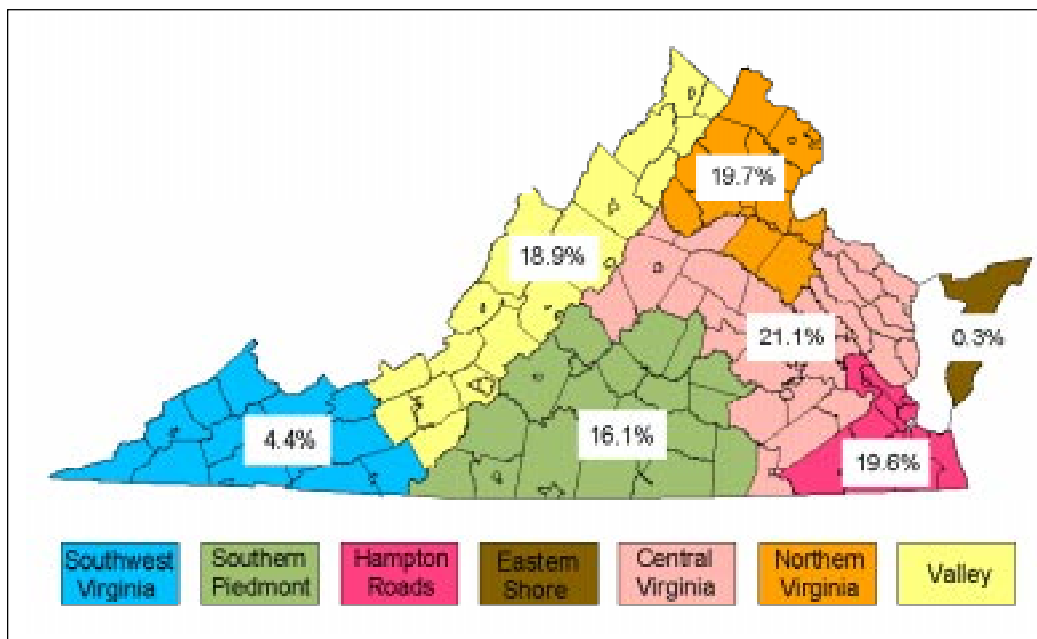
Figure 10: Private Non-Profits, Race/Ethnicity Distribution, Fall 2000 Headcount



¹⁷ *ibid.*

Figure 11 shows the service area for Virginia’s private non-profit institutions.¹⁸ As can be seen from this map, these institutions drew a much more significant portion of their in-state fall 2000 enrollments from the southern and western regions of the Commonwealth, with only 60 percent of their in-state enrollment coming from the I-95/I-64 corridor. The remaining 40 percent of fall 2000 in-state enrollments came from the Valley (19 percent), Southern Piedmont (16 percent), Southwest Virginia (4 percent), and the Eastern Shore (less than 1 percent).

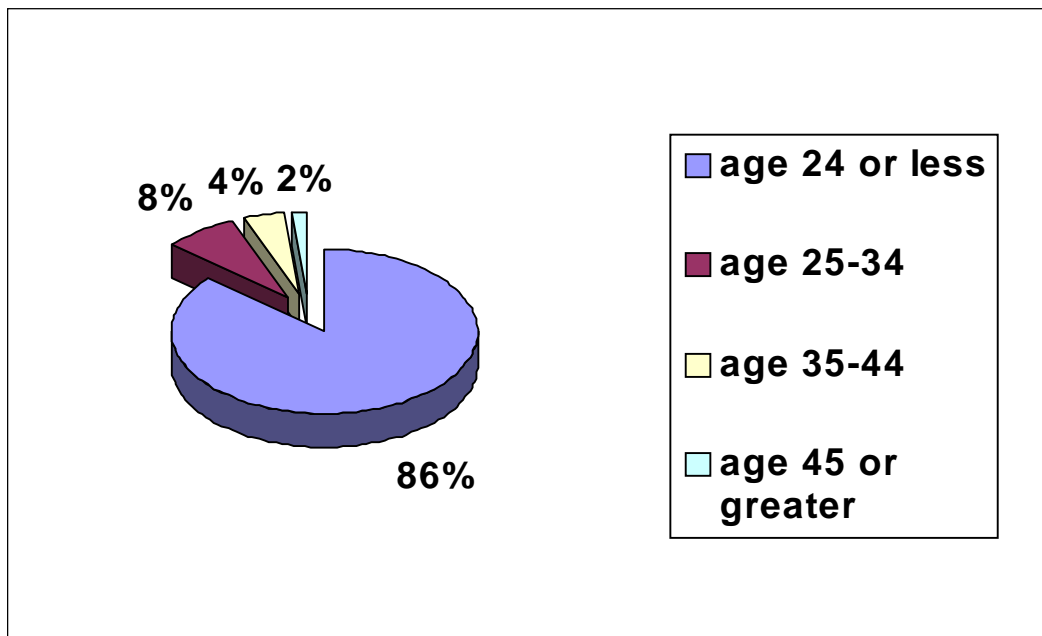
Figure 11: Private Non-Profits, Fall 2000 Service Area



PRIVATE FOR-PROFIT INSTITUTIONS¹⁹

Virginia has fourteen private for-profit institutions of higher education. In fall 2000, these institutions enrolled 7,891 students, a 142 percent, or 4,630 student, increase over 1990 enrollment. Fifty-nine percent of these enrollments were comprised of in-state students, 54 percent were full-time, and 87 percent were undergraduate.²⁰ As shown in Figure 12, the overwhelming majority of these students were traditional, with the largest number falling between the ages of 20 and 24.²¹

Figure 12: Private For-Profits, Age Distribution, Fall 2000 Headcount



¹⁹ In this instance, and all others within this report, “Private For-Profit” refers only to those for-profit institutions incorporated in Virginia.

²⁰ *supra*, note 4.

²¹ *ibid.*

Table 6 breaks these numbers down according to student level.

Table 6: Private For-Profits, Fall 2000 Headcount Enrollment by Student Level and Age

	24 or less	25 to 34	35 to 44	45 or greater
Freshman	96.5%	2.5%	0.7%	0.3%
Sophomore	90.5%	6.4%	2.2%	0.8%
Unclassified Undergraduate	17.1%	46.4%	31.6%	4.9%
Unclassified Graduate/First Professional	0.0%	43.5%	30.4%	26.1%
Graduate - First Year	1.9%	45.9%	30.3%	21.9%

Figure 13 breaks down fall 2000 enrollments in the private for-profit institutions by various race/ethnicity categories. As demonstrated by this pie chart, fall 2000 enrollments were 61 percent White, 34 percent Black, 3 percent Asian or Pacific Islander, 2 percent Hispanic, and less than 1 percent Native American.²²

Figure 13: Private For-Profits, Race/Ethnicity Distribution, Fall 2000 Headcount

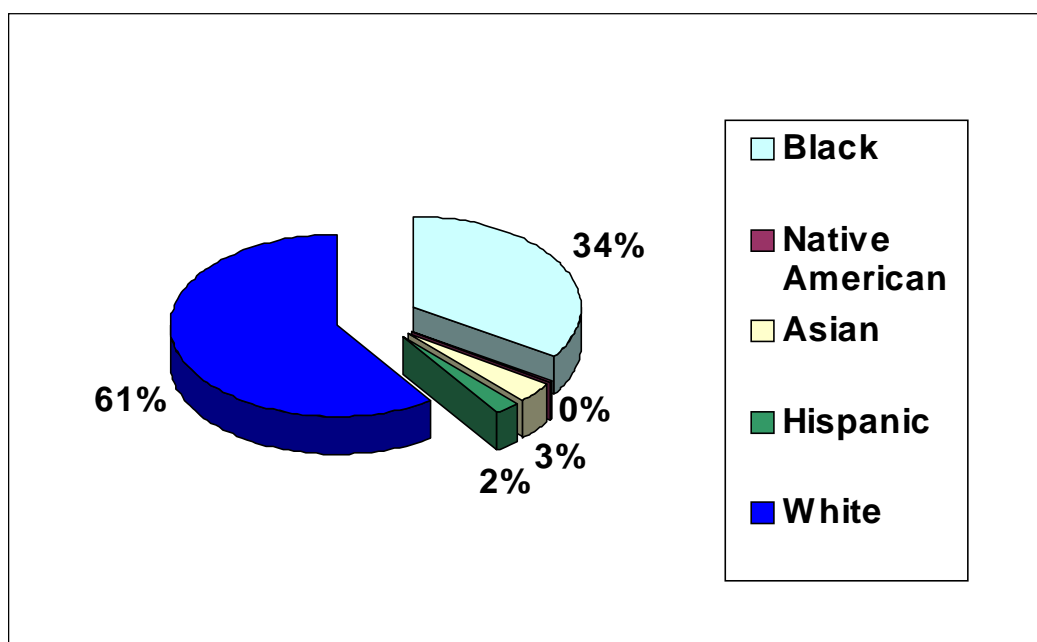
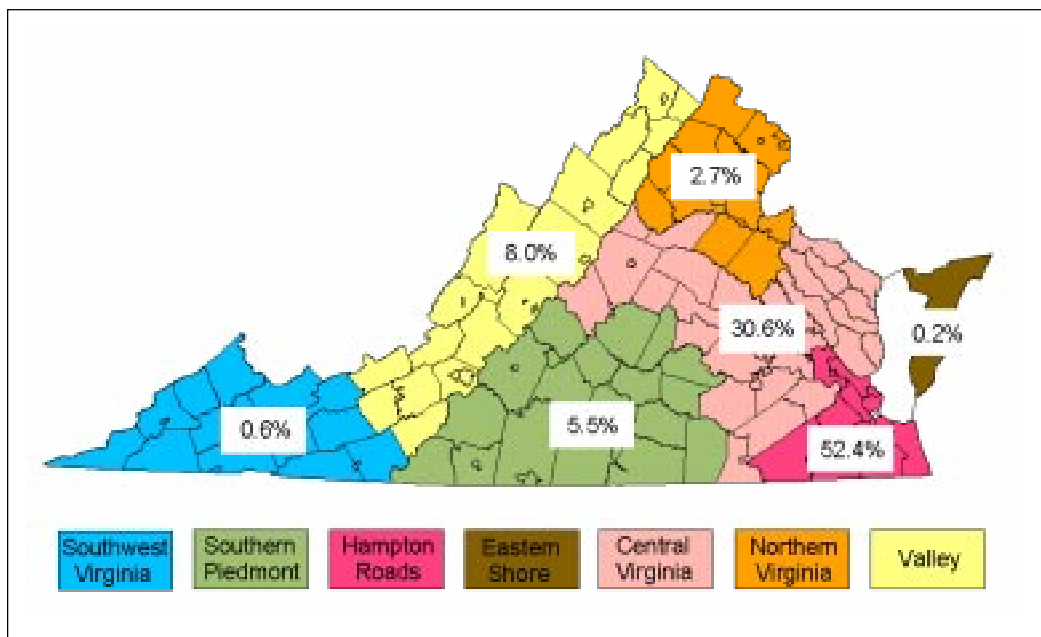


Figure 14 details the service area of the private for-profit institutions based on their fall 2000 in-state enrollments.²³ As demonstrated by this map, in fall 2000 the private for-profit institutions drew the vast majority of their in-state enrollments from the Hampton Roads (52 percent) and Central Virginia (31 percent) regions.

Figure 14: Private For-Profits, Fall 2000 Service Area



²³ *ibid.*

SUMMARY: WHERE WE ARE

- Between 1990 and 2000, system-wide (public four-year, public two-year, private non-profit, and private for-profit) college and university enrollments in Virginia increased by 19,977 students, or six percent. Almost all of that increase occurred in the most recent period (since 1997).
- Enrollment did not increase evenly across all sectors. While enrollment in public four-year institutions of higher education increased by 15,542 students (10 percent), enrollment in public two-year institutions increased by 6,953 students (5 percent), and enrollment in private for-profit institutions increased by 4,630 students (142 percent), enrollment in private non-profit institutions decreased by 6,833 students (-12 percent). It is important to note, however, that the majority of the enrollment decline in the private non-profit institutions occurred at a single institution. Exclusive of that institution, the private non-profit institutions grew by 5,508 students (14 percent).
- Virginia residents comprise 78 percent of the student body at public four-year institutions, 94 percent at public two-year institutions, 53 percent at private non-profit institutions, and 59 percent at private for profit institutions.
- Public four-year institutions and private non-profit institutions serve a largely full-time, degree seeking, “traditional” student population that is less than 24 years old. Alternatively, public two-year institutions serve a student population that is largely part-time and evenly divided between traditional-aged and non-traditional-aged students.
- Public four-year institutions draw 82 percent, and private for-profit institutions 86 percent, of their enrollment from the I-95/I-64 corridor in the eastern half of the Commonwealth. Whereas, the service area of public two-year institutions and private non-profit institutions tends to be more evenly distributed across the Commonwealth.

WHERE WE ARE GOING

All projections can be likened to the Ghost of Christmas Future from Charles Dickens' play *A Christmas Carol* – they tell you what is likely to happen in the future if things continue on as they have up to today. If things do not continue on as they have, either by happenstance or because we decide to achieve a different future as Scrooge did, the future will diverge from the projection. Put simply, what we do in this section is take what we know (the student and institutional characteristics described in the previous section) and combine it with what we think we know (future changes in population) to shed light on what we would like to know (the direction and magnitude of future changes in enrollment demand).

PROJECTED VIRGINIA POPULATION – 2000 TO 2010

According to the most recently available U.S. Census Bureau projections, Virginia's population will increase by approximately 630,000, or 9 percent, between 2000 and 2010.²⁴ However, different demographic subgroups enroll in colleges and universities at different rates. For that reason, to gain a better understanding of the likely effect that this increase in population will have on enrollment demand, it is necessary to break it down into its component parts.

Age Groups

Based on SCHEV's comprehensive student enrollment database and U.S. Census data, we know that in the fall of 2000 approximately, 18.5 percent of Virginia's 15 to 24 year olds, 5.8 percent of 25 to 34 year olds, 2.9 percent of 35 to 44 year olds, and 1.1 percent of those 45 years or older attended some Virginia institution of higher education (for a detailed listing of enrollment rates *see* Appendix B).²⁵ Figure 15 graphically depicts the projected population increase between 2000 and 2010 for each of these age groups.²⁶ Although the 45 and older group is by far the largest (2.4 million in 2000) and the one projected to increase the most (652,000, or 27.3 percent, between 2000 and 2010), because of its low college enrollment rate, it is also the age group that is least likely to have a significant impact on enrollment demand.

²⁴ U.S. Bureau of the Census, *State Population Projections: 1995-2025*, 1996. These projections are derived using a cohort-component method. For a description of this method *see* Campbell, Paul R., 1996, *Population Projections for States by Age, Sex, Race, and Hispanic Origin: 1995 to 2025*, U.S. Bureau of the Census, Population Division, PPL-47. According to its current schedule, the U.S. Bureau of the Census does not expect to release revised population projections based on the 2000 census until sometime in 2002.

²⁵ Data source: SCHEV's student-enrollment database and U.S. Bureau of the Census, *State Population Projections: 1995-2025*, Series A. U.S. Census projections for 2000 were used to compute the fall 2000 enrollment rates instead of the 2000 estimate to maintain consistency with the 1995-2025 Series A population projections used in the enrollment demand projection. The U.S. Bureau of the Census Series A projection is scheduled to be updated in 2002 to reflect 2000 census data.

²⁶ *supra*, note 24.

Figure 15: Projected Virginia Population Trends -- 2000 to 2010

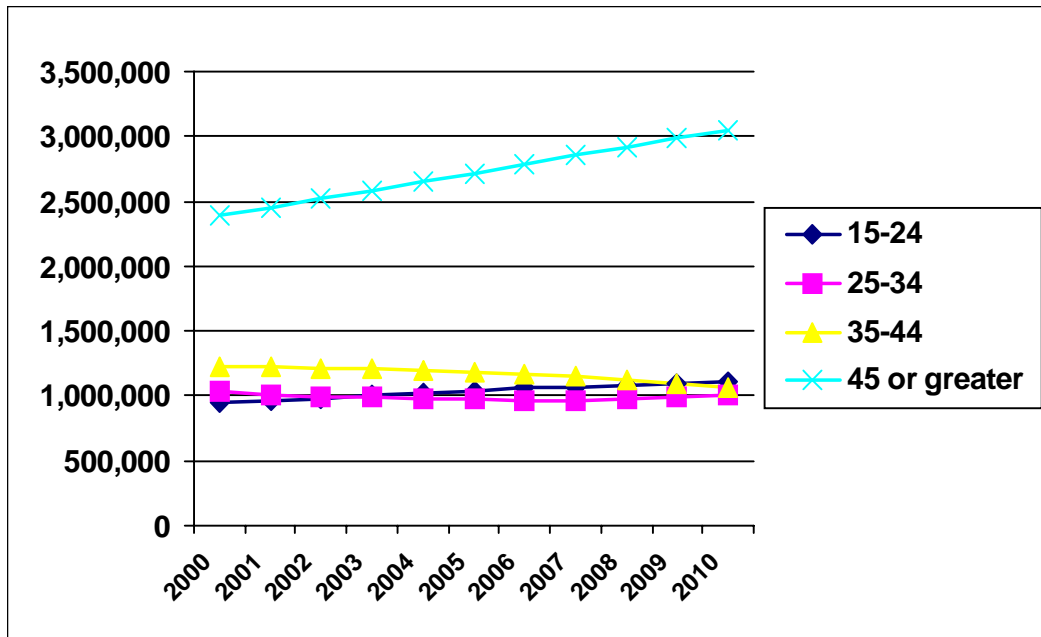


Figure 16 is identical to Figure 15 except that it excludes the 45 and older age category and focuses on those age groups that exhibit higher college enrollment rates. What this Figure shows is that 15 to 24 year olds, the age group with by far the highest college enrollment rate (18.5 percent), is projected to increase steadily throughout the period. Overall, this group is projected to increase 16.5 percent, or 156,578, between 2000 and 2010. As will be discussed at greater length at the end of this report, this demographic trend has significant implications for enrollment demand in Virginia. This is particularly true for undergraduate enrollments in the public four-year and private institutions of higher education, because these enrollments tend to be much more heavily weighted toward students within this age category.

Figure 16: Projected Virginia Population Trends for 15-24, 25-34, and 35-44 age cohorts only -- 2000 to 2010

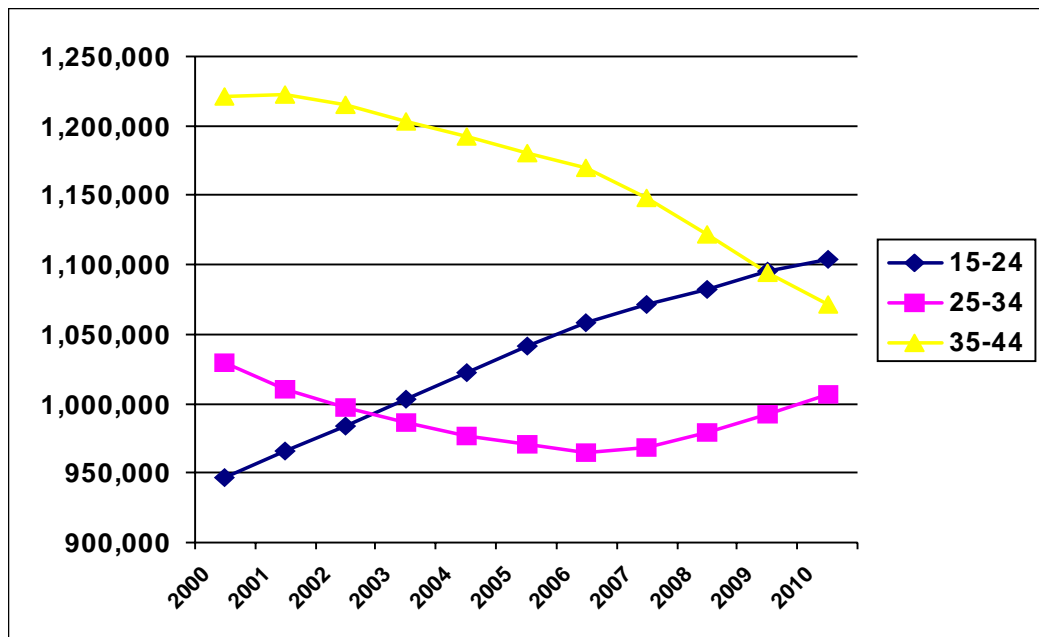
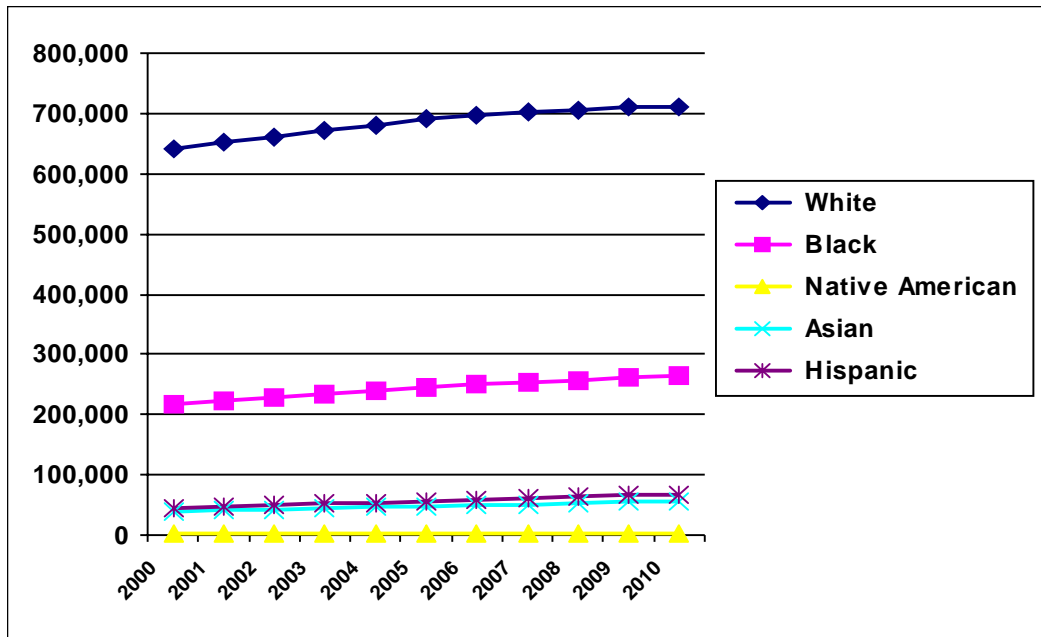


Figure 16 also shows that the primary age cohorts from which institutions draw their non-traditional students – 25 to 34 year olds and 35 to 44 year olds – are both projected to decline in absolute number between 2000 and 2010. This remains true even though the number of 25 to 34 year olds is projected to rebound toward the end of the decade. Overall, 25 to 34 year olds are expected to decline by 2.2 percent, or 22,788, between 2000 and 2010 and 35 to 44 year olds by 12.3 percent, or 150,437. Recall that the college enrollment rate for 25 to 34 year olds was 5.8 percent in fall 2000, whereas the enrollment rate for 35 to 44 year olds was 2.9 percent. These demographic trends also have significant implications for enrollment demand in Virginia. In this case, the sectors most likely to be affected are the community colleges, and the public four-year and private institution graduate programs, as these enrollments tend to include a large number of students within these age categories.

Race/Ethnicity Groups

We also know from an analysis of SCHEV’s comprehensive student enrollment database and U.S. Census data, that different racial and ethnic groups exhibit different higher education enrollment rates. For example, from fall 2000 data we know that among Virginia residents in the 15 to 24 year old age group – the age group from which 61 percent of system-wide enrollments are drawn – approximately 40.0 percent of Native Americans, 28.7 percent of Asians and Pacific Islanders, 19.9 percent of Whites, 13.1 percent of Blacks, and 12.1 percent of Hispanics were enrolled in a Virginia institution of higher education.²⁷ Figure 17 takes the population projection for Virginia 15 to 24 year olds depicted in Figure 16 and breaks it down according to race and ethnicity.²⁸ According to these data, 86,053, or a little more than half, of the anticipated population increase of 156,578 in this age group between 2000 and 2010 is expected to come from the three racial and ethnic subgroups that exhibited the highest college enrollment rates in fall 2000.

Figure 17: Projected Demographic Trends by Race/Ethnicity, Virginia 15 to 24 Year Olds

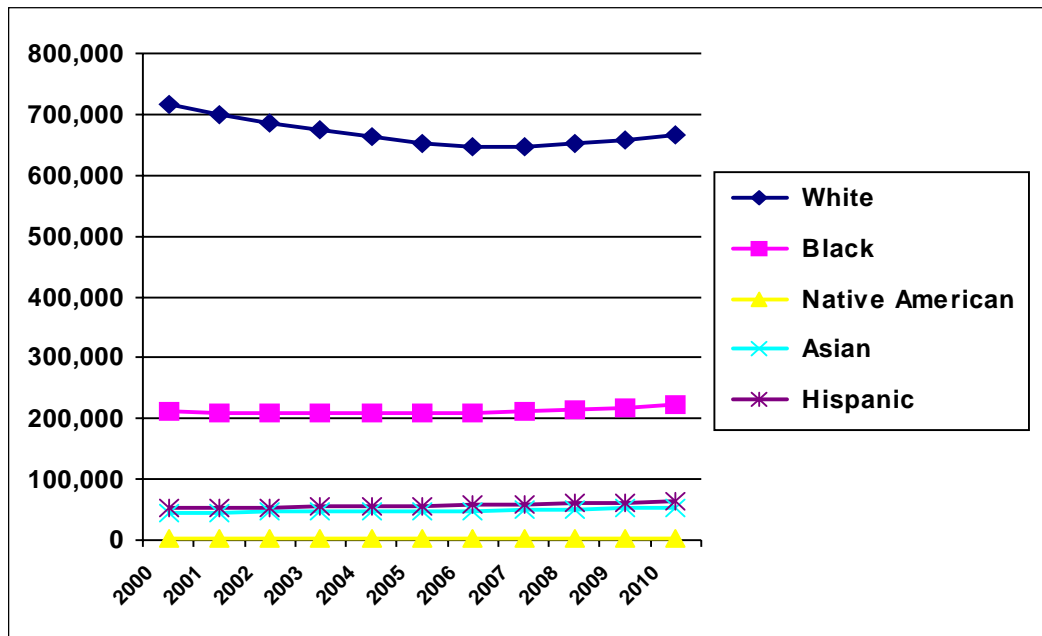


²⁷ *supra*, note 25.

²⁸ *supra*, note 24.

Taking a similar look at Virginia residents within the 25 to 34 year old category – which comprised 19.4 percent of system-wide enrollments in fall 2000 – we find that college enrollment rates by racial and ethnic subgroup in fall 2000 were approximately 15.7 percent for Native Americans, 9.3 percent for Asians and Pacific Islanders, 5.8 percent for Whites, 5.2 percent for Blacks, and 3.9 percent for Hispanics.²⁹ Figure 18 takes the population projection for Virginia 25 to 34 year olds depicted in Figure 16 and breaks it down according to race and ethnicity.³⁰ In this case we find that the three racial and ethnic subgroups exhibiting the highest college enrollment rates in fall 2000 are projected to decline by 41,510 between 2000 and 2010. This is nearly twice as much as the 22,788 total decline projected for 25 to 34 year olds over the period.

Figure 18: Projected Demographic Trends by Race/Ethnicity, Virginia 15 to 24 Year Olds

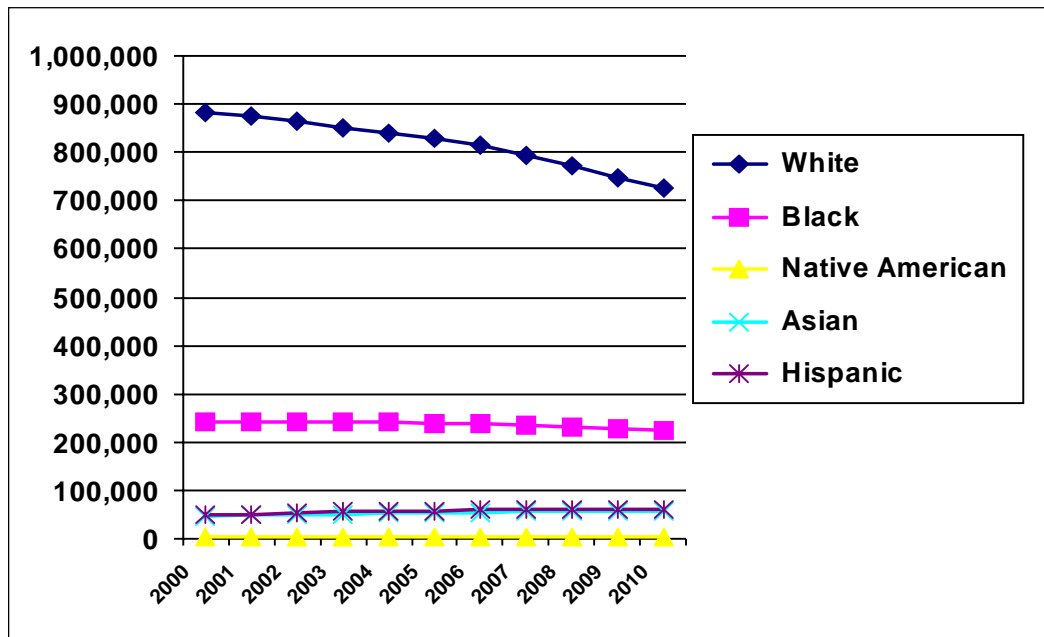


²⁹ *supra*, note 25.

³⁰ *supra*, note 24.

Figure 19 disaggregates the population projection for Virginia 35 to 44 year olds according to racial and ethnic subgroup.³¹ Within this age category, that comprised 10.8 percent of system-wide enrollments in fall 2000, college enrollment rates were 7.3 percent for Native Americans, 3.2 percent for Blacks, 2.8 percent for Asians and Pacific Islanders, 2.8 percent for Whites, and 1.9 percent for Hispanics in fall 2000. Here the three racial and ethnic subgroups exhibiting the highest college enrollment rates in fall 2000 are projected to decline by 6,066, a small fraction of the total 150,437 decline projected for this age group between 2000 and 2010.

Figure 19: Projected Demographic Trends by Race/Ethnicity, Virginia 35 to 44 Year Olds



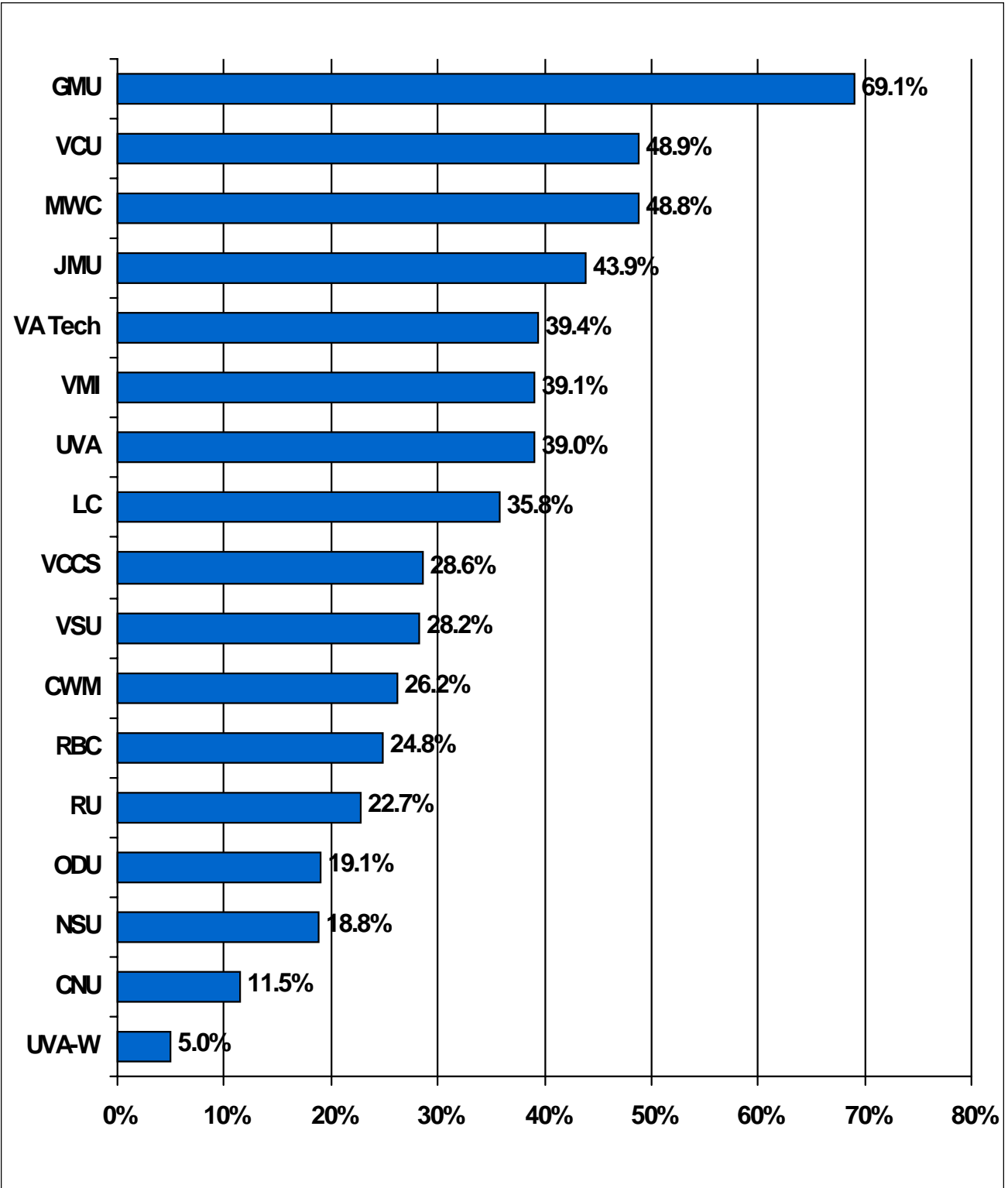
Regional

Unfortunately, the U.S. Bureau of the Census' state population projections are done at a statewide level and do not provide regional or county-level detail. However, there are other data sources available that allow us to shed some light on probable future differences in enrollment demand by region. Data produced by the Weldon Cooper Center for Public Service at the University of Virginia on the projected number of high school seniors by county indicate that between 2000 and 2005, the number of high school seniors will increase by 5,870 students statewide.³² These data are significant because, as one might expect, changes in the number of high school graduates are strongly correlated with changes in the number of traditional students enrolled in institutions of higher education. A more striking finding in the Weldon Cooper data, however, is that a mere eight localities will be responsible for 91 percent of this growth, with most other localities exhibiting either stagnant or declining numbers of high school seniors. Each of those eight localities (Chesapeake, Chesterfield, Fairfax, Henrico, Loudoun, Prince William, Spotsylvania, and Stafford) is located in the I-95/I-64 corridor of eastern Virginia.

Because, as was shown in the previous section *Where We Are*, different institutions draw their students from different parts of the Commonwealth, this high degree of regional concentration in the growth of high school seniors is likely to have differential effects on enrollment demand. For instance, recall from the earlier section that, whereas public four-year institutions draw 82 percent, and private for-profit institutions 86 percent, of their in-state enrollments from the I-95/I-64 corridor, public two-year institutions draw only 67 percent, and private non-profit institutions only 60 percent of their in-state enrollments from that portion of the Commonwealth. Figure 20 focuses more precisely on this issue by ranking institutions according to the proportion of their in-state enrollment drawn from the eight aforementioned high-growth localities.

³² These data were presented at the February 9, 2001, SCHEV 2001 Enrollment Projection Workshop, by Dr. Michael A. Spar, Research Associate, Demographics and Workforce Section, Weldon Cooper Center for Public Service, University of Virginia.

Figure 20: Percentage of Fall 2000 In-State Enrollment Drawn from the Eight Highest Growth Localities



ENROLLMENT DEMAND PROJECTION FOR 2001 THROUGH 2010

The enrollment demand projection presented below are derived using data from SCHEV's comprehensive student-specific enrollment database and U.S. Bureau of the Census, Series A, state population projections. The enrollment demand projections are done at a statewide level for each of the four sectors within Virginia's system of higher education (public four-year, public two-year, private non-profit, and private for-profit). Because of data constraints, slightly different methods were used to project enrollment demand for public and private institutions of higher education. A detailed description of those methods is provided in Appendix C.

Before proceeding, however, a few caveats are in order. First, SCHEV's enrollment demand model relies heavily on population projections provided by the U.S. Bureau of the Census. The most current population projections available from the U.S. Bureau of the Census were completed in 1996 and are based on updated data from the 1990 census. State population projections based on 2000 census data will not be available before 2002.

Second, U.S. Bureau of the Census state population projections are done at a statewide level and do not provide regional or county level detail. This means that the enrollment demand projections presented herein do not reflect regional differences in population growth. The practical importance of this data limitation is that, enrollment demand projections for those sectors that disproportionately draw their students from the fastest growing portions of the state (*i.e.*, the public four-year institutions and the private for-profit institutions) are likely to somewhat understate actual enrollment demand. Alternatively, enrollment demand projections for those sectors that tend to draw a larger proportion of their students from the slower growing portions of the state (*i.e.*, the public two-year institutions and the private non-profit institutions) are likely to somewhat overstate actual enrollment demand.

Third, SCHEV's enrollment demand projection implicitly relies in part on the assumption that college enrollment rates for various age and racial/ethnic groups will remain constant at fall 2000 levels throughout the forecast horizon of 2001-2010. Although, as can be see in Appendix B, enrollment rates have in fact remained fairly consistent in recent years, to the extent that they increase, or decrease, in the future, the projection will tend to understate, or overstate, future estimates of enrollment demand.

Finally, SCHEV's enrollment demand projection is also implicitly dependent, in part, on the assumption that the number of institutions of higher education in each sector (four-year public, two-year public, private non-profit, and private for-profit) will remain largely constant at fall 2000 levels. This assumption is fairly consistent with historical reality in all sectors except one – the private for-profit institutions. Because these institutions have significantly grown in number in recent years and can reasonably be anticipated to continue to do so in the future, it is possible that our estimate of future enrollment demand for this sector is understated.

Public Four-Year Institutions

Our model projects that enrollment demand for Virginia's public four-year institutions of higher education will increase from 175,742 students in fall 2000 to approximately 194,641 students in fall 2010. This is an increase of 18,899 students, or 11 percent. This projection is depicted graphically in Figure 21, with details provided in Table 7.

Figure 21: 4-year Publics, Enrollment Demand, Fall 2001-2010

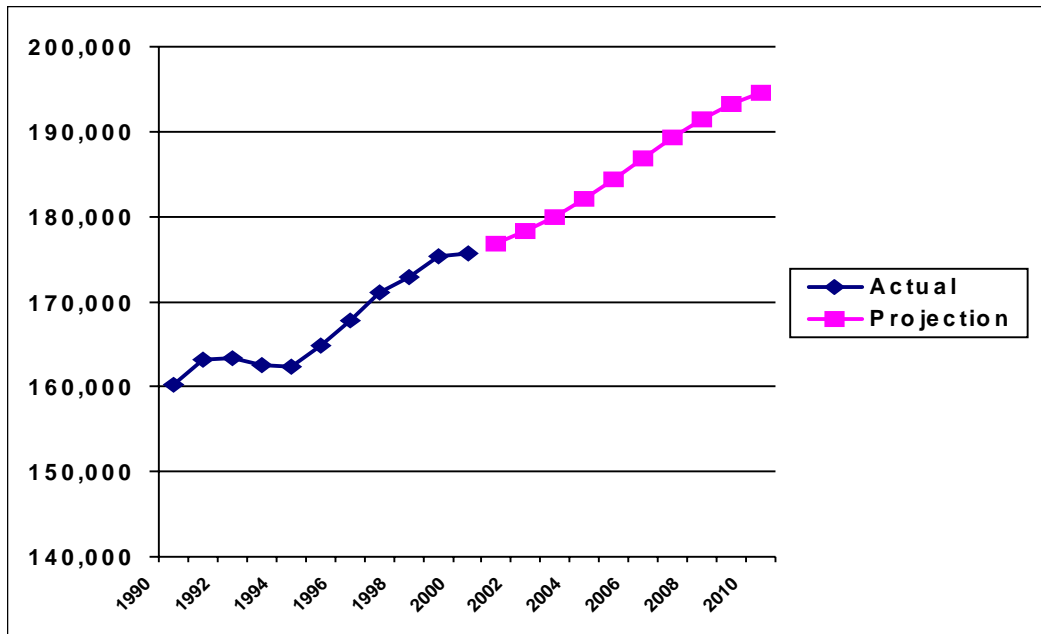


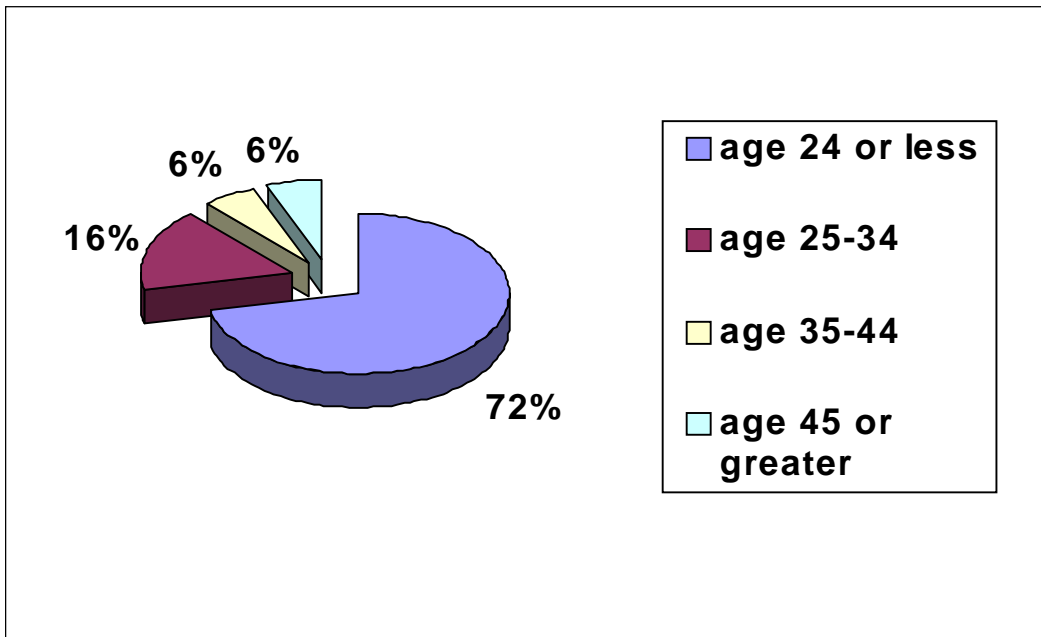
Table 7: 4-year Publics, Enrollment Demand, Fall 2001-2010

Year	2001-02	2002-03	2003-04	2004-05	2005-06
Fall Headcount	176,821	178,264	180,017	182,094	184,421
Change from 2000 (abs.)	1,079	2,522	4,275	6,352	8,679
Change from 2000 (%)	0.6%	1.4%	2.4%	3.6%	4.9%

Year	2006-07	2007-08	2008-09	2009-10	2010-11
Fall Headcount	186,866	189,236	191,389	193,241	194,641
Change from 2000 (abs.)	11,124	13,494	15,647	17,499	18,899
Change from 2000 (%)	6.3%	7.7%	8.9%	10.0%	10.8%

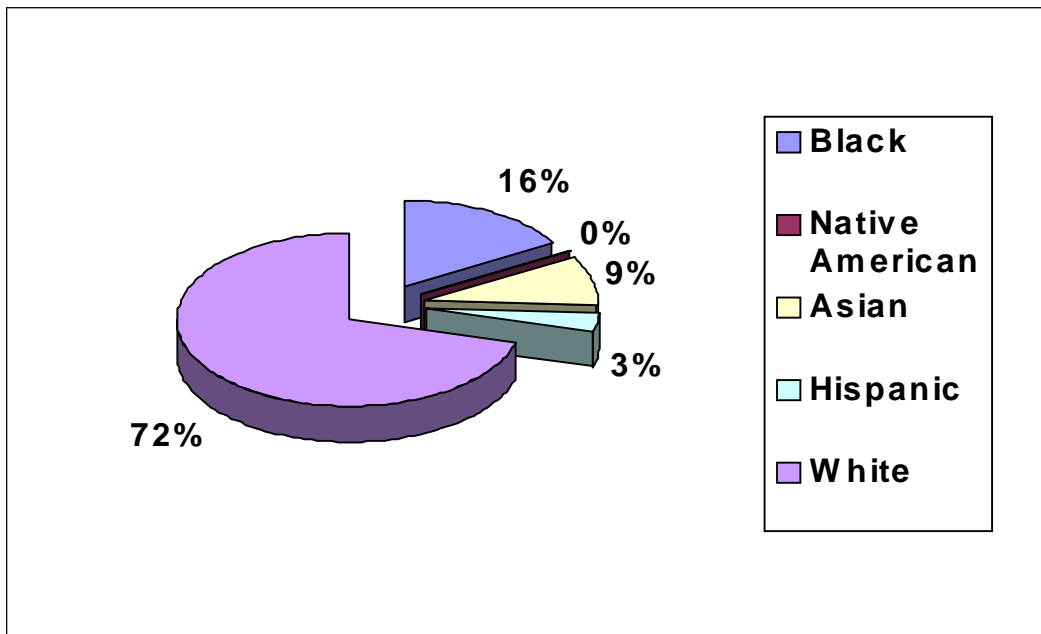
The projection model also provides important information about the characteristics of these students. First, they will tend to be younger. Recall from Figure 3 that in fall 2000, 69 percent of the enrollment in Virginia’s public four-year institutions was comprised of “traditional” students 24 years of age or younger. As indicated in Figure 22, by 2010 this percentage will change to 72 percent. This is significant because, as earlier stated, traditional students enrolled in four-year institutions are more likely to live on campus and more likely to be enrolled as full-time, degree-seeking students. As a result, they are more likely to place significant demands on an institution’s capital resources (dormitory, instructional, and recreational space).

Figure 22: 4-year Publics, Age Distribution, Fall 2010 Headcount



A second characteristic of 2010 enrollment is that students will tend to be more diverse. A comparison of Figure 23 with Figure 4 shows that, whereas minority racial and ethnic groups comprised 26 percent of enrollment in the public four-year institutions in fall 2000, they will likely comprise 28 percent in fall 2010. The largest proportional change will take place among Asians and Pacific Islanders, a group that exhibited one of the highest college enrollment rates in fall 2000.

Figure 23: 4-year Publics, Race/Ethnicity Distribution, Fall 2010 Headcount



Public Two-Year Institutions

As shown graphically in Figure 24 and numerically in Table 8, enrollment demand in public two-year institutions is expected to increase from 138,039 in fall 2000 to 150,751 in fall 2010. This is an increase of 12,712 or 9 percent. The lower expected growth in enrollment demand for the public two-year institutions, relative to the public four-year institutions, is largely attributable to the fact that the public two-year institutions draw a larger proportion of their enrollment from age groups that are projected to experience declining population between 2000 and 2010. In addition, because of changes in racial/ethnic composition, one of the age groups from which the public two-year institutions draw a significant number of their students – the 25 to 34 year olds – is also likely to exhibit a decline in overall college enrollment rates between 2000 and 2010.

Figure 24: 2-year Publics, Enrollment Demand, Fall 2001-2010

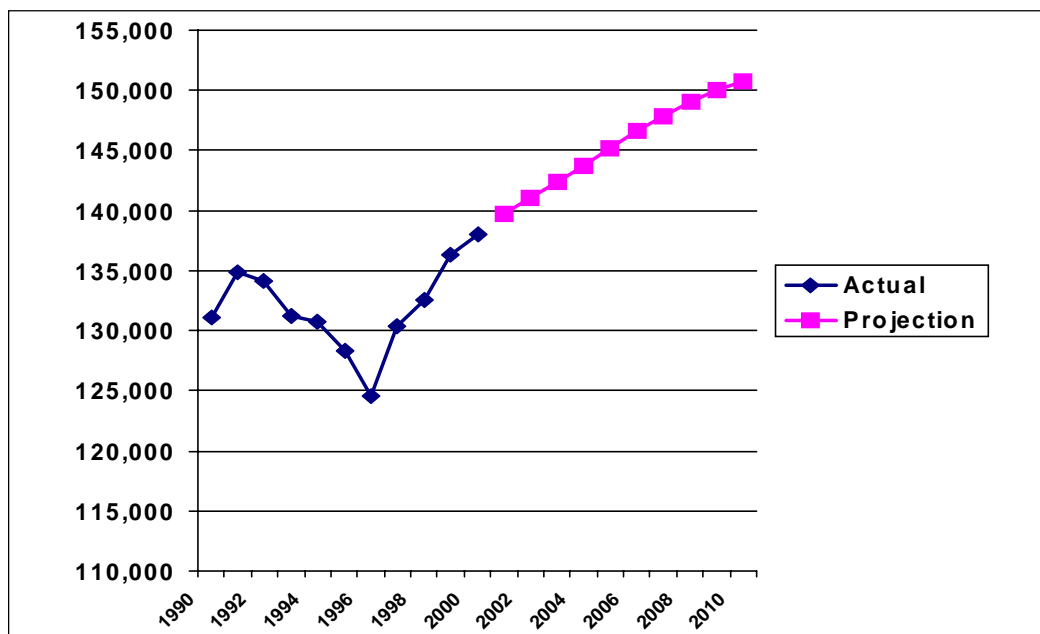


Table 8: 2-year Publics, Enrollment Demand, Fall 2001-2010

Year	2001-02	2002-03	2003-04	2004-05	2005-06
Fall Headcount	139,759	141,072	142,333	143,738	145,215
Change from 2000 (abs.)	1,720	3,033	4,294	5,699	7,176
Change from 2000 (%)	1.2%	2.2%	3.1%	4.1%	5.2%

Year	2006-07	2007-08	2008-09	2009-10	2010-11
Fall Headcount	146,639	147,896	148,997	149,981	150,751
Change from 2000 (abs.)	8,600	9,857	10,958	11,942	12,712
Change from 2000 (%)	6.2%	7.1%	7.9%	8.7%	9.2%

Figures 25 and 26 detail the probable age and racial/ethnic composition of public two-year enrollments in 2010. A comparison of these figures with Figures 6 and 7 above reveals that the public two-year institutions will also be serving a younger (the proportion of traditional aged students will likely increase from 50 to 54 percent) and more diverse (minority enrollment will likely increase from 30 to 32 percent) student body in fall 2010 than they did in fall 2000.

Figure 25: 2-year Publics, Age Distribution, Fall 2010 Headcount

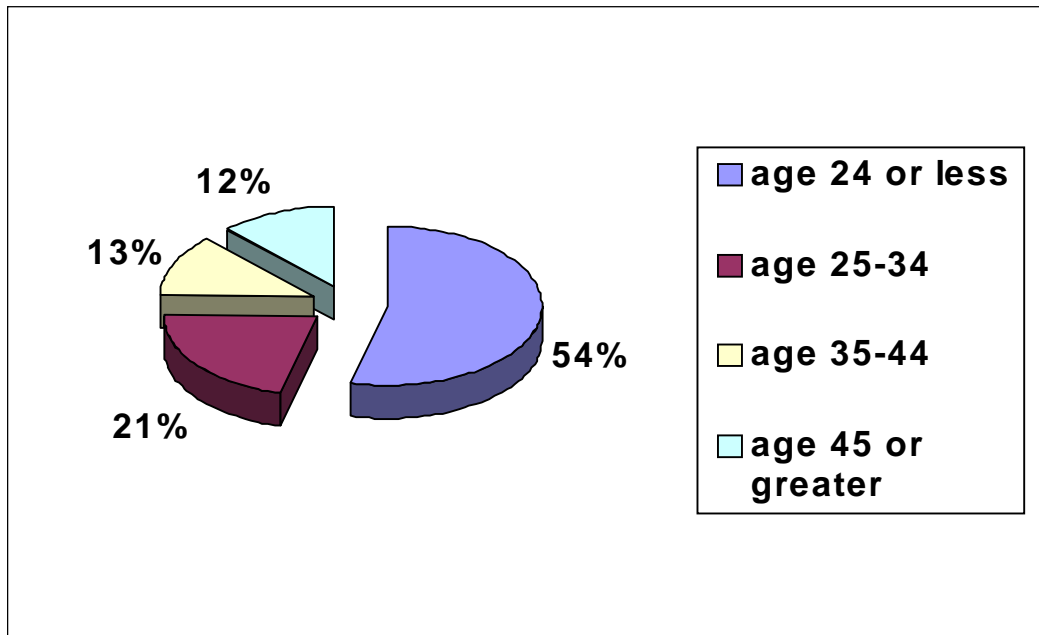
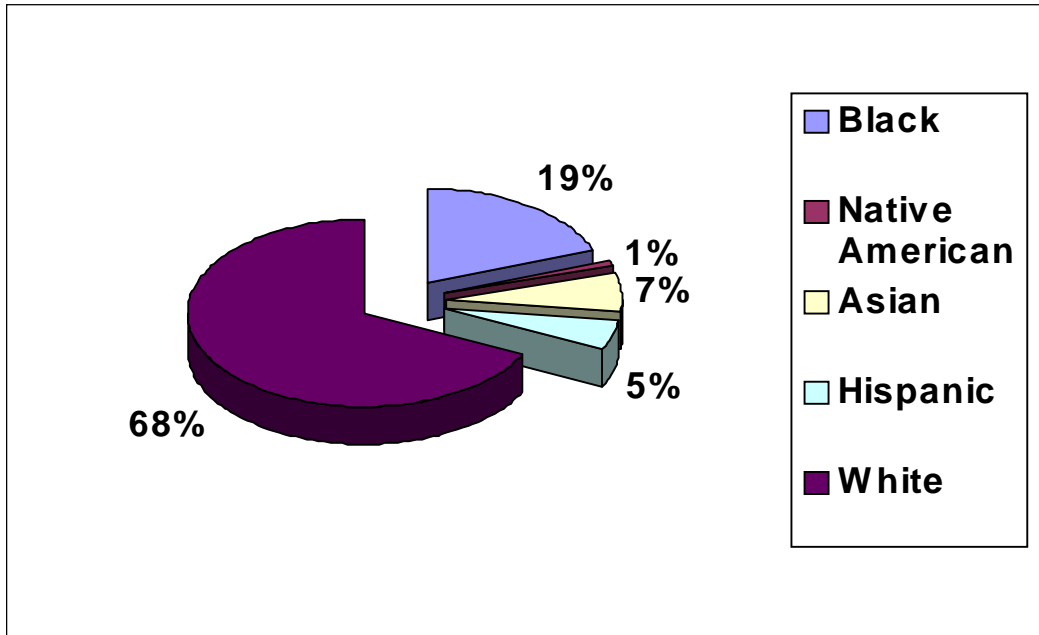


Figure 26: 2-year Publics, Race/Ethnicity, Fall 2010 Headcount



Private Non-Profit Institutions

SCHEV's enrollment demand model projects that enrollment demand in the private non-profit institutions will increase from 50,635 in fall 2000 to 56,203 in 2010. This is an increase of 5,568 students or 11 percent. Figure 27 graphically displays this increase, with numeric detail provided in Table 9. In this case, the reason that the private non-profit institutions are projected to grow at a faster rate than the public four-year institutions is because they draw a larger proportion of their students from the traditional age group – 24 years of age or less. Recall that this age group is expected to grow significantly in population between 2000 and 2010 and also exhibits a high college enrollment rate. At the same time, however, it is important to remember in reference to the second caveat discussed at the beginning of this section that the private non-profit institutions also tend to draw a larger proportion of their enrollment from the slower growing regions of the state. For this reason, and because SCHEV's enrollment demand model is based on U.S. Bureau of the Census population projections that are state-wide and do not account for regional differences in population growth rates, it is likely that a portion of the increase in enrollment demand projected for the private non-profit institutions will actually manifest itself in the public four-year institutions instead.

Figure 27: Private Non-Profits, Enrollment Demand, Fall 2001-2010

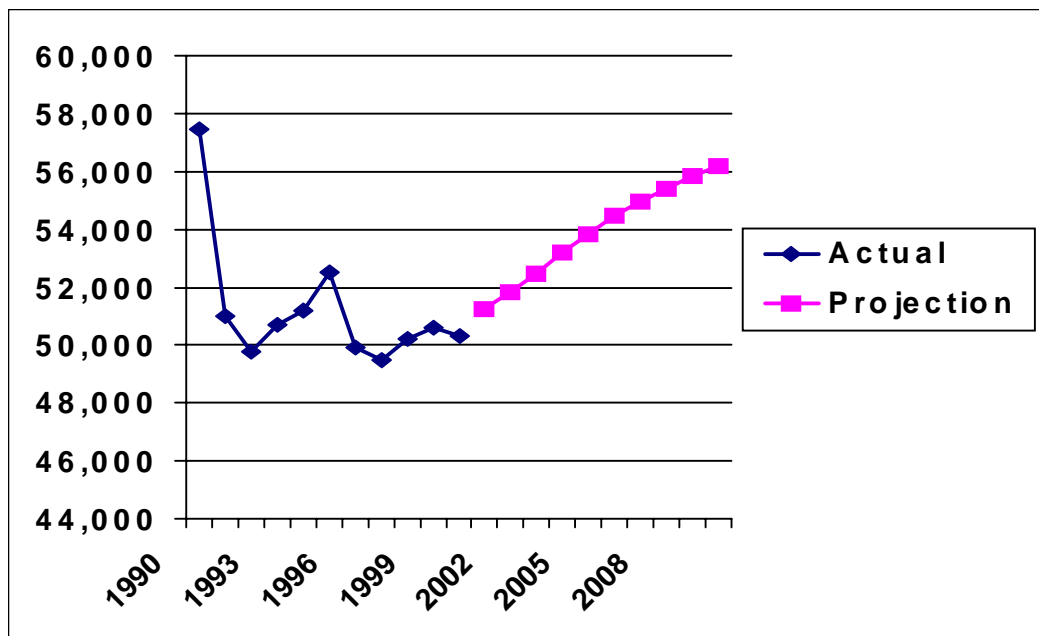


Table 9: Private Non-Profits, Enrollment Demand, Fall 2001-2010

Year	2001-02	2002-03	2003-04	2004-05	2005-06
Fall Headcount	51,237	51,828	52,488	53,187	53,855
Change from 2000 (abs.)	602	1,193	1,853	2,552	3,220
Change from 2000 (%)	1.2%	2.4%	3.7%	5.1%	6.4%

Year	2006-07	2007-08	2008-09	2009-10	2010-11
Fall Headcount	54,485	54,952	55,384	55,840	56,203
Change from 2000 (abs.)	3,850	4,317	4,749	5,205	5,568
Change from 2000 (%)	7.7%	8.6%	9.4%	10.3%	11.1%

Figures 28 and 29 detail the probable age and racial/ethnic composition of fall 2010 enrollments in the private non-profit institutions. Here again, a comparison with the earlier Figures for fall 2000 (Figures 9 and 10) shows that fall 2010 enrollments will tend to be both younger and more diverse than in fall 2000.

Figure 28: Private Non-Profits, Age Distribution, Fall 2010 Headcount

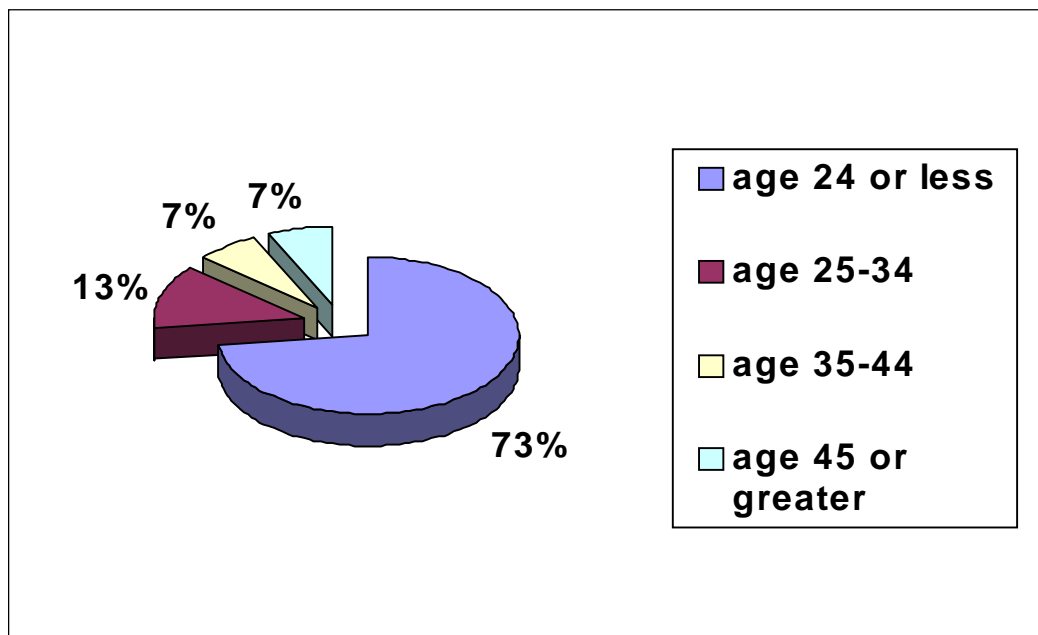
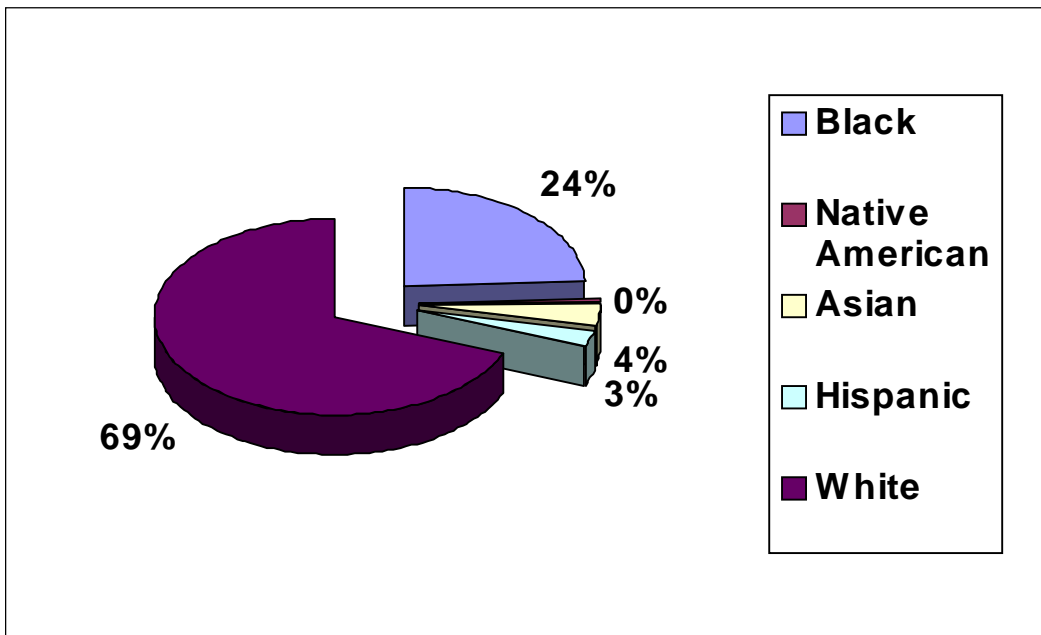


Figure 29: Private Non-Profits, Race/Ethnicity Distribution, Fall 2010 Headcount



Private For-Profit Institutions

Enrollment demand for the private for-profit institutions is projected to increase from 7,891 students in fall 2000 to 9,008 students in 2010. This is an increase of 1,117 students or 14 percent. The reason private for-profit institutions are projected to experience the largest increase in enrollment demand is that they draw the greatest proportion of their students from the traditional age group – 24 years of age or less. Moreover, because the number of institutions in this sector is likely to continue to increase, it is probable that actual enrollment demand for private for-profit institutions will be even greater than projected. Future enrollment demand for the private for-profit institutions is depicted graphically in Figure 30 and numerically in Table 10.

Figure 30: Private For-Profits, Enrollment Demand, Fall 2001-2010

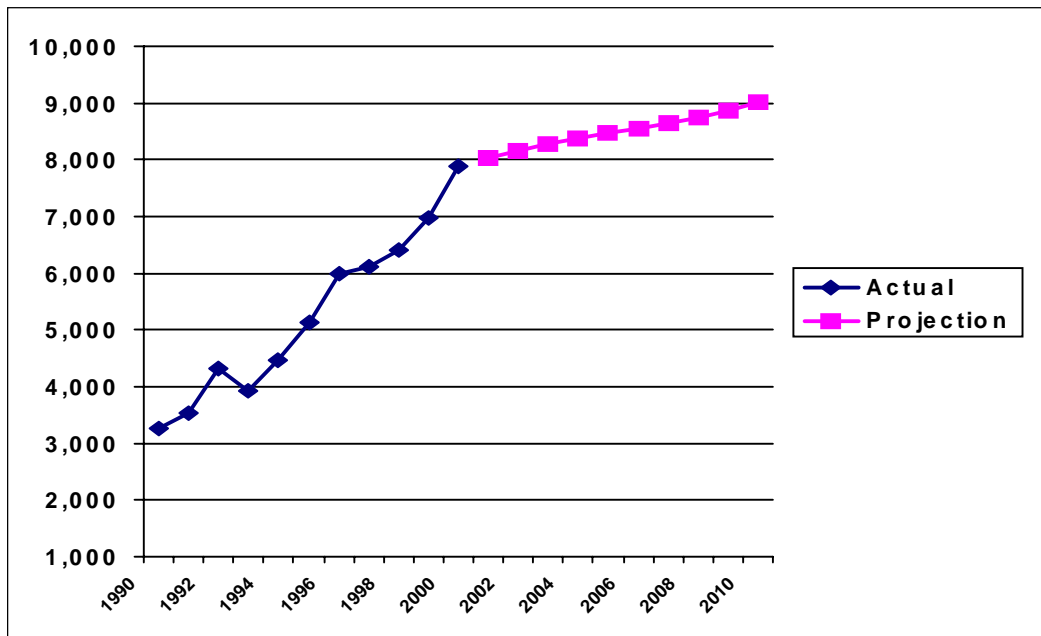


Table 10: Private For-Profits, Enrollment Demand Fall 2001-2010

Year	2001-02	2002-03	2003-04	2004-05	2005-06
Fall Headcount	8,021	8,155	8,287	8,387	8,469
Change from 2000 (abs.)	130	264	396	496	578
Change from 2000 (%)	1.6%	3.3%	5.0%	6.3%	7.3%

Year	2006-07	2007-08	2008-09	2009-10	2010-11
Fall Headcount	8,561	8,640	8,738	8,866	9,008
Change from 2000 (abs.)	670	749	847	975	1,117
Change from 2000 (%)	8.5%	9.5%	10.7%	12.4%	14.2%

As demonstrated by a comparison of Figures 31 and 32 with Figures 12 and 13, fall 2010 enrollments in the private for-profit institutions will also tend to be younger and more diverse than in fall 2000.

Figure 31: Private For-Profits, Age Distribution, Fall 2010 Headcount

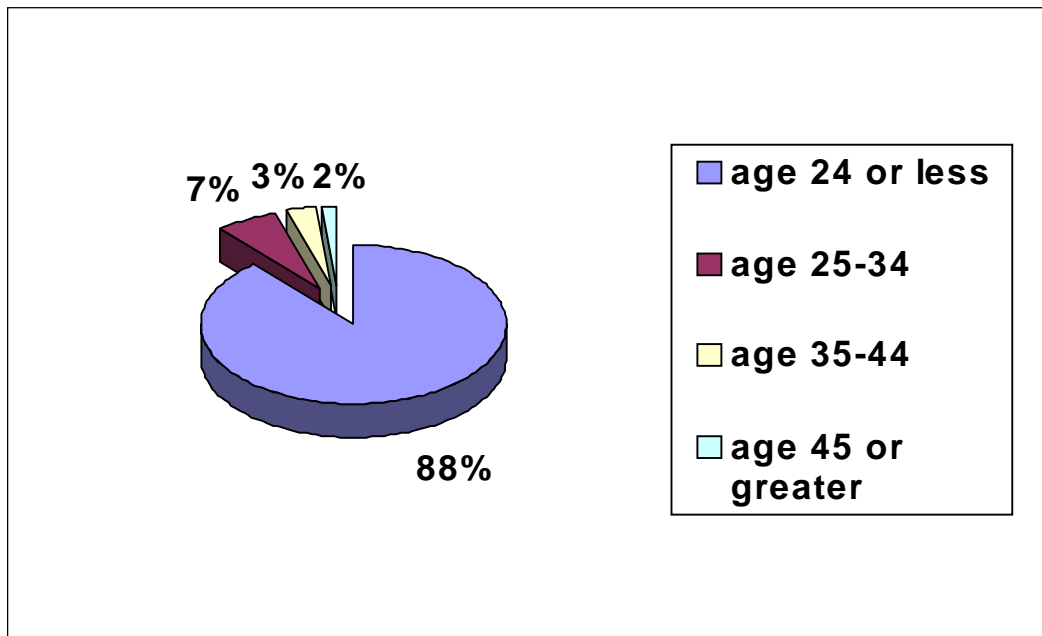
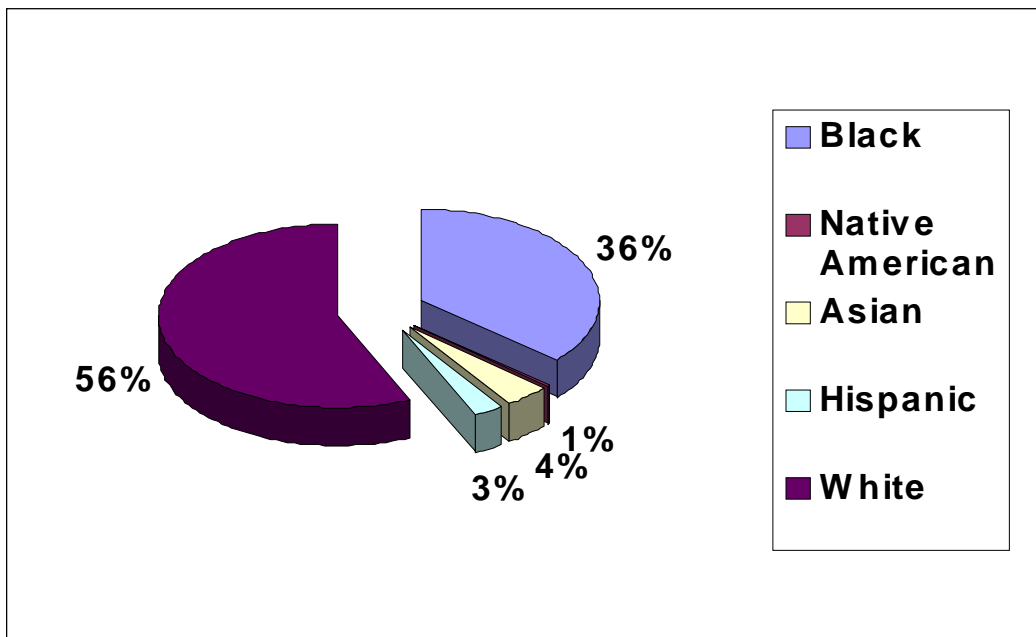


Figure 32: Private For-Profits, Race/Ethnicity Distribution, Fall 2010 Headcount



Summary: Where We Are Going

- The population of 15 to 24 year olds in Virginia is expected to increase by 156,578 between 2000 and 2010. This “traditional” college age group exhibits the highest college enrollment rate (18.5 percent of Virginians in the 15 to 24 age group attended a Virginia institution of higher education in fall 2000) and comprised 86 percent of enrollments in private for profit, 71 percent in private non-profit, 69 percent in public four-year, and 50 percent in public two-year institutions in fall 2000.
- The population of 25 to 34 year olds in Virginia is expected to decline by 22,788 between 2000 and 2010. 5.8 percent of Virginians in this age group attended a Virginia institution of higher education in fall 2000 and this age group accounted for 23 percent of public two-year enrollment, 18 percent of public four-year, 14 percent of private non-profit, and 8 percent of private for-profit. In addition, among 25 to 34 year olds, the population of those racial and ethnic groups that exhibit the highest college enrollment rates is expected to decline by 41,510 between 2000 and 2010 – almost twice the decline for the age group as a whole. This implies that, in addition to declining in absolute number between 2000 and 2010, the average college enrollment rate for 25 to 34 year olds is likely to decline as well.
- The population of 35 to 44 year olds in Virginia is expected to decline by 150,437 between 2000 and 2010. However, this group exhibits a relatively low college enrollment rate (2.9 percent in fall 2000) and comprised only 16 percent of public two-year, 9 percent of private non-profit, 8 percent of public four-year, and 4 percent of private for-profit enrollments in fall 2000.
- Because the U.S. Bureau of the Census state population projections used in SCHEV’s enrollment demand model do not contain regional detail, the enrollment demand model does not take into account likely regional differentials in population growth. We know from Weldon Cooper Center estimates of the future number of high school seniors, however, that only eight counties – all within the I-95/I-64 corridor – will account for 91 percent of the growth in the number of high school seniors between 2000 and 2005. The private for-profit and the public four-year institutions respectively draw 86 and 82 percent of their in-state enrollments from the I-95/I-64 corridor, whereas the private non-profit and public two-year institutions draw only 60 and 67 percent, respectively.

-
- SCHEV's enrollment demand model projects that between 2000 and 2010 enrollment demand will increase: 1) 18,899 students, or 10.8 percent, in the public four-year institutions, 2) 12,712 students, or 9.2 percent, in the public two-year institutions, 3) 5,568 students, or 11.1 percent, in the private non-profit institutions, and 4) 1,117 students, or 14.2 percent, in the private for-profit institutions. The proportional increase in each sector is driven largely by the number of students that sector draws from the rapidly growing 15 to 24, or traditional, age group.
 - Across all sectors of Virginia's higher education system, enrollments are likely to become younger and more diverse between 2000 and 2010.

IMPLICATIONS

Between 2000 and 2010, enrollment demand across Virginia's system of higher education (public four-year, public two-year, private non-profit, and private for-profit institutions) will increase by approximately 38,296 students. The public institutions will account for 83 percent of this increase, or approximately 31,611 students. This contrasts with a 22,495 student growth in public college and university enrollment over the prior decade.

This increase in enrollment demand is being driven in the main by a significant increase in the number of 15 to 24 year olds in Virginia. This "traditional" college age group has a high college enrollment rate (18.5 percent Virginians 15 to 24 years old attended a Virginia institution of higher education in fall 2000) and is responsible for the bulk of college and university enrollments (86 percent in private for profit institutions, 71 percent in private non-profit, 69 percent in public four-year, and 50 percent in public two-year institutions in fall 2000). Also important is the fact that almost all of this growth will take place in a handful of localities in the I-95/I-64 corridor in the eastern portion of the Commonwealth.

At the same time that Virginia's population of 15 to 24 year olds will be increasing, its population of 25 to 44 year olds will be declining. This is the age group that drives "non-traditional" enrollments in Virginia's colleges and universities.

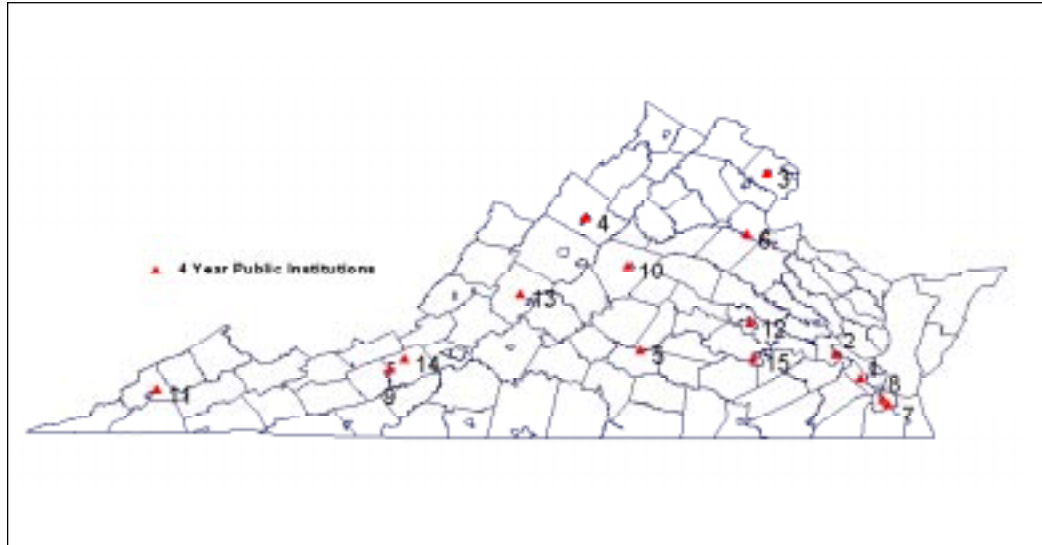
There are three major implications that derive from this combination of factors:

1. Between 2000 and 2010, Virginia's college and universities will experience a significant increase in enrollment demand compared to the prior decade.
2. "Traditional" students – those 24 years of age or younger, who are generally full-time, residential, and degree seeking – will account for the bulk of this increase in enrollment demand. These students will place above average demands on institutions' capital resources (*e.g.*, resident halls, classrooms, and recreational facilities). At the same time that enrollment demand from "traditional" students will be increasing, enrollment demand from "non-traditional" students – those 25 years of age or older, who are often part-time, non-residential, and not degree seeking – will likely either remain stable at current levels or decline.
3. Those institutions of higher education whose institutional missions are primarily geared toward serving "traditional" students, and that draw a large proportion of their students from the I-95/I-64 corridor, are likely to experience the greatest increase in enrollment demand. The two categories of institutions that fit both these criteria are the public four-year and the private for-profit institutions.

APPENDICES

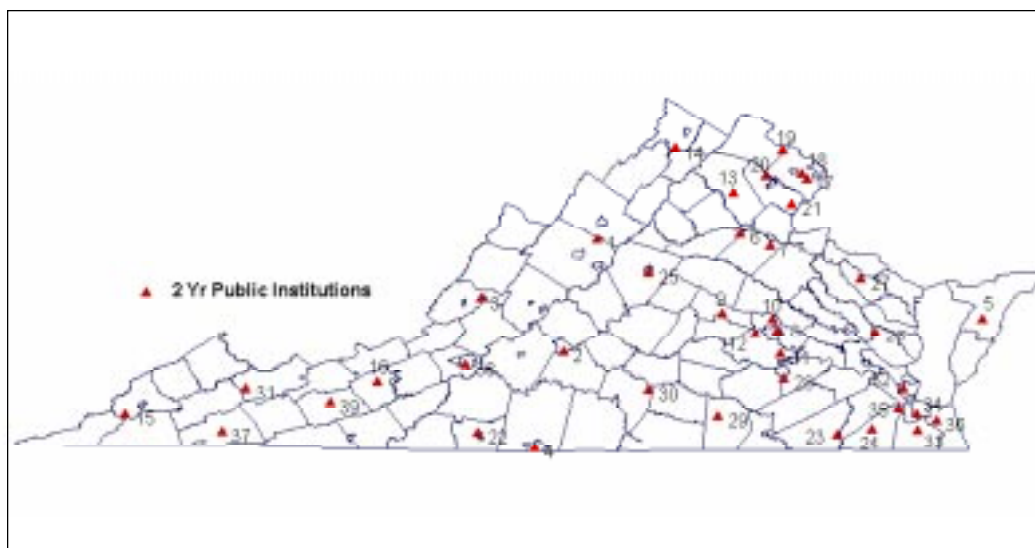
APPENDIX A: VIRGINIA INSTITUTIONS OF HIGHER EDUCATION

PUBLIC FOUR-YEAR INSTITUTIONS



Number	Institution
1	Christopher Newport University
2	College of William and Mary
3	George Mason University
4	James Madison University
5	Longwood College
6	Mary Washington College
7	Norfolk State University
8	Old Dominion University
9	Radford University
10	University of Virginia
11	University of Virginia's College at Wise
12	Virginia Commonwealth University
13	Virginia Military Institute
14	Virginia Polytechnic Institute & State University
15	Virginia State University

PUBLIC TWO-YEAR INSTITUTIONS

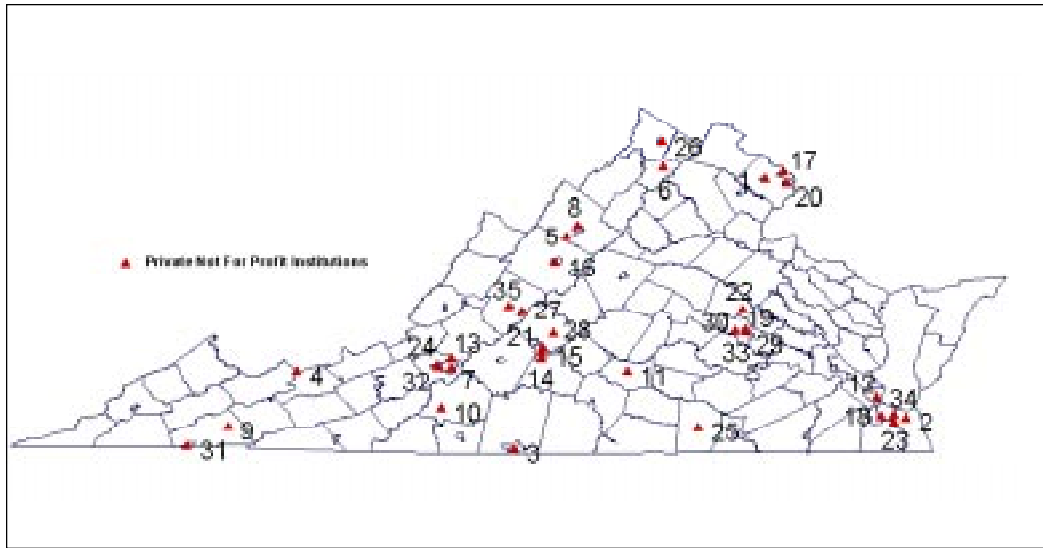


Number	Institution
1	Blue Ridge Community College
2	Central Virginia Community College
3	Dabney S. Lancaster Community College
4	Danville Community College
5	Eastern Shore Community College
6	Germanna Community College - Locust Grove Campus
7	Germanna Community College - Massaponax Campus
8	J. Sargeant Reynolds Community College - Downtown Campus
9	J. Sargeant Reynolds Community College - Gochland Campus
10	J. Sargeant Reynolds Community College - Henrico Campus
11	John Tyler Community College - Chester Campus
12	John Tyler Community College - Midlothian Campus
13	Lord Fairfax Community College - Fauquier County Campus
14	Lord Fairfax Community College - Middletown Campus
15	Mountain Empire Community College
16	New River Community College
17	Northern Virginia Community College - Alexandria Campus
18	Northern Virginia Community College - Annandale Campus
19	Northern Virginia Community College - Loudoun Campus
20	Northern Virginia Community College - Manassas Campus
21	Northern Virginia Community College - Woodbridge Campus
22	Patrick Henry Community College
23	Paul D. Camp Community College - Franklin Campus
24	Paul D. Camp Community College - Suffolk Campus
25	Piedmont Virginia Community College
26	Rappahannock Community College - Glens Campus
27	Rappahannock Community College - Warsaw Campus

PUBLIC TWO-YEAR INSTITUTIONS (cont.)

Number	Institution
28	Richard Bland College
29	Southside Virginia Community College - Alberta Campus
30	Southside Virginia Community College - Keysville Campus
31	Southwest Virginia Community College
32	Thomas Nelson Community College
33	Tidewater Community College - Chesapeake Campus
34	Tidewater Community College - Norfolk Campus
35	Tidewater Community College - Portsmouth Campus
36	Tidewater Community College - Virginia Beach Campus
37	Virginia Highlands Community College
38	Virginia Western Community College
39	Wytheville Community College

PRIVATE NON-PROFIT INSTITUTIONS

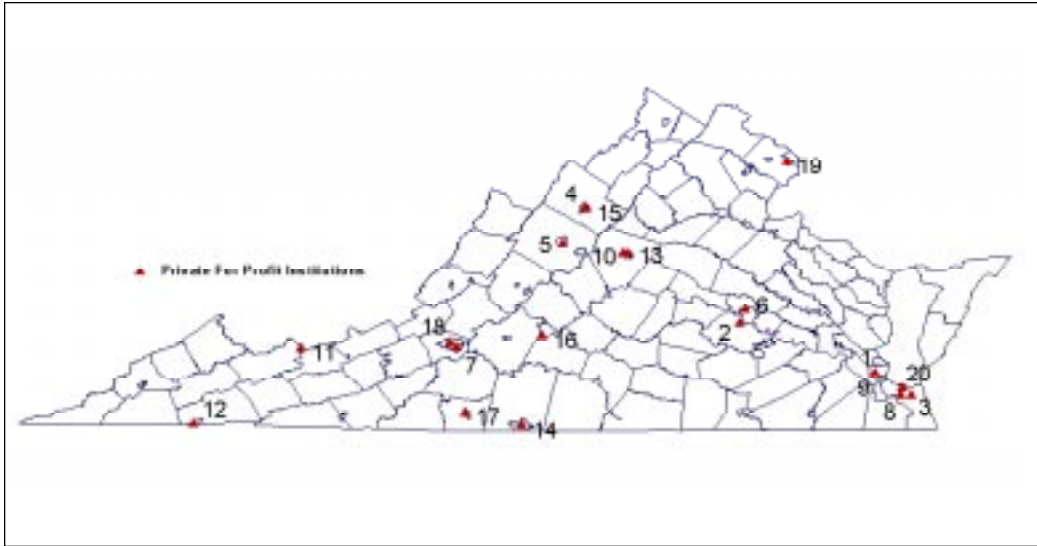


Number	Institution
1	American Military Institute
2	Atlantic University
3	Averett University
4	Bluefield College
5	Bridgewater College
6	Christendom College
7	College of Health Sciences
8	Eastern Mennonite College
9	Emory and Henry College
10	Ferrum College
11	Hampden-Sydney College
12	Hampton University
13	Hollins College
14	Liberty University
15	Lynchburg College
16	Mary Baldwin College
17	Marymount University
18	Medical College of Hampton Roads, EVMS
19	Presbyterian School for Christian Education
20	Protestant Episcopal Seminary
21	Randolph-Macon Womens College
22	Randolph-Macon College
23	Regent University
24	Roanoke College
25	Saint Pauls College
26	Shenandoah University

PRIVATE NON-PROFIT INSTITUTIONS (cont.)

Number	Institution
27	Southern Virginia College
28	Sweet Briar College
29	Union Theological Seminary
30	University of Richmond
31	Virginia Intermont College
32	Virginia Seminary & College
33	Virginia Union University
34	Virginia Wesleyan College
35	Washington & Lee University

PRIVATE FOR-PROFIT INSTITUTIONS



Number	Institution
1	Bryant & Stratton College - Hampton Campus
2	Bryant & Stratton College - Richmond Campus
3	Bryant & Stratton College - Virginia Beach Campus
4	Dominion Business School - Harrisonburg
5	Dominion Business School - Staunton
6	ECPI Computer Institute - Richmond Campus
7	ECPI Computer Institute - Roanoke Campus
8	ECPI College of Technology - Virginia Beach Campus
9	ECPI Computer Institute - Hampton Campus
10	Institute of Textile Technology
11	National Business College - Bluefield Campus
12	National Business College - Bristol Campus
13	National Business College - Charlottesville Campus
14	National Business College - Danville Campus
15	National Business College - Harrisonburg Campus
16	National Business College - Lynchburg Campus
17	National Business College - Martinsville Campus
18	National Business College - Roanoke Valley Campus
19	Notre Dame Graduate School of Christendom College
20	World College

APPENDIX B: FALL 2000 HIGHER EDUCATION ENROLLMENT RATES BY AGE AND RACE/ETHNICITY

The tables below detail, by age cohort and racial/ethnic category, the proportion of Virginians who attended a Virginia public four-year institution of higher education in fall 2000. These data are derived using SCHEV's comprehensive student enrollment database and U.S. Bureau of the Census, Series A, state population projections. It is important to keep in mind, however, that because these data do not take into account Virginians attending out-of-state institutions, and because a small proportion of the student records in SCHEV's enrollment database did not contain data on race or ethnicity, the enrollment rates presented below probably somewhat understate actual college attendance rates for most age cohort and racial/ethnic categories.

All Race/Ethnicity Categories:

Age	1996	1997	1998	1999	2000
15-24	16.9%	17.5%	17.8%	18.1%	18.5%
25-34	5.9%	5.9%	6.0%	6.0%	5.8%
35-44	3.2%	3.2%	3.1%	3.1%	2.9%
44 and older	1.1%	1.1%	1.1%	1.2%	1.1%

Asian

Age	1996	1997	1998	1999	2000
15-24	30.8%	30.0%	29.6%	29.0%	28.7%
25-34	9.1%	9.4%	9.4%	9.5%	9.3%
35-44	2.9%	3.1%	3.0%	3.0%	2.8%
45 and older	1.2%	1.2%	1.1%	1.1%	1.0%

Black

Age	1996	1997	1998	1999	2000
15-24	11.7%	11.9%	12.3%	12.6%	13.1%
25-34	4.8%	4.9%	5.1%	5.2%	5.2%
35-44	3.0%	3.1%	3.1%	3.2%	3.2%
45 and older	0.9%	1.0%	1.0%	1.1%	1.2%

Hispanic

Age	1996	1997	1998	1999	2000
15-24	10.9%	11.3%	11.6%	11.9%	12.1%
25-34	3.5%	3.5%	3.6%	3.9%	3.9%
35-44	2.1%	2.0%	2.0%	2.1%	1.9%
45 and older	0.9%	0.9%	0.9%	1.0%	0.9%

Native American

Age	1996	1997	1998	1999	2000
15-24	31.4%	33.8%	39.3%	38.1%	40.0%
25-34	9.5%	12.0%	14.2%	15.8%	15.7%
35-44	7.3%	7.5%	7.6%	8.4%	7.3%
45 and older	2.5%	2.6%	3.1%	3.3%	3.2%

White

Age	1996	1997	1998	1999	2000
15-24	18.2%	18.9%	19.3%	19.7%	19.9%
25-34	6.1%	6.2%	6.1%	6.1%	5.8%
35-44	3.4%	3.3%	3.2%	3.1%	2.8%
45 and older	1.1%	1.2%	1.2%	1.2%	1.1%

APPENDIX C: ENROLLMENT DEMAND PROJECTION METHODOLOGY

PUBLIC INSTITUTION ENROLLMENT DEMAND

Because SCHEV has more comprehensive and consistent data on enrollment in public institutions of higher education, we were able to use a detailed input/output model to project enrollment demand for Virginia's public four-year and public two-year colleges and universities over the period from 2001 to 2010. This model uses projections of the number of new students who are likely to enter each of these two sectors each year and the number of students who are likely to graduate or otherwise leave each sector each year to project likely future enrollment levels in each sector. SCHEV, in combination with Virginia's public institutions of higher education and the Department of Planning and Budget, has used a variant of this model for the last six years to meet its statutory responsibility to provide student enrollment projections. The model has performed quite successfully – exhibiting less than one percent system-wide forecast errors each year.

Mathematically the model can be depicted:

$$HCENR_{it} = HCENR_{it-1} + NEWSTD_{it} - GRAD/LEFT_{it-1}$$

Where: $HCENR_{it}$ = fall headcount enrollment by sector (i) in year (t)
 $HCENR_{it-1}$ = fall headcount enrollment by sector (i) in the prior year (t-1)
 $NEWSTD_{it}$ = new students by sector (i) in year (t)
 $GRAD/LEFT_{it-1}$ = students who graduated or left by sector (i) in the prior year (t-1)

To derive a projection of the number of new students each year we use U.S. Bureau of the Census, Series A, state population projections to calculate annual growth rates for thirteen age groups (10 to 14, 15 to 19, 20 to 24, 25 to 29, 30 to 34, 35 to 39, 40 to 44, 45 to 49, 50 to 54, 55 to 59, 60 to 64, 65 to 69, and 70 and above) and five racial/ethnic categories (Asian and Pacific Islander, Black, Hispanic, Native American, and White). The reason we employ such a large number of age groups is that, as was shown in the *Where We Are Going – Projected Virginia Population – 2000 to 2010* section, the demographic trends and college participation rates exhibited by these groups are highly varied and, as a result, pooling them could result in misleading conclusions. We then apply these annual growth rates to the number of new students admitted in the prior year, disaggregated according to student level (*i.e.*, freshmen, sophomore, junior, senior and fifth year, unclassified undergraduate, first professional, first-year

graduate, advanced graduate, and unclassified graduate) age group, and racial/ethnic group.

Mathematically:

$$NEWSTD_{ijkzt} = (NEWSTD_{ijkzt-1}) (D_{jkt})$$

Where: $NEWSTD_{ijkzt}$ = new students by sector (i), age cohort (j), racial/ethnic group (k), and student level (z) in year (t)

$NEWSTD_{ijkz}$ = new students by sector (i), age cohort (j), racial/ethnic group (k), and student level (z) in the prior year (t-1)

D_{jkt} = the annual growth rate for individuals by age cohort (j), and racial/ethnic group (k) in year (t)

To derive a projection of the number of students who graduate or otherwise leave each year we take advantage of SCHEV's detailed student database to track aggregate progression and retention of students across the nine student levels detailed above. The progression and retention rates used for the projection are for fall 1999 to fall 2000, the most recently available data.

Mathematically:

$$GRAD/LEFT_{it-1} = HCENR_{it-1} - \dot{\alpha} STD_{izt-1}$$

Where: $GRAD/LEFT_{it-1}$ = students who graduated or left by sector (i) in the prior year (t-1)

$HCENR_{it-1}$ = fall headcount enrollment by sector (i) in the prior year (t-1)

STD_{izt-1} = students by sector (i) and student level (z) in the prior year (t-1) who either remained in level or progressed to another level in year (t)

PRIVATE INSTITUTION ENROLLMENT DEMAND

To project future enrollment demand in the private non-profit and private for profit institutions we again use U.S. Bureau of the Census, Series A, state population projections to calculate annual growth rates for 13 age groups (10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, and 70 and above) and five racial/ethnic categories (Asian and Pacific Islander, Black, Hispanic, Native American, and White). In this case, however, we apply those annual growth rates to all students enrolled in the prior year by age and racial/ethnic group, rather than just new students. In this way, enrollment is determined directly as opposed to through an input/output model. This more generalized approach is necessary because comprehensive student-specific data on year-to-year changes in new admissions is not available for all of these institutions. Although this more generalized approach cannot track the effect on overall enrollments of non-linear changes in the number of new students as accurately as the input/output model used for the public institutions, it has, nonetheless, been used elsewhere with good results.³³

Mathematically:

$$HCENR_{ijkt} = (HCENR_{ijkt-1}) (D_{jkt})$$

Where: $HCENR_{ijkt}$ = students by sector (i), age cohort (j), and racial/ethnic group (k) in year (t)
 $HCENR_{ijkt-1}$ = students by sector (i), age cohort (j), and racial/ethnic group (k) in the prior year (t-1)
 D_{jkt} = the annual growth rate for individuals by age cohort (j), and racial/ethnic group (k) in year (t)

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