

# The University of North Carolina Board of Governors



## Supplement to Long-Range Planning 2004-2009



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



NORTH CAROLINA  
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[Letter from the Chair]

UNC Board of Governors Resolution  
Approving the Supplement to Long-Range Planning 2004-2009

Be it resolved by the Board of Governors of the University of North Carolina:

That the document entitled *Supplement to Long-Range Planning 2004–2009* is approved;  
and

That the President be authorized to make such editorial improvements in the document as he finds necessary in the interest of accuracy and completeness and to have the *Supplement to Long-Range Planning 2004–2009* distributed electronically.

ADOPTED: [month day], 2006

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## I. Introduction

With the change in leadership in January 2006, it was decided not to proceed with the publication of a long-range planning document since the many reviews and new initiatives introduced would make such a document almost immediately outdated. Subsequently, the decision was made to follow a precedent from the mid-nineties and prepare a supplement to the previous long-range planning document that would include select new, relevant items.

Of paramount importance has been a priority-setting process initiated by President Bowles in January. Chancellors were the key participants in the process, which resulted in twelve priorities in rank order that were recommended by the President and approved by the Board of Governors in May 2006. Previously the Board had added a seventh strategic direction on economic transformation. The priorities and the strategic directions are included in [Section IV](#). The priorities are driving the budget development process for the 2007-09 biennium budget, and goals and measures are being developed for each priority. Student success understood as access, retention, graduation, and affordability and an outstanding faculty are the top two priorities. In concert with the President's priority for K-12, producing more and better teachers and improving schools was the next priority.

The Board of Governors' Special Committee on the Role of the University in Community and Economic Development culminated with the Board's approval of the Committee's report at the May 2006 meeting. It is included as [Section V](#).

Other sections update the data on higher education in North Carolina ([Section II](#)) and provide the context for and trends affecting higher education ([Section III](#)). Two appendices provide links to the [academic inventory of all degree programs](#) and to the [campus-based and inter-institutional centers and institutes](#).

## **II. Higher Education in North Carolina**

### **The Development of Higher Education in North Carolina**

Higher education has long played a vital role in the economic, political, and social life of North Carolina. One of the first actions of the State of North Carolina after it declared independence in 1776 was to adopt a Constitution that directed, in part, that “all useful Learning shall be duly encouraged and promoted in one or more Universities.” [Constitution of North Carolina, Sec. 41 (1776)] The General Assembly of 1789 responded to that mandate by chartering the University of North Carolina and endowing it with the escheats to which the State as sovereign was entitled. In 1868, the new State Constitution gave more explicit recognition to the University, as did an 1873 constitutional amendment. Throughout that period, the University at Chapel Hill was the only state-supported institution of higher education in North Carolina.

Between 1877 and 1969, the General Assembly created or acquired for the State the other institutions that are today part of the University of North Carolina. Those institutions, identified by their current titles and the dates when they became state institutions, are Fayetteville State University (1877), North Carolina State University at Raleigh (1887), the University of North Carolina at Pembroke (1887), the University of North Carolina at Greensboro (1891), North Carolina Agricultural and Technical State University (1891), Elizabeth City State University (1891), Western Carolina University (1893), Winston-Salem State University (1897), Appalachian State University (1903), East Carolina University (1907), North Carolina Central University (1923), North Carolina School of the Arts (1963), the University of North Carolina at Charlotte (1963), the University of North Carolina at Asheville (1963), and the University of North Carolina at Wilmington (1963).

The Higher Education Reorganization Act of 1971 “redefined” the University of North Carolina and “redesignated” the constitutional Board of Trustees of the University of North Carolina as the “Board of Governors of the University of North Carolina.” Thus, the University of North Carolina is today the same legal entity that was created in 1789, despite changes in the name of its governing board, the number of its campuses, its size and scope, and almost every other particular aspect of the institution. In 1963, three community colleges and 20 closely related industrial education centers and technical institutes were combined to form the North Carolina Community College System. Between 1964 and 1968, all of the industrial education centers became technical institutes or comprehensive community colleges. Today, the North Carolina Community College System includes 58 community colleges or technical colleges and institutes, plus a Center for Applied Textile Technology. The State Board of Community Colleges governs that system.

Along with the public colleges and universities, a significant private sector of higher education has long contributed much to the life of the State. That sector developed, for the most part, in the century and a half since 1830. There are currently 37 private colleges and universities in North Carolina. One of the 37, Salem College, was founded as an academy in 1772, and Louisburg College evolved from Franklin Academy, which was chartered in 1787 and reopened its doors in 1805, and five of them trace their origins to the decade of the 1830s: Wake Forest University (1834), Davidson College and Guilford College (1837), and Duke University and Greensboro College (both in 1838). Of the remainder, 21 were founded in the 19th century, and nine in the 20th century (five of them since 1950).

### **Licensure of Nonpublic Post-Secondary Institutions**

When the General Assembly redefined The University of North Carolina in 1971, in recognition of the array of educational institutions in the nonpublic sector, it included the regulation of nonpublic, postsecondary institutions as a responsibility of the Board of Governors. The Board’s regulatory authority was to insure consumer protection for North Carolina residents.

In February 1974, the Board of Governors adopted Rules and Standards for licensing nonpublic educational institutions seeking to confer degrees in North Carolina. The Rules and Standards have been revised several times since then; they were last revised, and approved by the Board, to focus on an education of good quality, in November 2004.

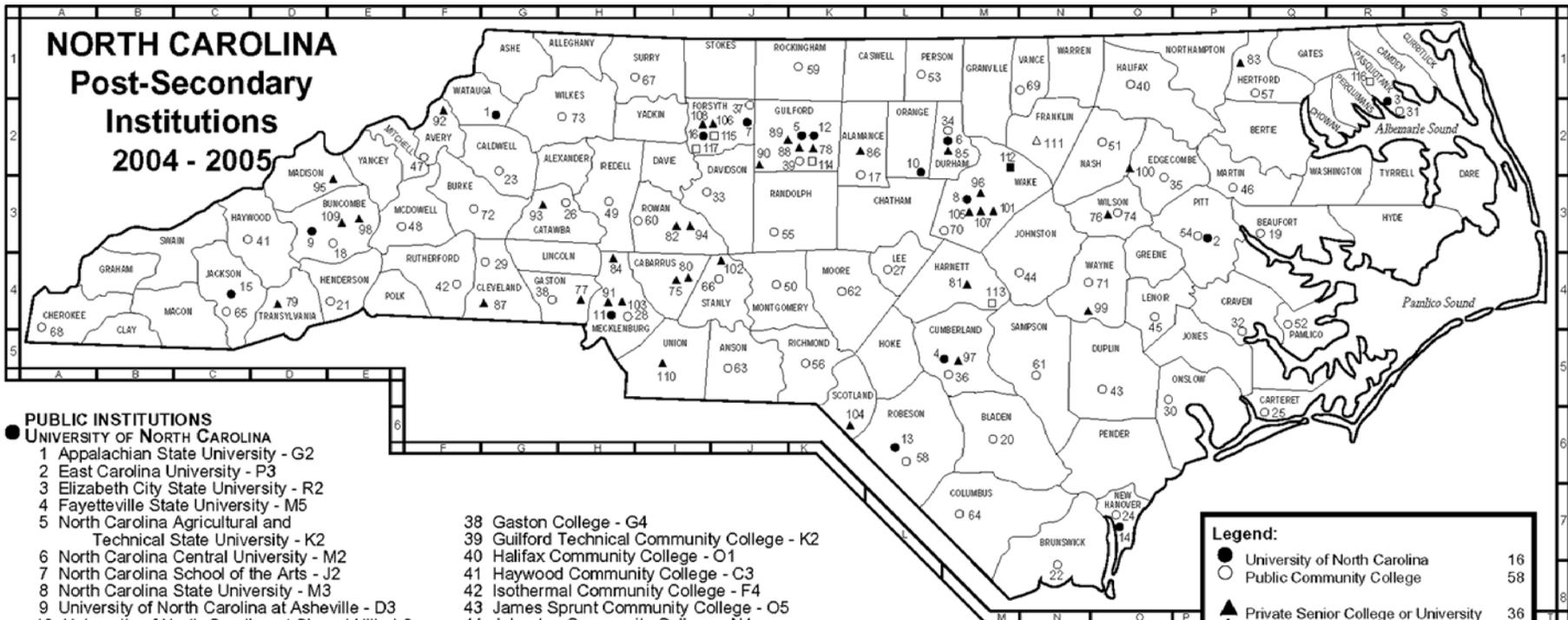
Thus, postsecondary, nonpublic institutions seeking to offer postsecondary degrees or degree activity in the State shall be subject to licensure, unless the institution offers religious education intended for a vocation or offers postsecondary education for military personnel stationed on active duty on a military base. There are currently 21 licensed institutions in the State, and several others are seeking licensure. There are 95 postsecondary institutions that are exempt from licensure because they offer religious instruction or are operating on a military base. In 2005, the Board licensed its first private law school, the Charlotte School of Law.

### **Nonpublic Post-Secondary Licensed Institutions**

- Art Institute of Charlotte—Charlotte, NC
- Averett University—Eden, NC
- Boston University—Camp Lejeune Marine Corps Base/New River Marine Corps Air Station and Cherry Point Marine Corps Air Station
- Central Michigan University—Fayetteville, NC and Seymour Johnson Air Force Base
- Charlotte School of Law—Charlotte, NC
- DeVry University—Charlotte, NC
- ECPI College of Technology—Charlotte, Greensboro and Raleigh, NC
- Embry-Riddle Aeronautical University—Fort Bragg, Pope Air Force Base and Seymour Johnson Air Force Base
- Johnson & Wales—Charlotte, NC
- King's College—Charlotte, NC
- Maharishi University of Enlightenment—Boone, NC
- Miller-Monte Technical College—Wilmington, NC
- Old Dominion University—Originally licensed in Raleigh and Smithfield, NC but closed sites and now offer distance education classes from Virginia to North Carolina residents
- School of Communication Arts—Raleigh, NC
- South College—Asheville, NC
- Southern Illinois University—Camp Lejeune, Cherry Point Marine Corps Air Station and New River Marine Corps Air Station
- Strayer University—Cary, Charlotte, Greensboro and Raleigh, NC
- Troy State University—Fort Bragg
- University of Florida—Charlotte, NC
- University of Phoenix—Charlotte, NC
- Virginia Polytechnic Institute and State University—Winston-Salem, NC

### **Military Exempt Institutions**

- Averett University—Camp Lejeune Marine Corps Base
- Boston University—Camp Lejeune Marine Corps Base/New River Marine Corps Air Station and Cherry Point Marine Corps Air Station
- Central Texas College—Fort Bragg and Pope Air Force Base
- Embry-Riddle Aeronautical University—Fort Bragg, Pope Air Force Base and Seymour Johnson Air Force Base
- Liberty University—Fort Bragg
- Park University—Cherry Point Marine Corps Air Station
- Southern Illinois University—Camp Lejeune, Cherry Point Marine Corps Air Station and New River Marine Corps Station
- Troy State University—Fort Bragg
- Webster University—Camp Lejeune Marine Corps Base, New River Marine Corps Air Station, Cherry Point Marine Corps Air Station, Pope Air Force Base



# NORTH CAROLINA Post-Secondary Institutions 2004 - 2005

## ● PUBLIC INSTITUTIONS

- **UNIVERSITY OF NORTH CAROLINA**
- 1 Appalachian State University - G2
- 2 East Carolina University - P3
- 3 Elizabeth City State University - R2
- 4 Fayetteville State University - M5
- 5 North Carolina Agricultural and Technical State University - K2
- 6 North Carolina Central University - M2
- 7 North Carolina School of the Arts - J2
- 8 North Carolina State University - M3
- 9 University of North Carolina at Asheville - D3
- 10 University of North Carolina at Chapel Hill - L3
- 11 University of North Carolina at Charlotte - H4
- 12 University of North Carolina at Greensboro - K2
- 13 University of North Carolina at Pembroke - L6
- 14 University of North Carolina at Wilmington - O7
- 15 Western Carolina University - C4
- 16 Winston-Salem State University - I2
- **COMMUNITY AND TECHNICAL COLLEGES**
- 17 Alamance Community College - K3
- 18 Asheville-Buncombe Technical Community College - E3
- 19 Beaufort County Community College - Q3
- 20 Bladen Community College - M6
- 21 Blue Ridge Community College - E4
- 22 Brunswick Community College - N8
- 23 Caldwell Community College and Technical Institute - G3
- 24 Cape Fear Community College - O7
- 25 Carteret Community College - Q6
- 26 Catawba Valley Community College - H3
- 27 Central Carolina Community College - L4
- 28 Central Piedmont Community College - H4
- 29 Cleveland Community College - G4
- 30 Coastal Carolina Community College - O6
- 31 College of the Albemarle - R2
- 32 Craven Community College - P5
- 33 Davidson County Community College - I3
- 34 Durham Technical Community College - M2
- 35 Edgecombe Community College - O3
- 36 Fayetteville Technical Community College - M5
- 37 Forsyth Technical Community College - J2

- 38 Gaston College - G4
- 39 Guilford Technical Community College - K2
- 40 Halifax Community College - O1
- 41 Haywood Community College - C3
- 42 Isothermal Community College - F4
- 43 James Sprunt Community College - O5
- 44 Johnston Community College - N4
- 45 Lenoir Community College - O4
- 46 Martin Community College - P3
- 47 Mayland Community College - F2
- 48 McDowell Technical Community College - F3
- 49 Mitchell Community College - H3
- 50 Montgomery Community College - J4
- 51 Nash Community College - O2
- 52 Pamlico Community College - Q5
- 53 Piedmont Community College - L1
- 54 Pitt Community College - P3
- 55 Randolph Community College - J3
- 56 Richmond Community College - K5
- 57 Roanoke-Chowan Community College - Q2
- 58 Robeson Community College - L6
- 59 Rockingham Community College - K1
- 60 Rowan-Cabarrus Community College - I3
- 61 Sampson Community College - N5
- 62 Sandhills Community College - K4
- 63 South Piedmont Community College - J5
- 64 Southeastern Community College - M7
- 65 Southwestern Community College - C4
- 66 Stanly Community College - J4
- 67 Surry Community College - I1
- 68 Tri-County Community College - A5
- 69 Vance-Granville Community College - N1
- 70 Wake Technical Community College - M3
- 71 Wayne Community College - N4
- 72 Western Piedmont Community College - F3
- 73 Wilkes Community College - H2
- 74 Wilson Technical Community College - O3

## ▲ PRIVATE INSTITUTIONS

- ▲ **SENIOR COLLEGES AND UNIVERSITIES**
- 75 Barber-Scotia College - I4
- 76 Barton College - O3
- 77 Belmont Abbey College - H4
- 78 Bennett College - K2
- 79 Brevard College - D4
- 80 Cabarrus College of Hlth. Sciences - I4
- 81 Campbell University, Inc. - M4
- 82 Catawba College - I3
- 83 Chowan College - P1
- 84 Davidson College - H4
- 85 Duke University - M2
- 86 Elon College - K2
- 87 Gardner-Webb University - G4
- 88 Greensboro College - K2
- 89 Guilford College - J2
- 90 High Point University - J2
- 91 Johnson C. Smith University - H4
- 92 Lees-McRae College - F2
- 93 Lenoir-Rhyne College - G3
- 94 Livingstone College - I3
- 95 Mars Hill College - E3
- 96 Meredith College - M3
- 97 Methodist College - M5
- 98 Montreat College - E3
- 99 Mount Olive College - N4
- 100 North Carolina Wesleyan College - O3
- 101 Peace College - M3
- 102 Pfeiffer University - J4

Legend:		
●	University of North Carolina	16
○	Public Community College	58
▲	Private Senior College or University	36
△	Private Junior College	1
■	Theological Seminary	1
□	Bible Colleges	5
<b>Total</b>		<b>117</b>

- 103 Queens College - H4
- 104 St. Andrews Presbyterian College - K6
- 105 St. Augustine's College - M3
- 106 Salem College - J2
- 107 Shaw University - M3
- 108 Wake Forest University - I2
- 109 Warren Wilson College - E3
- 110 Wingate University - I5

- △ **JUNIOR COLLEGES**
- 111 Louisburg College - N2

- **THEOLOGICAL SEMINARY**
- 112 Southeastern Baptist Theological Seminary - M2

- **BIBLE COLLEGES**
- 113 Heritage Bible College - M4
- 114 John Wesley College - K2
- 115 Piedmont Baptist College - J2
- 116 Roanoke Bible College - R1
- 117 Winston-Salem Bible College - I2

## Enrollment Trends

Institutions in all three sectors have experienced considerable growth in enrollments and degrees conferred, as Table II.1 shows. Fall enrollments increased by 25.6 percent during the period 1984-1994 and by nearly 30 percent during the period 1994-2004. It is likely that even greater growth in enrollments will occur during the current decade as the annual number of high school graduates increases and as more working adults seek additional education.

**Table II.1. Higher Education in North Carolina<sup>1</sup>**

<b>Measure</b>	<b>1984</b>	<b>1994</b>	<b>2004</b>
<b>Number of postsecondary institutions:</b>			
Community colleges			
Total	58	58	58
College transfer	24	51	58
Private 4-year colleges & universities	31	33	36
Private 2-year colleges	7	4	1
Public 4-year colleges & universities	16	16	16
Total number of institutions	112	111	111
<b>Fall headcount enrollments:</b>			
Community colleges			
Total curriculum	112,633	147,842	199,837
College transfer	16,584	34,452	46,647
Private 4-year colleges & universities	49,855	60,048	77,883
Private 2-year colleges	4,116	1,828	571
Public 4-year colleges & universities	122,435	153,515	189,615
Total enrollment	289,039	363,233	467,906
<b>Degrees conferred:</b>			
	<b>1983-84</b>	<b>1993-94</b>	<b>2003-04</b>
Sub-baccalaureate certificates	6,275	10,217	13,988
Associate degrees	10,979	13,531	16,982
Baccalaureate degrees	25,301	32,810	38,990
Master's degrees	5,376	7,372	11,525
Doctoral degrees	771	988	1,268
First professional degrees	1,594	1,673	2,077
Law	740	788	867
Dentistry	82	70	70
Pharmacy	9	77	212
Medicine	415	422	445
Veterinary medicine	-	71	76
Theology	348	245	407
<b>Total degrees conferred</b>	<b>50,296</b>	<b>66,591</b>	<b>84,830</b>

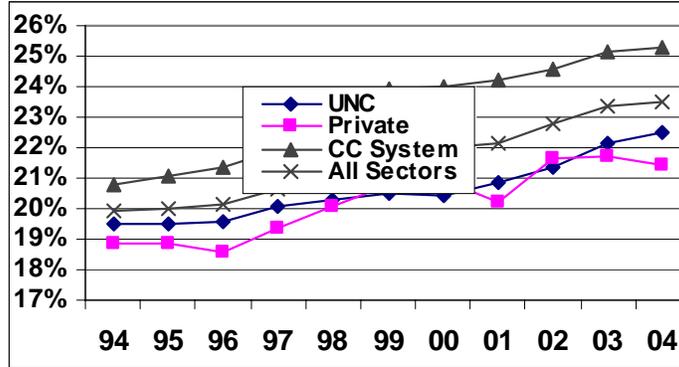
## Increased Participation in Higher Education by Minorities and Women

Much of the increase in enrollments and degrees conferred in the last two decades is due to the higher rates of college attendance by minorities, women, non-traditional students, and college students returning for post-baccalaureate studies. [Figure II.1](#) and [Figure II.2](#) show minority enrollment trends for all higher education sectors in NC (UNC, NC Community College System, private institutions) through fall 2004. Although community college and private institution enrollment analyses were not available for fall 2005 at the time of this printing, UNC figures for fall 2005 were available. In fall 2005, African American enrollment at historically white UNC institutions reached 16,500 (10.51 percent), the highest number ever although slightly down in percentage from the previous year. Non-African American enrollment at historically black institutions was 16.1 percent. Overall fall 2005 enrollments by racial and ethnic group were

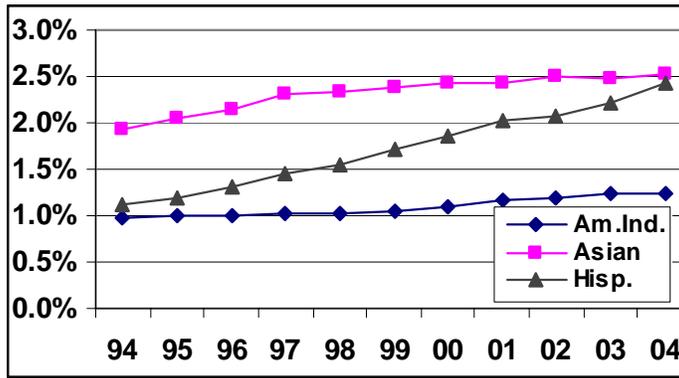
<sup>1</sup> Numbers of first professional degree categories (in italics) are included in the total number of first professional degrees (above).

black, 23.1 percent; white, 66.1 percent; American Indian, 1.2 percent; Asian, 2.1 percent; Hispanic, 2.0 percent; and unknown/other, 4.1 percent.

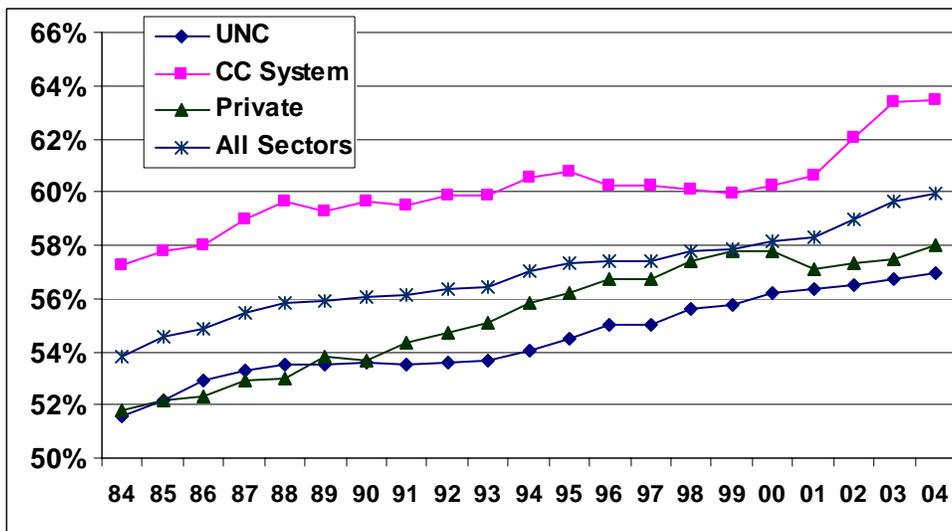
**Figure II.1. Fall Enrollment Trends (African American Students)**



**Figure II.2. Fall Enrollment Trends (Other Minorities, All Sectors)**



**Figure II.3. Fall Enrollment Trends for Women**

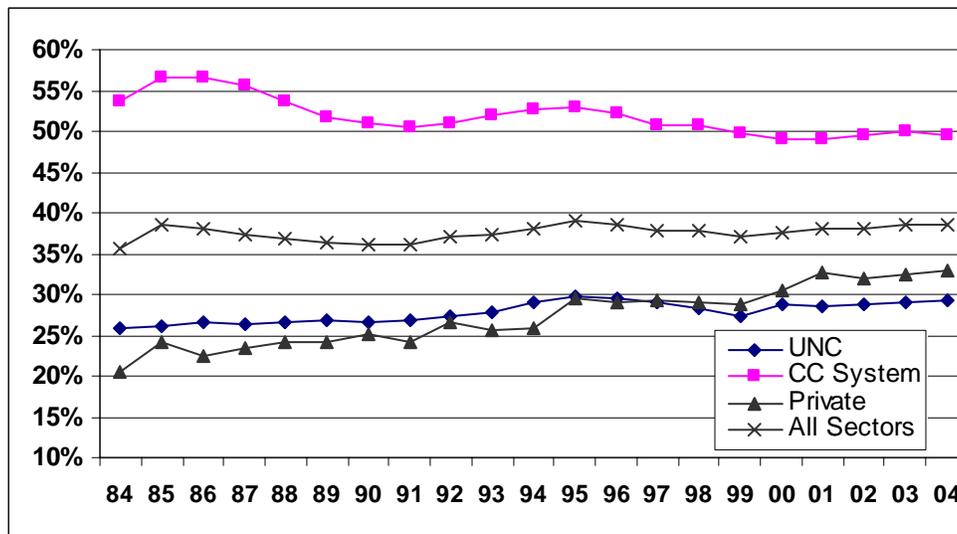


### Other Higher Education Enrollment Trends

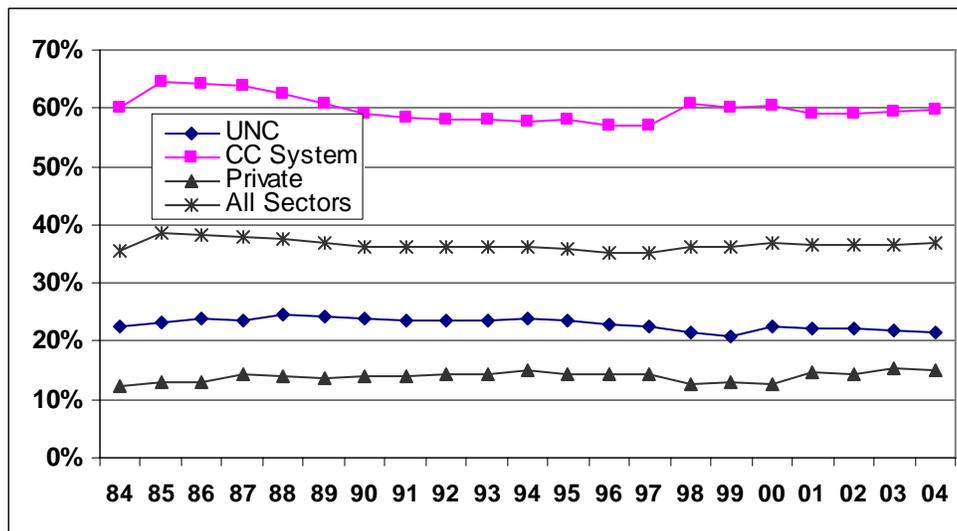
UNC General Administration tracks various enrollment trends in North Carolina, and the following charts display some of these trends. Increases over the last two decades in non-traditional students attending college have resulted in greater participation by older students in four-year institutions (**Figure II.4**), although the part-time percentage has remained relatively stable over the last two decades (**Figure II.5**).

Although independent colleges and universities continue to attract a large percentage of their students from outside North Carolina, these percentages have decreased during this decade. Out-of-state enrollments in UNC institutions have leveled off after an increase in the mid-1980s (**Figure II.6**). As the demand for advanced education has grown, the percentage of students enrolled in graduate and professional programs has increased somewhat in the last two decades (**Figure II.7**).

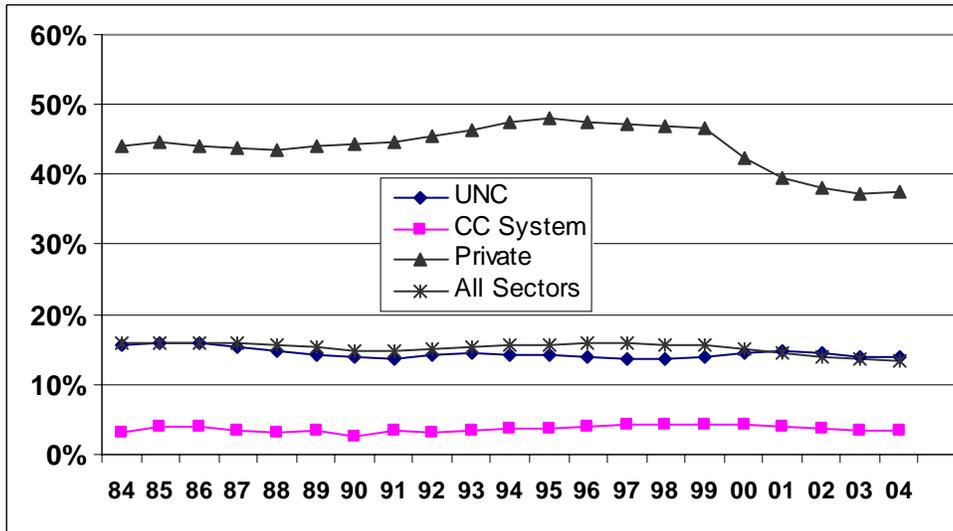
**Figure II.4. Fall Enrollment Trends (Students Ages 25 and Older)**



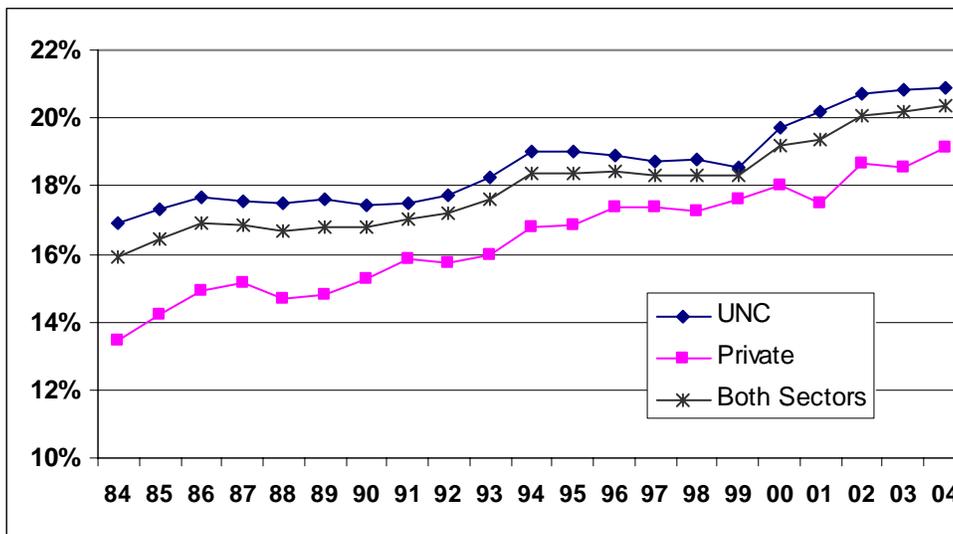
**Figure II.5. Fall Enrollment Trends (Part-Time Students)**



**Figure II 6. Fall Enrollment Trends (Percent Out-of-State Students)**



**Figure II.7 Fall Enrollment Trends (Graduate/First Professional)**



### III. Trends Affecting North Carolina Higher Education

This section describes trends in the State and in the Nation that will have an impact on how the University accomplishes its mission for the remainder of this decade. These trends and the challenges and opportunities that they represent inform the strategic directions adopted by the Board of Governors for the period 2006-2011.

#### A. Demographic Trends

**National demographic trends from the 2000 Census:** The US population, while continuing to grow through births and immigration, is becoming proportionately smaller compared to the rest of the world's population, and it is becoming older and more diverse ethnically and racially. In Census 2000, 281.4 million people were counted in the United States, a 13.2 percent increase over 1990 and the largest numerical increase in US history. By July 2004, the population had increased by 4.3 percent to 293.7 million. During the three decades from 2000 to 2030, the South is projected to add the most residents (43 million), followed by the West (28.9 million), the Midwest (6.1 million) and the Northeast (4.1 million).

Among age groups in the United States, the strongest growth during this decade will occur in the 35-65 age group, whose members will subsequently inflate the number of persons aged 65 and older. By 2020, about 18 percent of the US population will be over 65, compared to 14 percent today.

Overall, the US population will become increasingly diverse due to changed patterns of immigration and differential birth rates among various racial and ethnic groups. The majority of immigrants to the US in the first half of the 20<sup>th</sup> century came from European countries, whereas the majority of immigrants in recent years have come from Asia and Latin America. According to the most recent US Census Bureau projections, by 2020, Hispanics will constitute 16 percent of the US population and African Americans 13 percent. The Hispanic population in the US exceeded 41 million in 2004 and is increasing at three times the rate of total population growth.

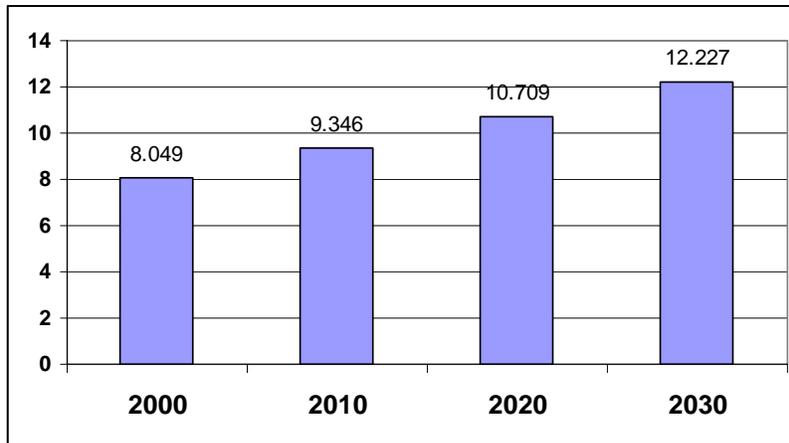
**Population trends in North Carolina:** North Carolina's population will continue to exceed the national average in growth rate and will become more diverse. The State is outpacing growth and level of diversity projected by the Census Bureau in 1995. Although North Carolina ranked eleventh in the Nation in total population, it was sixth in population increase in Census 2000—a 21.4 percent increase over its 1990 population. From 2000 to 2030, North Carolina's population is projected to increase by over 4.178 million—a 52 percent increase—and have the Nation's seventh largest population. Only four states (California, Florida, Texas, and Arizona) will grow faster during this period. Nearly a quarter of North Carolina's population is 18 years old or younger (24.4 percent), and 12 percent of its population is 65 or older.

North Carolina has a larger percentage of African American (21.6 percent) and American Indian (1.2 percent) residents than the national average (12.3 percent and 0.9 percent). It has a lower proportion of white (72.1 percent compared to 75.1 percent), Asian (1.4 percent compared to 3.6 percent), and Hispanic (4.7 percent compared to 12.5 percent) residents than the national average. The implication of this is that North Carolina is already a more diverse state than the national average, and it is becoming increasingly more diverse.

In 1995 North Carolina's population was projected by the Census Bureau to grow from 7,777,000 in 2000 to 8,840,000 by 2015. More recent projections show that the State is growing much faster than projections of a decade ago suggested. NC's actual population in Census 2000 was 8.049 million (compared to the projected 7.777 million), and more recent projections show the State already having a larger population by 2010 than was originally

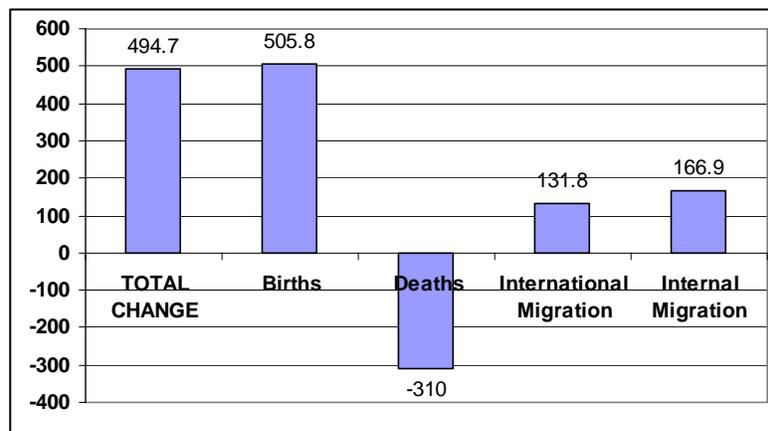
projected for 2015. **Figure III.1** shows North Carolina’s Census 2000 population (8,049,000) and its projected population by decade to 2030.

**Figure III.1. Projected Growth in North Carolina’s Population (in millions): 2000–2030**  
(US Census Bureau)



**Figure III.2** shows that most of North Carolina’s population increase currently comes from in-state births and domestic in-migration, as opposed to international immigration. As various businesses and industries have relocated to North Carolina in the last decade, they have brought a number of employees from other states with them. More recently, North Carolina has experienced substantial in-migration of workers, largely Hispanic, in labor-intensive industries such as manufacturing and agriculture. There is evidence that international in-migration will continue to increase.

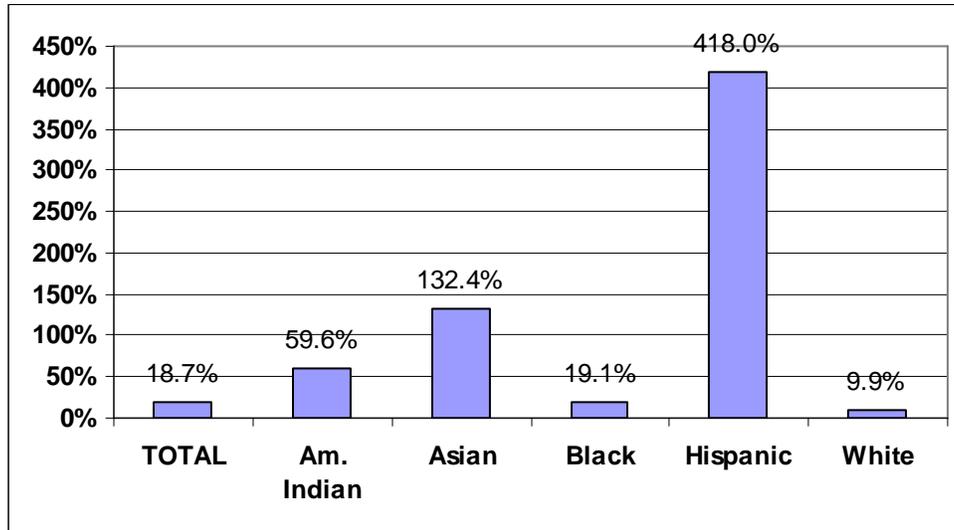
**Figure III.2. Components of Population Change for North Carolina: 2000–2004 (in thousands)**  
(US Census Bureau)



Because of the substantial in-migration to North Carolina, the State is becoming more racially and ethnically diverse. Although from 1995 to 2004, North Carolina’s white population grew the most numerically (527,000), the State’s Hispanic population had the second largest numerical increase (418,000, up from 100,000 in 1995). **Figure III.3** shows the percentage population growth for various North Carolina racial and ethnic groups from 1995 to 2004.

**Figure III.3. Percentage Growth of North Carolina Racial and Ethnic Groups: 1995–2004**

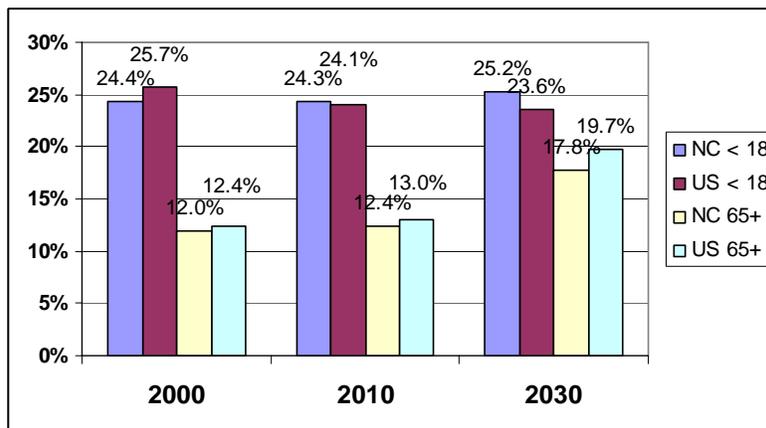
(US Census Bureau)



Also due to the significant in-migration that North Carolina is experiencing, the State is projected to have a somewhat younger population in coming decades than national averages. **Figure III.4** shows state and national projected percentage changes for the younger than 18 and 65 and older age groups. North Carolina’s school age population (younger than 18) percentage is projected to increase from less than the national average percentage to greater. Although like all states, North Carolina’s 65 and older population will increase substantially, its overall percentage will be well under the national average due to the growth of younger age groups in the State.

**Figure III.4. Percentage Change in North Carolina and US Population by Age Groups: 2000–2030**

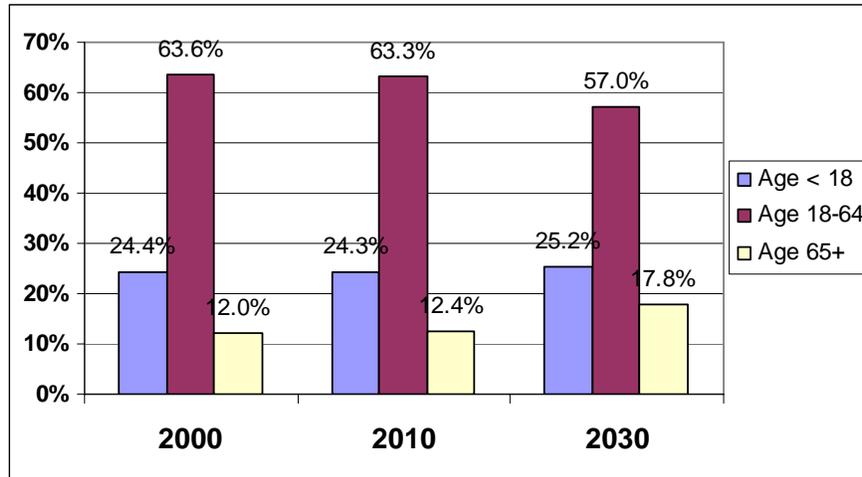
(US Census Bureau)



The projections in **Figure III.3** take on added significance when they are used to calculate the “dependency ratio”—the ratio of working age adults compared to the school-age and retirement-age segments of the State’s population. As **Figure III.5** shows, the percentage of

the “working age” state population (18-64) will decline from 63.6 percent in 2000 to 57 percent in 2030.

**Figure III.5. The “Dependency Ratio”: 2000–2030**  
(US Census Bureau)



Different regions of North Carolina will have differential rates of growth, with urbanized areas in the Piedmont or near interstate highways and coastal and mountain counties growing faster than more rural counties. The NC State Demographer projects that several counties in eastern North Carolina will actually decline in population during this decade. Although it has one of the Nation’s fastest growing populations, North Carolina remains one of the Nation’s more rural states. Unlike states where most of the population is clustered in several large urban centers, North Carolina’s population is spread across the State on farms and in small towns as well as in cities. This has implications for expanding access to higher education because educational offerings cannot be focused on a few urban areas but must be made available to citizens throughout the State.

## B. Economic Trends

**A changing state economy:** North Carolina faces a critical challenge to revitalize its economic infrastructure by developing a well-educated workforce that can compete internationally in the modern knowledge economy. In 2001 North Carolina ranked eighth in the Nation in percent of manufacturing employment, and from 1997 to 2001 the State ranked sixth in the increase in hourly earnings for manufacturing production workers. The percentage of the working age population in the labor force (66.5 percent) is comparable to the national average.

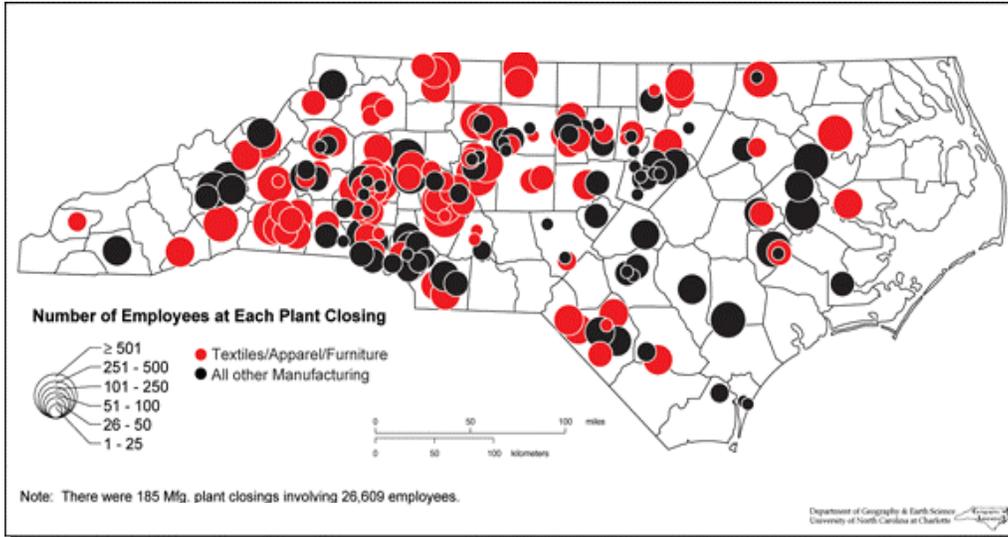
In recent decades, progress such as this enabled the State to surpass the average per capita income of the Southeast region of the US. A shift, however, has occurred in the State’s economy away from a manufacturing and agricultural base to one that requires a workforce educated to participate in the more knowledge-intensive economic sectors such as finance, government, and information technology. North Carolina has made progress in moving into new economic activities such as biotechnology, information technology, and banking and finance, although it needs to make additional progress in these high tech, high wage industries.

**North Carolina employment and income trends:** North Carolina has been strong as a manufacturing state, but some of these industries have declined as a result of global changes in production and trade barriers. As the map in [Figure III.6](#) illustrates, economic changes

during the first half of this decade hit North Carolina particularly hard. Textile and furniture plant closings left a large number of North Carolinians unemployed or employed in lower paying jobs.

**Figure III.6. Manufacturing Plant Closings: 2003 & 2004**

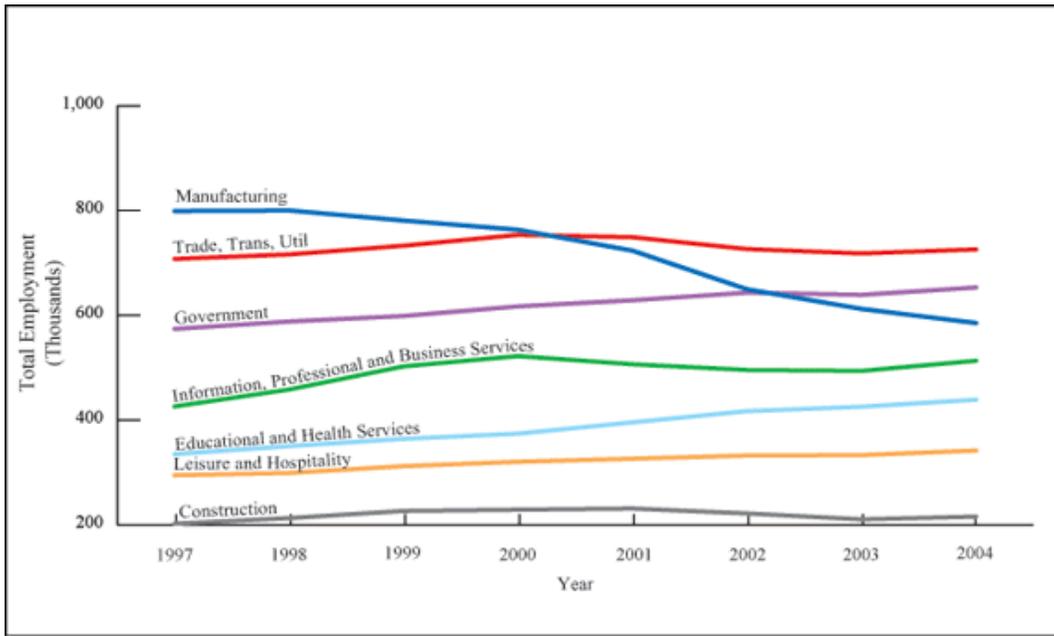
(NC Employment Security Commission; map by UNCC Dept. of Geography & Earth Sciences from *NC Atlas Revisited*)



**Figure III.7** shows the shifts in employment in various North Carolina employment sectors from 1997 to 2004.

**Figure III.7. Employment Trends in Seven Economic Sectors: 1997-2004**

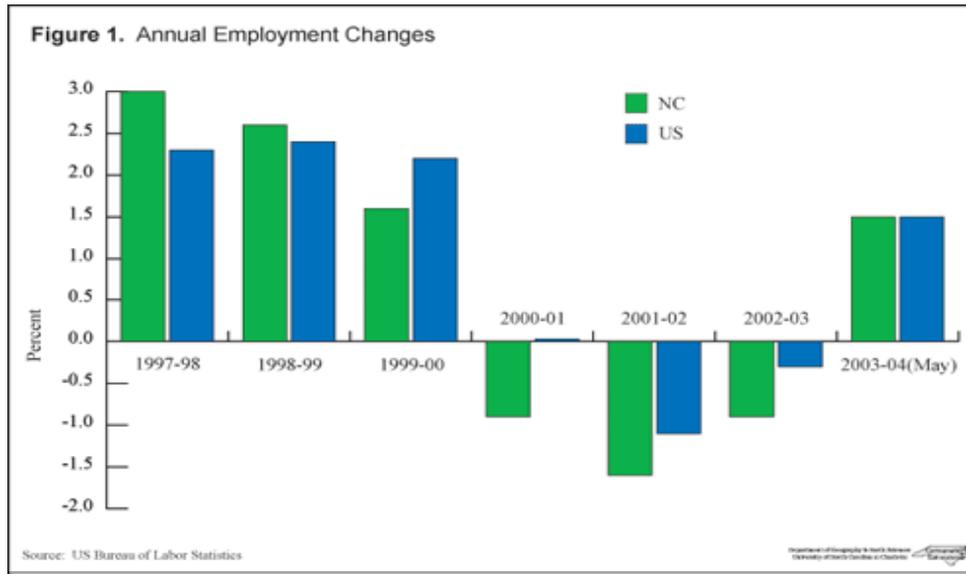
(US Bureau of Labor Statistics; graph from *NC Atlas Revisited*)



**Figure III.8** shows that North Carolina's employment growth exceeded the national average but that employment losses also exceeded the national average during the first years of this decade. More recently the State's employment growth has again reached the national average.

**Figure III.8. State and National Employment Changes: 1997-98 to 2003-04**

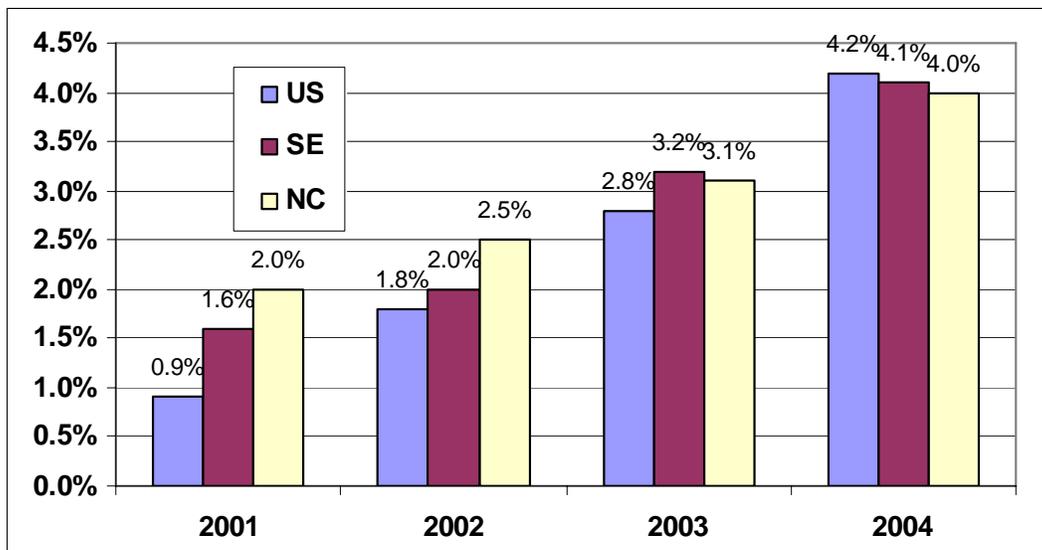
(US Bureau of Labor Statistics; graph by UNCC Dept. of Geography & Earth Sciences from *NC Atlas Revisited*)



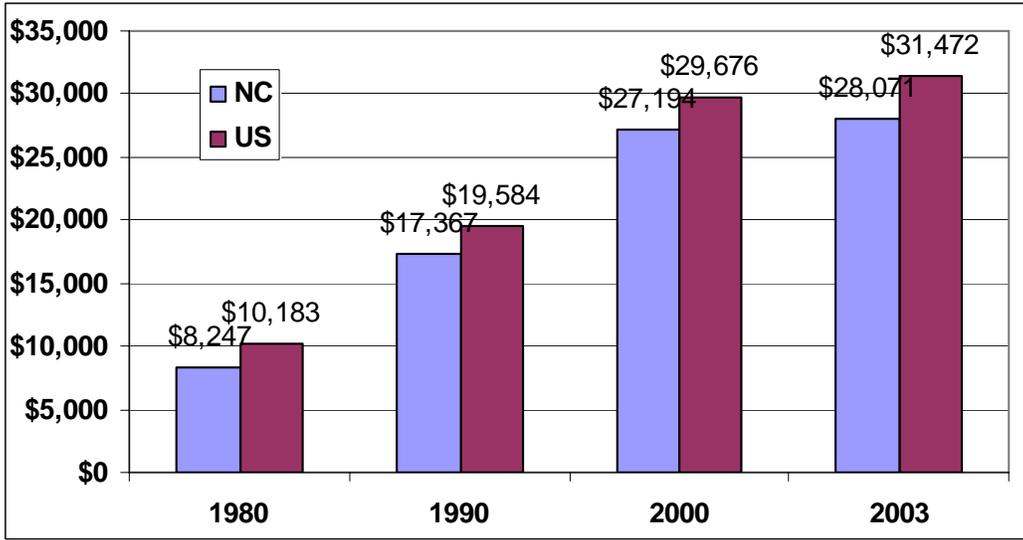
The impact of these economic shifts is shown in the slowed growth of North Carolina’s gross state product (**Figure III.9**) and in the slowed growth of the State’s per capita income (**Figure III.10**). As **Figure III.8** shows, North Carolina’s gross state product growth (total value of all goods and services produced) exceeded both regional and national averages in the early part of this decade but fell behind in more recent years. This has had an impact on the State’s average per capita income, which has fallen further below the national average in recent years (**Figure III.9**).

**Figure III.9. Percent Growth in US, Southeast, and NC Gross State Product: 2001–2004**

(US Bureau of Economic Analysis)



**Figure III.10. NC and US Per Capita Income Average: 1980–2003**

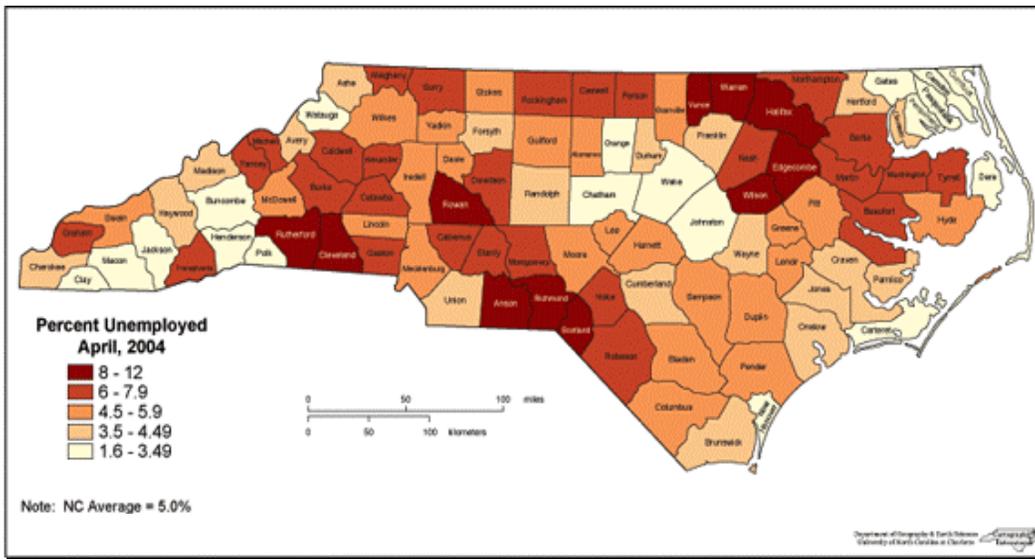


(US Bureau of Economic Analysis)

Changing economic conditions have affected various areas of the State differently. **Figure III.11** shows the differing levels of unemployment in North Carolina counties, which have been affected in part by the plant closings noted above.

**Figure III.11. Unemployment Rates in North Carolina Counties: April 2004**

(NC Employment Security Commission; graph by UNCC Dept. of Geography & Earth Sciences from *NC Atlas Revisited*)



**North Carolina’s industries:** Industrial employment data from the Employment Security Commission of NC for the 1990-2004 period illustrate both recent declines in manufacturing but also the considerable diversification that has taken place in this sector of the economy. For example, the textiles, apparel and furniture industries lost a combined total of over 214,000 jobs during the period while all other manufacturing industries loss just 27,000 jobs. Increases were led by the chemicals, plastics/rubber, fabricated metals, and transportation equipment industries, which together added over 16,000 jobs. For the most part, these

industries paid average annual wages that were close to or in excess of the \$37,443 average annual wage paid to all manufacturing employees in 2004.

The State's highest wage industry, computers and electronics products, the fourth largest industrial employer, recorded a 24 percent employment drop, but that rate was less than that for all industries. Diversification has had a substantial geographic component to it. For example, in 2002, 63 per cent of all jobs in chemicals were in the Raleigh-Durham, Charlotte-Gastonia and Greensboro/Winston-Salem/High Point areas and 79 percent of jobs in the computer and related electronics industry were found in these same three urban areas, led by Raleigh-Durham. Reflecting this, a national publication, "Business Facilities: The Location Advisor," ranked Raleigh-Durham fourth and Charlotte 11th highest among US high-tech cities in 2003. The following two tables present data compiled by the Duke University Markets and Management Studies Program:

**Table III.1. 2003 Industry Value for Selected Industries in North Carolina**

(US Census Bureau)

<b>Industry</b>	<b>2003 NC Rank in US</b>	<b>Percent of Total US Value</b>	<b>Value in Billion Dollars</b>	<b>1997-2003 Growth</b>
Biotechnology	2	12.3%	\$18.0	35.7%
Banking/Finance	10	3.0%	\$42.1	88.7%
Information Tech	16	2.0%	\$22.6	-11.1%

**Table III.2. Selected North Carolina Industries with National Rank in Employment, Average Wage, and Five-Year Wage and Employment Change: 2003**

(US Bureau of Labor Statistics, US Census Bureau)

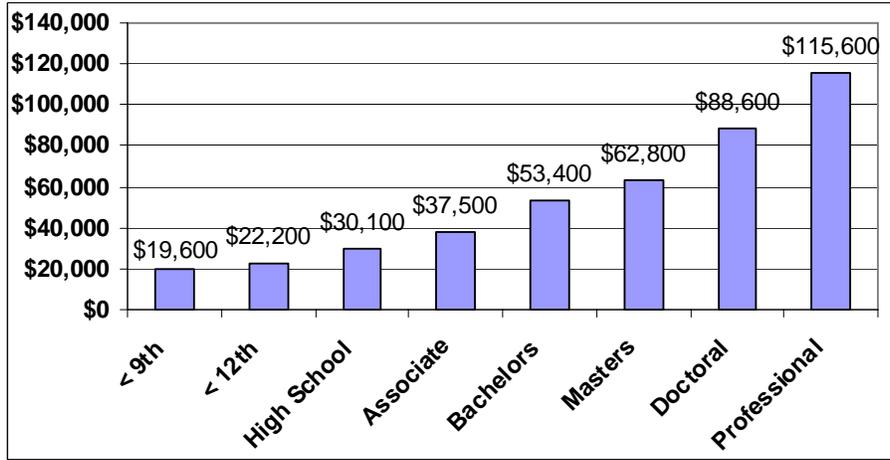
<b>Industry &amp; NC 2003 Employment Rank</b>	<b>2003 Average NC Wage</b>	<b>NC Wage Change 1993-2003</b>	<b>NC Employment Change 1998- 2003</b>
<i>Tobacco (1)</i>	\$54,903	12.2%	-17.8%
<i>Textiles/Apparel (2)</i>	\$28,757	15.5%	-44.4%
<i>Furniture (2)</i>	\$27,656	10.5%	-21.2%
<i>Biotechnology (6)</i>	\$70,666	31.6%	18.3%
<i>Hog Farming (7)</i>	\$26,265	4.2%	16.0%
<i>Banking/Finance (11)</i>	\$61,854	54.7%	10.6%
<i>Information Tech. (14)</i>	\$65,733	28.2%	-11.2%

Military bases in North Carolina (Camp Lejeune Marine Corps Base & New River Air Station, Cherry Point Marine Corps Air Station, Fort Bragg Army Base & Pope Air Force Base, Seymour Johnson Air Force Base, and Coast Guard Air Station) and Department of Defense contracts also contribute substantially to the State's economy. A 2004 study by East Carolina University's Regional Development Services found that the contribution of all aspects of military spending exceeds six percent of the State's gross state product—\$18 billion. These expenditures include military and civilian personnel payrolls, contractual expenditures, retiree and veteran benefits, and operations and capital expenditures by bases. Approximately 70 percent of that amount is contributed by NC's military bases through operations, associated purchases, and military and civilian payroll. UNC has greatly expanded its educational offerings at NC military bases in recent years and a number of initiatives are underway to coordinate UNC research expertise with Department of Defense priorities.

**The higher education response:** To enable North Carolina to achieve the greatest economic growth and prosperity possible for the workforce it has available, the State must capitalize on the benefits possible through higher education. **Figure III.12** shows the average earnings for individuals in the US according to their level of educational attainment.

**Figure III.12. Average Annual Income of Adults 25 or Older in the US by Level of Educational Attainment: 2003**

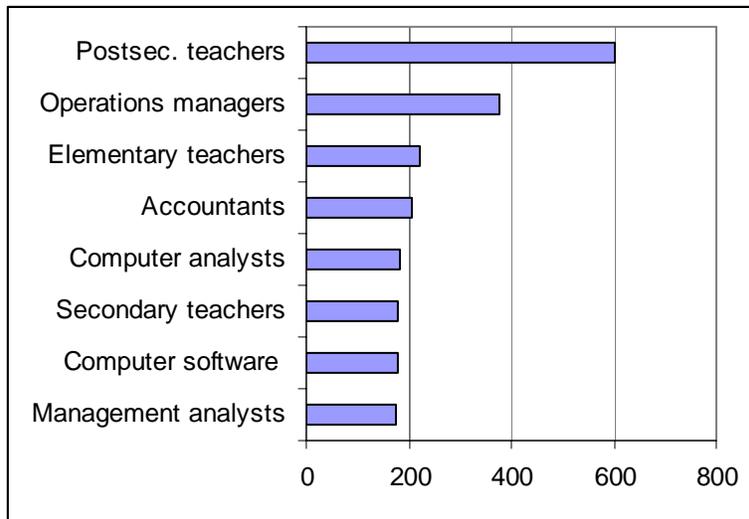
(US Census Bureau)



The US Bureau of Labor Statistics (BLS) reports that most high-paying occupations will require a college degree. Employment is projected by the BLS to increase in many of these occupations, with the occupations projected to have the highest growth presented in **Figure III.13**.

**Figure III.13. High Growth Occupations Requiring a Bachelor's or Graduate Degree Projected 2002-2012 (thousands)**

(US Bureau of Labor Statistics)



UNC institutions serve a vital role in helping to develop clusters of innovation and the well-educated workers needed to stimulate the economic growth of each region. UNC research and public service programs not only help to support university activities during this era of constrained state resources, but they also provide the impetus and expertise needed to foster

new initiatives in various regions of the State. The Golden Leaf Foundation grant for the Bioprocessing Training and Education Initiative is a recent example of this contribution to communities across the State. Another example of UNC's involvement in the State's economic revitalization and workforce development is the collaboration with Dole Foods to develop a biotechnology research and development campus on the site of the former Pillowtex plant in Kannapolis. The proposed facility would focus on nutrition and agricultural research.

### C. Health and Well-being Issues

North Carolina faces substantial challenges on a number of indicators that relate to the well-being of the State's citizens. *Kids Count 2005*, an annual study funded by the Annie E. Casey Foundation, documents a variety of health and well-being indicators by state. **Table III.3** compares North Carolina data to national averages on a number of indicators of child well-being where the State needs to improve.

**Table III.3. Indicators of Child Well-Being for NC and US: 1990 and 2004**

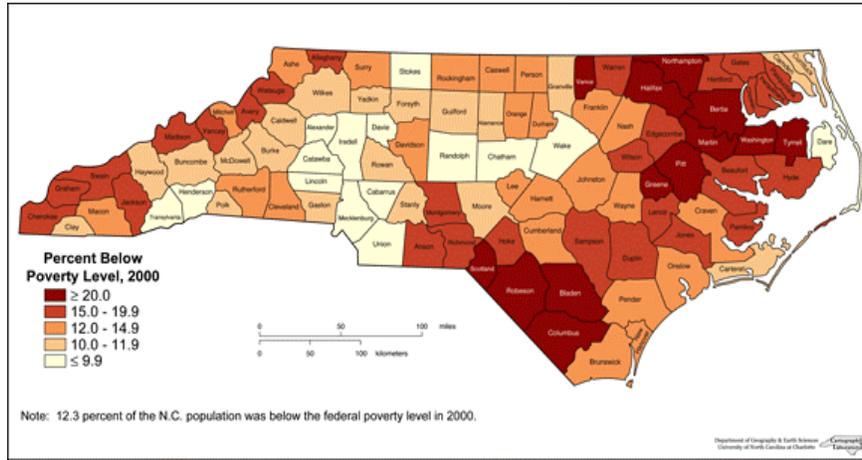
(Annie E. Casey Foundation, 2005)

		Trend Data	
		1990	2004
Percent low birth-weight babies (2002)	NC	8.0%	9.0%
	US	7.0%	7.8%
Infant mortality rate (deaths per 1,000 live births, 2002)	NC	10.6	8.2
	US	9.2	7.0
Child death rate (deaths per 100,000 children ages 1-14, 2002)	NC	31	23
	US	31	21
Rate of teen deaths rate by accident, homicide, and suicide (deaths per 100,000 teens ages 15-19, 2002)	NC	71	75
	US	71	68
Teen birth rate (births per 1,000 females ages 15-17, 2002)	NC	45	29
	US	37	23
Percent of teens who are high school dropouts (ages 16-19)	NC	14%	9%
	US	10%	8%
Percent of teens not attending school and not working (ages 16-19)	NC	10%	10%
	US	10%	9%
Percent of children living with parents who do not have full-time, year-round employment	NC	27%	36%
	US	30%	33%
Percent of children in poverty (data reflect poverty in previous year)	NC	18%	22%
	US	20%	18%
Percent of families with children headed by a single parent	NC	23%	33%
	US	24%	30%

**Geographic disparities in health and well-being:** There are significant geographical as well as racial disparities in the poverty and health-related problems that face North Carolina's citizens. These differences must be considered as The University extends its educational offerings and services to all areas of the State. **Figure III.14**, **Figure III.15**, and **Figure III.16** illustrate the geographical disparities in poverty and health-related problems that must be addressed.

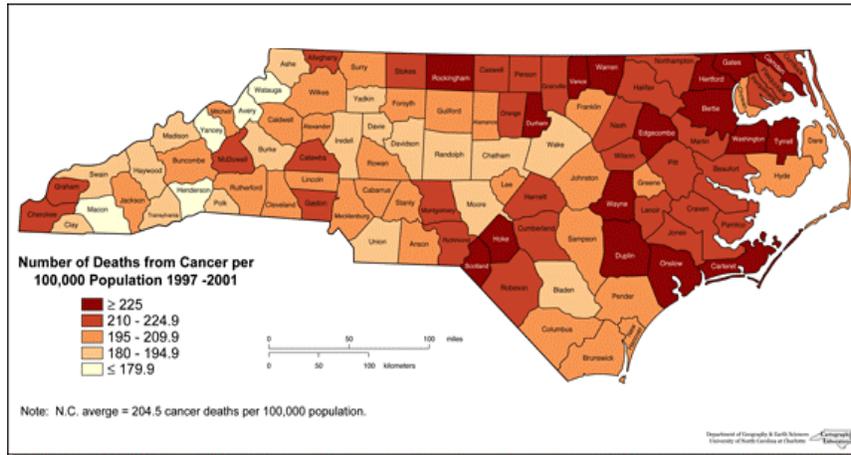
**Figure III.14. Percent of North Carolina's Population Below the Poverty Level: 2000**

(US Census Bureau, map by UNCC Dept. of Geography & Earth Sciences)



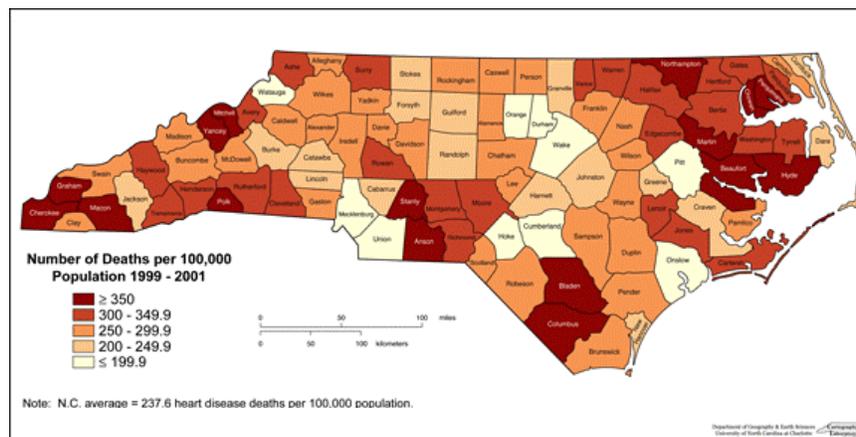
**Figure III.15. North Carolina Death Rates from Cancer: 1997–2001**

(NC Dept. of Health & Human Services, map by UNCC Dept. of Geography & Earth Sciences)



**Figure III.16. North Carolina Death Rates from Heart Disease: 1999–2001**

(NC Dept. of Health & Human Services, map by UNCC Dept. of Geography & Earth Sciences)



UNC institutions are engaged in a number of initiatives to produce the health care professionals needed to address North Carolina's health challenges. As one example, UNC

representatives served on the Task Force on the North Carolina Nursing Workforce with other agency representatives to address the possibility of a nursing workforce shortage. In 2004 the Task Force produced a number of recommendations to be addressed by UNC and other educational institutions, the NC General Assembly, employers, and the nursing community.

### State education trends

**Student academic performance:** While North Carolina's students in public K-12 grades have made impressive gains in academic achievement scores over the last decade, additional progress remains to be made. **Table III.4** provides the percentages of NC fourth and eighth grades scoring at various achievement levels of the National Assessment of Educational Progress (NAEP) in reading, mathematics, science and writing. The State's mathematics performance held steady in 2005 and average scores at both grades four and eight were higher than the national average. North Carolina has made the greatest mathematics gains in the Nation since state NAEP testing began. North Carolina's reading scores at both grade levels have declined slightly in recent years.

**Table III.4. Most Recent Results of North Carolina Student Performance on National Assessment of Educational Progress Scores**

(National Center for Educational Statistics)

	<i>Below Basic</i>	<i>Basic</i>	<i>Proficient</i>	<i>Advanced</i>
Reading Grade 4 (2005)	38%	32%	23%	7%
Reading Grade 8 (2005)	31%	42%	25%	2%
Mathematics Grade 4 (2005)	17%	43%	33%	7%
Mathematics Grade 8 (2005)	28%	40%	25%	7%
Science Grade 4 (2000)	36%	40%	22%	2%
Science Grade 8 (2000)	44%	30%	23%	3%
Writing Grade 4 (2002)	12%	56%	28%	4%
Writing Grade 8 (2002)	13%	53%	31%	3%

**Teacher shortages:** North Carolina continues to face challenges in public education such as ensuring an adequate supply of qualified teachers in certain regions of the State and in high-need areas such as science, math, middle grades, and special education. This results in a heavier dependence on teachers from out of state and in many classrooms lacking a fully qualified teacher. High teacher turnover results in an unstable learning environment in which many new teachers do not have adequate guidance in their early years. Recent experience suggests that North Carolina needs 10,000 to 12,000 new teachers each year based on a number of factors. It is estimated that North Carolina will need more than 94,000 teachers in 2009-10 and more than 100,000 in 2014-15 compared to the approximately 90,000 employed in 2005-06.

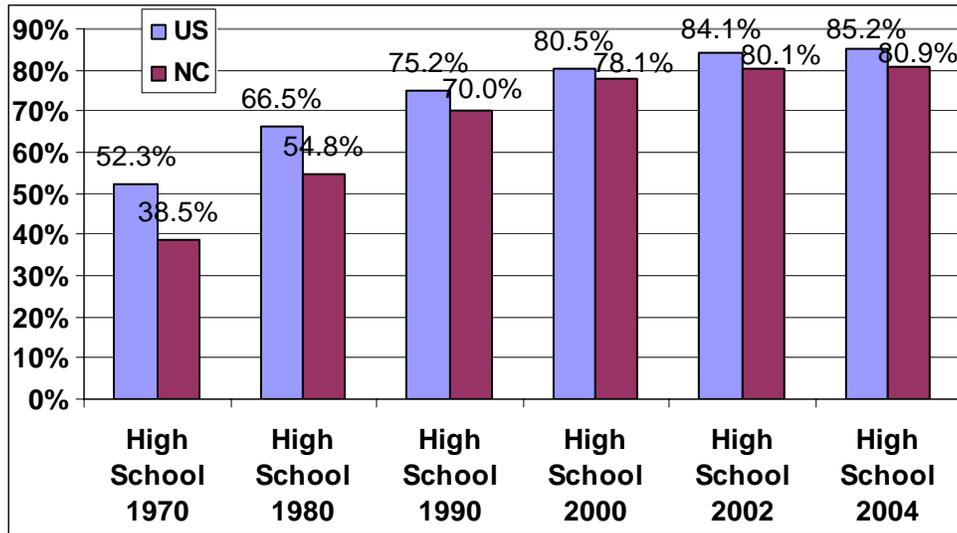
To address this challenge, in 2004 UNC General Administration worked with campus education deans and chief academic officers to develop targets for graduates of teacher education programs resulting in a projected 60.4 percent increase of graduates by 2009-10 over the base year of 2002-03. A five-year plan was also developed to increase the number of lateral entry teachers by 69 percent over the 2002-03 base year by 2009-10. If the numbers of traditional graduates and alternative licensure completers are combined, UNC will be producing 5,908 potential teachers by 2009-10 and 7,208 by 2014-15. Specific targets were also agreed upon in the high need areas of math, science, middle grades, and exceptional children. UNC is

currently working with the NC Community College System to develop articulation online teacher education programs in a number of high need areas.

**Educational attainment:** North Carolina continues to increase in the percentage of its citizens who have achieved degrees at the high school and college levels. It has surpassed the high school and college attainment percentages of states in the 16-state Southern Regional Education Board (SREB) region, but as **Figure III.17** and **Figure III.18 depict**, the State must still make progress. In recent years the State has lost ground in reaching the national average for education attainment for both high school and college.

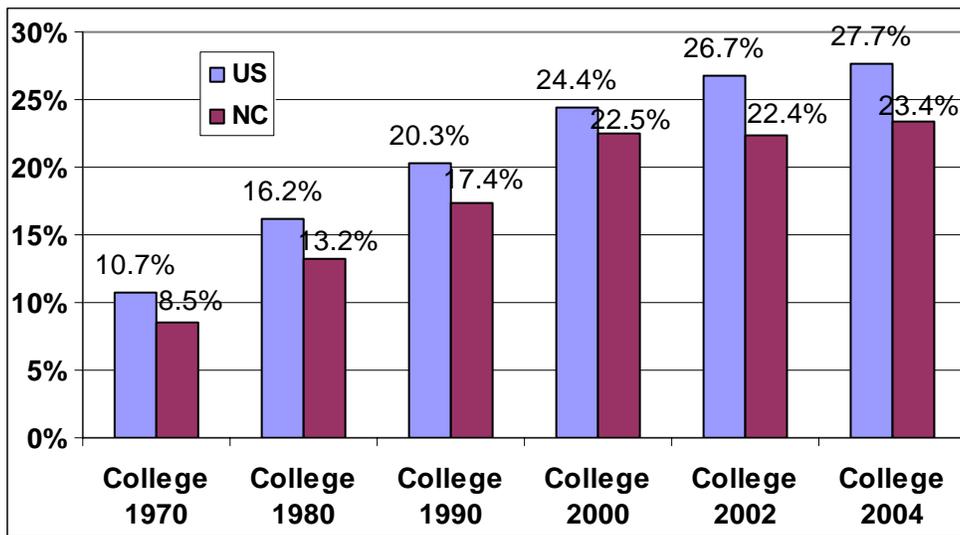
**Figure III.17. High School Attainment in North Carolina Compared to the National Average: 1970–2004**

(US Census Bureau)



**Figure III.18. College Attainment in North Carolina Compared to the National Average: 1970–2004**

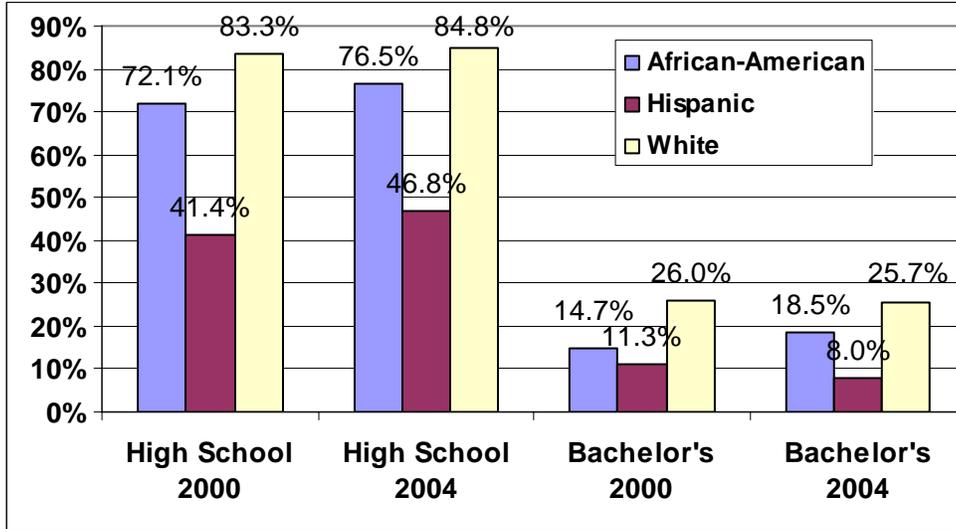
(US Census Bureau)



Additionally, as shown in **Figure III.19**, North Carolina must make progress in reducing the racial and ethnic disparity in educational attainment rates.

**Figure III.19. North Carolina Educational Attainment by Racial/Ethnic Group: 2000–2004**

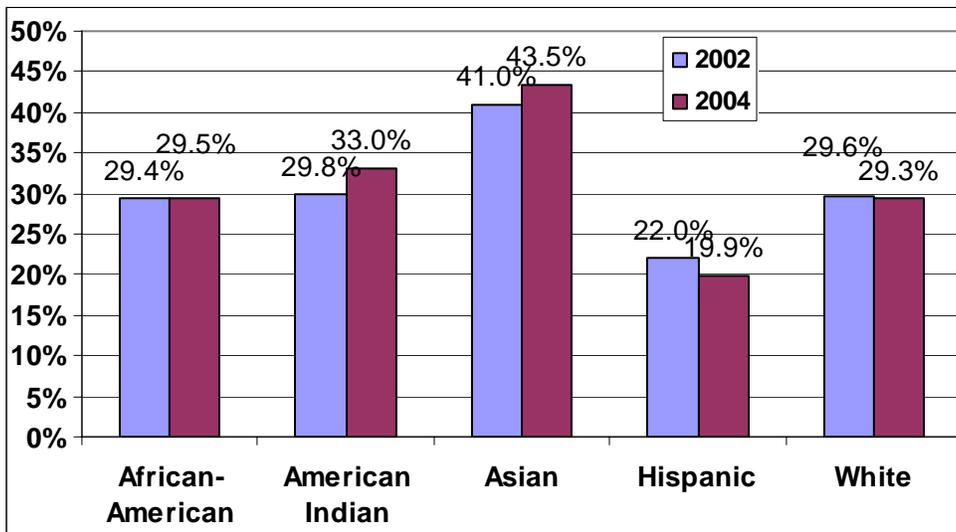
(US Census Bureau)



More encouraging is the fact that by fall 2002 almost identical percentages of white, African American, and Native American recent high school graduates enrolled at UNC institutions (**Figure III.20**). This suggests that over time, some educational attainment disparities in the State may be reduced or eliminated.

**Figure III.20. Percent Enrollment of NC High School Graduates in UNC Institutions By Race and Ethnic Group: Fall 2002 and 2004**

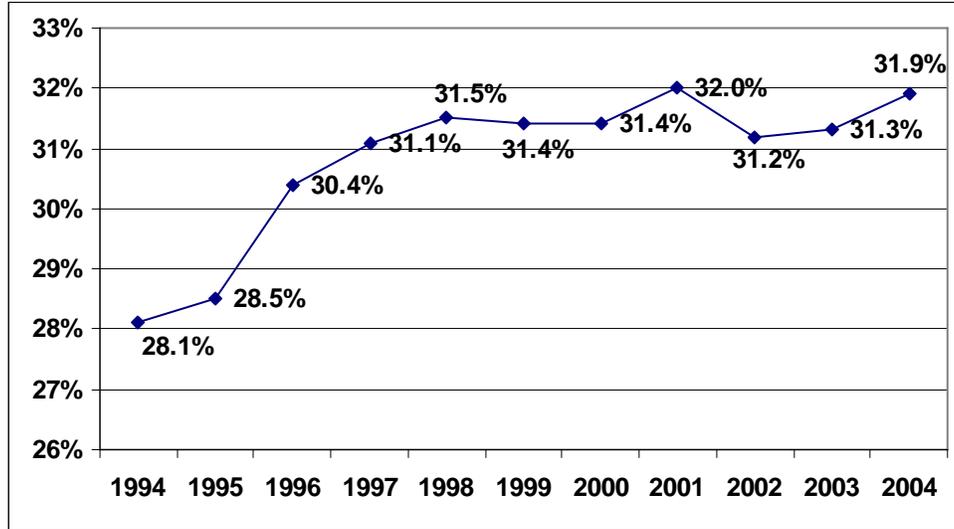
(UNC General Administration)



**Increasing enrollments at UNC institutions:** There are several reasons why enrollments at UNC institutions will continue to increase for the remainder of this decade. The annual college

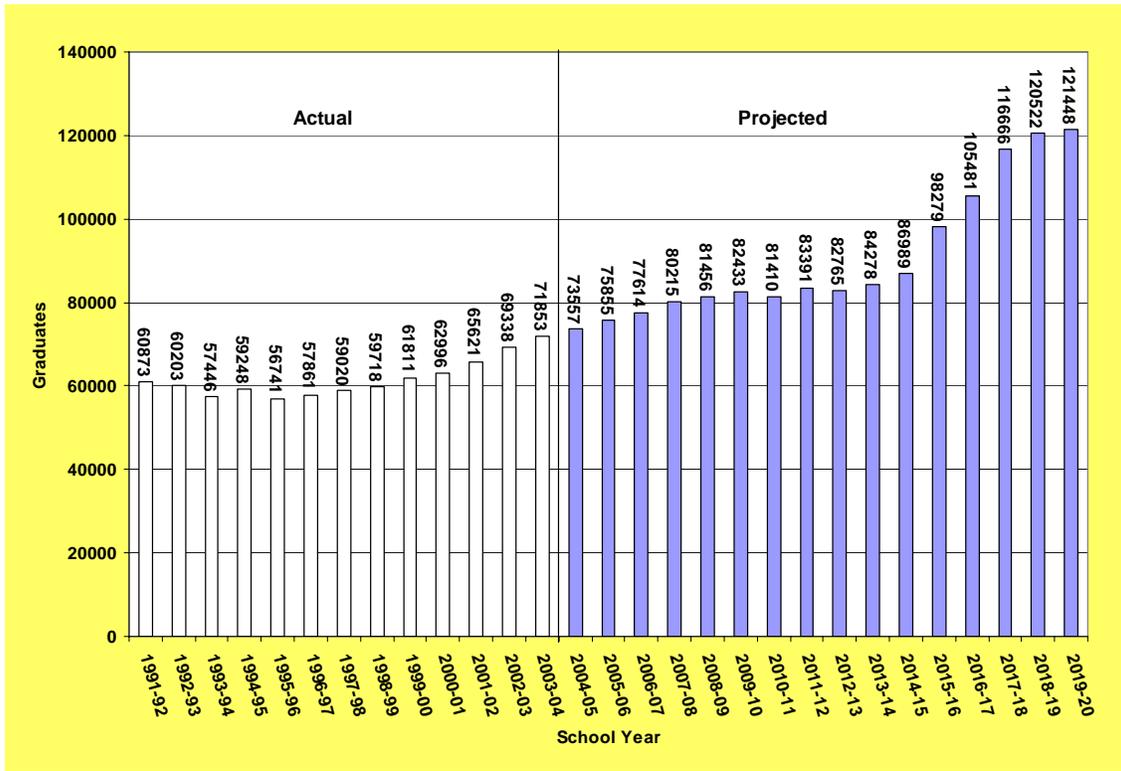
going rate for all North Carolina high school graduates enrolling at UNC institutions has increased over the last decade from 28 percent to over 31 percent (**Figure III.21**).

**Figure III.21. Annual Percentage of Recent North Carolina High School Graduates Enrolling in UNC Institutions: 1994–2004**  
(UNC General Administration)



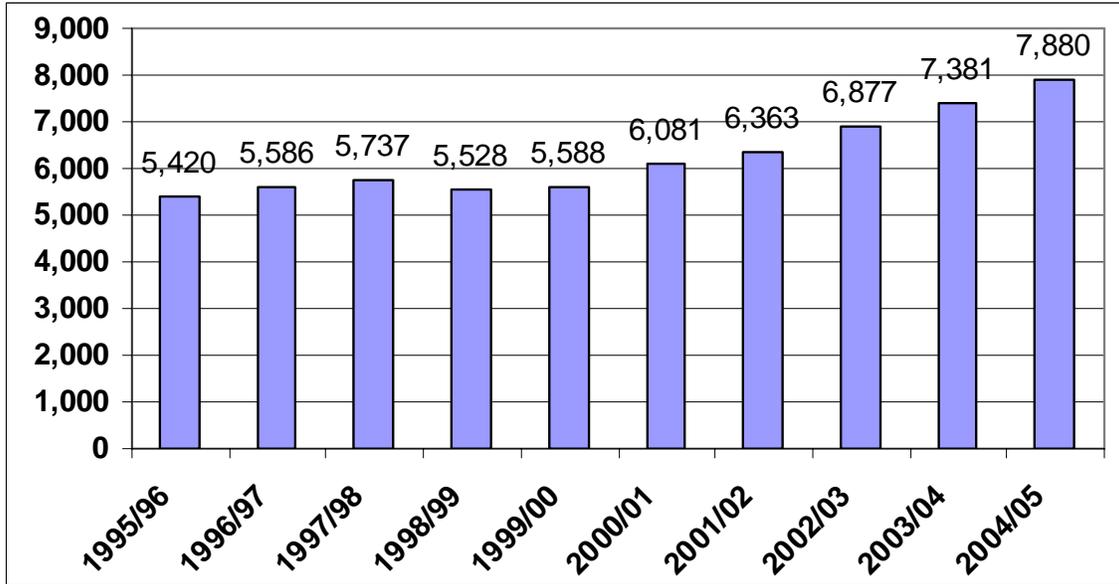
The number of NC high school graduates will continue to increase during this decade followed by a sharp increase during the latter years of the next decade (**Figure III.22**). UNC General Administration projects that many of these new students will be Hispanic.

**Figure III.22. Projected North Carolina High School Graduates: 2005–2020**  
(UNC General Administration)



Another reason for anticipated ongoing growth in UNC enrollments is the success of the articulation agreement with North Carolina community colleges, which is bringing increased numbers of community college transfer students to UNC institutions (**Figure III.23**).

**Figure III.23. NC Community College Transfers to UNC Institutions for Academic Years 1995-96 to 2004-05**  
(UNC General Administration)



Finally, UNC enrollments have increased in recent years and are likely to continue increasing due to distance education enrollments that have increased dramatically since 1998, when the NC General Assembly first funded UNC distance education. In the academic year 2004-05, distance education course offerings increased to over 4,000 and over 33,000 individuals took at least one distance education course. By fall 2005, UNC institutions were offering more than 80 online degree programs. These distance programs are reaching a non-traditional university population—over 78 percent of distance education degree-seeking students are age 26 or older, whereas only approximately 22 percent of on-campus students are in that older age range.

**D. The University’s Response to Demographic, Economic, Health and Well-being, and Education Trends**

The primary challenge for the University during the remainder of this decade is to provide leadership in helping to ensure the prosperity and well-being of all individuals and regions of the State. This must be accomplished by increasing educational access and attainment and by partnering with other sectors to renew the State’s economic base in an era of constrained fiscal resources. The University will increase access and educational attainment by continuing to emphasize higher education opportunities for diverse and low-income students through a variety of means. Special attention will be given to growing enrollments at focused growth institutions and to assuring affordability through appropriate tuition and fee rates and expansion of need-based financial aid. The University will continue to collaborate with the North Carolina Community College System to provide baccalaureate completion programs at UNC campuses, at community college campuses, and online.

The University will ensure the highest quality of educational preparation for the State’s citizens by continuing to monitor carefully the State’s educational needs—particularly in response to

the changing needs of the State's economy. Adequate and appropriate support for the University's faculty and libraries must be achieved in order to accomplish this goal. The University will continue to implement the facilities bond program in an efficient manner to accommodate its growing enrollments. A comprehensive educational response to the State's needs is required, and the University will continue to support K-12 education by working to expand the supply of well-qualified and diverse teachers and by providing high quality professional development for all teachers and administrators. The University will work with the NC Department of Public Instructions and local school systems to ensure that students are well prepared to progress to higher education.

The University will continue to pursue collaborative initiatives with industry, government, and other partners to stimulate economic development and creation of high quality jobs and work environments. UNC will make every effort to sustain its outstanding accomplishments in obtaining sponsored funding for public service, research, and technology transfer activities that are responsive to the State's needs. UNC recognizes the importance of the global economy to North Carolina's economic vitality, and expanded opportunities will be sought for student and faculty exchanges and for ways to expand the knowledge of the State's citizens about international issues. Foreign language instruction will be crucial for preparation of K-12 and university students to work effectively in an increasingly interconnected world. The University will continue to develop and implement information systems and applications that ensure an attentive stewardship of the State's resources. Many of the goals noted above can only be achieved through the effective and efficient use of information technology.

Additional information on the University's response to North Carolina's higher education needs is provided in the following sections on the University's and its constituent institutions' missions, strategic directions adopted by the UNC Board of Governors, the UNC enrollment plan, and specific topics such as diversity, technology infrastructure, facilities, and economic development.

## IV. Priorities and Strategic Directions for the Planning Period 2006-2011

### A. Priorities of the University of North Carolina

In January 2006 the President initiated a planning process with the Chancellors to arrive at ten to twelve priorities for the University of North Carolina. This process was initiated using the Strategic Directions approved by the Board of Governors in November 2005, but was open to the inclusion of other items. The preamble and twelve priorities are the results of this process and were recommended by the President and approved by the Board of Governors in May 2006.

#### Preamble

Provide access to the highest quality, internationally competitive education for all the citizens of North Carolina through sixteen intentionally distinctive constituent institutions;

Increase the knowledge base and competitive position of the State through extensive research and active engagement, including targeted workforce preparation, innovative economic development programs, and transfer of knowledge and technology; and

Enrich the quality of life in North Carolina by providing opportunities for cultural activities, lifelong learning, and enhancement of citizenship.

#### Priorities

1. **Student Success and an Outstanding Faculty.** At the end of the process these two priorities were tied for the top rank. Since each is essential to a university they are the top two priorities.

**Student Success: Access, Retention, Graduation, and Affordability.** Promote and improve access, retention, and graduation levels, with special attention to traditionally underrepresented segments of North Carolina's population and the availability of distance education and online degree programs. Ensure affordability for North Carolina residents by keeping tuition and fees as low as practicable, while continuing to expand need-based financial aid resources for low-income students.

**An Outstanding Faculty.** Attract and retain exceptional faculty/scholars through nationally competitive compensation and benefits, appropriate support and faculty development for instructional and scholarly activities (including startup funds to initiate research programs), effective policies and procedures reflecting best practices in faculty evaluation and governance, and recognition and rewards for outstanding performance in all areas of University priority.

3. **More and Better Teachers; Improved Schools.** Expand efforts in teacher preparation to increase the supply of well-qualified and more diverse teachers, especially in high-need licensure areas, to serve the rapidly growing needs of North Carolina's schools—using both traditional and innovative approaches (such as incentives to students, lateral-entry programs, mid-career opportunities, e-learning and collaborative 2+2 programs with North Carolina Community Colleges)—while ensuring that the quality of teacher preparation is maintained at the highest possible level. Continue efforts to develop outstanding administrator preparation and development programs. Provide support and leadership for improving K-12 schools.
4. **Research.** Promote creative activities and basic and applied research for the discovery, dissemination, and application of new knowledge as a fundamental mission of the

University. Continue to expand the external sponsorship of UNC research and other creative activities for students and faculty. Ensure that a supportive environment with ample resources exists to promote scholarship in the sciences, humanities, social sciences, and the arts.

5. **Quality Academic Programs and Support Services.** Ensure the quality of academic programs both on-campus and off-campus through regular review and assessment of degree programs and instruction, and through assessment of the quality of and student access to academic resources and services (e.g., academic advising, laboratories, IT) and student support services (e.g., admissions, financial aid, registrar, retention, counseling) that promote student development, retention, and graduation. Ensure appropriate and adequate library resources.
6. **Regional and State-wide Economic Development.** Respond to and monitor the economic needs and directions of the State, paying particular attention to the State's economic development regions. Facilitate collaborative research and partnerships with industry, government, and other entities to advance strategic priorities of great importance to North Carolina. Enhance communities' attractiveness to business and industry with a rich culture in the arts and humanities, good health care, and strong schools.
7. **Adequate Facilities.** Ensure the timely and cost-effective construction and renovation of facilities to accommodate current students and anticipated enrollment growth with efficiency, fiscal accountability, and attention to utilizing historically underrepresented businesses.
8. **Health Care.** Continue to develop academic programs as well as collaborative strategies in support of critical areas of allied health, nursing, medicine, dentistry, pharmacy, and related fields in response to the needs of the State for health care providers.
9. **Information Technology.** Use the power of information technology guided by strategic IT planning for more effective educational, administrative, and business practices that will enable the University to respond to the competitive global environment of the 21<sup>st</sup> Century.
10. **Internationalization.** Support and expand student and faculty participation and exchange in international study by strategically expanding agreements that provide opportunities for UNC students and faculty, including underrepresented groups, to study abroad and for international students to study on UNC campuses.
11. **Partnership with Community Colleges.** Strengthen partnerships with community colleges to ensure continuous improvement in the academic achievement of North Carolina's students, to promote student success in higher education, and to help close gaps in student achievement.
12. **Private Fundraising.** Expand private fundraising to supplement the public sources of revenue for the University.

## **B. Strategic Directions for the Planning Period 2006-2011**

The Board of Governors endorses seven interrelated strategic directions to pursue in the fulfillment of its mission during this planning period. In January 2002 a new strategic direction—Internationalization—was added to reflect the University of North Carolina’s commitment to prepare students for an increasingly global society. A new strategic direction is added—Economic Transformation—to reflect the growing and essential contribution UNC makes to North Carolina’s economy. The order in which the strategic directions are presented does not represent prioritization by the Board; however, Access and Student Success is the Board’s highest priority. Each one is accompanied by implementation strategies, which have been revised to reflect new priorities or new emphases. The leadership of each campus is to align campus planning efforts to these strategic directions adopted by the Board of Governors.

### **Access and Student Success: Ensure affordability and access to higher education for all who qualify, embrace a vision of lifelong learning, and promote student success.**

- Promote and improve access, retention, and graduation levels, with special attention to traditionally underrepresented segments of North Carolina’s population. In particular, actively prepare for the changing demographics of North Carolina’s future high school graduates by developing strategies to support the first generation college student across these diverse populations, in accord with the diversity plan adopted by the Board of Governors.
- Ensure affordability for North Carolina residents by keeping tuition and fees as low as practicable, while continuing to expand need-based financial aid resources for low-income students. Promote a system of affordability benchmarks to measure the success of the State and the University in providing access to all North Carolina students.
- Assist North Carolina in reaching its long-term goal of closing the gap between the state average and the national average with respect to the percent of residents who have earned a bachelor’s degree or higher, with no significant differences between the educational attainment of majority and minority populations.
- Offer e-learning courses and programs, deliver academic and student services to students wherever they are, promote interinstitutional collaboration in course and program delivery, and foster joint degree programs between and among campuses.
- Implement and monitor annually the 10-year enrollment plan adopted by the Board of Governors in response to the anticipated surge in enrollments, with special attention to efforts to increase enrollments at focused-growth institutions. Monitor participation and the size of the freshman class in relation to the number of high school graduates in North Carolina.
- Maximize the capacity of UNC institutions to serve anticipated enrollment growth, as well as the need for lifelong learning, through more efficient use of on-campus facilities, increased summer school enrollment, expanded use of off-campus instruction sites, new academic programs, and e-learning for both non-traditional and campus-based students.
- Provide a safe, secure, hospitable, and non-discriminatory environment for all who study and work in UNC institutions.
- Ensure the timely and cost-effective construction and renovation of facilities to accommodate current students and anticipated enrollment growth.

- Facilitate educational access through the effective use of information technology to provide information on educational opportunities (e.g., CFNC and Pathways) and support initiatives to complement the awareness of the need for college access with interventions programs (e.g., GEAR UP and TRIO).
- Continue to promote collaboration with community colleges through initiatives such as the North Carolina Comprehensive Transfer Articulation Agreement; the Transfer Assured Admission Program, delivery of baccalaureate completion and graduate programs at community college sites and online, and enrollment planning.
- Ensure that the Expected Family Contribution (EFC) for the neediest students is not exceeded even when state or campus-based increases are initiated.

**Intellectual Capital Formation: Through high-quality and relevant undergraduate, graduate, and professional programs, develop an educated citizenry that will enable North Carolina to flourish.**

- Develop strategies to assess and respond in a timely manner to the citizen's and the State's educational needs, including the need for lifelong learning for both career development and personal enrichment. Continue to be responsive to the changing needs of business and industry in North Carolina, such as occurred with the biomanufacturing industry.
- Ensure the quality of academic programs both on-campus and off-campus through regular review and assessment of degree programs and instruction and through assessment of the quality of and student access to academic resources and services (e.g., academic advising, laboratories, IT) and student support services (e.g., admissions, financial aid, registrar, retention, counseling) that promote student development, retention, and graduation.
- Attract and retain exceptional faculty/scholars through nationally competitive compensation and benefits, appropriate support and faculty development for instructional and scholarly activities (including startup funds to initiate research programs), effective policies and procedures reflecting best practices in faculty evaluation and governance, and recognition and rewards for outstanding performance in all areas of University priority. Continue to seek expansion of the endowed professorship program.
- Ensure appropriate and adequate library resources to support undergraduate and graduate programs (including distance learning, online, and collaborative degree programs), teaching, scholarship, creativity, and research.
- Continue to develop academic programs as well as collaborative strategies in support of critical areas of allied health, nursing, medicine, and related fields in response to the needs of the State for health care providers.
- Strengthen undergraduates' knowledge and academic skill development to improve their chances of being successful in the workplace, in postgraduate studies, and as leaders in communities and society.
- Expand private fundraising to supplement the public sources of revenue for the University.
- Ensure that the facilities and campus environment necessary to support educational excellence are available through the implementation of the Board of Governors' capital plan. Carry out the bond program with efficiency and fiscal accountability and with attention to utilizing historically underrepresented businesses.

**K-16 Education: Continue to propose and support initiatives to serve the needs of the State’s public schools.**

- Expand efforts in teacher preparation to increase the supply of well-qualified and more diverse teachers, especially in high-need licensure areas, to serve the rapidly growing needs of North Carolina’s schools—using both traditional and innovative approaches (such as incentives to students, lateral-entry programs, mid-career opportunities, e-learning and collaborative 2+2 programs with North Carolina Community Colleges)—while ensuring that the quality of teacher preparation is maintained at the highest possible level.
- Continue efforts to develop outstanding teacher and administrator preparation and development programs that include strong discipline content, pedagogy, and clinical training (i.e., integration of Arts and Sciences, accreditation of programs and assessments) to ensure high-quality teachers, administrators, and other school personnel who can contribute to closing achievement gaps and improving student achievement.
- Expand our commitment to the development of comprehensive, high-quality programs of continuing professional development of K-12 school personnel from their initial induction to retirement.
- Strengthen partnerships with K-12 schools and community colleges in the development of programs, curricula, and instructional materials—including materials that advance the use of information technology—to ensure continuous improvement in the academic achievement of North Carolina’s students, to promote student success in higher education, and to help close gaps in student achievement.
- Support and strengthen both research and public service programs in the UNC Center for School Leadership Development and in UNC schools, colleges, and departments of education.
- Partner in the State’s initiatives to redesign and improve high schools in North Carolina.

**Creation, Transfer, and Application of Knowledge: Expand the frontiers of knowledge through innovation and scholarly activities, basic and applied research, technology transfer, outreach, and public service activities.**

- Promote creative activities and basic and applied research for the discovery, dissemination, and application of new knowledge as a fundamental mission of the University.
- Continue to expand the external sponsorship of UNC research and other creative activities for students and faculty. Ensure that a supportive environment with ample resources exists to promote scholarship in the sciences, humanities, social sciences, and arts.
- Establish strong collaborative relationships among UNC institutions to pursue more opportunities to jointly attract external funding for scholarly activities.
- Facilitate collaborative research and partnerships with industry, government, and other entities to advance strategic priorities of great importance to North Carolina.
- Encourage technology transfer and the commercialization of UNC’s unique research discoveries consistent with the University’s mission, values, and policies.
- Engage industries, government, and communities state-wide through public service and outreach programs (such as Area Health Education Centers, the health care system, the

NC Cooperative Extension Service, the Industrial Extension Service, the Arboretum, and campus-based centers and institutes) to help put research-based knowledge to work.

- Support UNC-TV's expanding outreach to stimulate lifelong learning, to inform citizens about major public concerns, and to promote greater understanding of cultural, artistic, social, political, and economic issues in our State.

**Economic Transformation: As fundamental to its mission, strengthen and extend the University's contribution to transforming the economy of North Carolina through basic and applied research, innovation and creativity, transfer of new knowledge, application of best practices, and high-quality degree programs.**

- Respond to and monitor the economic needs and directions of the State, paying particular attention to the differing needs of the State's economic development regions.
- Monitor the needs of established and emerging businesses in North Carolina. Track changing and emerging employment needs of the economy, especially in the knowledge-worker sector, and develop the capacity to meet those needs.
- Expand the use of employment and economic development trends in the process for academic assessment and approval of new degree programs.
- Maximize flexibility in the offering of degree programs and continuing education by utilizing technology and creative scheduling to optimize access for those with work or family responsibilities or geographical inaccessibility.
- Continue to enhance the University and community colleges' cooperative activities in service to the State and its citizens. Develop career paths for selected fields in response to individual and state needs.
- Cultivate the conditions for the emergence and success of startup companies in North Carolina by streamlining tech transfer processes; promoting incubators and business accelerators; recognizing and rewarding innovation; and establishing ways to quickly disseminate new knowledge, technologies, and innovations to benefit businesses large and small.
- Promote increased state support for basic and applied research especially in science and technology.
- Amplify activities and services throughout the State of Cooperative Extension, Industrial Extension, and the Small Business and Technology Development Centers to enhance business competitiveness.
- Support the continuing development of millennial campuses and industry partnerships throughout the University. Promote the development of unique facilities for applied technologies to serve the needs of small and entrepreneurial businesses.
- Promote and reward entrepreneurial and leadership activities and capabilities throughout the University.
- Identify additional segments or clusters of the economy for sustained, targeted cooperative projects similar to the developments in the biomanufacturing/pharmaceutical industry.
- Facilitate the provision of information about UNC for the state and regional recruiting processes for bringing or retaining business and industry.
- Foster close working relations with the military nationally and in North Carolina.

- Enhance communities' attractiveness to business and industry with a rich culture in the arts and humanities, good health care, and strong schools. The University has a special responsibility in each of these areas to serve the State and to expand and improve these resources in each area of the State.
- Cooperate with all segments of the North Carolina community both responding to leadership in other sectors and demonstrating leadership to transform the economy of North Carolina.

**Internationalization: Promote an international perspective throughout the University community to prepare citizens to become leaders in a multi-ethnic and global society**

- Support and expand student participation in international study by
  - Expanding participation in the UNC Exchange Program,
  - Strategically expanding system-wide agreements that provide opportunities for UNC students to study abroad and for international students to study on UNC campuses,
  - Supporting the institutional agreements of the constituent institutions that provide for international study and exchange by UNC students, and
  - Increasing participation by student populations traditionally underrepresented in student exchange and study abroad.
- Use technology to exchange knowledge and ideas and to make UNC academic programs available across national boundaries.
- Use the resources of the University to expand the knowledge of North Carolina's citizens about the changing demographics of the State and the Nation.
- Expand the presence of international students and faculty on our campuses.
- Working with business, state and federal government, and international partners, tap the intellectual resources of UNC faculty, staff, and alumni to address global political, social, scientific, and economic issues with the potential to enhance North Carolina's global competitiveness.
- Support research initiatives that involve UNC and international students and faculty in addressing issues of state, national, and international importance that benefit North Carolina and its citizens.
- Expand courses and programs that enhance students' knowledge of the world, including foreign language instruction.
- Through North Carolina in the World and other programs, support the public schools in expanding international understanding among teachers and students.

**Information and Knowledge Management: Use the power of information technology guided by strategic IT planning for more effective educational, administrative, and business practices that will enable the University to respond to the competitive global environment of the 21st century.**

- Expand campus teaching and learning with technology (TLT) audiences beyond faculty to include librarians, instructional technologists, academic administrators, and staff members. Continue expansion of the professional developmental portal. Align TLT activities with e-learning strategies.

- Implement coordinated technology platforms and services for e-learning both off-campus and in traditional classrooms. Develop and market existing UNC e-learning programs and courses. Develop policies and standards for coordinated offerings. Align support services with e-learning strategies.
- Create a UNC-wide data warehouse to simplify UNC-wide data collection, improve data retention, and provide more efficient and effective reporting capabilities.
- Implement integrated, web-based administrative information systems to support finance, human resources, financial aid, advancement, and student services applications, including those for prospective students and alumni.
- Implement a more robust network and computing infrastructure. Enhance user support and training. Expand and enhance inter-campus and inter-educational sector networking, distributed and grid computing, data storage, and information exchange.
- Identify and implement baseline standards for computer security and privacy that are consistent with or exceed industry best practices.
- Develop an IT management policy framework for acquiring, managing, and implementing efficient and effective IT on UNC campuses. Streamline administrative processes through applications such as online purchasing and increasing managerial flexibility in conducting the affairs of the University and its constituent institutions in areas of classification and acquisition of property and technology.
- Increase the capacity of UNC General Administration to sponsor strategic initiatives in areas such as research computing, alumni and public relations, fundraising and development, and innovative web applications and services.
- Improve the ability of UNC General Administration to collect, process, and analyze UNC-wide data for accountability and assessment using new tools to improve administrative efficiencies, teaching and learning effectiveness, and the University's impact on the State's economy.

### **Achieving the Strategic Directions**

Benchmarking the UNC Strategic Directions involves establishing a set of topics for determining whether they are being achieved. For most of these topics some trend data will be available or can be developed. More specific measures will be established based on the availability of trend data. In some areas goals will be developed and agreed to. The direction of the trend data and the achievement of the goals will be assessed, and an ongoing review of the Strategic Directions and measures in light of the results and trends will take place. This is a developmental process to establish a framework for assessing the degree to which the Strategic Directions are being realized from year to year.

The first step is to establish a set of topics to be further specified and assessed for each Strategic Direction.

### **Access and Student Success**

- Affordability
- Participation of North Carolina high school graduates in UNC
- Overall college-going rate
- UNC-going rate of diverse groups
- Achieving enrollment targets
- Qualified applicants to UNC finding a place in higher education
- Provide an assured and efficient transfer process for associate degree recipients

- Retention rates
- Graduation rates
- Access to UNC degree programs state-wide and by regions
- Educational attainment of North Carolina citizens

### **Intellectual Capital Formation**

- Quality and productivity of academic programs
- Processes in place to identify current and emerging needs for new or revised academic programs
- Graduates in high-need areas such as nursing, teacher education, information technology, technology, and business
- Students prepared to meet the expectations of potential employers or programs of advanced study
- Competitiveness of faculty salaries
- Expansion of endowed professorships/private fundraising
- Facilities adequate to meet enrollment plan
- Libraries that meet the needs of students and faculty
- Bond program completion

### **K-16 Education**

- Teacher education graduates and completers of alternative programs
- School administrator graduates and participation in leadership development programs
- Professional development for teachers
- Partnerships with community colleges in teacher preparation
- Field and classroom-based research and public service programs
- Promotion of diversity and improvement in student achievement

### **Creation, Transfer, and Application of Knowledge**

- Public and private external support of UNC research
- Collaboration in research initiatives within and without the University
- Application of research: patents, copyrights, licenses, royalties, startup companies, consultations with public and private entities
- Outreach, extension, and engagement

### **Economic Transformation**

- Alignment of relevant UNC degree programs with the needs of business and industry in North Carolina
- Flexibility in scheduling UNC degree programs to accommodate the family, work, and geographical circumstance of students
- Movement of new ideas, discoveries, inventions, and creations from the University to applications in the economy
- Use of University resources and service units in support of economic and business development
- Contribution of the University to the development of communities in the areas of governance, culture, recreation, health care, and schools—all of which help attract business and industry

- Availability of University resources and initiatives in each economic development region of the State

**Internationalization**

- Student participation in education abroad, including participation by groups underrepresented in study abroad and student exchange
- System-wide and campus international partnerships
- Use of technology in support of international education
- International student and faculty presence on UNC campuses
- Contributions of UNC faculty, staff, and students in addressing global issues
- Grants involving international focus or partners
- Courses and degree programs with international focus
- Outreach in international education to K-12 schools

**Information and Knowledge Management**

- Supporting teaching and learning through technology
- Sustaining network and computer infrastructure
- Maintaining security and privacy
- Utilization of a UNC-wide data warehouse
- Use of technology in support of administrative processes

## **V. The Role of the University of North Carolina in Economic Transformation and Development**

The work of the Special Committee on the Role of the University in Community and Economic Development culminated with the Board of Governors' approval of the Committee's final report at the May 2006 meeting. In addition to this report, the Special Committee and the Committee on Educational Planning, Policies, and Programs worked together to propose an additional Strategic Direction in Economic Transformation, which was also approved by the Board of Governors.

### **Global Challenges**

Between 1999 and 2004, according to the Bureau of Labor Statistics, North Carolina averaged 207 mass layoff actions annually with an average of 31,700 workers losing their jobs each year. The decline in manufacturing jobs in North Carolina is mirrored in the experience of the rest of the country. This decline is largely the result of intense economic competition from overseas, although rapid increases in manufacturing productivity also have had an impact, as technology is increasingly substituted for labor. These changes have led to a major economic restructuring, moving North Carolina from a "brawn-driven," labor-intensive manufacturing and farming economy to a "brain-driven," technology-based service and manufacturing economy. The result is that many jobs require higher technical skills, as well as language, cultural and other capabilities. As the U.S. Chamber of Commerce noted in its report "Tapping America's Potential: The Education for Innovation Initiative," to maintain our country's competitiveness in the 21st century, we must cultivate the skilled scientists, engineers, managers, and leaders needed to create tomorrow's innovations and sustain tomorrow's economy.

The next few decades will witness a faster and yet more profound set of changes as the enormous economic potential of China, India, Indonesia and Brazil, whose total population of 2.4 billion constitutes more than 40 percent of the world's population, becomes fully integrated into the international economic system. These economies will be a source of increased competition at all skill levels, in all areas, as technological change unlocks their vast reservoirs of human capital. One study suggests that as many as 1.3 million jobs in the information technology sector alone will move overseas by the year 2010. At the same time, as these economies continue to develop, they will also present vast new market opportunities for North Carolina firms. The University should mobilize our wide variety of resources to enable North Carolina companies to capitalize on these new opportunities. University expertise in science and engineering, as well as faculty and graduates with special expertise in the history, culture, language, politics, and geography of these countries are an enormous asset to companies as they develop products and services to target these growing markets.

### **North Carolina's Response**

A relentless increase in the educational level of our citizens is required in order for North Carolina to keep pace. But this imperative represents a formidable challenge for the rural areas of the State and for population groups with low educational achievement. Unless something is done to address the population that have educational levels below state and national averages, the shift to an economy that depends upon technology, education and skill will mean an increase in inequality. In particular, it will mean an increase in inequality between the urban core and the small towns and rural areas of the State.

Skill and educational attainment alone, however, will not be enough, for there are many highly skilled and educated people in the world, hungry for a better life. Technology alone will not be

enough, for technology knows no national frontiers. The future of North Carolina will also depend upon effective, collective leadership by business, government, non-profits, and higher education to transform all our public institutions in ways that give our citizens and our businesses every advantage. Government must become flexible, swift and smart. Communities must identify their true economic opportunities and leverage unique regional assets to set them apart from the rest of the world. No set of institutions could have a larger role in this transition than the 16 campuses of the University of North Carolina, through a host of creative partnerships with the private sector, state and local governments, community groups, community colleges, and private colleges and universities. The UNC system is uniquely positioned to supply the leaders and workers of tomorrow while at the same time stimulating job creation and new investment in North Carolina.

### **The University in the Forefront**

The University was, from its inception, created to respond to the needs of society. The University's core missions of teaching, research and service have always supported the economic development of the State. Through these roles, our universities not only serve the people of North Carolina but also serve their own scholarship and teaching. Faculty ask better questions in their research, degree programs become better aligned with the needs of students and their prospective employers. The creation of the Research Triangle Park, the centennial and millennial campuses, the Small Business Technology Development Centers, the long standing work of regional universities, the extension work of our land grant universities and the broad outreach programs like, UNC Chapel Hill's Area Health Education Centers and School of Government, are just a few examples of the ways in which our campuses currently contribute to economic development efforts.

As society's needs change, so must the University. What is necessary is a renewed and expanded commitment by the University to economic development. UNC needs to recommit to preparing students for this competitive environment; we must strive to find better ways to share and apply the technologies developed on our campuses, and we must supply the expertise necessary to governments and communities so that they can adapt to the changes in their environment. The economic development needs of the State must become a central objective for the University, in ways that are accommodated by the traditional categories of work that faculty accomplish. Much of what faculty already does will meet these needs, the task is to support and transform their work in new ways. The success with which this transformation is accomplished will have a tremendous impact on the economic future and social fabric of the State.

Preparation for this transformation has already begun, sparked by House Bill 1264, a study to determine future workforce needs of North Carolina and the academic programs of both the University and the North Carolina Community College System that will respond to those needs. This study, "Staying a Step Ahead," is intended to better match the curricula offered by the University and the Community College System to the current and future needs of North Carolina.

The preparation of our State's citizens through a thorough grounding in the arts and sciences will always be the first and most important task for the University. What is needed is a new understanding of the ways in which education and training contribute to the skills and capabilities of the workforce. Lifelong learning, delivered through a variety of institutions and by a variety of means, is now required for the majority of people. This suggests that the contributions of universities and community colleges be seamlessly integrated. The old distinction between higher education and workforce development no longer makes sense in a world in which citizens must learn and re-learn a broad mixture of skills through the carefully coordinated efforts of all educational and training institutions.

While the widespread distribution of intellectual capital across North Carolina is the foundation for this transformation of the economy, it will require leadership at both the state and campus levels for these assets to be effectively deployed. It will take effective leadership to integrate economic development into all of the work of North Carolina's universities and colleges. Furthermore, in order for the University to fulfill our commitment to economic development, we must continue to play a leadership role in improving the quality of K-12 education. The University must produce high quality teachers, especially in math and science. Programs such as GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs), whose mission is to significantly increase the number of students who are prepared to enter and succeed in postsecondary education, and the Mathematics and Science Education Network, dedicated to improving the quality of math and science education in North Carolina schools, are two examples of ways in which the University is focusing efforts to K-12 education improvements. We are making progress but we must be steadfast in our commitment to continuous evaluation and enhancement of K-12 education.

### **Defining Success**

Economic development in North Carolina can be defined broadly as activities occurring at the intersection of the public and private sectors designed to increase the long-term economic well-being and quality of life of its citizens. Workforce development, leadership development, public policy analysis, capacity building, the creation of intellectual capital and technology transfer are all relevant components. It is important to note that this definition implies a focus on long-term capacity building rather than short-term growth.

A fundamental question for involving post-secondary education in economic development is, "What will success look like?" An understanding must be developed around a set of measures, outcomes, and metrics, by which this work will be guided, evaluated, organized, and funded.

There can be no single measure of success in economic development; the process is far too complex and subtle, and in most cases the impact occurs over many years. Furthermore, it is often the case that the outcomes that are easiest to measure are not the most important factors in economic development; for example, developing social capital in low-wealth communities is essential but difficult to quantify. Therefore, we must proceed with caution in developing these metrics.

It will be important that each campus develop its own measures of success within a broad framework of the University. The measures should include inputs (who are the clients, by whom are they accessed, and what resources are required to serve them), outputs, (what are the production levels for each function defined for each campus), and outcomes (what are the actual results of the activities). Because of the diversity in size and mission of the 16 member campuses, each set of metrics will differ; however, they should all be guided by the overall metric of increasing the long-term economic well-being of North Carolinians.

Given the challenges that North Carolina faces, and the central role to be played by the University in meeting these challenges, it is incumbent on the Board of the Governors and leadership across the University to establish clear goals, design effective strategies, make required changes and mobilize necessary resources, and clearly measure success in doing so. It is important to note that success will hinge upon the economic development goals being recognized as integral to all the work done by faculty, whether it is teaching, research, or service. The research agendas, teaching curricula and engagement activities that already do so much to sustain North Carolina must nonetheless be constantly adapted to the changing environment. The agenda that follows will provide a starting point from which to do all these things.

## General Requirements and Changes

Any specific strategy is inevitably embedded in an overall institutional culture, and a certain level of leadership from chancellors and other senior officers on campuses is required to set the tone and expectations among faculty and staff. Certain general changes are required, consistent with the historical mission of the university, in order that all 16 campuses become better oriented towards the economic development needs of the State. Furthermore, all that follows requires sustained, continuous effort. The University is uniquely positioned to be an honest broker, capable of taking a long view of the challenges faced by the State.

- One or more senior officers within each campus and in the UNC General Administration should be given clear responsibility for the role of the University in economic development. This responsibility should be the lead element in their portfolio of duties.
- There should be increased rewards and expectations for all interested faculty so as to encourage external engagement. This change should be accomplished through a formal, bottom-up process within each campus that educates and mobilizes faculty. Because faculty compete in national and in many cases, international job markets, it is important that external engagement opportunities make a positive contribution to faculty professional development.
- These new rewards and expectations should be communicated clearly to all faculty. In addition, web sites, publications, media relations, and other methods of communication should be directed to targeted constituency groups as well as to the general public.
- Ideas and *best practices* should be shared and diffused across campuses through formal and informal arenas, coordinated by the UNC General Administration.
- External audiences should be made aware of the capacity and willingness of universities to be partners through regular, detailed communication. Talks, presentations and forums that engage policy-makers, opinion leaders and community leaders should be a regular element in the university calendar, employing a variety of faculty and administrators.

As the leading provider of higher education, the University, together with the North Carolina Community College System, has always played a central role in the economic well-being of the State. Giving the State's citizens all the benefits of a comprehensive education in the arts and sciences remains the first and most important task for the University and the basis upon which all other activities must be built. However, in order to meet the economic development needs of the State, UNC must do more. The task before us can be divided into five goals, with corresponding strategies, requirements, and sample metrics:

### Goal 1: Deliver learning that meets the needs of the 21<sup>st</sup> century economy

In order to prepare a citizenry that can prosper and lead in the 21<sup>st</sup> century, UNC needs to align our curricula more closely with the needs of people, communities, and businesses across the State, and in particular with the needs of businesses served by each regional campus. The University will need to accelerate our orientation towards continuous, lifelong learning in order to better meet the needs of North Carolinians who must navigate a constantly shifting labor market. To make these changes in curricula requires a University that is well-informed and adaptable.

#### Strategies

- Our institutions must offer an education that prepares students for a work environment that is increasingly interdisciplinary, in which creative thinking, technical skills,

business expertise and the ability to communicate in many ways to a variety of audiences must all be combined. An example of effective response to this kind of need is the Professional Science Master's (PSM) program. A PSM is a master's degree program in natural sciences (or mathematics) that will extend the scientific knowledge of students while integrating the disciplines of management, law, information sciences, and other professional areas. Several campuses currently offer or plan to offer these types of degrees.

- The classroom experience must be well-integrated with what is learned on the job. The use of cooperative learning, internships and service-learning should be increased and spread widely across fields of knowledge. Our universities need to emphasize entrepreneurship and leadership across all disciplines both inside and outside the classroom. UNC should remain engaged with our graduates throughout their careers, delivering continuous, lifelong education where and when it is needed (for example, campuses should consider operating increasingly on a 24/7 basis, as business does). A model program in this respect is the online MBA at ECU.

### **Requirements**

- The speed and responsiveness with which academic units can make curriculum changes must be significantly increased.
- Each campus should obtain good economic intelligence that clearly identifies the needs of businesses across the region and the State so that certain curriculum change can meet those needs.
- Distance education and lifelong education should be extended to all communities, especially geographically remote areas. This is one of the many areas in which the UNC Center for Public Television is already serving a vital role with its lifelong learning program service. The funding model for distance education should be flexible in order to accommodate a variety of financial needs, thus allowing disadvantaged communities to participate. Degree programs should be even more closely and seamlessly coordinated with other campuses and community colleges.
- The spirit and skills of entrepreneurship should be infused across disciplines, working with businesses and communities. There must be a renewed focus on language and culture, promoting a multidisciplinary education for a global economy.

### **Metrics**

#### ***Inputs***

- number of identified business needs for curriculum change, technical assistance, or specialized graduates
- number of requests between universities and private companies for research
- number and size of research parks
- number of adult learners enrolled in continuing education
- number of adults returning to University for advanced degrees
- number of courses, curriculum, and programs offered in entrepreneurship
- resources to support all of the above

#### ***Outputs***

- number of changes in curriculum
- percentage of research budget from private sector
- occupancy of research parks
- number of adults completing degree and non-degree programs
- increase in amount and efficiency of resources

- number of students graduating with training in entrepreneurship

#### **Outcomes**

- number of new courses, curriculum, and programs recognized by private sector and peer institutions as excellent
- satisfaction/return rate of private sector and universities
- increase in economic output of research parks
- increase in income and wealth of adult learners
- resources imbedded in funding streams
- number of students recognized for business and social entrepreneurship success after graduation

### **Goal 2: Enhance the capacity of public institutions to implement successful and sustainable economic development policies**

The University must discover every opportunity and adopt every means for the delivery of applied research and technical expertise to build the capacity of state and local public institutions. Good governance, broadly understood, can be a source of significant competitive advantage for any economy. Faculty across a wide range of disciplines can contribute to this capacity building through applied research, teaching, and many kinds of external engagement.

#### **Strategies**

- Universities should establish mechanisms to link the faculty's traditional research and education activities to economic development opportunities. In doing so, universities become the center for research for their region. For instance, some UNC Greensboro faculty work closely with regional leaders to enhance economic development efforts by providing benchmarking analyses and contributing expertise in development of strategic plans.
- In keeping with the public service role of all University employees, faculty in a variety of disciplines should stand ready to deliver applied research, studies and other analyses to state and local leaders as needed.
- Campuses should increase the level of awareness of the variety of technical training already offered to staff and managers in the public sector and where opportunities exist, this training should be expanded, and the mechanisms by which it is delivered should be enlarged, including service delivery on-site and through distance education enhanced by the use of technology.

#### **Requirements**

- Each campus should have a senior officer responsible for economic development initiatives. This officer should have ready access to the Chancellor. This senior officer will be expected to be an effective gateway to campus assets and resources which support community and economic development and to ensure effective coordination and collaboration among campus units with economic development roles. An example of this type of role is the position of Vice Chancellor for Extension, Engagement, and Economic Development at NC State. NCSU's Economic Development Partnership (EDP) is an organization with demonstrated commitment by the University to external partners. EDP is based upon external demand for access to the university. It rests on a multi-faceted funding model, with external partners (public and private) willing to provide financial support and lobby for state support. The Center for Regional Development at WCU, The Appalachian Regional Development Institute at ASU, and the Center for Economic Development and Community Engagement at ECU are also

examples of organizations which serve their respective communities by facilitating access to university resources.

- Faculty who are engaged in applied public policy and in the delivery of service and training expertise should be rewarded in ways commensurate with faculty engaged in basic research. Faculty and administrators engaged in economic development and public policy should be aware of the activities of other public agencies engaged in the same areas. The lead economic development officer or organization should ensure that the university's efforts are fully coordinated with these outside efforts.
- The University should establish and maintain long-term partnerships with key stakeholders across the region, the State, and the Nation. Building deeper relationships with existing partners like the Research Triangle Foundation is vital.
- Where appropriate, recruit and hire faculty with an interest in applying their discipline to economic development.

## **Metrics**

### ***Inputs***

- resources devoted to senior “public engagement” administrators and to “gateway” office
- number of faculty engaged in public service and public policy research
- number of courses, technical assistance, and publications dedicated to public officials and community leaders
- number of off-campus seminars, courses, and other education and training
- number of public officials and community leaders seeking training or technical assistance

### ***Outputs***

- scope and depth of engaged scholarship and public service
- number of faculty tenure and promotion decisions based on public service
- number of partnerships with state, local, and community groups
- number of responses to requests from public and community leaders for special training, technical assistance, research and materials
- satisfaction level of clients of university services

### ***Outcomes***

- improved public policy as a result of university engagement
- improved performance of state and local governments and institutions as a result of university engagement
- improved intelligence systems of public institutions
- enriched scholarly output of faculty as result of public engagement

## **Goal 3: Enhance opportunities for research and innovation**

The University must sustain and enhance an environment that promotes and supports research, innovation, and the application of new knowledge. In doing so, we will strengthen the innovative research capacity that is essential to helping North Carolina meet the challenges of a global economy. All efforts by the University in the area of economic development rest on the foundation of faculty's access to knowledge and expertise drawn from the public pool of scholarship. Scientific discovery and the innovation linked to it represent a narrower pool of knowledge, subject to the proprietary claims of intellectual property. Goal 4 is aimed at accelerating the transfer of this knowledge from the lab to the store shelf.

### **Strategies**

- Establish strong collaborative research relationships among institutions to look for more opportunities to jointly attract research funding and solve problems.
- Enhance ability to conduct innovative research and to transfer new ideas into commercial opportunity.
- Continue to support research in core areas and link research needs with capabilities in areas such as biotechnology and nanotechnology.
- Coordinate regional economic development needs and opportunities, future university research, and economic development funding resources.

### **Requirements**

- Establish a state-wide, distributed support network of key technology transfer partners.
- Offer incentives to conduct inter-institutional and interdisciplinary research.
- Invest in competitive faculty salaries to attract and retain talented faculty, post-doctorates and graduate students.
- Revise promotion and tenure guidelines so that collaboration, entrepreneurship, and scholarly community assistance are valued alongside more traditional forms of scholarly achievement. Fund entrepreneurial sabbaticals and create entrepreneurs-in-residence programs to highlight the important role of this type activity.

### **Metrics**

#### **Inputs**

- research problems involving interdisciplinary or multi-institutional solutions
- number of and funding amounts for inter-institutional faculty grant proposals
- number and type of other incentives for inter-institutional and interdisciplinary work
- research budgets of member institutions
- research instrumentation facilities and space
- number of undergraduate, graduate, and post-doctoral students engaged in research
- number of offices devoted to partnerships with industry
- number of research faculty compared to peers
- number of institutional reviews of tenure and promotion policies

#### **Outputs**

- number of active partnerships among institutions
- number of grants awarded to multi-institutional teams
- number of faculty involved in entrepreneurial activities
- amount of sponsored research from competitive sources at each campus
- amount of research funded by the private sector
- salaries and resources for research faculty compared to peers
- tenure and promotion policies which recognize entrepreneurial activity

#### **Outcomes**

- measured positive impact of multi-institutional partnerships
- measured positive impact of multi-institutional research grants
- measured impact of research on state, national and global peers

- creation of high paying jobs, sound companies, vibrant industry sectors based on research and partnerships with private sector
- number of faculty receiving tenure or advancement based, at least in part, on entrepreneurial behavior, public service, and/or collaborative research
- number of distinguished awards won by faculty (including membership in national and American Academies)

#### **Goal 4: Provide support to build competitive businesses**

As North Carolina's economy becomes increasingly technology intensive, the University must continuously find new ways to transfer the research and ideas discovered on campuses to increase competitiveness of North Carolina businesses. The greatest potential for new job growth in NC lies in converting the substantial and rapidly growing R&D assets into new entrepreneurial growth companies. Equally as important are the opportunities for our businesses to capitalize on growth in emerging international economies. Faculty members with expertise in the culture, history, language, politics and geography of those countries should be leveraged to help North Carolina companies compete globally.

#### **Strategies**

- We need to address gaps in the service and outreach needed to support technology-based economic development. Many of businesses' needs can be met by existing University capabilities but we must first identify those needs and then partner with industry to find solutions. One such way in which our universities are already helping North Carolina companies stay competitive is Western Carolina's rapid prototyping lab. The Engineering and Technology Department faculty and students have worked with several area businesses to reduce material costs by reverse engineering a part or piece of equipment and then creating a prototype that can be used in manufacturing.
- Campuses should develop research capacity oriented towards the technology needs of firms based in the State or in their region. Campuses should be leaders in working with industry to identify primary needs for growth of regional clusters. Two original examples of careful orientation are the proposed Appalachian Enology and Viticulture Services Center at ASU, dedicated to serving North Carolina's expanding wine industry and the Center for Marine Sciences at UNCW, which has focused a wide variety of basic and applied research in marine biotechnology.
- Each campus should serve as the hub of formal and informal networks through which the needs of business are matched up not only with the supply of technology on campus but also management counseling, training, regulatory compliance, process analytics and best practices. Good examples of existing programs include NC State's Industrial Extension Service and NC Cooperative Extension Service at NC State and NC A&T.
- Faculty and entrepreneurs should have access to management and financial expertise provided through interdisciplinary programs. Management and technology programs should foster entrepreneurship to support North Carolina's competitiveness in the global economy.
- Universities should play a catalytic role in the establishment of venture funds able to finance start-ups through the seed capital stage.
- Extension and outreach programs from regional and land grant campuses should be closely coordinated to maximize the relative strengths of each institution and increase public accessibility.

## **Requirements**

- Perform an inventory of assets relevant to North Carolina companies doing business internationally. These assets would include faculty with expertise in the history, culture, language, politics and geography of other countries. This could become a model for effective collaboration among business, government and higher education across a wide range of areas.
- Expand the capacity of existing business outreach and service efforts of extension programs which provide in-depth management counseling and educational services to businesses.
- Reward faculty with a history of serial entrepreneurship (broadly defined to include those who are innovative via start-up companies, as well as new programs to help the community) in certain targeted areas for recruitment and retention. The “Jobs for the Future” project at UNCP is sustained by entrepreneurial faculty of this kind.
- Research in support of industry should be carefully coordinated with community colleges where possible. For example, NEMAC at UNCA, a national center for modeling and analysis of environmental data, coordinates the work of several universities, community colleges, and private industry.
- Encourage university-industry interactions by having a single point of contact at each campus responsible for coordinating and facilitating industry relations. The university representative should communicate regularly with the economic development professionals in their region.
- Facilitate technology transfer by integrating the function into the core mission and budget of each university so that economic development and public service, in addition to revenue generation, are equally valued. Provide technology transfer offices with required resources and flexibility to maximize economic development potential of university discoveries.
- Provide business with high-quality incubators and with labs at a reasonable rate subsidized by state or local funding. In rural regions, a system of incubators jointly sponsored by the university and participating communities should be considered. The Fayetteville Business Center, sponsored in part by FSU, is an excellent example of a public/private partnership along these lines as is the Charlotte Research Institute at UNCC. University endowments have a fiduciary duty to maximize returns; however, those endowments should be encouraged to consider, as part of their alternative asset allocation, opportunities to support university-affiliated seed funds.

## **Metrics**

### **Inputs**

- number and resources of tech transfer offices
- amount of risk and venture capital connected to university
- number and resources of business incubators connected to university
- number of courses offered for business people
- number of labs available for private sector use
- number of programs built around specific regional or state industries
- number of partnerships with industry associations

### **Outputs**

- number of US patents filed and secured
- number of risk and venture capital placements
- number of incubator tenants

- number of private sector users of university labs and equipment
- graduation numbers and rates of executive education programs
- company satisfaction measures of partnerships with universities

#### **Outcomes**

- number of companies launched and surviving in North Carolina
- market capitalization of university-launched companies
- number of high paying jobs created by university-related companies
- successful graduation rates from incubators
- documented improvements in companies as a result of university-based continuing education and technical assistance
- documented product improvements as result of utilization of university equipment or labs
- documented strengthening of industry sectors as result of university involvement
- patent strength as measured by utilization and citation by peers

### **Goal 5: Grow high-quality, healthy and attractive communities**

The community within the University must be open to and better integrated with communities outside. Our universities are home to a rich store of creative, enlightened arts and ideas that need to be shared widely. Both the community and the university are vibrant when this integration occurs.

#### **Strategies**

- Art and culture depend upon rich networks that break down barriers between university communities and local communities. Each campus should seek to be a central player in such networks, drawing external audiences and constituencies of every kind. The North Carolina School of the Arts has model programs in this respect. In addition to opening many performances up to the public, NCSA faculty participate in many community outreach activities such as Artists Reading to Children in Hospitals (ARCH).
- Several campuses have programs in public health and nursing which contribute in significant ways to the health of our communities. These are enhanced when the academic and clinical sides of each program are more closely integrated, as in the Public Health Leadership Program at the University of North Carolina's School of Public Health, or the Interdisciplinary Rural Health Training program at East Carolina University.
- Faculty represent a valuable human resource for local communities which is more fully realized when they participate in community projects. This kind of engagement has a valuable reciprocal effect on academic and external communities. University programs/strengths should be leveraged to bring new desirable university partners to communities. NC Central's Young Entrepreneurial Services program is an excellent example of this kind of community outreach.
- The actual facilities controlled by each campus represent a significant cultural asset for the community which they serve. Insofar as it is possible, these facilities should be made available to external cultural and community groups, and, indeed, the university community should by that means be drawn into the work of those groups. The North Carolina Arboretum invites organizations to utilize their facilities for a nominal fee, as long as the group is compatible with the Arboretum's stated missions of Education, Economic Development, Display, Conservation and Research within the horticulture, landscape, design, botany and ecology fields.

## **Requirements**

- Each university needs to actively address community needs. The S.G. Adkins Community Development Corporation at WSSU and the Community Development Program at ECSU are examples of a dedicated point of contact. Community groups should have access to modest resources that would encourage them to become integrated into campus life. Students should be engaged in service learning, internships and community service as part of their education.

## **Metrics**

### **Inputs**

- number of service learning programs on campus
- number of courses, curriculum, and programs with civic engagement imbedded in them
- number of programs designed to connect campus and community
- resources dedicated to community engagement
- resources devoted to marketing of university resources to community

### **Outputs**

- number of students in service learning programs
- number of faculty and students taking courses with public engagement components
- number of community organizations utilizing university facilities
- number of community members participating in university enrichment programs

### **Outcomes**

- number of successful community projects completed as result of student involvement
- number of successful community projects completed as result of faculty involvement
- documented improvement in quality of community organizations and activities as result of university involvement
- documented improvements in quality of business environment as result of university involvement
- documented improvements in town-gown relations

## **Conclusion**

The transformation of the State's economy will require the involvement of higher education to achieve these goals, all of which are interrelated. The effectiveness of each depends upon the degree with which the others are also realized. Indeed, it is by accomplishing all of them in combination that North Carolina will set itself apart. It is not just that North Carolina's citizens will have the necessary skills and its businesses the necessary technologies and leadership, but also that our workers and firms will rest upon public institutions and communities that give them a unique combination of advantages. Only by realizing this combination of goals will North Carolina be prepared for the changes that the world economy will bring, and UNC must design coordinated strategies to do so.

## **Appendix A. UNC Academic Program Inventory**

The Academic Program Inventory of the University of North Carolina is available for searching on the web (<http://www.northcarolina.edu/content.php/aa/planning/traditional.htm>). Search criteria include:

- Keyword
- Academic discipline (corresponding to the first two CIP digits)
- Academic program
- Degree level
- Degree awarded
- Institution (campus)
- Status
- CIP code (six digits).

The resulting tabular display can be sorted by column:

- CIP
- Academic program
- Degree level
- Degree abbreviation
- Campus.

Academic programs available by way of distance education or e-learning can also be searched and sorted (<http://www.northcarolina.edu/content.php/aa/distance/index.htm>).

## **Appendix B. Research, Public Service, and Instructional Centers of the University of North Carolina**

A complete list of the research, public service, and instructional centers of the University of North Carolina is maintained separately by the Office of Research and Sponsored Programs: [http://intranet.northcarolina.edu/docs/aa/research/Centers/Institutional\\_2005.pdf](http://intranet.northcarolina.edu/docs/aa/research/Centers/Institutional_2005.pdf).