Report to the 2003 North Carolina General Assembly Joint Legislative Education Oversight Committee

The University of North Carolina
Report on Overhead Receipts
[Facilities and Administrative (F&A) Receipts]
2001-02

The Board of Governors of The University of North Carolina

February 14, 2003

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The University of North Carolina Report on Overhead Receipts [Facilities and Administrative (F&A) Receipts] 2001-02

Legislation enacted by the 2001 General Assembly (S.L. 2001-424) included the following special provision directing the Board of Governors to report on the amount and uses of facilities and administrative receipts:

UNC BOARD OF GOVERNORS REPORT ON OVERHEAD RECEIPTS

SECTION 31.14. The Board of Governors of The University of North Carolina shall report to the Joint Legislative Education Oversight Committee by March 1, 2002, and annually thereafter, on the amount of overhead receipts for The University System and the use of those receipts.

In response to this legislation, this report covers the fiscal year ending June 30, 2002.

Background

The University of North Carolina serves the state's interests through a three-part mission of teaching, research, and public service. University research in areas such as health sciences, genomics and bioinformatics, information technology and communications, agriculture, and marine sciences helps to fuel North Carolina's economy. UNC's reputation as one of the nation's top public university systems has been built, in part, on the volume and quality of research and sponsored programs conducted by its faculty. With limited direct appropriations for research, UNC has depended heavily on obtaining competitive grants and contracts to support its research efforts.

In recent decades, the federal government has stepped up efforts to promote scientific research at United States universities, as well as research conducted by federal, nonprofit, and commercial laboratories. Recognizing that research carries necessary administrative, facilities, and other expenses above

and beyond the direct costs of the project, federal agencies have included in their research grants and contracts a portion of funds to help offset these related costs – commonly called "indirect costs," "overhead receipts," or "facilities and administrative (F&A) receipts." In keeping with federal reporting practices, the term "facilities and administrative (F&A) receipts" is used for the remainder of this report.

Under federal OMB Circulars, facilities and administrative receipts generally reimburse for costs associated with supporting grants and contracts activities of the institution in a manner consistent with the formulae under which the funds were recovered. Internal university controls pertaining to the compliance requirements for sponsored project expenditures under OMB Circular A-133 are designed to provide reasonable assurance regarding the achievement of the following objectives:

- 1. Transactions are properly recorded and accounted for in order to permit preparation of reliable financial statements and reports and maintain accountability over assets.
- 2. Transactions are executed in compliance with laws, regulations and provisions of federal and state laws and in accordance with sponsored agreement terms.
- 3. Funds, property, and other assets are safeguarded against loss from unauthorized use or disposition.

Research and other sponsored program awards to the 16 UNC campuses totaled \$867.4 million for FY 2001-02 with about two-thirds of these dollars coming from federal sources. State and local governments provided less than fifteen percent. Among public university systems, in the latest national survey, UNC ranks third in science and technology research expenditures, behind only the University of California and the University of Texas systems. Grants and contracts support thousands of individual projects that improve human health,

our understanding of the natural world, education, national defense, and other areas critical to the nation and our state. Not only do grants and contracts support leading-edge science and public service, but their funds are also used to support our state's workforce. Grants and contracts support salaries for faculty, post-doctoral fellows, staff, graduate assistants, and undergraduates, all of whom keep our universities in the forefront of regional economic development and training.

In 2001-02, UNC institutions received a total of \$123.6 million in facilities and administrative receipts (Attachment A). These receipts were expended by each campus to support costs associated with maintaining an environment conducive for conducting research and scholarly advancement and ensuring competitiveness for attracting additional research funds. However, F&A costs are also significantly under-reimbursed by the federal government. In a recent report (Rand Corp., 2000) the federal government was criticized for not providing up to 25% of the facilities and administrative costs earned by United States campuses (due to administrative caps and programmatic restrictions).

In order to provide the requested information regarding the amount and uses of facilities and administrative receipts, each campus was asked to provide a report for the 2001-02 fiscal year. The institutional responses are summarized in the following sections of this report, and individual campus examples are detailed in Attachment F. (Copies of the individual institutional responses are available upon request.)

Amount of Facilities and Administrative Receipts – 2001-02 Fiscal Year

University-wide, a total of \$123.6 million was recovered in facilities and administrative receipts (see Attachment A) for the 2001-02 fiscal year.

Consistent with their research missions, the two major research universities, North Carolina State University (19.7%) and UNC-Chapel Hill (67.7%), accounted for almost 90% of the University-wide total. As shown on Attachment A, five institutions –East Carolina University, North Carolina A & T State University, UNC Charlotte, UNC Greensboro, and UNC Wilmington – accounted for most of the remaining F&A receipts.

Uses of Facilities and Administrative Receipts - 2001-02 Fiscal Year

Each institution provided a programmatic summary of priorities and an object of expenditure summary of facilities and administrative receipts disbursements made during the 2001-02 fiscal year, which totaled \$152.6 million (Attachment B). The principal priorities for programmatic expenditures were designed to:

- maintain and expand research infrastructure;
- provide for research support and assistantships;
- maintain research-related administrative functions;
- promote new research activity in a competitive research environment;
- fund faculty "start-up" packages (support staff, laboratory facilities, and operating expenses);
- provide general administrative support;
- sustain academic programs, including the libraries;
- provide for capital improvements and debt service; and
- support strategic initiatives.

Each of the campuses also reported on its expenditure priorities for the year. The most frequently cited use of F&A receipts was to support the administrative functions related to the grants themselves. This ranged from support for campus administrative units (finance offices, contract and grant functions, controller's offices, and facilities services) to support for public safety positions to guarantee laboratory security to costs for clean up and disposal of unique or hazardous materials. Campuses also used F&A receipts to support academic programs, provide laboratory space and equipment for research, and to encourage new research. Attachment C shows a list of the priorities that each school discussed in its report. Since the expenditures by the two major research universities account for most of the total, the following illustrative examples are drawn from their reports. Similar kinds of expenditures were made by the other campuses, but in relatively smaller amounts. Attachment F provides additional examples of the uses of F&A receipts as reported by the institutions.

UNC-Chapel Hill plans to obligate \$203.8 million of its F&A receipts toward the construction of several major building and renovation projects over the next five years. They include the Medical Biomolecular Building, Public Health Building, Nursing Building, Science Complex, Neurosciences Building, and Bioinformatics Building. In the capital improvements plan approved by the Board of Governors and the General Assembly that formed the basis for the bond program, UNC-Chapel Hill committed to match the 2000 bond funds with an equal amount of non-state campus receipts. F&A receipts will comprise a

significant portion of the campus "match," either through direct expenditure or through the issuance of special obligation bonds to be retired from future F&A receipts. UNC-Chapel Hill issued its first series of these special obligation bonds during 2001, committing these receipts as one of the sources of debt repayment. 2001-02 was the second year of bond issuance for these projects at UNC-Chapel Hill.

In addition, facilities and administrative receipts at UNC-Chapel Hill contributed significantly to sustaining and enhancing the academic and administrative technology support to the campus. Major information technology initiatives also included support to academic technology and networking, the Capital Wiring Project, Carolina Computing Initiative, and efforts to streamline and automate campus functions (the departmental accounting system, an electronic grants management system, and the space management system).

During 2001-02, facilities and administrative receipts at UNC-Chapel Hill were also used for new faculty start-ups, i.e., to pay for equipment, supplies, furniture, computers, travel, space renovation, relocation, and recruitment expenses for faculty members campus-wide. Another major use of the receipts was to provide funding for the Office of Research and Graduate Studies, which provides support for research activities of faculty, staff, and students. The specific goals of that office include:

- (1) enhancing research funding on campus;
- (2) providing matching funds for external research applications;
- (3) expanding technology development and economic development activities;
- (4) providing expanded coordinated training programs;

- (5) providing support and coordination of multidisciplinary research proposals;
- (6) disseminating information about the benefits of research;
- (7) providing protection for human subjects by maintaining high standards in the research review process;
- (8) enhancing the ethical care and use of animals in research; and
- (9) providing administrative support for all sponsored programs.

In 2001-02, the Office provided \$573,000 in matching funds for grants. In addition, the Office of the Vice Chancellor for Research and Graduate Studies provided support for campus research activities to help support individual and collaborative research projects including projects in the department of Physics and Astronomy, Radiation Oncology, Germanic Languages, and Epidemiology.

UNC-Chapel Hill also allocated a part of the facilities and administrative receipts to the divisions that generated these costs. For example, during 2001-02 fiscal year, the College of Arts and Sciences used F&A receipts for the start-up and recruitment of new faculty, to match outside grants, to renovate existing spaces, replace equipment, for staff support, supplies, and for specialized services such as Learning Disability Services and the Institute for Arts and Humanities. The School of Medicine used F&A receipts for faculty start-up costs, bond payment, rent, maintenance, staff and research support salaries, lab animal medicine, and equipment purchases. The School of Pharmacy's use of F&A receipts included the establishment of additional research labs, office and lab renovations, equipment maintenance, scientific and general supplies, and the development of distance learning courses to prepare health sciences students to use technology in health care settings. Of the F&A funds expended by the School of Public Health, more than 40% were

used for personnel, including the technical and administrative personnel that supported the faculty and their research projects. The School also used F&A receipts to promote activities aimed at attracting minority students to careers in public health. Other departments, such as the Schools of Education, Nursing, Dentistry, Journalism and Mass Communication, Government, Information and Library Science and the Kenan-Flagler Business School also expended F&A receipts to provide start-up packages for new faculty, provide research staffing, cover general operating expenses, and provide for necessary repairs and renovations. In total, faculty start-up funds were provided to 84 new faculty in the last fiscal year. These funds have been instrumental in making competitive employment offers through the provision of research support, laboratory set ups, scientific equipment matching funds for external grants and to provide bridge funding between grant awards. In 2001-02, UNC-Chapel Hill spent more than \$5 million from central funding campus-wide for new faculty start-up packages.

One important part of UNC-Chapel Hill's use of facilities and administrative receipts was to establish a reserve to meet its research budget obligations. Contract and grant revenues including both direct and F&A costs are collected throughout the year as the research project progresses. Research grants and agreements overlap fiscal years, often causing fluctuation in the amounts collected and expended in a given year. The reserve is used as a cash flow management tool, to protect against these fluctuations and to be used when a shortfall occurs. In years where there is no shortfall, it may be used as

one-time start-up funding for new operations in support of the research programs.

In 2001-02, UNC-Chapel Hill Libraries devoted most of their F&A resources to purchase library materials to partially offset the continuing rise in the cost of serials and electronic resources and to avoid large-scale serials cancellations. The funds were also used to purchase books, journals, and maintain electronic access for the library collection. Furthermore, F&A receipts were used by the libraries to cover continued access to materials and to provide for operating and maintenance needs. The Division of Student Affairs used their allocation of F&A funds to deliver basic services in the Disability Student Services and International Centers.

At North Carolina State University, almost one-third of the facilities and administrative revenues were used to provide salary support for those offices supporting the research infrastructure of the campus, such as purchasing, payroll, accounting, budget, administrative computing, facilities operations, legal, and personnel. Another 20% was used towards capital projects, such as the College of Textiles Patent Library, the D.H. Hill Library East Wing, Dabney Hall, and Centennial Campus.

Like UNC-Chapel Hill, NCSU is planning to obligate a large portion of their facilities and administrative receipts toward the required campus match in the 2000 Higher Education Bond program. NCSU has obligated \$32 million over the next five years toward major building construction or renovation projects and related debt service, including:

- current indebtedness on four buildings on Centennial Campus which house research programs for faculty from several colleges;
- major funds are committed for the College of Veterinary Medicine Research Building, the College of Engineering (Phase II) and two general research buildings on Centennial Campus;
- major renovation projects in Patterson Hall, Cox Hall, Jordan Hall, the relocation of departments to Riddick Hall, and lab renovations in the College of Physical and Mathematical Sciences.

In addition, the Vice Chancellor for Research and Graduate Studies allocated funds to provide start-up packages and equipment for new faculty, matching costs for special research initiatives, interinstitutional programs, and facility upfits and renovations. Based on its inclusion as a cost component in the reimbursement rate, the library also received an allocation of F&A receipts. These receipts were used to maintain research-related collections and services, make accessibility renovations to the library, and provide archival storage.

Allocations were made to research administration to cover the costs of personnel and other operating costs of the Office of Sponsored Programs and the Contracts and Grants accounting office. Funds were also allocated to support the continuing development of the Centennial Campus through retrofitting and constructing new research buildings, and providing support for the Centennial Campus Development Office.

In addition to the programmatic summary provided by each institution, an accounting by object of expenditure was also provided (see Attachment D). In summary, the categories of expenditures follow:

•		% of
Object of Expenditure	Amount	Total
Personnel Services	\$ 46,322,272	30.4%
Supplies, Utilities, Fixed Charges & Other Current Services	52,086,360	34.1%
Renovation and capital improvements projects	38,786,506	25.4%
Educational, computing and other equipment	11,140,267	7.3%
Educational awards	2,001,946	1.3%
Library Materials	1,560,694	1.0%
Other expenditures	724,080	0.5%
TOTAL	152,622,125	100.0%

University Research Facilities and Administrative Receipts Reporting Policy

Recognizing the need for uniform policies and procedures for reporting

University research facilities and administrative receipts, the Board of

Governors at its meeting on March 6, 2002 adopted a new policy statement. A

copy of the policy is attached (Attachment E).

The requirements of the policy are:

- 1. UNC institutions determine expenditure of F&A receipts. The chancellor of each constituent institution shall expend F&A funds only to support scholarly development of its faculty, staff and students or to ensure that the campus infrastructure is supported to enhance such scholarly activities.
- 2. In a format to be provided by the Office of the President, each campus will report by December 1, the amount of F&A funds received, amount expended by purpose, and uncommitted balance. A report will be made to the Board of Governors at the February Board meeting.
- 3. Chancellors shall formulate and submit a copy of an administrative procedure for the use and reporting of F&A funds to the President, consistent with Board of Governors' guidelines for the expenditure of F&A funds.

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University of North Carolina Facilities and Administrative Receipts, 2001-02

Institution	2001-02 Receipts	% of TOTAL
Appalachian State University	\$ 446,051	0.4%
East Carolina University	2,601,317	2.1%
Elizabeth City State University	265,503	0.2%
Fayetteville State University	308,756	0.2%
North Carolina A&T State University	2,778,095	2.2%
North Carolina Central University	725,103	0.6%
North Carolina State University	24,307,963	19.7%
UNC Asheville	118,960	0.1%
UNC-Chapel Hill	83,719,986	67.7%
UNC Charlotte	1,614,674	1.3%
UNC Greensboro	3,634,306	2.9%
UNC Pembroke	219,789	0.2%
UNC Wilmington	2,064,000	1.7%
Western Carolina University	296,565	0.2%
Winston-Salem State University	336,906	0.3%
UNC-General Administration	175,574	0.1%
TOTAL	123,613,548	

University of North Carolina Facilities and Administrative Expenditures, 2001-02

Institution	2001-02 Expenditures	% of TOTAL
Appalachian State University	\$ 512,114	0.3%
East Carolina University	2,440,782	1.6%
Elizabeth City State University	373,895	0.2%
Fayetteville State University	643,929	0.4%
North Carolina A&T State University	3,000,635	2.0%
North Carolina Central University	577,054	0.4%
North Carolina State University	30,205,801	19.8%
UNC Asheville	98,225	0.1%
UNC-Chapel Hill	105,893,495	69.4%
UNC Charlotte	3,747,578	2.5%
UNC Greensboro	2,530,018	1.7%
UNC Pembroke	122,929	0.1%
UNC Wilmington	1,869,603	1.2%
Western Carolina University	160,261	0.1%
Winston-Salem State University	345,710	0.2%
UNC-General Administration	100,096	0.1%
TOTAL	152,622,124	

Report on 2001-02 Facilities and Administrative Receipts Summary of Campus Priorities for Spending Overhead Receipts

Capital <u>Projects</u>		× ××
Match External	××	×××
Strategic <u>Initiatives</u>	× ×	× × × ××××
Library	×	× × ×
Faculty Start-ups	××	× × × ×
Grant research support/ assistantships	××× ×	× × ×
Promote grantsmanship <u>education</u>	××	××× ×
General admin support at campus	×	× ××××
Support of academic programs	× × ××	× ××××××
Maintain/ expand research enterprise infrastructure	×× ××	××××××××
Foster research/ creative activity in classroom	×× ×	× ×
Support research-related admin functions	×××××	××× ×××××
Encourage new research <u>activity</u>	×× ×	× × ×
Institution	ASU ECSU FSU NCA&T NCCU	UNCA UNCC UNCG UNCW WCU WSSU

University of North Carolina Summary of Facilities and Administrative Expenditures by Campus For the Fiscal Year 2001/02

Explain Other	Workman Comp Plan &	Grant Match Minority Advancement in the Biomolecular	Sciences Program Aid & grants		Dependent Care	Assistance riogian		Grant Match				Flex payments to OSC	and funds refunded for the previous year's	Orialicellor's search		
Total	512,114 2,440,782	373,895	643,929	577,054 30,205,801	98,225	105,893,494	3,747,578	2,530,018	122,929	1,869,603	160,261	345,711		100,096	152,622,125	
Other	0 128,823	10,000	462,887	000	36	0	0	38,888	0	106,122	0	-22,677		0	724,080	0.47%
Capital <u>Projects</u>	0 75,000	0	37,502	83 6,619,072	0	28,298,907	3,627,052	50,388	0	71,272	0	7,230		0	38,786,506	25.41%
Educational <u>Awards</u>	0 13,185	.16,087	0	28,748	0	786,282	1,817	56,000	3,000	210,114	14,000	59,791	iz.	0	2,001,946	1.31%
Library <u>Materials</u>	445	0	100	0 903,903	0	656,246	0	0	0	0	0	0		0	1,560,694	1.02%
Total Equipment	122,303 509,019	19,801	14,330	43,505	1,124	6,381,592	37,880	118,034	2,673	304,603	14,186	6,284		7,014	11,140,267	7.30%
Fixed Charges	23,963 60,745	13,662	2,579	25,384 3,138,183	1,379	7,448,199	18,913	56,028	2,550	112,227	11,311	1,524		6,887	10,989,084	7.20%
Other Current Services	113,783 240,935	114,422	70,985	268,639 3,498,337	3,363	16,409,983	23,357	398,046	9,660	267,364	73,760	12,322		12,238	22,151,243	14.51%
Utilities	0 3,576	0	00	0 205,018	0	107,470	0	995	O	0 0	0	>		ř	316,726	0.21%
Supplies	184,694 90,236	16,114	11,360	23,818 2,560,393	0	14,984,674	7,158	494,613	7,614	899,671	20,536	770,11		S	18,629,307	12.21%
Contracted Services	1,470 109,258	15,504	12,020 51,577	16,186 342,087	10,560	2,585,438	5,5/4	193,400	10,000	17,268	3,230	0,00		4,500	3,431,099	2.25%
Total Personnel <u>Compensation</u>	65,456 1,210,004	168,305	32,266 1,706,002	170,691 9,140,222	81,763	28,234,703	120,02	1,123,930	00,773	22 21 8	151 568	000,		69,452	42,891,173	28.10%
Institution	ASU ECU	ECSU	FSU NCA&T	NCCU	ONCA	UNC-CH	ONO		INCW	WC!	WSSII			UNC GA	UNC Total	



The University of North Carolina Board of Governors

Number 500.5 Adopted: 3/6/02

University Research Facilities and Administration Receipts Reporting Policy

Purpose

The University of North Carolina receives reimbursement of Facilities and Administration (F&A) costs related to grants and contracts and is expected to allocate these funds within the appropriate state and federal guidelines. Pursuant to the provisions of Senate Bill 1005, Section 31.14 (2001), the UNC Board of Governors is required to report to the Joint Legislative Education Oversight Committee by March 1, each year, the amount of overhead receipts for the University System and the use of those receipts.

ackground

A costs (sometimes called indirect or overhead receipts) are calculated for such items as facilities maintenance and renewal, libraries, salaries of technical, compliance and administrative personnel, equipment, scholarly development, and facilities support. F&A rates are set by negotiation between the federal government and each university. Lower rates are often established statutorily or by policy by certain programs and sponsors.

Under federal OMB Circular A-21 indirect costs generally reimburse for costs of the grants and contracts operations of the institution and other overhead expenses of the university in a manner consistent with the formulae under which the funds were recovered. Internal university controls pertaining to the compliance requirements for sponsored project expenditures under OMB Circular A-133 are designed to provide reasonable assurance regarding the achievement of the following objectives:

- 1. Transactions are properly recorded and accounted for in order to permit preparation of reliable financial statements and reports and maintain accountability over assets.
- 2. Transactions are executed in compliance with laws, regulations and provisions of federal and state laws and in accordance with sponsored agreement terms.
- 3. Funds, property, and other assets are safeguarded against loss from unauthorized use or disposition.

Requirements

- 1. UNC institutions determine expenditure of F&A receipts. The chancellor of each constituent institution shall expend F&A funds only to support scholarly development of its faculty, staff and students or to ensure that the campus infrastructure is supported to enhance such scholarly activities.
- 2. In a format to be provided by the Office of the President, each campus will report by December 1, the amount of F & A funds received, amount expended by purpose, and uncommitted balance. A report will be made to the Board of Governors at the February board meeting.
- 5. Chancellors shall formulate and submit a copy of an administrative procedure for the use and reporting of F&A funds to the President, consistent with Board of Governors' guidelines for the expenditure of F&A funds.

University of North Carolina Facilities and Administrative (F&A) Receipts Examples of Usage By Campus

Appalachian State University

- ♦ An allocation was made to the Belk Library to provide support for the acquisition of materials suitable for the research and creative endeavors of the faculty and students.
- ♦ Approximately \$201,000 was made available to ASU's colleges for the purpose of providing much-needed infrastructure, including the purchase of supplies and equipment for laboratories, equipment, and small renovation projects.
- Facilities and administrative receipts of approximately \$138,000 were allocated to the Department of Biology for the purpose of providing some of the equipment and supplies necessary to make the new Biology Annex functional.
- ♦ \$80,000 of F&A receipts were used to provide cash matches for external grants.
- ♦ The Office of Research and Sponsored Programs was allocated \$20,000 of the receipts to support its mission of providing the infrastructure necessary for the solicitation of grants and contracts.

East Carolina University

- ♦ ECU used F&A receipts to purchase a da Vinci Robot Surgical System which led to the recent FDA approval of this minimally invasive technique for the replacement of cardiac mitral valves
- Funds from F&A receipts made possible the "Shadow Bowl" an exercise to demonstrate community readiness and medical response to a mass casualty event and build experience to enhance the effectiveness of response to emerging disasters. This was a national event, organized by an ECU employee and a faculty member at San Diego State University.
- F&A funds at East Carolina University have also been used to support annual hurricane conferences, purchase marine equipment for the Maritime Studies Program, and support operational expenses of the Agromedicine Institute.
- ♦ Land has been purchased through the expenditure of F&A receipts, which will allow the construction of academic facilities.
- ♦ ECU is using F&A receipts to put together recruiting packages to hire leading scholars who can build programs that will benefit the educational, economic and wellness goals of the region. This includes the recruitment of a world-class cell biologist to lead a center on radiological damage of nucleic acids and also well-known scientists to develop a center on radiation terrorism.
- ◆ F&A receipts at ECU were expended to support meritorious new research and ongoing efforts by faculty. This included bridge funding for faculty researchers who were temporarily not funded from extramural sources, but who anticipated extramural funding. Specific projects included funding for the Grants Outreach Network Program (Political Science & English), Elder Abuse Grant (School of Social Work), Behavioral Neuroscience Animal Lab (Psychology), and several Brody School of Medicine starter grants.
- ♦ ECU also used F&A funds to establish two new research labs (the Biofeedback Lab and the American Sign Language Lab) and to support the ongoing operations of the Health and Human Performance Laboratory.

Elizabeth City State University

- ECSU used F&A receipts to pay for Sponsored Program Administration staffing, including the wages for the Director of Sponsored Programs and a contract and grants accountant.
- ♦ Academic programs at ECSU benefited through the expenditure of F&A receipts for student research assistants, equipment, and support for the advancement of minorities the biomolecular sciences.

Fayetteville State University

• F&A receipts in 2001-02 were reinvested in the research and academic programs at FSU. F&A receipts were used to promote grantsmanship workshops and to cover general operations related to the grants (Business Office, Sponsored Research, etc.).

North Carolina Agricultural and Technical State University

- ◆ NCA&TSU used 2001-02 F&A receipts to offer graduate assistantships, a practice that contributes greatly to the recruitment and retention of exceptional graduate students. In 2001-02, approximately seventy graduate students benefited from this initiative. An additional group of undergraduate students (approximately 150) benefited from F&A receipts that were set aside to provide scholarship opportunities for exceptional undergraduate students in the various research intensive majors.
- ♦ F&A receipts at NC A&T were used to strengthen technology transfer by funding the prosecution of an increased number of intellectual property disclosures, faculty and staff development, and seed funding for new innovations. This has resulted in a more competitive technology portfolio, increased exposure to the intellectual assets of the university, and greater capability to engage in industry collaborations and community outreach for economic development.
- In 2001-02, F&A funds were used to support the development of emerging interdisciplinary research initiatives in computational sciences as well as food biotechnology and safety. The support included "seed funding" for shared research support staff, laboratory acquisitions and upgrades, faculty visits to prospective sponsors, and matching funds.
- NCA&TSU again used F&A funding for continued assistance in the NASA-CAR, Defense Information Systems Agency and the Office of Naval Research programs in conjunction with the College of Engineering and School of Technology.

North Carolina Central University

- NCCU's F&A receipts benefited many academic programs in 2001-02, including the School of Education, the Psychology Department, the School of Nursing, Biology Department, Physics Department, Health Education, Chemistry Department and the Hospitality Education Program. These funds supported the purchase of supplies, current service expenditures, educational equipment and scientific equipment not funded through state funding.
- The Biomedical Biotechnology Research Institute at NCCU used these receipts to purchase critical scientific equipment, supplies, and current services for research efforts in the biomedical technology program.
- F&A receipts at NCCU funded technical staff to assist the grant recipients in the pre and post-award processes. These Sponsored Research staff played a critical role in assisting the university to identify funding available from state, federal, and other sources. The receipts also offset university expenses associated with the annual audit of federal grants and programs.

North Carolina State University

NCSU has invested the F&A receipts in ways that have, in turn, contributed to the growth of communities and companies across the state. Examples include:

> Agricultural Products

Genomics Research Laboratory – F&A receipts were used to upfit and equip this laboratory with automated DNA sequencers, lab robotics and other genomics tools. Due to this investment, significant gains have been made in research leading to the prevention of neural toxins and nematodes that attack North Carolina's agricultural products. Work has also progressed to better understand and improve upon economically beneficial products such as flounder, sweet potatoes, maize, and tobacco. This work serves companies such as Syngenta (RTP), BASF Plant Science (RTP), Rhone-Polenc Rhodia Division (RTP), Mayola Dairy Products (New Bern), Super Brand Dairy Products (High Point), Hunter Jersey Farms (Charlotte and High Point), and Milkco Inc. (Asheville).

> Forestry

F&A receipts were used in the cost-shared purchase of Near-Infrared Spectrophotometer, used by forestry and wood-products faculty in conjunction with industry and government grants. This equipment allows for rapid detection of wood properties so that genetic selection can be accelerated to produce trees with higher yield of desired products and high quality of raw materials for specific industrial applications, serving the needs of companies like Weyerhauser and International Paper, located in multiple locations in North Carolina. Construction and equipping of the Forestry Biotechnology Laboratory was made possible by F&A receipts, and has led to research that has determined the genetic basis for resistance in Southern pines for fusiform rust, the most devastating forest disease in the Southeast. The research is allowing selection and planting of resistant trees.

> Textiles

An investment of \$1.3 million of F&A receipts was combined with industry donations and service contract fees to create a laboratory at the College of Textiles for service to the non-wovens industry. The State's industries, such as Cotton Inc. (Cary), Glaxo Smith-Kline (RTP), Kimberly-Clark (Hendersonville and Lexington), PGI-Polymer Group Inc. (Benson and Mooresville), and KoSa (Charlotte, Salisbury, Shelby and Wilmington) benefit from product development research, equipment, specialized expertise and effective production methods.

Engineering

With partial support from F&A receipts, major analytical instruments were purchased to provide quality materials analysis for engineering faculty and industry. Companies served include Cree Research Inc. (Durham), AMP Inc. (Winston-Salem), Cooper Industries (Apex), Closure Medical (Raleigh), CP&L (New Hill), Lord Corporation (Cary), Micell Technologies (Chapel Hill), Nitronex, Inc. (Raleigh), and Weavexx Corporation (Wake Forest).

> K-12 Education

F&A receipts were used to provide space on NCSU's Centennial Campus for a premier education outreach program where faculty in physical, mathematical, and biological sciences and education bring program enrichment to K-12 students across the state. The program also provides classroom assistance and professional development opportunities to several thousand teachers throughout the state on a yearly basis. The program is recognized as one of the nation's model programs that better prepares students for careers in a world that is increasingly dependent on a technically-trained and science-literate workforce.

(NCSU continued)

> North Carolina Manufacturing Extension Partnership (NCMEP)
F&A receipts have been used to pay for office space and to set up seven field offices strategically located throughout the state to serve North Carolina industries. NCMEP provided \$209 million in direct economic impact from delivered services including 923 North Carolina manufacturing jobs created or retained. Companies served by NCMEP include Weavexx (Wake Forest), Cutler-Hammer (Asheville), Konica (Greensboro), W.P. Hickman (Asheville), and Walter Kiddie (Wilson).

University of North Carolina at Asheville

- Facilities and administration funds at UNC-Asheville were used to pay for a contracts and grants accountant to assist contract and grant recipients with billing for reimbursements, financial reporting, and other associated administrative functions.
- Receipts were also used to fund an administrative assistant position to help research grant opportunities and track proposals.
- UNCA also reinvested F&A funds by using them to fund grant writing workshops for faculty.

University of North Carolina at Chapel Hill

- F&A funds made possible multiple studies that will aid public policymakers in North Carolina, including:
 - > a collaborative study between UNC-Chapel Hill and Shaw University that describes racial and ethnic disparities in health care among North Carolinians, identifying the causes of these disparities, and recommending novel solutions
 - > a study of more than 4,000 pregnant women in North Carolina, with the goal of finding ways to reduce the social and financial costs associated with high-risk births
 - > an evaluation of North Carolina's "Health Choice" program
 - > a survey by UNC's Injury Prevention Research Center of organizations that provide services to domestic violence victims
 - > work with Prevent Child Abuse NC to design and test of new strategies to reduce the occurrence of shaken baby syndrome in North Carolina
 - > a study of diet and health of African-American infants, with the goal of reducing childhood obesity and future health-care costs
 - the use of satellite and aerial imagery to update floodplain mapping in the aftermath of Hurricane Floyd, helping to ensure accurate evacuation routes and improved emergency planning
- UNC-Chapel Hill uses F&A receipts to support programs working to support new or struggling industries in North Carolina, including
 - > Oyster Restoration Program trying to revive the State's suffering oyster industry
- Receipts for facilities and administration at UNC-Chapel Hill have been frequently used to provide "seed grants" to faculty members which help them to begin research that leads to new grants and breakthroughs in research. Recent examples include:
 - ➤ An assistant professor in the Cecil B. Sheps Center for Health Services Research used a seed grant of \$3,900 to field test a survey used to study women's risk of reproductive health problems. This pilot study resulted in a grant of almost \$1.3 million from the Centers of Disease Control to conduct research using the study.
 - An assistant professor of medicine used preliminary data she gathered with a \$3,900 seed grant to study the role of insulin and certain growth factors in the development of colorectal cancer. She was subsequently able to win an award of \$40,000 from the Cancer Research Foundation of America and more than \$650,000 from the National Institutes of Health to further her research.

(UNC-CH continued)

- A portion of the F&A funds are used to meet obligations for new construction, renovation of facilities, debt service, enhancing technology through campus wiring and upgrades to other infrastructure. Major Capital Obligations, minor repair, and renovation included expenditures on the following facilities in debt service: Medical Biomolecular Building, Nursing Building, Bioinformatics Building, Neurosciences Building, Science Complex, and Public Health Building.
- Matching funds for grant proposals submitted to external organizations were funded from F&A receipts at UNC-Chapel Hill. Some of the projects were:
 - Creation of a Nanoscale Interdisciplinary Research Team (NIRT) on "Molecular Brushes as Components for Nanomechanical Devices." The team consists of three investigators, two from the UNC-Chapel Hill Department of Chemistry and the other from Carnegie Mellon University.
 - > Center for AIDS Research funds used in part to support research at international sites, allowing UNC faculty and trainees to work on a global scale.
 - Acquisition of a Micro-Thermal Analysis Microscope for studying novel materials and for student training

University of North Carolina at Charlotte

- ♦ UNCC put the majority of its F&A receipts during 2001-02 towards the construction of the Humanities Building.
- F&A receipts were also used to support department priorities, for example, the provision of supplemental funding for an annual mathematics research conference held at UNC Charlotte.
- UNCC plans future usage of F&A receipts to support the expansion of research facilities and equipment, including the Science and Technology Building and an addition to the Charlotte Research Institute. Up-fitting those buildings in areas such as laboratories, vivariums, and clean rooms will be expensive.

University of North Carolina at Greensboro

- UNCG has used F&A receipts to offer increased training for campus research administrators. This assists faculty in their administration of the grants and awards and also helps to increase the quantity and productivity of research at UNCG.
- F&A funds at UNCG have also been used to leverage additional funding.
 - During 2001-02, the School of Nursing was allocated \$30,000 which was then used to submit applications for over \$5 million in grants, resulting in the award of \$900,000 to UNC-Greensboro.
 - The Institute of Health, Science and Society (IHSS) at UNCG has used seed grants to develop the WaterChip, a gene array designed to assess water quality by measuring changes in the types and abundance of microbes populating reservoirs, recreational lakes, and other water sources. The array ahs potential application for assessing water quality in municipal water supplies on an everyday basis, and the additional ability to detect natural, accidental, and deliberate changes caused by pathogenic or chemical contamination. The project ahs now been funded over two years for \$1 million by the US Environmental Protection Agency, with a third year of pending funding for \$500,000. The WaterChip project is also pending review in grant applications related to counterterrorism measures and several other potential uses.

University of North Carolina at Pembroke

- UNC-Pembroke's F&A receipts assist in promoting economic development and growth in that region of North Carolina.
 - ➤ For example, the receipts support the development of COMtech, an industrial park located in the community served by the institution. COMtech is designed to provide job training, enhance economic development in the region, and improve and stabilize the local economy through consultation and executive and employer training. Funds to establish and build a Regional Center for Economic and Community development at the COMtech Industrial Park were secured through Congressional action. The Center provides industrial training to corporate employees and conducts workshops designed to strengthen the economic base of the community and region. The Center also identifies problem companies and assists them in keeping capital flowing to sustain themselves.
 - ➤ Grant writing workshops supported by F&A receipts, are opened to both public non-profit and private for-profit organizations in the area at no cost. This enhances their potential to gain resources that will assist in achieving their mission and objectives in the region. These relationships are vital to outreach and public service, and enhance the potential for greater resources in the community and region.
- ♦ F&A receipts were also used by UNCP to support salaries and research operations. The Office of Sponsored Research & Programs provides the necessary resources to assist the university in identifying funding opportunities that support the overall university mission of academic excellence and the resources to prepare and submit grant proposals. The Office serves faculty, staff, and students by providing assistance in their endeavors to pursue and perform scholarly works. Activities supported by the Office and other departments at UNCP included: proposal identification, proposal preparation and monitoring, partnership and collaboration identification, internal proposal reviews, compliance and agreement management, tracking proposal status, project execution, presentation of grant writing workshops, intent letters, consultant review, space alterations/renovations, conflict of interest certifications, lobbying certifications, cost-share, data support, disposal of chemical or hazardous wastes, policies on research subjects, compliance management, agreement management, intellectual asset management, and financial management.

University of North Carolina at Wilmington

- UNCW's ability to offer start-up packages from F&A funds has been greatly advantageous in recruiting new PhDs to the campus in areas such as computer science, where hiring has been extremely competitive.
- Repairs and maintenance of scientific buildings came from F&A receipts in 2001-02, including work on fume hoods and air ventilation filtering.
- UNCW's use of F&A receipts benefited students through the provision of graduate, minority and creative writing scholarships. Thirteen graduate students in creative writing were recipients of scholarships and instructional fellowships in 2001-02.
- In 2001-02, UNCW also purchased a new research vessel for the Center for Marine Science from F&A receipts (M/V Mandalay).

Western Carolina University

- ♦ In 2001-02, WCU used F&A receipts to establish a grants and contracts administration office an effort to assist faculty and to increase the contracts and grants awards in that region of North Carolina.
- F&A receipts were also used in the efforts to increase enrollment at WCU, by providing monies for recruitment and retention activities like WCU on Tour, an off campus program that introduces Western to surrounding regions and states.
- F&A receipts were also used to support audit costs related to grants and contracts, purchase workmen's compensation insurance for employees paid from grants and contracts, and for other related administrative costs.

Winston-Salem State University

- ♦ WSSU used 2001-02 F&A receipts to provide funds for student enrichment programs, such as the Minority Science Outreach Program and Honors Summer Program.
- ♦ It was also necessary to use F&A receipts to fund the annual costs of auditing contracts and grants financial records and fund staffing positions associated with the administration of contracts and grants.

University of North Carolina General Administration

- F&A receipts at UNC General Administration were used to fund related administrative costs, including
 - > a research associate position and operating costs to administer compliance standards and to manage pre and post-award operations
 - > fund the establishment and maintenance of negotiated F&A rate proposal and the UNC Cost Allocation Plan
- F&A receipts were also used to cover administrative overhead costs for central administrative cost pools, provide sponsored program professional development, and fund unfunded cost-sharing requirements for grant proposals.