1997-98

INTERIM

JOINT APPROPRIATIONS - EDUCATION COMMITTEE

MINUTES

JOINT APPROPRIATIONS SUBCOMMITTEE ON EDUCATION

Wednesday, April 22, 1998

MINUTES

The Joint Appropriations Subcommittee on Education met at 9:00 a.m. Wednesday, April 22, 1998, in Room 421 of the Legislative Office Building.

Members present were: Representatives Preston and Grady, Co-chairs; Representatives Black, Bonner, Davis, Insko, Moore, Oldham, Reynolds, Rogers, Russell, Shubert, and Yongue, and Representative Creech, Co-Chair, House APPROPRIATIONS Committee; Senator Lee, Co-chair; Senators Garwood, Purcell and Hartsell . A visitors sheet is attached to these minutes.

Senator Lee presided. The meeting was called to order and members and visitors were welcomed. Mr. Jim Johnson gave an introduction to Public School Reports. Following Mr. Johnson's remarks, Mr. Philip Price from the NC Department of Public Instruction gave the School Based Budgeting Report. (See Handout #1). There were questions and discussion following this presentation.

A report on Student Information Management Systems Replacement(SIMS) was given by Dr. Richard Thompson, Associate Superintendent of Education, NC Department of Public Instruction. (See Handout #2). Discussion and questions followed this report. Mr. Johnson gave a concluding and stated that some policy questions to be considered in changing information management were: 1.What core business functions would the state and LEA's have to have to start this transaction? 2.Are costs going to be shared by the state and local governments? 3.What is the maximum efficient use of networks, etc.? 4.What is cost to manage networks?

An introduction to Community College Reports was given by Ms. Charlotte Todd. Mr. Kennon Briggs, Finance Officer, NC Department of Community Colleges, presented a report on budget stability and occupational extension. Mr. Briggs reviewed reports released in January 1997 and April 1997 on phases 1 and 2 of the funding study. Phase 3 of this funding study focused on enrollment fluctuations and funding stability. (See Handout #3).

The subcommittee recessed at 11:50 a.m. for lunch.

At 1:35 p.m., the APPROPRIATIONS Subcommittee on Education reconvened. Mr. Jim Newlin gave an introduction to the UNC Reports, and introduced Mr. Bill McCoy, Vice President for Finance, UNC System. Following an introduction by Mr. McCoy, Dr. Larry Lewin, consultant to the University, presented the UNC Hospital Report. (See Handouts 4A and 4B). Questions and discussion were generated by this presentation.

Mr. Ken Grogan from the UNC System, was introduced by Mr. Newlin. Mr. Grogan, presented the Management Flexibility Report. (See Handout #5). Questions and discussion followed.

There was no further business to come before the committee at this time. The meeting was adjourned at 3:50 p.m.

Respectfully submitted by:

Senator Howard Lee, Co-Chair

Peggy B. Murray

Peggy B. Murray, Committee Clerk

JOINT APPROPRIATIONS SUBCOMMITTEE ON EDUCATION

April 22, 1998
9:00 a.m.

Agenda

Welcome	Chair
Public School Reports:	
School Based Budgeting Report	Philip Price
Student Information Management Systems Replacement	Richard Thompson
Community College Reports:	Kennon Briggs
Community College Formula Study Report:	
• Budget Stability	
• Occupational Extension	
Lunch Break	
1:30:	
UNC Reports:	
UNC Hospital Report	Bill McCoy Larry Lewin
Management Flexibility Report	Ken Grogan

VISITOR REGISTRATION SHEET

Joint APPROPRIATIONS/Subcommittee on Education Wednesday, April 22, 1998 10:00 A.M.

Name of Committee | Date

VISITORS: PLEASE SIGN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Larry Morgan	DCC
Jan Crotts	NCASA
Julie Campbell	NCASA
Susan Harrison	WCPSS
Leanne Winner	NCSBA
G Markham	EdHS
Harriet Dail	NCAE
Pat Simes	DPI
Ann Bedsaul	SBE
Richard Thompson	SDPI
J Ramquist	NCRTA

VISITOR REGISTRATION SHEET

Joint APPROPRIATIONS/Subcommittee on Education Wednesday, April 22, 1998 1:30 pm ~~10:00 A.M.~~

Name of Committee **Date**

VISITORS: PLEASE SIGN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY AND ADDRESS
Elizabeth Grovenstein	OSBM
Joyce Peters	JP Assoc/EEBC
Tim McDowell	NCACC
David Brown	OSBM
Ken Gogan	UNC-GA
June Burkhart	UNC-GA/NC State Ag Pgms
ERIC MUNSON	UNC HOSPITALS - CHAPEL HILL
Jeff Houpt	UNC- Sch. of Med.
Clifton B. Metcalf	UNC GA
William McCoy	UNC GA
Lee Adams	OSBM
Charles Ayscue	UNC Hospitals

4-22-98
#1 (Johnson) intro -
Price -

UNIFORM EDUCATION REPORTING SYSTEMS FUNDS/BUILDING LEVEL REPORTS ON SCHOOL FUNDING - 1997 Session of the General Assembly, Senate Bill 352, *Section 8.25*

(a) Funds appropriated for the 1997-99 fiscal biennium for the Uniform Education Reporting System shall be used for the maintenance, enhancement, or purchase of financial, personnel, or student information software, in order to support the State Board of Education's responsibilities under G.S. 115C12(18).

(b) The State Board of Education shall modify the Uniform Education Reporting System to provide clear, accurate, and standard information on the use of funds at the unit and school level. The plan shall provide information that will enable the General Assembly to determine State, local, and federal expenditures for personnel at the unit and school level. The plan also shall allow the tracking of expenditures for textbooks, educational supplies and equipment, capital outlay, at-risk students, and other purposes. The revised Uniform Education Reporting System shall be implemented beginning with the 1998-99 school year.

Tracking Public School Expenditures to the School Building Level

The North Carolina Department of Public Instruction representatives and a committee of seven select LEA finance officers have developed a proposal to record expenditures to the school level by 1998-99. The majority of expenditures can be charged to the school at the time of disbursement. However, due to warehousing, or items that are not applicable to specific schools, or a school acting as a fiscal agent for other LEAs, there will always be expenditures that cannot provide a school number. When this occurs, the expenditures will have a location code that identifies (1) county wide, (2) warehouse, (3) fiscal agent, or (4) central office in order to account for all expenditures.

The attached worksheet was developed based on responses from the seven committee members. The worksheet lists every available object code of expenditures in the Uniform Chart of Accounts. For each of these objects, you will find a break down reflecting the estimated reporting of expenditures by location. We can collect LEA data from the year-to-date files through a special submission by each LEA on an agreed upon schedule. This information will be at the general ledger summary level, not by individual payee/vendor. It is very important to understand that a journal entry, after the check has been written, is necessary in obtaining the school level information when bulk purchases are made by an LEA and then later distributed to schools. Benefits are not recommended to be coded to the school level due to the fact this would expand detail items tenfold and can be estimated at a very high accuracy rate.

Further, most school receipts are collected and can be reported. However, funds that are not collected by the school, but benefits the school, do not get recorded anywhere in school accounting books or LEA books. Examples of these would be PTA funds, booster clubs, or private donations of equipment or supplies.

Summary of Object Codes

% of Expenditures which could be coded to Location Level at the time the check is written

Object Codes	Description	% School Level Code	% County Wide Code	% Warehouse Code	% Fiscal Agent Code	% Cannot
Salary						
100-139	Certified Salaries	100.0%				
141	AV Materials Coord/Tech	66.7%	33.3%			
142	Teacher Assistant	100.0%				
143	Tutor	84.4%	15.6%			
144	Voc Ed Tech Assistant	100.0%				
145	Therapist	49.3%	50.7%			
146	Teacher Assist when sub	100.0%				
147	Technology Assistant	100.0%				
149	Other Technical Assignment	56.8%	43.2%			
151	Office Personnel	99.2%	0.8%			
159	Other Office/Clerical Assistant	100.0%				
162	Maintenance Supervisor	16.7%	83.3%			
165	Transportation Personnel	16.7%	83.3%			
169	Other Crafts/Trade Assign	29.2%	70.8%			
171	Driver	83.3%	16.7%			
172	Substitute Driver	100.0%				
173	Custodian	100.0%				
174	Child Nutrition Employee	100.0%				
175	Warehouseman	16.7%	83.3%			
176	Manager	100.0%				
177	Work Study Student	83.3%	16.7%			
178	Cashier	100.0%				
179	Longevity Pay	77.2%	22.8%			
180	Overtime Pay	89.0%	11.0%			
181	Supplementary Pay	92.6%	7.4%			
182	Substitute Pay	100.0%				
183	Bonus Pay	96.5%	3.5%			
186	Workshop Participant	97.5%	2.5%			

Summary of Object Codes

% of Expenditures which could be coded to Location Level at the time the check is written

Object Codes	Description	% School Level Code	% County Wide Code	% Warehouse Code	% Fiscal Agent Code	% Cannot
187	Local Salary Differential	97.5%	2.5%			
188	Annual Leave Payoff	78.0%	22.0%			
189	Short Term Disability	78.8%	21.2%			
190	S/T Disability beyond 6 mon	90.7%	9.3%			
193	Mentor Pay	100.0%				
194	Teacher Workday Pay	100.0%				
199	Salary - Other Assign	80.5%	19.5%			
	Total Salaries	**87.4%**	**12.6%**	**0.0%**	**0.0%**	**0.0%**
Benefits						
200-299	Total Employee Benefits					100.0%
Prof Services						
311	Contracted Services	60.7%	17.6%		7.5%	14.2%
312	Workshop Expenses/allow travel	68.8%	29.5%			1.7%
313	Contracted - Legal/Audit	25.0%	66.7%		8.3%	
315	Workshop Expenses/travel sal	88.0%	10.3%			1.7%
316	Workshop Expenses/ex trav	88.0%	10.3%			1.7%
319	Other Prof and Tech Services	78.0%	22.0%			
321	Public Utilities - Electric	79.2%	20.8%			
322	Public Utilities - Gas	80.8%	19.2%			
323	Public Utilities - Other	75.8%	24.2%			
324	Cleaning Services	80.0%	20.0%			
325	Contracted Rep & Maint - Bldg	32.0%	68.0%			
326	Contracted Rep & Maint - Equip	35.8%	62.5%			1.7%
327	Rentals	78.7%	19.6%			1.7%
328	Energy Cost	33.3%	66.7%			
331	Pupil Transportation - Contracted	8.3%	91.7%			
332	Travel	95.8%	4.2%			
333	Travel - Bus Routing	100.0%				
334	Travel - Student	100.0%				

Summary of Object Codes

% of Expenditures which could be coded to Location Level at the time the check is written

Object Codes	Description	% School Level Code	% County Wide Code	% Warehouse Code	% Fiscal Agent Code	% Cannot
335	Travel - Salary	100.0%				
336	Travel - Greater than IRS Rate	100.0%				
339	Other Transportation Services	55.8%	40.0%			4.2%
341	Telephone	74.7%	25.3%			
342	Postage	36.7%	56.6%			6.7%
343	Telecommunications Services	37.6%	60.7%			1.7%
351	Advertising Fees	16.7%	83.3%			
361	Printing & Binding Fees	30.0%	70.0%			
362	Reproduction Costs	46.7%	53.3%			
371	Tuition Fees	99.5%	0.5%			
391	Field Trips	100.0%				
399	Other Purchased Services	43.3%	56.7%			
	Total Professional Services	**65.0%**	**33.3%**	**0.0%**	**0.5%**	**1.2%**
Supplies						
411	Instructional Supplies	90.3%	9.7%			
412	Supplies & Materials	70.8%	29.2%			
413	Fuel for Facilities	74.2%	25.8%			
414	Oil	14.6%	83.3%			2.1%
415	Tires & Tubes		100.0%			
416	Repair Parts, Materials, etc.	5.8%	94.2%			
417	Gas/Diesel Fuel		100.0%			
418	Computer Software/Supply	68.3%	10.9%	20.8%		
419	Other Supplies	65.5%	26.2%	8.3%		
421	Textbooks	50.8%	25.0%	24.2%		
431	Library Books	100.0%				
432	Periodicals	83.3%	16.7%			
433	Audiovisual Supplies/Materials	90.0%	10.0%			
434	Processing and Cataloging	100.0%				
451	Food Purchase	86.6%	6.7%	6.7%		

Summary of Object Codes

% of Expenditures which could be coded to Location Level at the time the check is written

Object Codes	Description	% School Level Code	% County Wide Code	% Warehouse Code	% Fiscal Agent Code	% Cannot
452	USDA Commodity Foods	88.3%	5.0%	6.7%		
459	Other Food Purchases	55.8%	37.5%	6.7%		
461	Purch Non-Cap Equipment	85.7%	14.3%			
462	Purch Non-Cap Computer Equip	83.2%	16.8%			
	Total Supplies & Materials	**63.9%**	**32.1%**	**3.9%**	**0.0%**	**0.1%**
Capital						
500-529	Capital Outlay - Land/Bldgs	100.0%				
531	Improvements to New Sites	95.8%	4.2%			
532	Improvements to Existing Sites	95.8%	4.2%			
541	Purchase of Equipment	77.5%	14.2%	8.3%		
542	Purchase of Computer Hardware	56.7%	30.8%	12.5%		
551	Purchase of Vehicles	37.5%	62.5%			
561	Library Books - Capitalized	96.7%	3.3%			
	Total Capital Outlay	**90.7%**	**7.9%**	**1.4%**	**0.0%**	**0.0%**
Other						
611	Membership Dues & Fees	28.3%	71.7%			
621-629	Insurance's - Various		100.0%			
681	Debt Service - Principal	41.7%	58.3%			
682	Debt Service - Interest	41.7%	58.3%			
691-695	Misc Objects (indirect cost, etc.)	20.8%	79.2%			
699	Miscellaneous	64.9%	35.1%			
	Total Other Objects	**32.9%**	**67.1%**	**0.0%**	**0.0%**	**0.0%**
Transfers						
710-720	Total Fund Transfers		100.0%			

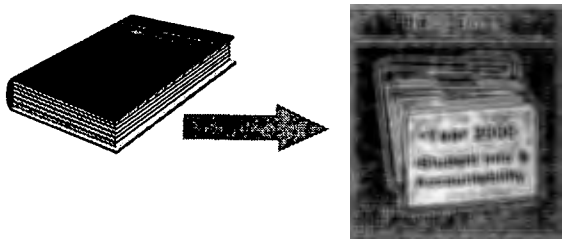
Prepared by:
Division of School Business
1/6/98
objcd4 - obj sum

4-22-98
L. Thompson
2

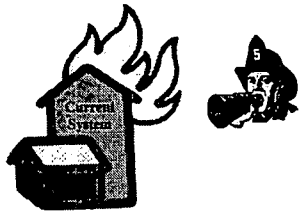
Agenda

- Five-Year Strategic Technology Plan
- Why New Student Information & Accountability System
- Timeframe and Cost Requirements

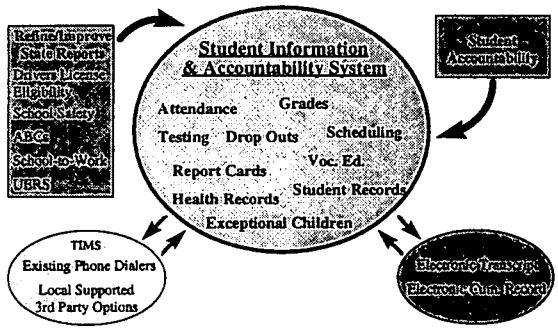
Five-Year Strategic Technology Plan



Why New Student Information & Accountability System

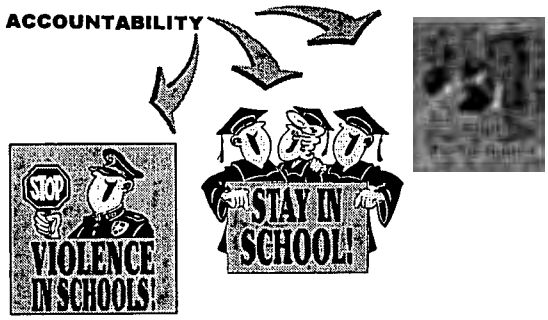


Phase I: Student Information & Accountability System

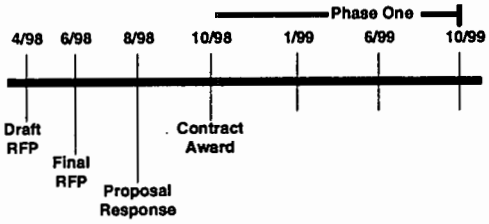


Why New Student Information & Accountability System

Why New Student Information & Accountability System



Timeframe and Cost Requirements



Estimated Cost for Phase One = $6 Million

4-22-98
#3

Requested by: Senators Lee, Winner, Representatives Arnold, Grady, Preston

MODIFICATIONS IN THE FTE FUNDING FORMULA TO REFLECT FLUCTUATIONS IN ENROLLMENT

Section 9.3. The State Board of Community Colleges shall study alternative methods of protecting colleges from the budgetary impact of fluctuations in enrollment. The State Board shall report to the General Assembly on its recommended budget stability proposals and on an appropriate transition period prior to April 30, 1998.

Requested by: Senators Lee, Winner, Representatives Arnold, Grady, Preston

ASSESSMENT OF OCCUPATIONAL EXTENSION FORMULA

Section 9.2. As the State Board of Community Colleges completes Phase Three of its consultant's study on the budget formula, the State Board shall reexamine whether and the extent to which the faculty-student ratio for occupational extension programs should vary by college size. The State Board shall also consider the appropriate funding level for occupational extension programs based on analysis of cost.

The State Board shall report the results of its studies to the Joint Legislative Education Oversight Committee prior to April 30, 1998.

DRAFT

4-22-98
Briggs
3 4

FUNDING FORMULA STUDY:
PHASE 3 REPORT
NORTH CAROLINA
COMMUNITY COLLEGE SYSTEM

SUBMITTED TO:

STATE BOARD OF COMMUNITY COLLEGES
200 WEST JONES STREET
RALEIGH, NORTH CAROLINA 27603

SUBMITTED BY:

MGT OF AMERICA, INC.
2425 TORREYA DRIVE
TALLAHASSEE, FLORIDA 32303

PREVIEW DRAFT
APRIL 16, 1998

TABLE OF CONTENTS

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

For the past year and a half, the State Board of Community Colleges has undertaken a comprehensive study of the budget formulas it uses to request and allocate funding for the institutions in the North Carolina Community College System (NCCCS). The effort was initiated in response to a special provision enacted during the 1996 session of the General Assembly that directed the State Board to:

> "undertake a comprehensive study of the funding formula used to distribute funds to local community colleges . . . (including) the development of a plan to increase the level of funding for occupational extension courses to the funding level of curriculum courses . . ."

The following document is the third major report that we have developed for the State Board concerning its funding formulas.

In the Phase 1 report, which was submitted to the State Board in January 1997, we recommended that occupational extension instruction be funded at parity with curriculum instruction. Several months later in the Phase 2 report, we recommended that the formulas used both for instruction programs and for instructional and administrative support include elements that recognize the special funding requirements of smaller colleges that face difficulty in achieving economy of scale in their operations.

The current Phase 3 report contains recommendations in four areas. Three of these areas have been the subjects of analyses in the previous reports (e.g., funding stability, sliding scale for occupational extension, and equipment) while the fourth area (e.g., repairs and renovations) is discussed for the first time in this report.

The renewed focus on the funding stability issue grows out of a special provision enacted during the 1997 session of the General Assembly. Our recommendation includes both near-term and longer-term components. Effective with the 1999-2000 fiscal year, we recommend that the funding stability provision change from the current 3/5 rule to a 2/3 rule. Under this approach, a college's funding level would be unaffected as long as its actual FTE enrollment stayed within a corridor between 2 percent above and 3 percent below its budgeted FTE. The only effect of this recommendation will be to tighten the corridor by one percent and two percent, respectively, at the upper and lower boundaries from the current 3 percent above to 5 percent below range. Importantly, we view the movement from the 3/5 rule to a 2/3 rule as an intermediate step. Our longer-term recommendation is for a modified 3-year rolling average, whereby funding would be based on the greater of current actual FTE enrollment or the rolling average of the three most recent fiscal years.

The use of the sliding scale in the occupational extension formula is a second topic that was the subject of a special provision from the 1997 session. We reaffirm our earlier recommendation that state appropriations for occupational extension and curriculum instruction should be at parity with one another. Just as with curriculum instruction, we believe that the first 500 FTE students at all colleges should be funded with a lower student-to-faculty ratio to reflect the difficulty that all colleges face in their efforts to provide a full, responsive array of programs in their service areas.

Our recommendation for a revised equipment allocation formula builds from the current approach but differs in at least one significant way. Unlike the current formula, our proposal would not consider depreciation expense – a major feature of the current model that we believe has contributed to inequities among colleges that have had differing capacities to build a sizeable equipment inventory. Instead, our recommendation calls for a three part allocation model that is independent of the historic equipment inventory and focuses more on current programs: (1) a base allotment of $100,000 per college. (2) a special allotment for a limited number of previously recognized, especially high cost programs, and (3) the allocation of the balance of the equipment appropriation on the basis of equipment FTE enrollment (E-FTE) whereby high equipment intensity programs will generate more funding per student than other programs.

The final recommendation calls for the establishment of a new formula for requesting and allocating state appropriations for repairs and renovations (R&R). The proposed formula is generally based on an industry standard that calls for R&R to be funded at 1.5 percent of building replacement value per year. However, our proposal recognizes the greater R&R requirements of older buildings and the minimal needs for new facilities by providing a variable percentage replacement factor according to age of the building. We believe that state funding for R&R will be an issue of critical importance in the coming years.

1.0 BACKGROUND

1.0 BACKGROUND

For the past year and a half, the State Board of Community Colleges has undertaken a comprehensive study of the budget formulas it uses to request and allocate funding for the institutions in the North Carolina Community College System (NCCCS). The effort was initiated in response to a special provision enacted during the 1996 session of the General Assembly that directed the State Board to:

> "undertake a comprehensive study of the funding formula used to distribute funds to local community colleges . . . (including) the development of a plan to increase the level of funding for occupational extension courses to the funding level of curriculum courses . . ."

The following report is one of several documents resulting from the State Board's study of the formula.

To assist it in conducting the formula study, the State Board retained the services of MGT of America, Inc., a consulting firm with recognized expertise in state-level higher education planning and budgeting. Also, the President of the System appointed a Funding Study Advisory Committee to work with the consultant on this endeavor. A membership roster of the Study Committee is included as Exhibit 1-1.

Since it began work on the project in late 1996, MGT has issued three reports related to the NCCCS funding formula:

- The Phase 1 report, entitled "Assessment of the Funding Formula Used by the North Carolina Community College System," was submitted to the State Board on January 17, 1997. The principal recommendation in this report was to fund occupational extension programs at parity with curriculum instruction programs.

- The Phase 2 report, "Economy of Scale Supplemental Report," was submitted to the State Board on April 18, 1997. This report focused on the appropriateness of two features in the formula designed to recognize the special funding requirements of smaller colleges -- the sliding scale of student-faculty ratios for instruction and the base funding procedure for instructional and administrative support.

EXHIBIT 1-1
MEMBERSHIP ROSTER
FUNDING STUDY ADVISORY COMMITTEE

State Board of Community Colleges

Mr. James Woody

Presidents, North Carolina Community College System

Mr. Ray Bailey, Asheville-Buncombe Technical Community College
Dr. Lonnie Blizzard, Lenoir Community College
Dr. Frank Eagles, Wilson Technical Community College
Dr. Marvin Joyner, Central Carolina Community College
Dr. Larry Linker, Randolph Community College
Dr. Donald Reichard, James Sprunt Community College

College Business Officers

Mr. Colin Shaw, Rowan-Cabarrus Community College
Ms. Kathy Drumm, Central Piedmont Community College

North Carolina Association of Community College Trustees

Mr. Hal Miller

Central Staff, North Carolina Community College System

Mr. Kennon Briggs, Vice President, Business and Finance
Mr. Larry Morgan, Director, Auditing and Accounting
Mr. Phil Albano, Director, Administrative and Facility Services
Mr. John Malia, Assistant Director, State Aid Accounting

- A brief follow-up report on Phase 1 recommendations, entitled "Occupational Extension Supplemental Report," was submitted to the NCCCS leadership on May 2, 1997. This report provided further rationale for the earlier recommendation for parity of funding between occupational extension and curriculum instruction.

Information from all three reports was shared with the General Assembly during its 1997 session.

Due to the short timeframe available for the early phases of the formula study, many issues of importance were not the subject of final recommendations in the Phase 1 and Phase 2 reports but instead were proposed for further study and analysis. Subsequent to the adjournment of the 1997 legislative session, the NCCCS initiated Phase 3 of the formula study. The Study Committee directed the consultant to focus on four issues as part of Phase 3:

- Funding stability – a topic of concern to the General Assembly which relates to how much budget stability should be provided to those colleges that experience fluctuating enrollment levels.
- Occupational extension – a topic requested by the General Assembly related to whether the sliding scale features of the curriculum instruction formula should extend to the occupational extension formula.
- Equipment – an examination of the equity of the allocation of the equipment appropriation with respect to college size and program offerings, and
- Repair and renovation – the development of a model to be used in requesting and allocating state resources for upkeep of buildings.

The following Phase 3 report contains detailed analyses and recommendations in each of these four areas.

2.0 ENROLLMENT FLUCTUATIONS AND FUNDING STABILITY

2.0 ENROLLMENT FLUCTUATIONS AND FUNDING STABILITY

2.1 Background

The formula used by the NCCCS, like funding formulas used in many states, incorporates provisions to provide some degree of funding stability for those institutions that are experiencing fluctuations in enrollment levels. Most observers of formula practice believe that such funding stability features represent good policy since colleges face multi-year spending commitments and can not readily increase or decrease their budgets without serious repercussions. Stability features are believed to be especially valuable to smaller institutions, such as those that make up the majority of the NCCCS, since they face an extremely small margin of error in budget planning.

Despite the rationale behind and general support for a funding stability provision in the NCCCS formula, many find fault with the specific mechanism now in place, which is known as the "3/5 rule." Basically, a college's allocation is unchanged as long as its actual enrollment stays within a corridor of 3 percent above and 5 percent below its budgeted FTE enrollment.

Colleges that are experiencing growth find that the 3 percent growth requirement before new funding is available serves to discourage development of new programs, especially those programs which would not increase the total college enrollment by at least 3 percent. In effect, the college potentially would face all the costs of a new program offering (e.g., new instructors, new equipment, etc.) without receiving any increase in state funding.

On the other hand, critics of the 3/5 rule believe that the 5 percent downward protection is overly generous, especially when it seems to become a permanent fixture in a college's budget. Legislative staff have calculated that the 3/5 rule has provided

over $40 million in extra funding to the NCCCS during the past four years. Further, the 3/5 rule serves to dilute the unit value, causing colleges to receive less state appropriations per FTE student than would otherwise be available.

As part of our Phase 1 report, we noted the concerns of many presidents with the 3/5 rule and introduced the concept of a "three-year rolling average" as a possible alternative. Due to concerns about the expected near-term instability of enrollment levels resulting from semester conversion and course reengineering, however, we recommended that any action on the issue be deferred.

In its 1997 session, the General Assembly expressed a renewed interest in the funding stability issue. In particular, it directed the State Board of Community Colleges in section 9.3 of the special provisions to:

> "study alternative methods of protecting colleges from the budgetary impact of fluctuations in enrollment. The State Board shall report the results of its studies to the Joint Legislative Education Oversight Committee prior to April 30, 1998."

2.2 *Further Investigations During Phase 3*

Once preliminary fall 1997 FTE enrollments were known, further analyses were undertaken to determine how the 3/5 rule might be modified to be more responsive to enrollment growth while still providing a reasonable measure of protection during periods of enrollment downturn. An early step in our analysis was to consider the practices of other state community college systems in dealing with similar issues. As seen in Exhibit 2-1, fifteen of twenty states responding to this item on our survey of community college funding practices reported some type of enrollment stability feature as an integral part of their funding model. A rolling average technique was found to be

the most common approach. Enrollment corridor and no-loss approaches were also common.

EXHIBIT 2-1
FUNDING STABILITY APPROACHES
USED IN OTHER STATES' FORMULAS

State (1),(2)	Rolling average	No loss	Last Year	Other	None	Explanation	No Response
California		X				In year of decline; reductions made over 3 yrs. with the ability to restore.	
Florida					X		
Georgia					X	Request made of Governor & legislature, however, no set factors.	
Hawaii					X		
Illinois	X		X			3 year avg. or last year, whichever is higher.	
Kansas							X
Louisiana		X					
Maryland				X		"hold harmless" clause prevents reduction of state aid below prior year.	
Mississippi		X				Allows colleges time to budget for significant changes due to enrollment.	
Nebraska							X
Nevada							X
New Jersey						No college receives less than the average of three prior years' state aid.	
New Mexico					X		
New York	X					Credit hours are buffered, using average of most current 3 years.	
North Carolina				X		Funding corridor is -5 to +3% of base enrollment.	
North Dakota							X
Ohio							X
Oklahoma	X		X			Rolling enrollment average, no loss if enrollment falls.	
Oregon	X					3 year weighted avg. for enrollment, hold harmless, limit incr. to 10%	
Pennsylvania							X
Tennessee				X		FTE floor = 95% or above = no change	
Texas					X		
Washington	X					2 year enrollment targets/3 year tuition & student-faculty ratio data.	
West Virginia					X		
Wisconsin					X		
Wyoming	X					Safety net.	
Total	**6**	**3**	**2**	**3**	**7**		**6**
% of Total (3)	**30%**	**15%**	**10%**	**15%**	**35%**		

Notes
(1) Alabama, Indiana, Massachusetts, Michigan, New Hampshire, South Carolina, South Dakota, Utah, and Virginia did not respond to the survey.
(2) Alaska, Arizona, Arkansas, Colorado, Connecticut, Delaware, Idaho, Iowa, Kentucky, Maine, Minnesota, Missouri, Montana, Rhode Island, and Vermont responded to the survey, but indicated they do not currently use a formula.
(3) Percentages sum to more than 100% due to responses in more than one category by some states.

In response to the directive in the special provision, several of our analyses examined several different multi-year rolling averages (i.e., for the 3 and the 5 most recent years). The results of these analyses are reported in Exhibit 2-2. In each case, the rolling average was compared to the budgeted enrollment as determined under the current 3/5 rule. As might be expected, the averages based on the greatest number of years provided the greatest stability. The obvious drawback, of course, is that the averages based on the greatest number of years also are the least responsive to enrollment growth.

To create a more responsive technique, we also examined variations where the greater of the current year actual enrollment or the multi-year rolling average were used. These analyses are also summarized in Exhibit 2-2. The Advisory Committee determined that a "modified three-year rolling average," where funding would be based on the higher of the current year or the rolling average enrollment, was the preferred option should a rolling average technique be adopted.

As an alternative to the modified 3-year rolling average, we also considered a variation of the current 3/5 rule. Since the principal concerns with the current approach were that it provided too much downside protection and was too slow to respond during periods of growth, the proposed alternative simply tightened the range from 3/5 to 2/3. That is, if actual FTE enrollment stayed within the range of 3 percent below and 2 percent above the budgeted FTE, funding levels would remain unaffected. A simulation of the 2/3 rule is shown in Exhibit 2-3.

2.3 Recommendation

Our recommendation is in two parts – one for near-term implementation and the other for longer-term consideration.

EXHIBIT 2-2
COMPARISON OF FUNDED ENROLLMENT STABILITY METHODS
NORTH CAROLINA COMMUNITY COLLEGE SYSTEM

Institution	1997-98 Budgeted FTE	1997 3 year Rolling Average	Variance from Budget	1997 5 Year Rolling Average	Variance from Budget	Greater of 96-97 or 3 Year Average	Variance from Budget	Greater of 96-97 or 5 Year Average	Variance from Budget
Alamance	2,144	2,063	-3.8%	2,135	-0.4%	2,063	-3.8%	2,135	-0.4%
Anson	912	905	-0.8%	803	-11.9%	938	2.9%	938	2.9%
Asheville-Buncombe	2,753	2,727	-0.9%	2,732	-0.8%	2,747	-0.2%	2,747	-0.2%
Beaufort County	1,049	1,023	-2.4%	1,033	-1.5%	1,023	-2.4%	1,033	-1.5%
Bladen	703	663	-5.7%	654	-7.0%	722	2.7%	722	2.7%
Blue Ridge	1,106	1,073	-3.0%	1,087	-1.7%	1,073	-3.0%	1,087	-1.7%
Brunswick	676	678	0.3%	682	0.8%	678	0.3%	682	0.8%
Caldwell	2,144	2,059	-4.0%	1,986	-7.4%	2,204	2.8%	2,204	2.8%
Cape Fear	2,644	2,705	2.3%	2,662	0.7%	2,723	3.0%	2,723	3.0%
Carteret	1,065	1,037	-2.7%	1,086	2.0%	1,037	-2.7%	1,086	2.0%
Catawba Valley	2,399	2,280	-5.0%	2,327	-3.0%	2,280	-5.0%	2,327	-3.0%
Central Carolina	2,429	2,439	0.4%	2,424	-0.2%	2,449	0.8%	2,449	0.8%
Central Piedmont	8,534	8,271	-3.1%	8,713	2.1%	8,271	-3.1%	8,713	2.1%
Cleveland	1,366	1,244	-9.0%	1,191	-12.8%	1,400	2.5%	1,400	2.5%
Coastal Carolina	2,828	2,692	-4.8%	2,742	-3.0%	2,692	-4.8%	2,742	-3.0%
Albemarle	1,516	1,426	-5.9%	1,416	-6.6%	1,558	2.8%	1,558	2.8%
Craven	1,787	1,723	-3.6%	1,770	-0.9%	1,723	-3.6%	1,770	-0.9%
Davidson County	1,802	1,777	-1.4%	1,787	-0.8%	1,777	-1.4%	1,787	-0.8%
Durham	2,741	2,632	-4.0%	2,682	-2.2%	2,632	-4.0%	2,682	-2.2%
Edgecombe	1,462	1,421	-2.8%	1,419	-2.9%	1,504	2.9%	1,504	2.9%
Fayetteville	5,638	5,562	-1.3%	5,536	-1.8%	5,562	-1.3%	5,536	-1.8%
Forsyth	3,117	2,977	-4.5%	3,035	-2.6%	2,977	-4.5%	3,035	-2.6%
Gaston	3,050	2,944	-3.5%	3,019	-1.0%	2,944	-3.5%	3,019	-1.0%
Guilford	4,813	4,589	-4.7%	4,710	-2.1%	4,631	-3.8%	4,710	-2.1%
Halifax	1,238	1,198	-3.3%	1,214	-2.0%	1,198	-3.3%	1,214	-2.0%
Haywood	1,212	1,182	-2.4%	1,194	-1.5%	1,209	-0.2%	1,209	-0.2%
Isothermal	1,251	1,185	-5.3%	1,239	-0.9%	1,185	-5.3%	1,239	-0.9%
James Sprunt	892	862	-3.4%	901	1.0%	862	-3.4%	901	1.0%
Johnston	2,366	2,283	-3.5%	2,336	-1.3%	2,283	-3.5%	2,336	-1.3%
Lenoir	1,755	1,666	-5.1%	1,712	-2.4%	1,666	-5.1%	1,712	-2.4%
Martin	652	619	-5.1%	659	1.0%	623	-4.4%	659	1.0%
Mayland	622	599	-3.7%	651	4.7%	622	0.0%	651	4.7%
Mcdowell	784	726	-7.4%	667	-14.9%	805	2.7%	805	2.7%
Mitchell	1,149	1,150	0.1%	1,149	0.0%	1,175	2.3%	1,175	2.3%
Montgomery	592	582	-1.7%	563	-4.8%	609	2.9%	609	2.9%
Nash	1,173	1,182	0.7%	1,178	0.4%	1,196	2.0%	1,196	2.0%
Pamlico	148	144	-2.7%	138	-6.9%	144	-2.7%	138	-6.9%
Piedmont	936	899	-3.9%	927	-1.0%	924	-1.3%	927	-1.0%
Pitt	3,174	3,184	0.3%	3,172	-0.1%	3,184	0.3%	3,177	0.1%
Randolph	1,118	1,072	-4.1%	1,102	-1.4%	1,094	-2.1%	1,102	-1.4%
Richmond	933	925	-0.8%	922	-1.2%	925	-0.8%	922	-1.2%
Roanoke-Chowan	720	693	-3.8%	714	-0.8%	693	-3.8%	714	-0.8%
Robeson	1,382	1,326	-4.0%	1,304	-5.6%	1,421	2.8%	1,421	2.8%
Rockingham	1,445	1,399	-3.2%	1,420	-1.7%	1,399	-3.2%	1,420	-1.7%
Rowan-Cabarrus	2,206	2,208	0.1%	2,179	-1.2%	2,272	3.0%	2,272	3.0%
Sampson	882	848	-3.9%	880	-0.2%	873	-1.0%	880	-0.2%
Sandhills	2,311	2,215	-4.2%	2,289	-1.0%	2,215	-4.2%	2,289	-1.0%
Southeastern	1,573	1,493	-5.1%	1,542	-2.0%	1,496	-4.9%	1,542	-2.0%
Southwestern	1,356	1,307	-3.6%	1,296	-4.4%	1,394	2.8%	1,394	2.8%
Stanly	1,233	1,253	1.6%	1,225	-0.6%	1,260	2.2%	1,260	2.2%
Surry	2,128	2,030	-4.6%	2,069	-2.8%	2,049	-3.7%	2,069	-2.8%
Tri-County	567	564	-0.5%	556	-2.0%	584	3.0%	584	3.0%
Vance-Granville	2,098	2,031	-3.2%	2,056	-2.0%	2,049	-2.3%	2,056	-2.0%
Wake Technical	4,409	4,525	2.6%	4,474	1.5%	4,541	3.0%	4,541	3.0%
Wayne	2,209	2,119	-4.1%	2,202	-0.3%	2,119	-4.1%	2,202	-0.3%
Western Piedmont	1,678	1,662	-1.0%	1,668	-0.6%	1,695	1.0%	1,695	1.0%
Wilkes	1,568	1,433	-8.6%	1,423	-9.3%	1,609	2.6%	1,609	2.6%
Wilson	1,080	1,071	-0.8%	1,058	-2.0%	1,111	2.9%	1,111	2.9%
Total	107,516	104,545	-2.8%	105,712	-1.7%	106,093	-1.3%	107,621	0.1%

EXHIBIT 2-3
COMPARISON OF FUNDED FTE ENROLLMENT
2/3 RULE VS. MODIFIED 3-YEAR ROLLING AVERAGE

	CURRICULUM		BASIC SKILLS		OCCUPATIONAL		COMBINED	
COLLEGES	3/5 Rule Becomes 2/3 Rule	Higher of Current or 3-Yr Ave	3/5 Rule Becomes 2/3 Rule	Higher of Current or 3-Yr Ave	3/5 Rule Becomes 2/3 Rule	Higher of Current or 3-Yr Ave	3/5 Rule Becomes 2/3 Rule	Higher of Current or 3-Yr Ave
Alamance	(97)	(129)	(11)	(15)	1	5	(107)	(139)
Anson	(9)	(28)	(8)	(11)	8	10	(9)	(29)
Asheville-Buncombe	8	63	19	24	0	(15)	27	72
Beaufort County	4	25	(22)	(18)	0	(1)	(18)	6
Bladen	0	(16)	(14)	(10)	(10)	(15)	(24)	(41)
Blue Ridge	(54)	(69)	9	12	(23)	(30)	(68)	(87)
Brunswick	(4)	(18)	0	(1)	(11)	(11)	(15)	(30)
Caldwell	0	(13)	0	1	(11)	(26)	(11)	(38)
Cape Fear	471	524	0	(1)	(46)	(35)	425	488
Carteret	0	18	4	7	8	11	12	36
Catawba Valley	0	(51)	(12)	(15)	(20)	(26)	(32)	(92)
Central Carolina	17	66	0	(9)	54	60	71	117
Central Piedmont	(441)	(594)	0	(2)	(1)	(10)	(442)	(606)
Cleveland	0	(16)	(25)	(22)	6	9	(19)	(29)
Coastal Carolina	(174)	(209)	(20)	(19)	135	146	(59)	(82)
Albemarle	0	(17)	38	42	(5)	(17)	33	8
Craven	(107)	(129)	7	9	0	(3)	(100)	(123)
Davidson County	0	(19)	0	(4)	6	14	6	(9)
Durham	(9)	(91)	10	17	0	2	1	(72)
Edgecombe	0	(26)	57	62	(1)	(9)	56	27
Fayetteville	(154)	(238)	0	3	(303)	(249)	(457)	(484)
Forsyth	(107)	(189)	31	39	0	(11)	(76)	(161)
Gaston	(256)	(272)	(5)	(14)	42	47	(219)	(239)
Guilford	0	(29)	0	(9)	(43)	(36)	(43)	(74)
Halifax	(32)	(56)	(16)	(16)	0	2	(48)	(70)
Haywood	54	78	4	5	37	39	95	122
Isothermal	(23)	(61)	(8)	(7)	(1)	(5)	(32)	(73)
James Sprunt	(4)	(31)	(21)	(15)	(1)	(5)	(26)	(51)
Johnston	(167)	(175)	0	(6)	9	13	(158)	(168)
Lenoir	(110)	(133)	(1)	(14)	21	26	(90)	(121)
Martin	(47)	(61)	(14)	(14)	12	15	(49)	(60)
Mayland	(4)	(35)	(8)	(8)	(3)	(8)	(15)	(51)
Mcdowell	0	(15)	0	(11)	(9)	(10)	(9)	(36)
Mitchell	0	19	(7)	(8)	0	(2)	(7)	9
Montgomery	0	(4)	(2)	(2)	(13)	(9)	(15)	(15)
Nash	106	129	2	6	41	45	149	180
Pamlico	(19)	(14)	(2)	(2)	(2)	(3)	(23)	(19)
Piedmont	156	175	(7)	(9)	0	(3)	149	163
Pitt	80	143	27	30	29	33	136	206
Randolph	(5)	(55)	0	(4)	0	(4)	(5)	(63)
Richmond	0	(26)	0	2	15	19	15	(5)
Roanoke-Chowan	(30)	(47)	(18)	(16)	(5)	(6)	(53)	(69)
Robeson	0	(30)	23	32	17	23	40	25
Rockingham	(43)	(78)	(8)	(14)	41	45	(10)	(47)
Rowan-Cabarrus	42	86	(14)	(17)	(19)	(22)	9	47
Sampson	(25)	(56)	27	32	38	40	40	16
Sandhills	(77)	(137)	(15)	(23)	(8)	(22)	(100)	(182)
Southeastern	(39)	(94)	2	6	22	25	(15)	(63)
Southwestern	0	(22)	12	14	0	(28)	12	(36)
Stanly	0	(3)	(6)	(13)	(8)	(13)	(14)	(29)
Surry	(10)	(74)	0	0	11	18	1	(56)
Tri-County	92	103	11	11	17	19	120	133
Vance-Granville	0	(21)	(13)	(15)	52	58	39	22
Wake Technical	484	572	85	97	(31)	(50)	538	619
Wayne	(26)	(92)	(17)	(20)	58	65	15	(47)
Western Piedmont	0	(2)	0	(8)	12	15	12	5
Wilkes	0	(82)	0	(4)	17	24	17	(62)
Wilson	0	(1)	0	1	0	(6)	0	(6)
Total	(559)	(1557)	74	56	135	138	(350)	(1363)

For the near-term, we are concerned that any of the rolling average alternatives would create undue hardship on students already enrolled at colleges whose FTE levels are down from prior years and who would be subject to significant budget reductions. For this reason, we recommend that the initial change from the 3/5 rule be to a 2/3 rule effective with the 1999-2000 fiscal year. Even this approach, if implemented immediately, would cause 33 colleges to suffer budget reductions from current levels, but 24 colleges will have their recent growth recognized with greater allocations.

After the colleges have had an opportunity to adjust to this tighter enrollment corridor and, perhaps, to rebuild their enrollments, we recommend that the modified 3-year rolling average technique be adopted. The viability of a modified 3-year rolling average could be further enhanced if special protection were provided to a limited number of colleges who have experienced significant enrollment loss. Once the initial impact of this approach has been absorbed, we believe that this technique will provide the proper balance over the long run to being responsive to growth while still being sensitive to the problems caused by temporary enrollment downturns.

3.0 OCCUPATIONAL EXTENSION

3.0 OCCUPATIONAL EXTENSION

3.1 Background

One of the primary programs of instruction offered by the NCCCS is known as "occupational extension." Occupational extension courses are designed for the specific purposes of training an individual for employment, upgrading the skills of persons presently employed, and retraining others for new employment in occupational fields. Economic development officials often cite the availability of occupational extension programs as a critical element in their ability of attract and retain well-paying jobs for the people of the state.

Historically, occupational extension instruction has been funded at a rate per FTE student that was significantly below that for curriculum instruction. Due to concerns that this critically important program was not being funded at a level adequate to enable the colleges to respond to the needs of local industry, the 1996 General Assembly included a special provision that instructed the State Board of Community Colleges to develop:

> ". . . a plan to increase the level of funding for occupational extension courses to the funding level for curriculum courses . . . "

Our Phase 1 report recommended that occupational extension programs be funded at parity with curriculum instruction programs. In particular, we recommended that the formula for occupational extension include:

- a sliding scale to calculate instructional units required, with:
  - a staffing ratio of 17.8:1 for the first 500 FTE students, and
  - a staffing ratio of 21.55:1 for enrollment beyond 500 FTE
- the same value per instructional unit as curriculum instruction,
- the same treatment for fringe benefits as curriculum instruction, and

- the same rate per FTE student for other costs.

We further recommended that any subsequent changes in the funding model for curriculum instruction should also apply to occupational extension in order to maintain parity.

Although the General Assembly responded favorably to the State Board's request for more parity in funding for occupational extension programs by appropriating $10 million in recurring support, lingering concerns related to the need for the sliding scale remained. In its 1997 session, the General Assembly enacted a new special provision (section 9.2) that called on the State Board to:

> ". . . reexamine whether and the extent to which the faculty-student ratio for occupational extension programs should vary by college size. The State Board shall also consider the appropriate funding level for occupational extension programs based on analysis of cost."

3.2 Further Analyses Conducted During Phase 3

As the first step in the reexamination of the occupational extension funding formula, we sought to learn more about other states' practices in funding similar programs. Due to differences in delivery systems and nomenclature across the states, comparisons proved to be difficult. Nonetheless, we found that the approaches used by other states are mixed, and that no single pattern prevails. Some states require all non-credit instruction to be self-supporting, while others appear to subscribe to the parity concept. Exhibit 3-1 summarizes the survey results related to funding for occupational extension programs. Just under half of the responding states provide appropriations for occupational extension. The majority of those states fund occupational extension at parity with curriculum instruction.

EXHIBIT 3-1
FUNDING POLICIES IN OTHER STATES FOR OCCUPATIONAL EXTENSION PROGRAMS

State (1),(2)	Does state provide formula funding for occupational extension?		If Yes, is rate the same for Academic courses and occupational Extension courses?		If rate is different, describe how occupational extension courses are funded.	No Response
	No	Yes	Yes	No		
California		X		X	All non-credit instruction is funded at the same rate for all colleges.	
Florida	X				Self-supporting.	
Georgia		X		X	Separate line request in formula for community education.	
Hawaii	X					
Illinois		X	X			
Kansas	X				Non-credit courses are self-supporting.	
Louisiana	X					
Maryland		X	X			
Mississippi	X				Workforce projects are funded on a project by project basis currently.	
Nebraska	X					
Nevada	X					
New Jersey	X					
New Mexico	X				Self-supporting.	
New York						X
North Carolina		X	X			
North Dakota	X				Campus-based decisions, often funded with fees charged for the courses.	
Ohio		X		X		
Oklahoma	X				Fees cover at least a portion of cost. Could come from lump sum appropriations.	
Oregon		X	X		Some but not all.	
Pennsylvania		X		X	70% of basic ($1260/FTE), or 882 per FTE	
Tennessee	X				None except direct fees or contracts.	
Texas		X	X		Contracts w/TX Workforce Commission and companies.	
Washington		X	X			
West Virginia	X					
Wisconsin		X	X			
Wyoming		X		X	$30/day/student (6 hour day).	
Total	**13**	**12**	**7**	**5**		**1**
% of Total	**52%**	**48%**	**58%**	**42%**		

Notes

(1) Alabama, Indiana, Massachusetts, Michigan, New Hampshire, South Carolina, South Dakota, Utah, and Virginia did not respond to the survey.

(2) Alaska, Arizona, Arkansas, Colorado, Connecticut, Delaware, Idaho, Iowa, Kentucky, Maine, Minnesota, Missouri, Montana, Rhode Island, and Vermont responded to the survey, but indicated they do not currently use a formula.

Given the concerns of the General Assembly about the sliding scale aspects of the previous recommendation for parity funding between occupational extension and curriculum instruction, we compiled data to analyze whether average class size varies according to the size of the occupational extension programs of the colleges. As shown in Exhibit 3-2, those colleges with the smallest occupational extension programs (i.e., those with fewer than 100 FTE), enrolled 13.4 students per class while the largest programs (i.e., those with more than 500 FTE) averaged 16.1 students per class. Colleges in the three middle-size categories had average class size rates in the range of 15 students. Thus, recent class size data provide confirmation of the economy of scale phenomena in occupational extension programs. Once the colleges have operated under the parity funding model for several years with potentially increased numbers of students, further analysis of class size should be conducted.

EXHIBIT 3-2
ANALYSIS OF AVERAGE CLASS SIZE
FOR OCCUPATIONAL EXTENSION COURSES

Occupational Extension FTE Enrollment	Average Number of Classes	Average Unduplicated Headcount	Average Class Size
Less Than 100	170.1	2,215.3	13.4
101-200	365.5	5,433.8	15.1
201-300	504.8	7,401.7	14.7
300-500	620.0	9,366.6	15.3
501 and More	1,249.3	19,536.2	16.1

The final step in our analysis was to examine how the colleges were deploying their expanded 1998-99 appropriations for occupational extension. Basically, we would expect to see all new funds used for their intended purpose if parity funding was needed even though there was little planning time between the appropriation and start of the fiscal year. As seen in Exhibit 3-3, the System allocated several percent more to

occupational extension that it received in legislative appropriations. That is, occupational extension programs appear to "cost" more slightly than the amount of the enhanced appropriations level.

3.3 Recommendation

After reexamination of the new funding approach for occupational extension, we continue to find that such programs are integral to the mission and success of community colleges in the state. We feel that small class sizes are the standard for occupational extension programs at small colleges and that most colleges (regardless of size) are budgeting more for this program than they receive in state appropriations. Accordingly, we recommend that the funding formula for occupational extension instruction continue to be calculated at parity with the formula for curriculum instruction.

EXHIBIT 3-3
INTERNAL ALLOCATIONS OF 1997-98
OCCUPATIONAL EXTENSION APPROPRIATIONS

Institutions	Total Beginning Occupational Formula Budgets	Net Transfers Occupational	Occupational Extension Budget Ending 12/97	Transfers as % of Beginning	Add-Back Transfers to Occupational Educational Equipment	Amended Occupational Budget (including Equipment)	Budget Percentage Increase (Decrease) Current Operating
Alamance	397,010	(5,000)	392,010	-1.3%		392,010	-1.3%
Anson	176,877		176,877	0.0%		176,877	0.0%
Asheville-Buncombe	794,133	9,699	803,832	1.2%		803,832	1.2%
Beaufort County	490,500	(24,169)	466,331	-4.9%	24,169	490,500	0.0%
Bladen	116,765		116,765	0.0%		116,765	0.0%
Blue Ridge	640,642	(30,000)	610,642	-4.7%	30,000	640,642	0.0%
Brunswick	270,311	(7,399)	262,912	-2.7%		262,912	-2.7%
Caldwell	550,502		550,502	0.0%		550,502	0.0%
Cape Fear	703,992		703,992	0.0%		703,992	0.0%
Carteret	246,925		246,925	0.0%		246,925	0.0%
Catawba Valley	597,218	(102,452)	494,766	-17.2%		494,766	-17.2%
Central Carolina	550,502		550,502	0.0%		550,502	0.0%
Central Piedmont	1,437,855	(30,439)	1,407,416	-2.1%		1,407,416	-2.1%
Cleveland	280,246		280,246	0.0%		280,246	0.0%
Coastal Carolina	1,038,325	(90,000)	948,325	-8.7%	90,000	1,038,325	0.0%
Albemarle	326,963		326,963	0.0%		326,963	0.0%
Craven	590,576		590,576	0.0%		590,576	0.0%
Davidson County	737,369	76,600	813,969	10.4%		813,969	10.4%
Durham	593,925		593,925	0.0%		593,925	0.0%
Edgecombe	150,142		150,142	0.0%		150,142	0.0%
Fayetteville	3,637,115	271,339	3,908,454	7.5%		3,908,454	7.5%
Forsyth	1,196,172		1,196,172	0.0%		1,196,172	0.0%
Gaston	433,793		433,793	0.0%		433,793	0.0%
Guilford	1,212,973	59,927	1,272,900	4.9%		1,272,900	4.9%
Halifax	330,368		330,368	0.0%		330,368	0.0%
Haywood	210,199	81,468	291,667	38.8%		291,667	38.8%
Isothermal	220,189		220,189	0.0%		220,189	0.0%
James Sprunt	163,537		163,537	0.0%		163,537	0.0%
Johnston	370,331		370,331	0.0%		370,331	0.0%
Lenoir	513,831		513,831	0.0%		513,831	0.0%
Martin	233,585		233,585	0.0%		233,585	0.0%
Mayland	367,038	(10,582)	356,456	-2.9%		356,456	-2.9%
Mcdowell	150,142		150,142	0.0%		150,142	0.0%
Mitchell	370,331		370,331	0.0%		370,331	0.0%
Montgomery	130,160	1,486	131,646	1.1%		131,646	1.1%
Nash	403,708		403,708	0.0%		403,708	0.0%
Pamlico	53,358	33,072	86,430	62.0%		86,430	62.0%
Piedmont	130,104	133	130,237	0.1%		130,237	0.1%
Pitt	380,378	(7,439)	372,939	-2.0%		372,939	-2.0%
Randolph	580,586		580,586	0.0%		580,586	0.0%
Richmond	370,387	8,000	378,387	2.2%		378,387	2.2%
Roanoke-Chowan	93,378	(5,000)	88,378	-5.4%	5,000	93,378	0.0%
Robeson	557,255	1,130	558,385	0.2%		558,385	0.2%
Rockingham	370,331		370,331	0.0%		370,331	0.0%
Rowan-Cabarrus	824,161	38,407	862,568	4.7%		862,568	4.7%
Sampson	220,189	16,577	236,766	7.5%		236,766	7.5%
Sandhills	597,274	(31,964)	565,310	-5.4%		565,310	-5.4%
Southeastern	270,255	40,270	310,525	14.9%		310,525	14.9%
Southwestern	613,963		613,963	0.0%		613,963	0.0%
Stanly	377,085		377,085	0.0%		377,085	0.0%
Surry	690,652		690,652	0.0%		690,652	0.0%
Tri-County	153,434		153,434	0.0%		153,434	0.0%
Vance-Granville	583,935	243,350	827,285	41.7%		827,285	41.7%
Wake Technical	1,427,752		1,427,752	0.0%		1,427,752	0.0%
Wayne	623,953		623,953	0.0%		623,953	0.0%
Western Piedmont	306,926		306,926	0.0%		306,926	0.0%
Wilkes	613,963		613,963	0.0%		613,963	0.0%
Wilson	510,538		510,538	0.0%		510,538	0.0%
TOTAL	30,984,107	537,014	31,521,121	1.7%	149,169	31,670,290	2.2%

4.0 EQUIPMENT

4.0 EQUIPMENT

4.1 Background

During Phase 1 of the funding study, one of the initial project activities was to determine the perceived strengths and weaknesses of the current funding process from the perspective of campus presidents. Through a series of six regional meetings, we identified a number of features of the current formula that were felt to need further enhancement. One part of the formula that was a source of concern to many presidents was the procedure for allocating equipment monies.

Student access to equipment is a critical element in a quality instructional experience. For instructional programs in vocational and technical fields, such as those emphasized by the System, the need for state-of-the-art equipment is especially pronounced. As noted in the phase 1 report, the vast majority of funding for equipment is currently based on a depreciation/replacement concept although the model also includes components for a base allotment and per-student funding.

Overall, the concerns with the current equipment funding formula were modest. Beyond the pervasive feeling that significantly greater appropriations for equipment were needed, the only major concern was that the depreciation step was "incomprehensible" and seemed to perpetuate significant, historic inequities in the distribution of equipment funds. There seemed to be a broad acceptance of the features of the current formula that provide a base allotment to each college regardless of its enrollment level and that provide greater equipment funding per FTE student in the vocational-technical fields than in college transfer programs.

Concern about the inadequate level of equipment was further documented in September, 1997, when the NCCCS conducted a survey of the 58 colleges to identify

current unmet needs. As shown in Exhibit 4-1, the survey determined needs by purpose and by type of equipment. Overall, $131.7 million of needs were identified. The major purposes were to "equip shops and labs" representing 38.9 percent of total need and "equip classrooms" at 28.2 percent. Computers and machinery/mechanical were the two major types of equipment needed, at 41.1 percent and 32.2 percent, respectively.

EXHIBIT 4-1
SUMMARY OF CURRENT EQUIPMENT NEEDS
AS DETERMINED BY SEPTEMBER 1997 SURVEY
NORTH CAROLINA COMMUNITY COLLEGE SYSTEM
(Amounts in Millions of Dollars)

Purpose of Equipment	Amount Needed	% of Total	Type of Equipment	Amount Needed	% of Total
Equip Classrooms	$ 37.17	28.2%	Automotive	$ 5.61	4.3%
Equip Shops & Labs	51.17	38.9%	Computers	54.13	41.1%
Equip High Cost Programs	14.07	10.7%	Furniture	8.42	6.4%
Enhance Instructional Support	16.66	12.7%	Health	6.29	4.8%
Enhance Administrative Activities	12.61	9.6%	Library	0.79	0.6%
			Machinery/Mechanical	42.45	32.2%
			Other	1.41	1.1%
			Support	12.59	9.6%
Total	$ 131.69	100.0%		$ 131.69	100.0%

4.2 Further Analyses Conducted During Phase 3

To assist in determining possible alternative treatments for equipment funding, we surveyed other state community college boards across the nation to learn more about their formula provisions. As seen in Exhibit 4-2, slightly over half of the responding states reported a specific formula provision for equipment.

A major challenge in the design of a revised allocation formula for equipment was the existence of several instructional programs with extremely high requirements for expensive equipment at a limited number of colleges. To determine the magnitude of

EXHIBIT 4-2
FUNDING APPROACHES USED BY OTHER STATES FOR EQUIPMENT

State (1),(2)	Formula for Equipment		How?	No Response
	Yes	No		
California		X	Funded by state, not in formula. $/FTE with a minimum per district.	
Florida		X		
Georgia		X		
Hawaii		X		
Illinois	X		Based on credit hours.	
Kansas		X	State technology grants	
Louisiana	X		As part of basic support calculation.	
Maryland		X		
Mississippi	X		A majority of formula funds are unrestricted grant to colleges.	
Nebraska				X
Nevada		X		
New Jersey		X		
New Mexico	X			
New York				X
North Carolina	X		Combination of rates per weighted FTE, depreciation, and base allocation.	
North Dakota		X	Despite component within formula, request for FY98 was not based on formula amount.	
Ohio				X
Oklahoma	X		The formula results in a lump sum allocation to institutions.	
Oregon		X		
Pennsylvania	X		If part of pre-approved, equipped facility, it is "mandated", otherwise "non-mandated."	
Tennessee	X			
Texas	X		Institutions can use appropriated funds for equipment.	
Washington	X		The equipment allocation doesn't cover all equipment costs of colleges.	
West Virginia		X		
Wisconsin	X			
Wyoming	X		Replacement-15% of equipment valuation.	
Total	**12**	**11**		**3**
% of Total	**52%**	**48%**		

Notes

(1) Alabama, Indiana, Massachusetts, Michigan, New Hampshire, South Carolina, South Dakota, Utah, and Virginia did not respond to the survey.

(2) Alaska, Arizona, Arkansas, Colorado, Connecticut, Delaware, Idaho, Iowa, Kentucky, Maine, Minnesota, Missouri, Montana, Rhode Island, and Vermont responded to the survey, but indicated they do not currently use a formula.

the situation, NCCCS staff determined the actual equipment expenditures for each of these programs for each of the past three years. This data, which shows annual expenditures in the $600,000 range, is summarized in Exhibit 4-3.

EXHIBIT 4-3
ESTIMATED REQUIREMENTS FOR SPECIAL ALLOCATIONS FOR EQUIPMENT FOR EXCEPTIONALLY HIGH COST PROGRAMS

Colleges with High Cost Programs	Program Description	Actual Expenditures 1994-95	1995-96	1996-97	3-Year Average	Estimated* Requirements
Caldwell CC & TI	Truck Driving	98,000	61,390	39,550	66,313	66,313
Cape Fear CC	Marine Technology	15,561	30,887	13,763	20,070	20,070
Haywood CC	Saw Mill	84,306	11,348	128,162	74,605	74,605
	Robotics	24,051	104,384	111,357	79,931	79,931
Johnston CC	Truck Driving	251,238	160,415	101,279	170,977	170,977
Wilson TCC	Heavy Equipment	198,892	114,259	120,807	144,653	144,653
Total		672,048	482,683	514,918	556,550	556,550

*Estimated Requirements calculated as 10 percent more than the 3-year average to reflect inflationary adjustment.

Note: Enrollment associated with the high cost programs which receive a special allocation for equipment would not be counted in the equipment formula calculations.

As with other parts of the NCCCS formula, provision for the inability of some colleges to achieve economy of scale is needed in the equipment formula. To determine an appropriate amount for a base allotment for each college, regardless of its enrollment level, we considered several different approaches. First, we sought simply to update the current base allotment rate to reflect the impact of inflation since the current formula was implemented. Second, we conducted a regression analysis of current enrollment levels against total equipment funding to estimate the level of equipment funding that would be in place with no students. Finally, we reviewed the national survey data to search for base funding rates for equipment in other states. A summary of the results of these three methods is seen in Exhibit 4-4.

EXHIBIT 4-4
COMPARISON OF ESTIMATION TECHNIQUES FOR BASE ALLOTMENT FOR EQUIPMENT ALLOCATION

Methodology	Base Allotment
Estimate based on adjustment for price-level inflation since inception of equipment formula	
HEPI price inflator	$ 83,961
CPI price inflator	$ 99,861
Estimate based on regression analysis of 1996-97 allocation and unweighted FTE enrollment	$ 146,103
Typical base allotment used in community college equipment formulas in other states	$ 100,000
Most representative estimate for base allotment	$ 100,000

A final challenge in updating the equipment formula was the need to establish Equipment FTE (E-FTE) rates for the recently redefined program areas. For this purpose, we aggregated enrollments for the several programs into three broad categories for purposes of the equipment allocation:

- Low equipment intensity programs – college transfer, general education and basic skills programs
- Moderate equipment intensity programs – occupation extension program
- High equipment intensity programs – technical education and vocational education programs.

Exhibit 4-5 lists the current FTE enrollment by college in each of the three equipment categories.

EXHIBIT 4-5
FTE ENROLLMENT BY PROGRAM CATEGORY

	Low Equipment Intensity Programs					Moderate Intensity		High Equipment Intensity Programs				
College	College Transfer	General Education	Basic Skills	Subtotal	Percent of Total	Occupational Education	Percent of Total	Technical Education	Vocational Education	Subtotal	Percent of Total	Total
Alamance	-	218	211	429	20%	211	10%	1,307	234	1,541	71%	2,181
Anson	39	35	137	211	21%	87	9%	495	199	694	70%	992
Asheville-Buncombe	443	-	262	705	23%	413	13%	1,663	279	1,942	63%	3,060
Beaufort County	177	-	186	363	28%	232	18%	545	151	696	54%	1,291
Bladen	1	164	46	211	32%	64	10%	161	225	386	58%	661
Blue Ridge	241	-	118	359	27%	309	23%	397	286	683	51%	1,351
Brunswick	179	-	155	334	40%	138	16%	200	169	369	44%	841
Caldwell	487	-	238	725	32%	279	12%	999	282	1,281	56%	2,285
Cape Fear	920	38	246	1,204	42%	339	12%	1,057	234	1,291	46%	2,834
Carteret	220	-	121	341	30%	123	11%	521	157	678	59%	1,142
Catawba Valley	381	-	148	529	21%	287	11%	1,433	259	1,692	67%	2,508
Central Carolina	188	98	619	905	29%	309	10%	1,319	551	1,870	61%	3,084
Central Piedmont	2,390	528	659	3,577	43%	854	10%	3,422	549	3,971	47%	8,402
Cleveland	250	77	181	508	35%	141	10%	433	361	794	55%	1,443
Coastal Carolina	1,180	-	207	1,387	45%	577	19%	820	327	1,147	37%	3,111
Albemarle	381	40	183	604	40%	166	11%	556	190	746	49%	1,516
Craven	348	102	106	556	35%	310	20%	492	219	711	45%	1,577
Davidson County	341	-	148	489	24%	390	19%	925	264	1,189	57%	2,068
Durham	472	64	306	842	31%	294	11%	1,454	136	1,590	58%	2,726
Edgecombe	106	-	236	342	21%	80	5%	936	274	1,210	74%	1,632
Fayetteville	558	744	586	1,888	26%	1,908	26%	2,860	616	3,476	48%	7,272
Forsyth	428	-	377	805	22%	671	18%	1,953	294	2,247	60%	3,723
Gaston	960	502	246	1,708	49%	191	6%	1,288	285	1,573	45%	3,472
Guilford	896	-	345	1,241	28%	687	16%	2,121	335	2,456	56%	4,384
Halifax	158	-	168	326	24%	188	14%	577	270	847	62%	1,361
Haywood	131	29	67	227	19%	113	9%	600	264	864	72%	1,204
Isothermal	303	-	137	440	35%	113	9%	520	189	709	56%	1,262
James Sprunt	118	10	120	248	27%	88	10%	359	227	586	64%	922
Johnston	319	-	266	585	23%	189	8%	757	960	1,717	69%	2,491
Lenoir	390	-	328	718	37%	265	13%	813	169	982	50%	1,965
Martin	74	12	159	245	31%	125	16%	282	132	414	53%	784
Mayland	91	12	85	188	23%	192	24%	285	140	425	53%	805
Mcdowell	76	68	152	296	32%	77	8%	364	194	558	60%	931
Mitchell	273	-	103	376	30%	195	15%	597	104	701	55%	1,272
Montgomery	22	7	38	67	11%	58	10%	291	193	484	79%	609
Nash	234	-	181	415	30%	216	16%	619	136	755	54%	1,386
Pamlico	7	12	32	51	29%	24	14%	98	-	98	57%	173
Piedmont	58	-	112	170	18%	67	7%	349	366	715	75%	952
Pitt	632	-	171	803	26%	210	7%	1,827	271	2,098	67%	3,111
Randolph	-	110	205	315	22%	319	22%	732	63	795	56%	1,429
Richmond	159	-	404	563	41%	190	14%	468	161	629	46%	1,382
Roanoke-Chowan	78	4	118	200	26%	46	6%	385	139	524	68%	770
Robeson	88	2	443	533	28%	292	16%	673	376	1,049	56%	1,874
Rockingham	359	3	91	453	31%	191	13%	584	249	833	56%	1,477
Rowan-Cabarrus	373	-	205	578	23%	431	18%	1,155	296	1,451	59%	2,460
Sampson	124	79	262	465	43%	123	11%	351	154	505	46%	1,093
Sandhills	568	29	242	839	35%	295	12%	1,086	193	1,279	53%	2,413
Southeastern	447	-	248	695	43%	144	9%	453	337	790	48%	1,629
Southwestern	55	164	87	306	20%	290	19%	862	75	937	61%	1,533
Stanly	98	-	129	227	16%	178	13%	794	178	972	71%	1,377
Surry	526	-	126	652	30%	361	16%	948	240	1,188	54%	2,201
Tri-County	163	-	22	185	30%	73	12%	229	121	350	58%	608
Vance-Granville	286	-	193	479	21%	320	14%	851	606	1,457	65%	2,256
Wake Technical	925	79	603	1,607	31%	776	15%	2,425	431	2,856	55%	5,239
Wayne	601	-	289	890	36%	347	14%	988	237	1,225	50%	2,462
Western Piedmont	402	7	407	816	40%	162	8%	865	182	1,047	52%	2,025
Wilkes	353	-	160	513	31%	313	19%	775	57	832	50%	1,658
Wilson	82	1	163	246	18%	286	21%	589	244	833	61%	1,365
Total	20,159	3,238	12,583	35,980	30%	16,317	14%	50,908	14,830	65,738	56%	118,035

4.3 Recommendation

We recommend that the funding model to be used for allocating equipment appropriations contain three major components:

- A provision for a base allotment for each college regardless of its enrollment level,
- A provision to recognize the needs of those colleges that offer those programs that are widely recognized to encounter extremely high equipment costs, and
- A provision for distributing the majority of available funding on an equipment-FTE basis.

Based on our several analyses to determine an appropriate range for the base allotment, we recommend that it be re-established at $100,000 per college. For the provision for the several extremely high cost programs, we simply recommend that the average of actual expenditures over the past three years, plus an allowance for inflation, be established as an ongoing allowance. Finally, we recommend that the balance of the equipment appropriation be allocated on an E-FTE basis with program weights as follows:

Category	Weight
low equipment intensity programs	0.50
moderate intensity programs	0.75
high intensity programs	1.00

The colleges, of course, should continue to be granted flexibility to invest their equipment allocations in any program category in any given year regardless of the category in which the funds were generated.

A simulated allocation based on this methodology is shown as Exhibit 4-6. The several colleges that would suffer the greatest reduction in equipment allocations

appear to be those who have been best able to leverage their equipment inventory in past years through the depreciation-based allocation.

EXHIBIT 4-6
SIMULATION OF WEIGHTED FTE EQUIPMENT ALLOCATION

	Actual FTE			Equipment FTE										
College	Low Intensity	Moderate Intensity	High Intensity	Low X 0.50	Med X 0.75	High X 1.00	Total	Base Allotment $100,000 Each	Exceptionally High Cost Programs	E-FTE Allotment $87.6/E-FTE	FY 1997-98 Simulated Allotment	FY 1997-98 Actual Allotment	Increase/ Decrease
Alamance	429	211	1,541	215	158	1,541	1,914	100,000		358,069	458,069	441,499	16,570
Anson	211	87	694	106	65	694	865	100,000		161,823	261,823	209,998	51,825
Asheville-Buncombe	705	413	1,942	353	310	1,942	2,605	100,000		487,341	587,341	587,058	283
Beaufort County	363	232	696	182	174	696	1,052	100,000		196,807	296,807	279,593	17,214
Bladen	211	64	386	106	48	386	540	100,000		101,023	201,023	147,696	53,327
Blue Ridge	359	309	683	180	232	683	1,095	100,000		204,852	304,852	339,558	(34,706)
Brunswick	334	138	369	167	104	369	640	100,000		119,731	219,731	145,343	74,388
Caldwell	725	279	1,281	363	209	1,281	1,853	100,000	72,945	346,657	519,602	433,558	86,044
Cape Fear	1,204	339	1,291	602	254	1,291	2,147	100,000	22,077	401,659	523,736	612,963	(89,227)
Carteret	341	123	678	171	92	678	941	100,000		176,041	276,041	297,116	(21,075)
Catawba Valley	529	287	1,692	265	215	1,692	2,172	100,000		406,336	506,336	824,855	(318,519)
Central Carolina	905	309	1,870	453	232	1,870	2,555	100,000		477,987	577,987	585,406	(7,419)
Central Piedmont	3,577	854	3,971	1,789	641	3,971	6,401	100,000		1,197,493	1,297,493	1,158,479	139,014
Cleveland	508	141	794	254	106	794	1,154	100,000		215,889	315,889	296,463	19,426
Coastal Carolina	1,387	577	1,147	694	433	1,147	2,274	100,000		425,418	525,418	560,800	(35,382)
Albemarle	604	166	746	302	125	746	1,173	100,000		219,444	319,444	244,620	74,824
Craven	556	310	711	278	233	711	1,222	100,000		228,611	328,611	375,626	(47,015)
Davidson County	489	390	1,189	245	293	1,189	1,727	100,000		323,085	423,085	364,962	58,123
Durham	842	294	1,590	421	221	1,590	2,232	100,000		417,560	517,560	568,578	(51,018)
Edgecombe	342	80	1,210	171	60	1,210	1,441	100,000		269,581	369,581	304,634	64,947
Fayetteville	1,888	1,908	3,476	944	1,431	3,476	5,851	100,000		1,094,599	1,194,599	1,176,636	17,963
Forsyth	805	671	2,247	403	503	2,247	3,153	100,000		589,860	689,860	695,208	(5,348)
Gaston	1,708	191	1,573	854	143	1,573	2,570	100,000		480,793	580,793	631,082	(50,289)
Guilford	1,241	687	2,456	621	515	2,456	3,592	100,000		671,988	771,988	865,754	(93,766)
Halifax	326	188	847	163	141	847	1,151	100,000		215,328	315,328	265,810	49,518
Haywood	227	113	864	114	85	864	1,063	100,000	169,990	198,865	468,855	519,553	(50,698)
Isothermal	440	113	709	220	85	709	1,014	100,000		189,698	289,698	377,536	(87,838)
James Sprunt	248	88	586	124	66	586	776	100,000		145,173	245,173	200,639	44,534
Johnston	585	189	1,717	293	142	1,717	2,152	100,000	188,075	402,594	690,669	710,902	(20,233)
Lenoir	718	265	982	359	199	982	1,540	100,000		288,102	388,102	541,961	(153,859)
Martin	245	125	414	123	94	414	631	100,000		118,047	218,047	179,857	38,190
Mayland	188	192	425	94	144	425	663	100,000		124,033	224,033	207,978	16,055
Mcdowell	296	77	558	148	58	558	764	100,000		142,928	242,928	156,935	85,993
Mitchell	376	195	701	188	146	701	1,035	100,000		193,627	293,627	253,749	39,878
Montgomery	67	58	484	34	44	484	562	100,000		105,138	205,138	152,849	52,289
Nash	415	216	755	208	162	755	1,125	100,000		210,464	310,464	306,497	3,967
Pamlico	51	24	98	26	18	98	142	100,000		26,565	126,565	85,665	40,900
Piedmont	170	67	715	85	50	715	850	100,000		159,017	259,017	210,607	48,410
Pitt	803	210	2,098	402	158	2,098	2,658	100,000		497,256	597,256	562,241	35,015
Randolph	315	319	795	158	239	795	1,192	100,000		222,998	322,998	322,446	552
Richmond	563	190	629	282	143	629	1,054	100,000		197,181	297,181	343,073	(45,892)
Roanoke-Chowan	200	46	524	100	35	524	659	100,000		123,285	223,285	196,105	27,180
Robeson	533	292	1,049	267	219	1,049	1,535	100,000		287,166	387,166	359,424	27,742
Rockingham	453	191	833	227	143	833	1,203	100,000		225,056	325,056	334,198	(9,142)
Rowan-Cabarrus	578	431	1,451	289	323	1,451	2,063	100,000		385,944	485,944	557,148	(71,204)
Sampson	465	123	505	233	92	505	830	100,000		155,276	255,276	273,169	(17,893)
Sandhills	839	295	1,279	420	221	1,279	1,920	100,000		359,192	459,192	415,475	43,717
Southeastern	695	144	790	348	108	790	1,246	100,000		233,100	333,100	291,056	42,044
Southwestern	306	290	937	153	218	937	1,308	100,000		244,699	344,699	480,766	(136,067)
Stanly	227	178	972	114	134	972	1,220	100,000		228,236	328,236	272,387	55,849
Surry	652	361	1,188	326	271	1,188	1,785	100,000		333,936	433,936	392,774	41,162
Tri-County	185	73	350	93	55	350	498	100,000		93,165	193,165	156,064	37,101
Vance-Granville	479	320	1,457	240	240	1,457	1,937	100,000		362,372	462,372	458,148	4,224
Wake Technical	1,607	776	2,856	804	582	2,856	4,242	100,000		793,589	893,589	793,920	99,669
Wayne	890	347	1,225	445	260	1,225	1,930	100,000		361,062	461,062	458,144	2,918
Western Piedmont	816	162	1,047	408	122	1,047	1,577	100,000		295,024	395,024	342,762	52,262
Wilkes	513	313	832	257	235	832	1,324	100,000		247,693	347,693	394,298	(46,605)
Wilson	246	286	833	123	215	833	1,171	100,000	159,118	219,070	478,188	648,111	(169,923)
Total	35,980	16,317	65,738	18,007	12,244	65,738	95,989	5,800,000	612,205	17,957,526	24,369,731	24,369,732	(1)

5.0 REPAIR AND RENOVATION

5.0 REPAIR AND RENOVATION

5.1 Background

A major financial burden facing the North Carolina community colleges is the cost of major repairs and renovations (R&R) for college buildings. Because of the historic division of responsibility between the state and local government for community college facilities, the funding needs for repair and renovation have received only modest state-level attention until recently. Now with the State playing a more active role in supporting construction costs, it has a vested interest in protecting its capital investment.

Given the relatively young age of the campuses of most colleges in the System, R&R has not been a major source of concern. That is, most community college buildings had not until recently reached the point in their life cycle where the more costly repairs and renovations were needed. Now and over the next few years, however, adequate funding for R&R can be expected to be a growing problem for all the colleges across the state. Exhibit 5-1 shows that nearly half of the square feet in the System were built more than 20 years ago.

To express the magnitude of R&R funding requirements in financial terms, the NCCCS conducted a survey of the 58 colleges in September, 1997. The survey not only sought information on the dollars required, but also about the types of repairs and renovations to be performed. As shown in Exhibit 5-2, approximately $91.4 million in requirements was identified. General maintenance (i.e., roofs, chillers, flooring, windows, etc.) and improvement of teaching environment (updating classrooms or labs, converting other space to classes or labs, etc.) were the most common plans.

EXHIBIT 5-1
GROSS SQUARE FEET OF BUILDINGS BY YEAR CONSTRUCTED
NORTH CAROLINA COMMUNITY COLLEGES

Name	Before 1962	1962-1966	1967-1971	1972-1976	1977-1981	1982-1986	1987-1991	1992-96	Total
Alamance	32,504			115,484		14,517	49,902	49,535	261,942
Anson	8,689				29,950	4,040	12,196		54,875
Asheville-Buncombe	80,735	25,587	96,445		86,873	12,344	109,100	56,884	467,968
Beaufort County			26,843	37,456	68,839			45,835	178,973
Bladen	7,170		27,262	40,560	14,320	4,053	13,805		107,170
Blue Ridge				71,023	19,849	21,837	50,488	69,270	232,467
Brunswick	33,315					15,236	84,126	35,010	167,687
Caldwell			63,351	82,989	4,000	19,794	28,606	57,918	256,658
Cape Fear	25,444	4,000	45,540	166,109			23,523	2,901	267,517
Carteret	36,974	27,840	1,296	52,377		18,643	6,856	3,161	147,147
Catawba Valley	43,324	1,536	53,718	123,106	27,205		59,003		307,892
Central Carolina	14,250	38,367	28,735	28,330	17,305	14,095	101,297	46,554	288,933
Central Piedmont	272,273		216,005	122,043	481,953	10,043	322,661	45,557	1,470,535
Cleveland	1,875			44,921	100,295		44,850	1,260	193,201
Coastal Carolina				70,652	110,242	25,490	38,678	31,964	277,026
Albemarle	5,268		15,000	49,069	69,543		58,480		197,360
Craven			73,770		29,273	10,731	38,492	4,320	156,586
Davidson County	4,846	33,486	52,462	52,901	69,747		2,736	65,399	281,577
Durham	53,709		38,016		50,082	51,440	45,680	40,950	279,877
Edgecombe	37,209		31,639		30,746		78,006	7,200	184,800
Fayetteville	110,112	96,452	37,055	97,807	9,431	8,629	177,044		536,530
Forsyth	112,218	22,106	103,561	1,300	64,031	62,000	72,040	82,449	519,705
Gaston	4,480	53,472	99,628	55,351	56,306	27,256	34,155	39,760	370,408
Guilford	131,184	58,331	88,732	183,012	17,100	42,529	113,092	101,600	735,580
Halifax				552	79,055	29,618	23,382	42,814	175,421
Haywood			26,164	126,276	24,456	28,817	71,417		277,130
Isothermal			57,962	40,620	79,256		42,219		220,057
James Sprunt	3,040	23,045	19,812	31,067	26,951	2,584	14,030	768	121,297
Johnston				64,364	22,159	23,957	82,421	21,326	214,227
Lenoir	34,880		100,530	17,776	87,255	1,680	24,162	4,749	271,032
Martin			50,196	93,955		14,440	70,840		229,431
Mayland				720	48,474	3,932	27,044	9,800	89,970
Mcdowell	3,875		30,884	33,959	2,944		23,300		94,962
Mitchell	145,816	9,470	26,349	11,411	61,177				254,223
Montgomery		2,360			64,090		8,362	1,536	76,348
Nash				64,955	22,519		70,325		157,799
Pamlico				39,598	600				40,198
Piedmont					90,229	11,796	15,461		117,486
Pitt	600	45,407	34,794	8,080	31,450	5,406	66,673	55,250	247,660
Randolph		34,932	21,461	38,759	88,649		38,103		221,904
Richmond	9,000	13,932	75,613	1,800	17,299		38,995		156,639
Roanoke-Chowan			8,379	51,624	24,169	6,000	45,749		135,921
Robeson				74,419	3,000		105,824		183,243
Rockingham			175,617	21,974	14,556		57,270	36,950	306,367
Rowan-Cabarrus	13,838	42,143	40,782	96,525			42,960		236,248
Sampson			2,381	36,566	16,499	5,000	57,200		117,646
Sandhills		112,152	10,838	12,676	52,061	21,641	61,232		270,600
Southeastern			105,048	10,832	27,457	18,448		17,924	179,709
Southwestern			27,000	22,376	26,450	29,453	90,163	1,761	197,203
Stanly	14,131			49,951	13,527	3,696	24,712	13,600	119,617
Surry			85,469	53,412	27,825		15,370	65,162	247,238
Tri-County	18,334	3,144	7,296	16,800	33,188		25,211		103,973
Vance-Granville		3,069		111,432	32,400	13,057	50,680	23,500	234,138
Wake Technical	32,150	45,226	41,050	38,526	49,380	40,860	179,178		426,370
Wayne		3,838	10,355		27,949		149,959	144,327	336,428
Western Piedmont			101,471	781	36,239	10,678	45,944	2,430	197,543
Wilkes		8,784	98,598		92,991	42,508	27,277	9,525	279,683
Wilson	27,384	21,320	40,100		58,976	12,800	5,160		165,740
Total	1,318,627	729,999	2,297,207	2,566,276	2,640,320	689,048	3,165,439	1,238,949	14,645,865

EXHIBIT 5-2
SUMMARY OF CURRENT NEEDS FOR R&R FUNDING
AS DETERMINED BY SEPTEMBER 1997 SURVEY
NORTH CAROLINA COMMUNITY COLLEGE SYSTEM
(Amounts in Millions of Dollars)

Category of Need	Description	Amount Needed	% of Total
ADA Compliance	Elevators, Automatic Doors, Signage, Accessible Restrooms	$ 6,577,869	7.2%
Fire/Life Safety Code	Fire Alarms, Correcting Electrical Hazards Installing Sprinkler Systems	7,183,895	7.9%
Maintenance	Roofs, Chillers, Floor Coverings, Painting, Leaking Roofs, Window Replacement, etc.	37,781,426	41.3%
Improve Teaching Environment	Renovating Classrooms or Labs, Creating a Classroom out of Offices, Adding Raised Platform	27,272,525	29.8%
Improve Administrative Environment		5,871,089	6.4%
Adapt to Modern Technology	Wiring or Cabling for Information Highway, Unix, or Telecommunications	6,699,508	7.3%
Total		$91,386,312	100.0%

5.2 *Analyses Conducted During Phase 3*

As the problem of deferred maintenance became more widely recognized in colleges and universities across the nation, a number of study commissions addressed what could and should be done. Under the leadership of the National Association of College and University Business Officers (NACUBO) and the Association of Physical Plant Administrators (APPA), an industry standard or "best practice" for R&R funding has begun to emerge. The overall recommended rate for R&R funding tends to be in the range of 1.5 percent of building replacement value per year.

To explore the potential of using building replacement value as the driver variable in an R&R formula for the NCCCS, we identified data on this measure for the colleges that is regularly reported as part of the Higher Education Comprehensive Planning Program by the Commission on Higher Education Facilities in Chapel Hill. Upon closer

examination of this information, however, we found wide variance – with a range of more than two-to-one -- in the building replacement value per gross square foot across the colleges. These differences, which can be seen in Exhibit 5-3, are attributed to differences in the ages of the buildings, the cost bases for the buildings when they came into possession of the colleges, and similar factors.

For the purposes of an R&R funding model, we felt that the amounts reported by the Commission were not the most appropriate. For instance, we questioned the equity of funding one college at less than half the rate per square foot as for another college. Instead, we sought to identify a single rate that would apply to all colleges. Therefore, we developed an estimate of building replacement value per square foot that would apply to all colleges using a measure of current construction cost for similar facilities multiplied by total square feet per college. This estimate is shown in Exhibit 5-4.

5.3 Recommendation

We recommend an allocation model for R&R funds that, in aggregate, will provide annual funding at the approximate rate of 1.5 percent of building replacement value. To recognize that R&R needs are much greater for older buildings and almost non-existent for new facilities, however, we recommend a model that takes age of facilities into account. Our recommended model classifies buildings into four age categories, each with its own R&R funding rate:

Age Category	Factor
25 years old and older	2.0%
16 – 25 years old	1.5%
6 – 15 years old	1.0%
5 years old and younger	no R&R funding rate

EXHIBIT 5-3
RANGE IN CALCULATED REPLACEMENT VALUES PER REPORT BASED ON FALL 1996 BUILDING REPLACEMENT VALUE NORTH CAROLINA COMMUNITY COLLEGE SYSTEM

Institution	No. of Campus Buildings	Building Cost	Building Replacement Value	Gross Square Feet on Campus	Replacement Value per Gross Square Foot	Rank Order Replacement Value per GSF	
Pamlico	4	1,528,200	4,120,949	40,198	102.52	1	< High Value
Alamance	12	14,333,403	26,112,955	281,942	99.69	2	
Wayne	14	28,045,601	31,083,883	336,428	92.39	3	
Coastal Carolina	14	15,747,357	25,506,790	277,026	92.07	4	
Caldwell	11	12,706,846	23,493,560	256,658	91.54	5	
Mcdowell	7	3,961,452	8,491,300	94,962	89.42	6	
Vance-Granville	14	9,787,958	20,785,108	234,138	88.77	7	
Central Carolina	18	12,346,869	25,334,177	288,933	87.68	8	
Albemarle	11	8,020,940	17,214,386	197,360	87.22	9	
Mayland	9	4,109,136	7,828,665	89,970	87.01	10	
Western Piedmont	15	8,130,986	17,133,229	197,543	86.73	11	
Piedmont	11	5,810,180	10,189,066	117,486	86.73	12	
Carteret	16	4,161,853	12,651,111	147,147	85.98	13	
Pitt	29	12,420,676	20,900,642	247,660	84.39	14	< Upper Quartile
Cape Fear	11	5,712,637	22,349,339	267,517	83.54	15	< Upper Quartile
Guilford	27	29,986,830	61,422,755	735,580	83.50	16	
Brunswick	10	10,178,790	13,905,927	167,687	82.93	17	
Wilson	11	4,588,556	13,649,967	165,740	82.36	18	
Gaston	29	14,689,115	30,488,043	370,408	82.31	19	
Robeson	15	8,954,000	14,986,759	183,243	81.79	20	
Craven	14	6,757,343	12,622,145	156,586	80.61	21	
Cleveland	11	9,031,801	15,507,758	193,201	80.27	22	
Rowan-Cabarrus	12	7,501,016	18,753,144	236,248	79.38	23	
Richmond	9	4,984,574	12,399,290	156,639	79.16	24	
Asheville-Buncombe	18	19,016,333	37,011,845	467,968	79.09	25	
Catawba Valley	17	9,304,058	24,347,786	307,892	79.08	26	
Tri-County	15	3,925,673	8,157,667	103,973	78.46	27	
Davidson County	15	11,093,415	21,895,480	281,577	77.76	28	
Rockingham	14	11,742,103	23,769,323	306,367	77.58	29	< Median Value
Blue Ridge	13	11,319,049	17,917,820	232,467	77.08	30	< Median Value
Johnston	10	9,739,263	16,480,396	214,227	76.93	31	
Forsyth	19	16,833,943	39,956,752	519,705	76.88	32	
Southwestern	10	9,289,721	15,150,670	197,203	76.83	33	
Durham	13	11,419,308	21,440,192	279,877	76.61	34	
Roanoke-Chowan	8	5,165,869	10,409,031	135,921	76.58	35	
Sandhills	27	10,005,467	20,709,402	270,600	76.53	36	
Randolph	20	9,053,117	16,803,856	221,904	75.73	37	
Wake Technical	21	16,031,207	31,830,840	426,370	74.66	38	
Surry	12	10,426,615	18,455,965	247,238	74.65	39	
Isothermal	15	8,478,885	16,416,880	220,057	74.60	40	
Stanly	12	3,346,302	8,909,983	119,617	74.49	41	
Southeastern	15	5,387,404	13,334,329	179,709	74.20	42	
Edgecombe	10	6,848,700	13,600,868	184,800	73.60	43	
Beaufort County	10	7,970,608	13,114,457	178,973	73.28	44	
Lenoir	22	7,557,250	19,740,435	271,032	72.83	45	
Wilkes	26	8,373,130	19,796,027	279,683	70.78	46	
Sampson	9	4,797,302	8,284,199	117,646	70.42	47	
Mitchell	19	4,589,528	17,816,325	254,223	70.08	48	
Haywood	31	11,333,160	19,330,128	277,130	69.75	49	
Bladen	18	2,834,818	7,437,831	107,170	69.40	50	
James Sprunt	15	3,191,461	8,380,625	121,297	69.09	51	
Nash	7	7,004,055	10,865,950	157,799	68.86	52	
Fayetteville	28	16,120,005	36,580,282	536,530	68.18	53	
Anson	6	1,886,292	3,690,724	54,875	67.26	54	
Halifax	10	8,062,352	11,393,382	175,421	64.95	55	
Montgomery	10	2,521,126	4,835,464	76,348	63.33	56	
Central Piedmont	43	34,240,492	82,834,993	1,470,535	56.33	57	
Martin	13	4,891,455	11,585,449	229,431	50.50	58	< Low Value
TOTAL	885	555,095,585	1,119,216,304	14,645,865	76.42		< Mean Value

EXHIBIT 5-4
CURRENT CONSTRUCTION COSTS PER SQUARE FOOT
FOR VARIOUS TYPES OF COMMUNITY COLLEGE BUILDINGS

Type of Facility		National Cost/SF
College Classroom	$	96.10
College Laboratory	$	152.65
Office	$	79.75
Library	$	98.15
Simple Average	$	106.66
North Carolina Cost Adjustment Factors		
Asheville		0.78
Charlotte		0.78
Greensboro		0.79
Raleigh		0.79
Wilmington		0.77
Winston-Salem		0.78
Simple Average		0.78
Estimated North Carolina Cost/SF for Community College Facilities	$	83.19

Source: 1998 RS Means, 19th Annual Edition

A simulation of an R&R allocation using the recent construction cost and age-based factors is shown in Exhibit 5-5.

We believe that this approach will more closely match the funding requirement for major repairs and renovation than a simpler model with a uniform 1.5 percent rate for all buildings.

EXHIBIT 5-5
NORTH CAROLINA COMMUNITY COLLEGES
R&R ALLOCATIONS GENERATED BY AGE CATEGORY OF SPACE

Name	Before 1962	1962-1966	1967-1971	1972-1976	1977-1981	1982-1986	1987-1991	1992-96	Total
Alamance	54,080	-	-	144,107	-	12,077	41,513	-	251,777
Anson	14,457	-	-	-	37,373	3,361	10,146	-	65,337
Asheville-Buncombe	134,327	42,572	160,465	-	108,404	10,269	90,760	-	546,797
Beaufort County	-	-	44,661	46,739	85,901	-	-	-	177,302
Bladen	11,929	-	45,359	50,613	17,869	3,372	11,484	-	140,626
Blue Ridge	-	-	-	88,626	24,769	18,166	42,001	-	173,562
Brunswick	55,429	-	-	-	-	12,675	69,984	-	138,089
Caldwell	-	-	105,403	103,558	4,991	16,467	23,797	-	254,217
Cape Fear	42,334	6,655	75,769	207,279	-	-	19,569	-	351,606
Carteret	61,517	46,320	2,156	65,359	-	15,509	5,704	-	196,565
Catawba Valley	72,082	2,556	89,376	153,618	33,948	-	49,085	-	400,664
Central Carolina	23,709	63,835	47,809	35,352	21,594	11,726	84,269	-	288,294
Central Piedmont	453,008	-	359,389	152,291	601,405	8,355	268,422	-	1,842,870
Cleveland	3,120	-	-	56,055	125,153	-	37,311	-	221,638
Coastal Carolina	-	-	-	88,163	137,565	21,205	32,176	-	279,110
Albemarle	8,765	-	24,957	61,231	86,779	-	48,650	-	230,381
Craven	-	-	122,739	-	36,528	8,927	32,021	-	200,215
Davidson County	8,063	55,714	87,286	66,013	87,034	-	2,276	-	306,385
Durham	89,361	-	63,251	-	62,495	42,793	38,001	-	295,901
Edgecombe	61,908	-	52,641	-	38,366	-	64,893	-	217,809
Fayetteville	183,204	160,477	61,652	122,048	11,768	7,178	147,283	-	693,612
Forsyth	186,708	36,780	172,305	1,622	79,901	51,578	59,930	-	588,824
Gaston	7,454	88,967	165,761	69,070	70,261	22,674	28,414	-	452,601
Guilford	218,264	97,051	147,632	228,372	21,338	35,380	94,081	-	842,118
Halifax	-	-	-	689	98,649	24,639	19,451	-	143,428
Haywood	-	-	43,532	157,574	30,517	23,973	59,412	-	315,007
Isothermal	-	-	96,437	50,688	98,900	-	35,122	-	281,146
James Sprunt	5,058	38,342	32,963	38,767	33,631	2,150	11,672	-	162,582
Johnston	-	-	-	80,317	27,651	19,930	68,566	-	196,464
Lenoir	58,033	-	167,262	22,182	108,881	1,398	20,100	-	377,856
Martin	-	-	83,516	117,242	-	12,013	58,932	-	271,702
Mayland	-	-	-	898	60,488	3,271	22,498	-	87,156
Mcdowell	6,447	-	51,385	42,376	3,674	-	19,383	-	123,265
Mitchell	242,609	15,756	43,839	14,239	76,340	-	-	-	392,783
Montgomery	-	3,927	-	-	79,975	-	6,956	-	90,858
Nash	-	-	-	81,054	28,100	-	58,503	-	167,658
Pamlico	-	-	-	49,412	749	-	-	-	50,161
Piedmont	-	-	-	-	112,592	9,813	12,862	-	135,267
Pitt	998	75,548	57,890	10,083	39,245	4,497	55,465	-	243,727
Randolph	-	58,120	35,707	48,365	110,621	-	31,698	-	284,511
Richmond	14,974	23,180	125,805	2,246	21,587	-	32,440	-	220,232
Roanoke-Chowan	-	-	13,941	64,419	30,159	4,991	38,059	-	151,569
Robeson	-	-	-	92,864	3,744	-	88,035	-	184,642
Rockingham	-	-	292,192	27,420	18,164	-	47,643	-	385,418
Rowan-Cabarrus	23,024	70,118	67,853	120,449	-	-	35,738	-	317,181
Sampson	-	-	3,962	45,629	20,588	4,160	47,585	-	121,923
Sandhills	-	186,598	18,032	15,818	64,964	18,003	50,939	-	354,355
Southeastern	-	-	174,779	13,517	34,262	15,347	-	-	237,905
Southwestern	-	-	44,923	27,922	33,006	24,502	75,007	-	205,359
Stanly	23,511	-	-	62,331	16,880	3,075	20,558	-	126,355
Surry	-	-	142,203	66,650	34,721	-	12,786	-	256,361
Tri-County	30,504	5,231	12,139	20,964	41,414	-	20,973	-	131,225
Vance-Granville	-	5,106	-	139,050	40,430	10,862	42,161	-	237,610
Wake Technical	53,491	75,247	68,299	48,075	61,619	33,991	149,058	-	489,780
Wayne	-	6,386	17,229	-	34,876	-	124,751	-	183,241
Western Piedmont	-	-	168,827	975	45,221	8,883	38,221	-	262,127
Wilkes	-	14,615	164,047	-	116,039	35,362	22,692	-	352,755
Wilson	45,561	35,472	66,718	-	73,593	10,648	4,293	-	236,286
Total	2,193,932	1,214,572	3,822,093	3,202,328	3,294,723	573,219	2,633,329	-	16,934,195

6.0 CONCLUSIONS AND NEXT STEPS

6.0 CONCLUSIONS AND NEXT STEPS

6.1 Summary of Phase 3 Recommendations

The preceding document is the third major report that we have developed for the State Board concerning the budget formulas its uses to request funding for and allocate state appropriations to the 58 community colleges. In the reports for the two previous phases, we have recommended that occupational extension instruction be funded at parity with curriculum instruction (see the phase 1 report) and that the formulas used both for instruction programs and for instructional and administrative support include elements that recognize the special funding requirements of smaller colleges (see the phase 2 report).

The current report contains recommendations in four areas. Three areas have also been the subjects of analyses in the previous reports (e.g., funding stability, sliding scale for occupational extension, and equipment) while the fourth area (e.g., repairs and renovations) was discussed for the first time in this report.

Our recommendation for funding stability includes both near-term and longer-term components. Effective with the 1999-2000 fiscal year, we recommend that the funding stability provision change from the current 3/5 rule to a 2/3 rule. Under this approach, a college's funding level would be unaffected as long as its actual FTE enrollment stayed within a corridor between 2 percent above and 3 percent below its budgeted FTE. The only effect of this recommendation is to tighten the corridor by one percent and two percent, respectively, at the upper and lower boundaries from the current 3 percent above to 5 percent below range. Importantly, we view the movement from the 3/5 rule to a 2/3 rule as an intermediate step. Our longer-term recommendation is for a modified 3-year rolling average, whereby funding would be based on the greater of current actual FTE enrollment or the rolling average of the three most recent fiscal years.

Regarding the use of the sliding scale in the occupational extension formula, we reaffirm our earlier recommendation that state appropriations for occupational extension and curriculum instruction should be at parity with one another. Just as with curriculum instruction, we believe that the first 500 FTE students at all colleges should be funded with a lower student-to-faculty ratio to reflect the difficulty that all colleges face in their efforts to provide a full, responsive array of programs in their service areas.

Our recommendation for a revised equipment allocation formula builds from the current approach but differs in at least one significant way. Unlike the current formula, our proposal would not consider depreciation expense – a major feature of the current model that we believe has contributed to inequities among colleges with differing capacities in the past to build a sizeable equipment inventory. Instead, our recommendation calls for a base allotment of $100,000 per college; a special allotment for a limited number of previously recognized, especially high cost programs; with the remainder of the allocation on the basis of equipment FTE enrollment (E-FTE) whereby high equipment intensity programs generate more funding per student than other programs.

The final recommendation calls for the establishment of a new formula for requesting and allocating state appropriations for repairs and renovations (R&R). The proposed formula is generally based on the industry standard that calls for R&R to be funded at 1.5 percent of building replacement value per year. However, our proposal recognizes the greater R&R requirements of older buildings and the minimal needs for new facilities by weighting square feet by age. We believe that state funding for R&R will be an issue of critical importance in the coming years.

6.2 Topics for Further Development

During the coming months, we expect to continue to work with the State Board and System staff on formula-related issues. At the request of the Funding Study Advisory Committee, our next effort will be to compile a comprehensive summary of the first three phases. The Committee feels that a new document that will consolidate all recommendations in a single volume will be valuable in communicating formula changes with those colleges that have not been actively involved in the funding study.

We also expect to undertake a more detailed review of the current library formula with the goal of creating an expanded instructional resources formula. This effort not only would address concerns with the current library formula, but also would lead to a new formula that is more reflective of new computer and telecommunications-based technologies that are changing the demands placed on college libraries today.

We also expect to begin a thorough review of the capital outlay formula for new construction. The Presidents' Association plans to appoint a new committee to work with the System staff and us in a joint effort to develop a new formula that can be used in preparing the budget request for 1999-2000.

Finally, we stand ready to work with the State Board and System on any additional formula-related issues that are identified by the General Assembly during its short session over the next few months.

The LEWIN GROUP

University of North Carolina
&
University of North Carolina Hospitals

Report to the
Joint Legislative Education Oversight Committee

April 15, 1998
Chapel Hill, NC

Fairfax, Virginia
San Francisco, California
Cambridge, Massachusetts

4-22-98
#4A
Lewin

The Charge to the Board of Governors

- In the 1997 legislative session, the General Assembly of the State of North Carolina charged the Board of Governors of The University of North Carolina to study
  - "the impact, if any, that reductions in General Fund operating support have had on UNC Hospitals at Chapel Hill, the hospitals' ability to serve and treat indigent patients, and the impact that continuing those same cuts may or may not have."
  - "In conducting the study the Board shall consider the impacts of managed care, federal reimbursement for Medicare and Medicaid, and increased competition in the health care industry on the Hospitals' ability to generate sufficient revenues to carry out its missions for medical education and quality health care."

The findings and recommendations of the Board of Governors are to be reported to the Joint Legislative Education Oversight Committee by April 15, 1998

Historical Information

UNCH has emerged as North Carolina's only state-owned acute care hospital, but with increasing operating and fiscal autonomy

UNCH's history can be divided into four phases:

- **1948-1970**: UNCH was created as part of the University of North Carolina (UNC) for the purpose of establishing a statewide system of healthcare and allowing the UNC School of Medicine to develop a four year physician education program to assure qualified health providers for the entire state.

- **1971-1990**: UNCH became a separate operating division within the state university system, with its own statutory Board of Directors and expectations of improved efficiency, competitiveness, and fiscal viability. The improved management this afforded substantially increased UNCH's benefit to the state during this period.

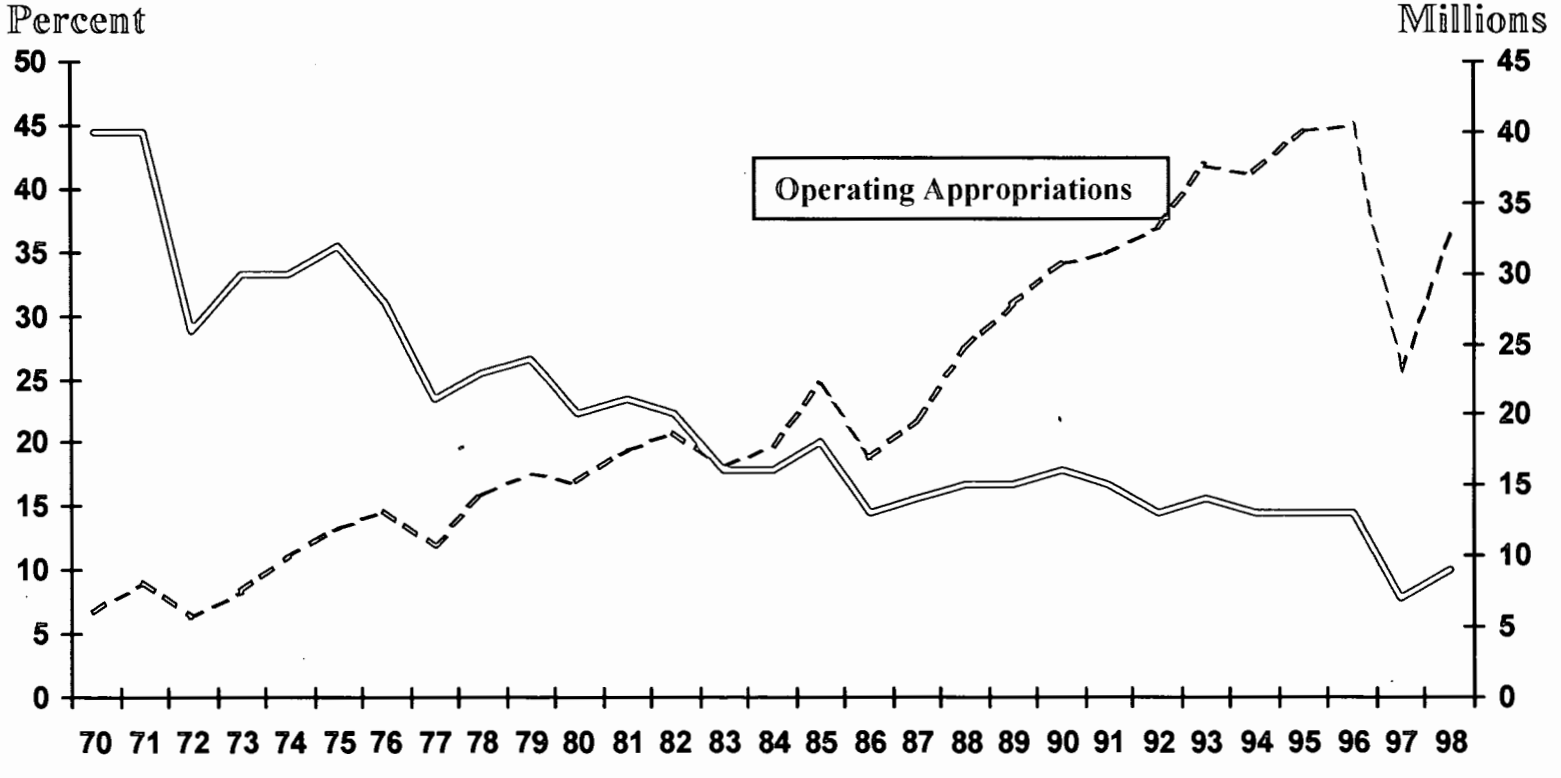
UNCH has emerged as North Carolina's only state-owned acute care hospital, but with increasing operating and fiscal autonomy (cont.)

UNCH's history can be divided into four phases:

- **1990-1996**: The Governor of North Carolina exercised his statutory authority to create an "enterprise fund" allowing the hospital to retain its earnings and develop creditworthiness in its own right. Since 1990, UNCH has twice gone to the bond market and has obtained $193M with which to improve its facilities and services.

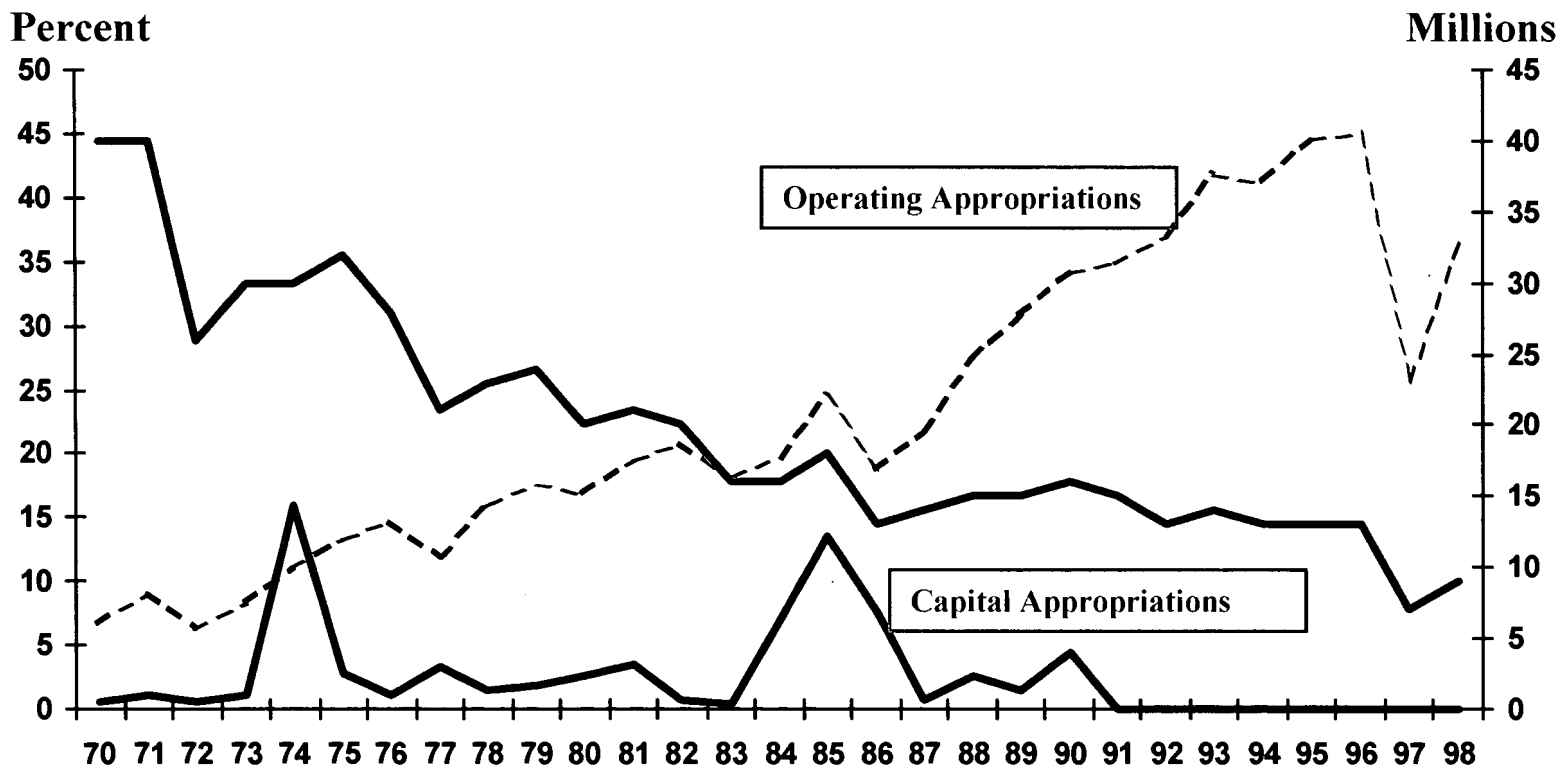
- **1997-1998**: In 1997, the General Assembly imposed a $19M (43%) non-recurring reduction in the appropriation from $45M to $26M; and then enacted a recurring appropriation level of $36M, where it stands today. At the same time the General Assembly provided UNCH with an increase in relief from the state sales tax worth about $4.1M per year.

The operating appropriation has increased in amount (until 1997) but has steadily decreased as a percent of UNCH's operating expense



The hospital has become increasingly efficient at leveraging the state's investment to provide substantial improvements in service and education. The appropriation in 1998 is less than 10% of the operating expense of the hospital, and the state has not provided a capital appropriation for UNCH since 1990

No capital appropriation has been made since 1990



The Benefits Provided By UNCH

The primary intentions of the state in creating the university hospital were:

- To provide a statewide **system of high quality and sophisticated health services for all residents, regardless of ability to pay,** particularly given the growing numbers of uninsured and underinsured throughout the state
- **To support the UNC School of Medicine's educational programs** (with patients and funds), to meet the state's medical workforce needs for primary care and specialty physicians

Other benefits to the state result from UNCH's ability to leverage state support

- **Support for biomedical research programs** for UNC and its School of Medicine, fueling leadership in research and attracting world class faculty
- **Direct economic benefits** from UNCH as a major North Carolina employer and consumer
- Ability to obtain **capital financing from private equity markets** *(capital appropriations by the state ended in 1990 while the hospital has acquired capital assets of $253M primarily for the Neuroscience Hospital, North Carolina Children's Hospital, North Carolina Women's Hospital and routine equipment and facility renovation and replacement)*
- Moreover -- since 1990, UNCH has provided statewide tertiary and specialty services, charity care, educational support for UNC and its research and, in addition, the state has seen the net worth of UNCH grow by more than the sum of these appropriations (generating a return on its "investment" of 4.8% per year)

UNCH provides a **statewide system of health services** to all residents as evidenced by non-local use of its 15 clinical "centers of excellence"

Burn center[1] *(78% outside MSA)*	**Heart disease** *(50% outside MSA)*	**Neurosciences** *(45% outside MSA)*
Clinical Cancer center *(61% outside MSA)*	**Hemophilia** *(71% outside MSA)*	**Organ transplant** *(80% outside MSA)*
Cystic fibrosis *(55% outside MSA)*	**High risk OB** *(47% outside MSA)*	**Otolaryngology (ENT)** *(63% outside MSA)*
Children's programs *(49% outside MSA)*	**Neonatal intensive care unit (NICU)** *(53% outside MSA)*	**Pediatric surgery** *(68% outside MSA)*
Digestive diseases *(54% outside MSA)*	**Nephrology** *(59% outside MSA)*	**Trauma** *(67% outside MSA)*

[1]**The next closest burn center is located in Richmond, VA.**

Maintaining these specialized services in the state hospital assures access to high quality services for all state residents

Access to this statewide system of care by the uninsured is assured by UNCH's unrestricted admission policy

- "It is the purpose of the University of North Carolina Hospitals to provide the citizens and physicians of North Carolina a referral medical service program....*Medical services are provided to all persons from North Carolina based on the need for the services and not upon the patient's ability to pay.*"
- Other major providers are more locally focused - UNCH provided unreimbursed care to residents of all 100 North Carolina counties in 1997.

The shrinking inpatient healthcare market is creating fiscal pressures on providers - weakening the public "safety net" that assures care to those unable to pay. The University of North Carolina Hospitals admission policy provides care to all residents of the state - regardless of their ability to pay

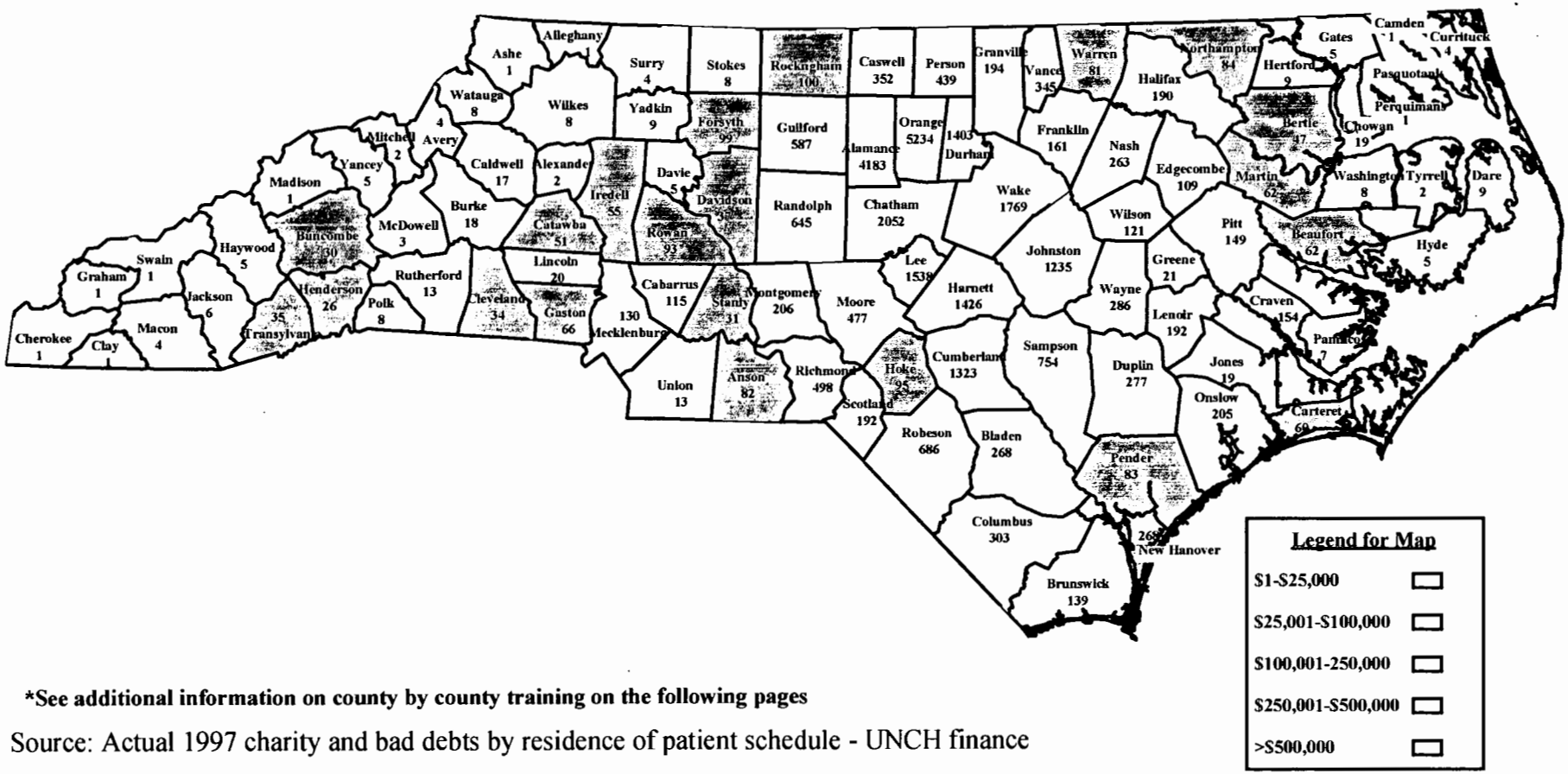
UNCH's commitments to tertiary services and access have made it **the number one provider of uninsured care in North Carolina**

- According to the North Carolina Hospital Association database, UNCH delivered more care to uninsured people than any other acute care institution in North Carolina
- Approximately two-thirds (63%) of UNCH's uncompensated care was delivered to residents outside of the Raleigh Durham Metropolitan Statistical Area
- In total, the value of uncompensated care provided to residents of the state of North Carolina in 1997 by UNCH equaled $31.8M, and the UNCH medical staff provided an additional $7M in uncompensated physician care in 1997 *(these figures are stated at cost, not discounts from charges)*

University of North Carolina Hospitals - distribution of un-reimbursed care

(by County of residence)

North Carolina



***See additional information on county by county training on the following pages**

Source: Actual 1997 charity and bad debts by residence of patient schedule - UNCH finance

The benefit of the investment in University of North Carolina Hospitals by county ($000s)

UNC Hospitals Uncompensated Care by County at Cost Fiscal Year Ending June 30, 1997 County	UNCH County Revenue at Charges	Uncompensated Care by County (at cost)	% of Revenue Written off as Uncompensated	Percent of UNCH's Total Uncomp. Care	UNC/ UNCH Trained MD's as % of Total Within Each County	UNC / UNCH Other Health Professionals * as % of Total (Dentists, Nurses, Pharmacists, Hygenicists)
Grand Total	**484,465**	**31,840**	**9%**	**100%**	**23%**	**10%**
Orange	80,913	5,234	9%	16%	64%	23%
Chatham	31,556	2,052	9%	6%	69%	19%
Wake	40,518	1,769	6%	6%	30%	15%
Franklin	2,350	161	9%	1%	25%	10%
Durham	26,186	1,403	7%	4%	16%	14%
Johnston	14,246	1,235	12%	4%	19%	13%
Subtotal MSA - Research Triangle	**195,770**	**11,854**	**8%**	**37%**	**34%**	**16%**
Lee	19,248	1,538	11%	5%	25%	13%
Alamance	41,630	4,183	14%	13%	36%	18%
Guilford	9,222	587	9%	2%	26%	11%
Hamett	15,764	1,426	12%	4%	13%	12%
Randolph	9,145	645	10%	2%	19%	13%
Sampson	10,023	754	10%	2%	24%	8%
Subtotal (12 county primary service area)	**300,801**	**20,987**	**9%**	**66%**	**32%**	**14%**
Alexander	44	2	8%	0%	25%	12%
Alleghany	58	1	3%	0%	9%	10%
Anson	1,298	82	9%	0%	16%	8%
Ashe	175	1	1%	0%	19%	10%
Avery	156	4	3%	0%	7%	11%
Beaufort	797	62	11%	0%	35%	9%
Bertie	127	47	50%	0%	40%	11%
Bladen	3,593	268	10%	1%	35%	6%
Brunswick	2,361	139	8%	0%	7%	14%
Buncombe	1,468	30	3%	0%	17%	5%
Burke	365	18	7%	0%	14%	8%
Cabarrus	644	115	24%	0%	18%	9%
Caldwell	476	17	5%	0%	11%	13%

The benefit of the investment in University of North Carolina Hospitals by county (cont.) ($000s)

UNC Hospitals Uncompensated Care by County at Cost Fiscal Year Ending June 30, 1997 County	UNCH County Revenue at Charges	Uncompensated Care by County (at cost)	% of Revenue Written off as Uncompensated	Percent of UNCH's Total Uncomp. Care	UNC/ UNCH Trained MD's as % of Total Within Each County	UNC / UNCH Other Health Professionals * as % of Total (Dentists, Nurses, Pharmacists, Hygenicists)
Camden	36	1	5%	0%	50%	8%
Carteret	1,673	60	5%	0%	29%	11%
Caswell	5,103	352	9%	1%	40%	12%
Catawba	789	51	9%	0%	20%	11%
Cherokee	26	0	0%	0%	10%	5%
Chowan	281	19	9%	0%	12%	12%
Clay	6	1	14%	0%	17%	5%
Cleveland	995	34	5%	0%	14%	9%
Columbus	3,939	303	10%	1%	19%	9%
Craven	2,150	154	10%	0%	24%	8%
Cumberland	21,574	1,323	8%	4%	16%	8%
Currituck	30	4	19%	0%	33%	7%
Dare	446	9	3%	0%	0%	10%
Davidson	1,269	37	4%	0%	23%	9%
Davie	220	5	3%	0%	10%	10%
Duplin	3,575	277	10%	1%	23%	12%
Edgecombe	2,615	109	6%	0%	31%	10%
Forsyth	2,851	99	5%	0%	14%	9%
Gaston	1,708	66	5%	0%	18%	10%
Gates	172	5	4%	0%	100%	4%
Graham	40	0	0%	0%	17%	5%
Granville	4,320	194	6%	1%	14%	11%
Greene	86	21	32%	0%	0%	14%
Halifax	4,430	190	6%	1%	20%	10%
Haywood	81	5	8%	0%	16%	9%
Henderson	682	26	5%	0%	14%	6%
Hertford	706	9	2%	0%	14%	13%
Hoke	1,771	95	7%	0%	10%	12%

The benefit of the investment in University of North Carolina Hospitals by county (cont.) ($000s)

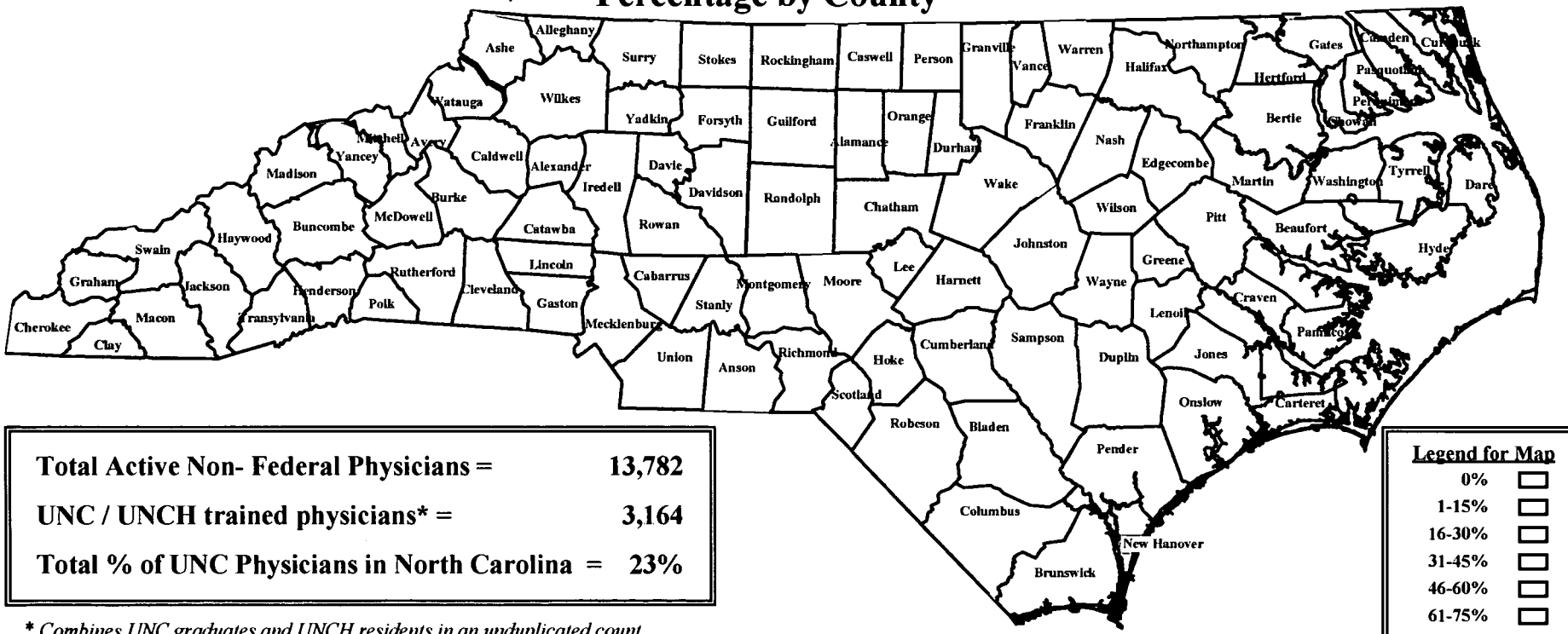
UNC Hospitals Uncompensated Care by County at Cost Fiscal Year Ending June 30, 1997 County	UNCH County Revenue at Charges	Uncompensated Care by County (at cost)	% of Revenue Written off as Uncompensated	Percent of UNCH's Total Uncomp. Care	UNC/ UNCH Trained MD's as % of Total Within Each County	UNC / UNCH Other Health Professionals * as % of Total (Dentists, Nurses, Pharmacists, Hygenicists
Hyde	84	5	8%	0%	100%	5%
Iredell	321	55	23%	0%	22%	8%
Jackson	132	6	6%	0%	13%	5%
Jones	277	19	9%	0%	21%	11%
Lenoir	2,594	192	10%	1%	29%	12%
Lincoln	306	20	9%	0%	13%	14%
Macon	116	4	5%	0%	10%	8%
Madison	708	1	0%	0%	17%	3%
Martin	647	62	13%	0%	44%	13%
Mcdowell	278	3	2%	0%	10%	12%
Mecklenburg	3,135	130	6%	0%	18%	8%
Mitchell	15	2	18%	0%	14%	9%
Montgomery	2,771	206	10%	1%	20%	12%
Moore	8,483	477	8%	1%	21%	8%
Nash	4,832	263	7%	1%	21%	11%
New Hanover	7,673	268	5%	1%	26%	10%
Northampton	1,890	84	6%	0%	0%	10%
Onslow	4,015	205	7%	1%	13%	7%
Pamlico	141	7	7%	0%	100%	15%
Pasquotank	254	5	3%	0%	14%	6%
Pender	2,331	83	5%	0%	25%	10%
Perquimans	31	1	6%	0%	100%	20%
Person	5,376	439	11%	1%	25%	18%
Pitt	1,801	149	11%	0%	17%	7%
Polk	200	8	5%	0%	5%	5%
Richmond	8,173	498	8%	2%	12%	7%
Robeson	10,735	686	9%	2%	23%	11%
Rockingham	2,007	100	7%	0%	13%	12%

The benefit of the investment in University of North Carolina Hospitals by county (cont.) ($000s)

UNC Hospitals Uncompensated Care by County at Cost Fiscal Year Ending June 30, 1997 County	UNCH County Revenue at Charges	Uncompensated Care by County (at cost)	% of Revenue Written off as Uncompensated	Percent of UNCH's Total Uncomp. Care	UNC/ UNCH Trained MD's as % of Total Within Each County	UNC / UNCH Other Health Professionals * as % of Total (Dentists, Nurses, Pharmacists, Hygenicists)
Rowan	831	93	15%	0%	21%	8%
Rutherford	804	13	2%	0%	22%	10%
Scotland	3,292	192	8%	1%	30%	10%
Stanly	433	31	10%	0%	10%	11%
Stokes	165	8	7%	0%	0%	11%
Surry	412	4	1%	0%	14%	11%
Swain	405	1	0%	0%	18%	7%
Transylvania	389	35	12%	0%	14%	7%
Tyrrell	46	2	5%	0%	0%	8%
Union	430	13	4%	0%	25%	9%
Vance	5,426	345	9%	1%	27%	15%
Warren	1,823	81	6%	0%	11%	16%
Washington	122	8	9%	0%	0%	11%
Watauga	330	8	3%	0%	21%	8%
Wayne	4,683	286	8%	1%	24%	9%
Wilkes	682	8	2%	0%	16%	8%
Wilson	3,341	121	5%	0%	29%	12%
Yadkin	253	9	5%	0%	5%	12%
Yancey	47	5	14%	0%	36%	11%
Rest of State (outside primary service area)	**166,380**	**9,478**	**8%**	**30%**	**18%**	**9%**
Out of State Total	17,284	1,375	11%	4%		
Grand total	**484,465**	**31,840**	**9%**	**100%**	**23%**	**10%**

Clinical Support for Educational Programs - UNCH & UNC have trained 23% of active North Carolina physicians - distributed throughout the state

North Carolina
Active Physicians Trained by UNC/UNCH
Percentage by County



Total Active Non- Federal Physicians =	**13,782**
UNC / UNCH trained physicians* =	**3,164**
Total % of UNC Physicians in North Carolina =	**23%**

Legend for Map

0%	
1-15%	
16-30%	
31-45%	
46-60%	
61-75%	
76-100%	

** Combines UNC graduates and UNCH residents in an unduplicated count*

Source: Alumni Affairs Data, 2/14/96 and NC Health Professions Data System: 1996 Physicians, Sheps Center.

UNC/UNCH trained 50% of the MDs in the 10 counties with the fewest MDs

Clinical Support for other health professionals' education is also provided by UNCH

Professional Title	UNC Trained Graduate Professionals	Total State Wide Professionals	Percent UNC Trained
Dentists *	1,738	2,900	60%
Pharmacists	3,801	6,172	62%
Registered Nurses	1,858	63,240	3%
Dental Hygienists	486	3,079	16%

*** Note that UNC provides the only training program in the state for this profession**

UNCH as the sponsor for clinical clerkship and residency programs **directly supports undergraduate and graduate medical education costs**

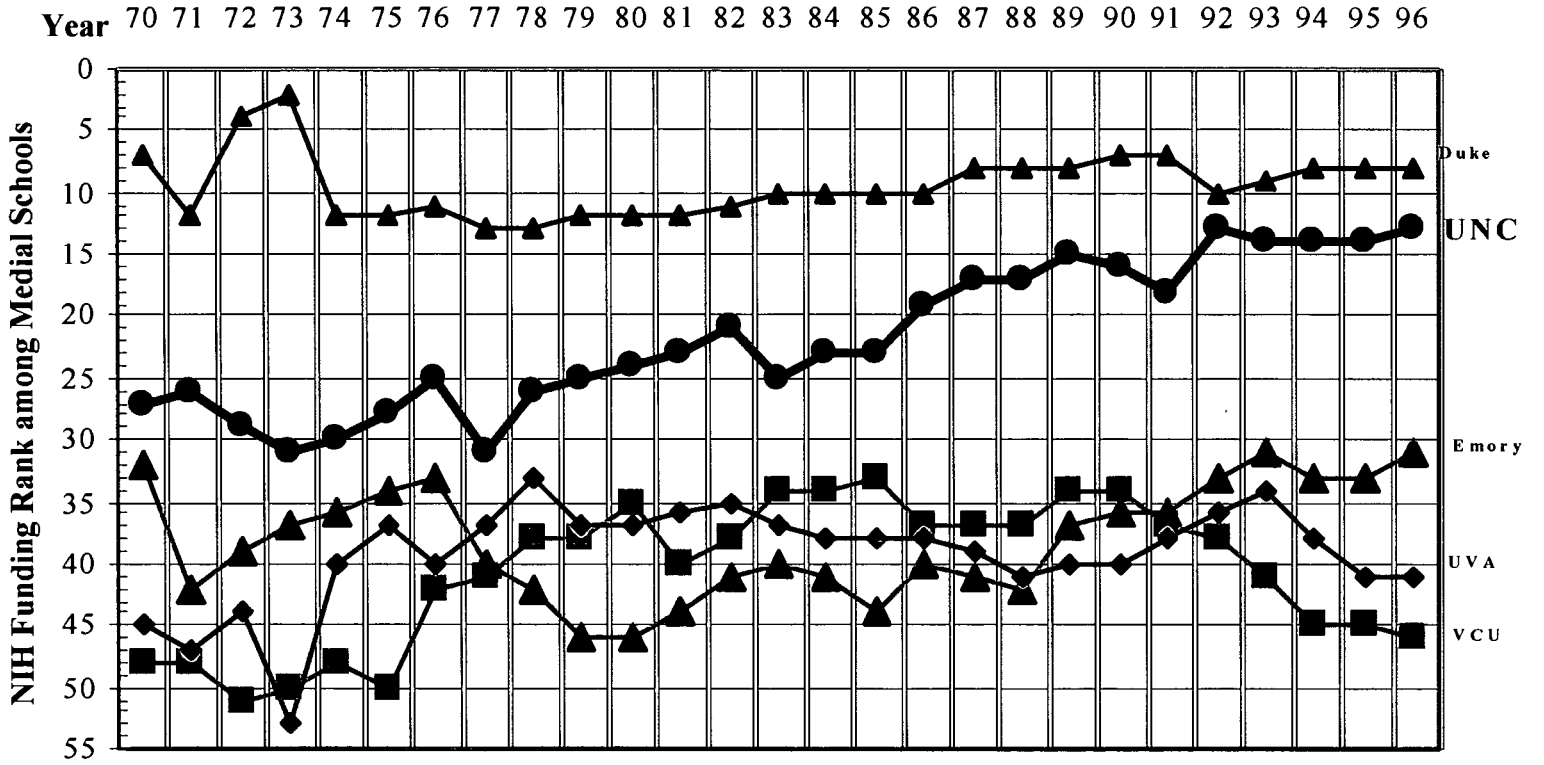
- Undergraduate education - UNCH serves as the principal facility for clerkships and undergraduate rotations for over 600 health sciences students; including medical, nursing, dentistry and pharmacy. The cost for these programs (in terms of increased operating and clinical costs) is not reimbursed to UNCH by Medicare, Medicaid, or commercial insurers
- In 1996-97, the 320 third and fourth year students collectively spent 7,247 weeks (approximately half of their time) within UNCH - gaining clinical experience
- Graduate medical education of physicians has a net cost of $3.3M
  - All UNCH residency programs are sponsored and primarily paid for by UNCH - not the UNC School of Medicine
  - 1997 Direct Medical Education costs of $19.3M per year were only partially offset by $16M of payments received from Medicare, AHEC, and other sources leaving a direct graduate medical education loss of $3.3M in 1997
  - UNCH's support for medical student education is both extensive and effective, but difficult to quantify precisely

The UNC School of Medicine's success depends on the success of UNCH - and the Hospital's success depends on the UNC School of Medicine

- The hospital, its patients, and its facilities are essential to providing teaching cases for medical students and residents and for attracting faculty, and the faculty with their expertise and reputation are essential to the hospital centers of excellence
- Hospital resources and facilities are essential to attracting clinical research funding. UNCH-SOM research grants in 1997 provided $28M in overhead recovery to the University; roughly 55% of the Chapel Hill campus' total
- Providing indigent care requires physicians willing to provide the care (residents and faculty) as well as support from a viable facility
- Clinical earnings potential is a significant factor in faculty recruitment, and earnings are heavily dependent on hospital reputation and service delivery
- The Hospital also directly supports research [e.g. general clinical research center through annual funding ($.2M) and capital investment ($1M)]

Maintaining the "critical mass" of the clinical enterprise is a basic requirement to academic training. Some actions acceptable to community facilities (such as eliminating unprofitable programs) might be precluded at UNCH by the need to provide a wide range of clinical experience to students

The UNC SOM and its clinical partner UNCH have been increasingly effective in attracting **NIH and other research funding** to the state



The UNC School of Medicine ranks as the fifth highest public school in NIH funding at over $100M annually, as well as attracting $25M in industry funding, which is primarily clinical in nature

UNCH operations also provide **general economic benefits** to the state

- UNCH employs 4,745 individuals - 4,660 are state residents
- UNCH employees pay ~$8.25M a year in state income taxes - on UNCH wages of $155M
- UNCH expenditures to North Carolina individuals and firms for goods and services exceed $100M annually.
  - To estimate the indirect economic impact of these expenditures, an economic multiplier of 2.0 can be applied to these expenditures resulting in an estimated aggregate direct and indirect effect on the state economy in excess of $765M
  - This is without considering UNCH's impact on attracting dollars to the UNC economy through tuition and/or research

UNCH as a healthy and successful state hospital is a major employer and purchaser in the state

Since 1990 UNCH has become self funding with respect to capital needs - no longer requiring state appropriations

- The capital expenditures of UNCH since 1990 total $253M - UNCH issued bonds to finance $193M and generated the remaining $60M from successful operations
- The Hospital currently maintains an attractive "Aa" bond rating as a result of strong operating performance - allowing it access to private capital markets at attractive rates
- The state has benefited by not having to supply capital improvement dollars and by being able to fund a declining percentage of operating expense, while providing specialized services, indigent care access, educational support, research support, and manpower through the hospital's operating success

Conversion of UNCH to an "enterprise fund" and the retention of "reserves" has allowed the state to obtain increasing operating benefits without directly funding capital needs

The financial return to the state has improved with each UNCH restructuring

(in $Millions)

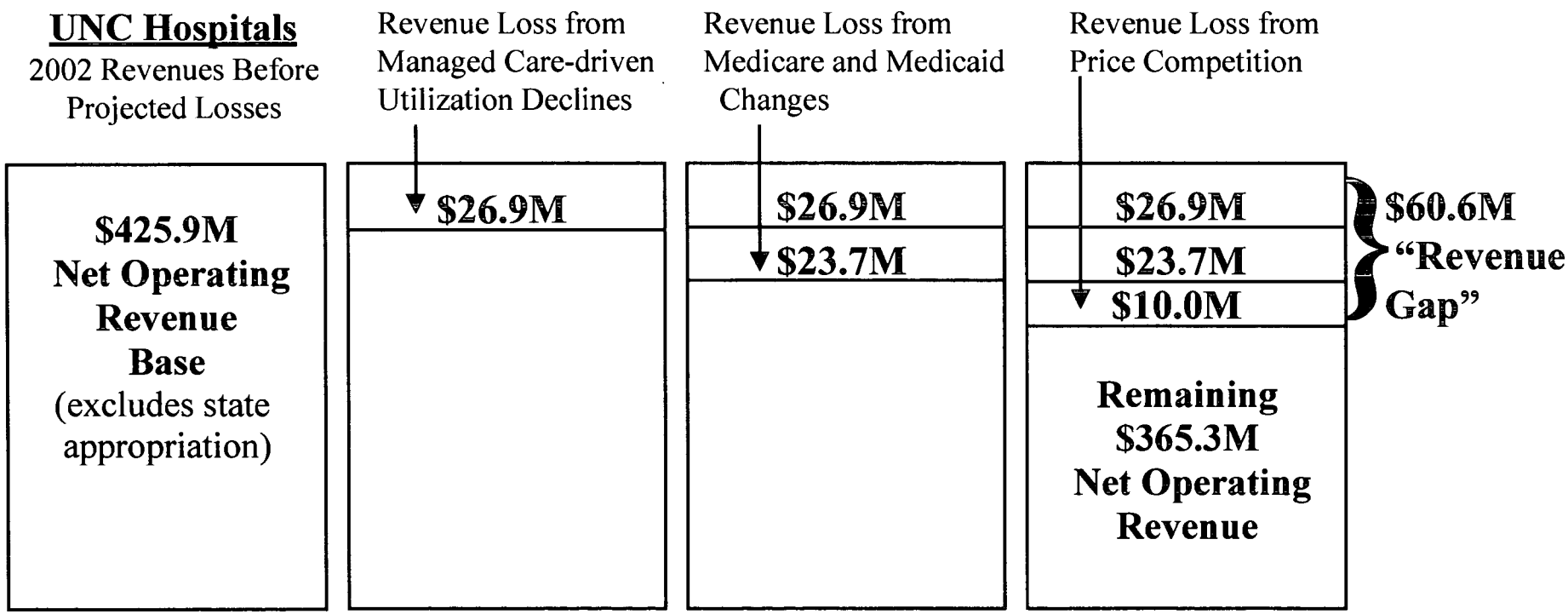
	1948-69	1970-1989	1990-1997
Cumulative State Appropriation During Period	NA	$ 477	$ 270
Hospital Net Worth @ end of period	$ -	$ 170	$ 483
Increase in net worth within period	NA	$ 170	$ 313

In the 1990 - 1997 period, the state got the benefit of service availability (special services - centers of excellence, and indigent care) and educational support at no net cost - and got a 4.8% average annual return on its $270M investment

The Future, However, Presents Some Serious Perils, Especially for Academic Medical Centers and Public "Safety Net" Hospitals

Principal threats are from managed care, competition and consolidation, and Medicaid and Medicare reimbursement changes

The Lewin Group projected UNCH losses from Medicare, Medicaid, and market threats in the year 2002



A $60.6 million reduction in UNCH net operating revenue is projected (14.2% of the current base revenue) - assuming that UNCH can perform as well as the average hospital in the Chapel Hill environment.

The assumptions used are conservative in nature - changes in these assumptions would result in the following:

- Market share:
  - Decreasing the UNCH share of all admissions by 5% will decrease UNCH revenue by $80M
  - Decreasing the UNCH share of commercial admissions by 5% will decrease UNCH revenue by $42M
- Managed care (HMO) penetration:
  - Increasing the managed care penetration by 5% will decrease revenue by $2M
- Price:
  - Decreasing the payment from all insurers by 1% annually will decrease revenue in 2002 by $10M

Note: For more detail please refer to Appendix I

The California experience reveals the vulnerability of Academic Medical Centers in particular to declines in inpatient utilization

- 1990-1995 California discharge data were reviewed to assess the distribution of volume declines between academic medical centers and community hospitals as managed care and other pressures produced service volume declines
- The average institution in California lost 8% of its admissions and 3% of its patient days during this period (controlling for population growth)
  - **The Academic Medical Centers as a group lost 21% of their admissions and 23% of their patient days**,
  - while generally more flexible community hospitals fared better - losing only 7% of their admissions and 1% of their patient days

UNCH is currently doing well in its management of operating cost vs. other Academic Medical Centers, but is more costly than community hospitals

- In a 1997 management engineering study of 40 hospitals primarily affiliated with state institutions, UNCH compares favorably:
  - "total operating expense per discharge" (Medicare case mix adjusted) is lower than 75% of the participating AMCs
  - The number of paid full time equivalents per occupied bed (3.85) was lower than 75% of the group
- But a review of 1995 Medicare cost per discharge at community facilities shows that UNCH and Duke had nearly identical non-teaching operating costs - and both are about 30% higher than other community hospitals with less commitment to education
- While UNCH is doing well relative to academic facilities, it will face a substantial challenge - just to hold its existing market share in a price competitive market

Currently, UNCH is competitively handicapped in several areas

- Personnel restrictions in regard to classification, compensation, and incentive systems
- Procurement procedures that add time and inflexibility, especially where "lowest bidder" may be an inappropriate choice (e.g. medical equipment or services)
- Construction management / procurement requirements also add time and cost; and complicate management of multiple contractors
- Obstacles to structuring strategic alliances with other providers
- Disclosure requirements place UNCH at a disadvantage in competing with private sector players who are not subject to such requirements

Evaluating the Impact of Appropriation Reductions

The 1997 and 1998 appropriation reductions have had a material impact on UNCH's long-term ability to carry out its mission

- The 1997 reduction of $20M in appropriation did substantially affect the operating profitability, the cash balance on hand, and, accordingly, management flexibility
- In fact, in 1997, had it not been for the appropriation and interest on the current reserves, UNCH's margin would have all but disappeared
- As a result, key financial ratios deteriorated and fell below the threshold for "Aa" bond rating as shown in the table that follows
- While access to capital has not yet been affected by these declines, both rating agencies have asked for assurances that this was a one time reduction, and not expected to be the long term pattern regarding state support

As projected Medicare, Medicaid and market changes reduce UNCH's revenue, appropriations become even more important to sustain its mission

- Even if UNCH maintains its current market share, the projected $60.6M of revenue reduction by 2002 will result in an estimated $56M operating loss in 2002, (before the appropriation)
- If the costs of indigent care and educational support are absorbed without state assistance, UNCH will have to:
  - suffer a reduction in its credit standing (with negative impacts on its access to and cost of borrowing, and on the value of bonds currently held by North Carolinians),
  - cut back on its programs,
  - weaken its ability to compete for insured patients, or
  - some combination of the three

As other hospitals are faced with market challenges, they may reduce commitments to indigent care or education - compounding the negative effect on UNCH

Even with a fully restored appropriation, the hospital will face a considerable challenge in order to produce outcomes comparable to 1996 or 1997

University of North Carolina Hospitals - Projected Financial Results

(in nominal $ - with constant market share)

	1996	1997	2002	
Net Patient Service / Operating Revenue	$355	$367	$365	*
Operating Expense - (other than interest)	$341	$363	$428	**
Income from Operations (before appropriation & interest)	**$14**	**$4**	**($63)**	
Non Operating Gains (Interest Income - net of interest expense)	$19	$22	$13	
Subtotal Operating and Non Operating Before Appropriation	**$33**	**$26**	**($50)**	
Appropriation	$45	$26	$46	
Bottom Line	**$78**	**$52**	**($4)**	
Additional Required to match 1997 Bottom Line			**$56**	

* Revenue in 2002 is the 1997 revenue inflated by 3% annually, net of the projected $60.6M Price, Policy and Utilization loss

** Expense in 2002 is projected at a 3% inflation factor, less 50% of the cost of volume losses caused by utilization declines plus depreciation increase of $20 M

Observations:

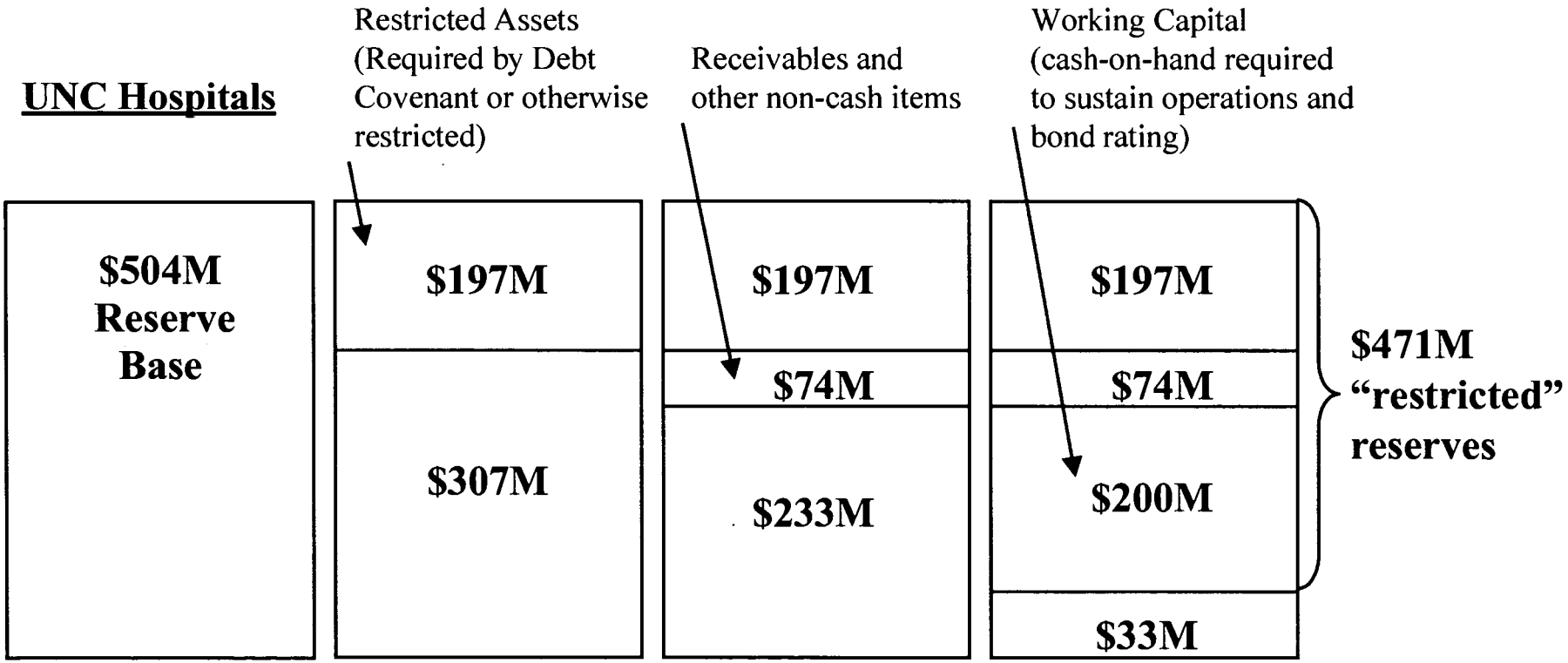
1. Margin on operations before appropriation is declining due to environmental forces
2. Interest income contributes significantly to bottom line results - and will decline as funds are expended
3. The appropriation has a highly leveraged effect on bottom line strength and available resources
4. Even if returned to its former level, the appropriation will not by itself resolve the challenge at UNCH
5. Projecting expense at the general inflation rate implies active management since the hospital market basket index for the five year period 1992-1996 averaged 1.3 times the general consumer price index

Without appropriations to support service and educational missions, market driven revenue declines could force UNCH to cut programs

- Reductions of cost that UNCH would be forced to undertake:
  - Layoffs of clinical and administrative staff
  - Reduction / delay of investments needed to protect market share and address competitive challenges (coordinated and improved care systems, more convenient sites of service, development of programs of clinical excellence)
  - Eliminating some patient care programs that are important but not self-supporting (e.g., burn center, cystic fibrosis, hemophilia etc.) - This will reduce the breadth and scope of experience of training of the School of Medicine students and residents, as well as reduce service offerings to those dependent on UNCH
  - Reducing the size of residency training programs and thus house staff - compromising the supply of physicians available within the state
  - Rationing or eliminating non-emergent indigent/charity care

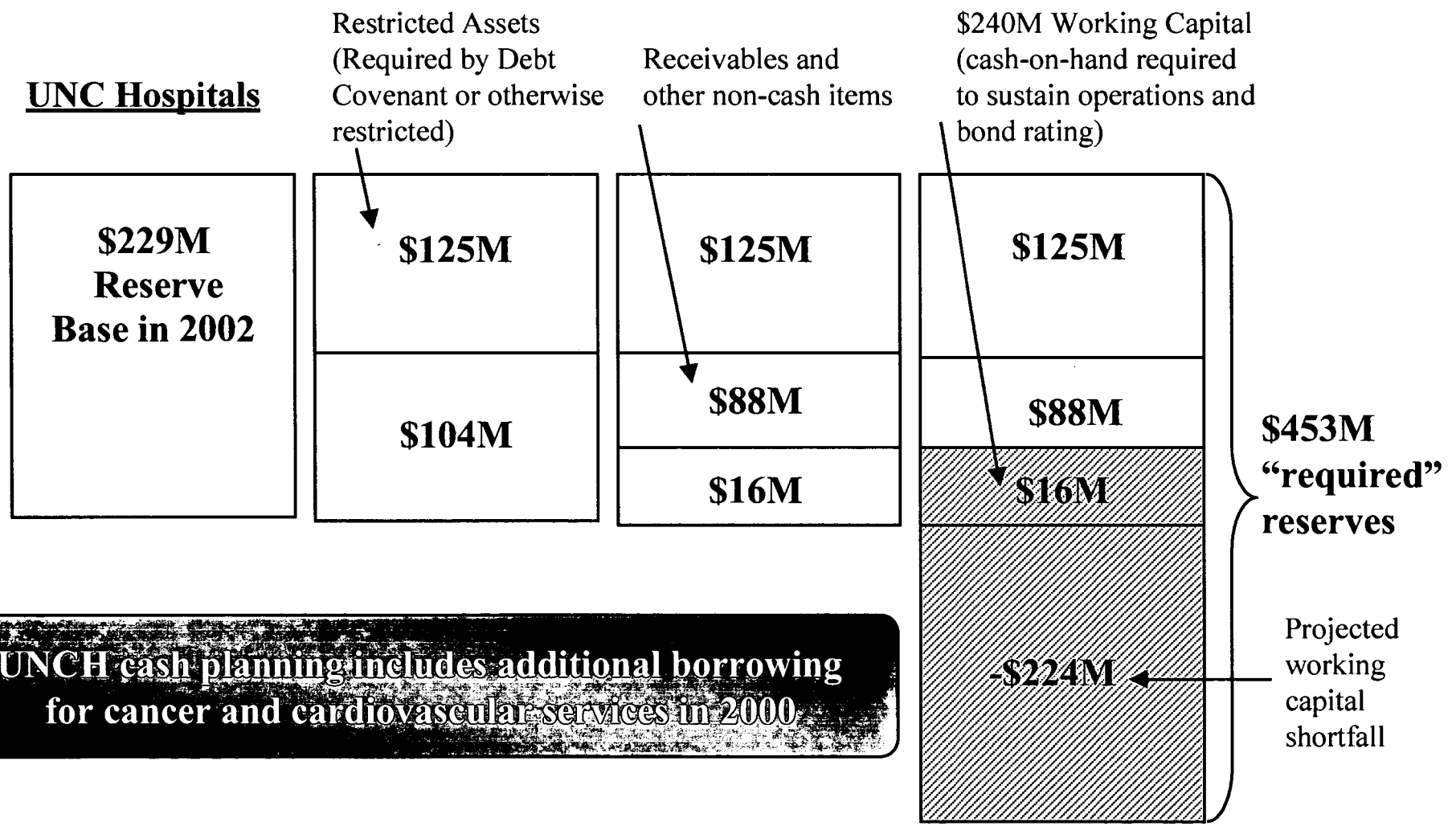
The cutbacks to meet current financial needs would jeopardize the chance for long term success of the hospital and the School of Medicine as well as remove access to some services for all patients, and additional services for indigent patients

The hospitals' reserves will not suffice as a cushion; all but $33M is restricted or needed as working capital for continuing operations



The remaining $33M will not be sufficient to fund routine capital equipment replacement, let alone new building and renovation needs over the next five years
The hospital will need to issue additional debt to meet its capital needs

Available cash projected for 2002 indicates a need for additional borrowing by UNCH



Continued reduction in appropriations without offsetting performance improvements may imperil continued "Aa" bond rating

COMPARATIVE STATISTICS	UNCH 1995	UNCH 1996	UNCH 1997	1996 Moody's Medians Aa*	1996 S&P Medians Aa**
Financial Performance:					
Operating Margin (%)	17.20	13.67	5.00	4.10	4.61
Excess Margin (%)	20.21	18.46	12.13	8.30	10.18
Times Max. Debt Service Coverage (X)	6.60	6.67	4.56	4.67	4.39
Liquidity					
Unrestricted Cash & Inc ($000)	217,251	122,853	172,631	286,356	
Days Cash on Hand	259.4	140.82	184.82	201.3	238.51
Days in Accounts Receivable	48.15	59.11	53.27	62.3	

*Medians exclude multi-hospital systems. Compiled from 1996 audited financial statements.

**Ratios include all acute care hospitals and systems rated during calendar year 1996 and some underlying ratings.

This table highlights the areas where the more sensitive short term performance ratios have suffered relative to the average "Aa" rated credit. Note that these ratios, in some cases, have fallen below the "Aa" group averages. While these ratios by themselves have not caused a downgrading of credit rating, all are evaluated in establishing creditworthiness

Findings of the Lewin Group

- The state owns, in UNC Hospitals, a well managed facility that is providing:
  - access to very high quality care without regard to ability to pay for all of the state's residents, nearly two-thirds of whom are outside the Raleigh-Durham MSA
  - vital support for the UNC School of Medicine which, in turn is serving the state's needs for a well-trained medical workforce, while distinguishing itself as one of the nation's leading medical schools
- The state's appropriation has played a major role in allowing UNCH and UNC-SOM to produce these benefits. The reductions in this appropriation in 1997 and 1998 have weakened UNCH's financial strength, which if not corrected, potentially threatens its current "Aa" bond rating. At risk are UNCH's continuing ability to finance its own capital needs and the value of current bonds, many of which are held locally.

Findings of the Lewin Group

- Looking ahead to the year 2002, UNCH, along with other hospitals, faces substantial revenue reductions as a result of:
  - cuts in federal Medicare and Medicaid reimbursement, enacted as part of the Balanced Budget Act
  - reductions in hospital utilization imposed by increasingly aggressive managed care organizations, e.g. HMOs
  - price discounting as a result of competition among insurance companies
- These revenue reductions will not fall evenly on providers - Academic Medical Centers such as UNCH will suffer disproportionate reductions - their increased vulnerability deriving largely from their indigent care and educational mission obligations.

Findings of the Lewin Group

- As a result, The Lewin Group estimates that **even if UNCH maintains its current market share**, its 2002 revenues will likely be $60.6M less than they would otherwise have been. These reductions, even with corresponding cost-reduction efforts, would virtually eliminate UNCH's margin.
- This outcome would seriously jeopardize UNCH's creditworthiness, and its ability to accomplish its indigent care and education missions. Since private payers are increasingly resistant to paying for the costs of these functions, public funds will continue to be needed for these purposes.
- The revenue shortfall will be much larger if UNCH is unable to take the necessary steps to meet the competition that threatens to erode its market share, especially of insured patients.

Findings of the Lewin Group

- The increasingly competitive nature of the North Carolina health care market thus requires UNCH to **both:**
  - sustain its mission commitments, and to undertake a range of activities to remain price competitive, meet patient service expectations, modernize its information systems, and
  - build a truly integrated health care network.

Proposed Recommendations from the Board of Governors to the General Assembly

- **Reaffirm: the mission components of UNCH** public ownership, and with it, assurance of access to high quality hospital services regardless of ability to pay; and, support for the clinical component of a quality medical education program to meet North Carolina's medical workforce needs.
- **Restore the appropriation to the 1996 level as soon as possible** in order to ensure that UNCH is not handicapped in carrying out its key mission elements. Failure to do so will seriously endangerUNCH's ability to serve patients and their healthcare providers, and may well require UNCH to do one or more of three things: reduce its mission commitments, lose its favorable borrowing position, or undermine its ability to attract a sufficient volume of insured patients to meet its teaching and fiscal requirements. In all of these events, the state would be at risk fiscally and in terms of UNCH's ability to meet public needs and expectations. The level of the appropriation should be guided by theunreimbursed cost of statewide specialty and indigent care and medical education.

Proposed Recommendations from the Board of Governors to the General Assembly (cont.)

- **Broaden the purview of the UNCH Board** and provide the structure and flexibility to allow UNCH to strengthen its functioning as a healthcare system. Specifically, this will entail: bringing under the Board's purview clinical practice organizations and, possibly, other entities; broadening the Board's membership to assure that the structure, governance, executive leadership and the strategic planning process are attuned to these new perspectives; and providing the resulting structures the flexibility to act decisively.
- **Afford UNCH maximum flexibility** to deal with the increasingly competitive challenges of the healthcare marketplace. This entails minimizing traditional state and university limitations on procurement, personnel, property acquisition and construction activities, and allowing UNCH the degrees of freedom necessary to develop vital strategic alliances.

Proposed Recommendations from the Board of Governors to the General Assembly (cont.)

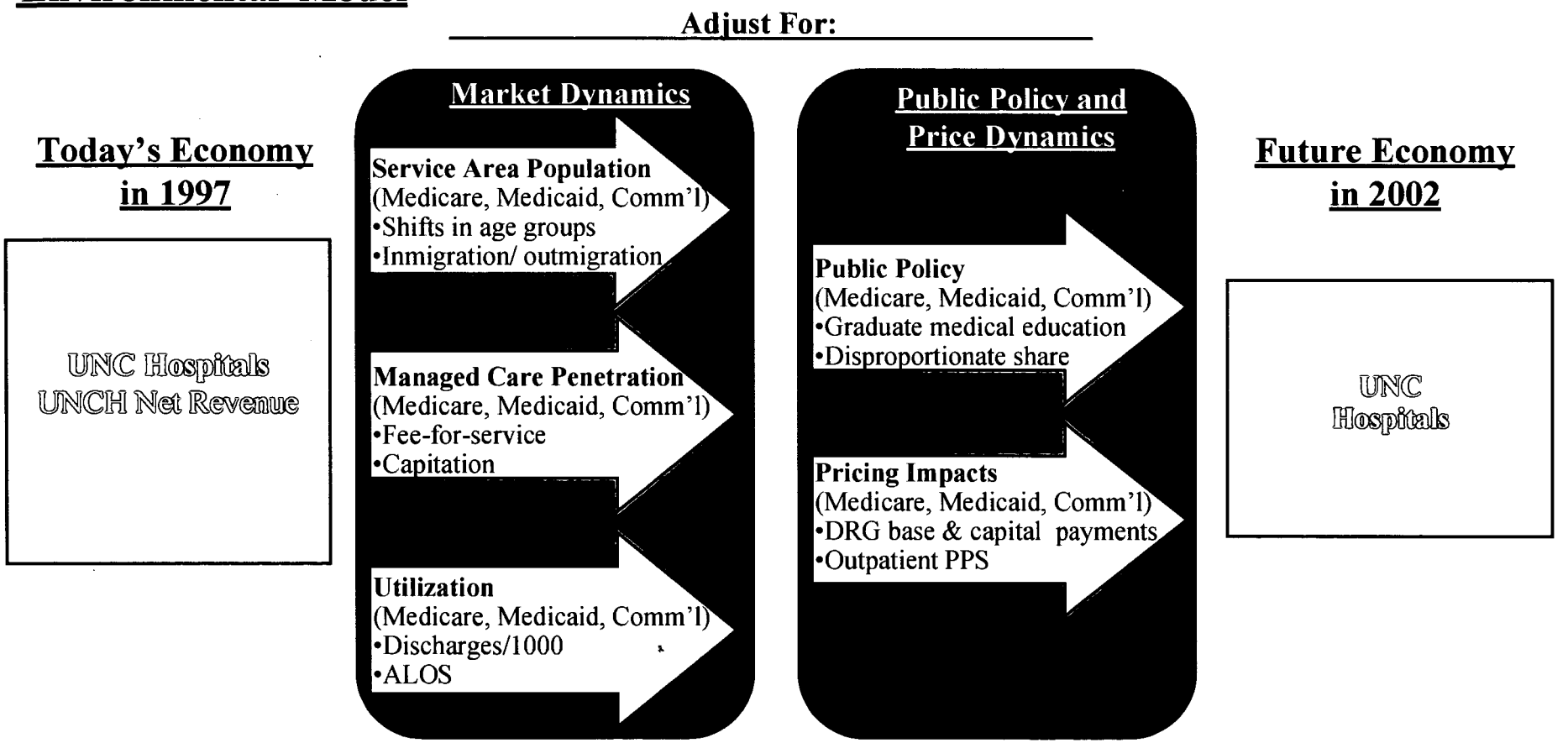
- **Improve communication and accountability between the University system and the General Assembly** regarding: UNCH's strategic plan and mission-related objectives, and its success in attaining them; andUNCH's success in meeting the market challenges confronting it, including the costs of such efforts.

UNC / UNCH
Appendix I

Information in support of the Projection of the
Revenue Threats in 2002

The Lewin Environmental Model: Conceptual Overview

Environmental Model



Market and Utilization Assumptions: Summary

Major Model Levers	1997 Actual	2002 Assumption
◆ Service area population (1)	1.8 million	2.0 million
◆ HMO penetration (2)	17.0%	33.0%
➢ Medicare	2.0%	13.0%
➢ Medicaid	0.0%	42.0%
➢ All Other (3)	22.0%	35.0%
◆ Overall Use Rate (discharges/1000)	107	92
◆ UNCH Avg Length of Stay (days)	6.1	5.2
◆ Outmigration/ inmigration of patients	6.0%/22.0%	6.0%/22.0%

Note(1): The service area includes the following counties- Orange, Alamance, Chatham, Lee, Guilford, Randolph, Durham, Wake, Johnston, Harnett, and Sampson
Note(2): HMO penetration only includes risk contract enrollees , e.g., excludes primary care case management contracts
Note(3): Commercial HMO penetration excludes POS plans

Public Policy and Price Assumptions: Summary

Major Model Revenue Area	Assumption (annual percent decline relative to inflation)	5 Year Impact (percent decline relative to inflation)
Medicare (Inpatient)	1.1%	5.4%
Medicare Capital	3.8%	17.8%
Medicare – Direct Graduate Med Education	1.0%	4.9%
Medicare – Indirect Medical Education	6.5%	28.6%
Medicare – Disproportionate Share	1.0%	5.0%
Medicaid (Inpatient)	1.7%	8.1%
Medicaid – Direct Graduate Med Education	1.0%	4.9%
Medicaid – Indirect Medical Education	6.5%	28.6%
Medicaid – Disproportionate Share	1.0%	5.0%
All Other (Inpatient)	1.1%	5.4%
Outpatient Revenue	1.1%	5.4%

Utilization Assumptions

- **Population of the Service Area**
  - The service area is defined by the following counties: Alamance, Chatham, Durham, Guilford, Harnett, Johnston, Lee, Orange, Randolph, Sampson and Wake. The service area represents almost 70% of all UNCH discharges during 1997. *Source: HCIA, 1997.*
  - The service area population is projected to grow from 1,812,000 in 1997 to 1,967,000 in 2002- an 8.6% increase. *Source: Office of State Planning Data Center.*
- **Managed Care Penetration**
  - **Medicare**: 15% of all eligibles in the U.S. enrolled in HMOs during 1997 (13% risk contracts/ 2% cost contracts). The current service area penetration of 2% (4,600 enrollees) is assumed to equal the national level of 13% (33,000 enrollees) by 2002. *Source: HCFA, 3rd Qtr-1997.*
  - **Medicaid:** Voluntary HMO enrollment in the service area began on January, 1998 with Generations, Optimum Choice, and Maxicare. The baseline projection assumes that penetration will reach the current level of 42% attained by the Health Care Connections program (voluntary , full risk model) in Mecklenburg and Gaston Counties. S*ource: NC Division of Medical Assistance-Managed Care, 1997.*
  - **Commercial:** The current penetration for "pure" HMO plans in the service area is 22% (295,000 enrollees), while the 1996 National level for major markets (> 1 million lives) is 26%. The baseline projection of 35% (503,000 enrollees) is derived from increasing current service area enrollment by the State average annual rate of change of 13%. *Source: NC Department of Insurance-Managed Care, 1997; Interstudy, 1997.*

Utilization Assumptions

- **Use Rates (discharges/1,000)**
  - **Medicare:** The current discharge use rate for service area eligibles is 283, while the 1995 national use rate is 317. The national use rates are trended for 1983-1995 to estimate the 2002 service area use rate of 253. *Source: HCFA, 1997.*
  - **Medicaid:** The current discharge use rate for SA eligibles is 132, while the 1996 State use rate is 158 (national at 129). The national use rates are trended for 1991-1996 to estimate the 2002 service area use rate of 101. Although the current service area use rate is above the National level, the expansion of the Health Care Connections project to the rest of the State should lower hospital utilization. *Source: HCFA, 1997.*
  - **Commercial/All Other:** The current discharge use rate for commercial/ all other lives is 72, while the 1994 national use rate is 74. The national use rates are trended for 1988-1993 to estimate the 2002 service area use rate of 63. *Source: American Association of Health Plans data, 1996; Health Insurance Association of America, 1996.*
- **Average Length of Stay (ALOS)**
  - **Medicare:** The current ALOS for UNC Hospitals is 6.9, while the 1995 National ALOS is 7.1. The ALOS projection of 6.2 is derived from decreasing the current service area ALOS by the national average annual rate of change of -2.1% (1983-1995). *Source: HCFA, 1997.*

Utilization Assumptions

- **Average Length of Stay (continued)**

  ➢**Medicaid:** The current ALOS for UNC Hospitals is 6.5, while the State ALOS is 5.3 (national at 5.0). The national length of stay is trended for 1991-1996 to estimate the 2002 service area length of stay of 4.8; which is consistent with HMO growth continuing throughout the State. *Source: HCFA, 1997.*

  ➢**Commercial/ All Other:** The current ALOS for UNC Hospitals is 5.4 while the ALOS for service area residents is 4.0. The national length of stay is trended for 1988-1993 to estimate the 2002 service area length of stay of 4.7. *Source: American Association of Health Plan, 1996.*

- **Outmigration/Inmigration of the Service Area:**

  Outmigration refers to residents of the service area seeking care in non-service area hospitals, e.g., rest of North Carolina, rest of U.S. Inmigration refers to non-service area patients traveling to seek care in service area hospitals. The 1996 ratio of *6% 'out'/22% 'in'* is held constant for 2002. *Source: HCIA- North Carolina hospitals and Virginia hospitals with North Carolina resident discharges (outmigrators).*

Public Policy and Price Assumptions: Impact of the Balanced Budget Act of 1997

- **Medicare Base Payment:**

  The baseline assumption expects payments 1.1% less than the HCFA market basket inflation index for the next five years. This is consistent with the Act that requires no adjustment in FY1998, 1.9% below the index in FY1999, 1.8% below the index in FY2000, and 1.1% below the index in FY2001 and FY2002.

- **PPS Capital**:

  Current Medicare law limits capital payment to 84.32% of cost. In addition, the Act will reduce payment by 2.1% for FY1998 through FY2002- resulting in an overall reduction of 17.78% for the next five years.

- **Direct Graduate Medical Education (DGME):**

  The Act limits the number of residents that a hospital can include in the FTE count for payment to the unweighted FTE count on or before December 31, 1996. This should result in an annual decline in payments by 1.0% relative to inflation.

Source: Federal Register, August 29, 1997.

Public Policy and Price Assumptions: Impact of the Balanced Budget Act of 1997

- **Indirect Medical Education (IME):**
  - Historically, IME adjustments averaged a 7.7% add-on for every 10 residents per 100 beds. The Act requires a phase down of the adjustment factor from 7.7% in FY1997 to 7.0% in FY1998, 6.5% in FY1999, 6.0% in FY2000, 5.5% in FY2001 and FY2002- a 29% overall reduction.
  - Similar to DGME, the Act limits the number of residents included in the ratio of residents-to-beds to the unweighted FTE count on or before December 31, 1996. In addition the ratio of residents-to-bed (IRB) may not exceed the IRB from the prior cost reporting period (after accounting for the cap).
- **Disproportionate Share Payments (DSH):** The Act reduces payments to hospitals by 1.0% in FY1998 and an additional 1.0% per year until FY2002.
- **Hospital Outpatient Services:** The Omnibus Budget Reconciliation Act of 1986 and 1990 directed the Secretary of HHS to develop an outpatient PPS by FY1991; the Act requires outpatient PPS to be implemented for FY1999. The Ambulatory Patient Group (APG) Outpatient PPS appears to be the preferred methodology of the Medicare Payment Advisory Commission. No matter what methodology is selected it is assumed that reimbursement for all outpatients mirror DRG base payment reductions by 2002- a 1.1% annual decline relative to inflation.

Source: Federal Register, August 29, 1997.

Additional Public Policy and Price Assumptions

- **Medicaid Base Payment**: Inpatient reimbursement is expected to experience a 'one-time' reduction of 5.0% in 1998 to meet expenditure targets. Payment thereafter is assumed to be consistent with Medicare reductions- a 1.1% annual decline to 2002.
- **Medicaid DGME:** North Carolina DGME is calculated similar to the Medicare methodology. Payment is assumed to be consistent with Medicare reductions- a 1.0% annual decline for the next five years. DGME cost is currently carved out of full risk contracts in the State.
- **Medicaid IME**: North Carolina indirect medical education factor is calculated similar to the Medicare methodology. The adjustment is assumed to be consistent with Medicare reductions- a 29% overall reduction. IME cost is currently carved out of full risk contracts in the State.
- **Medicaid DSH:** The rate of adjustment for a DSH hospital is 2.5% plus 0.25% for each percentage point that a hospital's Medicaid inpatient utilization rate exceeds one standard deviation of the mean Medicaid inpatient utilization rate in North Carolina. The adjustment is assumed to be consistent with Medicare reductions- a 1.0% annual decline for the next five years. DSH adjustments are currently carved out of full risk contracts in the State.
- **Other/ Commercial Price Impacts:** A 1.0% annual loss for the next five years as competition drives price increases below inflation for all fee-for-service commercial, self pay, and other payer groups.

Environment and market projections: Sensitivity of the revenue gap to various assumptions

- **Managed care (HMOs):**

  The base environmental model assumes that managed care plans will increase coverage from 17% of the local population to 33% by 2002. This results in a $23.2M utilization loss for UNC Hospitals.

  Increasing the managed care penetration by 5% will decrease revenue by $2.0M.

- **Price:**

  The base environmental model assumes:

  - Medicare- reimbursement decreases 1.1% annually relative to inflation,
  - Medicaid- reimbursement decreases 1.7% annually relative to inflation,
  - Other Insurers- reimbursement decreases 1.1% annually relative to inflation,
  - The combined impact results in a $15.8M reimbursement loss for UNC Hospitals by 2002.

  Decreasing reimbursement of all insurers by 1% annually will decrease revenue by $10.0M.

Environment and market projections: Sensitivity of the revenue gap to various assumptions (cont.)

- **Market share:**

  The base environmental model assumes that UNC Hospitals will maintain its current share of admissions through 2002 (10.3% of all service area residents requiring hospitalization go to UNCH). This results in a $52.3M loss for UNCH because of the price, policy, and utilization impacts in the market.

  Decreasing the UNCH share of all admissions by 5% will decrease revenue by $78.9M.

  Decreasing the UNCH share of only admissions from patients with commercial insurance by 5% will decrease revenue by $42.1M.

4-22-98
#4 B
Lewin

The LEWIN GROUP

University of North Carolina & University of North Carolina Hospitals: Highlights and Summary

Report to the
Joint Legislative Education Oversight Committee

April 15, 1998
Chapel Hill, NC

Fairfax, Virginia
San Francisco, California
Cambridge, Massachusetts

HIGHLIGHTS

Introduction - In 1997 the General Assembly requested a report by the Board of Governors concerning the impact of recent reductions in state appropriations on the University of North Carolina Hospitals' (UNCH) ongoing ability to provide the range and quality of healthcare services North Carolinians expect. The Board was asked to submit its report to the Joint Legislative Education Oversight Committee by April 15, 1998 and to address two questions:

1. What impact might reductions in the General Fund operating support for UNCH have, especially on indigent patient care; and
2. How do market forces, along with the state appropriation, affect other mission components including medical education and quality of care?

The overall conclusions drawn by this analysis include the following:

- UNC Hospitals, North Carolina's only state-owned acute care hospital, plays a unique role by providing unequaled access to advanced healthcare for all the state's residents, especially those with little or no insurance. It also plays a vital role in meeting North Carolina's need for a well-trained medical workforce, through its substantial support for the UNC School of Medicine.
- UNC Hospitals is a well-run teaching hospital with a strong current financial position whose management has been strongly endorsed by the JCAHO, the state auditor and public bond authorities. However, like most teaching hospitals, it faces serious threats to its future financial success, and therefore its mission. This threat comes from increasing competition and from the tightening of federal and state payment programs related to both medical education and patient care.
- Since the inception of its "enterprise fund" status in 1990, and the increased flexibility it afforded, the Hospitals' success has enabled it to meet its capital financing needs, through a combination of borrowing in public bond markets, and internally generated funds. This has relieved the state of $253 million in capital appropriations primarily for the Neuroscience Hospital, North Carolina Children's Hospital, North Carolina Women's Hospital and routine equipment and facility renovation and replacement. Future access to public bond markets, and the current value of the existing bonds, depends on UNCH maintaining its successful financial performance.
- If UNCH is to maintain the services expected by the people of North Carolina, both statewide access to a broad spectrum of specialized medical care, especially to the under-and uninsured, and the scale and quality of UNC's health professions education and training programs, conservative projections of future market conditions strongly indicate a critical need for ongoing state operations support. The level of appropriation needed is a function of the costs of providing these services. Underfunding would undermine UNCH's financial strength, its appeal to insured patients, and service to under- and uninsured patients statewide.

- At the same time, UNC Hospitals needs to be governed and managed as a health care system that fully integrates all critical components of health care. This system of governance and management should include faculty physician leadership, and be afforded the maximum flexibility to manage its costs, and build the alliances and operating capabilities needed to accomplish its mission in a rapidly changing healthcare marketplace.

The recommendations that follow from these conclusions are as follows:

1. **Reaffirm: the mission components of UNCH** public ownership, and with it, assurance of access to high quality hospital services regardless of ability to pay; and, support for the clinical component of a quality medical education program to meet North Carolina's medical workforce needs.

2. **Restore the appropriation to the 1996 level as soon as possible** in order to ensure that UNCH is not handicapped in carrying out its key mission elements. Failure to do so will seriously endanger UNCH's ability to serve patients and their healthcare providers, and may well require UNCH to do one or more of three things: reduce its mission commitments, lose its favorable borrowing position, or undermine its ability to attract a sufficient volume of insured patients to meet its teaching and fiscal requirements. In all of these events, the state would be at risk fiscally and in terms of UNCH's ability to meet public needs and expectations. The level of the appropriation should be guided by the unreimbursed cost of statewide specialty and indigent care and medical education.

3. **Broaden the purview of the UNCH Board** and provide the structure and flexibility to allow UNCH to strengthen its functioning as a healthcare system. Specifically, this will entail: bringing under the Board's purview clinical practice organizations and, possibly, other entities; broadening the Board's membership to assure that the structure, governance, executive leadership and the strategic planning process are attuned to these new perspectives; and providing the resulting structures the flexibility to act decisively.

4. **Afford UNCH maximum flexibility** to deal with the increasingly competitive challenges of the healthcare marketplace. This entails minimizing traditional state and university limitations on procurement; personnel classification, compensation and incentive systems; property acquisition and construction activities; and allowing UNCH the degrees of freedom necessary to develop vital strategic alliances.

5. **Improve communication and accountability between the University system and the General Assembly** regarding: UNCH's strategic plan and mission-related objectives, and its success in attaining them; and UNCH's success in meeting the market challenges confronting it, including the costs of such efforts.

SUMMARY

Introduction - In 1997 the General Assembly requested a report by the Board of Governors concerning the impact of recent reductions in state appropriations on the University of North Carolina Hospitals' (UNCH) ongoing ability to provide the range and quality of healthcare services North Carolinians expect. The Board was asked to submit its report to the Joint Legislative Education Oversight Committee by April 15, 1998 and to address two questions:

1. What impact might reductions in the General Fund operating support for UNCH have, especially on indigent patient care; and
2. How do market forces, along with the state appropriation, affect other mission components including medical education and quality of care?

This report summarizes the Board's principal findings and provides recommendations for future state support to UNCH. The overall conclusions drawn by this analysis include the following:

- UNC Hospitals, North Carolina's only state-owned acute care hospital, plays a unique role by providing unequaled access to advanced healthcare for all the state's residents, especially those with little or no insurance. It also plays a vital role in meeting North Carolina's need for a well-trained medical workforce, through its substantial support for the UNC School of Medicine.
- UNC Hospitals is a well-run teaching hospital with a strong current financial position whose management has been strongly endorsed by the JCAHO, the state auditor and public bond authorities. However, like most teaching hospitals, it faces serious threats to its future financial success, and therefore its mission. This threat comes from increasing competition and from the tightening of federal and state payment programs related to both medical education and patient care.
- Since the inception of its "enterprise fund" status in 1990, and the increased flexibility it afforded, the Hospitals' success has enabled it to meet its capital financing needs, through a combination of borrowing in public bond markets, and internally generated funds. This has relieved the state of $253 million in capital appropriations primarily for the Neuroscience Hospital, North Carolina Children's Hospital, North Carolina Women's Hospital and routine equipment and facility renovation and replacement. Future access to public bond markets, and the current value of the existing bonds, depends on UNCH maintaining its successful financial performance.
- If UNCH is to maintain the services expected by the people of North Carolina, both statewide access to a broad spectrum of specialized medical care, especially to the under-and uninsured, and the scale and quality of UNC's health professions education and training programs, conservative projections of future market conditions strongly indicate a critical need for ongoing state operations support. The level of appropriation needed is a function of the costs of providing these services. Underfunding would undermine UNCH's

financial strength, its appeal to insured patients, and service to under- and uninsured patients statewide.

- At the same time, UNC Hospitals needs to be governed and managed as a health care system that fully integrates all critical components of health care. This system of governance and management should include faculty physician leadership, and be afforded the maximum flexibility to manage its costs, and build the alliances and operating capabilities needed to accomplish its mission in a rapidly changing healthcare marketplace.

History and mission of North Carolina's only state owned acute care hospital –

UNCH's history can be divided into four phases:

1. **1948-1970**: UNCH was created as part of the University of North Carolina (UNC) for the purpose of establishing a statewide system of healthcare and allowing the UNC School of Medicine to develop a four year physician education program to assure the supply of qualified health providers for the entire state.

2. **1971-1990**: UNCH became a separate operating division within the state university system, with its own statutory Board of Directors and expectations of improved efficiency, competitiveness, and fiscal viability. The improved management this afforded substantially increased UNCH's value to the state during this period.

3. **1990-1996**: The Governor of North Carolina exercised his statutory authority to create an "enterprise fund" allowing the hospital to retain its earnings and develop creditworthiness in its own right. Since 1990, UNCH has twice accessed the bond market and has obtained $193M with which to improve its facilities and services.

4. **1997-1998**: In 1997, the General Assembly imposed a $19M (43%) non-recurring reduction in the appropriation from $45M to $26M; and then enacted a recurring appropriation level of $36M, where it stands today. At the same time the General Assembly provided UNCH with an increase in relief from the state sales tax worth about $4.1M per year.

Since its inception, UNCH has operated under the following mission:

1. to provide **statewide access to a full range of high quality healthcare services** – regardless of the ability of North Carolina residents to pay for those services, and
2. to **support the academic mission of the University School of Medicine** (thereby ensuring a supply of physician healthcare providers to the citizens of the state).

The value of the state's investment in UNCH –

UNCH, as a state supported institution, has been a major success story in terms of the performance of its mission, and the economic return the state and the local community have enjoyed from the state's investment. Medical services are provided by UNCH to all persons from North Carolina based on the need for the services and not upon the patient's ability to pay. The availability of quality hospital services to all citizens of the state is a direct outcome of both the funding and the management latitude that the state has provided UNCH over the years.

The significance of the General Assembly's investment in UNCH is exemplified in the following areas:

- **Indigent Care** – UNCH delivers more care to uninsured people than any other acute care institution in North Carolina according to the North Carolina Hospital Association Database. In 1997, UNCH delivered uncompensated care to residents of all 100 counties in the state, with approximately two-thirds of that care being delivered to residents outside the Raleigh Durham Metropolitan Statistical Area while only 16% was provided within Orange county. The total value of UNCH uncompensated care (charity and bad debt) was $31.8M. The UNCH faculty provided an additional $7M in uncompensated care during 1997.
- **Complexity and Severity of Cases Treated** - UNCH provides for North Carolina patients and health care providers many programs of high quality and cutting-edge technology (fueled, in large part, by the presence of advanced NIH-funded biomedical research grants). Among the unique services offered by UNCH are its burn unit, NICU and cystic fibrosis program as well as many other centers of excellence. The majority of the patients served by these programs come from outside the Raleigh-Durham MSA.
- **Medical Education** – In 1997 UNCH supported graduate medical education (residents) by incurring direct costs that exceeded medical education reimbursement for those costs by $3.4M. Its support for medical student education is both extensive and effective, but difficult to quantify precisely. In the ten counties with the fewest active physicians, UNCH and UNC-SOM trained 50% of those physicians and in total provided training to 23% of practicing non-federal physicians in N. Carolina. UNCH and UNC-SOM have also trained significant numbers of primary care physicians and allied health professionals who practice in N. Carolina.
- **Medical Research** – UNCH support for the UNC-SOM has contributed to UNC's national rank in 1996 of 13th in NIH research grants (UNC ranks 5th among public SOMs). That year, UNC-SOM's NIH research grants contributed $28 million in indirect total cost recovery revenues to the Chapel Hill campus, 55% of UNC-CH's indirect cost recovery. In 1997, UNC-SOM attracted an additional $17M in private non-governmental research which mostly served clinical trials and required affiliation with UNCH's extensive patient population and the UNC faculty.
- **Building of Reserves** - Since 1990, the ability to build reserves as a result of the Enterprise Fund Status and to maintain a solid "Aa" bond rating, has allowed the

hospital to rely on internally generated funds and $193 million in bonds to meet capital needs without any capital funding appropriation from the state.

- **UNCH Asset Value** - Since granting the hospital enterprise fund status, UNCH's net worth has increased so as to provide a positive financial return on the state's operating appropriation of 4.8% per year, over and above the value of the social benefits achieved.

As the data exemplify, the value to the state from its investment in UNCH extends beyond the direct financial results to the contribution that the hospital makes in helping the UNC-SOM and other UNC-Schools of health achieve success. What these interrelationships mean though is that UNCH is committed to uphold important responsibilities not incurred by hospitals with less intensive social and academic support missions. The indirect impacts on the state economy from research, education and training and the availability of healthcare to any citizen are significant additional benefits of maintaining a strong state hospital affiliate for the UNC-SOM.

Environmental threats to UNCH and its mission –

While UNCH has enjoyed substantial mission and financial success to date, its future ability to sustain its missions is currently threatened. Projections of changes in public and private payment systems, efforts to constrain demand and industry consolidation suggest the current success enjoyed by UNCH will be threatened by the year 2002. As managed care penetrates the RTP area, utilization of inpatient services will decline further while costs of providing services increase at a faster rate than the actual payments per service. Assuming UNCH can maintain its market share among the threats from local competitors and emerging managed care networks, the Lewin Group forecasts that the hospital's 2002 net operating revenue will decline by $61M or 13.3% of the current base revenue over the next five years. Failure to maintain market share will, of course, result in even greater declines. For example, if UNCH were to match the average market share performance of academic medical centers in California from 1990-1995, its revenues would decline by an additional $38M for a total decline of $99M or 23% of revenues.

Even though management engineering studies comparing forty academic medical centers show UNCH's productivity and its relative cost per case today at the 75th percentile among these institutions (i.e. better than three-quarters of the hospitals in both categories), UNCH's costs (reflecting its special missions) are substantially above the costs of facilities that do not carry the burden of statewide access, indigent care, and education but against whom UNCH must compete. While UNCH is performing well today relative other academic facilities, it will face increasingly tough competitiveness to simply hold onto its existing market share as managed care and price competition continue to grow in North Carolina.

Impact of the 1997 – 1998 state appropriation reductions –

The reductions in the state operating appropriation from $44.9M in 1996 to $25.7M in 1997, and $36.4M in 1998 have had a substantial impact on UNCH's long term ability to maintain its effective track record, and continued reductions pose an even greater threat. UNCH's cash position, excess of revenue over expense, and ability to service debt have all felt the effect of reduced appropriations (See Table I). While the hospital has a strong current financial position, analysis reveals that after considering non-cash assets, cash restricted for capital improvements, required insurance funds, other board designated measures and amounts restricted by bond covenants (for principal and interest payments and maintenance reserves) UNCH has unrestricted cash reserves of only $33M in excess of its needs in 1998. This means that it will need to borrow additional funds just to cover its routine renovation and equipment replacement needs.

Table I

COMPARATIVE STATISTICS	UNCH 1995	UNCH 1996	UNCH 1997	1996 Moody's Medians Aa*	1996 S&P Medians Aa**
Financial Performance:					
Operating Margin (%)	17.20	13.67	5.00	4.10	4.61
Excess Margin (%)	20.21	18.46	12.13	8.30	10.18
Times Max. Debt Service Coverage (X)	6.60	6.67	4.56	4.67	4.39
Liquidity					
Unrestricted Cash & Inc ($000)	217,251	122,853	172,631	286,356	
Days Cash on Hand	259.4	140.82	184.82	201.3	238.51
Days in Accounts Receivable	48.15	59.11	53.27	62.3	

*Medians exclude multi-hospital systems. Compiled from 1996 audited financial statements.

**Ratios include all acute care hospitals and systems rated during calendar year 1996 and some underlying ratings.

Continuation of the reduction in appropriations without offsetting performance improvements may imperil the current "Aa" bond rating, as it brings UNCH below a number of threshold financial ratios set by Moody's and Standard and Poors' investor services. The key ratios, taken collectively, did not result in a downgrading of credit (and potential loss for the holders of the existing bonds) as a result of the 1997 action, although some of the ratios were reduced below the averages of hospitals that are designated as "Aa" credits. Comparison to other Academic Medical Centers suggests that UNCH has already achieved significant operating savings versus other AMCs, making further cost savings an unlikely source, by itself, to replace loss of appropriations.

Recommendations –

1. **Reaffirm: the mission components of UNCH** public ownership, and with it, assurance of access to high quality hospital services regardless of ability to pay; and, support for the clinical component of a quality medical education program to meet North Carolina's medical workforce needs.

2. **Restore the appropriation to the 1996 level as soon as possible** in order to ensure that UNCH is not handicapped in carrying out its key mission elements. Failure to do so will seriously endanger UNCH's ability to serve patients and their healthcare providers, and may well require UNCH to do one or more of three things: reduce its mission commitments, lose its favorable borrowing position, or undermine its ability to attract a sufficient volume of insured patients to meet its teaching and fiscal requirements. In all of these events, the state would be at risk fiscally and in terms of UNCH's ability to meet public needs and expectations. The level of the appropriation should be guided by the unreimbursed cost of statewide specialty and indigent care and medical education.

3. **Broaden the purview of the UNCH Board** and provide the structure and flexibility to allow UNCH to strengthen its functioning as a healthcare system. Specifically, this will entail: bringing under the Board's purview clinical practice organizations and, possibly, other entities; broadening the Board's membership to assure that the structure, governance, executive leadership and the strategic planning process are attuned to these new perspectives; and providing the resulting structures the flexibility to act decisively.

4. **Afford UNCH maximum flexibility** to deal with the increasingly competitive challenges of the healthcare marketplace. This entails minimizing traditional state and university limitations on procurement; personnel classification, compensation and incentive systems; property acquisition and construction activities; and allowing UNCH the degrees of freedom necessary to develop vital strategic alliances.

5. **Improve communication and accountability between the University system and the General Assembly** regarding: UNCH's strategic plan and mission-related objectives, and its success in attaining them; and UNCH's success in meeting the market challenges confronting it, including the costs of such efforts.

4-22-98
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The University of North Carolina
Special Responsibility Constituent Institutions
Operations Under the UNC Management Flexibility Legislation
1996-97

Joint Appropriations Subcommittee on Education
April 22, 1998

UNC Fiscal Accountability and Flexibility Legislation (G.S. 116-30.1 – 30.6)

A. Accountability

1. Selection criteria and operating guidelines are established by the Board of Governors for the special responsibility constituent institutions (SRCI's).

2. Management staffing and internal financial controls are reviewed at least biennially, in consultation with the State Auditor, the Director of Office of State Personnel, and the Director of State Purchasing and Contract.

3. Aggressive follow-up on all financial and other audit exceptions is required.

4. Assessment measures, with special emphasis on general undergraduate education, are reported.

5. Annual reporting of results by the Board of Governors is made to the Joint Legislative Education Oversight Committee.

B. Flexibility

1. Since the 1991-92 fiscal year, qualifying constituent institutions, known as Special Responsibility Constituent Institutions (SRCI's), have been able to administer their General Fund operating budgets under the UNC Fiscal Accountability and Flexibility Legislation (G.S. 116-30.1 – 30.6).

2. Even though the budget certifications have numerous line items, appropriations to SRCI's are considered to be in the form of a single sum to each budget code for the fiscal year.

3. Notwithstanding certain provisions of the Executive Budget Act, each SRCI may expend the General Fund monies appropriated to it in the manner deemed by the Chancellor to be calculated to maintain and advance the programs and services of the institution, consistent with directives and policies of the Board of Governors. This provides broad authority to revise budgets without approval by the Office of State Budget and Management, including the use of lapsed salaries.

4. All SRCI's have an effective uniform reversion rate of 1% (except AHEC, 1/2%).

5. In addition, SRCI's are allowed to carry-forward to the next fiscal year up to 2.5% of the current year's appropriation for one-time expenditures that will not impose additional financial obligations on the State.

6. SRCI's are allowed to abolish and establish positions within prescribed guidelines.

7. Purchases may be made on campus within established benchmarks without processing through the Division of State Purchase and Contract.

The University of North Carolina
Special Responsibility Constituent Institutions
UNC Management Flexibility
Required Reversions and Carry-Forward of General Fund Appropriations
From 1996-97 To 1997-98

Budget Code	Institution	Authorized Appropriation June 30, 1997	Appropriation Expenditures	Required Reversion * Amount	Required Reversion * %	Appropriation Carry-Forward Amount	Appropriation Carry-Forward %
16080	Appalachian State University	$ 62,178,238	$ 60,623,780	** 0	0.00%	$ 1,554,455	2.50%
	East Carolina University:						
16065	Academic Affairs	87,231,479	85,599,474	** 0	0.00%	1,632,005	1.87%
16066	Health Affairs	41,845,495	41,132,362	836,910	2.00%	687,196	1.64%
16086	Elizabeth City State University	18,576,782	18,117,691	371,536	2.00%	459,091	2.47%
16088	Fayetteville State University	24,157,871	23,752,703	483,157	2.00%	405,167	1.68%
16070	North Carolina A & T State University	51,041,117	50,264,598	1,020,822	2.00%	776,518	1.52%
16090	North Carolina Central University	36,557,068	36,458,378	731,141	2.00%	98,688	0.27%
16092	North Carolina School of the Arts	11,446,574	11,160,411	228,931	2.00%	286,163	2.50%
	North Carolina State University:						
16030	Academic Affairs	217,477,988	212,735,312	4,349,560	2.00%	4,742,675	2.18%
16031	Agricultural Research	45,249,520	44,915,076	904,990	2.00%	334,444	0.74%
16032	Cooperative Extension	33,418,501	33,418,501	668,370	2.00%	0	0.00%
16055	UNC-Asheville	21,211,973	20,728,058	424,239	2.00%	483,914	2.28%
	UNC-Chapel Hill:						
16020	Academic Affairs	164,606,850	161,179,248	3,292,137	2.00%	3,427,602	2.08%
16021	Health Affairs	134,514,473	132,044,520	2,690,289	2.00%	2,469,952	1.84%
16022	AHEC	39,404,626	38,630,053	394,046	1.00%	774,573	1.97%
16050	UNC-Charlotte	71,672,092	70,493,214	** 0	0.00%	1,178,878	1.64%
16040	UNC-Greensboro	66,065,922	64,734,983	** 0	0.00%	1,330,938	2.01%
16082	UNC-Pembroke	19,619,923	19,293,887	392,398	2.00%	326,035	1.66%
16060	UNC-Wilmington	40,741,468	40,292,806	** 0	0.00%	448,662	1.10%
16075	Western Carolina University	44,620,308	43,990,599	892,406	2.00%	629,708	1.41%
16084	Winston-Salem State University	20,794,590	20,372,311	415,892	2.00%	422,278	2.03%
	TOTAL	**1,252,432,858**	**1,229,937,965**	**18,096,824**	**1.44%**	**22,468,942**	**1.79%**

* *At the direction of the State Budget Officer, the Required Reversion funds were transferred to OSBM immediately prior to end of fiscal year for Hurricane Fran Disaster Relief (object code 8333).*

***The five "equity" institutions were not required to revert 2% of their General Fund appropriations for 1996-97 (Sec. 16.2 of 1996 Approp. Act).*

The University of North Carolina
Special Responsibility Constituent Institutions
UNC Management Flexibility
1996-97 Appropriations Carried Forward – Planned Expenditures in 1997-98

Institution	Capital Projects	Personnel Comp.	Supplies & Materials	Current Services	Fixed Charges	Capital Outlay	Aids & Grants	Total
Appalachian State University	–	–	–	101,225	–	1,453,230	–	1,554,455
East Carolina University:								
Academic Affairs	–	32,391	320,131	255,497	62,671	961,315	–	1,632,005
Health Affairs	–	–	–	–	–	687,196	–	687,196
Elizabeth City State University	–	–	–	106,000	90,000	263,091	–	459,091
Fayetteville State University	–	–	–	237,886	–	6,918	160,363	405,167
N. C. A & T State University	–	–	–	105,000	–	671,518	–	776,518
North Carolina Central University	–	–	–	98,688	–	–	–	98,688
North Carolina School of the Arts	–	10,000	51,163	30,000	–	195,000	–	286,163
North Carolina State University:								
Academic Affairs	182,164	493,185	90,930	232,993	20,500	3,712,131	10,772	4,742,675
Agricultural Research	308,746	–	–	–	–	25,698	–	334,444
Cooperative Extension	–	–	–	–	–	–	–	none
UNC-Asheville	12,000	103,113	2,932	53,470	2,028	310,371	–	483,914
UNC-Chapel Hill:								
Academic Affairs	–	25,000	12,283	3,090,188	–	300,131	–	3,427,602
Health Affairs	–	135,624	460,920	1,293,012	21,396	559,000	–	2,469,952
AHEC	–	–	10,000	90,000	–	–	674,573	774,573
UNC-Charlotte	1,076,100	–	–	–	–	102,778	–	1,178,878
UNC-Greensboro	–	127,744	113,703	218,583	2,625	868,283	–	1,330,938
UNC-Pembroke	–	29,250	9,400	120,344	–	167,041	–	326,035
UNC-Wilmington	–	91,000	35,735	217,787	–	104,140	–	448,662
Western Carolina University	–	–	46,023	314,180	6,615	262,890	–	629,708
Winston-Salem State University	–	9,000	700	118,231	–	294,347	–	422,278
TOTAL	**1,579,010**	**1,056,307**	**1,153,920**	**6,683,084**	**205,835**	**10,945,078**	**845,708**	**22,468,942**

The University of North Carolina
Management Flexibility
Reversions and Carry-Forwards

SRCI's	Year	Authorized Appropriation June 30	Expenditures	Required Reversion	%	Appropriation Carry-Forward Amount	%
12	1991-92	$ 917,051,624	$ 884,809,788	$22,226,787	2.42%	$10,004,321	1.09%
14	1992-93	1,011,100,152	968,236,653	26,798,681	2.65%	15,561,766	1.54%
16	1993-94	1,110,195,270	1,063,915,314	28,674,902	2.58%	17,478,622	1.57%
16	1994-95	1,166,222,993	1,121,229,281	26,395,706	2.26%	18,584,385	1.59%
16	1995-96	1,173,356,983	1,130,978,443	23,082,594	1.97%	19,295,934	1.64%
16	1996-97	1,252,432,858	1,229,937,965	18,096,824	1.44%	22,468,942	1.79%

The University of North Carolina
Special Responsibility Constituent Institutions
UNC Management Flexibility
One-Time Reallocations
1996-97

Budget Code	Institution	(1) Authorized Requirements at 6/30/97	(2) One-Time Reallocations	(3) Percent of Authorized Requirements (Col. 2 ÷ Col. 1)	(4) Transfers FROM Personnel Compensation Accounts	(5) Percent of One-Time Reallocations (Col. 4 ÷ Col. 2)
16080	Appalachian State University	87,451,791	496,403	0.57%	145,609	29.33%
	East Carolina University					
16065	Academic Affairs	127,379,658	1,661,157	1.30%	1,056,273	63.59%
16066	Health Affairs	44,866,573	1,096,896	2.44%	960,068	87.53%
16086	Elizabeth City State University	22,265,687	304,679	1.37%	245,083	80.44%
16088	Fayetteville State University	31,289,806	680,716	2.18%	591,700	86.92%
16070	North Carolina A & T State University	70,839,114	464,664	0.66%	180,733	38.90%
16090	North Carolina Central University	48,925,855	936,411	1.91%	924,994	98.78%
16092	North Carolina School of the Arts	17,446,932	145,477	0.83%	56,561	38.88%
	North Carolina State University					
16030	Academic Affairs	304,540,386	13,954,732	4.58%	13,905,608	99.65%
16031	Agricultural Research	54,463,485	344,286	0.63%	326,596	94.86%
16032	Cooperative Extension	49,708,283	2,489,659	5.01%	2,248,639	90.32%
16055	UNC-Asheville	26,320,150	113,999	0.43%	48,604	42.64%
	UNC-Chapel Hill					
16020	Academic Affairs	249,555,953	7,533,415	3.02%	6,660,018	88.41%
16021	Health Affairs	159,884,739	4,814,305	3.01%	4,782,085	99.33%
16022	AHEC	39,912,846	75,765	0.19%	75,765	100.00%
16050	UNC-Charlotte	103,778,351	2,532,337	2.44%	2,435,261	96.17%
16040	UNC-Greensboro	95,761,616	3,376,979	3.53%	3,296,047	97.60%
16082	UNC-Pembroke	23,730,380	649,892	2.74%	577,436	88.85%
16060	UNC-Wilmington	62,041,301	1,446,013	2.33%	1,348,899	93.28%
16075	Western Carolina University	58,856,113	94,267	0.16%	54,329	57.63%
16084	Winston-Salem State University	25,415,126	384,251	1.51%	384,251	100.00%
	TOTAL	**1,704,434,145**	**43,596,303**	**2.56%**	**40,304,559**	**92.45%**

The University of North Carolina
Special Responsibility Constituent Institutions
Management Initiatives
One-time Reallocations to Accomplish Initiatives
1996-97

Institution	Undergrad. Instruction Grad. Rates	Graduate Instruction & Res.	Library Collection & Services	Upgrade Classrooms & Labs	Enhancing Other Physical Facilities	Computing & Telecom.	Support Student Services	Admin. Infrastr.	Student Financial Aid	Other Targeted Program Areas	Total
ASU	362,053	3,360	19,300	17,648	74,042	–	–	20,000	–	–	496,403
ECU, AA	517,074	–	167,887	102,000	230,000	294,500	229,696	45,000	75,000	–	1,661,157
ECU, HA	–	–	–	907,796	–	83,100	–	–	106,000	–	1,096,896
ECSU	7,100	–	–	78,989	–	132,187	42,850	43,553	–	–	304,679
FSU	89,016	–	–	–	–	15,200	–	36,500	540,000	–	680,716
NCA&T	66,126	15,430	12,247	138,178	44,199	26,719	3,410	133,813	–	24,542	464,664
NCCU	170,632	44,834	49,571	–	132,967	188,675	63,125	97,000	68,108	121,499	936,411
NCSA	–	–	5,500	93,236	–	–	–	–	–	46,741	145,477
NCSU, AA	2,616,626	1,254,443	877,000	1,754,173	1,687,700	4,242,680	30,000	1,152,110	220,000	120,000	13,954,732
NCSU, Ag Res.	–	–	–	50,754	15,600	72,932	–	–	–	205,000	344,286
NCSU, Coop. Ext.	–	–	–	–	280,136	1,155,096	–	–	–	1,054,427	2,489,659
UNC-A	16,303	–	39,840	16,356	–	–	–	8,065	13,787	19,648	113,999
UNC-CH, AA	1,959,459	587,615	1,571,044	–	1,969,963	1,040,307	382,660	–	–	22,367	7,533,415
UNC-CH, HA	337,001	825,447	818,432	878,404	350,344	494,773	379,230	271,458	–	459,216	4,814,305
UNC-CH, AHEC	–	53,937	–	14,113	–	7,715	–	–	–	–	75,765
UNC-C	423,391	–	288,000	1,045,310	–	601,236	–	–	–	174,400	2,532,337
UNC-G	213,000	22,000	110,427	1,046,850	55,509	1,098,903	318,365	238,534	185,826	87,565	3,376,979
UNC-P	104,998	–	–	325,094	66,360	25,558	99,875	28,007	–	–	649,892
UNC-W	821,197	13,683	79,047	104,541	108,073	85,000	57,000	5,000	–	172,472	1,446,013
WCU	3,895	–	10,086	–	4,125	38,102	4,422	16,665	–	16,972	94,267
WSSU	–	–	–	94,000	75,000	109,051	–	106,200	–	–	384,251
TOTAL	**7,707,871**	**2,820,749**	**4,048,381**	**6,667,442**	**5,094,018**	**9,711,734**	**1,610,633**	**2,201,905**	**1,208,721**	**2,524,849**	**43,596,303**

The University of North Carolina
Special Responsibility Constituent Institutions
UNC Management Flexibility
Permanent Reallocations (Recurring)
1996-97

Budget Code	Institution	(1) Authorized Requirements at 6/30/97	(2) Permanent Reallocations	(3) Percent of Authorized Requirements (Col. 2 ÷ Col. 1)	(4) Transfers TO Personnel Compensation Accounts	(5) Percent of Permanent Allocations (Col. 4 ÷ Col. 2)
16080	Appalachian State University	87,451,791	301,881	0.35%	218,052	72.23%
	East Carolina University					
16065	Academic Affairs	127,379,658	388,754	0.31%	318,259	81.87%
16066	Health Affairs	44,866,573	none	–	none	–
16086	Elizabeth City State University	22,265,687	9,847	0.04%	8,592	87.26%
16088	Fayetteville State University	31,289,806	38,708	0.12%	38,708	100.00%
16070	North Carolina A & T State University	70,839,114	78,590	0.11%	10,554	13.43%
16090	North Carolina Central University	48,925,855	233,242	0.48%	233,242	100.00%
16092	North Carolina School of the Arts	17,446,932	353,928	2.03%	303,928	85.87%
	North Carolina State University					
16030	Academic Affairs	304,540,386	664,622	0.22%	87,167	13.12%
16031	Agricultural Research	54,463,485	935,244	1.72%	58,429	6.25%
16032	Cooperative Extension	49,708,283	1,293,105	2.60%	1,293,105	100.00%
16055	UNC-Asheville	26,320,150	60,899	0.23%	60,899	100.00%
	UNC-Chapel Hill					
16020	Academic Affairs	249,555,953	1,970,725	0.79%	1,002,881	50.89%
16021	Health Affairs	159,884,739	258,084	0.16%	161,591	62.61%
16022	AHEC	39,912,846	8,023	0.02%	8,023	100.00%
16050	UNC-Charlotte	103,778,351	415,606	0.40%	415,606	100.00%
16040	UNC-Greensboro	95,761,616	367,786	0.38%	355,784	96.74%
16082	UNC-Pembroke	23,730,380	1,052	0.00%	1,052	100.00%
16060	UNC-Wilmington	62,041,301	248,630	0.40%	204,671	82.32%
16075	Western Carolina University	58,856,113	141,399	0.24%	109,149	77.19%
16084	Winston-Salem State University	25,415,126	none	–	none	–
	TOTAL	**1,704,434,145**	**7,770,125**	**0.46%**	**4,889,692**	**62.93%**

The University of North Carolina
Special Responsibility Constituent Institutions
Management Initiatives
Permanent Reallocations to Accomplish Initiatives
1996-97

Institution	Undergrad. Instruction Grad. Rates	Graduate Instruction & Res.	Library Collection & Services	Upgrade Classrooms & Labs	Enhancing Other Physical Facilities	Computing & Telecom.	Support Student Services	Admin. Infrastr.	Other Targeted Program Areas	Total
ASU	19,293	–	71,817	–	126,057	–	33,488	32,559	18,667	301,881
ECU, AA	78,785	–	–	–	–	90,596	59,696	159,677	–	388,754
ECU, HA	–	–	–	–	–	–		–	–	none
ECSU	2,644	–	5,948	–	–	–	1,255	–	–	9,847
FSU	38,708	–	–	–	–	–	–	–	–	38,708
NCA&T	–	–	–	–	58,254	–	–	20,336	–	78,590
NCCU	82,694	–	–	–	–	–	150,548	–	–	233,242
NCSA	95,182	–	–	50,000	–	–	26,616	18,763	163,367	353,928
NCSU, AA	182,566	75,254	57,466	–	–	273,843	–	75,493	–	664,622
NCSU, Ag Res.	–	–	–	–	680,000	–	–	–	255,244	935,244
NCSU, Coop. Ext.	–	–	–	–	–	–	–	–	1,293,105*	1,293,105
UNC-A	–	–	–	–	–	–	–	60,899	–	60,899
UNC-CH, AA	133,311	112,287	3,000	–	–	1,654,527	10,000	–	57,600	1,970,725
UNC-CH, HA	19,773	60,775	–	–	29,972	–	23,519	124,045	–	258,084
UNC-CH, AHEC	–	–	–	–	–	–	–	8,023	–	8,023
UNC-C	123,167	–	–	–	45,929	51,374	112,681	82,455	–	415,606
UNC-G	–	–	–	–	15,000	69,035	22,000	113,408	148,343	367,786
UNC-P	–	–	–	–	–	–	–	1,052	–	1,052
UNC-W	38,283	–	–	–	–	–	52,473	157,874	–	248,630
WCU	19,529	2,400	4,244	–	–	11,247	16,341	21,478	66,160	141,399
WSSU	–	–	–	–	–	–	–	–	–	none
TOTAL	**833,935**	**250,716**	**142,475**	**50,000**	**955,212**	**2,150,622**	**508,617**	**876,062**	**2,002,486**	**7,770,125**

**Includes Academic Enhancement funding for salary increases for Extension campus and field faculty. The 1997 Regular Session directed the Board of Governors to review this issue and make a recommendation to the General Assembly by March 15, 1998.*

The University of North Carolina
Special Responsibility Constituent Institutions
UNC Management Flexibility
Purchases Between Old Benchmark of $10,000 and New Benchmark of $35,000
1996-97

	Number	Amount
Appalachian State University	177	$ 3,304,496
East Carolina University	282	4,808,138
Elizabeth City State University	10	295,412
Fayetteville State University	37	646,305
North Carolina A & T State University	85	1,520,472
North Carolina Central University	34	2,250,854
North Carolina School of the Arts	32	540,897
North Carolina State University	779	14,631,358
UNC-Asheville	48	866,145
UNC-Chapel Hill	1,264	22,760,200
UNC-Charlotte	301	5,672,312
UNC-Greensboro	214	3,965,517
UNC-Pembroke	17	394,815
UNC-Wilmington	143	2,417,155
Western Carolina University	32	554,025
Winston-Salem State University	38	698,646
TOTAL	**3,493**	**65,326,747**

The University of North Carolina
Special Responsibility Constituent Institutions
UNC Management Flexibility
Positions Established, Positions Abolished, and Net Position Changes
Full-Time Equivalent Positions
1996-97

NO TEACHING POSITIONS

Budget Code	Institution	Positions Established			Positions Abolished			Net Position Changes		
		EPA	SPA	Total	EPA	SPA	Total	EPA	SPA	Total
16080	Appalachian State University	1.00	7.25	8.25	0.50	3.00	3.50	0.50	4.25	4.75
	East Carolina University:									
16065	Academic Affairs	3.62	8.00	11.62	0.55	5.00	5.55	3.07	3.00	6.07
16066	Health Affairs	–	–	–	–	–	–	–	–	–
16086	Elizabeth City State University	–	–	–	0.35	2.30	2.65	(.35)	(2.30)	(2.65)
16088	Fayetteville State University	1.00	–	1.00	–	1.00	1.00	1.00	(1.00)	0.00
16070	North Carolina A & T State University	–	2.50	2.50	–	7.50	7.50	–	(5.00)	(5.00)
16090	North Carolina Central University	1.00	1.00	2.00	–	–	–	1.00	1.00	2.00
16092	North Carolina School of the Arts	4.00	3.00	7.00	–	2.00	2.00	4.00	1.00	5.00
	North Carolina State University:									
16030	Academic Affairs	6.34	15.87	22.21	0.90	4.00	4.90	5.44	11.87	17.31
16031	Agricultural Research	–	–	–	–	–	–	–	–	–
16032	Cooperative Extension	–	–	–	–	–	–	–	–	–
16055	UNC-Asheville	–	–	–	–	–	–	–	–	–
	UNC-Chapel Hill:									
16020	Academic Affairs	4.80	21.75	26.55	1.80	23.61	25.41	3.00	(1.86)	1.14
16021	Health Affairs	–	5.07	5.07	–	–	–	–	5.07	5.07
16022	AHEC	–	–	–	–	–	–	–	–	–
16050	UNC-Charlotte	1.00	10.73	11.73	–	–	–	1.00	10.73	11.73
16040	UNC-Greensboro	3.65	11.63	15.28	2.00	1.00	3.00	1.65	10.63	12.28
16082	UNC-Pembroke	–	0.50	0.50	–	1.00	1.00	–	(.50)	(.50)
16060	UNC-Wilmington	1.00	2.50	3.50	–	–	–	1.00	2.50	3.50
16075	Western Carolina University	0.50	8.25	8.75	–	5.10	5.10	0.50	3.15	3.65
16084	Winston-Salem State University	–	–	–	–	–	–	–	–	–
	TOTAL	**27.91**	**98.05**	**125.96**	**6.10**	**55.51**	**61.61**	**21.81**	**42.54**	**64.35**

Parentheses denote net reductions.

Increased Efficiency and Effectiveness Achieved

Budgeting

- The institutions have the ability to use funds budgeted for salaries of positions that are vacant for all or a part of the fiscal year (lapsed salaries) for non-personnel expenditures. Before flexibility, unspent salary funds were not available for such uses.

- The institutions can use lapsed salary funds to update and replace obsolete educational, scientific, and computing equipment, to repair and renovate teaching and laboratory facilities, to support information technology initiatives, and make other one-time improvements in instruction and support functions.

- Flexibility also has provided the opportunity for the institutions to reallocate resources in response to changing institutional priorities, as well as to respond to unforeseen opportunities or problems, such as budget reductions.

- Most of the budget reallocations (revisions) that previously required the approval of the Office of State Budget and Management were accomplished on campus during 1996-97.

- The opportunity to carry forward appropriations to the next fiscal year has given the institutions clear incentives and the related cost-consciousness which produces more efficient operations.

Purchasing

- Prior to the management flexibility legislation, institutional purchases of $10,000 or more required processing through the central Purchase and Contract Division in Raleigh. Under flexibility, the benchmark amount has been increased to $35,000.

- During 1996-97, 3,493 purchases totaling $65.3 million were made on campus between the old benchmark of $10,000 and the increased benchmark of $35,000. [Effective January 1, 1998, the maximum benchmark has been raised to $250,000.]

- Through budget flexibility, institutions took advantage of time-limited buying opportunities, purchased items in quantity in order to receive volume discounts, ordered on a timely basis to avoid price increases, saved time and paperwork and improved service by purchasing from local vendors, and received the benefits of purchasing rather than leasing certain equipment.

Purchasing (continued)

- Processing time for purchases made by the campuses has been less than the time required for similar purchase awards through the Purchase and Contract Division, and continues to improve as institutions further refine and automate their own processes.
- The decrease in processing time has substantially increased the efficiency of the institutions' procurement functions by putting equipment and supplies in the hands of users in a much more timely fashion without sacrificing competitive pricing or quality.
- A corollary result is an increase in goodwill and cooperation between the institutions' purchasing departments and their campus customers.

Personnel

- Flexibility has given institutions the ability to examine their spending patterns and reallocate funds in order to use resources more effectively.
- Within overall guidelines, the institutions have been able to abolish and establish positions.
- Work assignments have been reorganized since the institutions can reallocate the funds necessary to accommodate the related changes.
- Efficiencies, as well as savings, have also been achieved through the increased use of students and other temporary employees.
- Using flexibility, the institutions have been able to redirect funds originally budgeted for permanent positions, or for non-personnel expenditures, to fund temporary employees to assist in peak work load periods and thereby able to staff at a lower level on a regular basis.
- Other major benefits of flexibility in the personnel administration area have been the ability to reallocate funds in order to cover salary adjustments resulting from reclassifications and changes in duty assignments, and to fund certain support positions above the minimum hiring rate in order to recruit and retain more experienced personnel.
- Several of the institutions have used flexibility in order to increase or improve health and safety services on campus to students and employees, including the increase or upgrading of security forces.

McCoy

Recent Management Flexibility Legislation

- More stringent resolution of audit findings, and monitoring of fiscal internal controls and management staffing – must be Resolved within 3 mos.
- On-campus purchasing benchmark increased to a maximum of $250,000, subject to Board of Governors' approval
- Construction management download to institutions
- Authorization to use 1% of required reversions for technology and libraries (see pages 15 – 19)

Planned Expenditures:		
Technology	$10,669,336	82%
Libraries	2,329,537	18%
Total	**12,998,873**	**100%**

Proposed Management Flexibility Legislation

- Authorization to use the remaining 1% of required reversion for technology and libraries (see pages 20 – 24)

Planned Expenditures:		
Technology	$11,460,626	88%
Libraries	1,612,537	12%
Total	**13,073,163**	**100%**

The University of North Carolina
Proposed Use of 1% Reversions Authorized by 1997 Legislative Session
Fiscal Year 1997-98

	Amount	Percent of Total
Appalachian State University		
Technology: Computers for Faculty Offices	$ 381,915	54.03%
Library: Purchase books and journals	325,000	45.97%
Total – ASU	**706,915**	**100.00%**
East Carolina University		
Technology: Computers for instructional purposes and administrative offices; network/connection upgrades; standardization of and expanded access to email services; development/purchase of new softwares	834,978	59.23%
Library: Upgrade computers systems; rent book storage during renovation; purchase expandable/movable shelving	574,780	40.77%
Total – ECU	**1,409,758**	**100.00%**
Elizabeth City State University		
Technology: Purchase/upgrade computer equipment for academic labs, faculty offices, software for Teacher Education program, classrooms, and Academic Computing; purchase backup power supply for campus network and telephone systems	154,449	82.40%
Library: Purchase books and journals	33,000	17.60%
Total – ECSU	**187,449**	**100.00%**

Fayetteville State University	Amount	Percent of Total
Technology: Purchase/upgrade computers for faculty use; increase access to campus network in academic buildings; expand and improve closed circuit television system to instructional buildings; update Technology Plan	$ 218,638	85.98%
Library: Purchase computers and printers	35,662	14.02%
Total – FSU	**254,300**	**100.00%**
North Carolina A&T University		
Technology: Purchase necessary equipment and install fiber optic backbone in nine campus buildings; Phase I of campuswide Technology Infrastructure Upgrade	524,531	100.00%
Total – NCA&T	**524,531**	**100.00%**
North Carolina Central University		
Technology: Repair and extend university network	72,915	20.16%
Library: Purchase subscriptions	288,691	79.84%
Total – NCCU	**361,606**	**100.00%**
North Carolina School of the Arts		
Technology: Connect library and other parts of campus via fiber optic cable; equip General Studies computer lab	137,032	100.00%
Total – NCSA	**137,032**	**100.00%**

North Carolina State University	Amount	Percent of Total
Technology: Upgrade network and extend fiber optic network; including the library; purchase computers for university field labs, research stations, and waste management program; purchase computers, digital cameras, printers, workstations for faculty; geo-referenced field scouting system for Geographical Information Systems laboratory; extend network to enhance distance education	$3,043,674	100.00%
Total – NCSU	**3,043,674**	**100.00%**
UNC-Asheville		
Technology: New computer equipment for N. C. Arboretum; fiber optic network infrastructure work campuswide	220,629	100.00%
Total – UNC-A	**220,629**	**100.00%**
UNC-Chapel Hill		
Technology: Upgrades to campus network; upgrade email/WEB services; upgrade scientific computing services; expand distributed computing infrastructure; upgrade general support services; database conversion and Request for Proposals to expand internet access for AHEC	2,447,747	75.60%
Library: Acquire 10-year backfiles for library computer system; digitize print collection; purchase computers; expand network connections	790,178	24.40%
Total – UNC-CH	**3,237,925**	**100.00%**

UNC-Charlotte	Amount	Percent of Total
Technology: New computer and network equipment for instructional areas; computers and software for administrative areas; instructional equipment	$ 731,309	92.64%
Library: Publications and periodicals for PhD programs	58,100	7.36%
Total – UNC-C	**789,409**	**100.00%**
UNC-Greensboro		
Technology: Network upgrades; fiber optic cable and network design; consultants for Year 2000 modifications	632,541	84.05%
Library: Shelving	120,000	15.95%
Total – UNC-G	**752,541**	**100.00%**
UNC-Pembroke		
Technology: Connect fiber optic backbone from Lumbee Hall to Oxendine Science building; upgrade email system; purchase new fileserver; install network firewall	104,126	50.00%
Library: Increase book collection; equip electronic classroom; upgrade technology in the library	104,126	50.00%
Total – UNC-P	**208,252**	**100.00%**

UNC-Wilmington	Amount	Percent of Total
Technology: Computer and related equipment for computer labs and classrooms; WEB software; Human Resource System training; conversion of VAX (Digital Equipment) hardware to ALPHA hardware; upgrade outdialling capabilities	$ 473,923	100.00%
Total – UNC-W	**473,923**	**100.00%**
Western Carolina University		
Technology: Computers and other instructional equipment for academic facilities; computer training for faculty; increase network access; purchase basic network software; install 800 number for questions regarding WCU's computer requirement	468,647	100.00%
Total – WCU	**468,647**	**100.00%**
Winston-Salem State University		
Technology: One card management system; faculty computers; wiring to fiber optic network for all academic buildings	222,282	100.00%
Total – WSSU	**222,282**	**100.00%**
All Institutions		
Technology	**10,669,336**	**82.08%**
Library	**2,329,537**	**17.92%**
Total All Institutions	**12,998,873**	**100.00%**

The University of North Carolina
Proposed Use of Remaining 1% of Required Reversions for Technology and Libraries
Fiscal Year 1998-99

Appalachian State University	**Amount**	**Percent of Total**
Technology: Computers for faculty offices, Web site registration technology; data communication wiring	$ 377,873	53.76%
Library: Purchase books and journals	325,000	46.24%
Total – ASU	**702,873**	**100.00%**
East Carolina University		
Technology: Computers for instructional purposes, including distance education initiatives; computing equipment for administrative offices	1,000,000	71.24%
Library: Increase library collections; rent book storage during renovation	403,682	28.76%
Total – ECU	**1,403,682**	**100.00%**
Elizabeth City State University		
Technology: Purchase computers and projection units for faculty; purchase computers for administrative offices; acquire equipment for network infrastructure; purchase computer equipment for library	186,417	100.00%
Total – ECSU	**186,417**	**100.00%**

Fayetteville State University	Amount	Percent of Total
Technology: Purchase/upgrade computers and printers for faculty offices; establish science lab; purchase computer equipment for library; purchase two campus servers; complete expansion and improvements of campus network	$ 254,507	100.00%
Total – FSU	**254,507**	**100.00%**
North Carolina A&T University		
Technology: Purchase network equipment and fiber optic cable to extend computer access to six buildings	520,029	100.00%
Total – NCA&T	**520,029**	**100.00%**
North Carolina Central University		
Technology: Equip electronic classroom; upgrade/acquire computer equipment for faculty; purchase software to enable distance learning; software licenses; faculty and staff training	142,583	38.79%
Library: Increase library collections	225,000	61.21%
Total – NCCU	**367,583**	**100.00%**
North Carolina School of the Arts		
Technology: Replace computer equipment in library; purchase computer equipment for Design and Production Computer Lab and new Sound Pgm; enhance MIS area to handle larger capacity	136,769	100.00%
Total – NCSA	**136,769**	**100.00%**

North Carolina State University	Amount	Percent of Total
Technology: Acquire modern workstations and software for faculty and academic staff and enhance connectivity for student access to the University network from various locations. In the Agricultural Program areas, purchase computers, digital cameras, printers, workstations for faculty; purchase computers for university field labs, research stations, and waste management programs; improve network connectivity in agricultural facilities throughout the state; upgrade facilities at seven county sites for distance education, marketing, and recruiting	$3,020,869	100.00%
Total – NCSU	**3,020,869**	**100.00%**
UNC-Asheville		
Technology: Upgrade computer equipment for N. C. Arboretum; enhance new Multimedia program; upgrade computers in student labs; enhance computers for faculty	214,569	100.00%
Total – UNC-A	**214,569**	**100.00%**
UNC-Chapel Hill		
Technology: Upgrades to campus network and infrastructure; (with emphasis on the university wiring plan); new server and disk storage capacity for the library; AHEC expansion of computer network	2,964,556	88.11%
Library: Acquire electronic database backfiles	400,000	11.89%
Total – UNC-CH	**3,364,556**	**100.00%**

UNC-Charlotte	Amount	Percent of Total
Technology: Purchase computers and software for faculty offices; upgrade equipment to support distance learning; equip 3 electronic classrooms; upgrade student ID card system; purchase computers for administration	$ 735,819	93.64%
Library: Publications and periodicals for PhD programs	50,000	6.36%
Total – UNC-C	**785,819**	**100.00%**
UNC-Greensboro		
Technology: Infrastructure, including wiring to ensure computing access for both instructional and administrative buildings	757,067	100.00%
Total – UNC-G	**757,067**	**100.00%**
UNC-Pembroke		
Technology: Upgrade infrastructure and computer equipment	101,227	50.30%
Library: Increase book collection; upgrade technology in the library	100,000	49.70%
Total – UNC-P	**201,227**	**100.00%**
UNC-Wilmington		
Technology: Computer and related equipment for computer labs and classrooms; upgrade both academic and administrative systems	$ 469,729	100.00%
Total – UNC-W	**469,729**	**100.00%**

Western Carolina University	Amount	Percent of Total
Technology: Purchase Web-based student registration system; renovate and equip electronic classroom; expand computing capabilities for the North Carolina Center for the Advancement of Teaching; purchase computers for faculty offices	408,000	87.39%
Library: Increase reference material and electronic subscriptions	58,855	12.61%
Total – WCU	**466,855**	**100.00%**
Winston-Salem State University		
Technology: Purchase computers and printers for faculty offices; develop campus computing infrastructure	170,612	77.34%
Library: Enhance library book collections	50,000	22.66%
Total – WSSU	**220,612**	**100.00%**
All Institutions		
Technology	**11,460,626**	**87.67%**
Library	**1,612,537**	**12.33%**
Total All Institutions	**13,073,163**	**100.00%**