



**Recommendation
for a
New Network Infrastructure
Funding Model**

**Information Technology Governance
Communication Technologies Coordinating Committee**

June 2011

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Recommendation for a New Network Infrastructure Funding Model

Information Technology Governance

Communication Technologies Coordinating Committee

Background

The funding model for network infrastructure at Carolina is widely perceived as problematic. Revenues are generated largely from a bundled voice/data charge to departments that results in a \$48.00 per month charge for a standard telephone, very high in comparison to peer institutions. At North Carolina State University, for example, the monthly charge for a standard phone, with no network costs, is \$8.00. The key shortcomings of the present funding model are:

- It drives departments to remove telephones and convert to cell phones or Skype, resulting in loss of revenue for network infrastructure without a reduction network usage by the department.
- It lacks contributions from important user groups including students and affiliated entities such as UNC Press and UNC Hospitals.
- It provides no funding for capital refresh or network upgrades or expansion.

The Communication Technologies Coordinating Committee (Comm Tech) was charged with studying this issue and recommending a new funding model for network infrastructure.

Membership

Communication Technologies Coordinating Committee members are:

- Carolyn Elfland, Associate Vice Chancellor for Campus Services, Finance and Administration, Chair
- Mike Barker, Assistant Vice Chancellor for Infrastructure and Operations and Chief Technology Officer, Information Technology Services
- Andy Johns, Associate Vice Chancellor for Research, Research and Economic Development
- Tammy McHale, Senior Associate Dean for Finance and Planning, College of Arts and Sciences
- Christopher Payne, Associate Vice Chancellor for Student Affairs, Student Affairs
- Howard Reisner, Professor of Pathology and Laboratory Medicine, School of Medicine
- Dennis Schmidt, Director, Office of Information Systems, School of Medicine
- Brian Smith, Director of Treasury and Risk Management Services, Finance and Administration

Students members added for this study are:

- Dakota Williams, Student Body Treasurer, 2010-11
- Mary Cooper, Student Body President 2011-12
- Neal Viridia, Graduate and Professional Student Federation Treasurer, 2010-11
- Alex Mills, Graduate and Professional Student Federation Treasurer, 2011-12

ITS support was provided by:

Steve Haring, Executive Director of Finance and Administration
Becky Arnold, Administrative Manager

In addition to the above ITS personnel, Mechelle Clayton, IT Manager, and John Stanley, Applications Analyst, from ITS Enterprise Applications, provided invaluable analysis and programming support for the departmental financial model simulations.

Comm Tech met once a month during the summer of 2010 and then twice a month during the 2010-11 academic year.

Role of UNC General Administration

The University of North Carolina General Administration convened a group, the UNC IT Communications Funding Model Task Force, to study the issue of campus network funding on a systemwide basis. This group produced a report, *Best Practices Recommendations for Developing a Sustainable Communication Funding Model*, on January 8, 2009. General Administration considers this report a guidance document, there is no requirements to precisely follow the recommendations. Key findings of this report are:

- There are two primary cost drivers of communications-related expenses – the number of people served and the type and nature of the space in which they are served.
- Funding models in use throughout the system include:
 - Full central funding, with little to no charge-back even for basic telephony
 - Full auxiliary funding, with charges assessed to units (Carolina is the only institution with a full auxiliary funding model)
 - Hybrid models, with a combination of central funding and charges to units (the most common model in use outside the UNC System)

The UNC GA report favors the use of an FTE-based funding model. It encourages the use of a broad-based standard charge with narrow exceptions, which could be decreases or increases, for clearly-defined FTE categories. An example of a decrease would be excluding employees, such as housekeepers, who do not use the network. An example of an increase would be charging a premium to particularly heavy users such as certain researchers.

The UNC GA report makes the following recommendations:

- Develop a standard definition of who is to be served
- Define baseline communications services
- Develop an accurate and comprehensive assessment of cost to deliver the baseline services
- Develop an agreed upon process for how costs shall be set and funds collected
- Develop an agreed upon process to transition from the current funding model to a new model based on FTE metrics

Communication Technologies Coordinating Committee Methodology

Comm Tech agreed upon the following methodology to formulate its recommendation:

- Define “communications services user”
- Define baseline (core) communication services
- Define a-la-carte (optional) services
- Define the costs to deliver the baseline services, including life cycle infrastructure refresh
- Define the costs to deliver a-la-carte services
- Develop a process to allocate costs
- Develop a transition process

Communication Services User

Comm Tech’s definition of communications services user is any person or entity that makes use of the University’s network infrastructure. This definition is intended to be broad and comprehensive. It includes University faculty, staff, students and University-related persons as well as University units and University-related units whether on campus or off campus.

Examples of University-related units include UNC Hospitals, University-related foundations, and third parties occupying University space, such as the USEPA. The definition also includes off-campus units that do not have network fiber backbone connections but use T-1 and other mechanisms to connect to the network.

Baseline and A-la-Carte Communication Services

A list of the services provided by ITS Communications was provided by ITS. Comm Tech discussed the services and divided them into two groups – Core and Optional – with Core Services to be funded through the network infrastructure charge and Optional Services to be paid for by individual users on an a-la-carte basis when used. Following are the lists of Core and Optional Services as defined by Comm Tech:

Baseline (Core) Services (included in the network infrastructure charge)

- Engineering analysis
- Campus wired connection
- Campus wireless connection
- Off-campus wireless connection
- Manage network VLANs
- Manage ACLs and policies
- General purpose VLAN
- Network access control
- Client-device scanning
- Assign network to VLAN
- DHCP server/service
- Assign network port speed
- Department and end-user network support (Remedy)
- Monitor and proactively address abnormal network activity

- Assign public IP address to device in DHCP
- Domain name service (DNS) server/service
- Assign/register subdomain of UNC-CH in DNS
- Network time protocol (NTP) servers/service
- Install fiber cabling inside UNC owned/managed buildings
- Install copper cabling inside UNC owned/managed buildings
- Cable terminations building-to-building on campus
- Neutral hosting (distributed antenna system)
- Emergency callboxes
- Dedicated building alarm lines
- UNC-CH public access channel video programming transport

A-la-Carte (Optional) Services (charged on an a-la-carte basis)

- Landlines (Centrex or POTS) moves, adds, changes
- Landlines (VoIP) moves, adds, changes
- Landlines (key system/Norstar) moves, adds, changes
- Configure voicemail
- Conference calling
- Unified messaging
- Off-campus wired connection
- Campus wireless refresh in advance of schedule
- Off-campus wireless refresh in advance of schedule
- Restricted use VPN
- Support/configure FS load-balances for application/service (unc.edu, blackboard.unc.edu, my.unc.edu, and so forth)
- Off-campus point-to-point VPN (NCSU developers in the collaboration)
- Off-campus cable terminations
- Data/voice wall face plate installation
- Unlicensed microwave transport
- Licensed microwave transport
- Cellular phone (being discontinued)
- Calling card
- Pagers
- Dedicated alarm lines (non-public safety, non-buildings)
- Dark fiber lease (per route mile)
- T1 facility lease
- MetroEthernet service
- Cable TV
- Point-to-point video programming transport

Cost to Deliver Baseline (Core) Services

ITS Communications expenditures were analyzed in detail and assigned to one of three categories: Core, Optional, or Overhead. Non-personnel operating expenses were allocated first, followed by allocation of personnel expenses. Comm Tech strived to the maximum extent possible to assign costs to Core or Optional and to use the Overhead classification as little as possible.

The grand total of all operating expenses was \$15,855,703, of which \$7,889,711 was assigned to Optional; \$5,592,418 was assigned to Core; and \$2,373,574 was assigned to Overhead. Overhead was allocated proportionately to the other two categories, at a rate of 17.6% of the base operating expenses.

The current ITS Communications budget does not include funding for capital refresh, or network upgrades or expansion. For the funding model to be sustainable over time, capital expansion and refresh needed to be included. ITS prepared a proposed budget for life cycle capital expenditures to be funded by the new model. The total proposed annual capital expenditures were \$4,810,000, of which \$4,710,000 was allocated to Core and \$100,000 was allocated to Optional.

Comm Tech discussed the relationship of research to the capital budget. Research drives bandwidth and individual flow capacity at a greater rate than ordinary business or instructional purposes, therefore it drives capital investment at a different rate. The impact is that research buildings need capital infrastructure upgrades earlier than other facilities, but all facilities receive similar upgrades within a few years thereafter. For example, a current campus network goal is to have 10 Gbps network links for all buildings. These upgrades were begun in 2010, starting with the priority research buildings, with some units supplementing the funding for upgrades related to their specific needs. Based on an analysis of the 2010 experience, Comm Tech determined that \$465,000 per year would be included in the capital budget component of the funding model to prioritize general research building infrastructure upgrades. If research projects or schools require specific upgrades, these would be considered a-la-carte services.

After adding these life cycle capital costs to the above allocations of operating expenses, the total cost of Optional is \$9,278,271 and the total cost of Core is \$11,286,982. The detail level information for these analyses and allocations is found in Appendix A – Expenditure Analysis and Appendix B – Annual Capital Life Cycle Costs of this report.

Cost to Deliver A-la-Carte (Optional) Services

Defining the cost to deliver a-la-carte (optional) services was complicated by the concurrent bidding and selection process for a new provider of telephony services. Comm Tech could not wait for the telephony decision to be made before proceeding with its work. The cost of Optional Services, as defined above, served as a guide. Based on information compiled by ITS Communications, Comm Tech decided for modeling purposes to assume that the cost of a telephone would drop to \$14.50 per month. The accuracy of this cost estimate depends upon the pricing structure and transition plan for the next generation voice services delivery approach, but

it was evaluated for reasonableness after responses to the telephony services request for proposal were received and is intended to be conservative.

Process to Allocate Costs

Comm Tech spent the majority of its efforts on developing a process to allocate costs. The direct cost to provide adequate network services, including capital life cycle, is a 72% increase over current expenditures for Core Services and related overhead. Departmental budgets were tremendously stressed when the provision of network services was converted to a 100% auxiliary-funded model from a hybrid model just a few years ago, which resulted in the costs of the network being added to the cost of telephones. Dramatic increases in departmental charges in the current budget environment are not realistic. The pie must be expanded, not just sliced differently. This expansion ideally needs to include more sources of revenue for departments as well as sources of revenue beyond departments.

UNC GA FTE Model: Comm Tech explored the FTE model outlined in the UNC GA report – a flat charge per FTE for most employees with a few well-defined categories of employees potentially exempted and a few well-defined categories potentially charged at a higher rate. Comm Tech met with the ITS Director of Networking Systems to better understand the advantages and challenges of defining a cohort of FTEs to be charged at higher rate. ITS cannot define high users at the FTE level. Traffic goes through routers from one VLAN to another. If activity is within one department or VLAN, the traffic does not go through a router and thus cannot be tracked. The “top talkers” on the network at any one time are tracked, and these are spread more widely across the University than one might assume. For example, Romance Language appears in the top talker list when transmitting audio files. Some departments appear as top talkers because they use the network while performing backups. Web cameras are major users.

Comm Tech met with the Enterprise Applications IT Manager responsible for the legacy financial and human resources systems and the Applications Analyst responsible for the payroll system to determine what capability is available within the existing systems to identify various user groups. The current payroll system is very old, from the 1970's, and is being replaced, along with the current Human Resources Information System, as part of PeopleSoft ERP implementation. However, the new system will not be live in time to be useful for network cost allocation. In addition, it is very difficult given the career-banded classification structure for SPA employees to accurately define groups with no or little network use and groups with heavy network use because the classifications are too broad. Any changes in the classification system likely would be made outside of the University, and made separately from the PeopleSoft ERP implementation. Further, it is impossible to distinguish grant-funded employees based on account number alone in the current University financial chart of accounts, meaning that employees engaged in research activities cannot easily be identified. Therefore, Comm Tech decided that the UNC GA FTE model was not appropriate for Carolina.

Student Funding Considerations: In addition to departments, students are large users of the network infrastructure. Since network operation and maintenance was converted to a fully receipts-supported operation, there has been no central funding for the portion of network costs

that support the academic mission (students). The only funding covering student use of computing resources is the technology portion of the Educational and Technology Fee, currently \$228.45 per student, which yields \$4.5 million annually. Comm Tech asked for information on the sources and uses of this fee, which is composed of revenue from multiple incremental requests for specific purposes made over a number of years through the student fee process. A total of \$115,298 of the fee (\$5.80 per student) originally was levied for network-related costs (\$86,123 for modems in Davis Library and \$29,175 for internet service). See Appendix C – Student Fee Detail Breakdown for more information on the technology portion of the Education and Technology Fee. In fiscal year 2009-10, the fee was spent solely for student labs, walk-in services, and the help desk. In fiscal year 2010-11, in addition to the uses of the fee in 2009-10, funds are planned to be spent for the Microsoft student agreement, e-mail, and calendar. None of the fee is being used to support the network. Thus, there currently is no financial support for student use of the network, either centrally or from student fees.

Underlying principle: After extensive deliberation, Comm Tech determined that as an underlying principle network use by all members of the campus community – faculty, staff, and students – should be paid for on an equitable basis. No group should subsidize the other. There should be a basic charge mechanism applicable to all, with additional charges to special sub-groups. This methodology embraces the basic UNC GA concept of an FTE charge with reductions and additions for specific classes of users.

Recommendation for charges to departments: Comm Tech determined that the best method to allocate charges to departments would be as a percentage of payroll, the same model used to allocate the transit fee. This method is a variant of a pure FTE method in that there is a uniform charge, but it is a percentage per dollar of salary rather than a flat rate per person. In general, lower paid employees use the network less than higher paid employees, so this methodology inherently charges more for employees who are larger users.

ITS Enterprise Applications modeled the new uniform percentage of payroll charge method to determine the impact on individual departments. Department phone charges were assumed to be \$14.50 per line per month, and departments were assumed to retain their current number of phone lines. The number of phone lines was multiplied by \$14.50 per month for 12 months, and subtracted from the total amount being paid by departments at the current \$48.00 rate, which yielded the aggregate amount available to pay for the network if the new telephony charge is \$14.50 per month and the amount charged to departments in total remains the same. The remaining balance was divided by total salaries to arrive at the uniform percentage charge. The uniform percentage thus determined was 0.54%. This percentage was then applied to every salary source for each individual on the payroll. The total of the new phone charges and the new network core charges by definition remained the same in the aggregate.

As expected, there were large changes in the amounts that individual departments would pay. Also as expected, departments with few phone lines in relation to number of employees had the largest overall increases, while departments with many phone lines in relation to number of employees had the largest rate decreases. The largest individual departmental rate increase was 1866.68%, the largest departmental rate decrease as 69.79%. Looking at the analysis by school rather than department, however, there was one unit with a cost increase of 24.41%, with all

other increases being 15% or less and many units experienced decreases. The rolled up analysis at the department and school level is found in Appendix D – Winners and Losers by Department and School. A detailed FRS account level analysis of “winners” and “losers” (about 180 pages) is available electronically upon request. At the school or in some cases the vice chancellor level, current telephony budgets can be redistributed among units to cover individual departmental costs without requiring additional funding. In addition, the need for redistribution will in some cases be reduced by the expanded funding base discussed in the following paragraph.

It is important to note that charging individual salary sources results in contracts and grants being directly charged for network costs. Historically, no direct charges have been made to these fund sources. Some units pay telephony charges from their overhead allocations on federal grant funds, but historically there have been no direct charges to grants for basic telephony or network services. Therefore, the inclusion of contracts and grants funds in the rate model represents an expansion in the size of the pie. It also is important to note that core network costs have never been included in the University’s cost base for the F&A rate determination either. Thus, contract and grant funds have not contributed to the cost of core network services, either directly through charges to contracts and grants or indirectly as a component of the F&A rate base. The F&A rate negotiation is ongoing now. The following chart shows the reallocation of charges by ledger.

Account Ledger	Sum of Change
2	\$124,732
3	(\$1,907,702)
4	\$34,335
5	\$1,397,658
6	\$285,931
9	(\$30,402)

The University’s consultants have indicated that directly charging contracts and grants is being done by some other institutions throughout the country. The concept of directly charging contracts and grants was presented to the University Budget Committee, which approved proceeding in that manner. The Comm Tech member representing Research and Economic Development took the lead in working with the University’s consultants to prepare the request to the federal government, and it has been submitted. If approval to charge contracts and grants directly is not forthcoming, then the costs of core network support should be added to the F&A base, an increase in the overhead rate should be negotiated, and a central F&A account created to pay the uniform percentage charge for the portions of persons’ salaries paid from contracts and grants.

This new mechanism for allocation of core network charges to departments decouples telephone service from core network service, and creates a sustainable mechanism for paying for the network going forward that is independent of future changes in telephone technology. It yields approximately \$6.5 million per year to support the network based on fiscal year 2009-10 data, the most recent data available when this analysis was performed.

Recommendation for charges to/for students: Comm Tech discussed extensively the proper basis to use to allocate network charges to students. Some students live on campus, and a fee for

network use in residence halls is included in their residence hall room rates. Students who live off campus also pay a charge, either directly to a service provider or through their rent, for access from their homes. Therefore, Comm Tech determined that the network charge included in Housing room rates would be considered an additional charge to a specialty sub-group. This charge is addressed separately below. Student use of the network across the campus, other than in residence halls, would be paid for through the base charge applicable to all students.

Comm Tech determined that the appropriate base to use to determine the student charge for network services is the University's cost to educate an undergraduate student as calculated (in accordance with NACUBO standards) for presentation in the University's Comprehensive Annual Financial Report. For the fiscal year ending June 30, 2010, this cost was \$22,563.

Comm Tech believes a student's total cost to attend Carolina, including tuition, fees, room, and board, is not an appropriate base because it contains non-academic costs. Tuition and fees is not an appropriate base because it differs dramatically between in-state and out-of-state students. While the cost to educate graduate students is higher than the cost for undergraduate students, most graduate students also are employees and their employing departments will be paying the base departmental fee on their salaries. Therefore, and in the interest of simplicity, Comm Tech recommends the undergraduate cost of education be used as the basis for the graduate student calculation as well.

Using the cost of education per student and multiplying by the number of student FTEs (not headcount) and then multiplying by same percentage fee as used for departments, the total base network cost allocated to students is $\$22,593 \times 26,603 \text{ FTE} \times 0.54\% = \$3.2 \text{ million per year}$. This equates to \$121.48 per year per student, or \$60.74 per semester.

Comm Tech recognizes that much of the student use of the network is personal use, not academic use. Determining the percentage of personal use is difficult. Student Comm Tech members reported that academic and personal use often takes place simultaneously. For example, many students run Facebook in the background on their computers and check it periodically while they are completing coursework. Comm Tech recommends that no less than 1/3 and no more than 1/2 of the student base charge be paid for through reallocation of existing technology portion of the Educational and Technology fee revenues or an increase in the fee or a combination thereof. The final recommendation regarding the amount and the source (reallocation or increase in the fee) should be made by Student Government, specifically the Student Fee Advisory Committee and the Student Fee Advisory Subcommittee.

Comm Tech recommends that the remainder of the base cost allocated to students be paid centrally. Clearly it is very difficult in the current budget environment to allocate any funding for this purpose. Comm Tech recommends that this funding be provided over time using an agreed-upon methodology. For example, 0.54% of the enrollment increase funding received each year could be allocated until the backlog is reduced to \$0. If \$8 million in enrollment increase funding is received for 2011-12, then \$43,200 could be allocated to the network using this method.

Charges to Specialty Users Above the Base: Comm Tech identified two specialty user groups to study with regard to an incremental charge above the base charge for core services. These groups are students living in residence halls and the research community. Ultimately, Comm Tech determined that funding for general research infrastructure should be included in the base, and that project- or department-specific upgrades should be paid for on an a-la-carte basis by the user. Discussion of the general research infrastructure funding included in the base is found on page 5 of this report.

On-campus Resident Students: Presently, Housing and Residence Life (Housing) pays a fee (called the ResNet fee) to ITS for use of the network by students living in campus housing. The fee is negotiated with ITS annually and represents the direct cost of providing network services to the residence halls. In 2011-12 the fee will be \$368,484. Housing pays separately for capital refresh and upgrade of the network serving Housing. Comm Tech discussed the amount of the current fee, which is very low in comparison to the cost of an off-campus third party service provider. The fee is calculated to cover the direct cost of providing service to residence halls. Housing is under considerable financial pressure to meet debt service and install mandatory upgrades in buildings such as sprinkler systems. Comm Tech believes that specialty charges above the base charge (to students or to employees) should be related to actual cost. Therefore, Comm Tech recommends that the current methodology for determining the ResNet fee be retained, with the exception that overhead should be added. For example, the 2011-12 fee with overhead added would be \$433,337. During the discussions of the network charge to Housing, student members of Comm Tech expressed a strong desire by students for enhanced wireless service in the residence halls. Comm Tech recommends that Housing work with ITS and Student Government to develop a plan to address this student priority.

If other specialty users above the base are identified in the future, these users should be added to the funding model in the same manner as Housing. That is, the unit should pay the direct cost plus overhead.

Charges to Affiliates: ITS provides telephone service at \$48.00 per month to a variety of entities that are not University departments. Comm Tech analyzed these entities to determine whether they receive network services for which they should be charged when telephone and network charges begin to be billed separately. This analysis revealed a handful of entities that do not receive network services and do not appear to be associated with the University. For example, the State Employees Credit Union office on Pittsboro Street is connected to the University telephone system. Another handful are located on campus and are part of the University but are provided only telephone services and are not connected to the network. With the telephony conversion from Centrex to VoIP, the provision of telephone service to all of these entities will need to be addressed.

Three entities were identified that receive significant network services. These are: UNC Hospitals, UNC General Administration, and UNC Press. Each of these presents a unique situation. For example, the customer may own and operate its own in-building electronics and network. Comm Tech recommends that ITS negotiate separate arrangements with each of these entities that fairly compensate the University for the use of the network services received.

The remaining entities receive minimal network services, in addition to telephone services, and may be located on or off campus. The vast majority are student groups. The remainder includes University-related foundations and a variety of publications. Network funding for most will be provided through the student or departmental charge. For example, a journal edited by a faculty member will pay for network services through the departmental payroll charge for the faculty member. In addition, the network usage is so minimal that the cost of developing a billing methodology and processing bills and payments would exceed the revenue derived. Therefore, Comm Tech recommends that, when telephone and network charges begin to be billed separately, these customers should be billed for telephones only.

Comm Tech recommends that the arrangements made for charges to affiliates be reviewed as part of the annual rate request submitted to Comm Tech by ITS.

Other Revenue Sources: There are two other existing sources of revenue for the network, one recurring and the other one-time, which are important to the overall funding model. These are building operating reserves and capital project fees.

Building Operating Reserves: In 2006, a task force led by UNC General Administration and the Office of State Budget and Management revised the building operating reserve formula. The new formula provides recurring funding for maintenance, operation, and capital refresh of building network components and for smart classrooms. To date, ITS has received \$1,223,603, of which \$549,322 is for the network. Including the building operating reserves requested for the 2011-13 biennium, the total funding for the network will be \$801,106. To date none of these funds received for the network have been allocated to the network. Comm Tech recommends that the \$549,322 in funding received for the network to date be reallocated to the network and that future building operating reserve funds be allocated as intended when the agreement was reached between UNC GA and OSBM. It is important to note that these funds are recurring and 53% are provided for personnel, meaning that increases are provided when the Legislature provides salary increases for state employees. Thus these state funds are important in containing costs to department and students over time.

Capital Project Fee: In 2001, the University established a fee for capital projects, both new and comprehensive renovations, to fund the increased energy infrastructure, IT infrastructure, and open space/pedestrian safety requirements associated with the new buildings. Of this fee, 0.5% of the total cost of construction is provided to ITS for the network. Presently, there is a balance of \$2.3 million available to ITS. Current ITS management was unaware of this one-time source of funding, and guidance regarding how to access the funds has been provided. This source is affected by the slowed pace of construction, is not recurring, and can be used only for expenditures must meet the definition of capital projects in state statutes. Nevertheless this is an important source of funding for the core network.

Cost Allocation Summary

In summary, the cost allocation methodology is as follows:

- Departmental funding – 0.54% x total payroll
- Student fee – 0.54% x cost to educate an undergraduate student x student FTE
 - 1/3 to 1/2 to be paid by reallocation or increase in the E&T fee
 - Remainder to be paid from central university sources
- ResNet (Housing) – direct cost + applicable overhead rate (presently 17.6%)
- Affiliated entities – as negotiated with each entity by ITS + overhead
- Building operating reserve – as appropriated by the Legislature
- Capital project fee (non-recurring) – as charged to projects

The above recommendations provide the following recurring revenue stream based on current data:

Departmental funding	\$6,500,000
Student funding	3,100,000
ResNet	433,337
Affiliated entities (estimate)	100,000
Building operating reserves	<u>801,106</u>
Total	\$10,934,443

Since operating costs must be paid as incurred, capital refresh and expansion will be underfunded until the central funding for students is fully provided. The existing \$2.3 million balance in the capital project fee can be used to backfill some network capital costs in the interim.

Transition Process

Comm Tech believes it is important that the period between adoption and communication of the new charging methodology and its implementation be lengthy, to allow budgets to be adjusted across units as needed, to allow inclusion of the direct charge in contracts and grants, to allow ITS to reallocate the network building operating reserves, and so forth. In addition, the conversion to the new network charging structure needs to be coordinated with the telephony change. Therefore, a July 1, 2012 implementation date for the new network charging structure is recommended.

In the interim, ITS should implement a simultaneous pro forma billing process for departments, similar to the process used when there is a major rate methodology conversion for an energy utility. Each month, ITS should produce an invoice for each department for actual charges using the current telephone-based model, and simultaneously provide a pro forma invoice for each department showing what the charge would be to each account under the new structure. The pro forma invoice process will be quite easy to implement because all the programming already is in place for transit fee billing. Only the percentage to be charged against salaries will need to be changed. The pro forma billing process will allow vice chancellors and deans to identify the mechanisms to be used to reallocate budget as needed to make winner and losers

whole, so these adjustments can be made before the actual billing process changes. The July 1, 2012, implementation date also will allow any unforeseen issues to be addressed before implementation takes place.

Appendix A
Expenditure Analysis

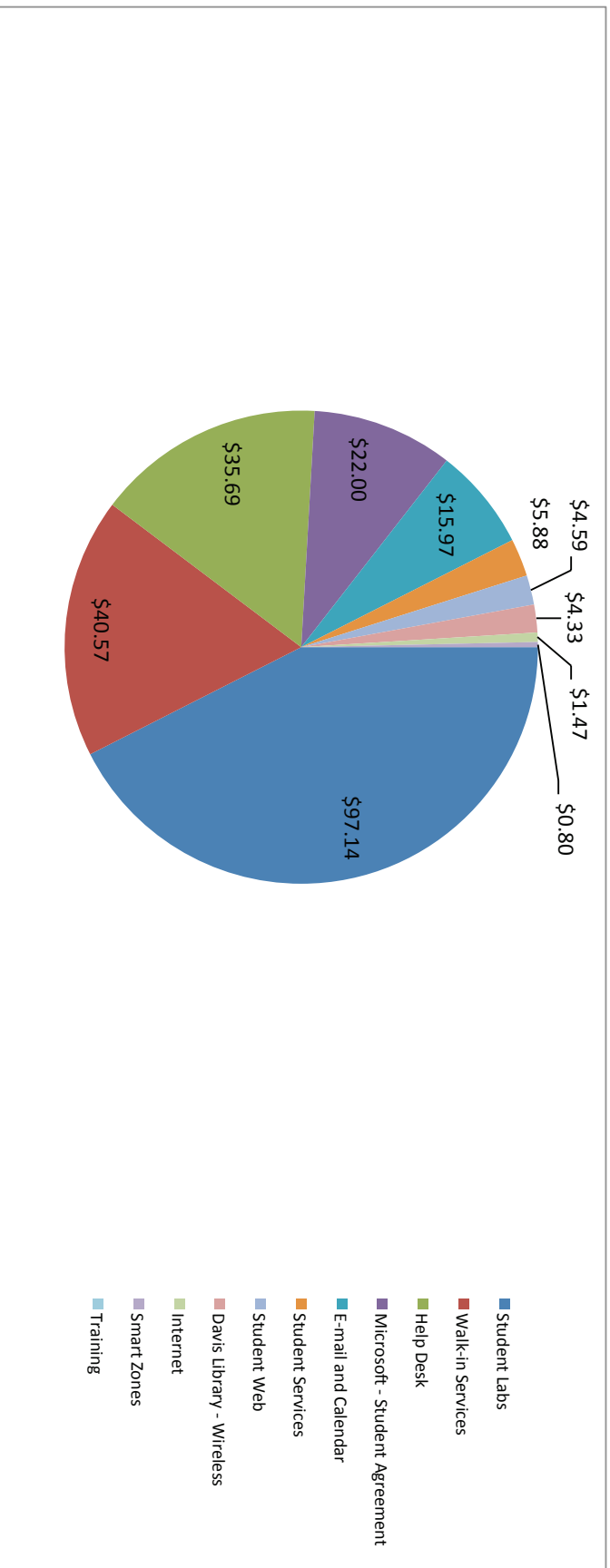
Operating Expense	Total Expense	Optional	Core	Overhead	Ck Total
2112 Uniforms - Safety Shoes	1,170			1,170	1,170
2311 Work Station Lifecycle	18,216			18,216	18,216
2411 Repair Supplies	698			698	698
2511 Vehicle Gas	16,042			16,042	16,042
2512 Vehicle Supplies-Other	74			74	74
2611 General (Ofc) Supplies	5,868			5,868	5,868
2611 Printing - Envelopes	161			161	161
2711 Purch for Resale - Local	4,414,021	3,964,021	450,000		4,414,021
2712 Purch for Resale - LD	305,612	305,612			305,612
2713 Purch for Resale - Pagers (Metrocall)	440,559	440,559			440,559
2713 Purch for Resale - Cells (Info Tech Svcs)	302,411	302,411			302,411
2713 Purch for Resale - Cable (Lamont)	451,621	451,621			451,621
2714 Purch for Resale - Warehouse Materials	918,861	918,861			918,861
2716 Purch for Resale - Non Centrex VM (Intelliverse)	1,213	1,213			1,213
2717 Purch for Resale - Deltacom and Time Warner	110,486	110,486			110,486
2911 Non-Capitalized Material Purch	93,223	53,756	32,749	6,718	93,223
2921 Software License Purch/Renewal	43,574		43,254	320	43,574
3112 Motor Fleet Lease Vehicles	15,232			15,232	15,232
3100 Travel	12,400			12,400	12,400
3211 Postage-Billing	142			142	142
3211 Postage-Cust Svc	68			68	68
3221 Comm - Specialized	173,303	61,725	28,081	83,497	173,303
3222 Comm - Long Dist	317			317	317
3224 Comm - Bundled	161,883	4,608	22,128	135,147	161,883
3231 Comm - Cable TV	142			142	142
3241 Comm - Cellular	30,957			30,957	30,957
3287 Comm - Internet	166,631		166,631		166,631
3291 Comm - Pagers	2,986			2,986	2,986
3291 Comm - Connectivity	5,373			5,373	5,373
3293 Comm - Wiring	5,918			5,918	5,918
3312 Utilities - Elect	2,582			2,582	2,582
3411 Printing & Binding	210			210	210
35xx Fac Svcs - Repairs & Maint & warehouse purch for maint	191,710	19,917	99,647	72,146	191,710
3611 Shipping	336			336	336
3811 Computer/Data Processing	13,360	13,360			13,360
3909 Service Agree-Other	2,000		2,000		2,000
3914 Transit Fee	9,617			9,617	9,617
3919 Veh Permits/Svc Permits/Crim Checks	25,091			25,091	25,091
3929 Misc Obligations	50			50	50
3931 Meetings & Amenities	360			360	360
3953 Education Asst Prgm	150		150		150
4113 Duct lease fee	350,729		350,729		350,729
4311 Carolina Copy	1,507			1,507	1,507
4411 Hardware Maint	683,950	68,395	615,555		683,950
4412 Software Maint	193,329		114,329	79,000	193,329
4513 Veh Insur	6,012			6,012	6,012
4911 Member Dues	389,774		389,774		389,774
8145 Admin Fee	468,792			468,792	468,792
Total	10,038,721	6,716,545	2,315,027	1,007,149	10,038,721
Allocated Staff	5,816,982	1,173,166	3,277,391	1,366,425	5,816,982
Grand Total Operating Costs	15,855,703	7,889,711	5,592,418	2,373,574	15,855,703
Appropriated Overhead (Distributed over Operating Costs)	0	1,389,010	984,564	(2,373,574)	-
Appropriated Capital Life Cycle	4,810,000	100,000	4,710,000	-	4,810,000
	20,665,703	9,378,721	11,286,982	-	20,665,703

Appendix B
Annual Capital Life Cycle Costs

	Description	Total Expense	Optional	Data	Overhead	Ck Total
Backbone	Core router upgrades (10 Gbps and beyond)	320,000		320,000		320,000
Backbone	Tier 1 distribution layer switch upgrades (10Gbps and beyond)	160,000		160,000		160,000
Building	Building entrance switch upgrades	880,000		880,000		880,000
Building	Within-building life-cycle switch upgrades	1,976,000		1,976,000		1,976,000
Wireless	Campus wireless deployment			504,000		504,000
Building	UPS/battery replacements to maintain critical availability/fault-tolerance	250,000		250,000		250,000
Security	Remote / off-campus connectivity	50,000		50,000		50,000
Mgmt	Network management systems to provide proactive network stability	100,000		100,000		100,000
	Total (Network)	3,736,000	-	4,240,000	-	4,240,000
	Infrastructure:					
Transport	Master Plan - fiber ring upgrades	250,000		250,000		250,000
Transport	Fiber major/secondary distribution routes	100,000		100,000		100,000
Transport	In-building wiring upgrades	200,000	100,000	120,000		220,000
	Carolina North connectivity	-				-
	Ductbank maintenance/recovery					-
	Total (Infrastructure)	550,000	100,000	470,000	-	570,000
	Total Communication Technologies	4,286,000	100,000	4,710,000	-	4,810,000

Appendix C
 Student Fee - Detail Breakdown
 Fiscal Year 2010-2011

Services	New Rate	Total Allocation	FY09-10 Actual	FY10-11 YTD	FY10-11 Projected
Student Labs	\$ 97.14	\$ 1,930,653	\$ 2,969,610.37	\$ 1,067,148.41	\$ 1,993,285.93
Walk-in Services	\$ 40.57	\$ 806,347	\$ 1,134,202.17	\$ 606,409.00	\$ 1,212,818.00
Help Desk	\$ 35.69	\$ 709,272	\$ 501,901.35	\$ 296,784.09	\$ 513,646.84
Microsoft - Student Agreement	\$ 22.00	\$ 437,227		\$ 475,412.23	\$ 475,412.23
E-mail and Calendar	\$ 15.97	\$ 317,393			\$ 300,000.00
Student Services	\$ 5.88	\$ 116,947			
Student Web	\$ 4.59	\$ 91,267			
Davis Library - Wireless	\$ 4.33	\$ 86,123			
Internet	\$ 1.47	\$ 29,175			
Smart Zones	\$ 0.80	\$ 15,809			
Training	\$ -	\$ -			
Total Fees	\$ 228.45	\$ 4,540,213	\$ 4,605,713.89	\$ 2,445,753.73	\$ 4,495,163.00



Appendix D
Winners and Losers by Department and School

	# Lines	Curr Annual Rate	New Annual Rate	Sum of PR 6.5M	Annual Diff 6.5M	% change 6.5M
Ackland Art Museum	36	\$20,736	\$6,264	\$6,808	-\$7,664	-36.96%
American Indian Center	5	\$2,880	\$870	\$861	-\$1,149	-39.90%
APPLES	0	\$0	\$0	\$136	\$136	
Assoc Prv Acad Initiatives-UBC	4	\$2,304	\$696	\$960	-\$648	-28.12%
Carolina Center for Public Svc	9	\$5,184	\$1,566	\$2,452	-\$1,166	-22.49%
Center for Faculty Excellence	18	\$10,368	\$3,132	\$3,820	-\$3,416	-32.94%
Ctr for Developmental Science	34	\$19,584	\$5,916	\$12,057	-\$1,611	-8.22%
Ctr for Teaching Learning	0	\$0	\$0	-\$2	-\$2	
Ctr Study of Amer South	20	\$11,520	\$3,480	\$3,624	-\$4,416	-38.34%
Inst African American Research	9	\$5,184	\$1,566	\$2,292	-\$1,326	-25.58%
NC Health Careers Access Prog	5	\$2,880	\$870	\$1,363	-\$647	-22.45%
Sonja H Stone Center	21	\$12,096	\$3,654	\$2,280	-\$6,162	-50.95%
Trio Programs Offices	0	\$0	\$0	\$1,222	\$1,222	
Womens Center	9	\$5,184	\$1,566	\$1,513	-\$2,105	-40.60%
World View	8	\$4,608	\$1,392	\$2,546	-\$670	-14.55%
Acad Initiatives-UBC						
Acad Initiatives-UBC Total	178	\$102,528	\$30,972	\$41,933	-\$29,623	-28.89%
Academic Advising	53	\$30,528	\$9,222	\$10,855	-\$10,451	-34.24%
Aerospace Studies	3	\$1,728	\$522	\$0	-\$1,206	-69.79%
African & African-Amer Studies	12	\$6,912	\$2,088	\$8,421	\$3,597	52.03%
African Studies Center	4	\$2,304	\$696	\$1,155	-\$453	-19.66%
American Studies	15	\$8,640	\$2,610	\$6,939	\$909	10.52%
Anthropology	33	\$19,008	\$5,742	\$18,920	\$5,654	29.75%
Applied Sciences-Engineering	1	\$576	\$174	\$1,183	\$781	135.52%
Art	33.968	\$19,565	\$5,910	\$16,363	\$2,708	13.84%
Arts Humanities Institute	20	\$11,520	\$3,480	\$4,223	-\$3,817	-33.14%
Arts & Sci Info Services	11	\$6,336	\$1,914	\$10,479	\$6,057	95.59%
Arts & Sciences Dean's Office	51	\$29,376	\$8,874	\$14,816	-\$5,686	-19.36%
Asian Studies	24	\$13,824	\$4,176	\$10,124	\$476	3.44%
Biology	160	\$92,160	\$27,840	\$67,074	\$2,754	2.99%
Carolina Asia Center	2	\$1,152	\$348	\$1,068	\$264	22.89%
Chemistry	155	\$89,280	\$26,970	\$93,000	\$30,690	34.37%
City & Regional Planning	31	\$17,856	\$5,394	\$9,878	-\$2,584	-14.47%
Classics	18	\$10,368	\$3,132	\$10,316	\$3,080	29.71%
Communication Studies	24	\$13,824	\$4,176	\$21,677	\$12,029	87.01%
Computer Science	24	\$13,824	\$4,176	\$56,532	\$46,884	339.15%
Ctr Stndt Success-Acad Counsel	12	\$6,912	\$2,088	\$2,493	-\$2,331	-33.73%
Cultural Studies	0	\$0	\$0	\$17	\$17	
Dramatic Art	20	\$11,520	\$3,480	\$10,337	\$2,297	19.94%
Economics	58	\$33,408	\$10,092	\$31,834	\$8,518	25.50%
English & Comp Literature	94	\$54,144	\$16,356	\$56,591	\$18,803	34.73%
Environment and Ecology	5	\$2,880	\$870	\$2,732	\$722	25.08%
European Studies	7	\$4,032	\$1,218	\$2,347	-\$467	-11.58%
Exercise & Sport Science	107.94	\$62,171	\$18,781	\$28,280	-\$15,110	-24.30%
GEC Building Operations	9	\$5,184	\$1,566	\$854	-\$2,764	-53.33%
Geography	31.097	\$17,912	\$5,411	\$15,931	\$3,430	19.15%
Geological Sciences	28	\$16,128	\$4,872	\$10,267	-\$989	-6.13%
Germanic Languages	19	\$10,944	\$3,306	\$7,518	-\$120	-1.09%
Global Studies	6	\$3,456	\$1,044	\$988	-\$1,424	-41.20%
History	68	\$39,168	\$11,832	\$38,619	\$11,283	28.81%
Honors	17	\$9,792	\$2,958	\$3,447	-\$3,387	-34.59%
Humanities & Human Values	6	\$3,456	\$1,044	\$1,811	-\$601	-17.39%
Inst for Study of the Americas	8	\$4,608	\$1,392	\$1,243	-\$1,973	-42.81%
Learning Center	14	\$8,064	\$2,436	\$2,339	-\$3,289	-40.78%
Linguistics	8	\$4,608	\$1,392	\$4,247	\$1,031	22.36%
Marine Sciences	47	\$27,072	\$8,178	\$14,327	-\$4,567	-16.87%
Mathematics	64	\$36,864	\$11,136	\$39,161	\$13,433	36.44%
Mid East and Muslim Civ Ctr	2	\$1,152	\$348	\$349	-\$455	-39.47%
Military Science	4	\$2,304	\$696	\$0	-\$1,608	-69.79%
Music	34.742	\$20,011	\$6,045	\$23,060	\$9,094	45.44%
Music - Private Instruction	24	\$13,824	\$4,176	\$1,380	-\$8,268	-59.81%
Naval Science (NROTC)	0	\$0	\$0	\$478	\$478	
Outdoor Drama	0	\$0	\$0	\$255	\$255	
Peace War & Defense	3	\$1,728	\$522	\$537	-\$669	-38.72%
Philosophy	35	\$20,160	\$6,090	\$18,506	\$4,436	22.01%
Physics-Astronomy	103	\$59,328	\$17,922	\$47,176	\$5,770	9.72%
Playmakers Repertory	18	\$10,368	\$3,132	\$4,902	-\$2,334	-22.51%
Political Science	54	\$31,104	\$9,396	\$32,422	\$10,714	34.44%
Psychology	138.29	\$79,655	\$24,063	\$58,983	\$3,391	4.26%
Psychometric Lab	0	\$0	\$0	\$760	\$760	
Public Policy	22.032	\$12,691	\$3,834	\$11,182	\$2,325	18.32%
Religious Studies	21	\$12,096	\$3,654	\$10,752	\$2,310	19.09%
Research Labs of Archaeology	6	\$3,456	\$1,044	\$2,784	\$372	10.75%
Robertson Scholarship Prog	9	\$5,184	\$1,566	\$0	-\$3,618	-69.79%
Romance Languages	43	\$24,768	\$7,482	\$33,038	\$15,752	63.60%
Slavic Languages	3	\$1,728	\$522	\$4,003	\$2,797	161.86%
Slavic,Euras E Eur Ctr	4	\$2,304	\$696	\$1,023	-\$585	-25.37%
Sociology	43	\$24,768	\$7,482	\$20,430	\$3,144	12.69%
Statistics and Operations Res	39	\$22,464	\$6,786	\$20,449	\$4,771	21.24%
Study Abroad	21	\$12,096	\$3,654	\$6,320	-\$2,122	-17.54%
Undergraduate Education Office	10	\$5,760	\$1,740	\$2,384	-\$1,636	-28.40%

	Undergraduate Research	3	\$1,728	\$522	\$1,788	\$582	33.68%
	Urban Studies	27	\$15,552	\$4,698	\$10,507	-\$347	-2.23%
	Womens Studies	5	\$2,880	\$870	\$4,229	\$2,219	77.06%
	Writing Center	6	\$3,456	\$1,044	\$2,538	\$126	3.63%
Arts & Sciences	Student Counseling	0	\$0	\$0	\$13	\$13	
Arts & Sciences Total		1982.1	\$1,141,669	\$344,879	\$958,652	\$161,862	14.18%
	Airport	5	\$2,880	\$870	\$644	-\$1,366	-47.41%
	Assoc VC Campus Services	0	\$0	\$0	\$1,227	\$1,227	
	Auxil Enterprises-Gen Adm	25.226	\$14,530	\$4,389	\$4,593	-\$5,548	-38.18%
	Building Services	115.39	\$66,463	\$20,077	\$56,084	\$9,699	14.59%
	Business Operations	50	\$28,800	\$8,700	\$15,112	-\$4,988	-17.32%
	Design and Construction Svcs	50	\$28,800	\$8,700	\$28,212	\$8,112	28.17%
	Energy Management	4	\$2,304	\$696	\$0	-\$1,608	-69.79%
	Energy Services	128	\$73,728	\$22,272	\$60,333	\$8,877	12.04%
	Environment, Health & Safety	67	\$38,592	\$11,658	\$15,367	-\$11,567	-29.97%
	Facilities Services Division	22	\$12,672	\$3,828	\$13,548	\$4,704	37.12%
	Grounds Services	18	\$10,368	\$3,132	\$13,034	\$5,798	55.92%
	Housekeeping Services	50	\$28,800	\$8,700	\$57,109	\$37,009	128.50%
	Laundry Department	2	\$1,152	\$348	\$531	-\$273	-23.67%
	Printing & Duplicating	25	\$14,400	\$4,350	\$8,160	-\$1,890	-13.12%
	Public Safety	65	\$37,440	\$11,310	\$26,942	\$812	2.17%
	Public Safety Housing Security	0	\$0	\$0	\$1,564	\$1,564	
	Public Safety Trans & Parking	109	\$62,784	\$18,966	\$26,902	-\$16,916	-26.94%
	Student Stores- S & P	0	\$0	\$0	\$426	\$426	
	Student Stores-Accounting	0	\$0	\$0	\$1,872	\$1,872	
	Student Stores-Admin	0	\$0	\$0	\$1,480	\$1,480	
	Student Stores-Bull'S Head	0	\$0	\$0	\$1,757	\$1,757	
	Student Stores-Course Pack	0	\$0	\$0	\$965	\$965	
	Student Stores-Mechand & Displ	0	\$0	\$0	\$230	\$230	
	Student Stores-Operations	82.355	\$47,436	\$14,330	\$960	-\$32,147	-67.77%
	Student Stores-Sales Floor	0	\$0	\$0	\$5,360	\$5,360	
	Student Stores-Snack Units	0	\$0	\$0	\$3,190	\$3,190	
	Student Stores-Texbook Dept	0	\$0	\$0	\$3,722	\$3,722	
	Student Stores-The Caduceus	2	\$1,152	\$348	\$1,558	\$754	65.47%
	Student Stores-Warehouse	0	\$0	\$0	\$422	\$422	
Assoc VC Camp Svc	UNC One Card	21	\$12,096	\$3,654	\$3,792	-\$4,650	-38.44%
Assoc VC Camp Svc Total		840.97	\$484,397	\$146,328	\$355,098	\$17,029	3.52%
	Construction Management	11	\$6,336	\$1,914	\$3,123	-\$1,299	-20.50%
	Engineering Info Services	11	\$6,336	\$1,914	\$2,299	-\$2,123	-33.51%
	Facilities Planning	28	\$16,128	\$4,872	\$14,224	\$2,968	18.40%
	Facilities Planning & Const	0	\$0	\$0	\$1,331	\$1,331	
Assoc VC Fac Plan & Const	UNC Property Office	6	\$3,456	\$1,044	\$1,114	-\$1,298	-37.57%
Assoc VC Fac Plan & Const Total		56	\$32,256	\$9,744	\$22,090	-\$422	-1.31%
	Accounting Services	22	\$12,672	\$3,828	\$5,258	-\$3,586	-28.30%
	Asset Management	4	\$2,304	\$696	\$447	-\$1,161	-50.41%
	Assoc Vice Chancellor Finance	14	\$8,064	\$2,436	\$3,212	-\$2,416	-29.96%
	Budget Office	10	\$5,760	\$1,740	\$3,025	-\$995	-17.27%
	Disbursement Services	20	\$11,520	\$3,480	\$3,436	-\$4,604	-39.96%
	Finance Communication & Traing	4	\$2,304	\$696	\$1,345	-\$263	-11.42%
	Logistics	17	\$9,792	\$2,958	\$905	-\$5,929	-60.55%
	MMD-Dental Stockroom	0	\$0	\$0	\$316	\$316	
	MMD-Scientific Supply	0	\$0	\$0	\$182	\$182	
	Payroll Services	18	\$10,368	\$3,132	\$4,181	-\$3,055	-29.46%
	Purchasing Services	33	\$19,008	\$5,742	\$7,177	-\$6,089	-32.03%
	Student AcctsUNC Receivables	30	\$17,280	\$5,220	\$5,313	-\$6,747	-39.05%
	Travel Services	0	\$0	\$0	\$1,066	\$1,066	
	Treasury & Risk Managmnt Svcs	7	\$4,032	\$1,218	\$2,581	-\$233	-5.77%
	University Controller	15	\$8,640	\$2,610	\$3,089	-\$2,941	-34.04%
Assoc VC Fin	Financial Systems and Controls	5	\$2,880	\$870	\$529	-\$1,481	-51.41%
Assoc VC Fin Total		199	\$114,624	\$34,626	\$42,063	-\$37,935	-33.10%
	Ath Academic Counselor	11	\$6,336	\$1,914	\$4,818	\$396	6.25%
	Ath Baseball Office	10	\$5,760	\$1,740	\$2,759	-\$1,261	-21.89%
	Ath Basketball Office	18	\$10,368	\$3,132	\$18,552	\$11,316	109.14%
	Ath Cheerleaders	0	\$0	\$0	\$54	\$54	
	Ath Community Relations	4	\$2,304	\$696	\$1,059	-\$549	-23.84%
	Ath Dept Game/Event	0	\$0	\$0	\$27	\$27	
	Ath Dept Tournaments	0	\$0	\$0	\$139	\$139	
	Ath Dir of Tennis Facilities	9	\$5,184	\$1,566	\$165	-\$3,453	-66.60%
	Ath Director of Athletics	21	\$12,096	\$3,654	\$9,228	\$786	6.50%
	Ath Educational Foundation	0	\$0	\$0	\$9,510	\$9,510	
	Ath Equipment Office	3	\$1,728	\$522	\$816	-\$390	-22.59%
	Ath Fencing	2	\$1,152	\$348	\$661	-\$143	-12.43%
	Ath Finley Golf Course	23.871	\$13,750	\$4,154	\$4,775	-\$4,822	-35.07%
	Ath Football Office	102	\$58,752	\$17,748	\$35,797	-\$5,207	-8.86%
	Ath Game Operations	90	\$51,840	\$15,660	\$3,865	-\$32,315	-62.34%
	Ath Golf	4	\$2,304	\$696	\$670	-\$938	-40.70%
	Ath Lacrosse	5	\$2,880	\$870	\$1,240	-\$770	-26.73%
	Ath Olympic Sports	49	\$28,224	\$8,526	\$16,575	-\$3,123	-11.07%
	Ath Outdoor Facility Oper	42	\$24,192	\$7,308	\$8,187	-\$8,697	-35.95%
	Ath Physical Development	2	\$1,152	\$348	\$2,724	\$1,920	166.67%
	Ath Soccer	4	\$2,304	\$696	\$960	-\$648	-28.12%
	Ath Special Events - Sac	0	\$0	\$0	\$24	\$24	
	Ath Sports Information	14	\$8,064	\$2,436	\$3,303	-\$2,325	-28.83%
	Ath Sports Marketing	23	\$13,248	\$4,002	\$4,083	-\$5,163	-38.97%
	Ath Student Activities Center	17	\$9,792	\$2,958	\$2,173	-\$4,661	-47.60%

	Ath Swimming	5	\$2,880	\$870	\$1,404	-\$606	-21.06%
	Ath Tennis	0	\$0	\$0	\$722	\$722	
	Ath Ticket Office	9	\$5,184	\$1,566	\$1,883	-\$1,735	-33.48%
	Ath Track-Cross Country	9	\$5,184	\$1,566	\$1,870	-\$1,748	-33.71%
	Ath Wrestling	2	\$1,152	\$348	\$828	\$24	2.09%
Athletics	Athletics Business Office	15	\$8,640	\$2,610	\$2,343	-\$3,687	-42.67%
Athletics Total		493.87	\$284,470	\$85,934	\$141,214	-\$57,322	-20.15%
	Alumni Assoc Office	57	\$32,832	\$9,918	\$3,120	-\$19,794	-60.29%
	Carolina Counts	7	\$4,032	\$1,218	\$857	-\$1,957	-48.53%
	Equal Opportunity/ADA Office	7	\$4,032	\$1,218	\$2,061	-\$753	-18.68%
	Internal Audit	10	\$5,760	\$1,740	\$2,767	-\$1,253	-21.75%
	Office Faculty Governance	5	\$2,880	\$870	\$1,483	-\$527	-18.29%
	Office of the Chancellor	17	\$9,792	\$2,958	\$12,376	\$5,542	56.60%
	University Counsel	33	\$19,008	\$5,742	\$12,477	-\$789	-4.15%
Chancellor	University Ombuds Office	4	\$2,304	\$696	\$1,144	-\$464	-20.13%
Chancellor Total		140	\$80,640	\$24,360	\$36,285	-\$19,995	-24.80%
	Enterprise Resource Planning	86.935	\$50,075	\$15,127	\$23,298	-\$11,650	-23.27%
	Information Technology Svcs.	853.03	\$491,347	\$148,428	\$161,461	-\$181,458	-36.93%
CIO	Research Computing Center	18	\$10,368	\$3,132	\$7,815	\$579	5.59%
CIO Total		957.97	\$551,789	\$166,686	\$192,574	-\$192,529	-34.89%
	NC School Athletic Assoc	0	\$0	\$0	\$5,872	\$5,872	
Cont Ed	Wm&Ida Friday Ctr-Cont Educ	115	\$66,240	\$20,010	\$26,281	-\$19,949	-30.12%
Cont Ed Total		115	\$66,240	\$20,010	\$32,153	-\$14,077	-21.25%
	Marine Sciences Program	0	\$0	\$0	\$343	\$343	
	Microelectronics Research Prog	0	\$0	\$0	\$1,490	\$1,490	
	Morehead Planetarium	43	\$24,768	\$7,482	\$11,677	-\$5,609	-22.65%
	NC Botanical Garden	14	\$8,064	\$2,436	\$7,047	\$1,419	17.60%
Ctrs and Inst	UNC Inst for the Environment	73.161	\$42,141	\$12,730	\$19,809	-\$9,602	-22.78%
Ctrs and Inst Total		130.16	\$74,973	\$22,648	\$40,367	-\$11,958	-15.95%
Grad School	Graduate School	29	\$16,704	\$5,046	\$13,975	\$2,317	13.87%
Grad School Total		29	\$16,704	\$5,046	\$13,975	\$2,317	13.87%
	Health Sciences Library	112	\$64,512	\$19,488	\$19,689	-\$25,335	-39.27%
	Law Library	33	\$19,008	\$5,742	\$7,631	-\$5,635	-29.65%
	Tri Res Library Network	5	\$2,880	\$870	\$1,512	-\$498	-17.28%
Libraries	University Library	131	\$75,456	\$22,794	\$85,043	\$32,381	42.91%
Libraries Total		281	\$161,856	\$48,894	\$113,875	\$913	0.56%
	Admissions	66.065	\$38,053	\$11,495	\$19,356	-\$7,202	-18.93%
	Diversity/Multicultural Aff	17	\$9,792	\$2,958	\$4,095	-\$2,739	-27.98%
	Exec Director for the Arts	40	\$23,040	\$6,960	\$7,990	-\$8,090	-35.11%
	Hunt Institute	0	\$0	\$0	\$5,933	\$5,933	
	Inst Research and Assessment	15	\$8,640	\$2,610	\$5,351	-\$679	-7.86%
	Ofc of Provost Acad Affairs	12	\$6,912	\$2,088	\$1,292	-\$3,532	-51.11%
	Ofc of Provost Health Affrs	15	\$8,640	\$2,610	\$6,805	\$775	8.97%
	Provost	2	\$1,152	\$348	\$3,912	\$3,108	269.77%
	Scholarships & Student Aid	56	\$32,256	\$9,744	\$12,918	-\$9,594	-29.74%
	Summer School Administration	7	\$4,032	\$1,218	\$1,693	-\$1,121	-27.81%
	UNC Global	30.194	\$17,391	\$5,254	\$8,461	-\$3,677	-21.14%
	University Registrar	57	\$32,832	\$9,918	\$10,832	-\$12,082	-36.80%
Provost	Work Study	0	\$0	\$0	\$17,765	\$17,765	
Provost Total		317.26	\$182,741	\$55,203	\$106,402	-\$21,136	-11.57%
	Carolina Ctr Compet Economies	0	\$0	\$0	\$979	\$979	
	Inst of Private Enterprise	55	\$31,680	\$9,570	\$10,378	-\$11,732	-37.03%
Sch Business	Kenan-Flagler Business School	532	\$306,432	\$92,568	\$215,152	\$1,288	0.42%
Sch Business	SBTDC KFBS Regional Svc Ctr	0	\$0	\$0	\$856	\$856	
Sch Business Total		587	\$338,112	\$102,138	\$227,365	-\$8,609	-2.55%
	Clinical Affairs	101	\$58,176	\$17,574	\$27,466	-\$13,136	-22.58%
	Dental Ecology Dept	43	\$24,768	\$7,482	\$13,105	-\$4,181	-16.88%
	Dental Faculty Practice	37	\$21,312	\$6,438	\$25,232	\$10,358	48.60%
	Dental Research	53	\$30,528	\$9,222	\$34,020	\$12,714	41.65%
	Dentistry-Gen Academic Instr	0	\$0	\$0	\$6,224	\$6,224	
	DFP-Deans Fund	0	\$0	\$0	\$2,485	\$2,485	
	Diagnostic Sci & Gen Dentistry	26	\$14,976	\$4,524	\$13,779	\$3,327	22.21%
	Endodontics	6	\$3,456	\$1,044	\$4,831	\$2,419	70.00%
	Operative Dentistry	14	\$8,064	\$2,436	\$6,392	\$764	9.47%
	Oral Surgery	24	\$13,824	\$4,176	\$5,771	-\$3,877	-28.05%
	Orthodontics	32	\$18,432	\$5,568	\$4,736	-\$8,128	-44.10%
	Pediatric Dentistry	20	\$11,520	\$3,480	\$5,667	-\$2,374	-20.60%
	Periodontology	5	\$2,880	\$870	\$5,002	\$2,992	103.90%
	Prosthodontics	20	\$11,520	\$3,480	\$8,837	\$797	6.92%
Sch Dentistry	School of Dentistry	103	\$59,328	\$17,922	\$29,301	-\$12,105	-20.40%
Sch Dentistry Total		484	\$278,784	\$84,216	\$192,848	-\$1,720	-0.62%
	LearnNC	24	\$13,824	\$4,176	\$7,274	-\$2,374	-17.17%
Sch Education	School of Education	144.42	\$83,186	\$25,129	\$54,265	-\$3,791	-4.56%
Sch Education Total		168.42	\$97,010	\$29,305	\$61,540	-\$6,165	-6.35%
Sch Govt	School of Government	183	\$105,408	\$31,842	\$72,011	-\$1,555	-1.48%
Sch Govt Total		183	\$105,408	\$31,842	\$72,011	-\$1,555	-1.48%
Sch Info & Lib	School of Info & Libr Science	53.871	\$31,030	\$9,374	\$29,230	\$7,574	24.41%
Sch Info & Lib Total		53.871	\$31,030	\$9,374	\$29,230	\$7,574	24.41%
Sch Journalism	Journalism/Mass Communication	104.48	\$60,183	\$18,180	\$45,550	\$3,547	5.89%
Sch Journalism Total		104.48	\$60,183	\$18,180	\$45,550	\$3,547	5.89%
Sch Law	School of Law	199	\$114,624	\$34,626	\$80,611	\$613	0.53%
Sch Law Total		199	\$114,624	\$34,626	\$80,611	\$613	0.53%
	AHEC Hlth Serv Res Ctr	0	\$0	\$0	\$700	\$700	
	AHEC Support-Allied Health	0	\$0	\$0	\$1,247	\$1,247	
	AHEC Support-Comm Med Care	29	\$16,704	\$5,046	\$14,039	\$2,381	14.26%

AHEC Support-Dentistry	1	\$576	\$174	\$2,562	\$2,160	375.03%
AHEC Support-Dermatology	0	\$0	\$0	\$623	\$623	
AHEC Support-Family Medicine	0	\$0	\$0	\$1,248	\$1,248	
AHEC Support-Hlth Career Acces	0	\$0	\$0	\$201	\$201	
AHEC Support-Medicine	0	\$0	\$0	\$1,857	\$1,857	
AHEC Support-Neurology	0	\$0	\$0	\$93	\$93	
AHEC Support-Nursing	0	\$0	\$0	\$2,595	\$2,595	
AHEC Support-Obgyn	0	\$0	\$0	\$1,005	\$1,005	
AHEC Support-Orthopaedics	0	\$0	\$0	\$115	\$115	
AHEC Support-Pediatrics	0	\$0	\$0	\$1,575	\$1,575	
AHEC Support-Pharmacy	0	\$0	\$0	\$1,084	\$1,084	
AHEC Support-Psychiatry	0	\$0	\$0	\$1,802	\$1,802	
AHEC Support-Public Health	0	\$0	\$0	\$1,371	\$1,371	
AHEC Support-Radiology	0	\$0	\$0	\$0	\$0	
AHEC Support-Social-Admin Med	0	\$0	\$0	\$111	\$111	
AHEC Support-Surgery	0	\$0	\$0	\$414	\$414	
AHEC-Hlth Sciences Library	0	\$0	\$0	\$1,167	\$1,167	
Alcohol Studies Center	25	\$14,400	\$4,350	\$16,641	\$6,591	45.77%
Allied Health Sciences	147	\$84,672	\$25,578	\$43,252	-\$15,842	-18.71%
Ambulatory Care Clinic	27	\$15,552	\$4,698	\$2,597	-\$8,257	-53.09%
Anesthesiology	41	\$23,616	\$7,134	\$95,688	\$79,206	335.39%
Biochemistry and Biophysics	57	\$32,832	\$9,918	\$42,282	\$19,368	58.99%
Biomedical Engineering	33	\$19,008	\$5,742	\$10,472	-\$2,794	-14.70%
Biomedical Res Imaging Ctr	23	\$13,248	\$4,002	\$3,777	-\$5,469	-41.28%
Carolina Ctr for Genome Sci	29.29	\$16,871	\$5,097	\$18,047	\$6,272	37.18%
Carolina Institute for DD	65	\$37,440	\$11,310	\$15,360	-\$10,770	-28.77%
Carolina Premiere Health	0	\$0	\$0	\$1,604	\$1,604	
Carolina Vaccine Institute	6.1935	\$3,567	\$1,078	\$9,146	\$6,656	186.57%
Cell & Development Biology	60	\$34,560	\$10,440	\$32,537	\$8,417	24.35%
Cell & Molecular Physiology	68	\$39,168	\$11,832	\$31,539	\$4,203	10.73%
Center for Aging and Health	10	\$5,760	\$1,740	\$7,552	\$3,532	61.32%
Clinical Research	1	\$576	\$174	\$331	-\$71	-12.27%
Com Med Ed/Family Supp Network	14	\$8,064	\$2,436	\$1,956	-\$3,672	-45.53%
Community Based Practices	3	\$1,728	\$522	\$26,163	\$24,957	1444.29%
Comprehensive Cancer Center	367.42	\$211,634	\$63,931	\$144,232	-\$3,470	-1.64%
Continuing Medical Education	2	\$1,152	\$348	\$1,965	\$1,161	100.80%
Ctr for Drug Safety Science	0	\$0	\$0	\$537	\$537	
Ctr for Women's Hlth Research	18	\$10,368	\$3,132	\$5,014	-\$2,222	-21.44%
Ctr Maternal & Infant Health	7	\$4,032	\$1,218	\$2,675	-\$139	-3.46%
Cys Fibrosis/Pulmonary Res	55	\$31,680	\$9,570	\$37,838	\$15,728	49.65%
Dermatology	102	\$58,752	\$17,748	\$22,586	-\$18,418	-31.35%
Educational Develop Office	4	\$2,304	\$696	\$1,811	\$203	8.79%
Emergency Medicine	49	\$28,224	\$8,526	\$41,695	\$21,997	77.94%
Enviro Med Asthma & Lung Bio	42	\$24,192	\$7,308	\$17,409	\$525	2.17%
Family Med Comm Based Clinics	0	\$0	\$0	\$12,268	\$12,268	
Family Medicine	217.48	\$125,271	\$37,842	\$43,842	-\$43,587	-34.79%
Gastroint Biology & Dis Ctr	145.77	\$83,966	\$25,365	\$34,978	-\$23,623	-28.13%
Gene Therapy Center	28	\$16,128	\$4,872	\$15,386	\$4,130	25.61%
Genetics	78.065	\$44,965	\$13,583	\$37,857	\$6,475	14.40%
Heart and Vascular Center	88	\$50,688	\$15,312	\$52,166	\$16,790	33.12%
Hiv Stds Infect Disease Ctr	15	\$8,640	\$2,610	\$28,750	\$22,720	262.96%
Medical Education	57.678	\$33,222	\$10,036	\$20,277	-\$2,909	-8.76%
Medical School Aircraft	0	\$0	\$0	\$324	\$324	
Medicine	586.9	\$338,056	\$102,121	\$241,848	\$5,912	1.75%
Medicine Administration	230.65	\$132,852	\$40,132	\$87,885	-\$4,834	-8.49%
Microbiology & Immunology	65.71	\$37,849	\$11,433	\$38,871	\$12,456	32.91%
Molecular Biology	38.935	\$22,427	\$6,775	\$25,177	\$9,525	42.47%
Neurology	114	\$65,664	\$19,836	\$34,806	-\$11,022	-16.79%
Neuroscience Center	31	\$17,856	\$5,394	\$15,998	\$3,536	19.80%
Neurosurgery	3	\$1,728	\$522	\$0	-\$1,206	-69.79%
Nutrition (State Funds)	0	\$0	\$0	\$646	\$646	
Obstetrics and Gynecology	146.77	\$84,542	\$25,539	\$100,062	\$41,058	48.57%
Ophthalmology	79	\$45,504	\$13,746	\$25,488	-\$6,270	-13.78%
Orthopaedics	68	\$39,168	\$11,832	\$35,416	\$8,080	20.63%
Otolaryngology (Ent)	82	\$47,232	\$14,268	\$49,339	\$16,375	34.67%
P&A Administration	281	\$161,856	\$48,894	\$3,460	-\$109,502	-67.65%
Pathology & Lab Medicine	72	\$41,472	\$12,528	\$84,367	\$55,423	133.64%
Pediatrics	235.16	\$135,453	\$40,918	\$144,522	\$49,987	36.90%
Pharmacology	54	\$31,104	\$9,396	\$37,645	\$15,937	51.24%
Physical Medicine & Rehab	1	\$576	\$174	\$11,154	\$10,752	1866.68%
Primary Care Network	7	\$4,032	\$1,218	\$3,503	\$689	17.08%
Psychiatry	323.42	\$186,290	\$56,275	\$90,014	-\$40,001	-21.47%
Radiation Oncology	12.032	\$6,931	\$2,094	\$41,310	\$36,473	526.26%
Radiology	107	\$61,632	\$18,618	\$70,510	\$27,496	44.61%
Social Medicine	36	\$20,736	\$6,264	\$10,908	-\$3,564	-17.19%
Surgery	335.42	\$193,201	\$58,363	\$159,755	\$24,916	12.90%
TEACCH Div	40.968	\$23,597	\$7,128	\$41,530	\$25,062	106.21%
Thurston Arthritis Res Center	36	\$20,736	\$6,264	\$10,387	-\$4,085	-19.70%
Toxicology Curriculum	3	\$1,728	\$522	\$742	-\$464	-26.87%
TraCS Institute	85	\$48,960	\$14,790	\$55,716	\$21,546	44.01%
UNC Kidney Center	2	\$1,152	\$348	\$4,728	\$3,924	340.60%
UNC McAllister Heart Institute	37.968	\$21,869	\$6,606	\$28,521	\$13,258	60.62%
Univ Cancer Research Fund	45.742	\$26,347	\$7,959	\$127,391	\$109,003	413.72%
Sch Medicine						
Neurodev Disorders Res Ctr	26	\$14,976	\$4,524	\$5,741	-\$4,711	-31.46%
Sch Medicine Total	5102.6	\$2,939,086	\$887,849	\$2,501,803	\$450,565	15.33%

Sch Nursing	School of Nursing	306	\$176,256	\$53,244	\$79,946	-\$43,066	-24.43%
Sch Nursing Total		306	\$176,256	\$53,244	\$79,946	-\$43,066	-24.43%
Sch Pharmacy	School of Pharmacy	251.39	\$144,799	\$43,741	\$117,962	\$16,904	11.67%
Sch Pharmacy Total		251.39	\$144,799	\$43,741	\$117,962	\$16,904	11.67%
	Biostatistics	184.52	\$106,281	\$32,106	\$52,535	-\$21,640	-20.36%
	Environ Health & Suscep	5	\$2,880	\$870	\$3,651	\$1,641	56.99%
	Environment Sciences & Engi	110	\$63,360	\$19,140	\$48,900	\$4,680	7.39%
	Epidemiology	167.87	\$96,694	\$29,210	\$55,393	-\$12,091	-12.50%
	Health Behavior & Health Educ	40	\$23,040	\$6,960	\$14,930	-\$1,150	-4.99%
	Health Policy and Management	75	\$43,200	\$13,050	\$29,242	-\$908	-2.10%
	Maternal & Child Health	45	\$25,920	\$7,830	\$20,967	\$2,877	11.10%
	NC Institute for Public Health	96.419	\$55,538	\$16,777	\$28,380	-\$10,381	-18.69%
	Nutrition	62	\$35,712	\$10,788	\$26,659	\$1,735	4.86%
	PH Leadership Program	15	\$8,640	\$2,610	\$5,256	-\$774	-8.95%
	Public Health Continued Educ	14	\$8,064	\$2,436	\$1,668	-\$3,960	-49.11%
	Public Health Nursing	12	\$6,912	\$2,088	\$3,122	-\$1,702	-24.62%
	School of Public Health	82	\$47,232	\$14,268	\$24,384	-\$8,580	-18.17%
Sch Pub Hlth	SPH Information Technology	24	\$13,824	\$4,176	\$8,135	-\$1,513	-10.94%
Sch Pub Hlth Total		932.81	\$537,296	\$162,308	\$323,224	-\$51,764	-9.63%
	Dev Disabilities Trng Inst	8	\$4,608	\$1,392	\$764	-\$2,452	-53.21%
Sch Social Work	School of Social Work	175	\$100,800	\$30,450	\$60,422	-\$9,928	-9.85%
Sch Social Work Total		183	\$105,408	\$31,842	\$61,186	-\$12,380	-11.75%
	State and Local Relations	1	\$576	\$174	\$1,324	\$922	160.08%
	V Chancellor-Univ Advancement	134.77	\$77,630	\$23,451	\$44,227	-\$9,952	-12.82%
VC Advancement	WUNC-FM	98	\$56,448	\$17,052	\$17,173	-\$22,223	-39.37%
VC Advancement Total		233.77	\$134,654	\$40,677	\$62,724	-\$31,253	-23.21%
VC Fin & Admin	Vice Chan Finance & Admin	16	\$9,216	\$2,784	\$4,391	-\$2,041	-22.14%
VC Fin & Admin Total		16	\$9,216	\$2,784	\$4,391	-\$2,041	-22.14%
VC for Engagement	Vice Chancellor for Engagement	0	\$0	\$0	\$752	\$752	
VC for Engagement Total		0	\$0	\$0	\$752	\$752	
	Human Resources	131	\$75,456	\$22,794	\$26,353	-\$26,309	-34.87%
VC Human Resources	Tar Heel Temps	0	\$0	\$0	\$15,037	\$15,037	
VC Human Resources Total		131	\$75,456	\$22,794	\$41,391	-\$11,271	-14.94%
	Carolina Population Center	200.23	\$115,330	\$34,839	\$57,372	-\$23,119	-20.05%
	Clinical Trials	12	\$6,912	\$2,088	\$2,366	-\$2,458	-35.56%
	Ctr Health Prom Disease Prev	79.258	\$45,653	\$13,791	\$23,573	-\$8,289	-18.16%
	DICE Center	2	\$1,152	\$348	\$972	\$168	14.56%
	Economic and Bus Development	6	\$3,456	\$1,044	\$1,535	-\$877	-25.39%
	FPG Child Development Inst	283	\$163,008	\$49,242	\$78,832	-\$34,934	-21.43%
	H W Odum Inst Res Social Sci	38	\$21,888	\$6,612	\$11,992	-\$3,284	-15.00%
	Hazards Center	4	\$2,304	\$696	\$1,269	-\$339	-14.73%
	Highway Safety Research	59	\$33,984	\$10,266	\$15,241	-\$8,477	-24.94%
	Injury Prevention Research Ctr	33	\$19,008	\$5,742	\$12,421	-\$845	-4.45%
	Inst for Advanced Materials	11	\$6,336	\$1,914	\$3,620	-\$802	-12.66%
	Institute of Marine Sciences	0	\$0	\$0	\$16,811	\$16,811	
	Institute On Aging	40	\$23,040	\$6,960	\$7,346	-\$8,734	-37.91%
	Kenan Ctr Util Carbon Dioxide	11	\$6,336	\$1,914	\$3,578	-\$844	-13.32%
	Laboratory Animal Medicine	109	\$62,784	\$18,966	\$30,320	-\$13,498	-21.50%
	Nutrition Research Institute	0	\$0	\$0	\$11,870	\$11,870	
	Ofc Info Communications	9	\$5,184	\$1,566	\$2,987	-\$631	-12.17%
	Ofc of Human Research Ethics	16	\$9,216	\$2,784	\$8,030	\$1,598	17.34%
	Office of Research Development	5	\$2,880	\$870	\$1,200	-\$810	-28.11%
	Office of Sponsored Research	78.161	\$45,021	\$13,600	\$20,221	-\$11,200	-24.88%
	Office of Technology Develop	18	\$10,368	\$3,132	\$4,829	-\$2,407	-23.22%
	Renaissance Computing Inst	96	\$55,296	\$16,704	\$37,996	-\$596	-1.08%
	Sheps Ctr for Hlth Serv Res	226	\$130,176	\$39,324	\$57,361	-\$33,491	-25.73%
VC Research & Econ Dev	VC for Research & Economic Dev	46	\$26,496	\$8,004	\$19,517	\$1,025	3.87%
VC Research & Econ Dev Total		1381.6	\$795,828	\$240,406	\$431,258	-\$124,163	-15.60%
	Campus Health CWS	29	\$16,704	\$5,046	\$8,614	-\$3,044	-18.22%
	Campus Health Services	122	\$70,272	\$21,228	\$32,451	-\$16,593	-23.61%
	Campus Health Serv-Pharmacy	0	\$0	\$0	\$3,056	\$3,056	
	Campus Health Sports Med Pgm	6	\$3,456	\$1,044	\$9,361	\$6,949	201.08%
	Carolina Union	50	\$28,800	\$8,700	\$11,240	-\$8,860	-30.76%
	Dean of Students Office	8	\$4,608	\$1,392	\$5,240	\$2,024	43.92%
	Housing & Res Education	249.97	\$143,982	\$43,494	\$61,069	-\$39,418	-27.38%
	Information Technology	0	\$0	\$0	\$23	\$23	
	New Stu/Carolina Parent Prgms	12	\$6,912	\$2,088	\$3,176	-\$1,648	-23.84%
	Student Activities Fund Office	0	\$0	\$0	\$1,154	\$1,154	
	University Career Services	29	\$16,704	\$5,046	\$5,331	-\$6,327	-37.88%
VC Student Affairs	V Chan Student Affairs Office	43	\$24,768	\$7,482	\$5,865	-\$11,421	-46.11%
VC Student Affairs Total		548.97	\$316,206	\$95,520	\$146,581	-\$74,104	-23.44%
	Carolina for Kibera Inc	1	\$576	\$174	\$0	-\$402	-69.79%
	Inst of Government Fdn	9	\$5,184	\$1,566	\$0	-\$3,618	-69.79%
	Law Fdn	0	\$0	\$0	\$7	\$7	
Foundation	UNC-CH Fdn	1	\$576	\$174	\$0	-\$402	-69.79%
Foundation Total		11	\$6,336	\$1,914	\$7	-\$4,415	-69.68%
Grand Total		16598	\$9,560,578	\$2,888,091	\$6,577,058	-\$95,429	-1.00%

