President's Advisory Committee on Efficiency and Effectiveness (PACE)

November 1, 2006

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President Erskine Bowles
The University of North Carolina
910 Raleigh Road
P.O. Box 2688
Chapel Hill, NC 27515

Dear President Bowles:

On behalf of the President's Advisory Committee on Efficiency and Effectiveness (PACE), it is my pleasure to present the attached final report.

When this project began, we all were optimistic it would uncover significant untapped potential within the University, benefiting not only the University itself, but also the constituent institutions, the students, faculty and staff, and the State. As you review the report, I trust you will agree the goal was achieved.

The PACE strongly believes this report does not, and should not, represent the culmination of this process. On the contrary, we believe it has revealed only the first layer of opportunities for improved efficiency and effectiveness within the University. The potential is great for even more substantial impacts than those contained in this report. We urge that this be used as a catalyst for ongoing evaluation and change within the University.

Our report is the product of literally hundreds of hours of dedicated work by many people. The expertise of participants from the campuses was vital to the project's success. Likewise, the outstanding support from General Administration participants was invaluable. The manner in which all the participants embraced this project clearly demonstrated their love for, and commitment to, this University.

I would be remiss if I did not also express my personal appreciation to the members of the PACE. Their unflagging enthusiasm for our task created a collegial, cooperative working environment that was key to the successful completion within a relatively brief time period.

As a Committee, we are proud of the work which is before you and appreciative of the opportunity to have served North Carolina and the University in this manner.

Sincerely,

Krista S. Tillman
Chair
President's Advisory Committee on Efficiency and Effectiveness

Attachment

Executive Summary

Process

During his inaugural address in April 2006, President Erskine Bowles pledged that, "…your University is going to operate more efficiently and effectively in order to redirect every single dollar we possibly can to the classroom and to the 200,000 students we're responsible for educating." To achieve these goals, the University must implement processes that enable the UNC system to concentrate its resources and better support and accomplish its core missions of education, research and public service.

The President charged his President's Advisory Committee on Efficiency and Effectiveness (PACE) to meet that goal. Selected by President Bowles, the PACE primarily consisted of businesspeople, in addition to a representative from the Board of Governors, the Chancellors and faculty. This small group of eight individuals undertook a review of current expenditures and then oversaw multiple system-wide working groups. From April to October 2006, the PACE examined administrative costs, existing processes and the potential to maximize the strengths of the system. As the President had separately charged the Chancellors with individual campus initiatives, the PACE focused its efforts on system-wide opportunities. As part of its work, the PACE also prepared a foundation for campus-specific work through system-wide data gathering, suggesting approaches for further data analysis and synthesis of administrative functions.

Key Operating Principles

The PACE identified several key operating principles throughout this process. To a certain degree these principles apply to the system as a whole, but generally apply to individual campuses, as well. These principles should assist to move forward efforts, and they lay the foundation for a culture of continuous improvement. The University must foster an environment of continually seeking, promoting and implementing measures to achieve ongoing efficiency and effectiveness.

- Collaborate between and among constituent institutions. Collaboration informs, assists and foments best practices.

- Leverage the strength of the system whenever and wherever possible. Sixteen, in many cases, is more powerful than one.

- Enable innovative purchasing techniques and foster negotiation capabilities across the system.

- Avoid redundancy in processes. Eliminate redundant controls especially when a process has multiple control points. Opt for sampling versus redundant checks.

- Benchmark within practice areas where practical. Benchmarking is useful, not only to understand the ranges within the system, but to compare the constituent institutions to their already identified peers and identify new efficient practices.

- Manage growth in employee headcount and ensure that a decision to hire is the right one. Simultaneously, push for the best from contractors and vendors and utilize service level agreements (SLAs) where appropriate to ensure that the decision to contract for a product or service produces desired results.

- Facilitate information aggregation and dispersal. While seemingly simple, the complexities of sixteen different institutions make gathering and sharing information across the campuses difficult.

These are very broad principles as presented. They evolved from both the qualitative and quantitative research overseen by the PACE in addition to the discussions at the four separate meetings and biweekly conference calls. Although currently followed in some limited form, the University generally does not broadly adhere to them. Only by adopting these principles and implementing them can it continually achieve efficient and effective operations.

Recommendations

Seven system-wide working groups identified opportunities to cut costs, avoid costs and grow revenue. These groups, composed of campus operators, developed ideas embodying many of the principles listed above. The PACE recommends implementation of the following working group ideas. The summarized ideas are grouped by general type of implementation – legislative change, process change or other. In cases in which implementation may include components of all three, the idea is identified by the primary driver, e.g. without legislative change, you could not change a process. The tables below include the source and numbers of ideas, the general types of recommendations of the ideas and the estimated net impact system-wide. Further information on each idea will be listed in the body of this report.

Legislative change		
Working Group	**Types of Recommendations**	**Estimated Net Impact**
Other Barriers (7 ideas)	Eliminate reports where point of control already exists to free up time on the campuses	Yr. 1: Savings of $390K Yr. 2: Savings of $390K Yr. 3: Savings of $390K Yr. 4: Savings of $390K Yr. 5: Savings of $390K
Construction/Leasing (4 ideas)	Modify existing approval processes to become more efficient	Annual cost avoidance of $22.2 MN, additional cost avoidance per size of project, reduced process times
Facilities Management (7 ideas)	Grant greater autonomy to campuses, modify facility management and maintenance processes to gain efficiency	Annual investment of $1.6MN, cost avoidance of $900K in year 1, $4.5MN in year 2, cost avoidance of $7.5MN in years 3-5, savings of $300K in year 3, $400K in year 4 and $500K in year 5

Human Resources (1 idea)	Modify existing processes to manage University Human Resources more directly	Annual cost avoidance of $12.5MN years 1-5
Auxiliary Services (2 ideas)	Rework legislation to better benefit students; address campus vending situation	Potential savings to students of $36K to $4MN due to expansion of tax holiday/tax holiday definitions; avoid potential loss of $1.8MN in revenue

Process change

Working Group	Types of Recommendations	Estimated Net Impact
Other Barriers (3 ideas)	Implement software solutions and a cost-benefit approach to expenditures	Annual savings of $32K in years 1-5, annual cost avoidance of $688K in years 1-5 through modified processes
Facilities Management (2 ideas)	Modify approval process and implement universal benchmarking	Annual savings of $127,000; annual investment of $180K in years 1-5, cost avoidance of $1.5MN in year 2 and $4.2MN in years 3-5
Information Technology (6 ideas)	Centralize processes where possible to avoid excess expenditures	Loss of $4.5MN in year 1, savings of $8MN in year 2, savings of $9.4MN in year 3, $9.9MN in year 4 and $10.8MN in year 5, cost avoidance of $498K in years 1-5
Academic Administration and Support (3 ideas)	Rework processes to achieve greater efficiency and effectiveness; focus on leveraging strength of the system	Annual cost savings of $42K through leveraging the system buying power, improved service to system library patrons and future unestimated cost savings through coordinated purchasing for future resources
Auxiliary Services (2 ideas)	Focus on leveraging strength of the system, especially knowledge of the large self-operated stores	Investment of $700K in year one, $730K annual revenue growth in years 1-5, unestimated cost savings to students due to greater availability of used textbooks and increased margins during sellback

Other

Working Group	Types of Recommendations	Estimated Net Impact
Other Barriers (2 ideas)	Eliminate specific UNC-GA report and improved accountability at the institutional level	Savings of $188K for years 1-5
Facilities Management (2 ideas)	Shape future practices to promote efficiency and effectiveness through energy and space management programs	Annual investments of $7.2MN years 1-4 and $3.2 in year 5, cost avoidance of $2.5MN in year 2, $25.4MN in year 3, $28.9MN in year 4 and $33MN in year 5
Information Technology (5 ideas)	Consolidate technological infrastructure, more efficient policies and procedures due to central versus multiple solutions	Annual cost avoidance of $2.4MN, loss of $1.5MN in year 1, cost savings of $2.4MN in year 2, $3.3MN in year 3, $4.9MN in year 4 and $5.9 in year 5

Human Resources (2 ideas)	Centralize campus and system HR functions where applicable	Unestimated cost avoidance; better delineation of responsibilities through leveraging the strength of the system
Academic Administration and Support (3 ideas)	Consolidate storage options across the sixteen; one solution vs. sixteen	Investment of $1M in year 1, $39K in year 2 and $42K in year 3. Cost avoidance of $33M in year 1 and $18M in years 2-5. Investment does not include a one-time capital cost of $25M in year 1.
Auxiliary Services (5 ideas)	Promote best practices across the campuses and the system as whole, examine opportunity to centralize	Increased revenues of $10-250K per campus, reduction in costs to students due to gross margin reductions in new textbook sales, e.g. on every $500K of sales, a 1% margin reduction would yield $5,000 in student savings

This report further delineates these ideas by implementation timeframe, short term or medium to long term. The cumulative impact from years 1-5 of the ideas in the short run is net savings of $13.6MN and cost avoidance of $169MN. The cumulative impact from years 1-5 of the ideas in the medium to long run is a loss of $1.4MN but cost avoidance of $259MN. Many of the ideas in the medium to long run require upfront and ongoing investment that leads to *cost avoidance* versus direct savings.

These estimated savings, avoided costs and increased revenues only pertain to the specific ideas listed above that were brought forward by the working groups. If the process begun in this project continues, there is unquestioned potential for future cost avoidance, savings *and* revenue enhancement. This report constitutes a beginning, not an end, in the university's quest for efficient and effective operations.

The PACE recommendations intend to foster a system-wide environment of continuous improvement. The ideas of the working groups begin to construct that environment. Moreover, these ideas demonstrate how the system can act more like a system and less like a confederation, a critical demarcation between business as usual and business as it should be. Again, these ideas constitute but the beginning of what should be an ongoing process.

This report provides details of the project: process, results and recommendations for the future:

- The preliminary campus work and the cost-cutting initiative undertaken by the General Administration;
- The ideas developed by the working groups and recommended by the PACE for implementation by the system;
- The relevance of the business operating principles to current efforts as well as future ones;
- And a potential framework for implementation that takes advantage of existing entities and groups.

Table of Contents

I. The PACE process

The impetus behind the PACE came about during the President's visits to the campuses in late 2005 and early 2006. The issue of administrative costs surfaced frequently as a discussion topic. President Bowles decided to get a better understanding of administrative costs across the University and to seek opportunities to rework processes and save money. In short, how could the University system become a more efficient and effective organization.

The work of the PACE was therefore already underway when President Bowles mentioned efficiency and effectiveness during his inaugural speech on April 12, 2006. The committee itself was organized by the end of the March, with Krista Tillman of BellSouth-North Carolina serving as Chair and James Speed of North Carolina Mutual Life Insurance Company serving as Vice-Chair. A project management office had been established by the beginning of April and a project manager, Hilary Coman of the Coman Company from Charlotte, NC, hired and in place by mid-April. Within the General Administration, the Finance Department took the lead in supporting the project with its staff, particularly Associate Vice-President James Smith, and Ms. Coman constituting the core of the working team. The PACE held its first meeting on May 1 at General Administration (UNC-GA) in Chapel Hill and began its series of biweekly calls May 15.

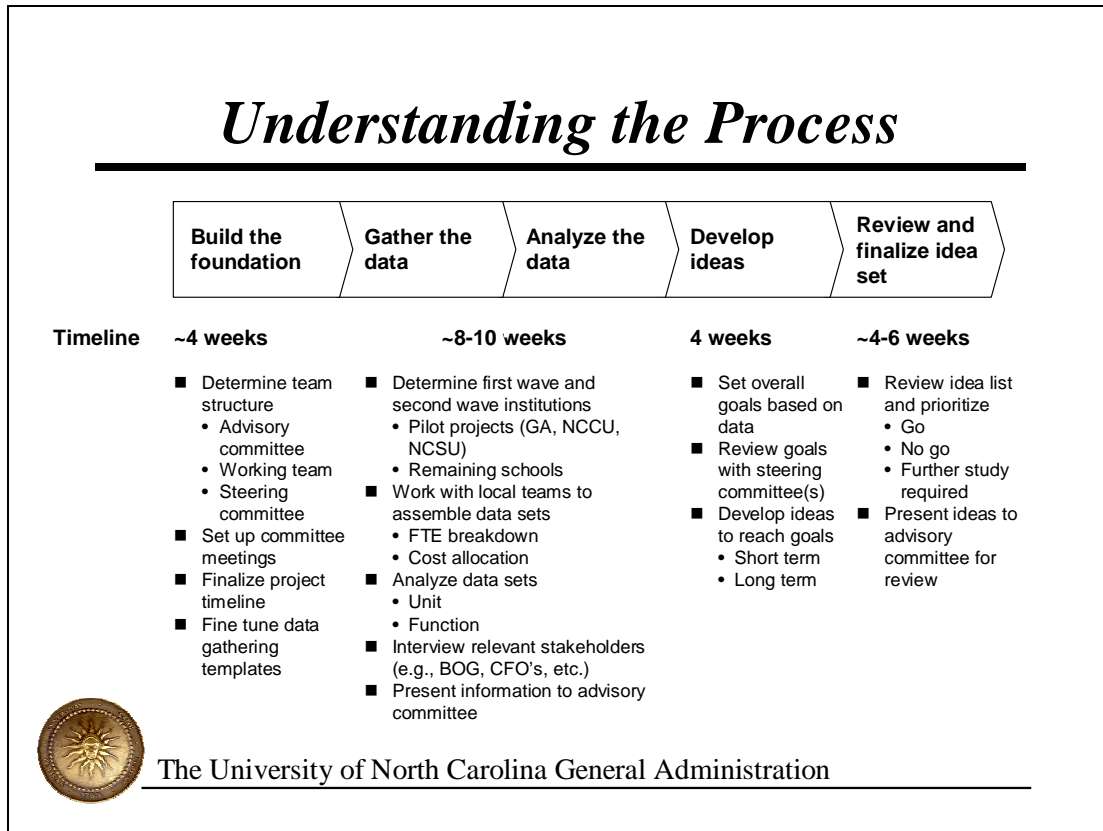The members of the PACE, and their affiliations, are:

- Jack Evans, Kenan-Flagler Business School, UNC-Chapel Hill
- Jim Newlin, Retired, Fiscal Research Division of N.C. General Assembly
- Ken Peacock, Appalachian State University
- Peter Sidebottom, Wachovia Corporation
- William Smith, Mutual Community Savings Bank and UNC Board of Governors
- James H. Speed, Jr., North Carolina Mutual Life Insurance Company
- Krista Tillman, BellSouth-North Carolina
- Vicki Wilson-McElreath, Price Waterhouse Coopers

Execution of the PACE process required extensive interaction between the PACE, the working team, pilot locations and the remaining constituent institutions. The PACE required data on administrative expenditures both at the General Administration and across the sixteen campuses. This data-gathering effort, encompassing both the qualitative and quantitative, needed to be structured immediately. The timeline for recommendations had already been set: provide them to the President by the end of October so that he could discuss them with the Board of Governors in mid-November and prepare for the opening of the General Assembly in January 2007.

This aggressive timeline was necessary to enable the President to take advantage of any of the recommendations for FY 2007-08. Figure 1 describes the process discussed at the May 1 meeting and follows the lifetime of the project. The process was inclusive and

relied heavily on participants across the system. As project team member James Smith often stated, "The process begins and ends on the campus."

Understanding the Process

Build the foundation	Gather the data	Analyze the data	Develop ideas	Review and finalize idea set

Timeline	~4 weeks	~8-10 weeks		4 weeks	~4-6 weeks

- Determine team structure
  - Advisory committee
  - Working team
  - Steering committee
- Set up committee meetings
- Finalize project timeline
- Fine tune data gathering templates

- Determine first wave and second wave institutions
  - Pilot projects (GA, NCCU, NCSU)
  - Remaining schools
- Work with local teams to assemble data sets
  - FTE breakdown
  - Cost allocation
- Analyze data sets
  - Unit
  - Function
- Interview relevant stakeholders (e.g., BOG, CFO's, etc.)
- Present information to advisory committee

- Set overall goals based on data
- Review goals with steering committee(s)
- Develop ideas to reach goals
  - Short term
  - Long term

- Review idea list and prioritize
  - Go
  - No go
  - Further study required
- Present ideas to advisory committee for review

The University of North Carolina General Administration

Figure 1

Conversations began with the campuses in April. The General Administration had already pledged to be the first to examine itself. North Carolina State University (NCSU) and North Carolina Central University (NCCU) agreed to serve as campus pilots. Charlie Leffler, Vice Chancellor for Finance and Business, Barbara Carroll, Associate Vice Chancellor for Human Resources and Steve Keto, Associate Vice Chancellor for Resource Management and Information systems led the initial effort at NCSU. Charles O'Dour, Vice Chancellor for Financial Affairs, and Theresa Tate, Assistant Vice Chancellor for Budgets and Financial Planning, did the same at NCCU. The purpose of the pilots was to identify any issues and remedy them before rolling out the process to the remaining fourteen campuses.

The General Administration and the pilot campuses took two very different paths. UNC-GA implemented a Mission, Activities, End Product (MAE) analysis, effectively attaching a cost to every product it produced. This analysis, commonplace in the private sector, forces employees to allocate their time by activities and tie these activities to end products. The cost to compile and produce a particular report, therefore, could be calculated with reasonable confidence. UNC-GA employee Ken Craig took the lead in gathering this data within the organization, using a template provided by Ms. Coman.

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The rollout across General Administration occurred in early May. Finance was the first department within the General Administration to fill out the MAE template and report back. Others quickly followed, including both core departments, e.g. Academic Affairs, Human Resources, etc. and affiliated entities, e.g. the Hunt Institute, the Center for International Understanding, etc. The analysis took on greater importance when President Bowles promised the General Assembly an across-the-board cut of ten percent (10%) of the General Administration budget. The MAE allows for more thoughtful consideration of operations when cost-cutting, not just randomly pursuing and implementing percentage cuts. By assigning costs to final products, it was easier to identify ways to rework processes and thereby garner cost savings. General Administration presented its initial findings in the second PACE meeting on June 15 at the University of North Carolina at Charlotte (UNCC), including its identification of activities and the costs associated with its end products. This report will detail the efforts of UNC-GA in the next chapter and its recommendations to reach the savings goal as directed by President Bowles.

The tight timeline did not permit a full-blown MAE process to be implemented on a campus by campus basis. However, the team determined a modified MAE process could provide a reasonably accurate depiction of campus expenditures. Working particularly with the pilot sites, the team constructed a template that accounted for all of the functions of a campus. "Core" functions were defined as instruction, research and public service. "Enabling" functions consisted of all the functions that enabled or supported the three core functions.

Critical to the function distinction was the identification of administrative costs across different budget line items. For example, if a faculty member spent twenty percent (20%) of his or her time on fund-raising, that time would be allocated within advancement, not within the core. Distinction was also made between SPA and EPA classifications (Faculty, Staff and Other/Professionals) and source of funds, e.g. General Fund or Non-General Funds. Capital expenditures were purposefully excluded.

NCSU suggested that the process be done online and charged NCSU programmers with converting the template to an online database. Gwen Hazelhurst, Director of Enterprise Applications and Database Services, and her team led and managed this effort. Both pilot campuses then began training employees to use the template. While every individual employee did not have to fill out his/her own sheet, as with the MAE analysis, most managers across the two campuses did. Efforts at both pilot locations were underway throughout May, enabling the working team to begin the process of rolling out the template to the rest of the campuses by June.

Critical to the success of the template was training campus operators. To that end, James Smith and Hilary Coman conducted six sessions across the state beginning with the University of North Carolina at Greensboro (UNCG) on June 7 and ending at East Carolina University (ECU) on June 21. Sessions were also held at Fayetteville State University (FSU), the University of North Carolina at Asheville (UNCA) and the University of North Carolina at Chapel Hill (UNC-CH) and UNCC. The training emphasized the how and why of the template and offered working guidelines in an

attempt to answer the questions of the campuses and ensure that the data would be collected in a uniform manner. To better understand the template, sample screen shots were also used, such as Figure 2, which illustrates what a user entering data would see.
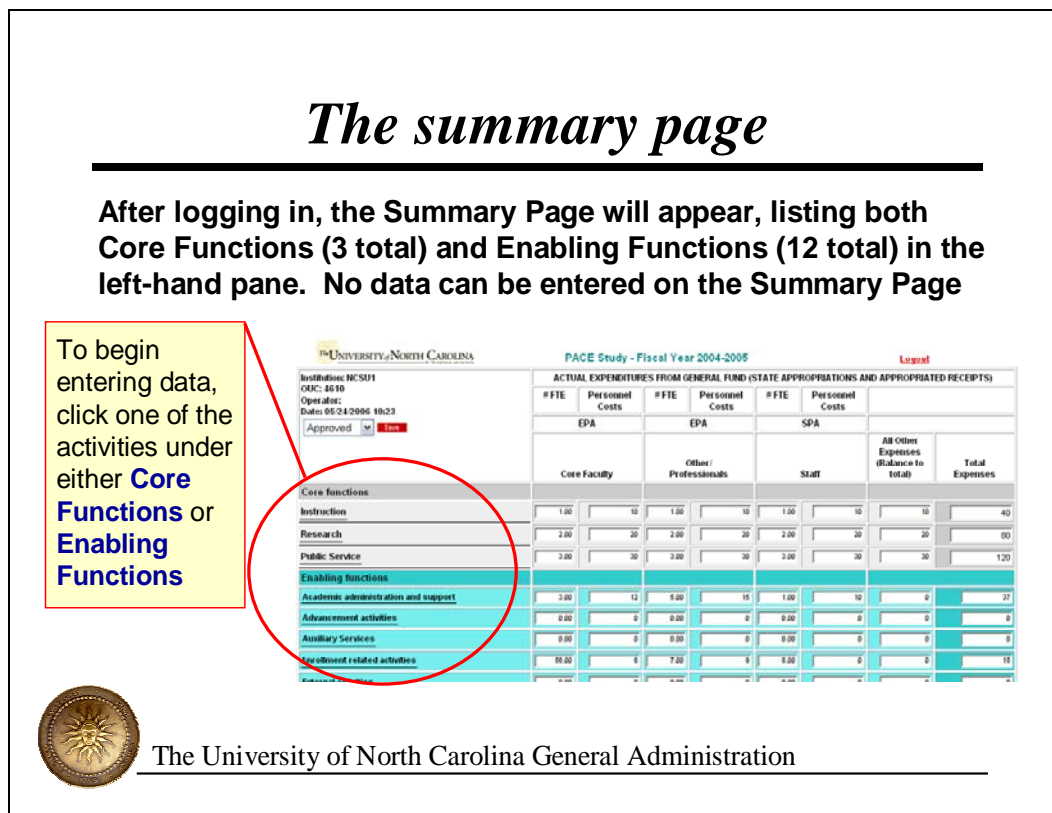
Figure 2

Once a campus completed this training, it had one month to gather and report information from all departments.

The campus activity, however, embraced more than the quantitative. At the same time managers filled in data for their departments, a qualitative on-line survey was distributed on campus, with the depth and breadth of distribution determined by each campus. The survey asked about the campus' administrative functions: which ones the campus did well, which it did poorly and how the campus could improve its current efforts.

Project Manager Hilary Coman also undertook a series of interviews, eventually speaking to most of the UNC Board of Governors members, all of the chancellors and many of the campus CFOs. Together, these discussions and campus survey data illuminated some common issues across all campuses, especially barriers in the form of policies or reporting requirements. Three sample comments were typical:

- "There are so many…a lot of barriers. Rigid processes that no one has rethought." *Campus interviewee*

- "Leasing space takes forever to get approval. Most often you lose the opportunity to lease the property." *BOG interviewee*

- "We have absurd legislative mandates. So much of our (Board of Governors) administrative time is spent on doing reports; it just piles up. I am overwhelmed by the volume of paper. Who reads this?" *BOG interviewee*

This type of feedback helped determine the direction and composition of the working groups as well as particular focus areas. Taken together with the numerical data, the PACE was afforded a reasonably accurate view of the system, its expenditures and its processes.

An organization typically uses MAE analysis data to benchmark against similar organizations, e.g. a bank would measure the time to process a check. Because examining costs by function is uncommon, benchmarking outside the system at this level offered minimal benefit. Comparing the constituent institutions within the system was therefore the next logical step.

Working with campus representatives, the working team assembled a set of metrics that examined each of the twelve enabling functions, normalized to account for campus differences. The metrics, in and of themselves, were not intended to drive decisions. Rather, they sought to spur discussion, especially at the campus level, regarding the dollars and manpower devoted to each of the enabling activities. President Bowles emphasized this need in his August 9 and August 19, 2006 memos exhorting the Chancellors to seek opportunities to increase efficiency and effectiveness at the campus level. The campus data gathering aided the PACE in selecting and constructing the working groups to seek system-wide opportunities. See Figure 3 for a breakdown of the final seven working groups and, if applicable, current system-wide expenditures for that enabling function. The barriers groups of Human Resources, Construction/Leasing and Other Barriers do not include actual expenditures.

Five preliminary working groups tasked to identify opportunities within each of the below areas

■ **Facilities Management**	**$488M**
■ **Academic Administration and Support**	**$375M**
■ **Information Technology**	**$246M**
■ **Auxiliary Services**	
• **Dining and vending**	**$113M**
• **Bookstore, textbook rental and other retail**	**$79M**
■ **Barriers**	**TBD**
• **Construction/Leasing**	
• **Human Resources**	
• **Other Barriers**	

The University of North Carolina

Figure 3

The working groups were composed of campus operators and specialists from each area under study. Supporting the groups were individual PACE members and two or three Chief Financial Officer (CFO) representatives. Each group's goal was to achieve greater efficiency and effectiveness by reworking those processes identified as barriers, leveraging system strength and identifying and quantifying cost savings. The ideas generated from these groups would be presented to the PACE, to then make implementation recommendations to President Bowles.

Following the final PACE meeting at NCSU on October 10, the PACE asked each working group to refine its ideas in order to determine the final selection. Much of this discussion centered on the assumptions behind the savings number and the difference between cost avoidance and cost savings. The final list of recommendations included eleven (11) ideas from the Facilities Management working group, eleven (11) ideas from the Information Technology working group, three (3) ideas from the Human Resources working group, twelve (12) from the Other Barriers working group, four (4) ideas from the Construction/Leasing working group, eight (8) ideas from the Auxiliary Services working group and six (6) ideas from the Academic Administration and Support working group.

Simultaneously, UNC General Administration identified savings opportunities in both the core functional areas and its affiliated entities, meeting the ten percent (10%) reduction

target identified by President Bowles. From operating costs of $93.9 million as of June 2006, reductions of $1.3 million were identified within the core, $8.1 million within the affiliated entities and $6.4 million within the affiliated entities was transferred either within the system or within state government. In total, UNC-GA reduced its budget by $15.8 million. Proposed operating costs moving forward are $78.1 million dollars.

The opportunities uncovered by the working groups can be divided into short-term and medium-to-long term opportunities based upon implementation. As stated earlier, the cumulative impact from years 1-5 of the ideas in the short run is net savings of $13.6MN and cost avoidance of $169MN. The cumulative impact from years 1-5 of the ideas in the medium to long run is a loss of $1.4MN but cost avoidance of $259MN. Many of the ideas in the latter category require upfront and ongoing investment that leads to *cost avoidance* versus direct savings. Further refinement of these longer term ideas could very well identify both additional savings and cost avoidance.

The PACE recommends that the UNC system pursue the fifty-six (56) short and medium-to-long term opportunities identified by the working groups.

II. General Administration

President Bowles pledged a ten percent (10%) reduction in the budget of the General Administration (UNC-GA) in May 2006. The Mission, Activity, End Product analysis (MAE) was critical in meeting this goal.

General Administration utilized a methodology commonplace in the private sector. Requiring employees to attribute their work time to concrete activities and end products, an organization gets a clear snapshot of administrative costs, the drivers of those costs, and the departments where the costs are concentrated or dispersed. In addition, this methodology permits the organization to understand how these activities and end products support overall mission. Leading the charge within General Administration was Ken Craig, Associate Vice President for Finance & Services Officer. Working directly with President Bowles and his Chief of Staff Jeff Davies, Mr. Craig assisted each department, program and entity within General Administration to understand and participate in the MAE analysis. Claudia Odom, Associate Vice President for Finance, assisted the team in data synthesis and analysis.

Each of UNC-GA's five hundred forty-nine (549) employees allocated their working hours to the activities and end products identified for their department. One concrete example of how this methodology worked is UNC-GA's internal audit area. UNC-GA's internal audit due diligence compliance requires $41,837 and .55 FTE in effort per year, and the product of that investment is no reportable findings for UNC-GA with the Office of the State Auditor. Tax compliance (1099s, 1098-T, payroll, W-2's, unrelated business income tax, annual tax reporting, etc) requires an additional investment of $20,333 and .27 FTE annually, and the product of that investment is no compliance findings with the IRS and NC Department of Revenue. The rich data included in the Business Affairs MAE analysis gave the PACE committee essential information to validate whether the University's resources are being directed to its most valued activities and responsibilities, and more importantly, whether these efforts should be continued, reduced or eliminated.

When this type of information was compiled from every UNC-GA employee, summary totals for personnel costs, headcount and non-personnel costs tallied easily. This information was presented to the PACE in a sequential manner. First, the working team reported on the state of "core" UNC-GA during the June meeting. Core UNC-GA entailed University Affairs, Finance, Academic Affairs, Legal Affairs, Information Resources, Human Resources, University School Programs, Business Affairs, Physical Plant and Auxiliary Services, Office of the Secretary for the Board of Governors, President's Office and Strategy Development and Analysis. Findings regarding the UNC-GA auxiliaries were relayed in the August meeting in addition to proposed changes to the core. Proposed changes to the affiliated entities were discussed during the last PACE meeting in October 2006.

Figure 4 details the divide between the core and the affiliates' operating costs as of June 2006.
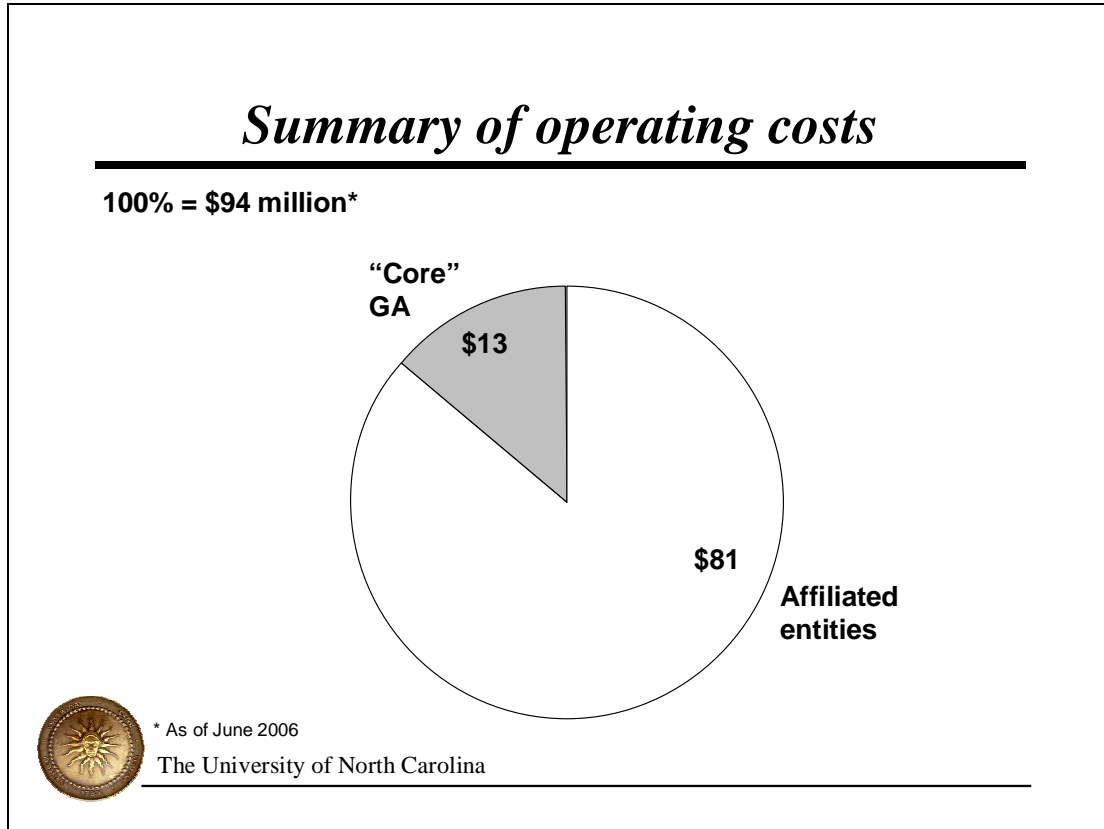
Figure 4

Approximately eighty-six percent (86%) of the operating costs stemmed from the affiliated entities, $81 million out of the total spend of $94 million. The remaining fourteen percent (14%) was from the core. Of that $13 million, personnel costs accounted for eighty percent (80%), not a surprising figure for an overwhelmingly administrative arm. Figure 5 details these costs, as well as non-personnel costs and FTE totals for each of the departments within core UNC-GA.

	Total spending ($ 000)	Personnel costs* ($ 000)	Total non-personnel costs	Number FTEs
■ University Affairs	1.31	1.07	0.24	10.00
■ Academic Affairs	2.29	1.97	0.32	21.70
■ University School Programs	0.50	0.40	0.10	3.00
■ Secretary of the Board	0.36	0.23	0.13	4.00
■ Information Resources	1.43	1.17	0.26	14.12
■ Human Resources	0.75	0.71	0.04	10.25
■ Legal Affairs	0.73	0.64	0.09	5.75
■ Finance	1.50	1.43	0.07	13.86
■ Business Affairs	0.77	0.69	0.08	11.21
■ Physical Plant and Auxiliary Services	1.15	0.18	0.97	4.23
■ President's Office	1.56	1.27	0.29	6.00
■ Strategy Development and Analysis	0.86	0.82	0.04	11.00
	13.21	10.58	2.63	115.12

* Personnel cost includes only salary and benefits

Source: Team analysis

The University of North Carolina

Figure 5

The affiliated entities comprise a multitude of programs and organizations which may be grouped into the following classifications: Higher Education Student Aid Programs, UNC-TV, UNC Information Technology, Public School Programs and Other. Figure 6 presents the breakdown of personnel costs, non-personnel costs and FTE totals for each classification as of June 2006.

	Total spending ($ 000)	Personnel costs ($ 000)	Total non-personnel costs ($ 000)	Number FTEs
Higher Education Student Aid Programs	27	3	24	59.0
Other	3	2	1	31.6
Public School Programs	14	5	9	69.4
UNC-TV	27	13	14	254.9
UNC Information Technology	10	2	8	18.9
Total	81	25	56	433.8

The University of North Carolina

Figure 6

Combined, the student aid programs and UNC-TV comprise two-thirds of the affiliates' overall operating costs. Both are also unique in their operation. Unlike core UNC-GA, non-personnel costs make up sixty-nine percent (69%) of the total with the student aid programs accounting for forty-three percent (43%) of those non-personnel costs. These costs are driven primarily by student aid servicing fees associated with administering UNC financial aid programs and the State's Federal Family Education Loan Program (FFELP), and costs to sustain the College Foundation of North Carolina (CFNC) interactive portal to provide North Carolina students a one-stop source to plan, apply and pay for college.

Understanding total costs and cost drivers facilitates reworking processes and work streams to lower overall costs and become more efficient. With the MAE data complete, President Bowles shared the information with the chancellors and asked them what products, what programs, what activities currently undertaken by UNC-GA, either in the core or in the affiliated entities, were of most use to them. Their feedback, coupled with the analysis of the MAE data, directed UNC-GA internal efforts to meet the promised ten percent (10%) reduction in operating costs.

Core

By early August, UNC-GA identified numerous opportunities to eliminate duplication, re-engineer processes, renegotiate contracts, consolidate activities and do away with processes that added no value to its constituents. Figure 7 details the findings from the

MAE analysis and subsequent net effect. Strategic reallocations included new initiatives and positions funded through savings identified within the core.

	MAE analysis	Net effect
Academic Affairs	■ Eliminate duplication in program support services for UNC in DC Program ■ Faculty professional development and internationalization activities should be institution-specific ■ Revise the billing structure for the licensing of nonpublic post-secondary education institution	■ Elimination of administrative position in Student Services ■ Elimination of senior administrative position and two program support positions ■ Full cost recovery costs from nonpublic post-secondary education institutions
Finance	■ Leverage abundance of campus expertise cultivated from the 2000 Higher Education Bond Program, and workload efficiency gained from HUB Academy creation at the NC Dept. of Adm. (DOA) to reduce capital improvement budget management activities ■ Realize financial reporting savings from implementation of the Unified Financial Data Model (UFDM) ■ Reduce administrative costs for fixed asset systems maintenance by consolidating activities in materials management / receiving ■ Re-engineer document processing and central stores ■ Reduce subscription, memberships, and travel costs	■ Elimination of senior administrative position, transfer HUB Academy Oversight to DOA ■ On-line UFDM inquiry eliminates the Dir. , Special Projects requirement for campus based data collection ■ More effective asset maintenance for new acquisitions and annual inventory, provides potential to eliminate a fixed asset clerk ■ Realize savings from digital printing technologies and consolidated central stores acquisitions ■ Decrease of targeted discretionary institutional costs
Human Resources	■ Reassign responsibilities where most of the work is already overseen	■ Consolidation of Human Resources Division responsibilities under VP for legal affairs and human resources and the elimination of position of VP for Human Resources
Information Resources	■ Campuses should shape their IT infrastructure plans with institutions of similar structure and academic mission as opposed to system office implementation management	■ Remote provision through campus CIO collaboration alleviates need for a senior administrative position
Legal Affairs	■ The tuition residency appeal process is time-consuming and UNC-GA only overturns 3% of the cases. The residency determination should rest at the campus level not UNC-GA	■ Incremental efficiencies for essential University legal affairs issues instead of make-work
Office of the Secretary	■ Improve UNC website content management	■ Office of the Secretary will now centrally manage, coordinate, and maintain UNC-General Administration's web site
President's Office	■ Identify opportunities to reduce technical and administrative support costs ■ Lease agreements in place need to be renegotiated	■ Elimination of an administrative position in the President's Office ■ Savings from expired lease
Strategy Development and Analysis	■ Reorganize the Strategy Development & Analysis Division under the VP for Academic Planning to realize front office management economies of scale	■ The restructuring and reassignment of responsibilities eliminates the need for the position of VP for Strategy Development & Analysis

	■ Enhance data warehousing collection, cleansing, analysis and reporting	■ Downgrade of Director level position to an Applications Programmer I position in order to address data warehousing analytical skill set need
University Affairs	■ Lower the costs of managing UNC's State policy and funding priorities ■ Identify need to reduce the University's non-budget legislative agenda operations and leverage expertise in the Finance Division ■ Identify the need to reduce coordination and management costs for University special projects and events	■ Elimination of Senior VP for University Affairs position and consolidation of the operation under the VP for Government Relations ■ Reduction in funding for the University's non-budget legislative agenda costs in the Government Relations Division ■ Consolidation of Presidential and BOG event coordination within the Office of the Secretary, eliminating an EPA level position
University School Programs	■ Reorganize the University School Programs Division under the VP for Academic Planning to realize front office management economies of scale	■ Elimination of duplicative coverage through dissolution of position of VP for University School Programs and associated administrative support
Strategic Reallocations	■ Establish Chief of Staff Office ■ Provide support for UNC Economic Development Initiative ■ Enhance University Audit Compliance	■ Management of day to day operations and General Administration Council staff ■ Provision of support for multi-campus initiatives to address the role of UNC in statewide economic development ■ Increase of system-wide internal audit and due diligence oversight capability brought about by the Sarbanes-Oxley Act expectations and the BOG Audit Committee

Figure 7

In total, the General Administration uncovered total savings of 15.5 FTEs and $1.8 million within the core. *Taking into account the strategic reallocations, total net savings were 12.5 FTEs and $1.3 million, a savings of ten percent (10%) of operating costs*.

Affiliated entities

Addressing the affiliated entities took a bit longer given the disparate missions and multitude of end products. The internal team of Ken Craig and Jeff Davies worked with President Bowles to determine first whether or not UNC-GA was the most logical home for a particular initiative or program given the mission of UNC-GA and its responsibilities to the sixteen constituent institutions. For example, it is critically important that UNC faculty, staff and students enjoy exposure to international cultures and the differences among them. Was UNC-GA the best home for initiatives like the North Carolina Center for International Understanding (NCCIU)? Once this type of determination had been made, the internal team examined the entities and identified processes that could be reworked and the resulting effects. Figure 8 details the findings from the MAE analysis of the affiliated entities and corresponding net effects.

	MAE analysis	Net effect
Center for School Leadership Development	■ Consolidate CSLD management under one Associate Vice President	■ Streamline CSLD organizational structure into two core missions: 1) Professional Development and 2) Teacher Recruitment
	■ Consolidate teacher recruitment programs and reduce personnel costs	■ Eliminate one senior administrative position, and relocate NC Model Teacher Education Consortium into the CSLD facility
	■ Consolidate CSLD program support into a central service operating unit	■ Loss of three support positions
	■ Transfer state funded conferencing direct support activities to conference receipts to consistently match revenues with its associated expenses	■ Provide full cost recovery for conferencing participant support costs from conferencing revenues
	■ Outsource low density National Paideia Center (NPC) instruction costs to part-time or independent contractors to reduce direct labor costs	■ Eliminate three NPC professional staff positions
	■ Transfer NC Teacher Academy to the NC Department of Public Instruction to streamline program development, implementation, assessment, and accountability measures for the State	■ Return NC Teacher Academy to the NC Department of Public Instruction
	■ Eliminate Education Law North Carolina Program	■ Discontinue Education Law North Carolina Program and Publication due to decreased demand
	■ Reduce Hunt Institute administrative costs through program consolidation along with implementing in-house research	■ Effectively conduct Hunt Institute research with in-house research and expertise
Higher Education Student Aid Programs	■ Consolidate student loan and aid information system applications	■ Eliminate the need for three application programming positions no longer needed to maintain separate application programs
	■ Consolidate UNC Needs Based Financial Aid program under the Director for Grants, Training and Outreach	■ Eliminate SPA Program Director position for UNC Needs Based Financial Aid program, and leverage existing management structure to manage the program
	■ Implement DOE statutory retention rate fee for Federal Family Education Loan Program (FFELP) portfolio;	■ Reduce loan service fees for FFELP loans
	■ Decrease estimated receipts for FFELP default loan collection, and loan service fees to actual revenues	■ Reduce National College Savings Program asset management operating costs
	■ Implement portfolio management fee savings for the NC College Savings Program (NCCSP)	■ Continue effective marketing of CFNC and NCCSP while realizing 10% savings to expand borrower benefit program
	■ Given favorable name recognition for CFNC and NCCSP, reduce marketing costs by 10%	
	■ Replace funding for SEAA's state appropriated operations with FFELP loan servicing fees	■ Continue SEAA operations at no cost to the General Fund
UNC Information Technology Programs	■ Eliminate UNC's participation in the California based Multimedia Education for Learning and Online Teaching program (MERLOT)	■ Eliminate funding for UNC membership in the MERLOT project and TLT Conference
	■ Eliminate state support for the Teaching and Learning Through Technology (TLT) Conference	■ Eliminate the Coordinated Technology Management – Collaborative Procurement Director position,

	■ Reduce Coordinated Technology Management – Collaborative Procurement operating costs for UNC System information technology acquisitions ■ Reduce the NC Higher Education Research and Education Network operating costs ■ Eliminate the Distance Education Technology Service operation	consolidate the program within the UNC Shared Services Alliance to leverage UNC materials management operational expertise and information system capacities for e~procurement applications ■ Achieve incremental equipment replacement and NCREN network consolidation savings for WAN operations ■ Campus decentralized distance education infrastructure is being effectively administered at the campus level
UNC Center for Public Television	■ Realize original programming and production savings, and reduce personnel costs in development ■ Consolidate trade advertising communication, and member support service operations ■ Streamline web content design for on-line fund raising and publicity of UNC-TV programs and services ■ Outsource equipment interface services for new equipment	■ Eliminate 5 SPA positions; and reduce original programming, engineering, communication and development costs for UNC-TV
Other UNC Programs	■ Consolidate UNC Federal Program and UNC in DC Intern Program offices in Washington, DC ■ Implement coordinated video conference meeting strategies, and web information solutions for the UNC Association of Student Government (ASG) ■ Eliminate NC Progress Board, and seek legislative funding for UNC Center for Public Policy ■ Transfer the NC Center for Nursing to the NC Area Health Education Center (AHEC) ■ Transfer the NC Center for International Understanding to NCSU to create the optimal oversight authority given its joint international exchange, and Latino initiative responsibilities for the State ■ Leverage Education Pathway joint partnership with SEAA to realize operational efficiencies for CFNC operations ■ Consolidate NC Higher Education Facility Commission into the Institutional Research Division to enhance UNC facility utilization and inventory capacity	■ Provide operational support savings to programs in Washington, DC ■ Discontinue NC Progress Board operations ■ Realign Center for Nursing with parent organization with health affairs mission and responsibility for the State ■ Realign NC Center for International Understanding with NCSU ■ Leverage Education Pathways web content management and outreach services with SEAA and CFNC ■ Eliminate one NC Higher Education Facility Commission support position

Figure 8

Within the affiliated entities, General Administration identified $8.1 million in net cost reductions and transfers of $6.4 million. The transfers consist of programs or initiatives moved from UNC-GA to other areas of state government or the system. One example is the transfer of North Carolina Center for International Understanding (NCCIU.)

As noted above, the North Carolina Center for International Understanding was transferred to NCSU because campuses lead international outreach, not UNC-GA itself. This strategic realignment will allow NCCIU and NCSU to leverage their international programs, exchange and outreach efforts collectively. Furthermore, NCCIU's Latino Initiative affiliation with NCSU will leverage NCSU's public policy and international program expertise to strengthen the State's capacity to address public policy issues related to growth in Latino immigrant populations.

A somewhat leaner UNC-GA, with more focused activities and resultant end products, emerged from the MAE analysis. UNC-GA also concentrated efforts on initiatives that support its mission and add value to the sixteen constituent institutions of the University. Figure 9 illustrates the comprehensive effects of these changes in both core UNC-GA and the affiliated entities and details the operating costs moving forward.

Reductions of $1.3 million were identified in core GA; reductions of $8.1 million were identified in the affiliated entities.

The General Administration has now identified total of $15.8 million, the majority in direct savings

Summary of operating costs
100% = $93.9 million*

"Core" GA $13.2
Identified reduction $1.3
Identified transfer $6.4
Identified reduction $8.1
Affiliated entities $80.7

Future operating costs
100% = $78.1 million

"Core" GA $11.9
$66.2 Affiliated entities

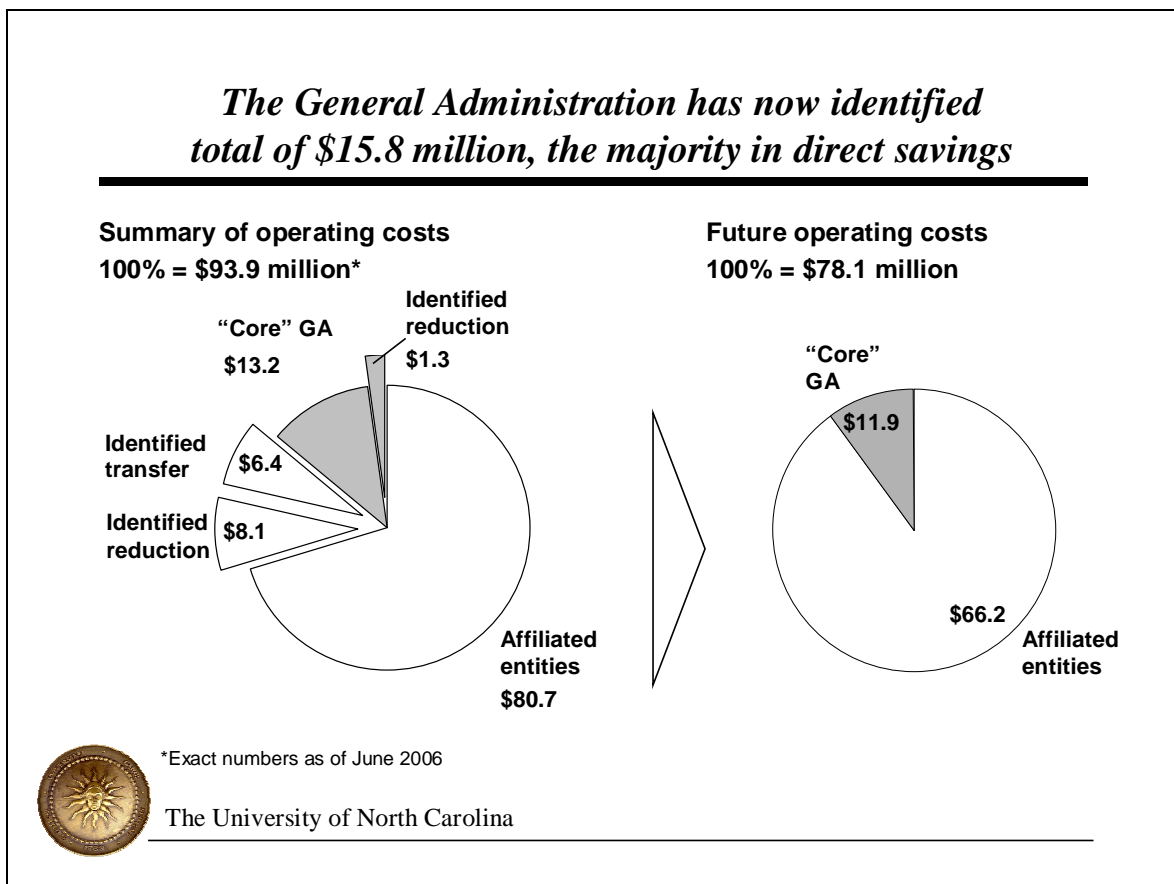*Exact numbers as of June 2006

The University of North Carolina

Figure 9

III. Campus Efforts

While the General Administration undertook its Mission, Activity, End Product (MAE) analysis, the sixteen constituent institutions embarked upon a data gathering effort to quantify their administrative costs. Due to the tight project timeframe the campuses did not employ the MAE. Instead they used a modified variant developed primarily by the pilot campuses of NCCU and NCSU, and by the working team. The core functions of the campuses were the mission-critical activities of instruction, research and public service. Public service functions included community service programs, cooperative extension services, medical/veterinary affairs, economic development and any other similar non-instructional services to particular sectors of the community, e.g., conferences, institutes and consulting. These functions were accounted for but were not studied or analyzed in depth, as PACE focused on administrative costs.

These costs related essentially to the functions that enabled the core activities – everything from Human Resources to Academic Administration and Support to Fiscal activities. These enabling functions and their relevant sub-functions are listed below:

- **Academic administration and support**
  - Academic support, advising, mentoring
  - Library
  - Student computing – labs and assistance
  - Faculty Development/Enrichment

- **Advancement activities**
  - Fundraising/development/management/ foundation relations
  - Alumni relations

- **Auxiliary Services**
  - Dining and Vending services
  - Student housing operations
  - Intercollegiate Athletics
  - Bookstore, textbook rental, and other retail operations
  - Parking and transportation services
  - Motor Fleet/Motor Pool operations
  - Printing, Copying, and Graphics Services
  - ID Cards/One Card/All campus card services

- **Enrollment-related activities**
  - Student admissions, recruitment, and marketing
  - Student financial aid and administration including scholarships
  - Student registration, records, and retention

- **External activities**
  - Marketing, public/constituent relations, and media relations
  - Government/corporate relations

- **Facilities management**
  - Facilities/infrastructure operations and maintenance-including housekeeping, grounds, mail/courier services, trades, and etc.
  - Facilities/infrastructure planning, design and construction
  - Real estate management
  - Waste Management and disposal, including hazardous materials
  - Campus safety (police) and risk management (Environmental Health and Safety)
  - Utilities direct costs and management

- **Fiscal activities**
  - Budget management including cash management and capital improvement
  - Accounting
  - Cashiering/receivables
  - Endowment and Foundation fiscal management/oversight
  - Payroll
  - Materials management/procurement/purchasing
  - Inventory control
  - Treasury services including investment and financing/debt management

- **Human Resources**
  - Job classification, recruitment, hiring, compensation, and benefits
  - Staff training/development and employee relations
  - Personnel records

- **Information Technology**
  - Academic/administrative applications including web management activities
  - Database and systems management
  - Client support including training and applications support
  - Network infrastructure and support
  - Security measures, compliance, and support
  - Telecommunications
  - Audiovisual support

- **Accountability activities**
  - Legal, policy development, and compliance
  - Institutional research, planning and analysis including accreditation and assessment activities
  - External compliance and other reporting such as UNC-GA, State of North Carolina, federal government, and legislative entities
  - Disaster Recovery/Business continuity/Organizational Resiliency
  - Equal Opportunity, diversity, and disability services

        – Auditing – Internal and External

- **Sponsored Project activities**
  - Research and project pre-award
  - Research and project post-award, including fiscal administration
  - Development, transfer, and commercialization of patents/trademarks

- **Student service activities**
  - Student programs and activities, student conduct, career planning and placement, mentoring, and student government and organizations
  - Student health/counseling
  - Recreation and Intramural services

The NCSU computer programming team transformed this outline and some elements of a redacted MAE template into the PACE template. The PACE template asked users to allocate FTEs and their time (suggested in minimum .25 FTE increments) across both the core and enabling functions. The template also required participants to classify these FTEs as faculty, staff and other professionals and identify the source of their funding, General Fund or Non-General Funds. Once a user assigned all relevant FTEs and their costs, the remaining expenditures were allocated as non-personnel costs within a particular department. The online database permitted entry by organizational unit code, two, four or six digit codes commonly used across the system; it also allowed a campus to roll up or roll down results as desired. The campus could then examine its numbers at the departmental, school or university level. To guarantee the veracity of the numbers from each campus, the budget offices of the campuses reported control numbers, actual departmental expenditures and FTE numbers for FY 2004-05. Once NCSU entered these control numbers into the template, the campuses could then begin to roll out the template to the individual departments and enter FTE allocations. Figure 10 offers a screenshot of the template displaying an enabling function and its sub-functions.

Entering data

Depending on which type of function you select, you will see a list of activities that correspond to that function

The University of NORTH CAROLINA · 16-campus university

PACE Study - Fiscal Year 2004-2005   Logout

Institution: NCSU1 OUC: 4610 Operator: Date: 05/24/2006 10:31	ACTUAL EXPENDITURES FROM GENERAL FUND (STATE APPROPRIATIONS AND APPROPRIATED RECEIPTS)							
	# FTE	Personnel Costs	# FTE	Personnel Costs	# FTE	Personnel Costs		
	EPA		EPA		SPA			
	Core Faculty		Other/ Professionals		Staff		All Other Expenses (Balance to total)	Total Expenses
Academic administration and support	3.00	12	5.00	15	1.00	10	0	37
* Academic support, advising, mentoring	3.00	12	5.00	15	1.00	10	0	37
* Library	0.00	0	0.00	0	0.00	0	0	0
* Student computing — labs and assistance	0.00	0	0.00	0	0.00	0	0	0
* Faculty Development/Enrichment	0.00	0	0.00	0	0.00	0	0	0

Note: Column and row totals cannot be manually edited

The University of North Carolina General Administration

Figure 10

The working team and the campuses themselves conducted campus training. UNCC, for example, taped the original presentation by the working team for use in later sessions conducted by its in-house PACE committee, some designed exclusively for faculty and others for staff. The training familiarized campus managers with the concepts of the template and helped assure greater commonality of assumptions regarding data inputs. Based on questions and feedback, James Smith developed a set of campus guidelines and published it on the web with regular updates. The working team conducted training across the system during the month of June, tasking the campuses with deadlines for the completed templates one month from the initial training date.

Training also included the campus survey, i.e. the qualitative online tool to complement the data collection effort. The survey queried respondents on enabling functions: How did your campus perform this function? Could you improve your efforts here? Could you identify any relevant barriers? The survey also included an open response section. Each campus managed the roll-out, data management and synthesis of feedback.

Concurrently, Hilary Coman interviewed the chancellors, Board of Governors members and campus CFOs regarding administrative costs, existing barriers, allocation of resources and suggestions for moving forward. She also investigated opportunities to leverage the strengths of the system. Feedback from these conversations, combined with

campus surveys, assisted in the identification of efficient activities, inefficient activities and current barriers to efficiency and effectiveness. Comments from the PACE presentation in August included the following. Survey responses are indicated by campus; individual conversations are classified as campus or Board of Governors.

Efficient activities

- "Budget flexibility. Being able to move money across purpose codes is helpful, especially across budgets that are shrinking." *Campus interviewee*

- "Campus ID card deployment, the variety of uses is virtually unmatched in higher education." *UNC-CH respondent*

- "Many of our auxiliaries run pretty well, e.g. physical facilities and the bookstore. We outsourced food." *Campus interviewee*

- "Information technology infrastructure development, i.e. Banner, intranet: dissemination of policies and pertinent documents via University Intranet." *NCCU respondent*

Inefficient activities

- "As for the non-value added activities, it would be the number of mandated reports." *Campus interviewee*

- "We don't make as much use as we could of distance education. Why can't good programs be shared more across the campuses? *BOG interviewee*

- "Inefficiencies are where we can't staff up." *Campus interviewee*

- "I am concerned about student fees, the cost to students. I am worried that we use student fees to support administrative costs." *BOG interviewee*

Barriers

- "There are numerous reports that are either required by the GA office or required by NC statue that could be eliminated." *Campus interviewee*

- "Restrictive state purchasing policies increase the cost of producing effective PR and marketing materials." *UNC-CH respondent*

- "Time is money in construction and it takes so long. If you think of costs as lost opportunities on spending on thing that matter…it's very expensive." *Campus interviewee*

- "Without barriers, each campus would have its own game plan and this would destroy the fabric of the system." *BOG interviewee*

These conversations and feedback guided the working team as it examined the data compiled by the campuses using the PACE template, the subsequently named PACE data. Together, the qualitative and quantitative offered a unique perspective on the UNC system, its processes and its workflow. It also permitted a starting point for the campuses to examine their own operations and become more efficient and effective.

As noted earlier, benchmarking the campuses against peer institutions on the basis of this data held little value. The PACE template sought to identify human resources efforts regardless of where they took place. Rather than be limited by chart of account definitions, the PACE accounted for expenditures by function. For example, if staff in the Facilities Management department spent significant amounts of time on Human Resources tasks, those FTEs and their time were allocated to the Human Resources function *not* the Facilities Management function.

On-campus discussions pointed out the possibility of normalizing data and allowing an intra-system comparison of enabling activities, controlling the campus size to the greatest extent possible. These metrics would generate a snapshot and stimulate initial study on the campuses. In some cases, the normalizing factor was the actual headcount of students of students and employees; in others a headcount index of the same. Working with the campuses, the working team developed the following metrics:

- Expenditures per 10,000 gross square feet (Facilities Management)
- Expenditures per 100 headcount of student/employee index (Auxiliary Services)
- Expenditures per 100 headcount students (Academic Administration and Support)
- Number of FTE employees in activity per 100 headcount students (Enrollment related activities)
- Expenditures per 100 headcount of student/employee index (Information Technology)
- Expenditures per 100 headcount of student/employee index (Fiscal activities)
- Number of FTE employees in activity per 100 headcount students (Student service activities)
- Expenditures in research/public service per FTE employees in Sponsored Project activities (Sponsored Project activities)
- Number of FTE employees in activity per 100 employee headcount (Accountability activities)
- Cost to raise a dollar (Advancement)
- Ratio of issued W-2 forms to FTE employees in activity (Human Resources)
- Number of FTE employees in activity per 100 employee headcount (External activities)

While other metrics were developed and considered, the working team focused on these final twelve to harness the data coming in from the campuses. Further detail on each metric and campus specific findings may be found in the Appendix. The metrics served to begin on-campus work rather than direct immediate decisions.

On a larger scale, the data delineated system-wide expenditures by core and enabling functions. Of the system-wide expenditures (General and Non-General Funds) in FY 2004-05, the core functions of instruction, research and public service accounted for forty-nine percent (49%). The largest enabling function expenditures were Facilities Management, Auxiliary Services, Academic Administration and Support and Enrollment activities by percentage of the total. Figure 11 lists these allocations based on the PACE data.

PACE Systemwide Expenditures (General and Non-General Funds)
TOTAL= $4.9 billion
FY 2004-05
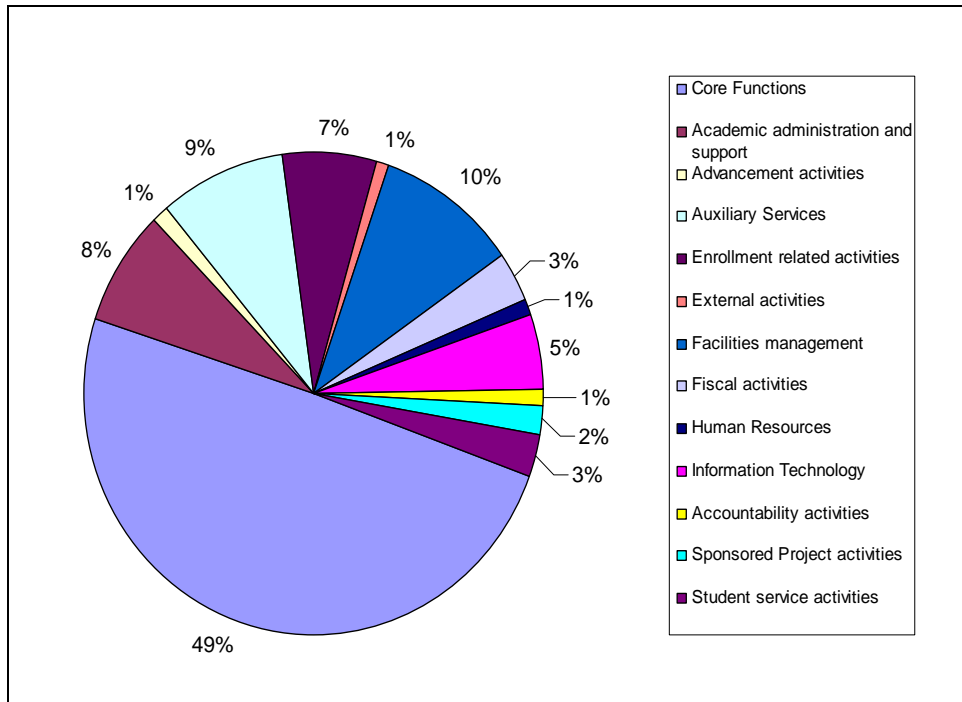
Figure 11

Restricting this analysis to General Funds alters the numbers somewhat, but not dramatically. In this scenario, core functions account for fifty percent (50%) and Facilities Management and Academic Administration and Support are the largest enabling functions. The biggest change is Auxiliary services, reduced from nine percent (9%) to less than one percent (1%). Although a noteworthy change, it is not a surprising one. Non-general funds support almost all Auxiliary services expenditures. Figure 12 reprises the expenditure breakout from Figure 11, this time restricted to General Funds.

PACE Systemwide Expenditures (General Funds)
TOTAL= $2.5 billion
FY 2004-05
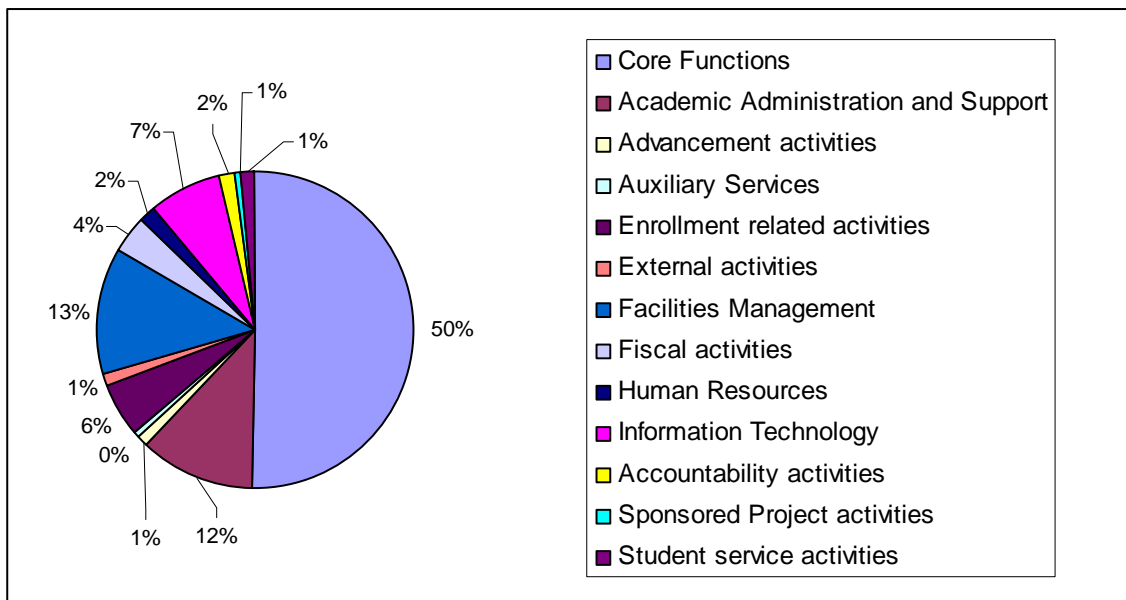
Figure 12

The PACE expenditure data served a dual purpose. The PACE committee could now assess it in conjunction with the qualitative feedback to determine the most logical direction and composition of the working groups. This established the direction of the last identified portion of the project. Second, each campus now had its own data, access to every other campus's data and some preliminary metrics to begin their own analysis.

Representing all campuses and populated by operators, e.g., the representatives to the Facilities Management working group were facilities managers, the working groups focused their study on the following areas. Some were enabling functions; others were the largest barriers identified throughout the process.

PACE Working Groups

- Facilities Management
- Academic Administration and Support
- Information Technology
- Auxiliary Services
  - Dining and vending
  - Bookstore, textbook rental and other retail

- Barriers
  - Construction/Leasing
  - Human Resources
  - Other Barriers

The working groups served a critical purpose at this juncture in the process. Much like UNC-GA had done in its MAE analysis, the working groups would perform a similar service for the entire system, suggesting processes to rework, barriers to eliminate and opportunities to improve efficiency and effectiveness across the system. They would also consider ways and opportunities to leverage the strength of the system to those ends. Based on their experience and the PACE data, the participants in the working groups identified operating problems and provided solutions to them. These discussions and the resultant ideas will be discussed in detail in the next chapter.

The PACE data also served to kick-start campus-specific efforts. President Bowles defined the efforts of the working groups and the campuses in his memo to the chancellors dated August 9, noting, "… we're at an important phase in the project. The working groups are forming to address system-wide issues and identify opportunities for savings. It's also important for each individual campus to examine its own numbers and re-commit to operating more efficiently and effectively. The expenditure data reported by you to the PACE provides an initial platform to examine your operations introspectively—not by chart of accounts classification or by organizational charts, but by functionality. I encourage you to take a second look at your particular campus and attempt to better understand what is driving your costs…"

By October 2006, the campuses had already identified a number of initiatives to study or proceed with. A snapshot of these activities by campus is defined below:

ASU

- Combination of multiple offices and roles (Director of Equity, Associate Vice-Chancellor for Diversity and Enrollment Services and Director of Compliance Programs/Equal Employment Officer) in Academic Affairs into the office of Equity, Diversity and Compliance Programs

ECU

- Examination of Brody School of Medicine and the medical faculty practice plan for ways to increase administrative efficiency and effectiveness to redeploy funds to core
  - Opportunities to consolidate or eliminate efforts due to duplicative processes
  - Leverage purchasing power of affiliated hospital to reduce the cost of medical supplies to our medical faculty practice plan
- Reassignment of FTEs from Student Life to vacant positions in Academic Affairs, with savings in Student Life to be re-invested in core functions

ECSU

- Implementation of the P card for certain small purchases to streamline the purchasing process that would have otherwise been done with the traditional paper process
- Merger of fixed asset accounting responsibilities under a single director in order to reduce handoffs and further exploit existing technology

FSU

- Development of a RFI (Request for Information) for Print Shop management contractors to determine benefits of outsourcing vs. continuing to perform operations in house
- Development of a RFI for Mail Center management contractors to determine the benefits of outsourcing vs. continuing to perform operations in house
- Development and presentation of a combined printing and mail center RFI

NCA&T

- Growth of Merchant Category Codes (MCC) to extend vendor diversity
- Approval to increase the transaction and monthly P-card limits for Athletics obviating the need for cash advancements and reconciliation in the purchasing office

NCCU

- Restructuring of colleges and departments to improve processes
- Use of technology (BANNER) to shorten response time in student financial aid

NCSA

- Process of developing student ID cards to increase efficiency at time of registration
- Outsourcing of the Advancement office
- Modification of receiving process to include a central receiving location
- Utility efficiencies for energy savings, including retrofitting technologies

NCSU

- Cross-functional PACE Campus Advisory Group to examine issues and identify campus-level opportunities for efficiency and effectiveness. Sample PACE-inspired initiatives currently underway are:
  - Information Technology reorganization. Review resulted in the recommendation that NC State create a position of Chief Information Officer. Process includes implantation of a scoping team to create a resource document that describes the current status of information technologies and recommending specific aspects of the IT organization, CIO position and function. Process is underway; report is due to Chancellor by June 30, 2007

- Reduction of duplicated services. A preliminary listing of services and programs in the enabling functions has been prepared and will be evaluated with the goal of reducing duplicative efforts. Sample recommendations include merging advising services, consolidating classroom management, and coordinating media, public relations and creative services
- Specific energy conservation initiatives were recommended and are being studied for feasibility, including an Energy Conservation Awareness Program, a campus Energy Management Program and an Energy Setback Program

UNCA

- Preparation of RFP for campus-wide printing, potential RFP for copying
- Surplus of obsolete printing equipment
- Transition to on-line ordering of office supplies using state contracts and reduction of central stores function for office supplies

UNCC

- Comprehensive review, assessment and redesign of processes related to "how we pay people and organizations." The Payment Process Redesign is organized around the recipient of the payment teams including faculty, staff, students and customers. The teams include Payments to Contractors, Payments to Vendors, Payments to Students, Payments to Employees, Payments to Non-Resident Aliens and Payment on Grants or Contracts
- Comprehensive assessment of information technology server administration, assisted by an experienced consultant. The study will confirm the current status of server administration and identify opportunities to improve efficiency, service and cost-effectiveness. A number of alternatives will be considered
- Study how to move to 100% direct deposit of all types of payments to all types of employees, including part-time and student workers. Process analysis to date has identified the key challenges to complete conversion and the facilitator is working to redesign and resolve those obstacles. The planning process will culminate in an analysis of obstacles, solutions and cost-savings and will include a comprehensive action plan including a communication plan. Deployment expected in spring semester 2007, though not necessarily in January of that semester
- Complete review of the budget (all funds). Give senior decision-makers significant information about all funds and thereby equip them for better institutional decisions. Also, assess the assumptions and methods that have underpinned institutional funds allocations in order to bring fundamental and strategic change where appropriate

UNC-CH

- Contracting dental service lab work at the School of Dentistry to improve the efficiency and effectiveness of these support options
- RFP process for contracting for the long-existing scientific storeroom. Savings are expected to come from 1) end user price reductions through successful negotiation of a single-source vendor, 2) elimination of inventory carrying costs and 3) elimination

of personnel costs. A vendor-managed scientific storeroom is expected to provide the academic departments both improved efficiency in obtaining needed materials and access to greater product variety in a "just in time" supply chain setting

- Feasibility of distributing responsibilities of Vice Provost for Enrollment among other positions
- Scrutiny of staff positions that are open and vacant for an above-average length of time
- Opportunities to redesign many underlying business systems and practices as campus overhauls and replaces major campus administrative data systems

UNCG

- Examination of HR processes given pending BANNER (software) installation of the HR module to minimize redundancy and identify low value-added and paper –based processes   within this enabling function. Expectation is to utilize electronic forms and approval workflows as well as the web-based "self-service" modules to allow employees to update much of their own demographic information, provide timesheet data, change benefit options, etc.

UNCP

- Consolidation of offices of Leadership and Service Opportunity Program and the Multicultural Center to better utilize space and share office personnel
- Negotiate our sewer and water rate with the Town of Pembroke to lower future operating costs

UNCW

- Ongoing reorganization of Facilities Division, building off of prior merger of Department of Construction Services and the Department of Planning and Design, to impact process and FTE count

WCU

- Identification of policies and procedures that needed to be modified to improve campus efficiency by faculty and staff; sub-group to study how to modify these processes
- Review of organizational structures and staffing levels for all enabling functions, assisted by external consultant. Benchmarks, including PACE data, to be utilized to identify areas where resources and positions could possibly be reallocated to core functions
- Pursuit and implementation of "Excellence in Higher Education" (EHE) model of systematic institutional assessment of processes and services to multiple constituencies. The EHE model is based upon the Malcolm Baldrige quality model for private industry and is a comprehensive model that can be used with all aspects of university operations. Benefits of the EHE process : clarifies current strengths and

weaknesses, fosters a common perspective on improvement possibilities, needs and priorities, creates a baselines measure and the basis for assessing progress, translates priorities into action plans, encourages broadened faculty/staff involvement in strategic planning and improvement, provides proactive response to performance measure and pressures and provides a shared language and common framework for organizational analysis, strategic planning and improvement initiatives

WSSU

- RFP for leasing copiers to increase on-campus capabilities and assess outsourcing options, with the goal of reducing   the number of desktop printers and fax machines by migrating to multifunctional machines
- Review of staffing levels when support positions are needed campus wide. Use of support staff to be reviewed before management is allowed to hire additional or new support staff

President Bowles set a deadline of mid-February 2007 for the campuses to issue an interim report regarding the initiatives they pursue; their final reports are due in June 2007.

IV. System-wide Working Groups

Based on the PACE meeting in August and campus conversations, the working team assembled and staffed the seven working groups with experts and operators from across the system. At this point, the CFOs offered to play an even greater role than they already had thus far in the PACE process and act as advisors to the working groups, along with the PACE committee members.

The groups began working in earnest in late August to complete their task by the end of September. To kick off their efforts and focus the discussion, the working team established the goal, charge and product due for the working groups at the outset.

Goal

The goal of all groups was to achieve greater efficiency and effectiveness through reworking processes that serve as barriers to our current work, leveraging system strength and identifying and quantifying cost savings.

Charge

The charge of the barrier groups was to minimize the impact of barriers within a selected area. Construct, pressure test, finalize, judge and prioritize ideas to eliminate and/or mitigate internal and external barriers. Examine barriers from all vantage points: their original purpose, their history and their current impact. Understand the real costs stemming from these barriers. Leverage PACE data as appropriate. Identify relevant benchmarks, if applicable, and use them to support or disprove ideas. Map out potential cross-campus, regional and system-wide partnerships to address issues.

The charge to the functional groups was to determine how best to leverage the strength of the system within the particular enabling function/sub-function under study. Construct, pressure test, finalize, judge and prioritize ideas to achieve target cost savings within the function/sub-function under study. Examine efficiency and effectiveness from all vantage points: cost, quality and level of service, barriers and results. Pursue additional PACE data review (e.g. campus stratification, additional metrics, etc.) as needed to support or disprove ideas. Benchmark where appropriate to support or disprove ideas. Clearly delineate both internal and external barriers to efficiency and effectiveness and the steps we need to take to overcome them. Map out potential cross-campus, regional and system-wide partnerships to address the issue.

Product

The products due from the working team was a short white paper discussing each initiative/idea considered, the assumptions behind the ideas and the final go, no-go determination – or further study required – in addition to the estimated impact of the idea.

To stimulate discussion, the working team posed a series of questions targeting issues specific to both the barriers groups and the functions groups.

Barriers
- What is the appropriate balance between audit and oversight? Where does this barrier stand on that spectrum?
- Within this stated barrier what are the processes and activities that comprise it? Where do these activities reside? How do these activities link together?
- What are the cost drivers of these activities?
- Can we offer any evidence of these costs either from the PACE data or elsewhere?
- How do different constituent institutions respond to the barrier? Can we learn from each other?
- What are other systems doing to address the same or similar barriers? Can we learn anything from them?
- If we reworked a process, what would that mean in terms of FTE's, opportunity cost, direct costs, etc.? Detail your assumptions
- What barriers stand in the way of addressing our barrier? Is legislative change required? If so, what would it need to be?
- Discuss the viability of legislative change. What would we as a system need to do to effect that change recognizing that not everything can be done simultaneously?
- Change takes time. What is a viable timeline for implementation, e.g. short run, medium run, long run?
- How does this barrier relate to other barriers under study within the work groups? Are there cross-working group conclusions?

Functions
- What are the major activities that comprise the function or sub-function? How do these activities link together?
- What are the cost drivers of these activities?
- What activities are most beneficial to the target recipient (student and/or faculty/staff, as appropriate)?
- Are there any processes that could be reworked to more efficiently deliver the activities described above? How could we work better?
- Are there any pertinent barriers that affect this function or sub-function? What are they?
- Is there a common organizational structure to support this function/sub-function across the campuses? What differences are there (if any) between the campuses?
- How is this structure(s) populated, e.g. levels of management?
- (If applicable) Are there any existing customer survey results for this sub-function? How can those findings inform this effort?
- What do other systems and/or our peer institutions look like vis-à-vis this function or sub-function? Can we learn anything from them?
- What sort of assumptions would we have to make for our idea to reach our target goal?

- If we implemented an idea, what would that mean in terms of FTE's, opportunity cost, direct costs, etc.?
- What sort of changes are or might be required to implement the idea (e.g. organizational, contractual, legislative, etc.)? Delineate what changes are easier than others and why
- Change takes time. What is a viable timeline for implementation, e.g. short run, medium run, long run?
- What processes could be reworked to be more efficient? How could we work better?

The groups used various modalities to meet, including teleconference, videoconference, and face-to-face meetings. Some opted for intense one- to two-day in-person sessions; others conducted weekly conference calls. Figure 13 identifies the members of the different working groups. The names of the working group leaders are bolded.

The PACE would like to thank the members of the working groups for their time, dedication and enthusiasm

Academic Administration and Support
- **Tim Burwell, ASU**
- Arnold Cooper, FSU
- Kenneth Murray, NCA&T
- Bijoy Sahoo, NCCU
- Katie Perry, NCSU
- Elmira Mangum, UNC-CH
- Steve Coppola, UNCC
- Bill Gash, UNCP
- Greg Lovins, ASU
- Pat Hunt, UNCA

Auxiliary Services
- **Carolyn Elfland, UNC-CH**
- Ron Dubberly, ASU
- Robert Gaines, NCCU
- Kathy Hart, NCSU
- Keith Wassum, UNCC
- Denise Carroll, UNCP
- Chuck Wooten, WCU
- Robert Botley, WSSU
- Bill Warden

Facilities Management
- **Jack Colby, NCSU**
- Michael O'Conner, ASU
- George Harrell, ECU
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- Jim Alty, UNC-CH
- Tony Schallert, UNCG
- Larry Freeman, UNCP
- Neil Hawk, UNCP
- Charles O'Dour, NCCU

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- Joe Norris, ECU
- Nick Ganesan, FSU
- Rene Martin, NCA&T
- Lisa Weatherman, NCSA
- Gwen Hazelhurst, NCSU
- Robyn East, UNC-CH
- Gloria Thornton, UNCG
- Robyn Render, GA
- Beth Hardin, UNCC
- Latonya Hankins, FSU
- David Perry, UNC-CH

Construction/Leasing
- **Dave Girardot, UNC-W**
- Scott Buck, ECU
- Rudy Cardenas, FSU
- Bill Barlow, NCA&T
- Kevin MacNaughton, NCSU
- Sid Stone, UNC-CH
- Linda Oakley, UNC-CH
- Phil Jones, UNCC
- Ron Core, UNCW
- Tommy Ellis, NCA&T

Human Resources
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- Jean Moore Sims, ECSU
- Vicki Bradly, UNC-CH
- Gary Stinnett, UNCC
- Alan Bridge, UNCG
- Charlie Leffler, NCSU
- Reade Taylor, UNCG

Other Barriers
- **Henry Peel, ECU**
- Ernie Murphrey, NCSU
- Susan Brooks, UNCC
- Kay Ward, UNCW
- Mike Stewart, WCU
- Kevin Seitz, ECU
- Anne Jenkins, ECU
- Janice Baker, ECSU
- Bob Wood, NC State
- Nellie Taylor, ECU
- Martha Pendergrass, UNC-CH
- Randy Duncan, UNCC
- Mary Forsythe, UNCW

The University of North Carolina

Figure 13

As presented and discussed in the October 10 PACE meeting at NCSU, the fifty-six (56) ideas from the seven working groups were divided into short term opportunities, medium to long term opportunities, opportunities for further development and opportunities for outside involvement. This final category included ideas not directly within the purview of the PACE. The discussion here focuses on the first two groups.

Other Barriers

This working group served as a catchall for barriers outside of Human Resources and Construction/Leasing, the two most prominent areas identified as barriers through the qualitative process described in the last chapter. The vast majority of this working group's ideas argued for legislative relief. The group detailed why the current process was inefficient and/or unnecessary, how the process could be monitored in case of change and what the campuses spent to meet the various regulatory requirements under discussion. Based on conversations with the campuses, reducing or eliminating these barriers would be an immediate benefit of the PACE project.

Unnecessary or duplicate reports were a major focus of the group. The group cited the management flexibility report, required by the General Assembly, as an obvious example. Given the existence of both the Fiscal Year Plan and the Annual Report, the campuses already cover the same information required by the management flexibility report. The group calculated that eliminating the report would save the system approximately $177,000 annually in time savings on the sixteen campuses.

In addition to reports, the group examined awkward and inefficient processes. For example, UNCC expends $26,000 annually to store surplus property in on-campus trailers and off-campus storage because current regulations do not permit it to either sell the items directly to the public or to donate them to charity. The latter case is particularly awkward. A few years ago when UNCC wanted to donate linens to the local Women's Shelter, State Surplus Property (SPP) instructed the UNCC manager that she had to offer it for bid sale because SPP determined its value to be over $100. The entire lot sold for $4.00 but the campus had to pay to store the items during the entire bid sale process. In another instance, UNCC was forced to destroy dorm furniture that did not sell through three bid sale cycles instead of donating it to charity. These are not isolated instances. The working group did not argue that oversight, in and of itself, is unneeded. As stewards of the public's money, the constituent institutions recognize the value of oversight. *However, the working group argued that multiple layers of oversight did little good per se and actually contributed to the administrative burden of the University.* Figure 14 details the reports and processes identified by the working group as barriers to efficient and effective operations, the estimated net impact of changing the process or eliminating the report and the requirements for implementation: legislative change, process change or other. It also identified the existing control points that guarantee oversight of this area minus the report or process under discussion. The table is divided into short-term and medium- to long-term opportunities, based on the complexities of implementation.

Other Barriers (short-term opportunities)			
Barrier	**Description**	**Estimated Net Impact**	**Implementation**
BD119 report	Eliminate this report; comparable information available from Personnel Data File.	Yr. 1: Savings of $188K Yr. 2: Savings of $188K Yr. 3: Savings of $188K Yr. 4: Savings of $188K Yr. 5: Savings of $188K	Requires other change. Seek GA's agreement to drop the report.
Management flexibility report	Eliminate this report, which dates to the beginning of management flexibility in 1991 and was intended to monitor what was then new budgetary authority	Yr. 1: Savings of $177K Yr. 2: Savings of $177K Yr. 3: Savings of $177K Yr. 4: Savings of $177K Yr. 5: Savings of $177K	Requires legislative relief. Point of controls are management approval of financial transactions in accordance with BOG policy and standard transaction controls via audits.
Disposition of surplus property	Grant autonomy to institutions, allow them to negotiate bid sales at the campus level, discard to junk without asking permission, etc.	Yr. 1: Savings of $117K Yr. 2: Savings of $117K Yr. 3: Savings of $117K Yr. 4: Savings of $117K Yr. 5: Savings of $117K	Requires legislative relief. Point of control is internal audit reviews.
BEACON implementation	Achieve appropriate implementation to avoid major financial structure changes.	Annual cost avoidance of $688K in years 1-5	Requires process change. Requires dialogue between OSBM, Office of State Controller, UNC- GA and the campuses.
Home based employees report	Change the statute to eliminate the requirement for the reporting and the prior approval.	Yr. 1: Savings of $5K Yr. 2: Savings of $5K Yr. 3: Savings of $5K Yr. 4: Savings of $5K Yr. 5: Savings of $5K	Requires legislative relief. Point of control is supervisor's approval to establish duty station other than agency address.
Vacancy report	Eliminate the report given that universities can now utilize lapsed salaries and move funds from positions.	Yr. 1: Savings of $53K Yr. 2: Savings of $53K Yr. 3: Savings of $53K Yr. 4: Savings of $53K Yr. 5: Savings of $53K	Requires legislative relief. Point of control is the data on vacant positions maintained in Human Resources.
Institutional trust fund report	Eliminate the report as information about trust funds can be found in information submitted to NCAS or the data mart monthly of all universities	Yr. 1: Savings of $12K Yr. 2: Savings of $12K Yr. 3: Savings of $12K Yr. 4: Savings of $12K Yr. 5: Savings of $12K	Requires legislative relief. Point of control is the record of expenditure transactions that resides in financial system.
Personal services report	Eliminate report given manual data pulls to document payments of $5,000 or higher to contract individuals	Yr. 1: Savings of $26K Yr. 2: Savings of $26K Yr. 3: Savings of $26K Yr. 4: Savings of $26K Yr. 5: Savings of $26K	Requires legislative relief. Point of control is that management decision driven by need for services and availability of resources.

Duplication of data entry	Develop an electronic interface between CAPSTAT and HUBSCO to allow data to flow between the two.	Yr. 1: Savings of $32K Yr. 2: Savings of $32K Yr. 3: Savings of $32K Yr. 4: Savings of $32K Yr. 5: Savings of $32K	Requires process change. Identify and contract with development programmers.
Other Barriers (medium- to long-term opportunities)			
Idea	**Description**	**Estimated Net Impact**	**Implementation**
Efficient purchasing	Follow four strategies to improve purchasing: authority changes, e-procurement, informational website and authorization to relinquish sovereign immunity	Greater flexibility on the campuses enables efficiency scale. Each one percent (1%) reduction in costs will yield $8M in savings.	Requires legislative relief.
Compliance with GS 116-30.2	Appropriations should be made in the form of a single sum to each budget code of the institution.	Clear accountability at the institutional level	Requires other change. Dialogue with Office of State Budget and Management to realize change.
Implement audit sampling	Implement a cost benefit approach towards expenditures rather than double checking all transactions	Create faster reimbursements and faster vendor payment, reduced workforce to process the transactions	Requires process change. Alter audit techniques with GA endorsement.

Figure 14

Construction/Leasing

The topic of construction and leasing surfaced frequently in conversations on the campuses and with board members. It is a timely topic, given the activity of the bond construction program over the past five years. For example, the bond expenditures from July 1, 2005 thru June 30, 2006 were $370,093,695. The campuses administer these funds and the processes surrounding them accordingly with support from UNC-GA.

Impediments to efficiency and effectiveness in Construction/Leasing, therefore, impact a large portion of expenditures. This working group addressed these issues and identified opportunities for cost avoidance in the future through changing regulations or reworking processes. To support its idea of extending authorization limits in capital authority to two million dollars ($2M), the working group broke the entire process down and identified cost savings in each and every step that would accrue as it modified the process. The group estimated that a one million dollar project would save more than eighteen percent (18.7%) or $187,000 in administrative, inflation and reduced designer costs. *Given the topic matter the savings identified by the working group constitute true cost avoidance.* The system can avoid future costs by altering the processes discussed in Figure 15. Figure 15 also identifies existing control points much like those in the Other Barriers working group, e.g. existing oversight that will continue to govern the process even with

the proposed changes. Since construction remains a fact of life for the system, cost avoidance is to be expected.

The working group also addressed leasing. Historically, leasing has played a minor role on all but the largest campuses. However, the need to lease space is growing, especially as more campuses do greater and more complex research.   The working group argued that extending leasing authority as currently granted under GS 116-37 to all campuses would render the process timelier and more efficient. *The working group explained that delays in the current leasing process not only cost administrative time and effort; opportunity costs also exist.* If research grant funding is predicated on obtaining necessary office space and the campus cannot lease the space in time, it may very well lose the grant.

These opinions echoed the findings of the Huron Consulting Group in their 2004 report, "Enhancing the Ability of North Carolina's Public Research Universities to Contribute to State Economic Development." This report emphasized that efficient processes must support research programs, noting that, "speed and adaptability are essential to success in a competitive environment. As opportunities arise in the research marketplace, researchers and institutions must have the ability to react quickly, and to respond to those opportunities in a manner that will create competitive advantage." Figure 15 covers the details of this idea, the only one of the working group ideas to fall in the medium- to long-run time frame.

Construction/Leasing (short-term opportunities)			
Idea	**Description**	**Estimated Net Impact**	**Implementation**
Construction document review process	Campus as owner of capital projects, increase in informal project limits and one review of final construction drawings.	Cost avoidance of $17.5M annually, likely to grow as value of projects grows	Requires legislative relief. Point of control is independent review by a certified code enforcement official.
Designer selection and contract award process	Receive approval to jumpstart selection process prior to receiving appropriation; work with Association of General Contractors to improve turn around time.	Cost avoidance of $4.7MN annually, likely to grow as the value of projects grows	Change to the designer selection process requires legislative relief. Point of control is routine review of the process by internal audit at each University.
Authorization limits	Authorization limits in capital authority, design and construction areas be adjusted upward to match "download" authority of $2M granted to the system.	Cost avoidance of 18.7 cents for every construction dollar spent.	Requires legislative relief. Point of control is periodic review by State Auditor/State Building Commission.

Construction/Leasing (medium- to long-term opportunities)			
Idea	**Description**	**Estimated Net Impact**	**Implementation**
Lack of adequate leasing authority	Extend property provision of GS 116-37 to universities	Reduce process times from approximately nine to four months	Requires legislative relief. Point of control is review by Legislative Committee.

Figure 15

Human Resources

The University consists of its people, faculty and staff. Without them, there would be no core or enabling functions. Human Resources plays a critical role across the system. The consideration of human resources is, therefore, an important one. The Human Resources working group focused its efforts on identifying the barriers to efficiency and effectiveness in recruiting and retaining employees in addition to opportunities to improve existing structures and/or processes.

The linchpin issue for the system, according to the working group, remains the real inability of the UNC system to manage its own human resources function. Currently, the State Personnel Act governs much of employment classification, review and compensation. The working group detailed the process and impediments that the process presents for the various constituent institutions. For example, it may take so long for sign-off across the various stages of the process that the system loses potential employees.

The working group also looked at opportunities to improve current structures at both the campus and system level. For example, the growth of EPA positions on the campus level has led to a system where Academic Affairs oversees both these positions and the faculty positions in some cases. Simultaneously, the Human Resources Department on campus oversees the remaining employees. *Duplicate processes cost time and money.* The working group suggested the combination of personnel administration into a common office, leaving Academic Affairs to deal solely with faculty. The group also suggested a system-wide review of policy regarding this division.

Opportunities also exist to centralize or regionalize some human resources activities, particularly ones with narrow specialization. It does not make sense in some cases for a medium or small campus to hire an employee relations expert, e.g. someone who deals with issues such as complex leave, ADA requirements and workers compensation law, when the larger campuses could contract with the smaller campuses to provide that knowledge within the system. *Collaborating in this manner would allow the larger campuses to fully leverage their specialists and allow the receiving institutions to avoid hiring an FTE for a narrow niche.*

The working group calculated annual cost avoidance for its largest idea of broadening authority under G.S. 116 to manage human resources at approximately $12.5 million.

This number constitutes costs that the system could avoid if it could manage its human resources more directly. All three ideas address more efficient processes that would result from their implementation.

Human Resources (medium- to long-term opportunities)			
Idea	**Description**	**Estimated Net Impact**	**Implementation**
Broad authority under N.C.G.S. 116 to manage HR	Define expanded authority to manage position classification, policies and compensation.	Annual cost avoidance of $12.5MN years 1-5 due to reduced external mandates, potential large cost avoidance	Requires legislative relief. Point of control would reside with high level management at each campus.
Centralize or regionalize HR activities	Investigate hosting by larger institutions for smaller institutions, sharing of HR functions.	Unestimated cost avoidance from shared systems versus unique solutions	Requires other change. Forge collaboration on key HR capacities.
Improve campus HR structures	Opportunities exist to combine personnel administration in a common office. Review of system-wide policies. Upgrade HR to campus-wide executive leadership.	Delineation of responsibilities, freeing up of resources to core	Requires other change and further study to implement. System and campus review of current policies and procedures, collaboration to redesign guiding EPA policies and procedures.

Figure 16

Facilities Management

This enabling activity accounted for $488 million of system-wide spending in FY 2004-2005, ten percent (10%) of the total, according to the PACE data. Given the stock of facilities across the sixteen constituent institutions, the construction stemming from the recent bond program and the complexity of running and managing buildings built across centuries, one can begin to grasp this number.

Common themes that emerged from this working group's discussion were the inefficiencies created by existing regulations, especially regarding procurement of both goods and services, the need to benchmark universally and the opportunities to re-work processes. Currently, regulations sometimes negatively impact processes and make them inherently more inefficient. Regarding the last topic, the working group laid out numerous ways for the campuses to become more efficient and effective through different processes governing energy management and space utilization moving forward. The group noted, however, the large impediment to implement money saving initiatives-any savings identified by a campus immediately reverted back to the State, and the campus' future budget was reduced accordingly. Essentially, the more efficient and/or effective a campus became, the more it would be penalized. To address this situation, the working group recommended that identified savings remain on the campus and better fund existing facilities management costs.

The group's ideas emphasized future cost avoidance through legislative change, streamlined processes and new strategies applicable to the entire system.

Facilities Management (short-term opportunities)			
Idea	**Description**	**Estimated Net Impact**	**Implementation**
Utilities savings through performance contracting	Streamline the process, increase current legislative limits, and install incentives to use contracts.	Annual investment of $1.6MN, cost avoidance of $1MN in year 2 and $3.6MN in years 3-5	Requires legislative relief and budgetary changes.
Eliminate barriers to most efficient organization	Optimize human resources, revise procurement to maximize efficiency.	Greater flexibility for on-campus decision-making	Requires legislative relief to revise contracting and procurement processes.
Increase informal contract funding limits	Increase current maximum from $300K to $2M, speed up the process and better address maintenance.	See Construction/Leasing idea Authorization Limits	Requires legislative relief. See Construction/Leasing idea Authorization Limits
Raise force construction legislative funding limits	Increase to a single total limit of $500,000, allowing organizations to perform work when they are more cost-effective.	Annual cost avoidance of $900K years 1-5	Requires legislative relief and evaluation of current force account organizations. Control point would be reporting force account projects over the current limit to General Administration.
Ease procurement restrictions	Raise the threshold for small order purchasing of facilities related equipment and services from $5,000 to $30,000, eliminate requirements for contractors to use state term commodity contracts.	Annual cost avoidance of $2.5MN beginning in year 2	Requires legislative relief and time to adjust to threshold increase and identify contractors. Control point is provided by audits of procurement practices under the new limits.
Eliminate DOI review for minor renovations	Allow campuses to internally document and provide certification of code compliance for all proposed renovations or new construction projects that fall below the informal contract limit of $300K.	Improve the productivity of project management and maintenance personnel. Annual savings of $50,000 in administrative costs, annual savings of $77,000 due to reduced inflationary costs (assuming 4 week reduction in delays)	Requires process change. Need to set up certification process, approximately one month. Control point comes through the delegation of this authority by DOI and their internal monitoring and audit.
Benchmarking facilities management costs	Utilize the APPA Core Data Survey system-wide; provision of Key Performance Indicators (KPIs).	Annual investment of $180K years 1-5, cost avoidance of $1.5MN in year 2, $4.2 MN years 3-5	Requires process change. Ask for optional participation this year, mandate participation next year. Complete evaluations

			and a management plan by Spring 2008. Adjust and reallocate by start of 2008-09 fiscal year.
Facilities Management (medium- to long-term opportunities)			
Idea	**Description**	**Estimated Net Impact**	**Implementation**
Implement a campus energy management program	Create and fund an Energy Management Program at each campus.	Annual investments of $3.2MN, cost avoidance of $2.5MN in year 2, $5.4MN in year 3, $8.9MN in year 4 and $13MN in year 5	Requires other change. Requires investment and recurring costs (FTEs) to drive annual net savings.
Space management/ utilization	Improve space utilization and avoid unnecessary new construction through applying space standards, institutional level space master planning, etc.	Annual investments of $4MN years 1-4, cost avoidance of $20MN years 3-5	Requires other change. Establish goals for campuses for space utilization; examine academic scheduling to maximize use of space.
Eliminate barriers to outsourcing	Provide for inflationary adjustments to budgets; quality/value as award basis vs. low bid only.	Promote competition and eliminate the existing disincentives for contracted services	Potentially requires legislative approval to contract process, changes to Purchase and Contract rules and OSBM guidelines.
Build electronic systems efficiency improvements	Standardize building electronic systems based on compatibility with existing systems vs. low-bid.	Savings of $300K in year 3, $400K in year 4 and $500K in year 5, cost avoidance of $100K in year 2 and $560K years 3-5	Requires legislative action and time to enact rule changes as well as time to phase out existing systems.

Figure 17

Information Technology

The Information Technology working group had an advantage over the other six groups. Thanks to the IT Alliance, regular system-wide meetings of the CIOs and the active involvement of Robyn Render, UNC-GA Vice President for Information Resources and Chief Information Officer, the infrastructure by and large already existed to discuss this function. Also, because of the selection and roll-out of BANNER, Information Technology already possessed a very system-focused versus entity-focused mind-set. *Critical to many of the group's ideas were the themes of collaboration and leveraging the strength of the system to minimize expenditures moving forward.*

The range of ideas spanned everything from shared FTE's across the system to joint purchasing. The working group recognized that the system stands at a unique juncture where each campus can seek its own solution to IT problems or the IT group can work together as a whole to solve them. The ideas reflected this quest for a single solution and subsequent cost savings.

The majority of the group's ideas continued to leverage off of the theme of greater cooperation and presented system-wide opportunities for better processes, cost savings and cost avoidance.

Information Technology (short-term opportunities)			
Idea	**Description**	**Estimated Net Impact**	**Implementation**
Disaster recovery	Consolidate disaster recovery as much as practical across the system; any campus could have a hot or warm site provisioned as needed.	Cost avoidance of $2.4 MN annually	Requires other change. Implement existing Alliance plan of actions for DR site and critical data backup.
PC server lifecycle management	Implement centralized PC and server replacement strategy.	Annual savings of $1.6MN in years 1-5	Requires process change. Establish PC and server inventory and set lifecycles, determine what needs to be replaced and negotiate best prices.
Shared professional staff	Alliance to include support staff for remote hosting opportunities, coordination of training, etc.	Cost avoidance of $498K years 1-5	Requires process change. Expand service offerings to be implemented by July 2007.
Banner hosting	The Banner campuses consolidate their hardware and software as much as practical at not more than two redundant data centers.	Yr. 1: Loss of $300K Yr. 2: Savings of $184K Yr. 3: Savings of $428K Yr. 4: Savings of $684K Yr. 5: Savings of $888K	Requires process change. Early adopter campuses to begin the Banner hosting efforts starting in FY 2007.
Cell phone allowance and Communication Device Consolidation	Combine two strategies to lower costs- 1) allow for reimbursement of business use of personal cell phones and 2) provide employees with a single owned University owned device.	*Cell phone allowance:* Yr. 1: Savings of $309K Yr. 2: Savings of $463K Yr. 3: Savings of $618K Yr. 4: Savings of $618K Yr. 5: Savings of $618K *Consolidation:* Yr. 1: Loss of $880K Yr. 2: Savings of $720K Yr. 3: Savings of $720K Yr. 4: Savings of $720K Yr. 5: Savings of $720K	Requires other change. New services could begin immediately; contracted services must be fulfilled to avoid termination charges. Cell phone allowance idea is easier and quicker to implement, therefore it precedes communication device consolidation.
Server co-location-virtualization	Consolidate physical systems in the data center onto servers with virtual infrastructure.	Yr. 1: Loss of $1.1MN Yr. 2: Savings of $450K Yr. 3: Savings of $450K Yr. 4: Savings of $450K Yr. 5: Savings of $450K	Requires other change. Assess server inventory, location and support for each campus. Develop plan for co-location-virtualization.
Open source software	Replace commercial versions with open source when appropriate, e.g. course management.	Yr. 1: NA Yr. 2: Savings of $500K Yr. 3: Savings of $1MN Yr. 4: Savings of $1MN Yr. 5: Savings of $1MN	Requires other change. Identify project teams, install product(s) for testing, evaluate, collaborate and establish project plan. Timeline

			of one to years.

Information Technology (medium- to long-term opportunities)			
Idea	**Description**	**Estimated Net Impact**	**Implementation**
Centralized course management	The Blackboard campuses should consolidate their production hardware and software as much as practical at no more than two redundant data centers.	Yr. 1: Loss of $350K Yr. 2: Loss of $150K Yr. 3: Savings of $50K Yr. 4: Savings of $250K Yr. 5: Savings of $450K	Requires process change. TLTC facilitates the implementation, identify early adopters for multi-campus installation in FY2008
E-procurement	Enable online marketplace; garner potential volume discounts; improved inventory control.	Yr. 1: Loss of $5.5MN Yr. 2: Savings of $6.2M Yr. 3: Savings of $7.1MN Yr. 4: Savings of $7.1MN Yr. 5: Savings of $7.6MN	Requires process change. Evaluate in-house and vendor solutions/costs, investigate opportunity to integrate.
Outsource student email	Leverage free webmail services instead of hosting student email on campuses.	Yr. 1: Savings of $7K Yr. 2: Savings of $200K Yr. 3: Savings of $300K Yr. 4: Savings of $300K Yr. 5: Savings of $300K	Requires process change. Identify campus needs and investigate solution proposals, term of one to three years
Thin clients	Implement thin client strategy when possible given their small footprint.	Yr. 1: Savings of $142K Yr. 2: Savings of $284K Yr. 3: Savings of $568K Yr. 4: Savings of $2.2M Yr. 5: Savings of $3.2M	Requires other change. Assess workstation requirements across the system and identify users/labs that are better served with thin clients. Replace, as appropriate, during next scheduled replacement cycle.

Figure 18

Academic Administration and Support

PACE Academic Administration and Support expenditures totaled a little over $375 million, the vast majority, eighty percent (80%) in General Fund expenditures. The function accounted for eight percent (8%) of total PACE expenditure data. The size of the spend made the function a natural candidate for inclusion in the working groups. *The working group spent a good deal of time discussing multiple ideas and opportunities but in the end focused narrowly on potential benefits of collaboration and centralization in the library sub-function.* Academic advising, support and mentoring, a critical PACE sub-function that constituted fifty-nine (59%) of the expenditure within the enabling function, was not examined in detail by this group because of the diversity of providers of these services across the system. It was suggested that that the campus-specific efforts led by the Chancellors examine this function as needed.

The Academic Administration and Support working group enjoyed a benefit similar to Information Technology regarding libraries - existing infrastructure. The librarians in the group were already members of the University Library Advisory Council (ULAC). The ULAC greatly assisted the working group in gathering data, refining ideas and providing a reality check regarding assumptions. In many cases, the ideas leveraged one another. If the University builds a remote storage facility, for example, the rapid delivery of library materials assumes even more critical importance.

With the exception of a centralized approval contract, none of the ideas tallied immediate cost savings. However, a number of them promised future cost avoidance opportunities. A number of the ideas also required investment to implement. Net impact numbers are cited in Figure 19.

Academic Administration and Support (short-term opportunities)			
Idea	Description	Estimated Net Impact	Implementation
Rapid delivery of library materials	Better leverage existing inter-library loan system by contracting with a courier service to reduce delivery times.	Greater efficiency for library patrons, neutral cost impact vs. current postage costs	Requires process change. Negotiate a system-wide contract with a courier or high speed delivery service, timeframe of approximately six months.
Academic Administration and Support (medium- to long-term opportunities)			
Idea	Description	Estimated Net Impact	Implementation
One library catalog system	Implement a virtual union catalog to easily search across all UNC libraries.	Lowered cost of borrowing, requires upfront investment of $37K in year one, $39K in year two and $41.5K in year three	Requires other change. Contract with a library vendor to provide this service.
Centralized approval contract	Establish a contract with one vendor to leverage buying power.	Schools with plans average a discount of approximately seventeen percent (17%). For the seven campuses without approval plans, savings of $42K are estimated in the aggregate	Requires process change. Survey all UNC libraries to determine approval practices and ascertain discounts before making the decision to seek a unified contract.
UNC libraries coordinated purchasing	Seek ways to expand NC LIVE to grow its collective resource base beyond current levels	Lower costs for the new assets. NC Live has acquired resources worth $28MN at the cost of $3.3MN	Requires process change. Negotiate with NC Live regarding newly available resources, especially in system-wide high priority areas.
Remote storage facility for library materials	Central storage facility for print materials, freeing up campus space.	Annual cost avoidance of $2M, requires initial capital investment of $25MN, unestimated additional	Requires other change. A cross-functional system-wide group should plan the facility, its operation and

		construction/renovation cost avoidance	governance.
Central electronic records manage-ment (archiving)	Enterprise-wide approach to store and manage electronic records as mandated.	Increased capacity to manage records, release of system space, requires initial investment of $1MN, first year cost avoidance of $31MN and $16MN years 2-5	Requires other change. A cross-functional system-wide group should plan the facility, its operation and governance.

Figure 19

Auxiliary Services

The Auxiliary Services working group covered the areas of Dining, Vending and Bookstores. The topic matter appears relatively straightforward; the *status quo* is not. Each campus crafts and implements unique strategies in make versus buy decisions, contract negotiation and textbook sales and resale. The working group first assembled an impressive array of data to begin comparing the constituent institutions of the system. Alone, this product held value - nothing like it had ever before existed.

The data supported the subsequent analysis, uncovering opportunities and prompting development of multiple ideas to take advantage of them. General findings included dramatic variation in contract terms, margins and control of the process in question. The suggested ideas first and foremost focused on the necessity of best practices and applying them universally. *From simply collaborating and sharing copies of one another's contracts to providing informal campus assessments, the individual campuses could benefit and increase their revenues.* Opportunities also existed to leverage inherent system expertise, particularly in bookstores. The larger self-operated bookstores enjoy a level of back office sophistication coupled with managerial experience that could substantially benefit some of the smaller stores. The contract bookstores could take advantage of real data from the self-operated stores to negotiate better contracts. The working group identified ways to maximize both the self-operated and contract models, leading to revenue gains and, in some cases, direct savings to students. Pushing the envelope even further, the group plans to investigate the feasibility of a system-wide bookstore initiative overseen by a foundation, similar to the California initiative that is overseen by a foundation, moving forward. *"UNC Bookstore, Inc." would seemingly serve both to leverage the strength of the system and increase collaboration.* Further study will further flesh out this concept.

The weight of system-wide expenditures offered possibilities to manage book buy-back and initiate conversations with both food service companies and regional bottlers. Targeted legislative relief provided opportunities for greater student savings and vending revenue stability.

Non-General Fund dollars made up the vast majority of Auxiliary Services expenditures. Therefore, any reduction in these expenditures or gain in revenues cannot impact the core

functions. The monies simply cannot be moved. However, an improved bottom line can likely help fund additional scholarships or decrease out of pocket costs to students.

Figure 20 describes each Auxiliary Services working group idea, the potential impact of each idea and the steps necessary to implement it.

Auxiliary Services – Dining and Vending (short-term opportunities)			
Idea	**Description**	**Estimated Net Impact**	**Implementation**
Vending revenue enhancement	Include features in drink vending contracts known to drive revenue, examine regional consortium options.	Leverage key revenue increase factors to increase campus commissions	Requires other change. Recommendations to take effect as vending contracts expire
Vending regulatory relief	Separation of juice and water contracts reduces potential revenue of single- vendor contracts.	Failure to address the issue could reduce revenue by $1.8MN	Requires legislative relief.
Best practices (Dining)	Establish a dining best practices committee to develop contract terms, dashboard indicators, uniform survey as well as optional peer review.	Addressing contractor charges can increase revenues to the campus, ranging from $10K to 250K per year	Requires other change. The committee could be formed at any time. Completing the charge may take two years.
System-wide dining contract	Pursue system-wide or regional contract(s) with dining contractors	Exploratory conversations should be held with large vendors to assess the feasibility and benefits.	Requires other change. Conversations could begin at any time.
Auxiliary Services – Bookstore (short-term opportunities)			
Idea	**Description**	**Estimated Net Impact**	**Implementation**
Leverage large self-operated stores	Leverage large stores in terms of both back office systems and management expertise; explore opportunity of "UNC Bookstore Inc."	If all stores w/o textbook rental could reach NACS median in net income percentage, revenues would increase by $350K	Requires process change. Personnel in each alliance would need to work out this plan, likely to vary, some by Fall 2007.
Best practices – contract stores	Establish a system-wide best practices working group to establish desired contract terms and metrics.	On every $500K of new textbook sales, a gross margin reduction of 1% would provide student savings of $5,000	Requires other change. Establish a "Best Practices" working group by Spring 2007. Two campuses have expiring contracts in 2007.
Trademark licensing	Register the trademarks of UNC schools currently without trademark licensing programs.	Annual revenue increases of $750 to $11,000 per school	Requires other change. Campuses in question should call approved legal help immediately to address this issue.
Auxiliary Services – Bookstore (medium- to long-term opportunities)			
Idea	**Description**	**Estimated Net Impact**	**Implementation**
Bookstore regulatory relief	Increase the application of the sales tax holiday	Depending on potential change, students'	Requires legislative relief.

	on textbooks; increase the holiday itself.	increased savings range from $36K to $4MN	
Self-managed textbook buyback	Form a consortium to buy and hold textbooks for resale to students.	Requires initial investment of $700K, provides additional annual gross margin of $380K. Increase availability of used textbooks, unestimated cost savings to students	Requires process change. Arrange a pilot for Fall 2007 semester.

Figure 20

The opportunities uncovered from across all seven working groups are impressive. Figures 21 and 22 summarize the financial impact of the fifty-six (56) ideas discussed in this report, accounting for investment, savings, net savings and cost avoidance. The working teams were careful to assess and identify required investments to implement each idea to realistically gauge real savings. Cost savings accounts for money that no longer has to be expended because of either a process change or legislative change. In other words, the system will do something it already does but in different way, thereby saving money.

Cost avoidance is distinct. *In the future, if the system adopts an idea, it will not have to pay certain costs that it otherwise might have to pay.* For example, if the system implements a space utilization program that delays or no longer makes necessary the cost of constructing a building, the system will avoid that cost.

Both the short and medium to long term opportunities offered net cost savings and cost avoidance. Figures 21 and 22 offer detailed information regarding these numbers and the investments required for the ideas. The ideas are divided into short-term and long-term opportunities based on the complexity of implementation. Understanding the timeframe is critical as to not overstate assumptions of savings.

Divided into short-term and medium-to-long term opportunities by complexity to implement, the ideas of the working group identified ways to lower costs, avoid costs and grow revenue across the system. The working group ideas provide for cost avoidance of $27MN in year 1, $32MN in year 2, and $37MN in years 3-5 of the short term. These same ideas generate a loss of $1.4MN in year 1, cost savings of $3M in year 2, cost savings of $4MN in year 3, $4MN in year 4 and $4.2MN in year 5. The medium-to-long term ideas contribute to $46MN in cost avoidance in year 1, $33MN in year 2, $56MN in year 3, $60MN in year 4 and $64MN in year 5. These ideas generate a loss of $13.9MN in year 1 and $660K in year 2, with cost savings of $1MN in year 3, $3MN in year 4 and $9MN in year 5. Many of the cost avoidance ideas in the medium-to-long term category require significant ongoing investment.

The aggregate impact encompasses cost savings and cost avoidance, including any necessary investments.
Short-term opportunities*

	Year				
	1	2	3	4	5
Savings	$3,841,000	$4,679,000	$5,578,000	$5,834,000	$6,038,000
Investment	$5,280,000	$1,780,000	$1,780,000	$1,780,000	$1,780,000
Net savings	($1,439,000)	$2,899,000	$3,798,000	$4,054,000	$4,258,000
Cost avoidance	$26,685,800	$31,685,800	$36,985,800	$36,985,800	$36,985,800

* Includes ideas from Other Barriers; Construction/Leasing; Facilities Management; Information Technology

The University of North Carolina

Figure 21

The aggregate impact encompasses cost savings and cost avoidance, including any necessary investments.
Medium- to long-term opportunities*

	Year				
	1	2	3	4	5
Savings	$484,000	$9,626,000	$11,410,000	$13,342,000	$15,192,000
Investment	$14,379,352**	$10,089,000	$10,091,500	$10,050,000	$6,050,000
Net savings	($13,895,352)	($663,000)	$1,118,500	$3,092,000	$8,942,000
Cost avoidance	$45,500,000	$33,054,000	$56,458,800	$59,968,000	$64,125,000

* Includes ideas from Academic Administration and Support, Human Resources; Facilities Management; Information Technology

**Investment cited does not include an estimated one time capital expenditure of $25 million

The University of North Carolina

Figure 22

Understanding the financial impact of an idea is important. Each opportunity must also be weighed in terms of the steps needed to implement the idea. Clearly, the ideas that combine greater ease of implementation with larger financial impact should be pursued. At the same idea, an idea with high financial impact that takes more effort to implement is still a good and important idea. The system needs to recognize that it might take more money, effort and time to effect that particular opportunity. Figure 23 offers a sample matrix with a few of the working group ideas cited as examples. The numbers listed are the cost savings or cost avoidance indicated for the idea in year 5.

***The opportunities uncovered by the working groups span the
spectrum in terms of size and ease to implement***

**Ease of
implementation**

High

Shared professional
IT staff ($498K)

E-procurement
($8MN)

PC server lifecycle
management
($1.6MN)

Eliminate management
flexibility report ($188K)

Performance
contracting ($3.6MN)

Thin clients ($560K)

Energy management
($5MN)

Rework construction
document review
process ($17.5MN)

Broaden HR
authority
($12.5MN)

Low

Low   High

Size of the opportunity
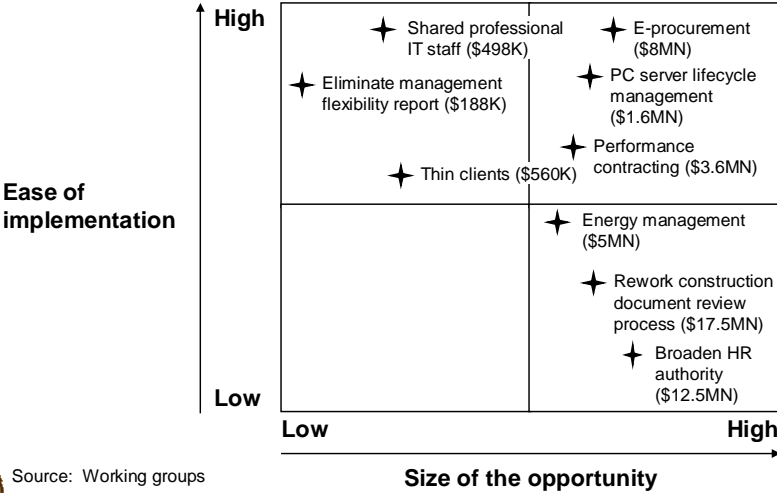
Source: Working groups

The University of North Carolina

Figure 23

V. Summary/Moving Forward

The PACE recommends the implementation of the ideas identified by the working groups to promote efficiency and effectiveness system-wide. It also recognizes the ongoing efforts of the campuses themselves (identified by campus earlier in this report) to identify specific local opportunities. Moving forward, these processes appropriately overlap and complement one another. Figure 24 offers a suggested timeline for the process and eventual implementation of both system-wide and campus opportunities.
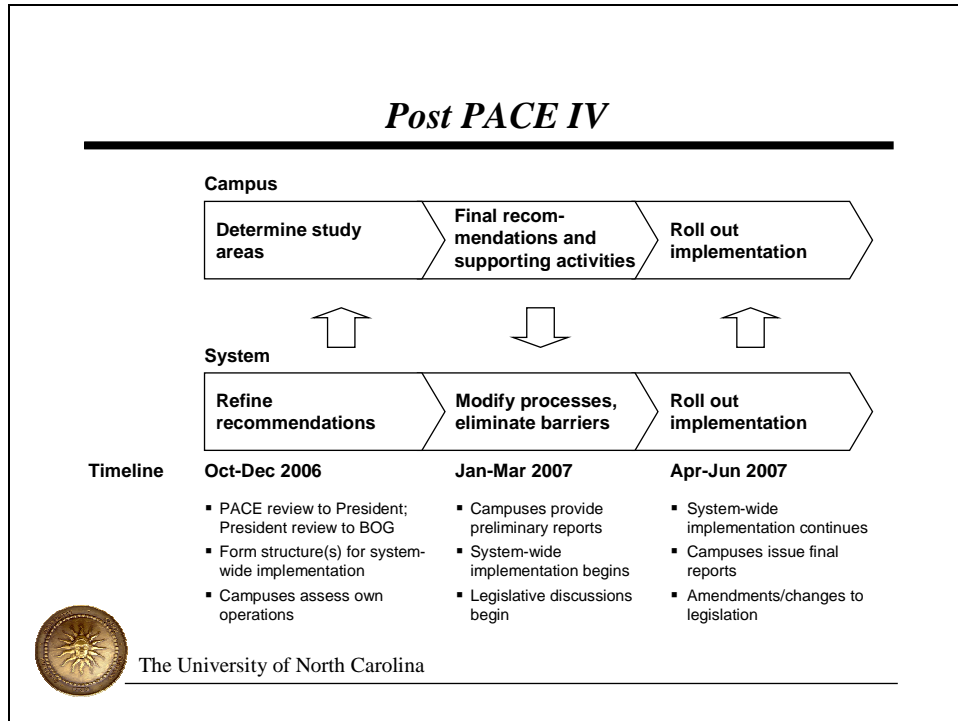
Figure 24

Critical to the system-wide efforts will be the existing groups and associations that can support the working groups or whatever format the working groups take moving forward. These include the University Library Advisory Council (ULAC), the Human Resources Council and the CIOs and the IT Alliance among others. All of these groups supported and assisted the working groups as they developed their ideas. Any construct for implementation needs to embrace them and facilitate the process.

The PACE recognizes that the recommendations included in this report constitute only the beginning of an ongoing system-wide and campus specific process to seek, promote and implement initiatives with the goal of efficiency and effectiveness. *Critical to the success of the current recommendations as well as any future initiatives is to recognize the value of the key operating principles detailed in the executive summary and highlighted throughout this report.*

Collaboration:

The UNC system comprises great leaders and thinkers across the sixteen campuses. Not only could these individuals benefit their own campuses but they could benefit the system as a whole. Perhaps the best current example of collaboration is in the Information Technology arena. Thanks to the efforts of the CIOs, General Administration and the IT Alliance, the network allows collaboration among and between the campuses, especially the fourteen BANNER campuses. The fruits of this collaboration are seen in the ideas developed by that working group- centralization was a critical component of many if not all of their ideas. It is imperative to extend and foster this collaborative mind-set to other areas within the University, a critical change in mind-set.

Strength of the system and Innovative purchasing/negotiating:

The system is neither insignificant in its size nor its purchasing capacity. Always ask- How can the system be smarter and cheaper when it supplies its campuses, classrooms and students? *It is possible to respect the uniqueness and mission of an individual campus and still save money.* The current procurement process surfaced in many discussions as both an opportunity and a current barrier. The ideas of the working groups offered solutions to both, but the issue of size needs to remain in the forefront. The University should realize economies of scale where possible. Related to the issue of procurement is the necessity of innovative purchasing and negotiation expertise. The University must make sure that its employees possess the correct tool kit. Cross-campus collaboration, noted above and within the working groups, can be a critical element to transmit this knowledge.

Redundancy:

In practice, this means dropping low value add reports, reducing the time required on the campuses to fill out these reports and freeing up those personnel for higher order activities. Sampling would free up employees for more value added work and achieve the same goal of universal checks. The University clearly has an obligation to be a good steward of public money and must demonstrate that obligation. However, there are more efficient ways of meeting that obligation than some currently pursued. Multiple control points exist in many cases thereby guaranteeing oversight in case of change.

Benchmarking:

For example, the Facilities Management working group identified the annual Association of Higher Education Facilities Officers (APPA) survey. Currently, only three of the UNC campuses participate. If all participated, this information could inform the decision-making process as campuses staff their own departments or make outsourcing decisions. Benchmarking requires investment, in terms of both time and money, but the benefits are real. First, it provides a baseline of information. Second, it allows for the development of Key Performance Indicators (KPIs) to track and measure the administrative functions critical to supporting the mission of the University. Finally, a

manager can make better decisions for his or her campus based on real analysis of a fact base.

Staffing:

Clearly, the University must hire the employees that it requires to administer it. However, this decision should not be a quick or hasty one. The decision should also include a discussion of outside contractors. One route is not necessarily superior to the other. However, the question must always be asked, "Why do we need to hire this person?" *Adding headcount does drive costs.*

Contracting, however, can also hold pitfalls. An ill-made decision potentially wastes money on an inferior product or service. Therefore, the University should leverage service level agreements (SLAs) whenever and wherever possible. If a contractor does not perform, the company or individual must be held responsible.

Benchmarking in many cases can provide a manager with additional information to assist in this decision making process, e.g., number of FTEs by department, comparable expenditure by department, etc.

Facilitation of information:

An existing database makes it much easier to take a snapshot of activity. *To analyze system-wide opportunities requires system-wide data.* Interestingly, the work of the working groups proved how difficult this task could be. In many cases, the groups queried their associates on the campuses to assemble a relevant "database" as no other one existed. The University must examine relevant methods to make this easier for users across the campuses. Not only would it facilitate collaboration as discussed above, it would also allow greater benchmarking. Information gathering and sharing needs to be easier for all involved.

None of these operating principles seems radical at face value. However, truly implementing them in the University system is a radical notion. Collaboration, centralization, leveraging the strength of the system requires that the UNC system live up to its name. The system needs to act like a system and make more decisions as a system. In many instances, there does not have be sixteen solutions to one problem when one solution could serve just as well.

Implementing and adhering to these principles offers the University the opportunity to better leverage its resources and better serve its constituents in the future. Hopefully, the PACE process initiates this process.

Appendix

I. PACE white papers

    a. Academic Administration and Support

    b. Auxiliary Services

    c. Construction/Leasing

    d. Facilities Management

    e. Human Resources

    f. Information Technology

    g. Other Barriers

II. PACE training documents (Available upon request)

III. PACE presentations (Available upon request)

    a. May 1. 2006

    b. June 15, 2006

    c. August 1, 2006

    d. October 10, 2006

Please call or email Angelisa King at UNC-General Administration if you would like copies of any of these materials. Her phone is 919.962.4607 and her email is alking@northcarolina.edu.

Executive Summary
Academic Administration and Support

Idea

1   Rapid Delivery of Library Materials among UNC Campuses
In order to avoid expending funds that highly duplicate collections, UNC campuses utilize an interlibrary loan system, processing approximately 50,000 items annually. The current interlibrary loan system is slower than it could be. The system libraries would contract with a courier service to improve delivery times from the current level of 7-14 days to 2 days or less.
Recommendation: Go

2   One Library Catalog System
Within UNC system libraries, there are three different library catalog systems and there is currently no mechanism to easily search across all library catalogs by users. The system libraries would implement a virtual union catalog that supports searching and requesting across all UNC libraries by a user at any library in the system.
Recommendation: Go

3   Centralized Approval Contract for UNC Libraries
Libraries within the UNC system individually profile books for approval plans through several different vendors. In this individual library approach, larger libraries have better buying power than smaller ones due to their purchase volume. The UNC libraries would first study and, if advantageous, implement a contract with one established vendor to leverage buying power while allowing individual libraries to structure their profile to meet local campus needs. The arrangement will allow all libraries to leverage their buying power as the larger libraries.
Recommendation: Further Study

4   UNC Libraries Coordinated Purchasing of Electronic Resources
For over 15 years UNC libraries have been licensing use of electronic resources. Most libraries are members of multiple consortia with some being centrally funded such as NC LIVE and others funded by the respective member libraries in the consortia. UNC libraries in the system should continue to coordinate their purchases of electronic titles to negotiate additional savings that can be identified. UNC libraries are encouraged to seek ways to expand NC LIVE to grow its collective electronic resource base beyond its current levels, particularly in system-wide high priority areas.
Recommendation: Go

5   Remote Storage Facility for Library Materials
Although electronic resources are increasing, the volume of print materials that need to be stored is significant and UNC libraries are rapidly running out of space to store acquisitions. A secure, climate controlled central storage facility that can house 8 million volumes would be constructed to house lesser used books and journals. The centrally

stored material would be accessible to users across the system via delivery to a requesting library.
Recommendation: Go

6   Central Electronic Records Management (Archiving)
UNC institutions are in varying stages as to their ability to archive electronic records according to various regulatory requirements. If approached separately, each institution will face the issue of major investment to manage these records appropriately. The system would implement a centralized approach to store and manage electronic records. In addition, the system should further study the practicality of including all records management, including paper records, in this effort.
Recommendation: Further Study

Idea Number: 1
Idea Title: Rapid Delivery of Library Materials among UNC campuses

Description of Current Situation:
Decades of cooperative collection development based on each university's mission have enabled the UNC libraries to avoid highly duplicative collections. In addition, policies have been adopted that provide equal and easy access to all UNC libraries for all faculty and students, including all on-site and borrowing privileges. Interdisciplinary work has increased, along with student enrollment, and faculty and students of the UNC institutions would benefit from the ability to request and receive rapid delivery of materials from all of the institutions' library collections. An improved, rapid delivery system is needed to get these unique items into the hands of users at other campuses. The existing default interlibrary loan system cannot provide rapid delivery because it is not supported by a courier or high-speed delivery service. About 50,000 "returnable" items are circulated among the 16 institutions annually with the current system, with delivery taking an average of 7-14 days. There are exceptions to this general description for material circulated among institutions with their own courier service. The two existing in-house courier services are with the Western North Carolina Library Network (WNCLN) and the Research Triangle Library Network (TRLN). WNCLN handles loans between Appalachian State University, Western Carolina University and UNC-Asheville. TRLN handles loans between UNC-Chapel Hill, NC State, Duke University, and NC Central University. A delivery time within these library networks is typically next day, or within the day for many requests within TRLN. With the ability to search all of the collections at once through a "virtual catalog," another initiative now in the planning stages, the number of items circulated system-wide is likely to increase substantially.

Description of Improvement Idea and Impact:
A rapid delivery service for library materials not covered by in-house couriers would improve service and turnaround times for interlibrary loan requests among the 16 UNC libraries, decreasing them from an average of 7-14 days to an average of 1-2 days. The difference between 2 days and 7 days, for example, can be critical for faculty and students who have deadlines, and sometimes the delay in the current system discourages them from attempting to obtain materials from another library, even those with relevant and high-quality content. The delivery service would be most effective in conjunction with a union catalog that enables direct patron requests. This would help to reduce the amount of staff time required for request processing, offsetting staff time for greater numbers of transactions due to the popularity of a faster service. More faculty members and students at all UNC institutions could derive greater benefits from the collective investment in the library collections, which represent content that has been tailored over the years to the needs of their curricular and research programs. A shared library collection storage facility for the UNC libraries would also complement the delivery service and add efficiency to the process. Distance education programs across the state could be more competitive with this service. Library collection managers could continue to build deep collections in their institutions' areas of emphasis, recognizing that users would be able to rely on other collections where needed.

Implementation Recommendation:
The UNC institutions should negotiate advantageous pricing for a contract with a courier or high-speed delivery service for library materials, with each institution paying its share of the

total cost (in lieu of current postage costs) for those materials that cannot be delivered with the existing in-house courier services. The service would deliver library materials to the campuses daily and offer a means of tracking the packages.

Projected Implementation Time: Up to six months.

Advantages and Benefits:
Requests for books and other materials not held in a borrower's home library could be filled more quickly than they are currently. More faculty members and students at all UNC institutions could derive greater benefits from the collective investment in the library collections, which represent content tailored to the needs of their curricular and research programs. Distance education programs across the state could be more competitive with this service. Grant funding (Library Services and Technology Act (LSTA) funds) have already been obtained by the UNC libraries for a cooperative project that includes planning for a statewide delivery service. Funds for implementing the service are likely to be eligible for funding from this source as well.

Disadvantages and Risks:
The libraries would need to adapt procedures for recovering lost or overdue items from borrowers based at other campuses, and for replacing any items lost in transit. Improved delivery times can be expected to increase the number of transactions causing added costs to the libraries.

Potential Cost Savings:
This idea can likely be implemented with existing resources among the UNC libraries, but will not produce cost savings. However, it will improve efficiency in the sharing of materials among the libraries with increased speed of delivery and increased productivity of faculty and students. The successful implementation of the idea will provide a foundation necessary for other ideas presented to be effective in managing or reducing costs. Below are estimates of annual costs incurred for interlibrary loans and potential costs under a speedier delivery arrangement.

Estimates of Current Interlibrary Loan Expenditures

Expense Source	Delivery Costs	Packaging Costs	Total Cost
Contracted Courier	$10,800	$8,000	$18,800
TRLN Courier	$28,643		$28,643
WNCLN Courier	$28,352		$28,352
Total	$67,795	$8,000	$75,795

Estimates of Projected Interlibrary Loan Expenditures for Rapid Delivery

Expense Source	Delivery Costs	Packaging Costs	Total Cost
Contracted Courier	$52,500	$10,000	$62,500
TRLN Courier	$28,643		$28,643
WNCLN Courier	$28,352		$28,352
Total	$109,495	$10,000	$119,495

Assumptions Associated with Cost Savings:
Based on information from 11 of the 16 institutions, the average per unit delivery costs for materials not handled by an in-house courier ranged from $0 to $2.56, with $1.35 as the average.

The $0 cost is associated with exclusive use of the state courier (highest delivery times, 7-14 days) and the $2.56 with a higher use of a contracted courier. The predominant form of courier use is the United States Postal Service (USPS) using the library rate (delivery time typically 7 days). For estimation purposes, assume per unit delivery cost is $1.35 per unit. Although, we did not calculate firm estimates on the packaging, we will estimate it at $1 per unit to include any packing materials and labor to prepare the package. The number of units delivered is estimated to be 8000 units.

The remainder of the interlibrary loan material is processed by the two in-house courier services (TRLN and WNCLN), with each of them processing more than 20,000 items annually. The costs here are based on actual expenditures for driver salary and benefits and vehicle operation and maintenance costs. This option does not include packaging costs since it is not required in this system. The actual per unit cost of each of these courier services is slightly higher than a $1 per unit

The projected estimates of a more rapid delivery process are based on continuing the current courier services with no increase in delivery capacity needed. It is assumed other deliveries will increase by 25% and the delivery costs are based on shipping a 2 lb package from Raleigh to Boone using UPS Ground at $7 per item. We will assume that a contract will allow a reduction in rate by 25% to a per item rate of $5.25. Packaging costs will remain at $1 per item.

Internal Barriers (within UNC System):
While the increased delivery speed will enhance effectiveness of the interlibrary loan system from the customer perspective, constituent institutions will incur higher costs associated with the improved delivery times. There may be resistance to incurring these higher costs without any added funding.

External Barriers (outside UNC System): Not Applicable

Description of Inter-Campus Coordination Required:
- Development or modification of policies and procedures for the delivery service.
- Associated online catalog request system would facilitate the use of the delivery service and would involve some implementation complexity.

Other Comments:

Recommendation: Go

Idea Number: 2
Idea Title: One Library Catalog System

Description of Current Situation:
Within UNC libraries, there are three library cataloging systems (10-III; 3-Sirsi; 2-Horizon) in use. However, there is currently no mechanism to easily search across all libraries' catalogs and request items.

Description of Improvement Idea and Impact:
Implement a virtual union catalog that supports searching and requesting across all UNC libraries. UNC libraries will implement this improvement using existing funds within their budgets.

Implementation Recommendation:
Contract with library vendor to provide this service and appoint a UNC-wide working group to implement the service.

Projected Implementation Time: December 2007

Advantages and Benefits:
Library users could access all 16 library collections with a single search, and request books not held in their home library. Technology now supports a *virtual union catalog*, offering the same functionality as a literal union catalog (i.e., a single database) at much lower cost and with a much shorter implementation period (3-4 months vs. at least 18 months). Coupled with a rapid statewide delivery service, these book requests could be fulfilled more quickly than they are currently.

Since the virtual union catalog is a service, the entire costs are contained in an annual subscription fee, $37,000 in year one, $39,000 year 2, $41,500 year 3. There are no hardware, software or dedicated staff costs. North Carolina users will be familiar with the interface because NC LIVE subscribes to the master database (OCLC WorldCat) on which the UNC system virtual extract would be based. The UNC virtual catalog could be expanded to include other North Carolina libraries, and custom profiles (e.g., all health sciences libraries) are supported.

The literal union catalog approach has a year 1 cost of approximately $575,000 for software/hardware, $20,000 for implementation and training, and $75,000 for dedicated staff support. Year 2 and year 3 costs, including software maintenance fee and staff, would be $145,000. (Note: the software cost is from a 2003 quote and may be higher).

Disadvantages and Risks:
- Annual cost of virtual catalog service setup and maintenance costs.
- Risk is service does not meet expectations
- Individual libraries cannot bear increased impacts on staff.

Potential Cost Savings:
- Improved service to users
- Lower costs associated with borrowing transactions.
- Implementation costs may be eligible for grant funding.
- Planning costs are eligible (and have received) such funding.

This idea can be implemented with existing resources among the UNC libraries and will not produce clearly identifiable cost savings. However, it will improve efficiency in the sharing of materials among the libraries. The successful implementation of the idea will provide a foundation necessary for other ideas presented to be effective in managing or reducing costs.

Internal Barriers (within UNC System): Staff training

External Barriers (outside UNC System): Not Applicable

Description of Inter-Campus Coordination Required:
- Data update and maintenance in vendor's database
- Coordination on request policies and procedures.

Other Comments:

Recommendation: Go

Idea Number: 3
Idea Title: Centralized Approval Contract for UNC Libraries

Description of Current Situation:
The majority of libraries within the UNC system individually profile books for approval plans through several different vendors.

Description of Improvement Idea and Impact:
Leverage buying power of UNC Libraries to negotiate best discount terms with one vendor.

Implementation Recommendation:
First, survey all UNC libraries to determine approval practices and ascertain individual library discounts. If it is determined to be advantageous to the UNC libraries, a contract will be made with an established vendor who can offer maximum discount, free shipping, and a sophisticated technical infrastructure.

Projected Implementation Time: Up to six months.

Advantages and Benefits:
All schools would benefit by the discounted materials. The several large research libraries already enjoy discounts of up to 18% and free shipping due to the volume associated with their plans. The larger UNC schools already utilize the same well established approval vendor which could reduce the barriers associated with implementation.

Setting up a centralized contract but allowing individual schools to control their own plans reduces the risk of not meeting core institutional research needs. The one-system contract would allow libraries to share their profile and ordering information. This contract combined with rapid delivery of library materials among the UNC system could help offset unchecked inflation pressures imposed on library book budgets.

Disadvantages and Risks:
Upfront costs include training on vendor ordering system, retooling profiles, and modifying workflows based on specific vendor services. Setting up a statewide process around one vendor could be risky if the vendor's financial status changes or if the terms are less advantageous during renegotiations. Attempts would be made to minimize risks when structuring the contract.

Potential Cost Savings:
The real savings of a centralized contract would be the extension of a preferred bulk volume deal to those universities making smaller purchases. A brief survey of 16 UNC campus library systems had the following results:

- The 7 smaller schools do not use book approval plans due to the size of their monographs budgets- FSU, NCCU, NCSA, UNCA, UNCP, UNCW, and ECSU. With their current arrangement, these schools realize a discount of 7% on their monograph purchases with total expenditures of $650,000.
  An approval plan is probably not appropriate for NCSA due to the nature of its program.

- The 9 remaining universities average a discount of approximately 17% with total expenditures of approximately $2,000,000
- 6 of the 9 use Yankee Book Peddler as their major approval vender: ASU, ECU, NCSU, UNCG, UNC-CH, WCU. Medical libraries appropriately use a specialized vendor.
- WCU is the only library using a "slip" approval plan (appropriate for a smaller book budget) and realizes a 13% discount.

This brief survey indicates that universities already using approval plans would not realize savings under a one-vendor contract. However, the smaller 6 university libraries that are not currently using approval plans might be able to take advantage of the contract if slip approval plans were implemented, resulting in a discount as high as 12-15% for these institutions. Based on the level of expenditures at the current discount of 7%, potential savings can be estimated as follows:

Monograph Expenditures at 7% discount	$650,000
Monograph Expenditures at 13% discount ($650,000/.93)*(.87)	$608,065
Potential Savings	$41,935

Internal Barriers (within UNC System):
- Staff training
- Established workflows based on institutional preferences
- Pre-existing agreements

External Barriers (outside UNC System): Not Applicable

Description of Inter-Campus Coordination Required:
- Agreement on vendor
- Contract negotiation
- Configuration decisions

Other Comments:

Recommendation: Further Study

Idea Number: 4
Idea Title: UNC Libraries Coordinated Purchasing of Electronic Resources

Background:
With the establishment of the UNC System in the early 70's, the UNC university librarians were the very first system-wide group to form and organize themselves to leverage their collective resources in order to increase content available to all through cooperative collection development and joint purchasing, facilitate and speed sharing of resources, share best practices, provide professional development system-wide and cost effectively, develop shared online catalogs, and extend information technology and digital library expertise. Due to this collaboration, they have sought and received substantial grant and other non-state funding to support their efforts. Arguably, ULAC (University Librarians Advisory Group) and the 16 libraries they represent have been most effective in leveraging their collective financial resources.

When joint licensing of e-resources became a possibility, ULAC embarked on a (pilot) project to examine ULAC's capability as a buying group and engaged a recently-retired, fellow director to coordinate the effort, research the resources, and negotiate joint pricing. After several years of effort, ULAC found that the 16 libraries differed too much in their purchasing areas (due to their institutions' different programs and missions) to have a successful all-ULAC buying group and that the best deals to be had were those with the largest number of participants. As a result, ULAC proposed the founding of NC LIVE to create a statewide buying club to include all UNC libraries, community colleges, private universities and colleges, and public libraries in the state. Its success is renowned and its purchasing power exceptional.

Description of Current Situation:
The UNC libraries currently participate in a variety of state and regional cooperative arrangements designed to help mitigate the continuous erosion of purchasing power caused by double-digit annual inflation in the cost of scholarly materials, minimize unnecessary duplication of print collections, facilitate sharing and delivery of print materials, and leverage the collective buying power of cooperative purchasing to expand the number of electronic resources available to users at each campus. Consortial experience has demonstrated that every $5 invested can net as much as $25 worth of content while also saving staff time in negotiating, licensing, managing, and hosting resources. Viewed in total, these consortial efforts demonstrate a long-standing history of and commitment to cooperative collection development and show that it can be achieved efficiently with low overhead costs.

The UNC libraries have an enviable record nationally and internationally for the degree to which they have already leveraged their collections resources, through consortial and joint purchases. In fact, they have maxed out the existing opportunities for such purchases. Only newly "published" or available resources present such opportunities and, in only a handful of cases are all of the institutions interested in purchasing the same resource.

Described below are the extensive consortial activities already undertaken. They consist of two basic types: the first being consortia created out of additional central funding to purchase electronic resources for a broad community as a cost effective means of expanding foundation-level content for users at participating institutions. NC LIVE is the primary example of such a consortium in North Carolina and has acquired resources worth $28 million at a cost of only $3.3

million. Power buying at the state level allows local libraries to best leverage their budgets to further enhance their collections and services. Every UNC library participates in and has access to all NC LIVE resources. In addition, NC LIVE is the only consortium that provides access to students and faculty at the North Carolina School for Math and Science at no additional cost.

The second is where institutions of common interest join together using their existing collections budgets to leverage buying power to reduce short and medium-term inflation rates and expand the amount of content available to their users. The Carolina Consortium and the Triangle Research Libraries Network (TRLN) are the primary examples of such consortia in North Carolina. By emphasizing specialized and relatively expensive academic content concentrated in the sciences and of equal interest to all its members, TRLN is able to provide over $11 million worth of journals and databases at a cost of only $4.5 million (TRLN invites other UNC libraries to join in purchases when there is interest). The Carolina Consortium offers a range of collectively bargained electronic resources for its members. All UNC system institutions utilize the Carolina Consortium to license over $35 million worth of content at a cost of $6 million.

In neither case do libraries see a significant reduction in pre-consortia costs as vendors and publishers are well aware of their revenue stream, and construct larger deals to protect and enhance that revenue stream. The major benefits to libraries in both cases are reduced inflation rates for electronic resources from the usual 9% annual average and expanded content available to students, staff, and faculty to increase productivity and scholarship. Existing customers with an individual subscription to an electronic resource will often see a reduction in cost when subscribing as members of a larger consortia, but those cost reductions are achieved through increased investment by new members or through central funding. For the entire UNC system to realize significant cost reductions, it would have to identify and focus on the consortial purchase of electronic resources where more than half of the members are ready to purchase. There are no currently identified resources of this description and interest. The vast majority of products with over half of the system subscribing are already covered by larger consortia with greater buying power such as NC LIVE and the Carolina Consortium.

> **NC LIVE** is a statewide, multi-type library organization incorporating public libraries (75 library systems, serving all 8.7 million residents of North Carolina), community colleges (58 campuses), private colleges and universities (36 campuses), and the UNC System (16 campuses).
> - Initiated in 1996-97, largely through the efforts of the library directors at the UNC institutions, NC LIVE provides a rich collection of electronic resources that serve the educational goals of its diverse population.
> - Complemented by content that facilitates cultural enrichment, NC LIVE helps individuals in matters such as job seeking and health care, and serves as a strong positive force in the economic development of the state. The great majority of the collection is academic in nature.
> - All NC LIVE resources are available to all classes of users, at a fraction of what it would cost for each institution to license them separately and the level of use of these resources continues to increase each year.
> - Provides the large majority of libraries in NC LIVE, including some libraries in the UNC system, the ability to license this content that would not be available using their own financial resources.

- Provides an array of electronic resources including complete articles from over 16,000 newspapers, journals, magazines, and encyclopedias, indexing for over 25,000 periodical titles, and access to over 25,000 online print and audio books.
- Funding for the NC LIVE collection, with the exception of the independent colleges and universities, does not come from the budgets of the participating libraries but through separate, state-appropriated line items. NC LIVE provides a baseline level of access, and participating libraries acquire in-depth resources to meet the more specialized needs of their users, often through other group arrangements that maximize value for the cost.
- Allows local libraries, through power buying at the state level, to leverage their budgets to further enhance their collections and services. NC LIVE has acquired resources worth $28 million at a cost of only $3.3 million.

The **Carolina Consortium** is a multi-state initiative that enables academic libraries in North Carolina and South Carolina to use their bulk purchasing power to obtain favorable pricing on a variety of electronic resources that are of significant interest to the scholarly community.
- Leverages collective purchasing power, but does not include any central funding sources above individual library collections budgets.
- Run largely by staff at UNC system libraries.
- Offers interested members approximately 40 deals on a variety of content and services.
- Provides the UNC system alone over $35 million worth of content for about $1.5 million. Provides approximately $80 million worth of content for the cost of about $5 million, to 108 state schools, independent colleges and universities, and community and technical colleges in North and South Carolina
- Includes all UNC system libraries as participants in at least one consortial offering.

The **Association of Research Libraries (ASERL)** and the **Southeastern Library Network (SOLINET)** are regional consortia that work collaboratively to negotiate with vendors to offer member institutions, including all 16 UNC system libraries, electronic databases and electronic books at reduced rates. These are buying clubs.
- Leverages collective purchasing power, but does not include any central funding sources above individual library collections budgets.
- Offers interested members potential deals for hundreds of electronic databases and thousands of electronic books.
- Includes all UNC university libraries as members.

UNC system subsets are ad hoc groupings of a number of UNC libraries on a discipline-related basis to act as a buying club to acquire e-resources jointly. Examples of e-resources acquired jointly: Engineering Index, IEEE, SciFinder Scholar, and ScienceDirect.
- Leverage collective purchasing power. One institution takes the lead on negotiating and licensing.
- Offer interested members potential deals

- Open to any interested UNC library, and can include all 16.

The **Triangle Research Libraries Network (TRLN)** is a collaborative organization of Duke University, North Carolina Central University, North Carolina State University, and University of North Carolina at Chapel Hill, the purpose of which is to marshal the financial, human, and information resources of their research libraries through cooperative efforts in order to create a rich and unparalleled knowledge environment that furthers the universities' teaching, research, and service missions.

- Leverages collective purchasing power, but does not include any central funding for collections above individual library budgets.
- Emphasizes specialized and relatively expensive academic content concentrated in the sciences and of equal interest to all its members.
- Negotiates large electronic journal packages on terms favorable for research libraries to provide shared access to over 1,600 electronic journals and 7 databases for its member institutions and their users.
- Provides to all TRLN member institutions expanded content that would cost each an additional $1.5 million, or $6 million total, if purchased individually.
- Licensed through TRLN, members collectively paid over $4.5 million for scholarly content comprising 13% of their combined collections budgets.
- Realizes over $300,000 in annual savings for its members and reduces the average inflation rate from 9% to 5% on cooperatively purchased electronic resources.
- Emphasizes building complementary collections that reflect the strengths of each institution and provides services, such as delivery, to provide access to collections of greater breadth and depth than one institution could provide.
- A recent comprehensive study identified 71% of titles held within TRLN as unique to one institution.

NERL is a buying club that, because it includes all of the large private universities in the Northeast, e.g., Harvard, Yale, Princeton, obtains very advantageous terms.

- Licenses, but does not fund, centrally.
- Administrative fee is assessed per resource in addition to subscription fees.

ATLAS Consortium is a national group that gets a discount on EBSCO ATLAS.

The digital age has expanded the boundaries of cooperative efforts to leverage technology for shared access to online collections, realize the power of collective bargaining, and provide opportunities for searching across multiple library collections. There are a number of existing opportunities, with low-overhead and minimal centralized costs, for each system library to bargain and purchase collectively. Viewed in total, these consortial efforts point to a rich and long-standing network of collaborative collection efforts by UNC system libraries.

Description of Improvement Idea and Impact:
The committee started with the ideas of creating a new central buying group for the UNC libraries or expanding the titles purchased by NC LIVE. After much discussion and debate within the committee, the initial ideas were changed to encourage UNC libraries to continue to seek ways to leverage the collective buying power through consortial relationships with each

other or other institutions as mutual needs and funding will permit. It was clear from the discussion the NC LIVE consortium provides a very large percentage, if not all, of the common needs of the institutions. It does this effectively with large cost savings to the individual libraries. For the remainder of material to be considered, the centralized approach is not necessarily the most cost effective approach since the titles will be of interest to smaller subgroups depending on mission and programmatic offerings. It is more cost effective to allow individual subgroups to align themselves with each other and perhaps schools with like interests outside the system to leverage buying power.

Implementation Recommendation:
Since the opportunity for the UNC libraries to increase their joint purchasing lies with future acquisition of newly-available resources and the most effective buying club with the greatest purchasing power is NC LIVE, ULAC is encouraged to seek ways to expand NC LIVE to grow its collective electronic resource base beyond its current levels. In particular, ULAC is encouraged to seek additional support that could provide added academic content in system-wide high-priority programs and curricula in nursing, allied health sciences, business, math and science education, biotechnology, nanotechnology, computing, and related fields.

Projected Implementation Time: Fiscal Year 2008

Advantages and Benefits:
- Increased academic content in priority areas.
- Additional electronic resources drive educational initiatives and economic development in core areas across the state.
- Improved efficiency and productivity by faculty and students.
- Cost containment on some electronic resources.

Disadvantages and Risks:
- Purchasing academic content across communities of interest that include public and small college libraries.
- The potential to enter broad agreements that do not meet local needs or provide necessary budgetary and content flexibility.

Potential Cost Savings:
Past efforts in this area clearly indicate that consortial buying allows very beneficial investment of funds to the benefit of faculty and students. The libraries annually acquire over $75 million in e-resource content (if purchased individually) with approximately $15 million in funding. However, it is hard to estimate what future savings may be achieved since they are highly leveraged in these consortial arrangements currently.

Assumptions Associated with Cost Savings:
The most significant assumption associated with future savings is that the group can find new titles for which there is sufficient common interest to invest through the NC LIVE consortium.

Internal Barriers (within UNC System):
- Additional funding to support new collaborative purchasing arrangements of electronic resources.

- Meeting the unique needs of large groups of UNC campuses through central selection of content.
- Differentiating true need for an e-resource from "nice to have" need.

External Barriers (outside UNC System):
The publisher/vendors business models make the process very challenging. Many online resources use more than one model to determine price; others may offer a choice between two or more models. It should be noted that, even less than is the case in pricing print subscriptions, the pricing of online subscriptions is not directly tied to production costs and varies widely within and across publishers. Pricing may be based on any of the following criteria

- FTE (number of full-time equivalent students)
- FTE of sub groups within the University (may specify academic departments and include faculty, graduate students, and post docs)
- Number of simultaneous users
- Carnegie Research Library Tiers
- Existing Memberships
- Library's Acquisition Budget
- Surcharge to current individual subscription (where access has a one to one relationship to a journal and continuation of the subscription is required)
- Surcharge to all subscriptions from a given publisher (where access to the publisher's entire collection is made available in exchange for the promise that no titles will be canceled)
- Current subscription to other resources offered by the publisher.

Even with the bargaining power of large consortia, publishers of electronic resources are regularly able to obtain price increases, as much as 20% in some major subject areas.

Description of Inter-Campus Coordination Required:
NC LIVE provides a base-level of negotiating licenses, providing technical support and development, enabling access across the system and state, and selecting electronic resource content for collaborative purchase. Increased licensing through NC LIVE would require increased support for and coordination among all of those functional areas, particularly for selecting content and negotiating licensing.

Other Comments:

Recommendation: Go

Idea Number: 5
Idea Title: Remote Storage Facility for Library Materials

Description of Current Situation:
University libraries count among their most important responsibilities the selection, maintenance, and preservation of materials that support campus-wide research and teaching programs. Although electronic resources have become increasingly commonplace, their availability has not yet markedly reduced the volume of materials being printed, and UNC Libraries are rapidly running out of space in which to house past, current, and future acquisitions. The results are stacks that are filled to overflowing, makeshift temporary storage of some items in less than ideal conditions, and loss of reader spaces to additional shelving.

Description of Improvement Idea and Impact:
We recommend the construction and operation of a cooperative state-wide storage facility. The facility would be a secure, climate-controlled storage space, using high-density shelving to store volumes transferred from the local collections of UNC libraries.   The appropriate size and operating structure for such a facility should be determined using data from a study of currently existing shared storage facilities such as the California Northern and Southern Regional Library facilities (NRLF and SRLF), the Washington Research Library Consortia (WRLC), and the Research Collections and Preservation Consortium (ReCAP) made up of Princeton, Columbia and the NY Public Library; a study of the collection development projections for the next 20 years at each of the system campuses, and a survey of current campus library space conditions. While such data will provide much more accurate planning information, we estimate the need for an 8 million volume facility.

The facility would contain lesser used books and journals and, space permitting, might also include cold storage for selected archives, special collections, microforms, motion pictures, photographs, and magnetic media. All circulating materials would be accessible to library users via electronic document transmission, retrieval and delivery (with an estimated two-day turnaround) of the volume itself to the requesting library, and/or use on-site in specially designated user space. The center would develop and maintain a database of its holdings, searchable and retrievable by any UNC library.

One of the immediate impacts would be the ability on some campuses to revert previously consumed student space used to make room for additional library stacks back to student-centered learning areas. In addition, smaller libraries would have more direct access to the stored collections of the larger research libraries, and duplication of titles stored by several libraries would be reduced or even eliminated. Other impacts include enabling users to more easily locate current, high-demand materials in their own libraries and to once again provide the ability to browse particular subject areas.

The long-term impacts would include better preservation of all stored materials than is possible in many existing library facilities, increased cooperation among UNC system libraries in developing and maintaining collections, and economies of scale in constructing and operating a state-wide storage facility rather than creating multiple local storage facilities.

Implementation Recommendation:
A representative group consisting of selected librarians, university administrators, faculty, and others should work together to plan the facility, its operation and governance. Smaller, more specialized working groups would work out the details. The State would be responsible for financing the purchase of land, construction of the facility, and providing ongoing financial support for operations and staffing.

Projected Implementation Time:
We recommend that initial work on this project begin in the 2007-2009 biennium. Planning and construction should take approximately 24-30 months. Upon approval of the project, the system-wide working group described above should be appointed, and soon after each library should begin the process of identifying and preparing items to be transferred.

Advantages and Benefits:
- It is less expensive to build and operate a shared state-wide facility than to build (or rent) and operate multiple smaller facilities.
- An environmentally sound storage facility will help ensure the long-term preservation of, and access to, millions of dollars worth of assets.
- Special collections materials will benefit from better climate control
- This facility will permit a more efficient use of existing system library space. For example, space previously used for stacks can provide much-needed student study space
- Materials not in storage will be more accessible in libraries
- State-wide planning for storage will enhance intercampus cooperation.
- Materials stored by other libraries in the facility will be easier to identify and retrieve.

Disadvantages and Risks:
- Although there will be economies in the long run, the initial investment in construction and property will be significant.
- Students and researchers have an expectation that all materials should be immediately available.
- Because of prevailing assumptions that everything is available electronically, it may be difficult to successfully convey the need to construct a storage facility for print materials. Publishing of print continues unabated, however, and some older materials will never be scanned or digitized.
- The success of the storage program will be jeopardized if materials are frequently recalled from storage for circulation, since processing and transportation costs associated with a circulation significantly increase the per transaction cost. Criteria are needed in order to return materials to library stacks in case circulation is above a minimum threshold.

Potential Cost Savings:
Future cost avoidance would accrue in several areas as a direct result of limiting the number of facilities to be leased or constructed. Land and constructions costs (or lease costs), fewer staff, reduced ongoing operating costs, and elimination or increased minimization of duplicate titles are all areas for potential cost savings. In addition, an environmentally sound storage facility

would help ensure the long-term preservation of significant, accumulated investments in collections.

Initial Cost for Central Facility (Land, Construction, AIRS, Transfer)	$25.0 million
Initial Cost for Single Leased Facility (AIRS, Transfer)	$ 4.0 million
Initial Cost Savings (Investment)	($21.0 million)
Annual Operating Cost Central Facility	$ 1.5 million
Annual Operating Costs for Single Leased Facility (includes lease)	$ 3.5 million
Annual Cost Avoidance	$ 2.0 million

Assumptions Associated with Cost Savings:
It is less costly to construct storage facility space than to construct library space, and real estate will cost less in a central (possibly rural) location rather than on campus or in town. Savings will be realized by building a shared facility rather than building or leasing individual campus storage spaces. The use of multiple sites is assumed to be higher in both operating and initial construction to store a similar volume of items. Materials housed in such a location with specialized storage capability will last longer and be in better condition than materials packed on overcrowded library shelves or in locations that lack the proper temperature and humidity control. The recent mold infestation at the NCCU Shepard Library attests to the damage that such conditions can cause.

A review of existing regional facilities and long-term collection projections will provide the information needed to help develop meaningful cost estimates and potential savings. However, listed below are estimates of anticipated expenses in comparing the lease versus construction of one central facility

- Land purchase ($1 million)
- Construction costs ($20 million)
- Automated inventory and retrieval system (AIRS), including hardware ($2 million)
- Initial transfer (including transportation) costs at $.50 per volume assuming 4M volumes ($2 million)
- Ongoing operations costs such as staffing, delivery contracts, utilities, repair and maintenance of equipment, equipment replacement, utilities, etc ($1.5 million annually) for a central facility.
- Annual leasing costs average $.25/volume at 8 million volumes ($2 million) based estimated lease cost at Duke facility

While the costs listed above are based on constructing a new facility, another possibility is retrofitting an existing facility. Costs would depend upon the acquisition price as well as the current condition of the facility. Assuming a facility of sufficient height and foot print can be obtained, it is likely such a facility would require significant HVAC renovation, the purchase and installation of high density shelving and an automated retrieval system. It must also be able to support the weight of fork lift traffic as well as the weight of fully-loaded high-density shelving that stacks approximately 30 feet high. As with the construction of a new facility, ownership of

a retrofitted facility will also require annual operating costs for facility maintenance, grounds keeping, utilities and telecommunications listed above.

Internal Barriers (within UNC System):
- Libraries may initially be concerned about loss of control of portions of their collections.
- Faculty and students generally prefer to have library materials close at hand.
- Substantial effort will be required by each library to identify and transfer the items to be stored, change online catalog records, and initiate new processes for storage retrieval.
- A two-day turnaround for delivery may be considered unacceptable by some library users.

External Barriers (outside UNC System):
- The need to invest significant initial start-up and ongoing costs for constructing and operating the facility may be a hard sell.
- The public may have the misguided perception that with the advent of electronic information, printed resources are no longer being published and/or are no longer necessary.

Description of Inter-Campus Coordination Required:
Considerable inter-campus coordination will be required to make this project a success. First, there will need to be agreement on the basic administrative organization and arrangement of the facility and its governance. Cooperative planning, coordination and attention to details of such issues as processing of materials, retrieval and loan policies, and collection management will be required. Schedules for fair, equitable, and practical initial and ongoing transfers of materials from the respective libraries will need to be created, and mechanisms will need to be set in place for system-wide evaluation and modification of facility practices and procedures as needed. Success of the project will require participation and buy-in by UNC General Administration, university administrators, librarians, faculty, and students.
Recommendation: Go

Idea Number: 6
Idea Title: Central Electronic Records Management (Archiving)

Description of Current Situation:
There is an urgent need and legal requirement for a more systematic approach to electronic records management that would enable the system to maintain business continuity and mitigate enterprise risk, meet its legal requirements for records retention, and respond to large-scale disasters. Entities on each campus create electronic records, data, and administrative documentation with legal requirements for retention. Grant funding for example, has federal legal requirements for the retention of data and research documentation. Campuses lacking electronic records management programs to meet their legal obligations place such funding at risk as an increasing percentage of records are kept electronically without print equivalents.

Established and operating records management programs are virtually non-existent on some of the 16 campuses, and at the few institutions that have staff dedicated to records management, e-records management is hardly undertaken. There are a few campuses that may include scattered scanning operations and planning for an institutional repository. Because of the lack of current e-records management operations, savings from this idea should be characterized as avoidance of future decentralized costs rather than reallocation of reduction of existing resources. Enterprise systems do exist - it is also important to keep in mind that the centralized management of such a system, including implementation, vendor relations, configuration, training, user support, and systems support are not trivial. There are also unquantifiable costs associated with legal liability, accountability, and business efficiency that would potentially be reduced if a system were implemented and fully operational.

It is also important to recognize that while a more systematic approach to electronic records management is urgently needed across the system, that same approach applies to records management for all forms and formats of University records and that electronic records should be handled as part of a comprehensive approach to records management rather than as a separate activity.

Description of Improvement Idea and Impact:
The improvement idea is to approach the need for records management using an enterprise system-wide solution rather than each campus addressing the issue separately. A central system would leverage and expand existing technical infrastructure, storage capacity, and systems development and provide a more cost-effective solution.

Implementation Recommendation:
Establish system-wide records manager positions charged to create a plan and lead the process of establishing inclusive electronic records policies and technical infrastructure for the system. Technical and support staff positions would also be required for start-up and ongoing implementation.

Projected Implementation Time: Fiscal year 2008.

Advantages and Benefits:

- Increased capacity for systematic management and disposition of electronic records to efficiently meet each institution's administrative, legal, business continuity, and disaster preparedness requirements.
- Centralization of records storage, with better access tools to promote greater and more efficient use of these materials.
- The release of considerable space throughout the system.
- The removal of duplicate records management infrastructure on individual campuses (where existing)
- The records management profession is one with very high salaries and concomitant low supply. Centralized staffing will significantly reduce the cost of the UNC effort.
- Because content issues are not discipline-based and do not tend to be local, records management lends itself to enterprise-wide solutions more than any other archival or library area.

Disadvantages and Risks:
> Need to coordinate with a very few existing campus programs

Potential Cost Savings:

Initial Cost (One Centralized System)	$ 1 million
Initial Cost (16 systems @ $1,000,00)	$16 million
Initial Cost Avoidance	$15 million
Annual Operating Cost (One Centralized System)	$16 million
Annual Operating Cost (16 @ $2,000,000)	$32 million
Annual Cost Avoidance	$16 million

Assumptions Associated with Cost Savings:
> Costs associated with the creation and ongoing operation of an electronic records management system were estimated based on discussions between UNC-CH University Archives and UNC-CH Information Technology Systems (ITS). It is a best estimate for the creation of such an operation at a large research university, and includes hardware, software, and staffing: an electronic records officer with support staff, as well as ITS staff with the skills necessary to support the system. For a large institution, the operating cost is estimated to be $2-$3 million. It is estimated the necessary start-up costs for all of the institutions would be similar (approximately $1 million), however, ongoing costs would be less for small to medium-sized universities ($1-$2 million).

> For the purpose of estimating cost, we will use an average figure of $2 million for each institution. This annual figure excludes initial start-up cost for hardware and software, which will approach $1 million per site. A centralized electronic records management program would result in significant savings from that projected investment and allow each campus to meet its legal obligations, mitigate enterprise risk, and maintain business continuity for at least 50% less than the investment in a decentralized system. The centralized system operating cost figures are based on the assumption costs will be 50% of the cost of operating 16 separate systems.

Internal Barriers (within UNC System):
- Central funding to support a centralized electronic records management program.
- Developing consensus on the scope and priorities for a centralized program.
- Implementing the necessary software systems.
- Required campus staffing to serve as liaison with the central site

External Barriers (outside UNC System):
Software systems to support electronic records management are in their early stages.

Description of Inter-Campus Coordination Required:
- Agreement on system-wide retention schedules and guidelines.
- Coordinating the implementation of technical infrastructure and software systems.

Other Comments:
While the focus of this idea has been on electronic records, it was mentioned earlier that electronic records is only one part of the records management area. A systematic approach to dealing with paper records is necessary to the meet the same regulatory guidelines described above. It should be noted that an enterprise-wide approach would be the most effective method of addressing the issue of records management for all campuses.

Recommendation: Further Study

PACE
Auxiliary Services Working Group

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Auxiliary operations are distinct from other areas being studied by PACE working groups in that their operations, and in large measure their capital costs, are supported solely by receipts generated by the operations. In addition, the scopes of these operations are restricted by the Umstead Act (GS 66-58, Government In Business), originally enacted in 1929 to prohibit state agencies, including universities, from competing with private business. It is of note that these restrictions flow through to the contractors who operate and manage covered activities for universities (including bookstores and dining programs). The Umstead Act also prescribes that the net revenues of campus store operations must be used "exclusively for awarding scholarships to defray the expenses of students attending the institution."   The use of net revenues of dining and vending operations is governed by GS 116-36.1, G.S. 116-36.4, G.S. 143-12.1 and implementing policies adopted by the Board of Governors. The approved uses include replacement of the operation's facilities and equipment, debt service, support for a list of approved student activities, and scholarships.

Although the proceeds of auxiliary operations cannot be transferred to support core functions, it is nevertheless important that costs be controlled and revenues maximized to the extent possible within statutory requirements. The costs to students of some of these operations are viewed as part of the overall cost of attendance at the institution, and the scholarship revenues they generate can be an important consideration in the setting of tuition policy. The Auxiliary Services working group analyzed the revenues, costs, and other defining characteristics of the dining, vending, and bookstore operations at each of the 16 campuses. Recommendations for each of the areas are included in the white papers. To facilitate understanding of the recommendations for each of these areas, one-page background papers are provided that describe the operating environment for each of these programs on college campuses.

Auxiliary Services Working Group
White Paper Summaries

Vending

Vending Revenue Enhancement
Background: Each of the 16 campuses contracts for drink vending services, 15 with local bottlers affiliated with Pepsi or Coca Cola. The collegiate age group is the primary target market for the worldwide corporations, which supplement local bottlers' bids to varying degrees depending upon the school and the contract terms. The drink vending contracts for the campuses were analyzed, and the primary revenue drivers were identified as degree of contract exclusivity, availability of campus debit card readers as a payment mechanism, and product price. Only one contract currently contains all these factors. Revenues system-wide could be increased by over 25% if all contracts included all factors. Revenues system-wide could be increased by over 12% without price increases.
Idea: Campuses should include as many of these factors as possible in their beverage vending contracts.
Work Group Recommendation: Go

Vending Regulatory Relief
Background: Legislation passed in 2004 requires that all local school administrative units, community colleges, and universities competitively bid contracts for the sale of juice and bottled water, separately from each other and from any other contract, including contracts for beverages or vending machine services. This legislation prohibits the campuses from soliciting proposals for exclusive beverage vending contracts. The potential loss to the campuses in the system currently having exclusive vending contracts is estimated to be $1.826 million per year. Four campuses have exclusive contracts expiring in the summer of 2007.
Idea: Repeal G.S. 143-64.
Work Group Recommendation: Go

Dining

Dining Systemwide Contract
Background: All campuses provide comprehensive student dining programs, 14 have contractor-operated programs and 2 have self-operated programs. The contracted programs are operated by 4 different vendors, 3 of which have contracts for multiple campuses.
Idea: Establish one system-wide dining contract. Only 1 state has ever implemented a system-wide dining contract, and has abandoned that model. Interviews with consultants and senior managers of companies that provide contract operation services, and review of a comprehensive study done for one state, identified no savings, potentially increased costs, and increased risk from a system-wide contract. In addition, many existing contracts do not expire until the 2013-2015 time frame.
Work Group Recommendation: Hold exploratory conversations with vendors.

Dining Best Practices
Background: All campuses provide comprehensive student dining programs, 14 have contractor-operated programs and 2 have self-operated programs. Detailed information regarding dining program operation was collected from each of the 16 campuses, particularly focusing on the areas of contract terms and customer satisfaction. The working group identified contract terms that could generate additional revenue or cut costs, steps that could improve customer satisfaction, and campuses with significant expertise that could be leveraged to improve programs at other schools. The potential increases in revenue and decreases in costs range from $1,500 to $150,000 per year depending on the measure and the size of the school.
Idea: Establish a system-wide Dining Best Practices Committee to develop a list of best practice contract terms, a set of financial dashboard indicators, a uniform dining customer survey, and an outline for a comprehensive dining program master plan. Optional peer review services also could be offered.
Work Group Recommendation: Go

Bookstore

Self-Managed Textbook Buyback
Background: Ten campuses self-operate their bookstores. Only one of these self-manages textbook buyback. Others utilize wholesalers, largely because of lack of cash. The wholesalers buy back books on behalf of the school and then purchase the remainder for their own inventories, paying commissions to the schools on their purchases. If textbooks are sold to wholesalers, then later adopted, the campus buys back the books for 2 to 5 times the amount the student was paid. Increasing adoptions by the buyback date, and self-managing buyback could increase prices paid to students and also increase revenues to bookstores.
Idea: Form a consortium of self-operated stores to self-manage buyback, including buying back and holding for up to a year textbooks that have not been adopted for upcoming terms by the buyback date. The required initial investment could be recovered in two years. Issues regarding storage space, transportation, overhead to actively manage the stored books (to prevent losses from holding too long), and so forth, need to be researched in detail before the feasibility can be accurately assessed.
Work Group Recommendation: Further study.

Leveraging Large Self-Operated Store Efficiencies
Background: Creation and analysis of common size financial statements for the self-operated stores showed that not all stores are profitable, not all provide scholarship support, and not all have adequate management/accounting software. The two largest self-operated stores are consistently strong performers against national benchmarks and in contributions to campus scholarships.
Idea: Leverage the expertise of the large stores to improve net revenues and scholarship contributions by creating alliances between large and small stores. The large stores could operate smaller stores as satellites or perform their back-office operations. If smaller stores reached the national median in net income percentage for their size, bottom line revenues would increase by about $350,000.

Work Group Recommendation: Go

Contract Store Best Practices
Background: Six campuses contract bookstore operations, with contracts providing commissions as a percentage of gross sales, sometimes with a minimum guarantee, and normally with escalating percentages over the life of the contract. Commissions vary, and at some campuses the contractors have made facility investments.
Idea: Establish a best practices group of campus administrators with bookstore oversight to identify best practices contract terms, create metrics, and establish performance expectations. Use the expertise and financial data from the self-operated stores during contract negotiations. Financial benefits will vary by campus.
Work Group Recommendation: Go

Bookstore Regulatory Relief
Background: State sales tax holiday legislation caps textbook prices at $100, the dates of the sales tax holiday do not correspond with the start of the fall semester, and there is no comparable benefit for the spring semester.
Idea: Amend G.S. 105-164.13 to exempt textbooks from sales tax, or amend G.S. 105-164.13C to remove the textbook price cap and establish sales tax holidays that more closely correspond with the start of the fall and spring semesters. Estimated savings to students from a complete sales tax exemption are $4 million annually at all system schools. Estimated savings to students from removing the cap, moving the fall holiday closer to the start of the semester, and establishing a spring holiday are $1.5 million.
Recommendation: Go.

Trademark Licensing Registration
Background: Five campuses do not have trademark licensing programs, some or all of these may not have registered their marks.
Idea: Each campus should register its marks (school name, seal, athletic team name, mascot). A systemwide contract for legal services already exists. Cost for registration is about $2,000 per mark. Each campus should investigate the feasibility of implementing a trademark licensing program, utilizing one of the national companies specializing in this area. Estimated annual revenues for those schools without programs are between $750 to $11,000 depending upon the school.
Recommendation: Go.

Bookstore Background

Each UNC campus operates a bookstore, 10 are self-operated and 6 are contract-operated. The campus stores focus on service delivery, convenience and special campus needs (for example, medical instruments and/or distance education materials) because the same merchandise, including textbooks, is available via the internet or from privately-operated bookstores located in most communities. The Umstead Act tightly controls the merchandise that may be sold and the disposition of the net proceeds. Umstead Act requirements flow through to contract operators.

National corporations that contract-operate college bookstores have an operating model that can be advantageous depending upon the profile of the individual campus. The core competency of these stores is course materials. Their parent corporations also own used book wholesalers, and they can provide access to quantities of used textbooks that a small-to-medium sized self-operated store may not be able to achieve on its own. Thus, contract stores can be a good fit for campuses where textbooks represent a high percentage of sales. The contract operators also have national agreements for insignia merchandise, and a portfolio of standard designs that can be of value to schools without significant trademark licensing programs. They provide competent on-site management and professional back office operations. They can provide bookstore facility design services, and they can serve as a source of investment capital for campuses that cannot or choose not to self-finance their own capital improvements.

Contract-operated stores rarely, if ever, serve medical schools, meet sophisticated computer program requirements, or operate textbook rental programs. Thus, they likely are not the best fit for a campus that has a medical school, or significant allied health programs. Similarly, a campus with a mandatory computer requirement or significant computer sales likely is better off with a self-operated bookstore. Campuses that have licensed a wide variety of insignia merchandise manufacturers through their trademark licensing programs have no need for a contract operator's product line, and likely would prefer not to sell those designs. Similarly, self-financing capital improvements using tax-exempt rates is preferable to contractor financing (which has associated minimum rate of return requirements and normally is taxable) if the campus has adequate cash or debt capacity. There is not a one-size-fits-all answer to the question of whether it is better to contract-operate or self-operate a college bookstore. This is a decision that each campus must make for itself. In the UNC system, both campuses with medical schools, both campuses with significant computer sales, and the three campuses with textbook rental programs all have self-operated bookstores.

National organizations like NACS (National Association of College Stores) and ICBA (Independent College Bookstore Association) provide member services, which include networking and educational conferences, newsletters, benchmarking data and trade shows. For example, recently NACS has joined the Council for the Advancement of Standards in Higher Education (CAS) to begin the process of developing a set of professional practices for the college store industry. NACS wants to ensure that college store professionals not only attain operational success, but also carry out the academic

mission. Both self-operated and contract-operated stores benefit from utilizing national benchmarking data and striving for a competitive position within their store size categories.

Regardless of whether a bookstore is contract-operated or self-operated, the pricing of textbooks is a national issue and was the focus of an in-depth study by the Board of Governors during the 2005-06 year. Recommendations from that study were disseminated to the 16 campuses and reports from each campus on the implementation of these recommendations are due by the end of 2006.   The Auxiliary Services working group supports the Board of Governors' recommendations, which focus on reducing the cost of textbook purchases for students.

Bookstore

Working Group Name: Auxiliary Services
Date: September 29, 2006

Title: Best Practices – Contract Stores

Description of Current Situation: Six stores in the UNC system are contract operated, 3 by Follett and 3 by Barnes and Noble. The gross sales for these stores range from $1.7 million to $6.3 million. Contract structures include commissions as a percentage of gross sales, sometimes with a minimum guarantee, and normally with escalating percentages over the life of the contract. The commission revenues are not fully available for contribution to scholarships, campuses must pay costs associated with the bookstore operation that are not paid by the contractor (such as utilities, fixture and equipment replacement, and debt service), which vary from one campus to the next. Campuses with contract-operated stores are largely indifferent to contractor costs other than textbook costs, because they receive commissions based on top line revenues and the contractors are responsible for any losses. The primary concerns for contractor-operated campuses are costs to students and revenues for scholarship payments.

Contract commissions and financial results across the contract-operated stores vary:
- Sales per FTE student vary between $266 and $486.
- Textbook sales range from $1.5 million to $5.5 million.
- Textbook sales as a percentage of total sales are high at all schools, varying from a low of 76.0% to a high of 90.3%.
- Four campuses make contributions to scholarships, two do not.
- Contract terms vary across the campuses, even for stores managed by the same contractor.
  - Contractors have made investments in facilities at 3 of the 6 schools.
  - All contracts have commissions that escalate as sales increase. The commissions on the lowest sales tier vary from 7.1% to 9.0%. Commissions on the highest sales tier vary from 9.1% to 13.0%.

Improvement Idea: Contract stores, including campuses that are considering conversion from self-operation to the use of contractors, would benefit by the establishment of a "Best Practices" system-wide working group comprised of campus administrators with bookstore oversight. This working group could establish desired contract terms and metrics – not just for commissions, but for expectations regarding adoption rate percentages, gross margins, textbook availability at the start of each semester, percentage of used textbooks available, buyback operations, student feedback mechanisms such as surveys, computer sales, branding opportunities, financial reporting, store appearance, marketing efforts, scholarships and other aspects of operations. Contracts may also include performance expectations with which to monitor contractor income and provide for revenue-sharing opportunities. In addition, this working group should collaborate with the self-operated store managers to leverage the financial data from self-operated stores during contract negotiations.

Advantages and Benefits: Efficient delivery of contract-operated bookstore services while protecting the interests of campuses and students in the delivery of these services. Enhanced campus oversight of contractor operations through clarification of financial and reporting expectations. Contract terms that are advantageous to both the contractors and the campuses.

Disadvantages and Risks: National contractors may oppose the sharing of financial data with other contract stores operated by their competitors. Contract terms are driven by regional and campus differences and attempts to define "boilerplate" contract terms will disadvantage some stores.

Source of Idea: Working group.

Estimated time of Implementation: An effective "Best Practices" working group can be established by Spring 2007. Two campuses have contracts with expiration dates in 2007. Those contract negotiations will be enhanced by the establishment of minimum contract standards, financial reporting expectations, and use of leveraged information from other system bookstores along with national benchmark data.

Affected Activities: Contract-operated bookstores.

Financial Estimate of Idea Effects: Financial benefits will vary campus-by-campus. For example, if contract stores could negotiate for limits on new textbook gross margins, students would directly benefit. Theoretically, on every $500,000 of new textbook sales a 1% gross margin reduction would provide $5,000 in savings to students. Campuses must balance gross margin reductions against commissions used for expenditures not included in the contracts and scholarship payments. Analyses are required store-by-store to evaluate the long-term impacts of such changes.

Recommendation: Go

Bookstore

Working Group Name: Auxiliary Services
Date: September 29, 2006

Title: Bookstore Regulatory Relief. Amend G.S. 105-164.13 or G.S. 105-164.13C (and as amended 10.01.03)

Description of Current Situation: G.S. 105-164.13 exempts from state retail sales and use tax all meals and food products served to students in dining rooms regularly operated by State or private educational institutions or student organizations thereof (http://www.ncleg.net/EnactedLegislation/Statutes/HTML/BySection/Chapter_105/GS_105-164.13.html Item 27), but does not exempt textbooks sales to students except during the sales tax holiday. G.S. 105-164.13C (and as amended 10.01.03) provides a retails sales tax exemption for certain items of tangible personal property sold between 12:01 A.M. on the first Friday in August and 11:59 P.M. the following Sunday.

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§ 105-164.13C.  Sales and use tax holiday.
  (a)The taxes imposed by this Article do not apply to the
following items of tangible personal property if sold between
12:01A.M. on the first Friday of August and 11:59 P.M. the
following Sunday:
        (2)  School supplies with a sales price of one hundred
             dollars ($100.00) or less per item.
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Many textbooks now required at North Carolina colleges and universities exceed the $100 limit established by the Sales Tax Holiday Statute (http://www.dor.state.nc.us/taxes/sales/salestax_holiday.html). Also see List of Selected Items and Their Taxability Updated April 2006 and Sales and Use Tax Technical Bulletin Section 34-25 - Sales Tax Holiday .

A major collegiate bookstore chain operator indicates that 15.1% of the textbooks (in units) and 18.5% of textbooks (in dollars) adopted and provided through its collegiate bookstores nationwide have a retail price greater than $100. Information compiled by UNC Charlotte for the 2006 fall semester indicates that this percentage may be even higher. The majority of these higher cost textbooks support instruction in math, science, technology, medical, allied health, and engineering curricula. Students in these areas, critical to the economic growth of the state, are disproportionately disadvantaged by the $100 limitation. In addition, the dates of the sales tax holiday precede the fall enrollment date at most colleges and universities and there is no comparable tax holiday for the spring semester. Thus, the intent of the legislation to support the purchase of educational supplies is not being fully realized because the benefits, both in terms of price and timing, are restricted. A change to remove these restrictions would be consistent with our State constitutional mandate that " the benefits of The University of North Carolina and other public institutions of higher education, as far as practicable, be extended to the people of the State free of expense."

Improvement Idea: Request North Carolina Legislative action to:
1. Amend G.S. 105-164.13 to exempt from the retail sales tax the sales of all textbooks formally adopted to support instruction at State or private educational institutions and purchased at bookstores regularly operated by State or private educational institutions or student organizations thereof; or alternatively
2. Amend G.S. 105-164.13C to remove the $100 per item limit on the textbook sales tax holiday exemption and establish sales tax holidays for textbooks that correspond to the beginning of the fall and spring semesters, or otherwise make college textbook purchases tax exempt for a longer or indefinite period.

Advantages and Benefits: Lower textbook costs to students.

Disadvantages and Risks: Loss in state sales tax revenue.

Financial Estimate of Idea Effects: UNC systemwide textbook sales for 2004-05 as reported by system bookstores were $53,629,214.
1. Only about 45-50% of textbook sales are made for the fall semester, about 72% of these are eligible for the sales tax holiday credit, and it is estimated that no more than 10% are purchased during the sales tax holiday period. So savings to UNC students presently are about $145,000.
2. Removing the cap on the cost of textbooks eligible for the sales tax holiday exemption would increase savings to UNC students by an estimated $36,000, for a total estimated savings of $181,000.
3. UNC Charlotte has heavily promoted the purchase of textbooks during the sales tax holiday. During the 2006 fall semester 19.68 % of the fall textbook sales occurred during the sales tax holiday. Assuming all system schools heavily promoted the sales tax holiday, 25% of fall textbooks sales took place during the holiday period, and the cap on the cost of eligible textbooks were removed, the savings would be about $500,000.
4. If an additional sales tax holiday for textbooks were to be established for the spring semester, and the cap on the cost of eligible textbooks were removed, the estimated annual savings (for fall and spring semesters) would be about $ 1.5 million. This estimate projects that 50% of students would purchase textbooks during the spring semester tax holiday because many more would be on campus compared to the fall semester.
5. A total exemption for all college textbooks (those books adopted for course use) could result in an estimated savings of $4,022,191 to UNC students for the academic year.

This analysis suggests that moving the fall sales tax holiday to dates later in August, establishing a second holiday related to the start of spring semesters, or otherwise extending the exemption to college textbooks for a longer time period would have a larger impact than removing the cap alone.

Recommendation: Go.

Bookstore

Work Group Name: Auxiliary Services
Date: September 29, 2006

Title: Leveraging Large Self-Operated Store Efficiencies

Description of Current Situation: Currently, 10 of the campus bookstores are self-operated and 6 are contract operated. Three of the 10 self-operated stores have textbook rental programs. The working group requested detailed financial data from each of the 16 stores. For the 10 self-operated stores, the working group created common size financial statements and calculated additional benchmarks, then compared the information with nationwide data for similar-sized stores compiled by the National Association of College Stores. A summary chart of these comparisons follows:

	<25th %ile	25th but <50th %ile	50th but <75th %ile	> 75th %ile
Gross Margin	2	1	4	1
Operating Expenses	2	3	2	1
Personnel Costs	1		6	3
Operating Income	2		5	1
Net Income	2	3	4	1
Scholarship Contribution	2	2	3	1
Used Text % of Total Text Sales		5		1

Notes: (a) Two stores do not use industry-standard accounting methods and all data were not available.
(b) Stores with textbook rental programs reported no used text sales

It is dangerous to draw conclusions based on these data without additional information. Textbook rental programs and non-standard mark-up strategies by a few stores in particular product lines cloud the results. However, several observations can be made:

(a) Not all stores are profitable
(b) Not all stores provide scholarship support
(c) Not all stores have adequate store management/accounting software

Improvement Idea: The largest two self-operated stores are consistently strong performers against national benchmarks and in contributions to campus scholarships. Both utilize industry-standard store management/accounting software, the cost of which is beyond the reach of the smaller stores. The expertise of these large stores can be leveraged for the entire system to improve net revenues and increase scholarship contributions. Various alternatives exist, including:

(a) Larger stores could operate smaller stores as satellites, providing expertise in retail marketing, procurement, wholesaler relationships, inventory control, and financial systems. The smaller stores could manage merchandising and customer relations.

(b) Larger stores could provide back-office operations including accounting, procurement, inventory control, and point-of-sale systems to smaller stores to enhance operating efficiencies.

In particular, all stores should be required to maintain industry-standard financial data to enable effective management of their operations. Longer term, this concept could be expanded to create one UNC systemwide bookstore organization with branches at the various campuses, potentially utilizing a foundation structure similar to the higher education institutions in California.

Advantages and Benefits: Each campus store could focus on its core business of service delivery to students and take advantage of shared operational skill sets. Small stores would experience increased margins from volume purchases enabled by the larger stores, reductions in expense to sales ratios, increases in gross margin and potential increases in net revenues.

Disadvantages and Risks: Campuses operate with differing cultures, priorities, and expectations. Consolidation of back-office functions would need to be done with care to avoid limiting individuality on the smaller campuses. Establishing standards, accountability, and software literacy are additional risks.

Source of Idea: Working group.

Estimated time of Implementation: Personnel involved in each small store/large store alliance would need to meet to work out an appropriate implementation time, which could differ from one pair to another. It seems reasonable to expect that some alliances could be in operation for the Fall 2007 semester.

Affected Activities: Bookstore operations.

Financial Estimate of Idea Effects: The financial effects would likely differ from one alliance to another, and cannot be estimated until the arrangement has been defined. However, if all stores without textbook rental programs could reach the NACS median in net income percentage, bottom lines revenues would increase by about $350,000.

Recommendation: Go.

Bookstore

Working Group Name: Auxiliary Services
Date: September 29, 2006

Title: Trademark Licensing Registration

Description of Current Situation: A web search of the client lists of the three main collegiate licensing corporations revealed that most campuses in the system have trademark licensing programs but four (Elizabeth City State University, Fayetteville State University, North Carolina School of the Arts and University of North Carolina at Pembroke) do not. This raises the question of whether or not these five schools have registered their marks. Commonly registered marks include the school name, school seal, athletic team name, and school mascot. Registration provides at least two benefits:

- Revenue from royalties on products containing a registered mark
- Ability to control the school image through prohibition of distasteful images and products

Improvement Idea: Schools that have not registered their marks should do so. Please contact one of the pre-approved intellectual property law firms that does trademark work.

Registration costs about $2,000 per mark unless there are problems, in which case the cost increases. Even if a school does not wish to implement a trademark licensing program, the marks should be registered and infringements pursued to protect the registration. Schools without a sufficiently large trademark licensing program to justify a full time manager often assign this responsibility to bookstore management. School legal counsel can prepare a form letter to be used to notify infringers to cease their activities. In order to stop persons from producing and selling merchandise with distasteful designs that link the school marks with sex, alcohol, or drugs, the school marks must be registered.

The working group recommends that, in addition to registering their marks, schools investigate the financial feasibility of implementing a trademark licensing program. There are 3 main organizations that provide trademark licensing services to institutions, including issuing licenses to manufacturers, collecting royalties, and pursuing infringement situations. These are:

> Collegiate Licensing Company, www.clc.com
> Licensing Resources Group, www.lrgusa.com
> Strategic Marketing Affiliates, www.smaworks.com

Implementing a licensing program allows a school to collect royalties on school merchandise sold by the bookstore. In addition, as schools grow and athletic teams gain broader followings, merchandise sales at games will generate additional royalties. If a school without registered marks notices stores or persons vending merchandise displaying the school logo (such as from the trunks of vehicles at sporting events), the

marks need to be registered on an urgent basis or the ability to do so may be forfeited. If a school with registered marks but without a licensing program notices these activities, the school needs to take immediate enforcement action.

Advantages and Benefits: A campus would protect its image and gain a new revenue stream that will grow over time.

Disadvantages and Risks: A campus may spend the money to register its marks and not recover the funds through its trademark licensing program in a reasonable period of time. However, the campus will have made a worthwhile investment in protecting the campus image.

Source of Idea: Working group.

Estimated time of Implementation: Immediate.

Affected Activities: None.

Financial Estimate of Idea Effects: The financial benefit of mark registration depends on number of alumni, size of student body, athletic success, and other factors that are school specific. Royalties would be about of $0.50 for an average t-shirt and about $1.00 for an average sweatshirt. Campuses can estimate their minimum potential annual revenue by looking at the unlicensed logo merchandise sales in their own bookstore if the bookstore currently is selling such items, and by looking at unlicensed logo merchandise sales at major campus events, such as football and basketball games and homecoming. Based on analyzing annual licensing revenues of school similar in size to those without current programs, the working group's rough estimate of potential annual revenues for each school is as follows:

Campus	Estimated Revenue
Elizabeth City State University	$ 2,500 - $2,700
Fayetteville State University	$8,000 - $11,000
North Carolina School of the Arts	$750 - 1,000
University of North Carolina at Pembroke	$7,500 - $10,000

Recommendation: Go

Bookstore

Work Group Name: Auxiliary Services
Date: September 29, 2006

Title: Self-Managed Textbook Buyback

Description of Current Situation: Used textbooks represent between 20.3% and 32.4% of total textbook sales across the 16 campuses. Campuses acquire used books from students and from national wholesalers. Nationwide, the demand for used books exceeds the supply, so purchasing the maximum number of used books from students during the buyback period at the end of the semester is important.

Presently, all but one of the self-operated stores utilize wholesalers to conduct end-of-semester buyback. The wholesalers purchase books that the stores want to retain for upcoming semester, and purchase books for their own use that the stores do not want. The stores are paid a commission ranging from 10 to 20% depending on their standing with the wholesaler. Some stores have sufficient funds to buy back only books that will be used in the next upcoming semester, allowing them to recover their cash within 90 days. Other stores buy back books for courses that are taught only every other semester, meaning that their cash is tied up for as long as 8 months.

Students are paid 50% of the new retail price for used books that campuses want to retain. Wholesalers purchase other books at prices set by national price lists, which are based on demand and are most often between 10% and 25% of new retail. Therefore, it would be a benefit to students for all stores to buy back the maximum number of books.

One self-operated store conducts its own buyback. This store purchases all the used books at the end of the term, those it knows or believes will be used again are purchased at 50% of new retail and those that it expects not to be re-used are purchased at the national wholesale prices the same process as is followed when wholesalers conduct the buyback. The store holds all the buyback for a year, and has found that between 25% and 40% of the books that were not expected to be re-used are in fact used again within that one year period. The store is able to make both its own traditional profit and the wholesaler's profit on the books that are reused, and sells off the books that are not reused at a small loss. In most years, the additional profit gained by eliminating the wholesaler more than offsets the loss on books that are not reused.

If all campuses operated their own textbook buyback, and held all the books for a year, the availability of used textbooks would increase; lowering textbook costs to students, and gross margin on used textbooks would increase, increasing contributions to scholarships. The Board of Governors recommended that campuses not already engaged in self-managing their own buyback, and holding all books for a year, study the feasibility of doing so.

Improvement Idea: Form a buyback consortium of self-operated stores to self-manage buyback. A working group of campus bookstore managers presently is piloting the sharing of buyback lists, with the idea that books adopted by any campus in the system could be purchased from students on any other campus at 50% of new retail, thus increasing prices paid to students at buyback. This idea was piloted by 3 schools in the spring 2006 semester, and will be expanded to all self-operated bookstores in the fall 2006 semester. This white paper takes that idea one step further by proposing that the schools not only share lists but also form a consortium to self-manage buyback. The primary barrier to implementing this idea is cash to make the buyback purchases. The primary reason that most schools use wholesalers is lack of cash.

The national book wholesalers have established a hierarchy of relationships with self-operated stores. Small stores are low down in this hierarchy, and often are not able to buy the number of used textbooks they want, in spite of the fact that in some cases these very books have been sold off to the wholesaler only a few months previously. Small stores are also paid less commission on books sold to wholesalers by their students. By establishing a buyback consortium, and speculating on used books, the consortium will be able to increase used book availability for all the self-operated stores in the system as well as leverage the first-tier wholesaler relationships of the largest schools to receive 20% commission on all books sold to wholesalers, in comparison to the 10%-15% that many stores now are receiving.

With the formation of a buyback consortium, the use of wholesalers to conduct end-of-term buyback would stop. The self-operated schools would purchase back all the used books, including aggressively purchasing at 50% of retail when historical data indicates the book has a good chance of being readopted. Other books would be purchased at prices based on national wholesale price lists. All books would be held for one year. Books resold to national book wholesalers at the end of the year would be pooled and sold off all at once. Bookstores would continue to purchase from wholesalers used books needed to meet inventory requirements unfulfilled during buyback.

The working group recommends that the current consortium of self-operated bookstore managers study the idea of a buyback consortium. Detailed analysis of adoption and buyback patterns, and increased costs (such as transportation costs), need to be conducted before it can be determined whether the idea is economically viable.

In addition to self-operated buyback, both payments to students at buyback and the availability of used books could be increased if the percentage of textbook adoptions known at buyback increased. Campuses do not track adoption rates uniformly; some campuses count courses with no required textbooks among their percentage of adoptions received (which can raise the adoption percentage significantly), while other schools ignore these courses. Data are not readily available to correct for this calculation difference. In spite of this difference, however, adoption rates at buyback appear to vary significantly. Report rates varied from a low of 33% to a high of 88% for fall semester, and from a low of 57% to a high of 91% for spring semester. All schools have been asked by the Board of Governors to work on mechanisms to increase the percentage of

adoptions known at buyback, and must report on these efforts before the end of 2006. The campuses have made a variety of efforts to try to increase adoptions, such as offering rewards to faculty for timely adoptions. At one campus, the student newspaper published the names of faculty members who had not submitted textbook adoptions in time for buyback. Campuses may want to consider a series of escalating measures with respect to faculty who repeatedly fail to submit timely textbook adoptions. The working group is not submitting a white paper on textbook adoptions since all campuses are already working on improving their performance in this area.

Advantages and Benefits: More used books would be bought back at 50% of new retail, and more used books would be available for students to purchase, lowering textbook costs for students. Self-operated bookstores would earn additional revenue, to be contributed to campus scholarship funds in accordance with the requirements of the Umstead Act.

Disadvantages and Risks: Some stores might not have the space to store the additional books. Schools with different curricula may not experience as high a percentage of reuse. The textbooks being held must be actively managed to avoid large losses, including selling off early any titles with forthcoming new editions, and releasing books that have not been adopted to wholesalers before the major buyback periods at the end of the fall and spring semesters. Schools have been asked to explore the idea of textbook rental programs. To the extent that these are implemented, this idea will have less utility.

Source of Idea: Board of Governors Textbook Subcommittee.

Estimated time of Implementation: Ideally, the work could be done to implement this idea on a pilot basis for the Fall 2007 semester. Significant work would be required to establish guidelines for the program and to work out the financial and technical details.

Affected Activities: Textbook sales.

Financial Estimate of Idea Effects: Based on analysis of the total value of used books sold at the self-operated bookstores not currently operating their own buyback and the percentages of adoptions for upcoming semesters known on or before buyback, it is estimated that $700,000 would be required systemwide to implement self-managed buyback across the self-operated stores. Assume that worst case $200,000 of this purchase, all made at 25% of new retail, is adopted, and the books are sold 75% of new retail. The gross margin on these books would be $400,000. The remaining $500,000 of the speculative buy would be sold off to wholesalers. If there was an average 20% markdown from holding these books, they would be sold for $400,000 + a 20% commission, for a net loss of $20,000. Thus $380,000 in additional gross margin would be generated and the initial $700,000 investment could be paid back in approximately 2 years.

Recommendation: Further study.

Dining Background

All campuses provide comprehensive student dining programs. Two have self-operated programs and 14 have contractor-operated programs. Three major international corporations provide contractor operations. Self-operated programs can buy food products at the same prices as the international corporations. The decision to self-operate or contract is based primarily on whether or not the contractors' lower labor costs can more than offset their profit requirements. In the State of North Carolina personnel system, wage rates are higher, employees earn wage premiums for night and weekend work, and total working hours per week cannot be varied with demand. Thus most schools contract their dining operations. The two campuses with self-operated programs have overcome the labor cost barrier, primarily through the use of student employees.

Collegiate dining programs vary greatly nationwide, and the programs at UNC system schools are no exception. Programs are tailored to each individual school's student body, and in many cases are considered important recruitment and retention tools – a part of the campus' brand identity. Dining programs must meet the full spectrum of needs for resident students – breakfast, lunch, dinner, late night, snacks. They also are an integral part of the educational life of the campus. For example, they may be operated during non-profitable hours to provide alcohol-free alternatives to off-campus venues. Each campus dining service program reflects the demographic profile of the student body, and these vary widely across the system.

The major costs in collegiate dining programs are facilities, food, and labor. Facilities must be sized to serve a larger number of patrons at lunch than at breakfast or dinner. Across the system, between 22% and 51% of students live in campus housing; on campuses with lower percentages the facilities may be fully utilized only at lunch. In addition, the entire student body is on campus only about 28 of the 52 weeks in a year. Facilities are closed or operated at reduced levels during other weeks. As a result, dining programs must be subsidized. Common subsidies are student facility debt fees, mandatory purchase requirements, contractor investments, and state appropriations for facility construction and/or maintenance. Across the system, 4 schools have state contributions for facility construction and/or operation, 7 have contractor investments, 15 have mandatory meal plan or declining balance requirements, and 2 have student debt fees.

Schools with comprehensive mandatory meal plan requirements appear to have lower food and labor costs, but in fact students skip meals (the "missed meal factor") so the sales are made via the mandatory requirement but the variable expenses are never incurred. Missed meal factor revenue is budgeted and used to fund capital costs. Campuses without mandatory plans generally have much lower missed meal factors because students purchase only the number of meals they plan to eat. Missed meal factors across the campuses range from 11% to 60%.

It is very difficult if not impossible to compare dining costs across campuses. There are substantial differences in facilities, and the variety and quality of food offered. Cafeteria-

style facilities have large central kitchens with little cooking in the serving areas. Marche style facilities have small central kitchens for soup and sauce preparation, with most cooking taking place in small batches or individual servings in the serving area, resulting in higher labor and often higher utility costs. Some schools serve students with vegan, Kosher, and/or Halal diets. The dining programs at several schools operate non-student dining facilities, including conference centers and athletics concessions, which have significantly different cost structures.

Dining

Working Group Name: Auxiliary Services
Date: September 29, 2006

Title: Dining Best Practices

Description of Current Situation: The working group asked each campus to complete a detailed questionnaire concerning its dining operations. Analysis of these questionnaires showed that a variety of improvements could be made on an individual campus basis, particularly in the areas of contracts and customer satisfaction. The working group believes that all campuses would benefit from knowledge of the terms contained in other campuses' contracts. In the area of customer satisfaction, the working group noted that a high missed meal factor is correlated with low satisfaction scores on the General Administration sophomore and senior surveys. Understanding why students skip meals likely would improve students' responses to the question, "Is what you're getting worth what you're paying for it?" The consultant study of the concept of a systemwide contract for the Pennsylvania system, while rejecting the systemwide contract idea, provided a wealth of suggestions for ways that individual campuses could improve their dining programs.

Improvement Idea: Establish a systemwide Best Practices Committee. The Committee's charge would include:
1. Develop a list of best practice contract terms that campuses should include, or consider including, in their contracts. Examples of terms that should be included are minimum acceptable health ratings and access to contractor financial records. Examples of terms that might be included are use of the contractor's design services, use of the contractor's national contracts for equipment procurement, and a payment structure that includes bonuses for meeting performance targets.
2. Develop a set of financial dash board indicators that can be used by senior administrators to gauge the dining program's performance. Oversight of the campus dining program may be managed by a food service professional dedicated 100% time to the task. Most frequently the dining program is overseen by an employee with responsibility for multiple operations who may not be as aware of industry-standard financial methods. In the smaller institutions, the dining program may report directly to a vice chancellor with a broad scope of responsibilities and insufficient time to monitor the details.
3. Develop a uniform systemwide dining survey that can be administered by each campus to measure student preferences and dining satisfaction. A few campuses have engaged professional dining program consultants to develop sophisticated web-based surveys that are used to drive the dining program's planning. Other campuses self-design surveys or conduct no assessment activities.
4. Offer optional peer review services. Some campuses employ dining professionals with considerable experience and expertise who could conduct peer reviews for other campuses, including reviews of program components such as facilities or broader program reviews.

5. Develop an outline for a comprehensive long term dining program plan that campuses could use to develop multi-year master plans for their dining services, which can be useful in developing facility and financial goals.

After the initial work as outlined above is completed, each campus should develop a set of measures that it will use to set goals and improve performance. The committee should continue to meet once or twice a year to share information and update its earlier work products as appropriate.

Advantages and Benefits: Dining programs systemwide where students are satisfied with their campus dining service, and each dining service has an executable plan for meeting its facility and financial needs.

Disadvantages and Risks: None.

Source of Idea: Working group.

Estimated Time of Implementation: The Best Practices Committee could be formed at any time. Completing its entire charge may take two years, although the identification of best practice contract terms could be developed earlier to guide near-term contract renewals.

Affected Activities: Dining.

Financial Estimate of Idea Effects: It is difficult, if not impossible, to estimate the financial benefits without knowing more detail about each individual school's operation but following are some examples:
1. Charge the contractor a processing fee for campus debit card acceptance. A few schools are already charging fees, varying from 1.25% to 3.00%. Some charge fees on all sales, others on discretionary (non-meal plan) sales. Depending upon the size of the dining program, and the portion subject to fees, this charge could increase revenue by $25,000 to $150,000 per year.
2. Charge the contractor a pro-rated share of the maintenance contract cost for the campus debit card software. Depending on the size of the dining program, this charge could increase revenues by $10,000 - $50,000 a year.
3. Require the contractor to provide new and replacement point of sale devices. At a cost of $1,500 per device, during a 10 year contract the savings for 10 devices would be $15,000. Large schools may replace 50 or more devices in a 10 year period.
4. Require the contractor to make annual payments into an equipment replacement fund based on amortizing the cost of the equipment over its useful life. The amount would vary depending on the type and number of facilities operated on a campus, but would likely range from $50,000 to $250,000 a year.
5. If there is an annual commission guarantee, require the contractor to make an advance payment based on prior year's sales. A $1.0 million commission, paid in advance, would produce investment income of $40,000 - $50,000 a year.

6. Require the contractor to provide the services of its in-house facility design group at no charge. These charges can range up to $30,000 - $50,000 for a single major venue change.
7. Sell and collect the meal plan funds and reimburse the contractor weekly, rather than allowing the contractor to hold the meal plans funds, enabling the campus to earn investment income on the unused portion throughout the semester. This investment income could range from $10,000 for a small program to $150,000 for a large program.
8. Cap the amount a contractor can earn from the missed meal factor. Above an acceptable missed meal percentage, the revenues that drop to the bottom line would go to the school, not the contractor. Such a provision would deter the contractor from serving cheap food and/or providing poor customer service as a means to increase profit.
9. Transfer as many operational costs to the contractor as possible, especially those where the contractor has some control. The contractor is more likely to work to keep these expenses low and take proper care of the facilities and equipment if the contractor is directly responsible for the costs. Examples include utilities, waste removal and recycling, equipment repairs, cleaning and custodial support (including restrooms) and related supplies, and facility repair and maintenance. Another example is smallwares (plates, silverware, and so forth). Require the contractor to maintain the smallwares inventory at pre-determined levels, including covering replacement cost for lost items.
10. Require the contractor to demonstrate its inventory control and labor scheduling methods as part of the selection process. Inventory control should be computerized and include food forecasting and purchasing. Labor scheduling should be computerized and include ability to schedule employees in small increments (such as every 15 minutes). Self-operated programs should have similar capabilities.
11. Self-operated programs should use cost-plus contracts for distributors to allow prices to fluctuate based on cost while simultaneously allowing movement between brands to lower costs.
12. Self-operated programs should insure that all possible incentives are negotiated in supplier contracts, including distributor brand rebates, manufacturer rebates, food show discounts, and weekly payment discounts. These discounts can save $100,000 per year and more at larger schools.

Recommendation: Go.

Dining

Working Group Name: Auxiliary Services
Date: September 29, 2006

Title: Systemwide Dining Contract

Description of Current Situation: All campuses provide a comprehensive student dining program. Currently, 2 campuses self-operate their dining programs and 14 have contractor-operated programs. There are 3 major national collegiate dining program contractors – Aramark Education Services, Chartwells Dining Group, and Sodexho Campus Services. Of the 14 contractor-operated programs across the system, 7 are operated by Aramark, 2 by Chartwells, 4 by Sodexho, and 1 by Thompson Hospitality.

Improvement Idea: The PACE asked the working group to investigate the question of whether or not a systemwide dining contract would provide cost savings compared to individual contracts. In evaluating this idea, the working group interviewed staff of the National Association of College and University Food Services, collegiate dining consultants, contractor executives, and dining professionals with other state systems that have considered systemwide contracts.

Minnesota was identified as the only state to ever have had a systemwide contract. Staff reported having a systemwide contract for about 20 years, from 1970 to 1990, administered by the system office. The reason for centralization was enrollment and occupancy declines leading to a debt service crisis systemwide. The central contract concept was abandoned because the presidents of the individual campuses felt that it did not allow them the flexibility to structure dining programs to meet their individual school's needs, and put them at a competitive disadvantage in recruiting students. Pennsylvania engaged a consultant to study the question of whether a systemwide dining contract would generate cost savings. The work group obtained a copy of the consultant's report, issued in 2000. The study was quite comprehensive, including visits to each school to evaluate facilities and interviews with the regional managers for each of the three major food service contractors. No significant cost savings were identified, and the risks were considered to outweigh any potential benefits. Alaska is in the process of implementing a systemwide contract for its three institutions. Alaska expects no economic benefit but is centralizing the contract because of its historical inability to provide standalone food service at its one small, remote campus. These were the only states identified as having seriously considered or utilized a centralized contracting model.

Contractor executives from Aramark and Chartwells also were interviewed. They felt there would be no cost savings opportunities; the individual contracts already provide the benefits of national purchasing agreements, franchise access, experienced management personnel, and so forth. There would be the potential for cost increases for several reasons. A systemwide contract would not fit their corporate management structures and may require additional management personnel. Labor costs for some schools could rise

because presently labor rates in the individual contracts differ based on the local labor market. Corporate budgets for transition costs, including relocation costs and initial losses, are not sufficient to cover the transition of 16 campuses at once, and corporate budgets for RFP responses are not adequate to cover the cost of responding to a systemwide RFP.

The differences in the financial and program structures of dining operations across the 16 UNC campuses would result in a complex contract, because it would need to address the many differences among the campuses' dining programs. Some schools have bond debt that must meet IRS tax-exempt requirements, which restricts the ways a contractor may be paid and restricts the life of the contract. Schools have different quality levels, different facilities, different uniform standards, and different catering programs. Schools take out different amounts of money, with some viewing dining as a source of revenue to support other programs and others viewing dining as a service. Some schools request contractor investments, others request money for debt service. Some schools assume the risk of profit and loss, paying the contractor's expenses plus a management fee, primarily in order to exert greater control over the program. Other schools pay the contractor a daily rate per covered student, and the contractor assumes the risk. Defining a single contract structure would likely be impossible. There would need to be 16 separate contracts, and a systemwide umbrella would just add another layer. Cancellation is another concern. Contractor performance is heavily dependent upon the local campus management team; a contractor could be performing well at many schools and poorly at a few. Individual campuses would need the ability to cancel. The existing dining contracts are a barrier to centralization. Many do not expire until 2013, 2014, or 2015, and 5 contain buyout clauses for contractor investments that would be triggered upon early termination.

Regarding regional contracts, the savings achieved through contracting are not magnified by combining contracts, and individual contracts are needed to meet each campus' financial and dining program requirements. However, smaller schools in close geographic proximity, especially those with fee contracts, might want to explore the idea of sharing key management personnel, such as the general manager, human resources manager, or financial manager, to reduce costs. Contractors occasionally have made such arrangements on their own, some of which have been successful and some of which have not.

Advantages and Benefits: Potential for lower costs, needs to be explored.

Disadvantages and Risks: High barriers to execution, potential for higher costs, potential for dining programs to be less responsive to individual campus needs.

Source of Idea: The PACE

Recommendation: Exploratory conversations should be held with large vendors to assess the feasibility and benefits.

Vending Background

All University system campuses provide campuswide drink and snack vending. Self-operated vending has largely been replaced by contracted operations wherein the contractor provides the machines and the product, services the machines, and pays a commission to the campus. Under State of North Carolina law, with one important exception, vending contracts are exempt from procurement regulations because the State is receiving rather than expending funds. All campuses nevertheless engage in competitive processes to award vending contracts, but the processes can be more flexible and tailored to each campus' needs.

Snack vending is characterized by multiple small, local vendors, with only one snack vendor having a statewide presence. Two schools self-operate snack vending, one in conjunction with its dining program. There are 9 different snack vending contractors serving the remaining 14 schools. With two exceptions, snack vending commissions are tightly clustered. Therefore the working group focused its analysis and recommendations on drink vending.

Drink vending is dominated by local bottlers affiliated with either Coca Cola or Pepsi. Only 1 of the 16 schools does not contract directly with its local Coca Cola or Pepsi bottler, or both. In North Carolina, two large corporate bottlers predominate. Coca Cola Bottling Company Consolidated owns about 90% of the local Coca Cola bottling territories, and Pepsi Bottling Ventures LLC owns about 80% of the local Pepsi bottling territories. The remaining territories are controlled by small, primarily family-owned, bottlers. As a result, the competition for some campuses' contracts is between these two large bottlers, while the competition for other campuses' contracts is between one large and one family bottler or two family bottlers. The 18-22 year old market is important to both national corporations, and both have partnership programs for local bottlers to supplement the local bottlers' bids.

Vending

Working Group Name: Auxiliary Services
Date: September 29, 2006

Title: Vending Regulatory Relief. Repeal G.S. 143-64.

Description of Current Situation: Vending contracts are revenue contracts, the state agency (university) does not make any payment to the vendor. Rather, the vendor pays the state agency. Normally, revenue contracts are exempt from state procurement regulations. Historically, institutions have engaged in competitive processes to select vending contractors, but these processes were not required to follow procurement requirements. In 2003, the General Assembly passed legislation requiring that all local school administrative units, community colleges, and universities competitively bid contracts involving water or juice according to state procurement requirements. In 2004, this legislation was amended to require that contracts for the sale of juice and for the sale of bottled water must be bid separately from each other and from any other contract, including contracts for beverages or vending machine services. This legislation precludes the ability to solicit proposals for exclusive beverage contracts.

The requirement to award separate juice and water contracts reduces choice, especially healthy beverage choice. Vending machines are provided by the contractor, not the school. Most vending machine locations are sized for a single machine vending a mix of products – juice, water, carbonated soft drinks, sports drinks, and so forth. When water and juice cannot be mixed in machines with other products, the availability of water and juice is severely limited because drink vending contractors will not permit foreign brands in their machines.

To maintain the ability to sell water and juice in mixed product vending machines, schools will be forced into self-operating drink vending programs, including making investments in machines, employees, and facilities to stock inventory purchased at wholesale prices. The cost structure of these operations guarantees that revenues will drop, especially at schools with contractor-operated dining programs since there are no labor or inventory synergies at these schools.

Analysis of beverage vending contracts now in force across the sixteen campuses revealed that revenues at schools with exclusive contracts were on average 28% higher per capita than at schools without such contracts, and in some cases more than 100% higher per capita. Vending revenues support scholarships, debt service, and student life programming. Loss of these revenues will result in scholarship reductions and/or higher student fees.

Improvement Idea: Repeal GS 143-64 (S.L.2004-199).

Advantages and Benefits: Repealing this statute will enable campuses to compete vending contracts as revenue contracts, not subject to state procurement requirements,

and to offer exclusive rights to one manufacturer, thus retaining their vending revenue streams and avoiding increases in student fees or charges.

Disadvantages and Risks: The repeal of this law may be opposed by one or more water bottlers.

Financial Estimate of Idea Effects:

School	Exclusive Revenue	Reduction Factor	Non-Exclusive Revenue
ECSU	$31,031	1.23099224	$25,005
WSSU	$114,904	1.24099224	$92,590
NCCU	$124,000	1.24099224	$99,920
WCU	$178,700	1.24099224	$143,998
NCAT	$282,377	1.24099224	$227,541
UNCG	$233,157	1.24099224	$187,879
ECU	$900,000	2.14553015	$419,477
UNCCH	$1,065,000	2.14553015	$496,381
NCSU	$1,140,000	2.14553015	$531,337
Total	$4,069,169		$2,224,129

Failure to repeal this legislation is estimated to cost the 16 campuses $1.845 million per year in recurring revenues. No campus is affected today, but contracts for 4 schools expire between June 30, 2007 and July 31, 2007, thus legislative relief is needed early in the 2007 session.

Recommendation: Go.

Vending

Working Group Name: Auxiliary Services
Date: September 29, 2006

Title: Vending Revenue Enhancement

Description of Current Situation: Drink vending is dominated by local bottlers affiliated with either Coca Cola or Pepsi. Only 1 of the 16 schools does not contract directly with bottlers affiliated with Coca Cola, Pepsi, or both. Four contracts are not exclusively for Coca Cola or Pepsi products, 3 have exclusives for vending machines only, 9 have exclusives that extend to fountain drinks, convenience stores, and/or athletics venues.

The working group interviewed executives from Coca Cola North America and from Pepsi Ventures to gain an understanding of the relationship between the worldwide corporations and the local bottlers, and the factors that drive the deals offered to colleges and universities. Both Coca Cola and Pepsi target the collegiate (18-22 year old) market. Both supplement local bottlers' deals with marketing money although, with rare exceptions, Coca Cola does not supplement deals limited to vending machines. Both vary the amount of supplement provided based on the scope of the deal and the identity of the school. A small number of nationally prominent schools command substantially more in supplemental money than the others. The supplements are tailored toward the needs of each individual school. Collegiate supplements are not economic based on the revenues they generate for the worldwide corporations, they make sense only from a marketing perspective. These supplements result in collegiate deals being considerably more lucrative than nationwide vending deals with national corporations.

Differences in labor costs, driving distance from the bottling plants, and so forth create differences in commissions offered. The two large bottlers generally are able to offer higher commissions than the smaller ones, although some family-owned bottlers have strong loyalties to individual system schools and go to great lengths to beat the competing large bottler's offer.

The working group analyzed various characteristics of the drink vending contracts in force across the sixteen campuses. Key findings include:
- Commissions on drink vending sales varied widely, from a low of 20% to a high of 62%.
- In addition to vending commissions, contracts include contributions to scholarship funds, capital campaigns, sports marketing, and dining; endowments for training programs; improvements for athletic facilities; and athletic signage.
- Revenue per enrolled student ranged from a low of $4.76 to a high of $39.62. Seven contracts with no exclusivity or exclusivity in vending machines alone provided average revenue of $14.43 per student. Nine contracts with exclusivity beyond vending machines provided average revenue of $31.61 per student. Removing three

schools with exceptionally lucrative deals, exclusivity beyond vending provided average revenue of $19.63 per student.

- Of the 7 schools with no or limited exclusivity, only 1 school had a commission revenue guarantee. Of the 9 schools with broad exclusivity, 8 had commission revenue guarantees.
- Debit card readers are a significant revenue driver. Schools with no or few vending machines equipped with card readers had average commission revenues of $13.40 per student. Schools with card-reader-equipped machines at least in residence halls and classroom buildings had average commission revenues of $17.01 per student.
- Sales price is a significant revenue driver. Vending commissions alone at schools with prices of $0.60-$0.65 for 12 oz. products and $1.00 for 20 oz. products averaged $14.10 per student whereas commissions at schools with pricing at $0.75 for 12 oz. products and $1.25 for 20 oz. products averaged $16.72 per student.

Improvement Idea: The working group recommends that schools continue to conduct separate selection processes for vending services, but that to the extent possible schools include features in their contracts that are proven to increase revenue. These include:
- Schools with no or limited exclusivity should consider offering exclusive contracts that extend at least to fountain syrup and convenience stores. While lack of availability of the competing product can be an issue with students, two schools have increased revenues by offering exclusivity in vending and fountain, and a dominant shelf space percentage rather than exclusivity in convenience stores. Exclusivity may be inadvisable when:
  - Schools receive strong financial support outside of the vending contract from both local bottlers. An exclusive contract with one could jeopardize gifts from the other.
  - Schools self-operate dining programs. These schools are eligible for substantially lower syrup prices than contractor-operated dining programs and may find that an increase from an exclusive vending contract is more than offset by a syrup price increase.
- Schools with low commissions should consider specifying a minimum acceptable percentage.
- Schools should request vending sales commission guarantees.
- Schools should survey vending sales prices in their local market areas on an annual basis, and consider raising prices when they fall below market.
- Schools should consider moving toward contour vending machines, rather than can machines, which hold 20 oz. product rather than 12 oz. product, and thus generate higher commissions. Schools that have moved to contour machines also report fewer housekeeping problems in classrooms because the bottles can be capped after opening.
- Schools with adequate card system infrastructure should request that contractors install card reader equipment at no expense to the university on vending machines, especially in residence halls and classroom buildings. Contractors normally are willing to provide readers in buildings with high student traffic because of their proven ability to increase sales.

The potential for establishing a contracting consortium could also be explored; this option might be particularly useful for schools served by the same bottlers.

Advantages and Benefits: Campuses adopting these revenue-enhancement ideas would increase revenues for debt service, student life programs, and scholarships. Some campuses may avoid or reduce student fee increases. For example, the University of North Carolina at Chapel Hill avoided a $16.00 per student annual debt fee and added $1.5 million to its Carolina Covenant scholarship endowment by changing its vending contract from vending machines only to vending machines, fountain syrup, and convenience stores.

Disadvantages and Risks: Schools having non-exclusive vending contracts and development relationships with both local bottlers risk loss of gift income by converting to an exclusive contract with a single bottler. Students at schools presently offering both products in vending machines may object to the loss of one of the brands. Students would object to vending price increases that exceed market averages for the area.

Source of Idea: Working group.

Estimated time of Implementation: Existing drink vending contracts expire between 2007 and 2010. The recommendations would be implemented as contracts expire.

Affected Activities: Vending, dining, convenience stores, and potentially athletic concessions.

Financial Estimate of Idea Effects: The working group estimated revenue increase factors for exclusivity, card readers, and price increases, then calculated the potential increase in each school's commission revenues if missing factors were present. This analysis showed that drink vending revenue systemwide could be increased by 25.20% if all contracts included all factors. Without price increases, revenue systemwide could be increased by 12.51%.

School	Comm %	Current Commission Revenue	Exclusivity Increase Factor	Projected Exclusive Increase	Reader Increase	Pricing Increase	Total Projected Increase
NCSA	36-38%	$15,000	0	$0	$2,700	$3,000	$5,700
ECSU	32%	$16,031	0	$0	$2,886	$3,206	$6,092
UNCA	20%	$17,000	0.571428571	$12,750	$0	$3,400	$16,150
WSSU	42-44%	$61,904	0	$0	$0	$12,381	$12,381
UNCP	42%	$43,379	0.735099338	$15,632	$7,808	$8,676	$32,116
FSU	35%	$41,333	0.735099338	$14,895	$0	$8,267	$23,161
NCCU	30-55%	$69,000	0	$0	$12,420	$13,800	$26,220
WCU	25-38%	$81,000	0	$0	$0	$16,200	$16,200
NCAT	40-57%	$142,377	0	$0	$0	$28,475	$28,475
UNCW	42-44%	$163,779	0.735099338	$59,019	$0	$0	$59,019
ASU	52%	$326,176	0.735099338	$0	$0	$65,235	$65,235
UNCG	40%-62%	$152,157	0	$0	$0	$30,431	$30,431
UNCC	34-40%	$262,005	0.735099338	$94,416	$0	$52,401	$146,817

ECU	24%	$160,000	0	$0	$28,800	$0	$28,800
UNCCH	40-62%	$700,000	0	$0	$0	$0	$0
NCSU	56%	$550,000	0	$0	$99,000	$110,000	$209,000
Total		$2,801,141		$196,713	$153,614	$355,472	$705,799

Notes: (1) Exclusivity increase factor based on average difference between exclusive contracts and non-exclusive contracts after eliminating the 3 most lucrative exclusive deals. (2) Increased revenue from reader installation projected at 18% overall, readers have been shown to increase revenue by 50% but are recommended to be installed only in high student traffic areas. (3) Increased revenue from pricing increase conservatively estimated at 20%, ignores the potential for higher commission rates for increased prices. (4) Exclusivity revenue increase calculated but not projected to be realized ASU because of unique circumstances applying only to ASU.

Recommendation: Go

Construction/Leasing Working Group-Barriers Identified

Barrier #1-Construction Document Review Process
The principal barrier identified was the time consumed by DOI in reviewing construction plans. The excess time results in serious price escalation for the project. Significant savings could be realized by reducing the number of reviews required per project from three to one. Average savings per project is estimated as 5% of the project value. An additional related problem is the informal project level of $300,000. Raising this level over time to $2,000,000 would shorten the length of time for project accomplishment, resulting in cost savings, as well as the ability to respond to academic requirements in a timelier manner.

Barrier #2-Poor Quality form Low Bid Contractors
State Construction procedures ratified by the legislature in 2001 have eliminated many problems associated with accepting the low bid. No further action was recommended and therefore no white paper was developed.

Barrier #3A-Designer Selection Process-Time from Project Authorization to Designer Selection. Designer selection is occurring more than 60 days after project authorization about 70% of the time. This ultimately adds significant cost to the project. The recommendation is to receive approval to accomplish the designer selection process up to actual contract award prior to receiving the project appropriation. Cost savings are estimated to be $4 million for each $300 million appropriated.

Barrier #3B-Contract Award Process-Time between Bid Opening, Award and Notice to Proceed. The barrier identified is the considerable amount of time between bid opening, the Intent to Award letter and the Notice to Proceed for the construction phase. The recommendation is that the Bond Alliance Group works with the Association of General Contractors to improve the turn around time they need to submit the necessary contractual documents prior to issuance of the Notice to Proceed.

Barrier #4-Authorization Limits
Existing authorization limits in design and construction are overly restrictive in that they do not reflect the very significant escalation of construction costs, and do not provide the needed flexibility at the campus level. The recommendations are basically that the authorization limits in the capital authority, design and construction areas be adjusted upward to match the "download" authority of $2,000,000 already granted to the UNC System. The cost savings are estimated to be 18.7% on every construction dollar spent.

Barrier #5-Lack of Adequate Leasing Authority
The barrier noted is the complex, lengthy and bureaucratic nature of the state leasing process which grants only limited authority to state agencies and results in months of unnecessary time wasted. The recommendation is to extend the property provision of 116-37 to Universities having leasing offices (Chapel Hill, NCSU and ECU).

Barrier #1:   Construction Document Review Process

Background:

A significant barrier to the accomplishment of capital projects in a cost effective and time efficient manner is the project design review process mandated by existing General Statutes. Specifically, the time required for review and approval of projects by the Department of Insurance contributes significantly to the cost escalations and overruns recently experienced.

Presently, the General Statutes authorize the Department of Insurance (DOI) as the state's Building Code Enforcement Official for all University projects, which includes plan review and inspection. Under the existing process, each project must be submitted for three reviews by DOI (all projects involving egress, etc. require DOI review). The total average review time for the three reviews by DOI during the period 2005-2006 was 255 days. The result has been unnecessary cost escalation, causing in many cases significant scope reductions, or in some instances, cancellation of projects. Exacerbating the excessive review time is the fact that individual projects may have different reviewers from DOI over the course of the project development and there is often an inconsistency in interpretation from one reviewer to another resulting in extended review time and re-design. Additionally, DOI requires review and approval of all change orders involving life safety or building code issues for a project in construction. The time required for these reviews is 30 to 90 days. The campuses are therefore faced with the decision to either delay work at significant cost to the University, or continue with construction to meet schedule demands, risking additional cost to correct deficiencies noted by DOI. DOI field inspectors are responsible for electrical inspections. After final plan approval from DOI, there is often an inconsistency in interpretation between the plan reviewers and field inspectors resulting in change orders, delays, and additional costs to the project.

The original regulations were enacted at a time when many of the campuses in the UNC System did not have sufficient professional staff to adequately supervise the execution of capital projects. This situation has seen a dramatic change. In order to properly administer the bond program, the University has developed strong, professional and technically trained teams at each campus that are qualified to act as owner for construction projects at their campuses. We believe that the existence of this highly qualified, technically competent staff reduces the need for at least two of the three reviews required by DOI.

Also problematic is the informal project level of $300,000 which is far too low. The projects falling into that category are typically small interior renovations to individual classrooms or laboratories. These projects are often adversely impacted by additional scope requirements resulting from DOI interpretations. Significant savings could be realized by redefining that limit. The delegation of authority for the University to administer capital projects of a value less than $2 million has been a tremendous help in executing projects in a timely manner, and it has allowed the State Construction Office to concentrate on the longer projects. This delegation has not resulted in a poorer quality of

construction, or in any building code problems. Over time, as this figure is eroded by inflation, consideration should be given to raising this authority.

Recommendations:

We recommend that the Board of Governors be charged by the General Assembly to determine under what circumstances a constituent institution can be authorized to serve as the owner and be responsible and accountable for the design and construction of its capital projects. The UNC Board of Governors would be responsible for establishing guidelines and issue benchmarks that an individual campus must meet before the campus would be allowed to assume responsibility as owner and code-enforcement responsibilities of its capital projects.

We recommend that the General Assembly direct that only one review of final construction drawings and specifications be necessary for all University projects for life safety and other code compliance, that the required review be performed in 30 days or less, and that the required review be done, at the University's option, by either (1) DOI; (2) the county or municipality in which the project is located; or by (3) an independent qualified code-enforcement official. If a campus would opt for plan review for life safety by an independent qualified code-enforcement official, that person or persons must be certified by the North Carolina Code Officials Qualifications Board (pursuant to G.S. 143-151.8 through 143-151.2 and any other applicable laws.)

We recommend that the informal project level be raised from $300,000 to $2,000,000 and that this be accomplished in steps of a six year period.

Projected Cost Savings:

The average cost of University projects last year was $33,000,000 and the average DOI review time was 255 days for three reviews. If only one review was done and that review was limited to 30 days, an average of 225 days could be saved. Using the State Construction Office inflation figure of 8% per year, an average savings per project would be 5%. With an average project value of $33,000,000, the savings would be $1,650,000. Applied to system-wide capital expenditures of $350,000,000, future cost avoidance is $17,500,000.

Barrier #3A: Designer Selection Process-Time Frame from Project Authorization to Designer Selection

Background:

The designer selection process was reviewed to identify barriers that impede designer selection within 60 days after funding availability. North Carolina General Statutes (G.S. 143-135.26) imposes a 60 day time limit from funding availability to designer selection. Data extracted from CAPSTAT shows that 30% of the time, designer selection occurs within 60 days of funds becoming available; 40% of the time designer selection occurs between 61-180 days; and the remaining 30% is greater than 180 days. Bond projects were excluded from this data because of specific requirements stipulated by the program's schedules.

Designer Selection Process - The annual service contract is typically used to select a designer for projects costing less than $300K. Designer selection for projects between $300K and $2M include public advertisement and local campus approval. The designer selection process for projects greater than $500,000 includes public advertisement, interviewing the three short listed firms and approval from the Board of Trustees. A requirement for all projects, regardless of funding, is that the designer selection process can only be initiated after the project is authorized, either by legislation, Office of State Budget approval for advance planning, or approval of specific R&R projects by the Joint Legislative Commission on Governmental Operations (known as "Gov Ops").

Recommendations:

The Universities would like special permission to launch the designer selection process prior to receiving final funding authorization. Special permission would include advertising on the Web, receiving and reviewing proposals, compiling the short list and conducting interviews. Selection of the design consultant would be accomplished only after receiving final funding authorization. This jump start would immediately establish the proposal and negotiation process to prepare the designer contract agreement and initiate the design phase. In the State of Missouri, the design selection process is initiated when the State Legislature approves the Capital Improvement budget in the month of May. After the Governor signs the bill, the CI appropriations go into effect at the start of fiscal year (1st of July), which starts the milestone to issue the notice to the selected designer.

Projected Cost Savings:

Two to four months could be cut from the project if approval is received to jump start the designer selection process, thus moving the project closer to construction completion. Cost savings for the University system is estimated to be $4M for every $300M appropriated to the University. Using a base of $350,000,000, total cost avoidance would be $4,700,000.

Barrier #3B: Contract Award Process - Time Frame between Bid Opening, Award and Notice to Proceed.

Background:

Another component to expedite delivery of construction projects is to evaluate the time frame once bids are opened to issue the Intent to Award letter and Notice to Proceed for the construction phase. Using data extracted from Primavera schedules for UNC bond projects, the average time frame from bid opening to award is 45 days and from award to Notice to Proceed is an additional 50 days. The data also shows that 54.58% of the projects took more than 30 days to issue the award letter. We realized that some delays could be justified, whether the bids exceeded the budgeted amount or scheduling work to begin during the summer break, there is definitely room for improvement. The ideal time frame is 30 days from bid opening to award and another 30 days from award to Notice to Proceed.

Recommendations:

The committee recommends the Bond Alliance group should work with the Association of General Contractors to improve the turn around time for them to submit the necessary contractual documents prior to issuing the Notice to Proceed. The committee also recommends we contact other state offices and university systems on how they resolve these delays. For example, the State of Missouri issues the Intent of Award stipulating the contract completion date, which includes twelve (12) working days for the contractor to receive, sign and return all required bonding and insurance certificates. This could provide some incentive for the contractor to submit all the required documents early. When a Notice to Proceed is issued, work must commence within seven (7) working days thereafter. The total process from award to NTP takes 19 working days or approximately 4 weeks.

Projected Cost Savings:

The goal is to reduce the total time frame from bid opening thru the Intent of Award letter and to the issuance of the Notice to Proceed to 30 days. This could result in saving up to 30 days for the ideal policy and 65 days based upon the average data taken from Primavera. The number of days saved could then be multiplied by .067 per month for further reduction in inflationary costs of the overall construction costs.

Barrier #4: Authorization Limits

Background:

Existing authorization limits in design and construction are overly restrictive and do not provided needed flexibility at the campus level. Efficiency and effectiveness can be improved by increasing these limits to provide the Chancellors with appropriate authority to maintain and improve their campuses. The existing limits have been in place for several years. These limits are too low based on today's design and construction costs. Construction cost increases of 30% (+) over the past two years have exacerbated this problem.

Capital Authority:
Significant time and effort is expended in requesting advanced planning for design as well as capital authority to construct a project. There have been episodes in the past when the Joint Legislative Commission on Governmental Operations (Gov Ops) have not met for a long as nine months essentially putting the brakes on any capital request pending during that period. Gov Ops does not approve the project but the requirement is that agencies consult with this body when there is a desire to embark upon a capital project currently capped out at $100,000. In addition to consultation with Gov Ops, the Board of Governors must first grant authority for a capital project to go forward at one of the regularly scheduled meetings.

Design:
The "Open End" design program allows Universities to select design professionals for a term of one, two or three years and then award these design firms work throughout the term in an expedited manner. This is a very efficient and useful tool. However, the limits on the use of this program are too low to allow effective use of the tool given today's prices. The alternative of selecting design firms on a project by project basis is cumbersome and time consuming.

A second authorization limit in the design arena is the requirement to do face to face interviews when selecting designers for projects over $500,000. The designer interview process is time consuming and costly for both University staffs and the designers themselves.

Finally in the design arena, code review by the Department of Insurance (DOI) on small projects (under $2M) is highly inefficient and time consuming, with little value added. There are thousands of these small renovation and repair projects each year within the University system. These small projects clog up the DOI pipeline. They divert attention from and increase time for review of larger capital projects. The "download" authority for projects below $2M which was granted to the UNC System exempts these same projects from State Construction Office review. This "download authority" has been extremely successful and has made the entire process for these smaller projects more efficient. This same authority was not granted for code review and these smaller projects are still required to go through DOI.

Construction:

In the area of construction, the ability of Universities to use the expedited "informal" project process is constrained by a very low authorization limit (<$300,000). The informal project process allows a shorter duration for advertising construction projects, a less bureaucratic contractor notification and qualification process, and an easier, faster award process. At the same time, the informal process maintains competitive practices and actually has shown more success in achieving Historically Underutilized Business participation. Using the "formal" procurement process adds significant time and money to each of these small projects. The cumbersome process drains resources from already overloaded University staffs. An additional administrative burden is placed on the campuses by the requirement to seek award approval from the General Administration on small projects. This step in the process adds no value.

Recommendations:

The Committee recommends authorization limits be adjusted upward for each area discussed above in accordance with the attached matrix. In general, the limits should be adjusted upward to match the "download" authority of $2,000,000 already granted to the UNC System. This highly successful authority limit will be equally successful if applied across the board to designer selection, code review, capital project limits, informal project limits and award approval.

Projected Cost Saving:

Projected cost savings from adjusting the authorization limits are shown on the attached chart. The Committee estimates that adjusting the informal/capital project limits to $2M will save nearly one year (on average) on each small project. It is estimated that this change will save 18.7 cents (18.7%) on every construction dollar spent.

Authority	Existing Campus Limit	Proposed Campus Limit	Justification
Design			
Advanced Planning	$0	$200,000	Campuses need authority to plan and program future capital projects without having to go through bureaucratic layers of approval. This authority will allow for better, more timely cost estimates and OC-25s preparation on capital projects
Open End Design Contracts (individual projects)	$30,000	$200,000	Present design limits are too low in today' construction market. $30,000 limit does not support most designs needed at the campus level.

	Existing Campus Limit	Proposed Campus Limit	Justification
Open End Design Contracts (Designer limits)	$200,000	$1,000,000	Presently designers are limited to $200,000 in total design work during the time they are one the open end list. This limits campuses use of good, reliable designers.
Open End Design Contracts (Number of years on list)	1, 2 or 3 years	3 years with 2 options years	Presently, designers are selected for open end terms of 1, 2, or 3 years. This complicated system requires campuses to continually "churn" their list of open end designers. The time taken annually to solicit for new designers, form selection panels and make selections if inefficient. The system should be simplified to all one 3 year term for all designers with two option years at the discretion of the campuses.
Designer Interviews Required	$500,000	$2,000,000	Currently projects over $500,000 are considered major projects therefore requiring designers be interviewed. It is recommended that this threshold be increased to $2,000,000
Code Review	$0	$2,000,000	Campuses should be delegated the authority to do code review at the local level for projects below $2M. A Level III certified code reviewer should be required on staff at the Universities to insure this review is done in accordance with State standards. Smaller campuses could be pooled to provide this resource. The present system requires that all projects, regardless of size be sent to DOI for code review. This is an extremely inefficient system and leads to delays and cost increases on smaller projects. Electrical inspections during construction could remain the responsibility of DOI.

Authority	**Existing Campus Limit**	**Proposed Campus Limit**	**Justification**
Construction			

Capital Projects	$100,000	$2,000,000	The existing capital project limit in extremely low in today's construction market. It severely limits the Chancellor's ability to maintain and improve his campus with appropriated dollars. R & R appropriations are not enough to handle the backlog of repairs and renovations needed on a campus. Universities need the flexibility to use appropriated dollars and other sources of money for campus improvements above the $100,000 limit. Further the layers of approval required for even very small capital projects create inefficiencies. The capital project limits should be raised to coincided with the Download limit of $2M. Authority to approve projects below this limit should be delegated to the Board of Trustees and the Chancellors.
Informal Projects	$300,000	$2,000,000	The existing informal construction project limit in extremely low in today's construction market. Very few repair and renovation projects can constructed under this limit. the more formal bidding rules for formal/capital project add inefficiencies and time to the process. Campuses often reduce scope of projects to get them within the existing limit. this leads to piecemeal construction and wasted money. R & R appropriations are not enough to handle the backlog of repairs and renovations needed on a campus. Universities need the flexibility to do larger projects under the informal project rules which are more efficient and effective. The informal project limit should be raised to coincided with the Download limit of $2M.
Award Approval	$300,000	$2,000,000	Presently, once projects are bid, campuses must request approval for award of the projects from General Administration (between $300K and $2M). This adds a layer of inefficiency and adds time to the project award process. This authority should be delegated to the CFOs at each campus.

Authority	Existing Campus Limit	Proposed Campus Limit	Justification
Miscellaneous			
Legislative approval required for non-appropriated projects			While there is some relief allowing OSBM or Gov Ops approval of some non-appropriated projects, those that either require borrowing, a student fee increase or those projects of "size" required full legislative approval. It is recommended that projects that are fully supported for capital and operating costs from non - appropriated sources be exempt from this process.

CHANGE	Estimated Savings / Per Project Dollar			
For projects less than $2M	University admin cost savings	Designer/Contr. cost passed on	Inflation Savings fm quicker delivery	Opportunity Cost [2]
Elimination of need to request advance planning	3 Hours[2]		1 Month	1 Month
Ability to use open end design contract; no interview	92 Hours[2]	$5,000	3.5 Months	3.5 Months
Elimination of need to request capital authority [1]	6 Hours[2]		5 Months	5 Months
Informal project procurement as opposed to formal	10 Hours	$5,000	3 Months	3 Months
Savings in performance and payment bonds [3]		1% x $1M=$10,000		
Ability to award project on campus			1 Month	1 Month
CALCULATED SAVINGS PER PROJECT (assumes average project is $1M)	111 Hours	$ 20,000/Project	13.5 months total	13.5 months total
	111 Hrs/Proj.x $20/Hr		11 months average [4]	11 months average [4]
	$2,220		8%[5] x 11/12	10%[6] x 11/12
	0.2%	2.0%	7.3%	9.2%
TOTAL SAVINGS	**18.7%** or for a project valued at $1M, **$187,000**			

Assumptions:

[1] Time savings from delegation of code review to the Universities runs concurrently with time savings achieved through increase of the capital project authorization limit.

[2] Savings outside University within state agencies (SCO & OSBM) not included.

[3] Greater liability incurred by the Owner and bonds should still be optional.

[4] If the project proceeds with design while concurrently seeking capital authority, 5 months awaiting capital authority is eliminated and total is reduced to 8.5 months. This results in an average of 11 months.

[5] Uses inflation rate used by the Office of State Construction. This number is conservative based on recent experience.

[6] Opportunity cost assumes that if a project is delayed, rental space will be required to house the function. It further assumes a rental cost of $18/sf/yr and a construction cost of $180/sf resulting in a cost of 10% of construction value per year. It does not include other costs associated with lost instruction or research.

Barrier #5: Lack of Adequate Leasing Authority

Background:

The state leasing process is extremely lengthy and bureaucratic. Current authority delegated to state agencies is limited and centrally controlled; however there are several UNC institutions with the capability to properly administer a leasing program outside the current process. In 1998, the state legislature enacted N.C. Gen. Stat. 116-37 which, inter alia, provided the following authority to the University of North Carolina Health Care System & Medical Practice Plan at ECU:

" (i) Property. -- The board of directors shall establish rules and regulations for acquiring or disposing of any interest in real property for the use of the University of North Carolina Health Care System. These rules and regulations shall include provisions for development of specifications, advertisement, and negotiations with owners for acquisition by purchase, gift, lease, or rental, but not by condemnation or exercise of eminent domain, on behalf of the University of North Carolina Health Care System. This section does not authorize the board of directors to encumber real property. The board of directors shall submit all initial policies and regulations adopted pursuant to this subsection to the State Property Office for review upon adoption by the board. Any subsequent changes to these policies and regulations adopted by the board shall be submitted to the State Property Office for review. Any comments by the State Property Office shall be submitted to the Chief Executive Officer and to the President of The University of North Carolina. After review by the Attorney General as to form and after the consummation of any such acquisition, the University of North Carolina Health Care System shall promptly file a report concerning the acquisition or disposition with the Governor and Council of State. Acquisitions and dispositions of any interest in real property pursuant to this section shall not be subject to the provisions of Article 36 of Chapter 143 of the General Statutes or the provisions of Chapter 146 of the General Statutes."

Delegation of the above authority could be provided to some of the capable UNC system institutions.

Recommendation:

Extend the Property provision of 116-37 to (CH, State, &ECU through?) General Administration.

Projected Cost Savings:

Savings would come by reducing lengthy lease times from about 9 to 4 months.

PACE White Paper Summary
FM1: Utilities Savings through Performance Contracting

The Facilities Management Committee proposes enhancing the existing Performance Contracting process by streamlining the process, by increasing the current legislative limits to $200 million, and by installing incentives to encourage the use of these contracts. Through Performance Contracting, campuses would operate more efficiently, reduce utility consumption and become more environmentally sound. Implementation would require legislative relief and budgetary changes and would result in greater efficiencies and future cost reductions.

Working Group Name: Facilities Management
Date: Sept. 29, 2006
Idea #: FM1
Idea Title: FM1: Utilities Savings through Performance Contracting

Description of Current Situation:

The University System currently spends approximately $150 million a year on purchased utilities. One way to reduce this cost is to enter into performance contracts. Performance Contracting is where an Energy Savings Company is contracted to perform renovations to reduce energy costs, and the university uses the future utility savings to pay for the project. This provides a method for building system and infrastructure renewal without using scarce Repair and Renovation dollars or waiting for capital money to be appropriated. Performance Contracting is commonly used by universities in other states and by community colleges and local school systems within North Carolina. However, the current rules associated with Performance Contracting within the UNC System make them difficult to use.

Under the current rules, following an investment grade audit, the Treasurer may decide to use state funds, state debt capacity, or 3rd party financing to fund the project work. The Treasurer has the option to reduce the appropriations for utilities to an agency in order to repay the debt. Thus once the debt is repaid, the biennium budget process would reset the level of annual operating funds for utilities…..therefore although the State benefits in the long term, the agency does not derive a long term annual savings.

For example, the current legislative limit for Performance Contracts of $100 million combined for all State agencies is too low. It limits the contracts to a few relatively small projects.

Additionally, there is little incentive to utilize Performance Contracts since universities are not allowed to retain any savings resulting from Performance Contracting.

Finally, the current Performance Contracting process is difficult to navigate. It has between 15 and 20 steps and requires approval from at least three different State agencies

outside of the UNC system. Approval from the State Budget Office is required at least twice.

Description of Improvement Idea:
The current legislative limit of $100 million should be raised to at least $200 million. This would enable greater use of Performance Contracting.

The current rule that does not allow universities to keep any portion of the utility savings derived from Performance Contracting should be changed. After all, most universities utilities lines are already underfunded, and the universities would need to hire someone to manage performance contracts. Each campus should be allowed to recover the costs of operation of the program and to retain a portion of the savings for re-investment in other energy saving projects.

The current Performance Contracting process should be streamlined and simplified rendering it more palatable to use and easier to navigate. Unnecessary or repetitive steps should either be eliminated or combined. For example, a state agency currently must contact the State Energy Office numerous times during the process, continually requesting permission to proceed to the next phase. Instead of this scenario, the SEO should give permission once in order to begin the process, and the state agency could simply notify the SEO as they proceed through the phases.

Advantages & Benefits of the Idea:
Universities would get significant reductions in utility costs without using scarce Repair and Renovation funds or going through the Capital Appropriations process. A secondary benefit would be that the environmental impact of operating a campus would be lessened.

Disadvantages & Risks of the Idea:

Barriers to Implementation of Idea:
The legislation governing Performance Contracting would need to be changed. The budgeting rules controlling utility budgets would also have to be changed. Universities that undertake a Performance Contract would need to either add staff or contract staff to manage the contract.

Other Comments:

Implementation Timeline:
Implementation would take up to two years. Several universities are at some stage in the current process. UNC-G has received all approvals and is preparing to sign the construction contract.

Affected Activities:

Financial & Risk Estimates:
- Assumptions Behind the Calculations:

Assume each campus would hire an Energy/Project Manager to supervise the contract. The engineer salary with benefits is $100,000 per year.

Assume approximately a 3 percent utility cost reduction across the UNC system once the performance contract bond is repaid—a savings of $4,500,000 if universities are allowed to keep all the savings. True avoided costs occur after the paydown is complete.

- Financial Summary Table:

Financial Estimates	Year 1	Year 2	Year 3	Year 4	Year 5
Investment	$ 1,600,000	$ 1,600,000	$ 1,600,000	$ 1,600,000	$ 1,600,000
Cost savings	$ 0	$ 0	$ 0	$ 0	$ 0
Net savings	$(1,600,000)	$(1,600,000)	$(1,600,000)	$(1,600,000)	$(1,600,000)
Cost avoidance		$1,000,000	$3,600,000	$3,600,000	$3,600,000

Committee Recommendation:

☑ Go   ☐ No Go   ☐ Further Study   ☐ Controversial

PACE White Paper Summary
FM2: Building Electronic Systems Efficiency Improvements

The Facilities Management Committee proposes that universities be allowed to standardize building electronic systems based on compatibility with existing campus systems instead of by low-bid. By allowing standardization of pre-qualified systems, numerous inefficiencies and costs associated with operating multiple systems within campus facilities would be avoided. Additionally, buildings would function with greater efficiency and interoperability. Cost savings would increase over time and would occur through reduction in overtime and training required of staff, through avoided new hires and through reduction in stock, space needs and software maintenance. Implementation would require legislative action allowing State agencies to pre-qualify building systems, would require two years to enact rule changes and would require time to phase out existing systems.

Working Group Name: Facilities Management
Date: Sept. 29, 2006
Idea #: FM2
Idea Title: FM2: Building Electronic Systems Efficiency Improvements

Description of Current Situation:

Building electronic systems, access control, security, fire alarm and energy management systems are becoming increasingly more complex and more interconnected. For example, a fire alarm could shut off the air handlers, send the elevators to the main floor, unlock the security doors, turn on all the lights in the building and graphically display at the remote monitoring station a floor plan of the building with the location of the alarm. Incorporating such technologies into campuses is a possibility, but it is difficult to accomplish with the current low-bid contract delivery method.

The current system awards the installation of a system to the low-bid contractor based on a technical specification for that particular system alone. This means that universities often end up with different manufacturers for each building system and with each system working independent of and disconnected from the other. Further, even when the system types are the same in different buildings, they operate in isolation from each other.

Because of the lack of uniformity in building systems, campuses end up with numerous inefficiencies. For example, campuses that contract out maintenance often end up with multiple maintenance contracts for each individual system. The universities that do maintain their own systems must maintain a stock of repair parts for each system on campus. Further, since the software packages differ, campuses utilize a dedicated server for each system, and technicians carry laptops for each system. Finally, technicians attend numerous classes each year to stay current on all the systems, thereby decreasing productive time.

To maximize the effectiveness of the building operating systems, they need to be fully interoperable. The only way to make them interoperable is through standardization.

Description of Improvement Idea:
To alleviate this situation, a university should be allowed to standardize building electronic systems. This could be accomplished by pre-qualifying systems based on compatibility with existing campus systems with the goal of getting the best value over the life of the system. The university should only need to re-qualify systems every five years.

Advantages & Benefits of the Idea:
Standardizing one or two systems would allow a campus to reduce its stock and reduce the cost of discarding obsolete parts as old systems are replaced. Universities would also reduce software maintenance costs as systems are consolidated. They would have fewer resources tied up in system specific computers—an HVAC shop would utilize one or two computers versus the four or five they currently use.

The largest savings would come from personnel costs. The universities that contract out the maintenance would have fewer contracts to administer. The universities that perform the maintenance in-house would have fewer man-hours invested in system specific training and associated travel, room and board.

Disadvantages & Risks of the Idea:
The local vendor of the preferred brand would not be aggressive in its pricing if that vendor becomes aware that the university is using a particular system.

Barriers to Implementation of Idea:
A law allowing State agencies to pre-qualify building electronic systems would be needed.

Other Comments:

Implementation Timeline:
Two years would be needed to enact rules changes. Once this change is enacted, it may take up to ten years to phase out existing systems.

Affected Activities:
Facilities Operations.

Financial & Risk Estimates:

- Assumptions Behind the Calculations:
  As building systems become more complex, additional staff would need to be added to manage and maintain the systems. However, using standardized systems would allow for 32 positions to be avoided. The annual savings in the table below express system-wide avoided personnel costs in the third year following implementation.

  Standardized systems would also eliminate the need to train for multiple systems. By the third year following implementation, the UNC system would save system-

wide approximately $100,000 in training costs, and, by the tenth year, the UNC system would save in excess of $400,000.

Through supply inventory reduction, cost savings would reach an estimated $200,000 by the third year and grow to $600,000 by the tenth year.

- Financial Summary Table:

Financial Estimates	Year 1	Year 2	Year 3	Year 4	Year 5
Investment	$ 0	$ 0	$ 0	$ 0	$ 0
Cost savings	$ 0	$ 0	$ 300,000	$ 400,000	$ 500,000
Net savings	$ 0	$ 0	$ 300,000	$ 400,000	$ 500,000
Cost avoidance	$ 0	$ 100,000	$ 560,000	$ 560,000	$ 560,000

Committee Recommendation:

☑ Go   ☐ No Go   ☐ Further Study   ☐ Controversial

It is the responsibility of each Facility Manager to make good decisions regarding the means and methods of delivering services. However, the playing field is not level between contracted and self performed services due to unfavorable personnel policies and procurement processes. This measure would provide greater flexibility for pay rates and temporary worker requirements to allow the optimal use of human resources. The measure would also revise contracting and procurement processes to allow Facility Managers to procure lower cost materials and to contract for services without unnecessary bureaucracy. Elimination or reduction of the barriers would create an environment where decisions would result in the most efficient organization.

Working Group Name: Facilities Management
Date: Sept. 29, 2006
Idea #: FM3
Idea Title: FM3: Eliminate Barriers to "Most Efficient Organization"

Description of Current Situation:

It is the responsibility of each Facility Manager to make good decisions in determining the means and methods of delivering services. In each case, the service may be best delivered by in-house staff or by contractors depending on the service, its importance to the institutional mission and the cost effectiveness of its delivery. Core services are often best delivered by full time employees. Specialty or non-core services are the best candidates for outsourcing. Currently, several regulations and barriers exist that create an un-level playing field when trying to arrive at the "Most Efficient/Effective Organization." The purpose of these requirements is to ensure fair competition among services providers; however, these requirements sometimes become barriers to executing effective facility outsourcing programs. Some of the areas that create impediments to efficient and effective methods of contract delivery are as follows:

- State personnel regulations, with respect to hours and wages, result in an unfair disadvantage for the facility management organizations in that they are required to pay wages higher than contractors.

- State personnel regulations provide unnecessary benefits and privileges for temporary workers. This prevents agencies from taking large-scale advantage of temporary workers during times of high demand for services thereby reducing year-round labor costs.

- State purchasing requirements for awarding "low-bid" contractors can result in low quality work and decreased life cycles for buildings.

- State purchasing contract procurement regulations burden the Facility Manager with lengthy procurement processes that reduce the flexibility to respond to campus needs.

- Innovative contracting methods are not available to the Facility Manager under the State Purchasing rules.
- Oppressive purchasing procedures and limits unnecessarily burden the Facility Manager in the procurement of supplies, materials and equipment.

Description of Improvement Idea:
The following suggestions should be considered to improve the outsourcing option:

- Reduce labor costs by paying wages at or below market to allow Facility Managers to provide competitive labor costs.
- Relax benefits and restrictions on the use of part-time and seasonal labor.
- Allow award of contracts based on "value" in lieu of "low-bid" only.
- Evaluate alternative contracting methods.
- Raise procurements levels to $30,000 and above for formal bidding on supplies and equipment.

Advantages & Benefits of the Idea:
The proposed changes would improve the contract administrative process and improve the overall efficiency of Facilities Organizations.

Disadvantages & Risks of the Idea: None.

Barriers to Implementation of Idea:

Changes in the contract administrative process might require legislative approval.

Other Comments:

Implementation Timeline:

Affected Activities:

Financial & Risk Estimates:

Committee Recommendation:
☑ Go   ☐ No Go   ☐ Further Study   ☐ Controversial

The Facilities Management Committee proposes increasing the current informal contract maximum from $300,000 to $2 million. This increase would allow campuses to greatly speed up the design, bid, award and construction process for smaller projects in comparison to the current capital project process and to avoid the bureaucracy associated with the capital project process without risking quality. Additional benefits include the ability for campuses to address badly needed repairs and deferred maintenance in a timely manner allowing better support of the core mission and the enhancement of HUB contractor participation. Implementation would require legislative relief and would result in cost savings of 3 to 6 percent on design fees for projects between $300,000 and $2 million.

Working Group Name: Facilities Management
Date: Sept. 29, 2006
Idea #: FM4
Idea Title: FM4: Increase Informal Contract Funding Limits

Description of Current Situation:

Currently, campuses are required to use a time-intensive capital program process to bid out and procure design and construction services for projects valued at greater than $300,000 and less than $2 million. Little value is gained by using this process for work valued at less than $2 million as additional costs are incurred that result in less funds remaining for maintenance, repair or renovation work on campuses.

For projects under $300,000, campuses use the informal contract process. This process is generally less time-consuming than the capital process in that bid documentation is easier to develop and use, in that bid solicitations normally require 20 days or less, and in that each campus maintains a listing of eligible contractors who are pre-qualified to accomplish the work. Further, these contracts do not require publication on the State of North Carolina Interactive Purchasing System website and do not require bonding from interested contractors.

Description of Improvement Idea:
Raise the maximum limit for informal contracts from $300,000 to $2 million.

Advantages & Benefits of the Idea
Raising the limit for informal contracts from $300,000 to $2 million would significantly speed up the design and construction process for smaller projects and avoid the bureaucracy associated with the capital project process without risking quality.

This would allow campuses to greatly speed up the design, bid, award and construction process in comparison to the current capital project process. A greater number of smaller projects such as roof replacements, HVAC system renovations, mechanical/electrical replacements and energy saving improvements—projects that are not normally associated

with construction of new facilities or full renovations of existing buildings—would be covered under this increased informal contract limit. This increase would also help address and keep pace with the continued inflationary increases of maintenance, renovation and construction costs that have significantly reduced affordable project scope.

More specifically, the increased limits would allow for the following:

- Enable campuses to address badly needed repairs and deferred maintenance in a more timely fashion.
- Enhance HUB contractor participation. The informal contract process is easier for HUB contractors to understand and use. A $2 million limit would be within the scale at which HUB contractors could either bid directly or partner with other HUB or non-HUB contractors to compete favorably, thereby enhancing competition and HUB participation.
- Save 3 to 6 percent of the project cost associated with current capital project design fees.
- Address the inflation of maintenance, renovation and construction costs that have significantly reduced affordable project scope.
- Support core mission by allowing Facilities organizations to quickly address education and research facilities requirements.
- Reduce workload on already burdened staff and allow more time to be allocated to quality assurance and project management.

Increasing the current informal contract limits from $300,000 to $2 million would also greatly alleviate some burdens from the capital program process and would allow campuses to award contracts in a more timely fashion with less paperwork and without a loss of quality.

Disadvantages & Risks of the Idea: None

Barriers to Implementation of Idea:
The current legislated informal contract limits of $300,000 would need to be increased to $2 million.

Other Comments:

Implementation Timeline:
Increasing the informal contract limits would require legislative relief and therefore would require at least one year to implement.

Affected Activities:
Affected areas include renovation, maintenance and repair activities less than $300,000, the sustainment of campus infrastructure, and core educational activities.

Financial & Risk Estimates:

- Assumptions Behind the Calculations:
  The UNC System campuses complete approximately an annual total of $10
  million in construction and renovation projects that are valued at $300,000 or less.
  The majority of these projects are currently performed through informal contracts
  by commercial contractors.

  The UNC System handles an additional $10 million in construction and
  renovation projects that are valued between $300,000 and $2 million. Of that $10
  million, 10 percent or $1 million would represent design costs. Typically, 3 to 6
  percent can be saved on design fees. So, if limits were increased to $2 million, the
  UNC System should see cost savings between $30,000 and $60,000 annually.

- Financial Summary Table:

Financial Estimates	Year 1	Year 2	Year 3	Year 4	Year 5
Investment	$ 0	$ 0	$ 0	$ 0	$ 0
Cost savings	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 60,000
Net savings	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 60,000
Cost avoidance	$ 0	$ 0	$ 0	$ 0	$ 0

Committee Recommendation:

☑ Go   ☐ No Go   ☑ Further Study   ☐ Controversial

PACE White Paper Summary
FM6: Raise Force Construction Legislative Funding Limits

The Facilities Management Committee proposes increasing the current statutory limits restricting the use of force account work from $50,000 in labor and $125,000 total to a single total limit of $500,000. By making this change, force accounts organizations would be allowed to perform additional work if they are more cost-effective, timelier or provide better quality than local construction contractors. Additionally, in order to remain competitive, this change would also require force account organizations to reevaluate their operations and become more efficient. Implementation of this plan would require legislative relief and would result in savings from greater efficiency and competition.

Working Group Name: Facilities Management
Date: Sept. 29, 2006
Idea #: FM6
Idea Title: FM6: Raise Force Construction Legislative Funding Limits

Description of Current Situation:

Current legislative statute limits in-house construction operations, known as force account work, to no more than $50,000 in labor and no more than $125,000 for both labor and materials. The general intent behind setting limits to the projects available to in-house operations was to ensure that force account shops do not benefit from an unfair advantage in competing with local construction vendors.

Unfortunately, this arbitrary statutory limit often prevents a force account organization from providing construction services where the force account may actually be more cost-effective, timelier or provide improved quality compared to local construction contractors. Beyond the fact that the current limit is arbitrary, double-digit inflation over the last several years in the construction market has severely reduced the scope of what the force account shops can accomplish, further diminishing the effectiveness of current force account operations.

Description of Improvement Idea:
Increase the statute restriction regarding force account maximum limits from the current levels ($50,000 in labor and $125,000 total) to a single total limit of $500,000. To provide oversight, force account projects over the current limits could be reported to General Administration.

Advantages & Benefits of the Idea:
A higher force account limit would allow facility management organizations to take advantage of competitive opportunities in providing efficient construction services for those projects where the in-house operation would be more cost-effective, timely or offer improved quality compared to private sector contractors. Generally, force account operations would be expected to provide equivalent services at lower or equal costs to be considered eligible to accomplish the work. Projects that could be accomplished by commercial contractors at lesser cost, more timely or with higher quality should be

awarded to those contractors. The added benefit is that this competitive arrangement would encourage force account operations to consistently evaluate their cost-effectiveness and value to the institution over time.

Disadvantages & Risks of the Idea: None

Barriers to Implementation of Idea:
Legislated limit on force account utilization would need to be changed.

Other Comments:

Implementation Timeline:
Increasing the informal contract limits would require legislative relief and therefore would require at least one year to implement.

Affected Activities:
Affected areas include renovation, maintenance and repair activities less than $300,000, the sustainment of campus infrastructure, and core mission educational activities.

Financial & Risk Estimates:
Savings as a result of increased competition and greater efficiency would be achieved but difficult to quantify.

- Assumptions Behind the Calculations:
  The UNC System campuses complete approximately $20 million annually in construction and renovation projects that are valued at $500,000 or less.

  Assuming that 30 percent of these projects could be accomplished by force account shops with a 15 percent savings on each project, the anticipated cost avoidance UNC-wide would be approximately $900,000 per year.

- Financial Summary Table:

Financial Estimates	Year 1	Year 2	Year 3	Year 4	Year 5
Investment	$ 0	$ 0	$ 0	$ 0	$ 0
Cost savings	$ 0	$ 0	$ 0	$ 0	$ 0
Net savings	$ 0	$ 0	$ 0	$ 0	$ 0
Cost avoidance	$ 900,000	$ 900,000	$ 900,000	$ 900,000	$ 900,000

Committee Recommendation:
☑ Go ☐ No Go ☐ Further Study ☐ Controversial

PACE White Paper Summary
FM7: Implement a Campus Energy Management Program

The Facilities Management Committee proposes the creation of and funding for an Energy Management Program at each campus. The EMPs would generate significant cost savings system-wide by preventing costly energy waste and by implementing conservation strategies and policies. While there would be significant implementation costs and recurring costs to maintain the EMPs, the programs would more than pay for themselves through the cost reductions and efficiencies that they would generate. EMP programs could generate annual net savings of $6 million annually through cost avoidances. Implementation could take one to six years.

Working Group Name: Facilities Management Working Group
Date: Sept. 29, 2006
Idea #: FM7
Idea Title: FM7: Implement a Campus Energy Management Program

Description of Current Situation:

Each campus in the UNC System could generate significant cost savings by staffing, providing resources and aggressively pursuing a comprehensive Energy Management Program (EMP). Currently, few UNC campuses operate an EMP. As a result, energy is often consumed by the operation of building systems and equipment when not necessary. On most campuses, it is not uncommon to see empty classrooms, offices and laboratories lit throughout the night and for building HVAC systems to provide full cooling or heating during low occupancy periods such as nights, weekends or holidays. These are just a few examples of the large-scale energy waste that occur on campuses daily which could easily be impacted by implementing available technology and better operating practices.

Additionally, campuses lack incentives to reduce energy costs. Campuses currently pay for state-building expenses with funds provided annually in state appropriations. Per the current state budgeting model, successful efforts to reduce energy costs result in a reduction (equivalent to the cost savings) of the annual appropriations for the subsequent year. In this regard, campuses are unable to retain savings generated from an effective Energy Management Program. Thus, the current model does not reward campuses to pursue energy awareness and conservation.

Description of Improvement Idea:

The UNC System should mandate that each UNC campus establish an Energy Management Program (EMP) Office and mandate that additional fiscal resources be provided to staff and operate each respective EMP Office from the annual state Utilities budget. At a minimum, establishing an effective EMP Office would include:

- Hiring a Campus Energy Manager with experience in energy analysis, energy conservation and public communication. Additional staff should be hired to assist

the Energy Manager since the EMP would generate savings to offset such positions.

- Developing a comprehensive Energy Conservation Awareness Program to promote energy-wise behavior by campus occupants.

- Installing meters on campus facilities so that energy consumption could be monitored and analyzed and so that reduction strategies could be developed for energy-intensive buildings.

- Establishing an energy setback program that reduces consumption of building systems (lighting and HVAC) during low use periods such as nights, weekends and holidays.

- Installing proven technologies that reduce energy consumption such as motion sensors, building heat recovery systems (e.g., enthalpy wheels, glycol loops), energy efficient lighting, and variable speed motors and pumps.

- Exploring alternative energy sources such as geothermal, hydropower, wind power, solar, biomass and others that provide energy at lower costs than local utility providers.

- Where economical, installing equipment that shifts consumption from high-cost to low-cost periods to reduce overall costs. Examples include chilled water thermal storage tanks and auxiliary generators that operate at lower costs during high-cost periods.

- Exploring emerging building technologies that reduce overall energy costs (e.g., chilled beam cooling systems).

- Using economies of scale, where appropriate, to reduce energy rates by combining regional state agencies during negotiations with a local utility provider.

- Implementing "tune up" programs (similar to the State Energy Office initiatives) to optimize energy use by building components such as air handlers, boilers, and chillers.

- Implementing a "Green Purchasing" policy within the UNC System that encourages equipment buyers to purchase Green Star or equivalent energy-efficient equipment.

- As not all campuses are at the same level of energy management, developing partnerships between campus EMPs in order to share expertise, increase skills and better communicate business practices.

- Allowing Utility budget monies to fund energy conservation projects.

Finally, for an energy conservation program to be successful, participants would need to understand that there is a benefit from energy reduction. In this respect, the current State Energy Office (SEO) program is not a successful model since it aims almost exclusively at mandating reductions without providing incentives. This typical government "directive approach" does not encourage savings as might be more readily seen if there were a "carrot approach" laced with incentives and rewards. For an energy reduction program to invigorate the campus community, it would need to recognize university efforts in a positive fashion. *The proposed incentive program requires the state to allow individual*

campuses to retain a permanent portion of any verified cost savings achieved through a reduction program. These savings could then be reinvested. This type of program would encourage participation and motivate each campus.

This would require a change to the current energy budgeting and funding process to preclude the state from decreasing annual utility appropriations by the amount saved. A revised budget process would allow a portion of the achieved savings to remain at the university for the future fiscal years as a source of continued investment, preferably in energy reduction efforts.

Advantages & Benefits of the Idea:
With the establishment and successful operation of a robust EMP, each campus would generate significant cost savings due to lower energy consumption and increased energy awareness. A dedicated EMP Office would provide the campus with an advocate for energy reduction. Additionally, by allowing the universities to permanently retain a portion of any cost savings, the awareness and involvement of the campus would increase greatly. This would fuel additional innovative efforts to reduce costs since the universities would reap the benefit of their efforts.

Disadvantages & Risks of the Idea:
There would be an initial expense to establishing an EMP. This would primarily involve salary monies to hire the expertise in operating the program. The expected return on investment from energy savings generated by the program should more than cover the costs for those expenses within a relatively short period. There is also the risk that campus administration and occupants would not support the EMP sufficiently to ensure its success. Finally, there is the risk that energy costs could escalate faster than the energy savings, thereby reducing the value of the anticipated financial savings.

Barriers to Implementation of Idea:
Current State budget process for managing utility funds.

Other Comments:

Implementation Timeline:
Implementation would take one to six years.

Affected Activities:

Financial & Risk Estimates:
- <u>Assumptions Behind the Calculations</u>:
  Some schools within the UNC system have already established robust energy management programs and increased savings at those schools would be minimal. For schools without EMPs, the savings would be significant. The savings represented in the table below are meant to represent the average savings expected of the entire UNC system not for any individual institution.

  The price of energy will increase by at least 10 percent annually.

There would be no anticipated energy reductions in the first year of the program. The program would generate an estimated 2 percent reduction in total energy costs during the second year and an additional 2 percent each successive year culminating with a total 8 percent reduction from the current total energy costs of $122,700,249 by the fifth year. This is cost avoidance in the future.

There would be an initial and average annual cost to establish an EMP at each school of roughly $200,000 for staff and operations. For the 16 campuses, this would amount to approximately $3,200,000. Each EMP office expenses would increase by 5 percent annually.

- Financial Summary Table:

Financial Estimates	Year 1	Year 2	Year 3	Year 4	Year 5
Investment	$ 3,200,000	$ 3,200,000	$ 3,200,000	$ 3,200,000	$ 3,200,000
Cost savings	$ 0	$ 0	$ 0	$ 0	$ 0
Net savings	$(3,200,000)	$(3,200,000)	$(3,200,000)	$(3,200,000)	$(3,200,000)
Cost avoidance	$ 0	$ 2,454,000	$ 5,398,800	$ 8,908,000	$13,065,000

Committee Recommendation:

☑ Go ☐ No Go ☐ Further Study ☐ Controversial

PACE White Paper Summary
FM9: Space Management/Utilization

The costs to maintain and operate building space as well as the cost to construct new space to accommodate growth are significant and are escalating above the rate of inflation. This measure provides recommendations for improving space utilization through the application of space standards, institutional level space master planning, changing the paradigm of academic scheduling and the effective management of this valuable commodity. Goals would be established for campuses. Investments in renewal of obsolete facilities would be made based on the potential of increasing utilization. New construction would be restricted until utilization goals are met.

Working Group Name: Facilities Management
Date: Sept. 29, 2006
Idea #: FM9
Idea Title: FM9: Space Management/Utilization

Description of Current Situation:

The maintenance and operating costs of campus facilities are escalating above the rate of inflation due to market conditions for consumable goods and energy. Costs to condition the spaces are basically static whether occupied or not. Therefore, it makes sense to improve utilization rates to optimize the existing assets and to avoid/reduce the capital cost of new construction to support growth. The following practices exist which negatively impact space utilization:

- Academic scheduling results in low classroom/lab utilization rates.
- University System space standards are not applied across all projects.
- Expensive laboratory space is not effectively utilized. Lab space is not justified based on grant activity.
- Campus core space is utilized to house administrative support offices and service functions.
- Human Resources policies may not allow "Work at Home" arrangements that decrease the demand for administrative office space.
- Part-time and adjunct faculty occupy valuable office space.
- Summer school scheduling may require operation of an entire building to offer a small number of classes offered by a particular College.
- Retired faculty retains office space in core academic areas.
- Large classrooms are used for smaller class sizes due to insufficient availability of classrooms appropriately sized to teaching methods.
- Space is unusable due to poor condition or outdated configurations.
- Multiple space databases are utilized that are not integrated or reconciled.

- Building space is clogged with under-utilized or obsolete equipment, furnishings, books and materials.
- Academic facilities are increasingly used for non-academic events.

Description of Improvement Idea:
Develop, implement and keep current a space management strategy that:

- Establishes a space utilization committee comprised of senior level management.
- Communicates space policy clearly to all university divisions.
- Allocates space based on demonstrated needs and on current program requirements and allows strategic space re-allocation based on institutional master planning.
- Implements tactics to improve space utilization by doing the following:
    - Expand instruction times for academic scheduling and set utilization goals.
    - Apply University space standards across all projects.
    - Establish laboratory use standards to justify assignment of laboratory space.
    - Consider relocation of support functions to lower cost off-campus space.
    - Allow flexibility in work scheduling and work at home arrangements to better utilize office space.
    - Implement space standards for part-time, retired and adjunct faculty.
    - Develop priorities for classroom renovation to increase usable space.
    - Consolidate space databases and update on a regular cycle.
    - Require departments to purge spaces of obsolete and unused materials and equipment.
    - Develop policies to control costs of non-academic uses of building space.

Advantages & Benefits of the Idea:
Changing how we view and use available space could have both a direct and indirect impact on utility consumption, maintenance costs and future space requirements. The workspace and support needs of different types of work would be systematically studied and assigned accordingly. Space effectiveness would become an ongoing partner in campus efficiency measures that impact utility and labor costs.

Disadvantages & Risks of the Idea:
Affected areas of the campus community could be relocated or reassigned. Inactive programs might be forced out by more productive activities. This plan requires solidarity from top leadership to ensure fair and effective implementation.

Barriers to Implementation of Idea:
Senior management in affected divisions could resist implementation.

Other Comments:

The increase and optimization of space utilization will always remain a primary key because it drives down utility costs, housekeeping costs and other expenses when used effectively.

Implementation Timeline:
Two to ten years.

Affected Activities:

Financial & Risk Estimates:

- Assumptions Behind the Calculations:

  The investment of $250,000 per year per campus for 4 years to implement a space management program will result in higher space utilization rates. Higher utilization will avoid the need to construct 400,000 gsf of new building space at $250 / gsf or $20,000,000 annually over a 5 year period starting in year 3.

- Financial Summary Table:

Financial Estimates	Year 1	Year 2	Year 3	Year 4	Year 5
Investment	$ 4,000,000	$ 4,000,000	$ 4,000,000	$ 4,000,000	$ 0
Cost savings	$ 0	$ 0	$ 0	$ 0	$ 0
Net savings	$(4,000,000)	$(4,000,000)	$(4,000,000)	$(4,000,000)	$ 0
Cost avoidance	$ 0	$	$20,000,000	$20,000,000	$20,000,000

Committee Recommendation:
☑ Go ☐ No Go ☐ Further Study ☐ Controversial

PACE White Paper Summary
FM11: Ease Procurement Restrictions that Hinder Facilities Operations

The Facilities Management Committee proposes the easing of procurement restrictions that hinder efficient facilities operations. Specifically, the committee recommends raising the threshold for small order purchasing of facilities-related equipment and services from $5,000 to $30,000 and eliminating the requirement for contractors to use state term commodity contracts to provide dedicated material supply operations. These changes would improve the efficiency and effectiveness of facilities operations by removing bureaucratic requirements, by accelerating the process of obtaining materials and services, and by increasing the chances of securing the services of an efficient and cost-effective commercial materials supplier. The proposed changes would result in increased productivity for buyers and facilities personnel. Internally, it would take approximately one month to adjust to the threshold increase and it would take at least six months to contract for a commercial materials provider once the state legislative restrictions have been removed.

Working Group Name: Facilities Management
Date: Sept. 29, 2006
Idea #: FM11
Idea Title: FM11: Ease Procurement Restrictions that Hinder Facilities Operations

Description of Current Situation:

Campuses in the UNC system are currently required to follow bureaucratic and onerous procurement processes in order to provide efficient maintenance and repair services or minor construction services to the campus. Two specific cases are outlined below:

1. Small Order Purchasing: The State Purchasing Office (SPO) established the Small Order Purchase Procedure (see Section V-2 of the North Carolina State Purchasing Manual) which is intended to protect the public trust by allowing open and fair competition for public sector vendors for materials and services valued at $5,000 or greater and by ensuring that the state agencies are getting the best value for the taxpayer.

    The threshold of $5,000 was established on March 1, 2001—an increase from the previous limit of $2,500. As currently applied, this threshold requires a competitive bidding process to obtain "commodities, services or printing" valued at $5,000 or greater. This forces buyers to solicit at least three separate quotes from vendors before the desired materials or services can be obtained. Considering the typical volume of facilities-related materials and services purchased annually, this means that a significant amount of time, manpower and cost must be committed to contact vendors, obtain quotes, develop bid documents and/or process documents in order to obtain relatively low-cost items or services.

The threshold of $5,000 is unrealistically low in the facilities business where parts and materials habitually run above that limit—particularly in regards to major maintenance, renovations or construction projects. Additionally, the buying power of this limit has been severely eroded since 2001 due to the double-digit inflationary increases experienced by the construction and repair markets in the U.S.

2. Material Delivery Operations and Outsourcing: Procurement restrictions discourage efficiency in outsourcing material warehouse operations. Currently, procurement laws require state agencies to use state term commodity contracts unless the equivalent contract equipment item can be procured elsewhere at less cost. At face value, this seems reasonable, but this legislative restriction has also been applied in the outsourcing of campus material operations. On at least three campuses (UNC-CH, UNC-C and ECU) this has prevented universities from successfully outsourcing inefficient in-house operations to more cost-efficient material handling contractors.

   The term contract requirement prevents commercial vendors from taking advantage of market conditions to offer the best price structures to the campuses. Vendors are forced to compete against the state term contracts, rather than using economies of scale and bulk buying power to deliver the specific material needs of each campus. While a potential vendor might be able to offer some items at lower prices than the state term contracts, a vendor might not have the market-clout to beat all state term contract prices. This means that a commercial vendor accepts a significant, non-market driven risk to take on a contract with state agencies. Although contractors may order off the state term contracts for campus needs, the statute forbids the vendor from adding markup to the commodity cost, thereby forcing the vendor to incur a loss in obtaining, handling and providing the state commodity item. Major commercial vendors have opted to significantly escalate their bid prices in order to cover this risk, thereby increasing the cost to the state taxpayers for the same service.

Description of Improvement Idea:

1. Small Order Purchasing: Increase the efficiency of the facilities operations by raising the threshold for small order purchasing of facilities-related equipment and services from $5,000 to $30,000. By increasing this limit, campus buyers can reduce the time, effort and documentation required to obtain equipment and services, thereby eliminating much of the tedious paperwork and bureaucratic steps associated with the much lengthier competitive process.

2. Warehouse Outsourcing: Eliminate the requirement for contractors to use state term commodity contracts to provide dedicated material supply operations. This would allow a more competitive environment that would benefit the state by outsourcing operations in a way that leverages the expertise and buying power of contractors while providing cost-effective services to the state of North Carolina.

Advantages & Benefits of the Idea:
Allowing campuses to streamline their procurement processes by implementing the two aforementioned proposals would:

- Improve efficiency and effectiveness of facilities operations by removing bureaucratic requirements and accelerating the process of obtaining materials and services without adversely affecting competition in the local markets.

- Improve the likelihood of obtaining the services and capabilities of an efficient and cost-effective commercial materials supplier for university business needs.

Disadvantages & Risks of the Idea:
Departments could misuse a higher threshold limit for equipment and materials purchases to avoid fair competition. To prevent this, each campus would need to conduct audits to ensure that buyers are using appropriate processes to get the best value for the State of North Carolina.

The primary risk to removing the requirement that state agencies utilize state term contracts would be that the amount of materials purchased off the state term contracts might be significantly reduced, thereby encouraging some vendors not to offer their best pricing in the state contracts.

Barriers to Implementation of Idea:
Legislative support and changes to regulatory requirements by the Office of State Purchasing (OSP) would be required.

Other Comments:
A derivative benefit of these proposals is that improved material acquisition means that maintenance technicians could significantly improve their service operations. Current inefficient in-house warehouse and purchasing practices slow down the effective repair or maintenance of campus facilities by technicians who are often frustrated in their inability to quickly obtain necessary supplies and parts. By establishing modern, just-in-time warehouse operations that meet the needs of the technicians, maintenance operations could easily increase by 5 percent or more. This would greatly increase the entire maintenance condition of each and every campus.

Implementation Timeline:
Approximately one month would be required to set up the internal processes to handle the threshold increase. It would take six months or longer to contract for a commercial materials provider once the state restrictions have been removed.

Affected Activities:

Financial & Risk Estimates:
- Assumptions Behind the Calculations:
  The primary assumption is that the proposed changes would result in increased productivity for buyers and facilities personnel not in true cost savings.

- At least 5 percent of personnel time (buyers and maintenance technicians) could be utilized more efficiently if the two proposals listed above were implemented.
- Fifty percent of the $99,935,734 or $49,967,867 in SPA Staff Personnel Costs within the Facilities/infrastructure operation sub-function (of the Facilities Management enabling function) is related to buyers and maintenance technicians. Five percent of $49,967,867 would be approximately $2.5 million per year. This is the estimated annual cost avoidance that could result in an equivalent increased productivity.

- Financial Summary Table:

Financial Estimates	Year 1	Year 2	Year 3	Year 4	Year 5
Investment	$ 0	$ 0	$ 0	$ 0	$ 0
Cost savings	$ 0	$ 0	$ 0	$ 0	$ 0
Net savings	$ 0	$ 0	$ 0	$ 0	$ 0
Cost avoidance	$ 0	$2,500,000	$2,500,000	$2,500,000	$2,500,000

Committee Recommendation:

☑ Go   ☐ No Go   ☐ Further Study   ☐ Controversial

PACE White Paper Summary
FM12: Eliminating DOI Review Requirements Barriers to Minor Renovations

The Facilities Management Committee proposes allowing campuses to internally document and provide certification of code compliance for all proposed renovations or new construction projects that fall below the informal contract limit of $300,000 instead of having them negotiate through the onerous DOI review process. By avoiding the significant and unnecessary delays currently experienced through the DOI process, universities would be able complete minor renovation work and routine maintenance in a more efficient and timely manner and would avoid staffing and inflationary costs resulting from the approval process. It would take approximately one month to set up the certification process, meaning that implementation for this idea could be swift.

Working Group Name: Facilities Management
Date: Sept. 29, 2006
Idea #: FM12
Idea Title: FM12: Eliminating DOI Review Requirements Barriers to Minor Renovations

Description of Current Situation:

Campuses in the UNC system are wasting valuable productive time in submitting and managing Department of Insurance (DOI) minor renovation plan reviews. DOI approval times are excessive. Although a five-day turnaround time has been promised, delays of up to six months are not uncommon. Submission requirements outlined in the April 25, 2006, DOI Memorandum are vague and often onerous when compared to the cost or scope of the planned renovation. The DOI review process adds little value other then a rubber stamp of the submitted plans. Currently, many universities are stymied in their efforts to support core academic functions due to the current DOI review requirements and excessive submittal processing time.

Description of Improvement Idea:
Streamline the current DOI approval process by allowing campuses to internally document and to provide certification of code compliance for all proposed renovations or new construction projects that fall below the informal contract limit of $300,000 (as currently specified by legislative statute). Certification could come from a licensed engineer on staff or a licensed design professional under contract. All certifications should be maintained in building history files and would be available if code violations were discovered. Universities would be held accountable for any code discrepancies and be required to correct any deficiencies or risk a financial penalty.

Advantages & Benefits of the Idea:
Allowing campuses to internally approve and certify minor renovation projects less than $300,000 would:

- Improve efficiency and effectiveness by ensuring that minor renovation projects are quickly processed, thereby better supporting the core functions of the university.
- Increase the time available for DOI review staff to concentrate on capital projects where code issues are generally more complex and have much greater impact on the safe operation and occupancy of the facility.
- Free engineering staff to spend time on other vital tasks associated with sustaining campus infrastructure.
- Improve overall facility conditions to meet rapidly changing education requirements.
- Increase compliance with all codes as a result of the certification process.
- Save scarce funds associated with project delays and material escalation costs.

Disadvantages & Risks of the Idea:
This proposal would require DOI to empower individual universities with code compliance authority for projects valued at less than $300,000. Universities would need the technical capacity and capability to properly implement and monitor the certification process.

Barriers to Implementation of Idea:
The policy outlined in the April 25, 2006, DOI Memorandum with the subject "DOI/OSFM Plan Reviews Required for ALL New Construction, Repairs and Renovations" is a barrier.

Other Comments:
Failure to adopt this proposal would prevent the University System from being able to support the core mission in a timely manner. Renovations as simple as replacing door hardware, providing an additional electrical circuit in a classroom or installing a ceiling tile system would continue to require submission of plans to DOI. Delays in DOI reviews not only impede renovation work but often the routine maintenance of building systems as well. The current DOI guidelines are ambiguous at best and put universities in a position to have to inundate DOI with questions on whether a submission for a proposed action is required or not. These inquiries are causing additional delays by diverting DOI attention from providing timely Capital Project design reviews.

Implementation Timeline:
Approximately one month would be required to set up a certification process that could be implemented across the University system.

Affected Activities:
Affected areas include renovation, maintenance and repair activities less than $300,000, the sustainment of campus infrastructure, and core mission educational activities.

Financial & Risk Estimates:
- Assumptions Behind the Calculations:

- o Administrative costs would be reduced by 5% due to reduced handling of DOI submittals. This reduction is applied to 5% of the annual project volume of $20 million yields $50,000 in annual savings.

- o Additionally, inflationary costs associated with unnecessary project delays would be avoided. At 5% annual escalation of construction costs applied to $20 million in project volume yields $77,000 annual savings for a 4 week reduction in delays.

- Financial Summary Table:

Financial Estimates	Year 1	Year 2	Year 3	Year 4	Year 5
Investment	$ 0	$ 0	$ 0	$ 0	$ 0
Cost savings	$127,000	$127,000	$127,000	$127,000	$127,000
Net savings	$127,000	$127,000	$127,000	$127,000	$127,000
Cost avoidance	$ 0	$ 0	$ 0	$ 0	$ 0

Committee Recommendation:

☐ Go   ☐ No Go   ☑ Further Study   ☐ Controversial

PACE White Paper Summary
FM13: Benchmarking Facilities Management Costs

Currently, there is no system-wide usage of industry benchmarks to ensure that service functions such as Housekeeping, Grounds Maintenance and Building Maintenance are appropriately staffed and funded to meet institutional service goals. Under this effectiveness measure, each institution would utilize the APPA (Association of Higher Education Facilities Officers) Core Data Survey to submit operational data such as staffing, M&O costs and space information. Key Performance Indicators would be provided to the institution to allow reallocation of staffing and resources to ensure a competitive position and to track progress towards benchmark targets. Further, APPA data would be utilized to model staffing levels and to properly allocate funds towards employee development and technical training. System-wide reallocation within the Facilities organizations is estimated at $4.2 million per year.

Working Group Name: Facilities Management
Date: Sept. 29, 2006
Idea #: FM13
Idea Title: FM13: Benchmarking Facilities Management Costs

Description of Current Situation:

Currently, there are no benchmarks or comparative costs being utilized comprehensively across the UNC system for the different service functions such as Housekeeping, Grounds Maintenance, Building Maintenance, Solid Waste and Utilities Cost. Except for the M&O Reserve Funding Model, staffing ratios are not monitored and utilized system-wide to ensure that staffing levels are effective and justifiable based on the institutional service goals. Minimum staffing standards are not utilized to ensure that routine maintenance is performed at levels adequate to protect the value of the facilities assets. Also, there are no Key Performance Indicators (KPIs) being utilized system-wide to establish internal benchmarks for setting goals and for gauging the progress towards those goals for capital renewal and the reduction of deferred maintenance. The lack of KPIs and management information might lead to inefficient allocation of resources within Facilities Management.

Description of Improvement Idea:
Phase I: Each institution would utilize the APPA (Association of Higher Education Facilities Officers) Core Data Survey to submit operational data such as staffing, M&O costs and space information. Their web-based survey is issued each October and includes only 16 modules for ease of data entry. A detailed institutional report is issued for participants. Benchmark and comparative data becomes available through the web in December of that year. Data is sorted by Carnegie Classification, Gross Institutional Expenditure, Student FTE and Geographic Region, and comparisons with peer institutions are available through a report generator. A virtual "dashboard" is available to display and monitor customized selected KPIs, enabling easy review by Facilities staff.

Phase II: APPA staffing standards could be utilized by institutions to model staffing needs for Housekeeping, Grounds Maintenance and Building Maintenance based on internal service level goals.

Phase III: Benchmark and comparative data could be utilized to determine adequate funding for on-going skills training for Facilities staff, ensuring that they are prepared to deal with the rapid technological advances found in new buildings and the increasingly complex building systems.

Advantages & Benefits of the Idea:
Phase I: The resulting Key Performance Indicators would be used by Facilities staff to establish internal benchmarks and to compare operational information and ratios to peer institutions. Benchmarks would be used to adjust staffing and expenditures for each service unit so as to fall within the desired range of comparable peer data. Facilities staff would utilize the KPIs to effectively allocate resources, to maintain competitive costs and to track trends over time. The adage, "You cannot manage what you don't measure," certainly holds true.

Phase II: Where KPIs indicate an imbalance in staffing, the APPA standards could be utilized to model staffing requirements based on desired service levels. When M&O services are expanded for new construction, the standards could be utilized to model staffing requirements based on desired tasks, frequencies and quality levels.

Phase III: Allocations of training funds and staff development efforts could be monitored to ensure that staff are receiving the appropriate levels of in-service training needed to keep their knowledge and skills current with the technological advances found in new buildings and building systems.

Disadvantages & Risks of the Idea:
Comparative data and benchmarks could be used inappropriately on a micro-level for direct comparisons or to justify higher funding. In many cases, funding and/or staffing levels at institutions could prove to be inadequate to meet minimum expectations. Such data could be used inappropriately by detractors or hostile media to misrepresent situations for personal or political gain.

Barriers to Implementation of Idea:
The primary barrier would be to achieve 100 percent participation from the system institutions. In some cases, data such as building footage, replacement values and utility consumption is not readily available or requires significant effort to assemble, making effective participation challenging. Additionally, CRV (Current Replacement Value) data carried for state facilities is significantly understated and is not useable for this exercise.

Significant campus cooperation would be needed for implementation to succeed. Best results would be achieved through a team effort between Operations, the Planning/Design/Construction group and the budget office. Training of Facilities and Business staff to achieve consistent results and top administrative support from the Chancellor and Vice Chancellor for Business would also be required.

Other Comments:

Implementation Timeline:

Encourage optional participation in the October/November 2006 APPA Core Data Survey which would include data for the 2005-06 fiscal year. Mandate participation by all institutions for the September to November 2007 Survey which would include data for the 2006-07 fiscal year. Complete evaluations and a Management Plan by Spring 2008. Implement adjustments and reallocations based on the received data by the start of the 2008-09 fiscal year.

Affected Activities:

Financial & Risk Estimates:

- Assumptions Behind the Calculations:
  Of the current system total expenditure of $488 million for Facilities Management, an estimated $140 million is spent for Housekeeping, Grounds Maintenance and Building Maintenance and Operations. The application of standards and benchmarks has the potential to allow for reallocation of 3 percent or $4.2 million within the Facilities area, enabling campuses to more effectively meet their respective service needs, to reduce deferred maintenance and to better protect the value of facility investments.

- Financial Summary Table:

Financial Estimates	Year 1	Year 2	Year 3	Year 4	Year 5
Investment	$ 180,000	$ 180,000	$ 180,000	$ 180,000	$ 180,000
Cost savings	$ 0	$ 0	$ 0	$ 0	$ 0
Net savings	$(180,000)	$(180,000)	$(180,000)	$(180,000)	$(180,000)
Cost avoidance	$ 0	$ 1,500,000	$ 4,200,000	$ 4,200,000	$ 4,200,000

Committee Recommendation:

☑ Go   ☐ No Go   ☐ Further Study   ☐ Controversial

PACE White Paper Summary
FM15: Eliminate Barriers to Outsourcing

The outsourcing of non-core services should be a viable alternative to performing the same service with in-house labor. Currently, disincentives and penalties exist that may make contracting for services unattractive. This measure would provide for inflationary adjustments to budgets to cover the costs of contract escalation. The contracting process would be streamlined and contract durations would be extended. Quality/value services would be used as a basis for award in lieu of low-bid only. Elimination or reduction of these barriers would provide a better environment for the utilization of contracted services.

Working Group Name: Facilities Management
Date: Sept. 29, 2006
Idea #: FM15
Idea Title: FM15: Eliminate Barriers to Outsourcing

Description of Current Situation:

There are a number of policy and program requirements that exist in regards to contracting for facility goods and services. The purpose of these requirements is to ensure fair competition among services providers; however, these requirements sometimes become barriers to executing effective facility outsourcing programs. Some of the areas that create impediments to efficient and effective utilization of contract services are as follows:

- State purchasing requirements for award to "low-bid" contractors may result in low quality work and decreased life cycles for buildings.

- State purchasing regulations make outsourcing for facility services such as indefinite repair and maintenance contracts challenging to write and manage once put in place. This stems from the lack of flexibility in the type of work that can be done and the limits placed on the amount of work that can be performed.

- Purchase and Contract Division involvement in large contracts adds to the contract administrative transaction processing time when executing outsourced services without adding value to the process.

- Inflationary increases to maintenance budgets for contracted services are not provided by the Office of State Budget & Management in the biennium budgeting process. In that full time FTEs receive legislative increases when contract budget lines do not, there exists a financial disincentive for the Facility Manager to contract for services.

- Innovative contract methods are lacking, limiting choices in executing work.

- Incentives for contractors to complete work ahead of schedule or to deliver high quality are not allowed.

- Contract terms of three years are too short to gain contractor commitment and create unnecessary administrative burdens.

Description of Improvement Idea:
The following suggestions should be considered to improve the outsourcing option:

- Allow award of contracts to contractors who provide "value" in lieu of just "low-bid".
- Raise the limits for "on-campus" awards to $1 million.
- Provide inflationary increases to contracts for services in the biennium budgeting process.
- Expand the options for contracting to better fit specific needs.
- Allow for incentives as rewards for contractors meeting requirements for quality, value or delivery.
- Increase contract durations to five years plus options for extensions.

Advantages & Benefits of the Idea:
The proposed changes would improve the contract administrative process and improve the overall efficiency of Facilities Organizations. This would result in the reduction of overhead costs for contract administration and would increase the amount of outsourced work.

Disadvantages & Risks of the Idea:
Facility Managers would need training to be effective contract administrators.

Barriers to Implementation of Idea:
- Changes in the contract administrative process might require legislative approval.
- Changes would be required to Purchase & Contact Rules.
- Changes would be required to OSBM guidelines.

Other Comments:

Implementation Timeline: Two years.

Affected Activities:

Financial & Risk Estimates:
- Assumptions Behind the Calculations:

- Financial Summary Table:

Committee Recommendation:
☑ Go   ☐ No Go   ☐ Further Study   ☐ Controversial

**PACE WORKING GROUP on BARRIERS to HR EFFICIENCY &
EFFECTIVENESS EXECUTIVE SUMMARY**
October 2006

The HR working group focused on four realms that pose barriers to the University's ability to effectively manage its human resources. Two significant barriers emanate from State of North Carolina personnel structures to which the University is subject. The other two barriers derive from internal UNC practices.

- The authority currently granted to UNC under its enabling legislation (N.C. General Statute Chapter 116: Higher Education) is insufficient to manage its human resource requirements efficiently and effectively. University personnel activity is currently subject to civil service requirements under N.C.G.S. Chapter 126 (State Personnel System), as well as other legislative actions applicable to "State employees."

- The University's benefit package is not competitive with other institutions of higher learning. Major employee benefit programs are under the direction of the State and are not compatible with University needs. *The PACE considered this recommendation outside of its purview; further details are not included here.*

- UNC policies and campus organizational structures may result in less-than-efficient campus processes.

- There may be untapped opportunities for collaboration, centralization, or regionalization to better leverage HR capacity among UNC institutions and UNC General Administration.

Barrier 1: University employees are subject to N.C.G.S. 126 as well as other legislative mandates pertaining to "State employees."

For the University to accomplish its core missions, it must be able to operate and manage its resources more like other institutions of higher education nationwide, both public and private, rather than like other public agencies in the State.   The University must be anticipatory, nimble, and innovative. The State's current personnel structure fundamentally subverts this ability. The UNC leadership – its boards of governors and trustees, President, and chancellors -- are charged to lead a great University and entrusted with the higher education of its citizens, but are not empowered with full authority to manage the University's primary resource. Relief from State personnel oversight can result in significant efficiency gains and cost avoidance.

The working group recommends seeking broadened authority under its enabling legislation, N.C.G.S. 116 (Higher Education), to manage the University's human resources.

Barrier 3: UNC policies and campus organizational structures may result in less-than-efficient campus processes.

A number of UNC campuses house personnel administration responsibilities in multiple offices -- typically both in Academic Affairs for faculty and other professionals whose positions are exempt from the State personnel act (EPAs), and in Human Resources, duplicating many of the same services for staff who are subject to the personnel act (SPAs). Several UNC campuses have achieved efficiencies by combining all non-faculty-specific personnel activity within HR.

The working group recommends that the remaining campuses consider combining personnel administration -- other than faculty-exclusive activities such as reappointment, promotion, tenure, and academic appeal processes -- in a common office. The group also recommends that UNC review its system-level policies to better distinguish faculty-specific matters from those that more broadly apply to non-faculty employees. Finally, the working group urges the campuses to consider including their chief HR officers as part of the institution's executive leadership group, given the strategic importance of human resources to institutional success.

Barrier 4: Centralizing or regionalizing certain human resources activities may allow existing resources to be redirected more effectively to the campuses' core missions.

The working group noted potential opportunities for greater collaboration among UNC institutions and its general administration. Centralized or regionalized "hosting" capacity might provide the smaller UNC institutions, in particular, with better access to both HR technical systems capacity and HR content expertise. Institutions may experience significant cost-avoidance by sharing HR functions such as electronic employment and HRIS systems, benefits procurement and administration, training programs, employee relations, and electronic records management.

PACE HR WORKING GROUP MEMBERS

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PACE WORKING GROUP on BARRIERS to
HR EFFICIENCY & EFFECTIVENESS

BARRIER ISSUE

**Untapped Opportunities to Centralize, Regionalize, and Collaborate on
UNC HR Activities**

BACKGROUND

In human resources, as in other realms of University activities, UNC constituent
institutions develop capacity and infrastructures to meet their individual campus needs.
In doing so, however, the collective University enterprise may miss opportunities to
realize economies of scale, leverage expertise across the campuses, and share capacity
efficiently.

By their very nature, the complex research institutions – rather than UNC General
Administration -- are the first to experience demand for new capacity, and are thus
typically the first to develop that capacity.   The UNC-GA is not structured or staffed to
respond centrally to complex campus requirements, nor should it be. However, when
capacity is developed on the larger campuses, there are few natural mechanisms by which
to share that capacity with their sister institutions.

Within HR, such opportunities present themselves in three primary realms:
- Professional expertise
- Specialized services
- Technical infrastructure

Opportunities to share expertise and capacity may come in many realms of HR,
including, but not limited to --
- Recruitment & Staffing
- Benefits
- Training
- HR / Payroll Information Systems
- Employee Relations
- Records Management

SYNOPSIS

In some recent situations, UNC-GA and campus HR leaders have been able to identify
emerging issues early enough to take advantage of University-wide and even statewide
collaboration for outsourced specialized services. Examples include –

- Contracting with an outside vendor to conduct new-hire <u>background checks</u> for all UNC campuses. Resulting fees are significantly more favorable than had each campus negotiated independently.

- UNC HR's leadership to contract with an outside vendor for a statewide <u>employee assistance program</u> (EAP). By leveraging the large number of State employees, participating State agencies and universities benefit from lower per capita fees.

- UNC-GA adapted UNC-Chapel Hill's online <u>new employee orientation</u> program as a generic template, which could then be customized by individual campuses without each having to develop basic content.

Similar opportunities may be missed, however, if issues emerge in more isolated environments, particularly if a campus develops in-house expertise or in-house capacity to meet its own needs and without broader consideration of its potential to expand that capacity to -- and share it with -- other UNC campuses.

ORIGIN & HISTORY

Recruitment & Staffing

NC State University, for example, implemented a web-based job application system, PeopleAdmin, in 2003. Since that time, several other campuses have independently purchased, implemented and now maintain the PeopleAdmin product, or are in process of doing so. It might be efficient for a single campus like NC State to serve as a central "host" for other campuses, using a shared system infrastructure.

Benefits Administration

Each campus is authorized to negotiate contracts with benefits vendors for post-tax benefits, but smaller campuses cannot leverage buying power and have limited capacity to administer numerous additional plans. Shared agreements, allowing the small institutions to partner with UNC-GA or with their larger regional counterparts, would likely create economies of pricing as well as administrative efficiencies.

Beyond that, larger campuses are able to dedicate fulltime professional staff to complex HR knowledge areas like benefits, whereas small campuses with only 1-2 HR staff must function as "jacks of all trades." Smaller campuses might consider collaborating and contracting with the larger campuses in their region to provide access to specialized benefits expertise at marginal cost.

Training

Again, larger campuses typically have dedicated, fulltime professional HR staff with

expertise in instructional design and delivery for their campus training needs, while smaller campuses are unable to do so.   Training on content specific to the University environment often renders boilerplate "business" training programs less than ideal.

However, higher-education-specific content could be designed and shared across the UNC institutions. For example, rather than NC State and UNC-Chapel Hill both offering programs that cover virtually the same content, they could agree to "divide and conquer" topics – and share it at a regional training center, or by sending trainers to nearby campuses to deliver programs. This would reduce duplication of effort and extend the variety of programming available. Again, smaller campuses could contract at marginal cost with their regional "big sister" schools.

HR / Payroll Information Systems

The UNC constituent universities have migrated toward "enterprise resource planning" (ERP) business systems that integrate all facets of their operations, including not only campus HR/payroll, but also financial, student, and alumni information management. These ERPs have been, or are being, implemented independently on every campus.

For example, NC State migrated its HR and financial systems to the PeopleSoft/Oracle platform in 1999, and is integrating its student system by 2007-08.   UNC-Chapel Hill still operates homegrown systems, but is in the process of selecting an ERP for implementation. The remaining thirteen universities each are independently in the process of implementing the Banner ERP.

On the positive side, ERP systems allow for far superior integration of data across campus functions, and richer management and reporting capacity. On the negative side, however, they are resource intensive and are subject to by vendor upgrades to new versions and sunsetting of technical support.

For example, even with collaborative efforts of the cross-campus "Banner Alliance," maintaining thirteen different customized instances of a system like Banner -- each on its own implementation and upgrade path and with varying levels of technical capacity – may be less efficient than fewer, shared systems.   The University System of Georgia, for example, centrally implemented a single instance of PeopleSoft/Oracle, which is shared by 31 of its 34 institutions (its three complex research universities each manage their own systems). Of course, shared resources limit the amount of campus-specific customization possible and may require campuses to modify some of their business practices, so this is a cost-benefit consideration.

Other IT systems might be adaptable or expandable among the campuses as well. For example, NC State developed a web-based system for its employees and their supervisors to process requests, approvals, and reports of employee leave time. The system is popular with both staff and managers. A number of other universities nationwide have expressed an interest in copying, or even purchasing, the system.   Other UNC campuses might be interested in investing in its development and gaining access.

Employee Relations

As in the case of benefits administration, the larger campuses employ professionals with specialized training and expertise to help manage complex employee relations (ER) scenarios and provide consulting guidance to managers and employees in situations with complex employment law, discipline, grievance, and labor-relations impact.

Equally challenging ER scenarios may arise on smaller campuses, but smaller campuses generally can't afford fulltime ER professionals on staff, and their small HR staffs of 1-2 generalists may be less equipped to provide in-depth expertise.   Opportunities exist to extend the larger campuses' existing ER capacity by collaborating regionally to provide services to their smaller sister institutions at marginal cost.

Records Management

Records management, while by no means exclusive to the HR realm, is a major HR activity, given its extensive long-term needs to manage official personnel files and other personnel- and payroll-related records. The University would be well served to investigate shared record management services, such as System-wide imaging contracts and System-wide file storage.

PERCEIVED AS A BARRIER BECAUSE

- *Smaller campuses cannot achieve economies of scale when trying to provide the broad spectrum of HR services to their employees.*

- *Larger campuses may develop expertise and technical capacity in-house, but can't easily extend their expertise to other campuses.   If shared collaboratively, campus-generated expertise and capacity could reduce redundancy and allow for more efficient use of resources among the institutions.*

- *Independent negotiations at the campus level for contracted services and products cannot take advantage of economies of scale.*

ESTIMATED CURRENT COST TO THE UNC SYSTEM

There was insufficient time within the scope of this project to analyze the costs associated with duplicated and redundant HR processes such as those noted above.

The decision to implement 13 different instances of Banner, for example, has cost the University's constituent campuses millions of dollars, even with system-side collaboration. If the vast majority of functional need is common from one campus to another, the "unique" needs of the campuses should be weighed against total ongoing

cost of implementing and maintaining separate systems, when shared systems might suffice.

MORE EFFICIENT / EFFECTIVE ALTERNATIVES: OBSERVATIONS & RECOMMENDATIONS

As noted above, there was insufficient time to evaluate specific potential cost savings in these HR realms, although efficiencies would be almost inevitable. These might accrue both by direct cost-avoidance from sharing technical infrastructure and content expertise, as well as by indirect cost-avoidance, such as the reduced legal liability when difficult employee situations can be more proactively managed by sharing expertise available elsewhere in the UNC System.

COMPARATIVE BENCHMARKS

With regard to records management, for example, the University of Missouri system has a centralized records storage and retrieval, and imaging service that serves all of its campuses from a single, centrally located, warehousing location.

After implementing stand-alone instances of Student information systems on its 30+ campuses, the University of System of Georgia – when it came to implementing its HR & Financial ERP -- decided instead to implement a single, shared HR / Financial system for all but the largest of its institutions.

POTENTIAL COLLABORATIONS

Depending on the issue, some opportunities might be best handled by UNC-GA on behalf of all its constituent institutions, such as contracting for specialized services by external vendors, or negotiating benefit programs for all employees.

Since UNC-GA does not have its own comprehensive IT technical capacity -- while the larger campuses do – allowing the larger campuses to serve as regional infrastructure "hosts" may hold collaborative potential.

*While this project does not recommend specific solutions, **it is recommended** that the UNC President constitute a working group of functional HR professionals from the campuses – plus representatives from UNC-GA and campus IT professionals with HR technical experience where appropriate -- to investigate best HR practices across the UNC campuses, determine campus capacities to host or to share expertise, and deliver a set of specific recommendations.*

PACE WORKING GROUP on BARRIERS to HR EFFICIENCY & EFFECTIVENESS

BARRIER ISSUE
Inefficient Structures & Policies for Administering Campus HR Activities

BACKGROUND

When the university system was established by the State in 1971, faculty positions, as well as a limited number of "senior officer" positions, were defined as part of the enabling legislation to be exempt from the provisions of the State personnel act. Other university positions continued to be "subject" to the State personnel act (SPA).

Faculty members originally constituted the vast majority of exempt (EPA) positions. Policies and procedures -- regarding faculty recruitment, promotion, tenure, and grievance processes, for example -- were administered through the offices of the institutions' chief academic officers. To the extent that there existed a smattering of other EPA non-faculty positions, they also typically were relegated to the chief academic officer's realm and handled on an ad hoc basis by 'stretching' faculty paradigms to attempt to accommodate often very different non-faculty scenarios.

Over the years, research activities, instructional support, and complex administrative requirements grew on the campuses, resulting in an evolving reapportionment of support staff positions (recruited from a local labor market) toward more highly skilled non-faculty professionals (recruited regionally and nationally). Legislative and procedural changes were enacted to exempt many more professional university positions from the state personnel act. By 2005, more than 6,000 regular non-faculty positions across the 16 constituent campuses were designated as EPA:

- Faculty   13,711
- EPA Professionals   6,452
- SPA Staff   21,092

Because the growth of the EPA professional group has been gradual, its needs tended to be addressed piecemeal, in policies and practices at both the UNC System level and the campus level. But this evolution has created a unique "additional class" of employees in the UNC system that is atypical in UNC's comparator institutions nationwide, and results in inefficiencies of administration and largely unnecessary morale impacts among staff employees.

Much of this bifurcation has evolved over time from the structures imposed by the state personnel system, as documented in an accompanying white paper (*UNC Personnel*

Authority under NCGS Chap 116).

Barriers to efficiency also lie within the UNC policies that guide "EPA" employment practices in general, without sufficiently distinguishing EPA professionals and providing infrastructures specific to such non-faculty positions.

SYNOPSIS

Most universities nationwide have the same types and varieties of employees that the UNC institutions have. But other universities categorize their employees differently -- and they support them with different HR administrative infrastructures -- than does the UNC system. Most universities have:

- Faculty

- Staff
  - Hourly-paid staff
  - Salaried professionals

The UNC System, however, has ended up with

- EPA employees
  - Faculty
  - Salaried professionals

- SPA employees
  - Hourly-paid staff
  - Salaried professionals

EPA salaried professionals are more akin to other salaried-professionals than they are to faculty in the sense that many major "faculty" personnel activities, such as 3-year reappointment processes, tenure consideration, promotion in academic rank, scholarly leaves, etc., are not applicable to non-faculty employment relationships.

In most other universities nationwide, uniquely "faculty" activities -- such as academic tenure decisions and appeals -- are handled by the chief academic officer's office, while the institution's HR function handles activities like the management of benefits, personnel records, and non-faculty job classification and appeal processes.

Within the UNC system, however, more complex (and perhaps less efficient) infrastructures have grown up organically over time as its "EPA professional" class has increased.

To some extent, barriers to restructuring for full efficiency lie within UNC policies that generally guide "EPA" employment practices, without accounting for the distinctions between faculty and non-faculty professionals.

PERCEIVED AS A BARRIER BECAUSE

- *Overlapping responsibilities in both academic affairs and human resource offices may lead to inefficient campus resource utilization.*

- *Administering policies and procedures for one group of non-faculty professionals through HR, while administering them for another group of professionals through academic affairs, creates an artificial "class" separation among the professional staff on the campuses, negatively affecting morale.*

- UNC system and campus policies and procedures originally intended for faculty have been "stretched" to cover non-faculty professionals, to a point where the policies serve neither group efficiently or effectively.

ESTIMATED CURRENT COST TO THE UNC SYSTEM

Costs are difficult to quantify, but would be expected to manifest primarily in academic affairs administrative operations that must handle "faculty" as well as "non-faculty EPA professional" personnel matters, while the HR operations handle all other "staff" and "non-faculty SPA professional" matters. UNC-Charlotte, for example, estimates that it currently commits more than $200,000 per year to sustain this capacity in both the academic affairs and human resource realms. Extrapolated to other system schools, this figure could approach $1,000,000, at least some of which might be freed for redirection if a campus were to consolidate non-faculty activities.

MORE EFFICIENT / EFFECTIVE ALTERNATIVES:
OBSERVATIONS & RECOMMENDATIONS

In recent years, some UNC campuses recognized a potential advantage of realigning their HR infrastructures to correspond more closely to the "Faculty / Staff" dichotomy commonly seen in other universities, rather than the odd "EPA / SPA" dichotomy that has evolved in North Carolina.

Currently, at least six of the UNC campuses, and the NC Arboretum, have combined their administrative HR responsibilities for SPA employees and EPA non-faculty professionals under one roof. HR functions that originally managed only SPA activities have now been restructured to incorporate responsibility for EPA professionals.

In such instances, faculty-specific recruitment, reappointment, tenure, promotion, and appeal processes have been appropriately retained as academic affairs under the institution's chief academic officer. But typical HR programs (such as benefits, employee relations & employee assistance, equal employment/affirmative action activities, job classification and compensation, centralized HR records management) have been judged to be more efficiently and effectively administered in one arena for both

SPA staff and EPA professionals.

When NC State University consolidated its operations in 2002, for example, the provost's office was able to "re-purpose" resources equivalent to 2 of 6 full-time positions.

Therefore, the chancellors on those campuses where the functions remain organized along EPA and SPA lines may wish to review their structures, to determine if consolidating non-faculty activities under the campus's HR function might lead to greater efficiencies in staffing and program administration.

At the same time, the UNC system should review the complex policies it has promulgated over time in attempts to simultaneously account for both faculty and other EPA needs – and find ways to extricate faculty-specific structures from those necessary to support EPA non-faculty professionals.

Ideally, the UNC system should have sufficient authority to design and administer policies and procedures to best meet the needs of its full complement of employees – including all faculty, professionals, and support staff – and not just authority over the "top half" (faculty & EPA professionals, but not SPA professionals and hourly staff) that it is afforded under its current legislative authority.

On a separate but related note, the campus chancellors may also want to give consideration to the institutional reporting relationship of HR on their campuses. In corporate environments, HR typically reports directly to the organization's CEO, rather than through a finance, business, or administrative division. Other industry sectors have recognized HR as more than just a transactional business-processing function and instead as a critical strategic component of organizational success. The strategic importance of HR is particularly important in higher education, where more than 70% of total university resources are typically dedicated to personnel costs, and where HR issues span all aspects of the organization.

On those campuses where HR is neither a direct report to the chancellor nor a member of the campus's senior executive team, the chancellors at least may want to consider extending to the organization's chief HR officer a formal seat at the senior executive leadership table.

COMPARATIVE BENCHMARKS

The California State University system, with 24 campuses, has a system similar to North Carolina's, with some, but not all, employees subject to a state personnel system. However, HR units in the CSU system manage all personnel programs for all CSU employees with the exception of the faculty RTP (reappointment / tenure / promotion) processes and recruitment for faculty, which is administered out of the chief academic officers' areas.

Employees of the 34-school University System of Georgia system are considered public employees but none are subject to the state personnel system. Provosts / chief academic

officers administer academic and faculty-specific (specifically RTP) employment, and other personnel matters are administered by the institutions' HR functions.

POTENTIAL COLLABORATIONS

UNC-GA and the campuses could collaborate to redesign guiding EPA policies and procedures. Campus academic affairs and HR offices could collaborate to reorganize their administrative infrastructures.

RECOMMENDATIONS OF PACE SUBCOMMITTEE

For each issue we consider we have to make a recommendation:

[x] **GO**

The PACE HR subcommittee recommends that the UNC System and campuses review their HR organizational reporting relationships, structures, and policies, particularly with regard to EPA administration, to ensure maximum efficiency and effectiveness.

NO-GO

The PACE HR subcommittee considered this issue, but recommends that the UNC System not pursue this issue at this time.

MORE STUDY REQUIRED

The PACE HR subcommittee considered this issue and was unable to reach a recommendation within the PACE project timeframe, but believes that further consideration is warranted.

BARRIER ISSUE

Scope of UNC Personnel Authority under
N.C.G.S. Chapter 116 (Higher Education)

BACKGROUND

To some extent, the legislation that established the UNC system in 1971 recognized the unique human-resource characteristics of the university. While all University employees are public employees, the legislature exempted tenured faculty and certain senior officers from most of the requirements of the heavily prescribed personnel structures imposed under N.C.G.S. Chapter 126 (State Personnel System), which reflect traditional civil service philosophies and job classification structures fundamentally unchanged since the 1950s.

A number of other State entities are fully exempted from Chap.126, including public school employees, the judicial department, the ports authority, the rural redevelopment authority, the turnpike authority, the state lottery, and the General Assembly itself. For example, the legislation that established the State's Community College system unilaterally exempted all positions in its institutions from Chap. 126 and authorized its Board instead to "establish standards and scales for salaries and allotments paid from funds administered by the State Board." (N.C.G.S. § 115D-5.) That authority enables the community colleges to directly design and implement personnel structures and practices that are responsive to its mission of workforce development, vocational, technical, and adult education and training.

Unlike the NC Community College system, however -- and unlike at least 32 of the 49 other states, whose public universities have fully autonomous personnel systems in recognition of their unique needs -- the University of North Carolina operates in an environment where State-based decision-makers – rather than the University's leadership – directly control much of the human resource strategy of the University.

Chapter 1, Subchapter 1A, of the Administrative Code of North Carolina (25 NCAC 01A.0104) acknowledges in its opening paragraphs that --

"The number of state employees, the variety of work done by them, and the variations in the circumstances under which they work, make it impossible to establish for the government of the state a system of personnel administration based on accepted principles of personnel administration and applying the best methods as evolved in government and industry, as required by N.C.G.S. 126-1, unless there is…authority [for the Director of State Personnel] to grant exceptions…where necessary to promote efficiency of administration and to provide for a fair and reasonable system of personnel administration."

Nowhere has this reality been more constantly in evidence than in the dynamic of the State and its public university system with regard to personnel matters.

In 1971, N.C.G.S. Section 116-11 authorized the UNC Board of Governors (BOG) to appoint and set the compensation of the university's senior officers. N.C.G.S. §126-5(c1)(8) exempts instructional and research staff, physicians, and dentists of the University from most provisions of the State Personnel Act, as well as individuals whose salaries are set under the authority vested in the BOG under § 116-11(4 & 5) and §116-14, such as the campus chancellors and vice chancellors.

Positions exempted from the personnel act are referred to as "EPA;" positions subject to the act are "SPA."

Over the years, several actions expanded the definition of senior officers. Guidelines for interpreting and applying N.C.G.S. § 126-5(c1)(8) expanded the definition of instructional and research non-faculty personnel, as part of negotiated agreements between UNC and the Office of State Personnel (OSP). **1972:** Included chancellors, vice-chancellors, provosts, deans, and directors of major educational and public service functions **1974:** Included the UNC president and his senior staff. **1990:** Included associate/assistant vice chancellors, associate/ assistant deans, and others.

1997. A chancellors' committee (the *Committee to Study Persistent Personnel Issues*) was established by the UNC President to address problems of inappropriate and outdated State Personnel job classifications, undue red tape, inadequate salary ranges, and difficulties in recruiting and retaining key mid-level managers, which were seriously impacting the University's operations.

1997. Legislation was enacted to permit a somewhat more decentralized system of personnel administration for SPA employees, where deemed appropriate, with the State Personnel Commission as the policy and rule-making body. OSP and UNC entered into a partnership agreement, and a 'transition team' was created to implement the agreement. However, the State Personnel Director retained the exclusive right to "delegate authority" for personnel actions to the campuses, based on his evaluation of numerous factors, including the campus's "history of cooperation;" OSP's evaluation of the institution's expertise and number of campus personnel staff; and the maintenance of a "quality control plan" to "improve the professionalism" of personnel staff and to produce accurate data. As a result, detailed agreements specify the responsibilities of each campus and the personnel actions for which final authority is granted, and campuses are subject to ongoing monitoring or report cards as well as periodic on-site performance audits.

1998. the BOG expanded the definition of "senior academic and administrative officers" (SAAOs) to include division and department heads, positions in external funds generation and marketing for the university, and others involved in institutional policy-making and resource allocation.

1999. An advisory board was established to advise the president regarding EPA personnel across the 16 campuses and to make recommendations on the designation of SAAO positions. It was made up of representatives from the campuses, the office of the UNC President, and OSP.

2002. The BOG delegated to some campus Boards of Trustees -- for those institutions designated as "special responsibility constituent institutions with management flexibility" -- the authority to administer certain personnel actions, including

- o Appointing, and setting compensation, for some senior administrators
- o Establishing salary ranges, appointing, and setting compensation for, certain other administrators and faculty
- o Conferring permanent tenure

In **2002**, Gov. Easley appointed 16 prominent North Carolinians with "broad experience" to a commission charged to "promote government efficiency and savings on state spending," and charging it with the task of "identifying long-run efficiencies, especially in terms of personnel, information technology, program duplication and the elimination of programs that are not part of government's core mission." Their final report, issued in Dec 2002, is instructive in a number of its observations and recommendations. Quotes from the report, for example (emphases added):

- *"The Committee found that <u>North Carolina's human resources system and practices are dispersed, uneven and are designed and supervised by legislators or others</u> without human resources expertise.*

- *"The Commission found that the state has over 40 personnel systems. <u>Within the University system</u>, for example, there are <u>three systems</u> – one for most non-faculty employees; one for senior academic, administrative, instructional and research personnel; and one for the faculty. <u>Consolidating personnel systems</u> where appropriate will result in substantial administrative savings."*

Of the commission's 13 personnel-related recommendations to the Governor, the UNC System was, in fact, already doing two (allowing flexible work arrangements and utilizing return-to-work programs). The remaining eleven recommendations, although generally endorsed by the university system, were outside the scope of UNC's personnel authority and in the hands of the State. In the intervening four years, the State has taken action to address only one of the eleven.

SYNOPSIS

The University of North Carolina was consolidated in 1971 as a public, multi-campus university dedicated to the service of North Carolina and its people, with the mission "to discover, create, transmit, and apply knowledge to address the needs of individuals and society." (N.C.G.S. §116-1)

In order for an organization to achieve its mission, it must direct its strategies and its resources in ways that deliberately align with that mission.

To be the excellent university that our citizens desire and deserve, the University needs to fully utilize excellent strategies and excellent resources. These include excellent academic strategies, fiscal strategies, and physical resources, as well as excellent *human* resources. In fact -- because a "university" is, ultimately, little more than the intellectual capital of the individuals who comprise it -- its human resource is, almost without question, the single most important ingredient in accomplishing its mission.

The university not only functions at the cutting edge of knowledge and practice -- it often *defines* the cutting edge of knowledge and practice. Much of the new work that emerges in society, such as in the recent surge of jobs in biotechnology, emerges first in universities. To be fully effective, the University of North Carolina must operate from a leading, not lagging, position. It must be anticipatory, nimble, and innovative. It must be responsive to the emerging and changing needs of the State and the world. To that end, it must engage the best possible faculty, professionals, and support staff.

<u>Since its establishment in 1971, however, the University has struggled to achieve a workable human resource environment within which to carry out its mission efficiently and effectively.</u> Despite incremental changes, and multiple studies reaching the same conclusions, the university's core problem – the lack of sufficient authority to manage its most critical resource – remains.

No business could long abide, much less hope to excel in, an environment where it could not design and manage its personnel strategies to meet its strategic needs. Until the university is able to align appropriately and fully its most important resource with its mission, this barrier seriously threatens the university's effectiveness and efficiency -- and ultimately, its success.

To meet the needs of our State, the University must attract and retain top talent. To do that, the University must be able to compete successfully not only against other excellent universities across the country, both public and private, but also against private industry, which is increasingly encroaching into a realm once monopolized by academe: employment of the most advanced "knowledge" workers, including not only Ph.D.s, but many other skilled professional staff required by universities.

The UNC Board of Governors, the UNC President, and the campus boards and chancellors are charged by the citizens of North Carolina with the responsibility to lead a great university, but they are not afforded the authority to manage its most important resource in order to do so. <u>Responsibility without authority is a prescription for failure.</u>

Problems characterized almost 10 years ago as "persistent" human resource concerns (1997 President's *Committee to Study Persistent Personnel Issues*) remain essentially as obstinate today as they were at that time. Throughout this time, the University and its employees, both SPA and EPA, have been subject to legislative decisions affecting "State employees" – regardless of whether such actions were suitable to the University strategic needs.

While the University may dedicate only a small percentage of its annual budget to

"human-resource administration" per se, it is a grave error to think of human resources as a "small" institutional issue.   In fact, the University expends upwards of 70% of its annual budget on human resources – making personnel issues the largest, and almost certainly one of the most strategic, of all institutional priorities.

The lack of current authority provided under Chapter 116 of the NC General Statutes that would enable the leadership of the University of North Carolina and its constituent institutions to manage North Carolina's "State University employees" distinctly from public "State employees" -- and thus fully leverage University resources to accomplish its mission -- is the focus of this discussion.

PERCEIVED AS BARRIER BECAUSE

- N.C. General Statutes §116-11 and §126-5 narrowly define categories of university positions that that may be treated as exempt from the State Personnel Act.

- The university establishes the policies and compensation for university employees who are exempt from the State Personnel Act. This represents about 50% of the University's 41,000 employees, and about 65% of its $2.4B annual salary expenditures.

- However, the General Assembly, the State Personnel Commission, and the Office of State Personnel (OSP) control the policies and compensation of the other 50% of university employees who are subject to the State Personnel Act, and who account for approximately $850M in salary resources. This includes thousands of university employees whose salaries are paid in full or in part from sources other than State appropriations -- such as federal, county, and private programs, grants and sponsored projects – and which may have funding parameters very different from the assumptions imposed by the State (grants may not allow budgeting for "longevity" pay, for example).

- This leads to a variety of problems, including

  - A dual-class personnel environment
  - Bifurcation of resources to administer multiple personnel systems
  - An inability to establish University-wide strategic classification and compensation philosophies to effectively recruit, motivate, and retain employees
  - An inability to reward performance and pay competitively

- For faculty and other EPA employees, the Legislature appropriates salary funds as a "pool" which is then administered by the University to meet its specific strategic goals and to incorporate individual merit, competitive market factors, and salary equity considerations. But, as noted above, the legislature also sometimes takes sweeping actions that apply to all "State employees," including EPA faculty and administrators, such as mandating the University to allocate resources for things like across-the-board minimum salary adjustments or bonus leave awards, which are often

neither strategic nor logical for University goals and priorities.

ESTIMATED CURRENT COST TO THE UNC SYSTEM

The total cost to the UNC System of having inadequate authority to manage its human resource decisions is virtually incalculable. But the magnitude of the cost can begin to be understood by just a few examples of mandates.

Examples applicable to all "State employees" --

- **Mandatory Bonus Leave**
  Est. One-Time Cost: **$90,000,000 - $95,000,000**

  Since 2002, the General Assembly has awarded five weeks of "bonus" annual leave to State employees, including the University's employees, who earn leave. This leave never expires, and thus any unused time must be paid out at separation, at the employee's final rate of pay. Employees recognize this as guaranteed deferred compensation if hoarded, so it is typically taken as a cash payment at separation, rather than used as days off. The General Assembly did not, however, provide funding to cover these costs, resulting in a total net present value liability conservatively estimated at more than $91 million for the university, which must be paid out of resources that are already committed to other requirements.

- **Mandatory EEO Training**
  Est. One-Time Cost: **$3,500,000 - $4,500,000**
  Est. Additional Annual Cost: **$150,000 - $250,000**

  NC statute requires all managers and supervisors in State government to take a specified 3-day training program on equal employment opportunity within their first year of employment. It is a reasonable expectation that managers become knowledgeable about their obligations under state and federal law to ensure equity and support diversity in the workplace. But the State requirement is unwieldy and inefficient. Despite the mandate, the State's training program is unable to actually accommodate more than a tiny fraction of the managers it hires each year. Because university managers need to be skilled in these areas, the universities have developed their own, more-convenient, more-efficient, less-costly, and more-targeted training programs to provide comparable content. These initiatives, however, are not accepted as alternatives by OSP to meet the State requirement.

- **Mandatory Employment Verification**
  Est. Annual Cost: **$800,000 - $1,500,000**

  The NC General Assembly recently passed legislation requiring all State agencies and universities, as of Jan 1, 2007, to participate in a federal "pilot" program being developed by the US Dept of Homeland Security (DHS). The mandate is in addition to (not replacement of) the current federal I-9 process. Participating employers must "confirm" every new-hire (including every temp and student hired by the university)

against a federal database of social security and immigration/visa records, to attempt to verify the individual's identity and eligibility to work in the U.S. This was mandated despite little indication that NC universities have experienced material problems with hiring undocumented workers. No funding was provided to administer the program.

Training is anticipated to the University cost more than $20,000; time spent conducting confirmations, more than $100,000 per year; and dealing with "non-confirmations," including extensive appeal processes, more than $700,000 annually. The latter figure assumes only a 1% non-confirmation rate, even though DHS has reported that non-confirmations (the vast majority of which they admit are incorrect) have been running as high as 35%. In addition, this process will subject the campuses to increased audit activity at both the federal and state level.

Examples resulting from having employees subject to the State Personnel Act:

- **Double Data Entry + OSP Compliance Audits**
  Est. Annual Cost: $250,000 - $500,000

  The office of State Personnel requires all UNC campuses to enter every personnel transaction on subject employees into the State's personnel management information system (PMIS) on an ongoing basis. PMIS is separate both from the State's antiquated payroll system (which processes payroll for a number of the smaller UNC institutions), and from the HR/payroll systems used by the larger campuses that have more complex payroll requirements. PMIS requires entry of every hire, salary change, position classification change, name change, promotion, position budget change, etc, on an ongoing basis. For most campuses, this means inefficient, duplicate, manual data entry of all personnel actions into the applicable HR/payroll system as well as the State PMIS system. For the two campuses permitted to feed data electronically, this requires a challenging data mapping process and the maintenance of complex system interfaces to the outdated State system. While the State's BEACON project will ultimately combine its payroll and personnel systems, the campuses' requirements to efficiently feed data to the new system remains largely undetermined at this stage, and may well remain a labor-intensive activity.

  For transactions in PMIS, the office of State Personnel then conducts detailed, action-by-action compliance audits, and returns "non-compliance" findings. This occurs even with campuses that have delegated authority for SPA personnel actions. Non-compliance findings, when they are identified, frequently are either errors on OSP's part or result from specific actions requested by OSP, and take considerable time and effort on the part of the campuses to research, defend and clarify. Elimination of these processes would allow cost-avoidance of at least $300,000 annually in wasted time and effort on the campuses.

- **Mandatory Longevity Pay**
  Est. Annual Cost: $9,000,000 - $10,000,000

What originated as a merit-pay program – intended to provide salary opportunities for meritorious State employees with at least 15 years of service who had reached the maximum of their pay grade and would otherwise be ineligible for a salary increase -- has evolved, by a series of legislative actions, into a State entitlement program for *all* employees with at least 10 years of service, (a) irrespective of performance or merit, (b) regardless of whether they were at the max of their pay range, and (c) in addition to annual adjustments to their base pay.

Such automatic entitlement pay is unusual in university and business environments, where compensation strategies typically are designed to reward performance. It is estimated that State-mandated longevity pay costs the university system almost $10M per year, but those resources must be committed without a link to a clear strategic purpose. The University would honor the expectation of current SPA employees to parallel longevity pay practices applicable to State employees. However, for future University hires, this component of pay would be better understood and incorporated as part of base compensation, to allow both more transparent comparison of total salary to the comparative labor market and the ability to link pay more directly to performance.

- **OSP Job Classification/Comp Limitations**
  Est. Annual Cost: **$900,000 - $1,000,000**

  Virtually all staff positions subject to the State Personnel Act are administered by OSP under a rigid job classification system that has not been substantially modernized since the 1950s. The State's 2006 salary plan is 151 pages long. Although there are thousands of job titles, many are obsolete, and many other titles desired by, and often unique to, the university do not exist. Creating or changing jobs requires extensive bureaucratic analysis and approval, including item-by-item review and approval by the State Personnel Commission, which meets only every-other month. Although job titles are assigned to pay ranges which are ostensibly related to the competitive job market, many ranges are acknowledged by OSP to be consistently as much as15-20% behind the market. Thus, in order to classify, compensate, and attempt to retain University employees in ways that are even nominally competitive, the constituent institutions spend an inordinate amount of time and effort crafting elaborate job descriptions and negotiating with OSP to get permissible salary levels up. For example, NC State University and UNC-Chapel Hill each calculated expenditures of between $100K and $200K in institutional time and effort – including both central HR resources and departmental resources throughout the campuses – to process approximately 600 staff position actions on each campus last year. For the UNC system at large, that amount could extrapolate to between $900K and $1M. A potentially helpful initiative by OSP, known as career banding -- which was intended to collapse the number of job titles and recalibrate pay structures to better reflect the competitive marketplace -- was suspended indefinitely by the legislature in 2006. The ongoing inability to classify and compensate positions appropriately is consistently cited by the campuses as the single most frustrating realm of human resource activity.

- **Mandatory Pay Unlinked to Performance**
  Est. Annual Cost: $1,000,000 - $2,000,000 ++

The State's pay philosophy (NCGS § 126-7) states, "It is the policy of the State to compensate its employees at a level sufficient to encourage excellence of performance and to maintain the labor market competitiveness necessary to recruit and retain a competent workforce. To this end, salary increases to State employees shall be implemented through the Comprehensive Compensation System *based upon the individual performance of each State employee*." (emphasis added)

However, legislative actions have been repeatedly inconsistent with that philosophy, generally mandating nominal across-the-board adjustments for all employees regardless of performance. Since 1992, resources have been made available for performance/merit or career growth in only 3 of the 14 years. In addition, restrictions on state funding for recognition awards, and the inability to provide one-time bonuses to SPA employees, prevent the University from offering even non-recurring incentive compensation. This reinforces mediocre performance, retains the weakest employees, and forces the best employees to seek employment elsewhere, where their services will be rewarded.

Considerable institutional time and is spent on mandatory annual performance evaluations. If each supervisor spends one hour to prepare an SPA evaluation, and another hour with the employee conducting the review, the estimated cost to the institution of time spent is $1M to $2M per year – on an activity that is almost entirely unrelated to any direct value-added outcome. Supervisors and employees alike would find more value in that time if employee pay could be linked to employee performance outcomes.

There are other insidious effects of the inability to link pay to performance. Many high performing individuals never pursue jobs at the University because they prefer organizations that can reward them based on what they accomplish. Similarly, many top-performing employees leave voluntarily because of compensation restraints, as opposed to the nature of the work, satisfaction with management, working conditions, or personal situations. This lost-opportunity cost is difficult to quantify.

The inability to reward excellent performance has a negative affect on productivity as well. In a review of many studies on motivation, Locke, et. al. stated, "Money is the crucial incentive…no other incentive or motivational technique comes even close to money with respect to its instrumental value." In fact, they found that the introduction of individual pay incentives increased productivity by an average of 30%. Recent meta-analyses found similar results regarding pay incentive systems. Some research indicates that such increases in productivity are the result of both existing employees becoming more productive and the turnover of less productive employees. Voluntary turnover of desirable staff and unrealized productivity may represent enormous missed opportunities. A 30% increase in productivity from $850M in current SPA salaries would be worth $255 million in added institutional capacity.

- **OSP Personnel Management Reviews**
  Est. Cyclical Cost: **$250,000 - $500,000**

  The Office of State Personnel (OSP) has statutory responsibility and authority to conduct audits of State agencies and universities to ensure compliance with State personnel regulations. Despite conducting audits of personnel transactions on an ongoing basis, OSP recently also reinstituted a practice of conducting additional "in-depth" personnel management reviews (PMRs), ostensibly to further ascertain compliance with State personnel requirements in operational areas such as job classification, employee relations, EEO compliance, employment, safety and health, salary administration, leave, special pay, and training transactions. The one campus audited in 2005 (UNC-Greensboro) was required to respond not only to reviews of its operational compliance with SPA requirements, but to inquiries that would seem to far exceed OSP's statutory scope, such as review of the University's strategic planning activities. No audit report was ever issued.

  UNC-G's cost in time and effort was estimated at more than $20,000, and the time-and-effort costs for OSP to conduct such an audit would be at least as high. Extrapolated to cycle through 17 constituent institutions, the total cost to the University system would be approximately $300,000 in present dollars, recurring as often as the review cycle occurred, which could easily be matched by another $300,000 of time and effort on OSP's side as well. In the 12 years during which OSP conducted no PMRs, there is little indication that the University campuses were materially non-compliant with State personnel policies, yielding a highly questionable cost-benefit return.

  Over 2,000 professional hours were spent at ECSU in an attempt to gain delegated authority from OSP to manage its personnel activity with more independence. That equates to a year of professional salary, to the order of $50,000.

  Under OSP's career banding program, each campus had to re-seek delegated authority by undergoing a nine step process that includes a re-evaluation of staff capabilities and experience, an assessment of staff workloads, development of a Memorandum of understanding and repeated reviews and assessments, even if such authority had already been delegated under the current personnel program.

- **Restrictions on Pay Adjustments**
  Est. Annual Cost: **$400,000 - $600,000**

  State personnel requirements strongly discourage State agencies and universities from making preemptive salary adjustments to retain their most critical staff, including staff in hard-to-fill jobs and top performers. In fact, in order to defend such a salary adjustment, State policy requires that the employee present a *"bona fide written job offer from an employer outside the government structure, which provides greater compensation without increased responsibility."* UNC policies (for EPA faculty and professionals) largely mirror this State requirement (for SPA employees).

Once an employee is engaged enough with another employer to have a job offer in hand, they are, for all intents and purposes, lost. So rather than modest adjustments awarded proactively, which might have kept a valuable employee from ever seriously entering the job market, the organization now has a job vacancy that will cost, on average, more than $2000 to fill; and the replacement hire may well cost the organization as much, if not more in salary, than the departed employee would have cost, even with an adjustment. Based on UNC's voluntary turnover rates, the annual cost of having no preemptive salary discretion could run near $.5 million.

COMPARATIVE BENCHMARKS

A study of university human resource best practices conducted in 2002 by Watson-Wyatt, a national leader in organizational consulting, reported several benchmark facts:

- In 32 states, even most non-faculty employees of the public universities were in university human resource systems distinct from the state's personnel system. This includes a number of states with demographic characteristics and trends similar to North Carolina's, including –

  - Georgia
  - Maryland
  - Florida
  - Missouri
  - Texas
  - Michigan
  - Pennsylvania
  - California

- States where university employees were part of the State personnel system typically also had unionized environments, where collective bargaining negotiations cover all public employees and generally affect the governance and flexibility of personnel activity.

- Many of the most prestigious public universities in the U.S. have human resource systems separate from the State personnel system

- Although specific structures and practices varied widely, university systems with autonomous HR structures reported that they believed they were better able to attract, motivate, and retain the talent they need to be successful.

In 2002 the IBM Endowment for the Business of Government published an illustrative monograph on *"Life After Civil Service Reform: The Texas, Georgia and Florida Experiences."* The forward reads, in part, as follows:

In this informative report, Jonathan Walters, a staff correspondent for Governing magazine, describes the experience of three states—Texas, Georgia, and Florida—that dramatically reformed their civil service systems. All three states changed the way in which they recruit, hire, promote, classify, and compensate state employees…Walters reports that, for the most part, civil servants and human resource executives in the three states are pleased with the reforms. Walters writes, "Ask personnel officials or hiring authorities in Texas, Georgia, or Florida how they like their style of personnel management, and you'll hear how relieved they are not to have to suffer the dictates of a highly structured, centralized, rule-driven system."

Its executive summary goes on to say:

As the debate over how to fix civil service has played out nationally, states have mostly adopted an incremental approach to change…There are those who regard such "tinkering," though, as insufficient.

That has certainly been the University of North Carolina's experience in its relationship to the State system.

MORE EFFICIENT / EFFECTIVE ALTERNATIVES:
OBSERVATIONS & RECOMMENDATIONS

A model such as the neighboring State of Georgia is illustrative. The university system of Georgia is a self-contained entity within the public sector, with its own personnel structures and compensation programs (including its own healthcare benefits, although university personnel may participate in the State's retirement system). General State legislative actions applicable to other "State employees" are not extended to the "public university employees."

Each year, the State legislature works with the university system's governing board and system chancellor to develop an appropriate funding level, but the institution is otherwise fully endowed with the authority to administer its resources responsibly. Administration of salary adjustments for both faculty and non-faculty staff/professionals involves consideration of individual performance and merit, equity, and the competitive labor market – not just across-the-board adjustments.

Because it is able to manage its resources directly, the Georgia university system is far less encumbered by costly external mandates -- such as the examples above -- and is therefore able to better prioritize its resources in support of its core missions of teaching and research.

If the University of North Carolina had been similarly self-contained for the last five years -- and not subject to the burdens placed upon it by the legislative mandates generally applicable to "State" employees -- its cost-avoidance *could have been* in excess of **$90,000,000** in non-recurring costs attributable to legislative bonus leave mandates

alone. Of course, those commitments have been made by the General Assembly, and now must be borne by the University; they are unavoidable. If the University becomes self-contained, however, it might be able to avoid, or at least better manage, similar "unfunded legislative mandates" in the future.

Like bonus leave pay, the University would doubtless honor the continuation of existing longevity pay commitments to current employees. Even discounting longevity and bonus pay issues, however, uncoupling the University system from the State personnel system could generate cost savings of between **$10,000,000-$15,000,000** in annual time and effort, which otherwise could be redirected to better support the core work of the University.

POTENTIAL COLLABORATIONS

The institutions of the University of North Carolina and their sister community colleges have undertaken a strengthened collaborative mission to improve the education, lives, and economic welfare of the citizens of the State.

To that end, more comparable human resource approaches – which allow all the institutions to "optimize at the entity level," as UNC-Charlotte chancellor Philip Dubois succinctly puts it -- would serve well both wings of the State's system of higher education. Having sufficient autonomy to manage their resources and achieve their collective mission will support and strengthen this collaborative capacity.

RECOMMENDATION OF PACE SUBCOMMITTEE

x   **GO**

The PACE HR subcommittee recommends that the UNC System actively pursue resolution to this barrier, by seeking modification of N.C.G.S. Chap. 116 to provide authority for the Board and President of the University of North Carolina to manage a comprehensive, self-contained human resource system for public University employees, in alignment with its mission.

   NO-GO

The PACE HR subcommittee considered this issue, but recommends that the UNC System not pursue this issue at this time.

   MORE STUDY REQUIRED

The PACE HR subcommittee considered this issue and was unable to reach a recommendation within the PACE project timeframe, but believes that further consideration is warranted.

Information Technology

Introduction

The Chronicle of Higher Education in its September 22nd, 2006 electronic combination writes:

> Five days before the U.S. secretary of education, Margaret Spellings, is scheduled to announce her plan for the future of American higher education, the six major college lobbying groups have released a letter outlining the steps they will take -- and those they believe their member institutions should take -- to strengthen the nation's colleges and universities. **As the first item, the letter calls on colleges to use new technologies to contain costs.**

The UNC system is fortunate to have outstanding IT leadership in the Vice President for Information Resources who works effectively with sixteen highly qualified CIOs representing the UNC universities. On IT matters the campuses collaborate where appropriate, explore new IT opportunities that will support the goals and mission of the system, share best practices, and lead and manage the unique IT systems at their campuses.

This history of collaboration has resulted already in significant cost savings for the UNC system and has allowed all campuses to maintain a high level of IT sophistication.

In collaboration with the UNC CIOs, the IT PACE work group has identified twelve efficiency initiatives. However, the PACE committee and University leaders need to be cognizant, that

- IT costs will continue to increase as new capabilities are added to create efficiencies in other non IT areas.
- IT needs to act on the many regulatory requirements such as PCI, Sarbanes-Oxley, CALEA and respond proactively to ever increasing security threats. Regulatory requirements will continue to add cost to campus IT functions.
- It has been acknowledged, that IT at many UNC Campuses is under funded.
- Many of the proposed initiatives address need upfront investments to achieve future savings or cost avoidance.
- Others are essential to improve effectiveness on campus and facilitate strategic initiatives such as UNC Online and UNC Global.

Efficiency Initiatives:

1. Shared Professional Staff

It is proposed that the Alliance expand its services to include support staff for remote hosting opportunities, coordination of regular system-wide technical and functional training, preparation for IT audits/addressing compliance and security issues, and on-demand services. For example, the remote DBA services provided through the Alliance

results in significant cost avoidance for the participating campuses as well as an increase in technical skills and competency available to the campus staff and no additional charge.

2. Banner Hosting

The fourteen Banner campuses should consolidate their production hardware and software as much as practical, at no more than two redundant data centers so that systems administration, data back up and recovery functions could be delivered centrally and remotely from the campuses.

3. Centralized Course Management

Campuses that support the same Course Management system should consolidate their production hardware and software as much as practical at no more than two redundant data centers so that systems administration, data back up and recovery functions could be provided centrally and remotely from the campuses.

4. Disaster Recovery

The sixteen campuses should consolidate their disaster recovery requirements as much as practical, so that data back up and disaster recovery functions could be provided remotely from the campuses. The solution would include arrangements for recovering multiple applications sets, (various ERP systems, various Course Management systems, data warehouses, and critical data systems) so that any campus could have a hot or warm site provisioned as needed.

5. E-Procurement

E-procurement allows qualified and registered users to look for buyers or sellers of goods and services. Transactions can be initiated and completed online. Ongoing purchases may qualify customers for volume discounts or special offers. E-procurement software may make it possible to automate some buying and selling. Companies participating expect to be able to control parts inventories more effectively, and reduce purchasing agent overhead.

6. Outsource Student E-Mail

Instead of hosting student e-mail on campus, take advantage of free webmail services such as Google or Windows Live for students.

7. Cell Phone Allowance (Consider jointly with idea 8, a multi-phased approach)

Implement a mechanism that allows employees to utilize their personal phone by providing a tiered allowance structure to compensate employees for business use.

8. Communication Device Consolidation

Adopt a Telecommunications strategy that provides a single university owned device and/or allows employees to utilize their personal communication device by providing a tiered allowance structure to compensate employees for business use.

9. PC Server Lifecycle Management

Implement an agreed on, centralized   PC and Server replacement strategy and fund it appropriately. Each year, ask for bids on the total planned PC and server replacements.

10. Server Co-Location-Virtualization

Server consolidation and virtualization provides a solution for the proliferation of servers throughout the university. Virtual infrastructure enables workload isolation and granular resource control for all of the system's computing and I/O resources. By consolidating physical systems in the data center onto servers with VMware virtual infrastructure, universities will experience:
- Lower total cost of ownership of servers
- Higher server utilization
- Increased operational efficiency
- Improved manageability

11. Open Source Software

Replace commercial software with open-source versions where appropriate; the white paper uses Course Management software as an example.

12.Thin Clients

A thin client is a computer (client) in a networked IT architecture which depends on a central server for its processing activities and storage, the network is used only to transmit display changes. The word "thin" refers to the small footprint thin clients typically require as they have little processing power and no storage. They need only to connect to a network and start up a dedicated web browser or a "Remote Desktop" connection. In contrast, fat clients or regular PCs do as much processing as possible and use the network to pass required data.

Idea Number: 1

Idea Title: Shared Professional Staff

Description of Current Situation: System and database administration (DBA) and other technical skills are sometimes difficult to staff properly. Finding appropriate skill levels and allocating enough salary to pay for these skills is a constant challenge. Most campuses supplement their staff with higher cost consultants in these specialty areas. Some campuses cannot afford these specialize skills and therefore are limited in the types of applications they can adequately support.

Description of Improvement Idea and Impact: Seven campuses, through the Shared Services Alliance are sharing technical database administrator services in support of their Banner implementations. The participating campuses are: ECSU, FSU, NCA&T, NCCU, UNCA, WCU and WSSU. This is just a minimal implementation of shared professional staff and more campuses and more technical skill requirements could be addressed through an expanded shared service offering.

It is proposed that the Alliance expand its services to include support staff for remote hosting opportunities, for coordinating system-wide technical and functional training, for assisting campuses in preparation for IT audits and addressing compliance and security issues, and for on-demand testing and development services.

Implementation Recommendation: System PACE funds should be reallocated and/or individual campus funds aggregated to expand the service offerings of the Shared Services Alliance to include additional DBA's, system administrators, security/compliance officers and IS/IT auditing support. DBA and system administration services can be provided to campuses in one of two modes: (1) primary or sole source of service, (2) secondary or backup services.

Projected Implementation Time: July 2007

Advantages and Benefits: The current remote DBA services arrangement illustrates that a modest individual campus investment produces significant cost avoidance for the participating campuses. More importantly, it provides technical skills and competencies for campuses at prices they can afford. For all campuses, it provides a pool of back up resources for business continuity and supplemental support.

Disadvantages and Risks: It should also be noted that the complexity of size, other system interfaces and integration requirements are factors which impact the feasibility of consolidation and effective use of shared services. Therefore the more common and consistent the application, its hardware, software and business rules, the more feasible it is to consolidate and share technical support services. The larger campuses may not be able to realize primary shared services for database and system administration tasks because of specialized knowledge needed for large, complex environments

Potential Cost Avoidance:

	Year 1	Year 2	Year 3	Year 4	Year 5
1-Shared professional staff					
Investment					
Savings					
Total	0	0	0	0	0
Cost avoidance	497,800	497,800	497,800	497,800	497,800

Assumptions Associated with Investment: In order to fully realize the advantages and benefits of shared services the following adjustments need to be made in the way campuses cost, fund and manage these technical staff services:

- Funding models – operating vs. one time funding
- Accounting model – need to cost out services
- Consideration of the right business model for providing services
- Shifting of control – directives and authority vs. service level agreements (SLAs)

Professional Service	Campuses Served	Primary Service	Secondary Service	FTE/per Campus	Base Salary + Benefits Multiplier	# of Shared Positions	Amount of Investment	Salary + Benefits without Sharing	Cost Recovery	
IT Audit Liaison	16	0	16	0.06	66,500	1	75,000	75,000	5,500	88,000
Compliance/Security	12	0	12	0.15	125,000	1	125,000	125,000	12,000	144,000
DBA*	10	6	4	.625/.30	85,500	5	390,000	684,000	50,000	400,000
System Admin.**	10	4	6	.625/.30	70,750	4	283,000	566,000	40,000	320,000
						11	873,000	1,450,000		952,000
Supplies,training, travel, etc. average					7,200	11	79,200	-952,200		
							952,200	497,800 Cost Avoidance - 34%		

* Shared uses salary mix, 3 positions @ $85500, 2 positions @ $66500
** Shared uses salary mix, 2 positions @ $75000, 2 position @ $66500

Internal Barriers (within UNC System):
- Inadequate base level of funding
- Philosophy and campus culture

External Barriers (outside UNC System):
- Product licensing/shared procurement
- Regulatory Issues

Description of Inter-Campus Coordination Required: Rely upon the Shared Services Alliance to expand existing services.

The UNC Shared Services Alliance, created in 2000, leverages shared IT resources and supplies efficient and effective services to member campuses. From coordinating business process analyses and establishing training solution centers to serving as a liaison between the universities and state agencies, the Alliance has provided services that promote efficiencies and cost savings across UNC constituents. It should be noted that Wake Forest University, a non-UNC campus is also a member of the Shared Service Alliance. Other education entities like the community colleges could participate in the sharing of IT services.

Other Comments:

Idea Number: 2

Idea Title: Banner Hosting

Description of Current Situation: Each of the UNC campuses currently operates its own data center(s). While many of the campuses have been able to install similarly-configured enterprise administrative and course management systems, each must still provide complete support for these and other systems. According to the PACE expenditure data, campuses spend approximately $500,000 at the smaller campuses and $15 million at the larger campuses in non-personnel to support enterprise academic, administrative and database systems. These include course management systems, data warehouse systems and ERP systems such as Banner.

Description of Improvement Idea and Impact: The fourteen Banner campuses should consolidate their production hardware and software as much as practical, at no more than two redundant data centers so that systems administration, data back up and recovery functions could be delivered centrally and remotely from the campuses.

Implementation Recommendation: The Alliance has identified four campuses as early adopters who could begin the Banner hosting efforts starting in FY2007. NCSA would be the first campus followed by FSU, ECSU and UNCP.

Projected Implementation Time: Begin NCSA's Finance implementation in a hosted environment in January 2007. Migrate two to three campuses per year, over a five year period as hardware life cycles and system software versions align.

Advantages and Benefits: Based on data provided by a cross section of Banner campuses, the range of non-personnel spending is approximately $200,000 per year for small campuses and $700,000 per year for large campuses. These costs include hardware and software maintenance, utilities and supplies. Aligning Banner system software maintenance renewals, hardware acquisition and refreshment and other shared resources for the initial four early adopting campuses would enable these campuses to avoid some future hardware acquisition costs and realize additional system backup and disaster recovery capability. Many of these campuses have limited data center space and cannot obtain space for critical systems redundancy. Finally, Banner hosting provides the ability to redistribute system personnel time and increase support for instructional and research systems and platforms in increased for participating campuses.

Disadvantages and Risks: The complexity of size, other system interfaces and integration requirements are factors which impact the feasibility of consolidation and effective system hosting. Therefore the more common and consistent the application, its hardware, software and business rules, the more feasible it is to consolidate and share technical support services.

Potential Cost Savings:

	Year 1	Year 2	Year 3	Year 4	Year 5
2-Banner hosting					
Investment	300,000				
		184,000	428,000	684,000	888,000
Total	-300,000	184,000	428,000	684,000	888,000
Cost avoidance					

Assumptions Associated with Cost Savings:

The table below calculates potential savings in providing Banner hosting for four campuses. Based on the savings calculated for the first four campuses below, the table above projects savings as all UNC campuses take advantage of centrally hosted Banner services over a five year period.

ECSU	FSU	NCSA	UNCP	**These costs are for five years of implementation 2002-07**		Averages
$94,677	$94,625	$80,023	$82,144	Banner Software License	N/A	
$450,547	$555,858	$391,805	$448,083	Banner Software Maintenance	x	
$37,000	$200,000	$121,700	$125,688	Hardware	Avg.	$121,097
	$60,000	$18,000	$78,283	Hardware Maintenance	x	
$110,204	$119,387	$110,204	$527,241	Oracle License & Maintenance	x Maint.	
$46,500	$67,650	$61,400	$69,750	Additional Staff Training	x	$61,325
$1,044,250	$1,470,000	$1,427,106	$1,426,212	Permanent Employees	Avg.	$1,164,500
$60,000		$250,000	$171,600	Temporary Employees	N/A	
$14,636	$43,909	$18,367	$169,946	Reporting Tools/Other Products	x Maint.	
	$375,000		$9,600	Insurance & Disaster Recovery	x	$250,000 (estimated hot site)
$1,857,814	$2,986,429	$2,478,605	$3,108,547	Total		

ECSU	FSU	NCSA	UNCP	**These costs are for one year of hosting 2007-08**	
$121,204	$149,536	$105,399	$120,540	Banner Software Maintenance	Assumes 3% Maintenance Escalator
17,675	44,677	29,809	34,930	Oracle Maintenance	No Change assumed
18,266	15,240	4,690	25,230	Reporting Tools/Other Product Maintenance	No Change assumed
40,000	85,000	35,000	85,000	Hardware Lease, Maintenance & Support	Assumes Annualized Hardware, Maintenance, Support
90,000	45,000	90,000	65,000	Shared Professional Staff	Using Shared Professional Staff, 5% per year increase
14,200	7,200	14,200	7,200	Staff Training, travel, supplies etc.	Assumes Alliance Shared Services, 5% per year inc.
4,800	34,000	4,800	34,000	Hosting, Insurance & Disaster Recovery	Assumes using MCNC Hosting & Backup Services
306,145	380,653	283,898	371,900	Total Cost in Hosted Environment	
335,145	418,613	350,148	422,792	Current/Estimated cost to support Banner Individually	
		128,215		Cost of support SCT Plus Currently	
-29,000	-37,960	-66,250	-50,892	-184,102	Est. savings

Assumptions:

All:
- Banner Software Maintenance taken from Alliance managed contract. For early adopters only, no economy of scale assumed.
- Oracle Maintenance assumes not change since campuses acquired different levels of licenses.
- Reporting Tools software maintenance assumes no change since campuses use different products.
- Assumed ongoing staff training provided by the Alliance, No training budget was included in current campus estimates to support Banner individually.
- No campus included insurance or disaster recovery as part of their current campus estimates to support Banner individually.

ECSU:
- Substituted an estimated annualized hardware costs of $60,000 based on comparison with other campuses annualized hardware costs.
- Added to ECSU provided current/est. cost to support Banner $50,000 for remote DBA.
- Used primary DBA and system administration shared professional staff for hosted environment.

FSU:
- Added to FSU provided current/est. cost to support Banner $44,677 for Oracle maintenance.
- Added to FSU provided current/est. cost to support Banner an estimated annualized hardware cost of $78,666 based on initial hardware purchase price above.
- Added to FSU provided current/est. cost to support Banner an estimated annualized disaster recovery cost of $75,000 based upon five year implementation budget of $375,000 above.
- Added to FSU provided current/est. cost to support Banner $25,000 for remote DBA.
- Used secondary DBA and system administration shared professional staff for hosted environment.

NCSA:
- Added to current/est. cost to support Banner Oracle Purchase and annual maintenance cost of $29,809 since NCSA does not have Oracle currently.
- Added to current/est. cost to support Banner an estimated annualized hardware cost of $54,000 based on comparison with other campuses annualized hardware cost.
- Added to current/est. cost to support Banner a full time DBA and a full time system administrator of $156,250 since NCSA does not have these resources currently.

- Used primary DBA and system administration shared professional staff for hosted environment.
- NCSA's self supporting or hosted cost exceed the $128, 215 current cost and these funds should be available for reallocation to support an upgrade to Banner.

UNCP:
- It should be noted that the annualized hardware costs and a portion of the software maintenance in the current/est. cost to support Banner is not currently budgeted.
- Used secondary DBA and primary system administration shared professional staff for hosted environment.

Internal Barriers (within UNC System):
Inadequate base level of funding
Philosophy and campus culture
Life cycle management

External Barriers (outside UNC System):

Description of Inter-Campus Coordination Required: Rely upon the Shared Services Alliance to provide Banner Hosting Services.

The UNC Shared Services Alliance, created in 2000, leverages shared IT resources and supplies efficient and effective services to member campuses. From coordinating business process analyses and establishing training solution centers to serving as a liaison between the universities and state agencies, the Alliance has provided services that promote efficiencies and cost savings across UNC constituents. It should be noted that Wake Forest University, a non-UNC campus is also a member of the Shared Service Alliance. Other education entities like the community colleges could participate in the sharing of IT services.

Other Comments:

Idea Number: 3

Idea Title: Centrally Provided Course Management System (Blackboard)

Description of Current Situation: Each of the UNC campuses currently operates its own data center(s). While many of the campuses have been able to install similarly-configured enterprise administrative and course management systems, each must still provide complete support for these and other systems. According to the PACE expenditure data, campuses spend approximately $1 million in non-personnel to support enterprise academic, administrative and database systems. These include ERP systems, data warehouse systems and course management systems such as Blackboard.

Five campuses supported by facilitation from the Teaching and Learning with Technology Collaborative (TLTC) have established a consortium arrangement for supporting their use of WebCT's course management system. The WebCT Vista Council consists of NCSU, UNCA, UNCC, UNCW and WCU, working together to share a single remotely hosted installation of the application. NCSU is in production now; UNCC plans to be in production during the fall of 2006 and UNCW in 2007. UNCA's plans are yet to be determined. ASU currently uses a WebCT product but has decided not to upgrade to WebCT Vista at this time. For the hosted model, participating campuses can support WebCT Vista for half the cost of supporting the application on campus. The hosted model costs $10.00 per student; the onsite model costs $20.00 per student.

Ten UNC campuses use Blackboard as the enterprise course management solution. Almost all of the NC community colleges use Blackboard and the NCCCS has expressed interest in collaborating with UNC so consolidate these applications.

Description of Improvement Idea and Impact: The ten Blackboard campuses could consolidate their production hardware and software as much as practical at no more than two redundant data centers so that systems administration, data back up and recovery functions could be provided centrally and remotely from the campuses. Some of these campuses already use hosting services provided by the vendor. These services contracts could be transferred (in-sourced) to these central data centers.

Implementation Recommendation: The TLTC could facilitate the implementation of a shared instance of Blackboard for these campuses, similar to the installation that is currently underway with the WebCT campuses.

Projected Implementation Time: Identify a cohort of UNC and/or community colleges (no more than four) that could become early adopters. Begin planning in FY2007. The first multi-campus installation could be implemented in FY2008.

Advantages and Benefits: Based on data provided by a cross section of Banner campuses, the range of non-personnel spending is approximately $26,000 per year for small campuses and $120,000 per year for large campuses. These costs include hardware and software maintenance, utilities and supplies. Sharing a single software license instance will reduce software license renewals; hardware acquisition, maintenance and

refreshment would also decrease and would enable participating campuses to avoid some future hardware acquisition costs and realize additional system backup and disaster recovery capability. Many of these campuses have limited data center space and cannot obtain space for critical systems redundancy. Finally, central hosting provides the ability to redistribute system personnel time and increase support for instructional and research systems and platforms for participating campuses.

Disadvantages and Risks: It should also be noted that the complexity of size, other system interfaces and integration requirements are factors which impact the feasibility of consolidation and effective use of shared services. Therefore the more common and consistent the application, its hardware, software and business rules, the more feasible it is to consolidate and share technical support services.

Potential Cost Avoidance: Single instance, hosted applications should be able to stay current with releases and would enjoy additional support for testing and troubleshooting problems.

- Negotiate a single instance software license for all Blackboard campuses, which would include an additional discount percentage for shared instances or hosted solutions. Preliminary discussions with the Blackboard software vendor provide an estimated significant decrease in the cost of annual maintenance. Assuming participating campuses could realize a 20% reduction in licensing costs, at a minimum the ten campuses could save approximately $100,000 annually.
- Acquire or lease hardware on a consistent life cycle and lower the total costs of ownership (TCO) per campus. Preliminary discussions with Blackboard hardware vendors provide an estimated 20% decrease in hardware maintenance or an elimination of maintenance as part of a lease agreement. It is estimated that at a minimum these campuses could save an additional $100,000 annually in hardware maintenance if hardware was consolidated and/or leased.

	Year 1	Year 2	Year 3	Year 4	Year 5
3-Centralized course management					
Investment	550,000	350,000	350,000	350,000	350,000
Savings	200,000	400,000	600,000	800,000	1,000,000
Total	-350,000	-150,000	50,000	250,000	450,000
Cost avoidance					

Assumptions Associated with Cost Avoidance: In order to consolidate Blackboard to a remote hosted environment the data center and participating campuses require:
- High availability, redundant, high speed dedicated network – NCREN
- Standard hardware, software and software versions, standard conversion processes and procedures for migration, common interfaces, estimated costs $200,000 and yearly support 50,000
- Estimated Maintenance increase for VISTA/ campus $60,000

- Total student population using VISTA 86,000 , savings $10.-/student -> 860,000 once all five schools are using the hosted model. Used in model: year 2: $200,000, year 3: $400,000; year 4: 600,000, year 5: 800,000

In order to fully realize the advantages and benefits of shared services the following adjustments need to be made in the way campuses cost, fund and manage these production enterprise system services:
- Funding models – operating vs. one time funding approach
- Accounting model – need to cost out services
- Consideration of the right business model for providing services
- Shifting of control – directives and authority

Internal Barriers (within UNC System):
- Inadequate base level of funding
- Philosophy and campus culture
- Life cycle management

External Barriers (outside UNC System): Different approval processes, procurement processes and procedures between the system offices among the campuses, community colleges, UNC-GA and NCCCS.

Description of Inter-Campus Coordination Required: Authorize the TLTC to enable BlackBoard hosting services by facilitating the creation of a consortium with the NCCCS on behalf of the participating UNC campuses.

Other Comments:

Idea Number: 4

Idea Title: Disaster Recovery

Description of Current Situation: Each of the 16 campuses is responsible for their own disaster recovery and business continuity plans. It is expected that these plans are reviewed and updated frequently. Some campuses conduct drills and exercises and participate in community wide disaster recovery planning. Some campuses have addressed the policies, processes and systems requirements more than others. Some campuses are well prepared for a particular type of disaster, like a hurricane, but may not be as prepared for another type, like an explosion or cyber security incident. The 16 UNC campuses vary as to the degree of disaster resistance they have achieved within their IT environment. In particular, the UNC system wide IT recovery profile covers the entire range of disaster recovery options.

- Rebuild & Replace (Disaster Recovery – Non Critical applications)
    - Tape backup and priority shipment of equipment
    - Weeks to recovery
- Hot-Site (Disaster Recovery – Critical applications)
    - Off site arrangements with a hot-site provider
    - Several days to recovery

Description of Improvement Idea and Impact: The sixteen campuses should consolidate their disaster recovery requirements as much as practical, so that data back up and disaster recovery functions could be provided remotely from the campuses. Due to the differences in size, complexity and availability of resources, it is proposed that a consultant assist the system in designing a disaster recovery solution that will accommodate the largest and most complex campus (es).   The solution would include arrangements for recovering multiple applications sets, (various ERP systems, various Course Management systems, data warehouses, and critical data systems) so that any campus could have a hot or warm site provisioned as needed.

Implementation Recommendation: The Alliance, on behalf of all campuses has developed the following plan of actions:

Disaster Recovery Site:
1) Complete the DR requirements document by 9/15/06.
2) Compile results and develop a straw consulting engagement to develop an RFP and planning budget for system-wide DR Hot site/Warm site to serve multiple institutions by 10/6/06.
3) Develop final proposal by 10/31/06.
4) Select a consultant at the Alliance Board meeting by 12/15/06.
5) Begin engagement in January 2007 with deliverable by 2/23/07.
6) Intention is to execute system-wide DR contract by 7/1/07.

Critical data backup:
1) Determine campus data storage frequency and quantity requirements for:
    - Secure, remote disk-to-disk storage solution for critical data backup
    - Tape backup and storage option
    - Interest in disk-to-disk to tape

–   Tape pick-up and retrieval service
2)   Collect by 9/15/06 and compile results.
3)   Discuss immediate needs with MCNC by the 9/20/06 CIO Video Conference in order to receive a system level proposal for data back up services.
4)   Intention is to implement solution for campuses by end of calendar year.

Projected Implementation Time: Critical Data Back Up **-** FY2007, Disaster Recovery Site - FY2008

Advantages and Benefits:
- Spreads the costs among a larger group of campuses and lowers the costs for individual campuses
- Addresses Audit requirements for off-site storage of critical data
- Makes a hot or warm site available to campuses that could not afford to have one
- Helps standardize procedures for critical systems back up and recovery, incorporating best practices

Disadvantages and Risks:
- Adds complexity to an already complex environment
- Expensive, requires and new investment
- The greater the distance, the greater the cost or lesser the functionality and immediacy of response.
- May require a secondary high-availability or hot-site nearby and a tertiary warm or cold-site much farther away.

Potential Cost Avoidance: Only two campuses currently have a hot site contract. Each is spending $250,000 to $300,000. Most campuses are addressing disaster recovery with redundant on-campus data centers. In one case, the campuses is spending approximately $500,000 for an on-campus data center site with recurring expenses of about $100,000 per year in equipment and backup support. Investment in a multi-campus hot-site would enable campuses to share a contract estimated to be $750 to $1,000,000 to support all campuses for disaster recovery.

	Year 1	Year 2	Year 3	Year 4	Year 5
4-DR					
Investment					
Savings					
Total	0	0	0	0	0
Cost avoidance	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000

Assumptions Associated with Cost Avoidance: PACE identified and/or existing campus funds would be reallocated to fund IT disaster recovery.
Costs:
- Hot-sites cost several hundred thousand dollars per year per campus.
- High-availability 2nd site

- One-time cost about $1 million per site
- Recurring cost, $200,000 per site

Partnerships can help minimize costs.

- Emergency Response groups across the region coordinate efforts and share resources
- Regional exercises
- Information sharing with key groups
- University Partnerships:
  - Cost and resource sharing or exchange programs
  - SoX gigapop facilitates sharing with other universities, other regions
- Vendor Partnerships:
  - Can help identify best practices and utilize new technology useful to business continuity
  - Cisco, EMC, Sun, Avaya, Dell, etc.

Internal Barriers (within UNC System):
- Varying sense of urgency among campus leaders
- Lack of base funding

External Barriers (outside UNC System):

Description of Inter-Campus Coordination Required:

Other Comments:

Idea Number: 5

Idea Title: Implement a UNC-wide eProcurement system

Description of Current Situation: Due to difficulties using state purchasing processes (including the state eProcurement system), purchases are often made not from the vendors with the lowest prices but from those from whom it is easiest to purchase. Time is wasted attempting to compare pricing and features across multiple vendors. Campuses have no easy and effective method of tracking chemical and hazardous materials and many are unable to generate the detailed purchasing histories necessary to negotiate significant volume discounts. The purchasing power of the UNC system is not leveraged to negotiate maximum discounts in many areas.

Description of Improvement Idea and Impact: A centralized eProcurement system would allow the UNC system to create and/or reference online catalogs for desired vendors and provide users with an online "shopping cart" experience. Users could search on basic product info and receive side-by-side product/pricing comparisons. Purchases could be easily driven to preferred vendors (with whom the system has negotiated significant discounts) and interfaces to campus financial systems could be developed, facilitating a totally paperless purchasing process and recurring purchases could be simplified using electronic "shopping lists."

Implementation Recommendation: Evaluate in-house and vendor solutions/costs and discounts that could be negotiated with vendors. Investigate the integration of the solutions with other campus and state systems.

Projected Implementation Time: One to two years, depending upon solution chosen.
Advantages and Benefits: Countless hours spent today identifying and purchasing from appropriate vendors could be redirected to more mission-critical activities. The UNC system could leverage its purchasing power to negotiate and maximize discounts, particularly for chemical and hazardous materials that are unique to the UNC system. Purchasers can be easily driven to preferred vendors to maximize savings. [Note: the savings generated, in the form of cost avoidance, would be scattered across the various units on individual campuses.] Resources spent re-keying data into campus financial systems and processing paper invoices could be redirected to more mission critical activities. Campuses that would like to drive more purchasing through their Purchase Cards (P-Cards) could do so more easily with an eProcurement system. And finally, a UNC eProcurement system would facilitate gained efficiencies in tracking chemicals and hazardous materials at the time of purchase and the detailed data collection needed to generate purchasing histories.

Disadvantages and Risks:
Several institutions have already implemented or purchased eProcurement solutions that must be considered. Disruptions to the purchasing process or perceived "steps backwards" in purchasing procedures must be avoided. The solution chosen must accommodate the various needs of the different campuses (e.g. interfaces into different

financial systems, the ability to purchase from vendors without online catalogs, support for totally paperless purchases and/or P-Cards), which may increase complexity and cost.

Potential Cost Savings:

	Year 1	Year 2	Year 3	Year 4	Year 5
5-E-procurement					
Investment	5,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Savings	0	8,700,000	9,600,000	9,600,000	10,150,000
Total	-5,500,000	6,200,000	7,100,000	7,100,000	7,650,000
Cost avoidance					

Assumptions Associated with Cost Savings: UNC-CH spend figures were not included in calculations because they already have an eProcurement system in place**.** Assume an average discount of 3.0% can be negotiated with the top 200 vendors with the UNC system on spend of approx. $280,000,000 (in addition to any existing discounts). Additional discounts gained through negotiations with additional vendors can be realized in future years and are assumed in future year calculations. Time savings realized via the use of an effective eProcurement system cannot be easily calculated but would be realized across all departments on every campus for both faculty and staff. An estimated $7.50 per invoice can be saved for all formerly paper-based invoices that can be converted to a paperless process via the eProcurement system (a minimum of 40,000 invoices annually).
.
Internal Barriers (within UNC System): Staffing must be identified to negotiate discounts on behalf of the entire system and to load/develop the various catalogs in the centralized eProcurement system. If the solution chosen will be hosted by a UNC entity, appropriate staffing, hardware, and software must be identified and/or procured. All UNC institutions must standardize their purchasing processes.

External Barriers (outside UNC System): A partnership must be negotiated to allow the UNC eProcurement system to coexist with the state eProcurement system in such a way that the state realizes maximum savings possible from the state eProcurement system while providing maximum benefits to the UNC system.

Description of Inter-Campus Coordination Required: The UNC campuses must collaborate to identify an eProcurement solution, determine the top vendors to be implemented and standardize their purchasing processes. They must also encourage/require the use of the centralized eProcurement system where practical.

Other Comments: The resources (time, people and money) needed depend upon the solution chosen (e.g. an outsourced solution may require less time/people but more money to implement than an in-house solution). Factors such as staffing/skill levels and university programs affecting the financial systems should also be considered when determining if and when individual institutions adopt the solution.

UNC-CH has implemented its own e-procurement system. If that system could be adapted by other UNC institutions, the total initial investment and ongoing operating costs will be much less.

Idea Number: 6

Idea Title: Outsource Student e-mail

Description of Current Situation:
The 16 campuses that make up the UNC System have approached student email in a number of different ways. Some have chosen to host a single, centralized system for their campus which includes all students, faculty and staff. Others have selected a decentralized model with individual schools or units providing and/or hosting their own solutions.

Description of Improvement Idea and Impact:
By each campus hosting its own student email solution, the UNC system is missing out on potential economies of scale and on potential benefits of inter-campus collaboration. There are several ways the UNC System could address this issue; however, outsourcing to a low-cost vendor-provided solution seems to provide the greatest benefit to the UNC Campuses, both immediate and long term. Three potential vendors have been identified to guide our understanding of the service offerings and potential for cost savings - Outblaze, Microsoft's Windows Live@Edu and Google Apps for Education.

Implementation Recommendation:
How we move to an outsourced system for student email depends on the outsourcing option that is chosen. Some campuses may already have an effective, low-cost student email solution and, thus, may chose not to participate. A committee made up of representatives from each participating university would need to identify campus needs and investigate each solution proposed (and possibly others) to determine which best meets the needs of the campuses.

Projected Implementation Time:
One to three years beginning in FY 07-08. Campuses with multi-year contracts for existing email software, hardware and/or services might find it beneficial or necessary to delay changing systems until some or all contracts expire.

Advantages and Benefits: Potential benefits include economies of scale leading to cost savings, less campus liability for email content, reduction in server hardware and server administration, possible reduction in support staff or refocus of staff time on other efforts, potential for lifetime digital identity for students (e.g., with Google and Microsoft solutions, graduates may continue to receive the service as alumni). Potential for redundancy/disaster recovery services to be included in the service offering at little or no extra cost.

Disadvantages and Risks: Uncertainty regarding long term availability of services; potential for substantial changes in service cost structure; concerns regarding verification of email delivery, vendor commitment, and lack of campus control over quality of vendor end user support; potential for data privacy concerns.

Students will have different email domain names than faculty and staff (e.g.,

@student.uncg.edu rather than @uncg.edu), students will have a different support model than faculty and staff, loss of integration between student email system and faculty/staff system could mean a loss of features (e.g., the ability to use a common address book, the ability to share calendars, schedule meetings, etc.), email interfaces with campus ERP systems must be altered.

Potential Cost Savings:

Brief cost overview per service:
Outblaze – Based on preliminary investigation, cost for desired services would be $6.33 per year per student which is a cost increase from the current estimated UNC average of approximately $2.80 per year per student (excluding support personnel costs). A substantial volume license discount would be required to make this a cost-effective solution.

Microsoft Windows Live@Edu – The vendor does not charge for the base service, but this solution requires that the campus provide a Microsoft Identity Integration Server environment and a Microsoft SQL Server environment. All other servers are hosted by Microsoft. To create such an environment with redundancy/failover requires:

- an initial one-time software license investment of approximately $7,696 (assumed to be per campus)
- annual expenditures for a 4-server hardware environment plus hardware/software maintenance of $8,160 (assumed to be per campus with servers leased on a 3-year refresh cycle)

Annual Microsoft solution cost per student *averaged* over the 16 campuses is approximately $.65/student.   We are seeking clarification as to whether each campus must have its own set of 4 servers – it may be possible that campuses can share servers or add this service to servers they already maintain, further reducing costs. If servers cannot be shared, smaller campuses will have higher costs per student. For example, as a small campus, WSSU costs would be over $1/student, while UNCW and UNCG as mid-sized campuses would spend just below the system average of $.65/student, and UNCC as a larger campus would spend around $.35/student.

Google Apps for Education – No hardware or license costs. The vendor does not charge for the base service.

All outsourcing efforts will have cost implications for campus IT staff time (see **Description of Inter-Campus Coordination Required** and **Other Comments** below).

Based on information from two campuses (NCSU and UNCG), the cost of providing student email services is estimated at $2.80/student excluding any personnel costs. Personnel costs have been excluded as potential savings because technology personnel will continue to support faculty and staff email. Faculty/staff email requirements are considered too complex for multi-campus outsourcing at this time. Also, personnel time will need to be redirected near-term into building interfaces for the outsourced email

solution and, longer-term, into other support activities for which technology support units are currently understaffed.   Savings opportunities vary by campus depending on how much a campus spends on current email services.

	Year 1	Year 2	Year 3	Year 4	Year 5
6-Outsource student email					
Investment	92,352				
Savings	100,000	200,000	300,000	300,000	300,000
Total	7,648	200,000	300,000	300,000	300,000
Cost avoidance					

Assumptions Associated with Cost Savings:
Savings estimates assume –
- the current email cost is approximately $2.80/student (excluding personnel costs) based on the average of 2 campuses (NCSU and UNCG)
- the selected solution will result, on average, in a savings of $2/student (a conservative estimate selected because of the incomplete data on current student email costs and because, for some solutions, the average solution cost/student will vary based on the size of the participating campuses)
- that the system-wide student headcount in the target years is constant at 200,000, and the campuses participating in the solution will be a representative mix of small, medium and large campuses so that the savings basis for 8 campuses is 100,000 students and for 12 campuses is 150,000
- a low-cost outsourcing solution such as those offered by Microsoft or Google will meet the participating campuses' needs
- campuses have a maximum 3-year commitment to current student email environment contracts and, therefore, use of the outsourced solution will begin in 07-08 with 1/3 of participating campuses and will grow to 2/3 in 08-09 and to all participating campuses in 09-10
- initial start-up costs are to cover one-time license fees such as those that would be incurred in the Microsoft solution, any hardware/maintenance costs are included as ongoing annual costs

Savings assume a *low cost* outsourced solution that meets campus needs can be identified. If this turns out not to be the case, other solutions such as centralized hosting at MCNC will need to be investigated.   These alternative solutions will have much greater start-up costs and savings opportunities are not yet known.

Internal Barriers (within UNC System):
Campuses have different policies and needs regarding student email and selection of a single system to meet those needs may be a challenge. Campuses have different administrative systems (ERP's) that will need to provide student account data to the outsourced system – campuses will have to develop and maintain different interfaces depending on their ERP. Many UNC campuses have, however, standardized or will

standardize on Banner as the ERP for student information, and this will provide an opportunity for collaborative development of ERP interfaces.

External Barriers (outside UNC System): Data privacy requirements including State and Federal law (e.g., FERPA) must be met by the selected outsourced system. The timeframe for this study has not allowed us to determine whether the Google or Microsoft solutions meet campus data privacy requirements. If these requirements cannot be met, other solutions must be pursued and opportunities for savings may decrease and initial implementation costs increase.

Description of Inter-Campus Coordination Required:
Potentially very little, once a contract is negotiated, each university could potentially deal with the vendor directly. The potential, however, for inter-campus collaboration is great. Campuses would be able to share best practices and develop shared solutions for issues such as automated account creation, ERP interface development (especially for Banner campuses), client education material, and other needs.

Other Comments:
Without knowing the solution that will be chosen, it is impossible to accurately predict what the UNC System will save. It is possible, however, to conclude that going with one of the low-cost outsourced solutions such as Windows Live@Edu or Google Apps for Education which have no service fees, could result in savings in the areas of hardware, licensing and maintenance while also providing server redundancy for disaster resistance. Since the Google and Microsoft services are relatively new, the impact on campus support staff time is currently unknown. For these two services, end user support is handled through the standard Hotmail or GMail web interfaces, but escalated user support is available for campus IT staff. This could result in a decrease in overall support time for campus IT staff, but could also potentially lead to a decrease in level of service for end users. For any solution, outsourced or centrally hosted, campuses would still need to integrate and maintain services such as user account maintenance (e.g., creation, deletion) and there would always be a staff time investment for service branding, marketing, education, and campus-specific support activities. If outsourcing of student email is successful it might, for some campuses, lead to faculty/staff outsourcing opportunities which could result in greater savings. The bottom line is outsourcing student email has the potential to reduce UNC System costs for student email services and we recommend pursuing this in a formal manner.

Idea Number: 7

Idea Title: Cell Phone Allowance Plan

Description of Current Situation: Universities use various methods to provide faculty and staff with cell phone service. Relatively few campuses centralize the service which decreases overall expenses but significantly burdens the central IT organization with the reconciliation process. Most campuses allow each individual department to maintain service contracts which increases overall administration costs resulting from the decentralization. Current state policy does not allow for personal use of state issued cell phones, resulting in faculty and staff carrying two devices.

Description of Improvement Idea and Impact: Implement a mechanism that allows employees to utilize their personal phone by providing a tiered allowance structure to compensate employees for business use. The adoption of this system would eliminate the multitude of service contracts, reconciliation overhead and overall general administration of state owned equipment. This would result in a more effective use of Telecommunications, Administrative, State Financial Auditors and Materials Management staff in lieu of supporting the current system.

Implementation Recommendation: Implement a tiered allowance plan to compensate the employee for business use of a personal communication device. Tiers would be established by each University based on expected frequency of use or by comparing the use of a current state provided cell phone.

Projected Implementation Time: New phone services could begin almost immediately but existing contracted services would need to be fulfilled to avoid early termination charges.

Advantages and Benefits: The allowance would reduce administration overhead in reconciliation of monthly bills, approval processes, and auditing of monthly statements. This would provide relief at the local department as well as the central telecommunications department that is responsible for the overall service. Employees would favor a reduction in the number of devices carried and monthly bill reconciliation. A positive financial impact with the proposed system is estimated at 38% on an annual basis with a total estimated savings of $2.6 million dollars system wide over five years.

Disadvantages and Risks: An annual assessment of employee usage and requirements by the department for their participation should be conducted to determine if continuation in the program is appropriate.

Potential Cost Savings:

	Year 1	Year 2	Year 3	Year 4	Year 5
7-Cell phone allowance					
Investment					
Savings	309,000	463,000	618,000	618,000	618,000
Total	309,000	463,000	618,000	618,000	618,000

Assumptions Associated with Cost Savings: Majority adoption and conversion by campuses will be necessary in lieu of continuing current service contracts.

Internal Barriers (within UNC System): Currently, there is a lack of centralization of cell phone services on many of the UNC campuses.   This would require significant coordination by the Telecommunications department on each campus to ensure individual departmental adoption.

External Barriers (outside UNC System): Possible state barriers in utilizing state funds to financially support the allowance.

Description of Inter-Campus Coordination Required: Coordination with campus CFO's and campus constituents to determine appropriate rates for the various allowance tiers.

Other Comments:

Idea Number: 8

Idea Title: Communication Devices Consolidation

Description of Current Situation: Universities use various methods/devices to provide faculty and staff with telecommunication services. This includes traditional telephony, cell phones, pagers, calling cards and smartphones. The numbers of devices that are being utilized across campuses are increasing at a significant rate due to technology advances such as VOIP and smartphones. As service options increase, so does the administrative overhead in managing the multitude of contracts and providers while at the same time ensuring proper reconciliation of expenses. Increasing pressure to provide service and support with existing telecommunication departments is fast becoming an issue. The state policy regarding personal use of state owned equipment is limiting the campuses ability to consolidate various devices and provide more flexible allowance structures where personally owned communication devices could be utilized to conduct business.

Description of Improvement Idea and Impact: We are recommending that Universities adopt a Telecommunications strategy that provides a single university owned device and/or allows employees to utilize their personal communication device by providing a tiered allowance structure to compensate employees for business use. The adoption of this system would eliminate the multitude of service contracts, reconciliation overhead, and overall general administration of state owned equipment. This strategy would reduce the burden on the Telecommunications department in providing multiple communication devices throughout campus, which ultimately results in over provisioning of services. Staff in the Telecommunications department, State Financial Auditors and Materials Management could focus on services that are critical to the campus in lieu of supporting the ever increasing variety of communications devices.

Implementation Recommendation: Adopt a Telecommunications strategy that would allow the employee the flexibility in choosing a traditional phone or University provided cell phone, or utilizing a personally owned communication device to conduct business. For those employees choosing to use their personal device, implement a tiered allowance plan to compensate the employee for business use of a personally owned communication device. Tiers would be established by each University based on expected frequency of use or by comparing the use of a current state provided device.

Projected Implementation Time: New services could begin almost immediately but existing contracted services would need to be fulfilled to avoid early termination charges.

Advantages and Benefits: The strategy would reduce administration overhead in reconciliation of monthly bills, approval processes, and auditing of monthly statements. Reduction in Telecommunication services should provide significant long term costs avoidance by reducing the amount of infrastructure deployed and overall support presently provided. This would provide greater flexibility in a rapidly changing communications age while providing a more efficient means to delivering

Telecommunication services to the UNC System. Employees would favor a reduction in the number of devices carried and monthly bill reconciliation.

Disadvantages and Risks: An annual assessment of employee usage and requirements by the department for their participation should be conducted to determine if the proper communication device is being utilized. Changes in job duties/functions could result in device changes that would have to be managed.

Potential Cost Savings: Given the restrictive time frame a proper financial analysis could not be conducted. We feel the strategy warrants additional study on a more long term basis to be lead by the Office of the CIO in General Administration. The following estimates are based on extrapolation of data from one campus: UNC Charlotte

	Year 1	Year 2	Year 3	Year 4	Year 5
8-Communication devices consolidation					
Investment	1,600,000				
Savings	720,000	720,000	720,000	720,000	720,000
Total	-880,000	720,000	720,000	720,000	720,000
Cost avoidance					

Assumptions Associated with Cost Savings: 10% of FT Faculty and staff have a mobile device in addition to their desk phone. Of those 10% half agree to use a single device only (cell phone). Cost for a desk phone is assumed at $30.-/month including long distance charges. (2,000 x $360.- = $720,000). This will require the implementation of a voice mail system or integrated messaging that allows to extend voice mail to those who are not part of the 'central' system (Estimate: $100,000/campus).

Internal Barriers (within UNC System): Currently there is a lack of centralization of Telecommunication services on many of the UNC campuses. This would require a dedicated and coordinated resource on each campus to insure individual departmental communication and adoption.

External Barriers (outside UNC System): Possible state barriers in utilizing state funds to financially support the tiered allowance structure. Current state policy regarding personal use of state owned devices.

Description of Inter-Campus Coordination Required: Coordination with campus CFO's and campus constituents to determine appropriate rates for the various allowance tiers.

Other Comments: This new strategy is similar to what occurred several years ago when a majority of Universities provided dial-up network connectivity to their local campus. Over a period of time, the corporate based Internet Service Providers (ISP's) became more prevalent and provided additional services typically not found with the campus based service. Corporate competition reduced the overall cost while the reliability and

coverage areas increased. Employees began to make the transition to external ISP's thus reducing the number of employees utilizing the campus resource. Similar questions were raised regarding personal versus private use of these services that created campus debate. Eventually there was a shift in campus strategy to discontinue locally provided connectivity for faculty, staff and students because of decreased usage and inherent financial disadvantages in maintaining the University owned infrastructure.

Idea Number: 9

Idea Title: Centralize PC and Server Lifecycle Management

Description of Current Situation: Purchases of PCs and servers at many campuses are handled by departments and are contingent on one-time money becoming available. They are normally purchased in small quantities through separate purchase orders.

Description of Improvement Idea and Impact: Implement an agreed on, centralized PC and Server replacement strategy and fund it appropriately. Each year, ask for bids on the total planned PC and server replacements.

Implementation Recommendation: Establish PC and Server inventory and set lifecycles, determine which equipment needs to be replaced each year, negotiate best price with vendors; replace equipment

Projected Implementation Time: Yearly process

Advantages and Benefits: Leverage purchasing power of entire campus, reduces departmental costs associated with PC lifecycle management, results in up-to-date IT inventory, ensures everyone benefits from state-of-the-art equipment

Disadvantages and Risks: Resistance from departmental IT staff, objections by staff/faculty who benefit from accelerated replacement of their PCs

Potential Cost Savings: Based on some preliminary research, based on $2,000,000 worth of PC purchases a savings of $100,000 was predicted. Another example is ECU where the savings resulting from centralizing workstation orders were:

FY03	$453,548
FY04	$250,882
FY05	$500,910
FY06	$591,500

	Year 1	Year 2	Year 3	Year 4	Year 5
9-PC server lifecycle management					
Investment					
Savings	1,625,000	1,625,000	1,625,000	1,625,000	1,625,000
Total	1,625,000	1,625,000	1,625,000	1,625,000	1,625,000
Cost avoidance					

Assumptions Associated with Cost Savings: A 5% cost savings is assumed and .5 PCs per constituent (based on EDUCAUSE core data survey). 260,000 constituents and an average $1,500 cost per PC today. It is further assumed that half of the PC purchases in the UNC system are already taking advantage of PC lifecycle management and e-procurement. A lifecycle of three years is assumed

Internal Barriers (within UNC System): Funding strategy, no operational funds are allocated for equipment replacement; this is mostly funded out of one-time funds

External Barriers (outside UNC System): N/A

Description of Inter-Campus Coordination Required: E-procurement for the UNC system will be critical in obtaining these savings

Other Comments:

Idea Number: 10

Idea Title: Server Co-location and Consolidation

Description of Current Situation: Most campuses have – in addition to central computing rooms – distributed server rooms or servers housed in offices maintained staff outside the central IT department.

Description of Improvement Idea and Impact: Co-locate all servers into central computer rooms where they are managed using professionals and state of the art system management software, take advantage of automated OS updates, backups, and Disaster recovery. Use virtualization technology to improve server utilization and reduce the number of servers required.

Implementation Recommendation: Assess server inventory, location and support for each campus. Develop plan for co-location and virtualization and determine cost savings.

Projected Implementation Time: One year

Advantages and Benefits: Reduces costs for server hardware, cost for server administration, increases security as OS patches are applied consistently, ensures consistent backup and provision for disaster recovery. Saves energy costs, reduced requirements for backup power, saves space.

Disadvantages and Risks: None known

Potential Cost Savings: In the private sector, server co-location and consolidation have resulted in cost savings of 15% to 30% for the servers TCO. For the past four fiscal years, ECU reported the following savings from server consolidation and virtualization:

FY03	80,000
FY04	84,500
FY05	175,000
FY06	96,000

Average/year: 109,000

	Year 1	Year 2	Year 3	Year 4	Year 5
10-Server co-location virtualization					
Investment	1,600,000				
Savings	450,000	450,000	450,000	450,000	450,000
Total	-1,150,000	450,000	450,000	450,000	450,000
Cost avoidance					

Assumptions Associated with Cost Savings: On average those campuses that have not implemented server consolidation and virtualization will save $3.5 / headcount per year.

Using half of the UNC population this will result in about $450,000 in annual savings based on ECU's recorded savings.

Internal Barriers (within UNC System): Campus Culture, departmental autonomy

External Barriers (outside UNC System):

Description of Inter-Campus Coordination Required:
Other Comments:

Idea Number: 11

Idea Title: Open Source Applications – Course Management System (CMS) with onsite hosting.

Description of Current Situation: Most campuses of the UNC and Community College systems make use of commercially available course management systems. With the exception of the common hosting of Blackboard Vista through a consortium of five campuses, the majority of the implementations are unique to individual campuses. Depending upon the CMS being used, on the individual campuses there can be expenses related to initial licensing, ongoing annual maintenance fees, hardware, software, server administration, application administration, training of staff, workshops for users, support of users, backups, disaster resistance, etc.

Description of Improvement Idea and Impact: There are two major avenues of efficiency and cost effectiveness that can be:
• Replacing commercial course management systems with open-source versions.
• Hosting from central locations.

This document will focus on the replacement benefits.

Implementation Recommendation: Identify campus and state system project teams; assess needs and research existing options; install product(s) for testing; perform system level as well as individual campus evaluations; do a changeover analysis to establish what is involved in migrating existing content; select CMS; establish notification and education plans; determine what aspects can be addressed collaboratively at the system level (support, training, resources, etc.); establish project plan and timeline; proceed with production implementation.

Projected Implementation Time:. 1-2 years

Advantages and Benefits: Reduced costs; no dependency on a vendor; no vendor marketing control; flexibility; customization capability; open-source development and support community

Disadvantages and Risks: Impact of change, re-tooling support and service infrastructure;

Potential Cost Savings: This is based upon using UNC Charlotte as a model and what it would cost to host Blackboard Vista (vendor) vs. Moodle (open-source) onsite. UNC Charlotte is a large institution and Blackboard Vista is the most expensive course management system to host and operate. Additional savings and benefits to smaller campuses could be found in centralized hosting.

	Year 1	Year 2	Year 3	Year 4	Year 5
11-Open source software					
Investment					
Savings	0	500,000	1,000,000	1,000,000	1,000,000
Total	0	500,000	1,000,000	1,000,000	1,000,000
Cost avoidance					

Assumptions Associated with Cost Savings: The actual cost estimates can vary based upon what is considered in the cost of ownership. The cost per FTE provides a reasonable point for comparison. The comparative figure to host Blackboard Vista onsite is $15.00 and for Moodle it would be $10.00. The difference per FTE is $5.00. Given there are approximately 200,000 FTE in the UNC system, this represents $1,000,000.- annually. This would be even greater if the community college system were factored in.

Internal Barriers (within UNC System): Adaptation to new business practices; impact on faculty and students caused by the change in the campus CMS; significant change in CMS support, administration, and services; the need for software developers.

External Barriers (outside UNC System): None

Description of Inter-Campus Coordination Required: Communication concerning shared support, training, and services.

Other Comments: This white paper examines open source cost savings for a single product only. Using Open Source in other areas (e.g.: Linux on the desktop instead of Windows XP, Open Office instead of MS Office) may result in additional savings but may be also associated with political and cultural barriers.

Idea Number: 12

Idea Title: Use thin PC clients where appropriate to reduce support costs and improve security

Description of Current Situation: All university faculty and professional staff are using PCs for their day to day work. In addition, all universities have general and specialized student labs equipped with PCs. Most PCs are on a 3-4 year replacement cycle and require constant upgrades and support to ensure a secure computing environment.

Description of Improvement Idea and Impact: Standard PCs have proven to be very expensive to support. In many instances where users have no requirement to load their own applications onto their PC, it is much more economical and more secure to run PC applications on a server where users can access any PC application provisioned via a server farm. This so called thin client technology also allows users to have access to their PC environment from anywhere outside their office. While thin client technology is not ideal for all users, it is a very economic and secure solution in standard computing labs, cyber cafes, the library, and for most administrative staff. For labs that require access to scientific engineering applications, NCState has developed a thin client solution VCL, allowing students using a standard PC to run high end applications on High Performance Computers.

Implementation Recommendation: Assess workstation requirements across campus and identify users and labs that are better served with thin clients. During the next scheduled replacement cycle, replace PC with thin clients where appropriate.

Projected Implementation Time: This can be accomplished over a three to four year period

Advantages and Benefits: (from Wikipedia)
- **Lower IT admin costs**. Thin clients are managed almost entirely at the server. The hardware has fewer points of failure and the local environment is highly restricted (and often stateless).
- **Easier to secure**. No application data ever resides on the client (it is entirely rendered), centralizing malware protection.
- **Lower hardware costs**. Thin client hardware is generally cheaper because it does not contain a disk, application memory, or a powerful processor. They also generally have a longer period before requiring an upgrade or becoming obsolete.
- **Lower Energy Consumption**. Dedicated thin client hardware has much lower energy consumption than thick client PCs. This not only reduces energy costs but may mean that in some cases air-conditioning systems are not required or need not be upgraded which can be a significant cost saving and contribute to achieving energy saving targets.
- **Worthless to most thieves**. Thin client hardware is useless outside a client-server environment.

- **Hostile Environments**. Most devices have no moving parts so can be used in dusty environments without the worry of PC fans clogging up and overheating and burning out the PC.
- **Less network bandwidth**. Since terminal servers typically reside on the same high-speed network backbone as file servers, most network traffic is confined to the server room. In a thin client environment only mouse movements, keystrokes and screen updates are transmitted from/to the end user.

Disadvantages and Risks: Reliance on servers

Potential Cost Savings: Thin client cost savings are not associated with hardware or software costs since the hardware requirements are transferred to a central server and universities still need to contract for the same number of user software licenses. The savings will be realized from substantially reduced support costs that are inherent in a PC environment because users can download software on their PCs that may jeopardize security, performance and reliability.

12-Thin clients	Year 1	Year 2	Year 3	Year 4	Year 5
Investment					
Savings	142,000	284,000	568,000	2,220,000	3,211,000
Total	142,000	284,000	568,000	2,220,000	3,211,000
Cost avoidance					

Assumptions Associated with Cost Savings:

Year	Thin Clients Estimates	Less Support FTEs	Salary @ $70,000	Addl Sys Admin	Salary @ $80,000	FTE Reduction	Total Savings in 000
1	2,000	6.6	462	4	320	2.6	142
2	5,000	13.2	924	8	640	5.2	284
3	10,000	26.4	1,848	16	1,280	10.4	568
4	15,000	50	3,500	16	1,280	34	2,220
5	22,000	73.3	5,131	24	1,920	49.3	3,211

Save 1 FTE ($70,000) support staff per 300 workstations, add 1 server administrator ($80,000) per 500 workstations.

Internal Barriers (within UNC System):

External Barriers (outside UNC System):

Description of Inter-Campus Coordination Required:

Other Comments:

PACE Other Barriers Working Group

Members of the Other Barriers Working Group:
Henry Peel, ECU
Ernie Murphrey, NCSU
Susan Brooks, UNCC
Kay Ward, UNCW
Mike Stewart, WCU
Janice Baker, ECSU

CFO working with the Working Group:
Kevin Seitz, ECU (with assistance from Anne Jenkins, ECU)

PACE Members:
Vicki Wilson-McElreath
Jim Newlin

Executive Summary

This working group realized early in the process that, due to the nature of many of the barriers on the list, much of the work would involve looking at effectiveness as being equally important as efficiency. For the purposes of our work, we defined "effectiveness" as any redesign of a system or elimination of a process that would allow university personnel to devote more time to serving the campus constituents and the core mission. We defined "efficiency" in the same way but included potential cost savings for the elimination of these barriers.

Often, the difficulty in determining efficiency (i.e., monetary savings) was due to the nature of the barriers we examined. For example, we looked at a number of barriers that, if eliminated, would free up personnel hours that could be better spent serving functions related to the core. Much of what we have targeted is not "what we have an individual hired to do" but rather, "what overworked support people do on top of what they must do." Our way of viewing this in terms of efficiency and effectiveness is that by reducing or eliminating these barriers, many people who are working many days from 5:00 to 8:00 or 9:00 p.m. will be better able to work a routine schedule and better able to devote time to supporting the core. The importance of this statement is that we emphasize becoming more effective at work as a means to a healthier (and therefore more productive) workforce. In this report, we do not account for turnover or absenteeism due to sickness, stress, etc., but know that there is the potential for reducing both turnover and absenteeism if workloads became more manageable. The effects of these eliminated functions would be spread across so many different personnel and divisions that it is difficult to determine bottom-line monetary savings through actual decreases in real workforce. In most cases, our personnel cost savings would come in the form of redirected tasks for current employees.

By the nature of the title of this working group, you will see that we addressed barriers or inefficiencies that were sent forward through the PACE process that did not fit in to one of the other working groups. We have divided our report into three sections: avoiding future barriers, priority barriers for elimination, and other barriers for elimination. The main portion of the report deals with priority barriers, and we direct the PACE committee to these barriers as most important for consideration.

Avoiding a Future Barrier:
Systems operation—we suggest that implementation of the BEACON system be thoroughly discussed and examined as soon as possible (as it relates to implementation in the university system).

Priority Barriers for Elimination:
Unnecessary reports—the reports that we target have become obsolete because they are no longer used or the data are readily available in other reports and databases. Often, these reports are duplicates for different government agencies and we suggest shared reporting that eliminates reconfiguring the same data just to fit different reporting formats. The reports in this section include the Management Flexibility Report and the BD119 Report.

Surplus property disposal—we suggest ways for the universities to dispose of surplus property in a much more effective way, eliminating steps that have not been found to serve as real accountability measures or to improve the possibility of increasing the price for surplus property.

Procurement—we suggest a number of ways to change procurement processes that will create efficiencies.

Budget operations—we have targeted improvements for blending budgets where keeping them separate serves to increase processing time and serves little in the accountability function.

Audit sampling—we suggest potential personnel cost savings if we shift to an audit system rather than 100 percent transaction review, allowing for higher risk tolerance.

Other Barriers for Elimination:
Unnecessary reports—while these reports are less time-consuming, we suggest elimination based on their limited use. The reports in this section include: Home-Based Employees Report, the Vacancy Report, the Personal Services Report, and the Institutional Trust Fund Report

Duplicative data entry for HUBSCO/CAPSTAT (historically underutilized business reporting on capital projects)—we suggest a system allowing for one-time data entry.

PACE Other Barriers Working Group
Barrier Summaries

Avoiding a Future Barrier:

1. Major financial structure changes that would be required by BEACON financial
    system implementation

Implementation of BEACON would result in almost doubling the number of accounts
(expenditure codes) on state funds and would require that academic units keep track of
expenditures from appropriation separately from receipt revenues. We are not opposed to
the implementation of the BEACON system but to the major financial structure changes
that would be required at the individual campuses. Our recommendation is that the
requirement to distinguish between expenditures from state appropriation and from
tuition receipts be eliminated since there is no statutory requirement for this
differentiation. Any inquiries based on how institutions spend appropriation versus
tuition receipts can be handled by existing reports. This recommendation avoids the cost
of increased staff and operating expenses that will be required due to the increased
workload throughout the universities, in both the core and enabling function areas.

Priority Barriers for Elimination:

2. Management Flexibility Report

As a condition of being a Special Responsibility Constituent Institution, each university
must prepare a Fiscal Year Plan and an Annual Report. The Fiscal Year Plan requires: an
annual plan specifying programmatic and major expenditure detail accounting, for
expending funds carried forward from the previous fiscal year as allowed under G. S.
116-30.3; and an annual plan for expending lapsed salary funds for the fiscal year. This
portion of the plan is a projection of the amount of lapsed salaries and the programmatic
priorities for expending estimated funds. The Annual Report requires reporting over a
range of twelve topics relating to efficiencies achieved under the program including such
things as a schedule of positions established and abolished, outcomes made possible by
flexibility, management initiatives undertaken, etc. The Management Flexibility Report,
which provides little useful information while draining resources from the constituent
institutions, should be eliminated.

3. Processes for disposition of surplus property

The current processes for disposition of surplus property are cumbersome, inefficient,
costly, and time consuming -- all of which add to increased operating costs and limit the
revenue that could be realized by campuses conducting quicker cash sales. Because each
constituent institution of the University of North Carolina System is unique, it makes
sense to recommend improvements that are flexible enough to grant autonomy in
disposition of surplus property to those institutions that would prefer to use it and allow

other institutions to continue under the existing processes, if they so choose. This PACE working group recommends a revision of G.S. §116-31.10 to allow institutions the ability to negotiate bid sales at the campus level, determine whether items should be discarded as junk (without asking permission), trade in equipment on new purchases without asking permission, enter into long-term recycling contracts without asking permission on an item-by-item basis, allow for more frequent cash sales, take advantage of online auction sites, and eliminate the expense of renting trailers and off-campus storage facilities. Internal controls already exist at the constituent institutions to ensure compliance with applicable state audit and Office of the State Controller cash management policy requirements.

4. BD119 Report

The BD119 is a document that reports every filled and unfilled EPA position by department, account code, past salary, salary increase, and new salary, along with information such as tenure status and contract period. Given that many of the universities have management flexibility to appoint and fix compensation, this report seems outdated and a waste of resources. We recommend eliminating the report and allocating funds based upon summary salary information available from the BD701 and other sources. Personnel information is available from the Personnel Data File (PDF) which is prepared during the fall semester and is retained on each campus and at UNC General Administration.

5. Efficient purchasing

Four proposals for improving the efficiency of purchasing are discussed. This barrier was reviewed and recommended by a subcommittee. There are a number of suggestions to improving the universities' efficiency in purchasing including unlimited purchasing authority, establishing an e-procurement software solution for the universities, developing a university-system web site for sharing information, and authorization to relinquish sovereign immunity on contracts in limited instances.

6. Compliance with General Statute §116-30.2 on appropriation to special responsibility constituent institutions and to the North Carolina School of Science and Math

Since 1990, the university budgeting between purpose codes has become more restrictive creating less efficiency and effectiveness. It is our recommendation that the Office of State Budget and Management comply with General Statute §116-30.2 as written, that "…appropriations…shall be made in the form of a single sum to each budget code of the institution…." This approach would shift the focus away from the inefficiencies at both the state and institution levels and transfer the accountability to the individual chancellors and institutions. The shift in staffing would allow for a higher concentration on the other core function duties.

7. Implementation of audit sampling using a risk return concept

The universities create inefficiencies by spending funds to audit a large percentage of expenditure and other transactions. The audits result in clean financial data and accurate reimbursements, but the benefits may be far outweighed by the costs of looking at every transaction. To create efficiencies, consider implementing a cost benefit approach toward expenditures rather than one of ensuring that every transaction is correct. Personnel would have to be held accountable for violations of regulations when situations are discovered during the audits. Implementing this approach will speed up transaction processing and potentially reduce the workforce required for up front review of transactions.

Other Barriers for Elimination:

8. Home-Based Employees Report

The Home-Based Employees Report is another report which seems outdated given the current telecommuting capabilities available as technology continues to improve. This working group recommends changing the statute to eliminate the requirement for the reporting and the prior approval. Because of the transient nature of emergencies, we need the flexibility to alter between at-home and on-campus assignments. This would make completion of the report extremely complex and time consuming. Eliminating the requirement also allows institutions flexibility in delivering the core mission (instruction to students) without burdensome reporting requirements (for example, faculty assigned to work at home for a given semester while delivering all classes on line.) This reporting and required approval actually is a detriment to a situation which can save the State resources.

9. Vacancy Report

The Vacancy Report is a quarterly accounting of vacant positions by purpose code and object code required by the staff of the Fiscal Research Division of the North Carolina General Assembly. This report appears to be a holdover from the days when the university did not have management flexibility. Given that the universities can now utilize lapsed salaries, it is hard to think of any justifiable reason for developing such a report. The report does not serve a good management purpose since the universities have the flexibility to move funds from positions. We recommend eliminating the report. In the event the legislature requested the information, the information could be gathered on an as needed basis.

10. Personal Services Report

The Personal Services Report requires detail about each contracted individual who received payments from the University of $5,000 or higher. This requires pulling a considerable amount of detail documentation for each payment and must be created manually because the data are not available in the required format in the computer

systems. It adds to the overhead without providing any recognizable return. The elimination of the report would save time (approximately 500 hours per year at NC State University, for example) which could be used for other activities more closely aligned with the core.

11. Duplication of data entry into HUBSCO and CAPSTAT

Data are currently entered in both the HUBSCO and CAPSTAT systems (historically underutilized business reporting on capital projects) for projects, and some of the information required is common to both systems. UNC-GA began discussions with the Department of Administration Historically Underutilized Business (DOA HUB) office about the possibility of interfacing the CAPSTAT and HUBSCO systems to minimize double entry of information by developing a program for data transfer. The recommended improvement is to develop an electronic interface between CAPSTAT and HUBSCO that will allow campuses to continue data entry into CAPSTAT and have the required information for HUB automatically update HUBSCO.

12. Institutional Trust Fund Report

The annual Institutional Trust Fund Report appears to be completed only because of the State Budget Office requirement; any inquiries as to its actual use have been met with a response that it is just checked off and put in a file. This working group's recommendation is to eliminate the report. Information about trust funds can be found in the information submitted to NCAS or the data mart monthly by all of the Universities. There seems to be little downside to eliminating this report, so long as the universities are required to keep elements in their financial systems that enable them to respond to questions about categories of trust funds.

1. Major financial structure changes that would be required by BEACON financial system implementation

Current Situation

Tuition paid by students attending the University of North Carolina Constituent Institutions is budgeted as a multi-activity purpose code to offset the overall costs of instruction and general operations at each institution. The North Carolina Constitution has a section stating that the education will be offered as free as practicable.

The mix of funding between the General Fund appropriation and a single source of revenue (tuition) that is significant to each General Fund budget code appears to be unique to the University system. The use of a multi-activity revenue purpose code for each General Fund budget code at each campus is required to provide campus-level costs and revenues while still accommodating tuition (which may be based on state level tuition rates and campus-initiated tuition revenues).

The General Assembly has traditionally used state level tuition increases to help fund the University's expansion requests, which by law (GS 116-11(9b)) are made without regard to specific institutions, allowing the Board of Governors to request priorities on a systemwide basis. Any tuition increase on a systemwide basis to partially fund these increases affects various campuses by differing amounts, depending on the mix between in-state and out-of-state students, graduate and undergraduate students, etc.

If tuition increases are required to be budgeted across expenditure fund and object codes in each General Fund budget code, any increase in tuition would require a change in all objects of expenditure as the mix between appropriations and tuition receipts changes. This could become necessary even if tuition does not actually hit its projected amount. Failure to allow tuition to continue to be budgeted as a single purpose code to offset overall General Fund appropriations would increase workload among campus budget and accounting staff significantly with no increase in information or accountability.

The BEACON Project, as proposed to universities by representatives of the State Budget Office, is a model of the inefficiency that President Bowles is attempting to eliminate in the UNC System. Implementation would result in almost doubling the number of accounts on state funds and would require that academic units keep track of expenditures from appropriation separately from receipt revenues. Academic departments, already overburdened by enabling function activities, would be further unable to attend to the core mission of teaching, research and public service. Implementing BEACON as described would increase the workforce involved in enabling function areas at a time when we are attempting to reduce personnel costs.

We are not opposed to the implementation of the BEACON system but to the major financial structure changes that would be required at the individual campuses.

The State of North Carolina will be replacing their outdated integrated finance, budget, and personnel system with a complete enterprise system. Current discussions with the Office of State Budget and Management (OSBM) and representatives from some UNC campuses have taken place regarding proposed changes to the budget code, fund, and accounting structures. OSBM was briefed by the Office of the State Controller (OSC) in August about the proposed financial structure for BEACON.

The Office of the State Controller is responsible for determining the account structure and will be working with UNC General Administration IT on the issue for the UNC System, but they are not working with GA, or the universities as a whole, with regard to the functional impact on the UNC system. The budget code structure in BEACON does not need to be determined at this time, so it will be discussed at a future time. The fund/purpose code structure does need to be determined in the near future because it will be used in the HR/Payroll component of BEACON. OSC had requested a decision from OSBM by August 31, 2006, in order to meet internal deadlines for the BEACON HR/payroll design phase.

Since the immediate decision for OSBM is the fund structure, most of the meeting with campus representatives focused on that component. The proposed fund structure is 9 or 10 digits consisting of the following:

      2 digit agency ID (first 2 numbers/letters of the current company number)
      5 or 6 digit fund (for example, 1101 becomes 11010 or 110100)
      2 digit funding source code (for example, 01 = appropriation and 02 = receipts)

The UNC representative expressed the following concerns regarding the proposed fund structure:

- The funding source code would cause additional work in budgeting and accounting because several fund/purpose codes currently have appropriation and receipts; therefore would have to be split into 2 codes.
- UNC currently doesn't budget positions into appropriation versus receipt-supported. How would this structure impact the way UNC budget positions?
- The 1990 fund code (multi-activity) currently has 100% tuition receipts. These receipts are used to support the entire General Fund budget code. How would this be affected by requiring a funding source code? What is the historical legislative intent for budgeting tuition revenues this way? If 1990 revenues had to be distributed to show the requirements supported by these revenues, a concern was expressed about the public relations with students and parents regarding the use of tuition revenue.
- The newly established Banner enterprise system for the majority of the UNC institutions can not accommodate a 9 or 10 digit fund structure interface. The Banner system will only accommodate a 6 digit fund structure.

Recommended Improvement

Our recommendation is that the requirement to distinguish between expenditures from state appropriation and from tuition receipts be eliminated. There is no statutory requirement for this differentiation.

However, at a minimum, when BEACON is implemented, the University system must participate in the discussion about the most efficient way to accommodate the changes required for the new system and how best to accommodate those changes within the three separate financial accounting systems currently in use at the universities (PeopleSoft, SCT Banner and FRS). There would need to be a review of efficiencies and effectiveness with the interfaces between the systems as well as good communication between state agencies. What will be the result if there is no interface, no complete interface, or compromise/inadequate interface with these systems? All interfaces should have full-functionality.

Advantages, Disadvantages, and Risk

An effective dialog between the Office of State Budget and Management, the Office of the State Controller, UNC General Administration – Finance as well as appropriate functional area representatives from UNC institutions would provide the opportunity to have successful information being interfaced between the systems. A good understanding of the difficulties in the system interface between BEACON and Banner will allow both the state agencies and university representatives to make decisions early in the design phase rather than waiting until there becomes an impasse between the two system structures.

The opportunity to redesign early will save both efficiency and effectiveness in allowing information to transition smoothly without consider additional work at the institutional level.

Any inquiries based on how institutions spend appropriation versus tuition receipts can be handled by existing reports.

Potential Savings

This recommendation avoids the cost of increased staff and operating expenses that will be required due to the increased workload throughout the universities, in both the core and enabling functions. Although the avoided cost is unknown, it can be determined with a fair amount of certainty that such added costs to the university system would be substantial.

The university system would have a cost avoidance if a system interface would not have to be written. This system interface would be maintained and reported at the universities' fiscal offices. With a system interface and maintenance of the interface, a combined cost estimate would be approximately $66,000 for the 16 campuses.

The cost avoidance would be considerable if each university is required to train and implement the separation of expenditures by appropriation and expenditures by receipts. This on-going training of the office staff and departmental budget managers would

require a full time trainer (salary and benefits of $43,000 for each campus, totaling $688,000).

<u>Recommendation</u>

Go

2. Management Flexibility Report

<u>Current Situation</u>

As a condition of being a Special Responsibility Constituent Institution, each university must prepare a 1) Fiscal Year Plan and 2) an Annual Report. The Fiscal Year Plan requires:
   A. An annual plan specifying programmatic and major expenditure detail, for expending funds carried forward from the previous fiscal year as allowed under G. S. 116-30.3.
   B. An annual plan for expending lapsed salary funds for the fiscal year. This portion of the plan is a projection of the amount of lapsed salaries and the programmatic priorities for expending estimated funds.

The original concept was that the lapsed salary funds would be additional funds that would be available for programmatic allocation and that they would not be used for routine year-to-year operating expenses. The reality is that the State Budget Office has taken the position that the University System has flexibility, and therefore can absorb various budget cuts to its operating budgets. Therefore, the concept of not using the funds for routine operating expenses has eroded over the years to the point which most, if not all, universities are now dependent on the lapsed salaries for routine expenses, effectively creating deficit budgeting. Thus, there is little difference between the lapsed salaries and any other state appropriations. Given that situation, this reporting is now a "busy work" situation which serves no valid purpose.

The Annual Report requires reporting over a range of twelve topics relating to efficiencies achieved under the program including such things as a schedule of positions established and abolished, outcomes made possible by flexibility, management initiatives undertaken, etc. While this reporting may have been useful when flexibility management first began, much of the same information is reported from year to year, and the amount of time spent to build this report is significant, particularly when spread over 16 campuses.   This report is required by the Board of Governors.

<u>Recommended Improvement</u>

Eliminate the report.

<u>Advantages, Disadvantages, and Risks</u>

The advantage will be to eliminate reporting requirements which provide little useful information yet drain resources from the constituent institutions.

Substantial time savings can be achieved in eliminating reporting which, at this stage in the history of management flexibility, provides little new information.   For example, NC State estimates that, including all the work by academic units throughout the campus, it takes 4,000 combined hours of workforce per year to compile the information (time that

could be better spent supporting the core). Estimates of the time saved will vary widely from campus to campus depending upon whether the campus has delegated flexibility to its units. WCU estimates that it spends over 1000 hours on this report, and UNCC spends 230 hours.

While eliminating this report will achieve efficiencies, the Fiscal Research Division has indicated that vacant position information, major uses of lapsed salaries, and the amount of the carryforward are all data that may be requested by the legislature. Therefore, a process would need to be developed to provide this information in a timely manner.

Potential Savings

Using an average SPA salary, including benefits, of $43,000, savings range from approximately $83,000 (NC State University) to $4,800 (UNC- Charlotte). These hours are spread across the universities, many of the hours completed by the core units. Estimated savings for the University System are approximately $177,000 system-wide based on survey results of hours attributable to preparation of the report.

Recommendation

Go

3. Processes for disposition of surplus property

Current Situation

The current processes for disposition of surplus property are cumbersome, inefficient, costly, and time consuming-- all of which add to increased operating costs and limit the revenue that could be realized by campuses conducting quicker, more efficient cash sales. With the addition of capital bond money and the many new buildings and renovations across the entire system, the volume of surplus property is overwhelming. There is not enough space to accommodate the surplus for the amount of time it currently takes to move the property, and universities are incurring additional costs by renting trailers to transport and/or hold the property or are renting warehouse space off campus for the same purpose, or both.

Also, the universities are required to remit to the State Surplus Property Agency (SSPA) 5 percent of the revenue generated on the sale of such property, whether or not SSPA provided any services for the sale. In effect, university resources are being used to subsidize the SSPA.

Recommended Improvement

Because each constituent institution of the University of North Carolina System is unique, the universities' handling of surplus property is likewise unique. It makes sense to recommend improvements that are flexible enough to grant autonomy in disposition of surplus property to those institutions that would prefer to use it and allow other institutions to continue under the existing processes, if they so choose.

North Carolina General Statute §116-31.10 currently grants special responsibility constituent institutions a bid benchmark of up to $500,000, depending on each institution's overall capabilities including staff resources, compliance reviews and audit reports. The applicable General Statute and the recommended changes (in red) are presented below.

> **§116-31.10. Powers of Board regarding ~~certain~~ purchasing contracts.**
> (a)   Notwithstanding G.S. §143-53.1 or G.S. §143-53(a)(2), the ~~expenditure~~ benchmark for a special responsibility constituent institution with regard to the acquisition, operation, maintenance and disposition of personal property and services shall be set by the Board of Governors. ~~competitive bid procedures and the bid value benchmark shall be an amount not greater than five hundred thousand dollars ($500,000).~~ The Board shall set the benchmark for each institution from time to time. In setting an institution's benchmark in accordance with this section, the Board shall consider the institution's overall capabilities including staff resources, purchasing compliance reviews, and audit reports. The Board may ~~shall also~~ consult with the Director of the Division of Purchase and Contract and the Director of the Budget prior to setting the benchmark.

(b)   Each institution with an expenditure benchmark greater than two hundred fifty thousand dollars ($250,000) shall comply with this subsection for any purchase greater than two hundred fifty thousand dollars ($250,000) but not greater than five hundred thousand dollars ($500,000). This institution shall submit to the Division of Purchase and Contract for that Division's approval or other action deemed necessary by the Division a copy of all offers received and the institution's recommendation of award or other action. Notice of the Division's decision shall be sent to that institution. The institution shall then proceed with the award of contract or other action recommended by the Division. (1997-412, s. 1; 2003-312, s. 1.)

We further recommend that the current 5 percent return to State Surplus Property on all surplus property revenue be eliminated for those sales handled exclusively at the campus level. Because it is difficult to break even in surplus property transactions we recommend that institutions be allowed to retain all the revenue generated from their surplus property sales. Internal controls already exist at the constituent institutions to ensure compliance with applicable state audit and OSC cash management policy requirements.

Advantages, Disadvantages and Risks

Adopting this language would allow institutions the ability to negotiate bid sales at the campus level, determine whether items should be discarded as junk without asking permission, trade in equipment on new purchases without asking permission, enter into long-term recycling contracts without asking permission on an item-by-item basis, allow for more frequent cash sales, take advantage of online auction sites, and eliminate the expense of renting trailers and off-campus storage facilities. I think the piece that we've left out here that will be of concern to those at the state level, is noting that we although we are asking for this autonomy, we will also be keeping internal transactional records and will be accountable for our actions. The state does not trust the universities to be responsible.

Because SSPA is often not in a position to accept the volume of surplus the universities want to dispose of, there is a further advantage in reduced workload to SSPA staff.

If the universities have the flexibility to purchase, it only makes sense to have the flexibility to dispose of used equipment, most of minimal value compared to new equipment purchases.

A potential disadvantage would be to SSPA in reducing revenue. This would be offset by SSPA staff not having to handle the transactions, which could make them more efficient, as well.

Because the universities are dealing with property that has been disposed of by the owning unit, the value of these items is extremely low, and the risk to adopting this process is minimal. Another risk to the universities would be potential complacency with

their autonomy, possibly leading to cutting corners on record keeping or some shady surplus sales at truly unreasonable giveaway prices.

Potential Savings

The elimination of this barrier will provide the divisions of business, administration and finance at each campus the opportunity to provide a higher level of service to the core functions, i.e., faculty and students, by moving surplus property faster and more efficiently. This also allows administrative staff the opportunity to be proactive in its planning and allows staff to be creative in identifying additional cost savings and revenue sources.

Savings would also include the discontinued payment of rents for offsite storage facilities. For example, at UNC Charlotte, approximately $26,000 annually is spent on rental of trailers and warehouse space.

The traditional method of disposing of surplus property using the sealed bid process via SSPA often takes 8-12 weeks. During this time surplus can continue to build up requiring more warehouse space and handling. The cash sales process currently granted to NCSU and ECU allows items under $100 to be sold weekly on a cash basis only. These weekly sales are more expedient and reduce warehouse needs.

Administrative hours seeking permission for trade-ins, preparing sealed bids forwarded to SSPA and the appointments required to show and pick up surplus is labor intensive. These costs are hard to document, but efficiency would improve with the increased flexibility.

Also, there could be a cost savings to the state if the universities could transfer computers, monitors, etc., directly to the public schools or other state agencies rather than go through Surplus Property.

Based on survey data, the System could save approximately $117,000 attributable to staff hours spent negotiating with the State's Surplus Property Office.

Recommendation

Go

4. BD119 Report

Current Situation

The BD119 is a document that reports every filled and unfilled EPA position by department, account code, past salary, salary increase, and new salary, along with information such as tenure status and contract period. This report is taken at a point in time during the year. Given that many of the universities have management flexibility to appoint and fix compensation, this report seems outdated and a waste of resources. The amount of salary increase allocation due to each institution could be calculated based on the summary information without providing this kind of detail. This report is required by UNC-GA, but is not required by General Statute. This report is an artifact of the time the universities were operating under line item budget control.

Recommended Improvement

Eliminate the report and allocate funds based upon summary salary information available from the BD701 and other sources. Personnel information is available from the Personnel Data File (PDF) which is prepared during the fall semester and is retained on each campus and at UNC General Administration.

Advantages, Disadvantages, and Risk

The advantage is the efficiency savings realized by the elimination of the time spent preparing and reconciling this report. As examples, the estimated savings in campus time for NC State University is 3,000 cumulative hours, most of which is expended in the core functions, for WCU it is 220 hours, and for UNCC it is 240 hours.

No disadvantages are noted.

Potential Savings

Using an average SPA salary, including benefits, of $43,000, savings range from approximately $62,000 (NC State University) to $5,000 (UNC- Charlotte) to $4,600 (Western Carolina). These hours are spread across the universities, and many of the hours are expended within the core units. Estimated savings for the University System are approximately $188,000 system-wide based on survey results.

Recommendation

Go

5. Efficient Purchasing

Courtesy of the Purchasing Barriers Subcommittee: Bob Wood, NC State; Nellie Taylor, ECU; Martha Pendergrass, UNC-CH; Randy Duncan, UNCC; and Mary Forsythe, UNCW

Proposal 1:

Current Situation

Legislatively change General Statute §116-31.10 to delegate, to the Board of Governors, unlimited purchasing authority for all types of purchases and processes (including small purchases, the p-card, and e-procurement), with the goal of enhancing the purchasing flexibility that is already in place.

Current barriers to efficient purchasing include:

> a. There is a lack of clearly defined purchasing responsibilities of State Purchase & Contract (P&C) and Information Technology Services (ITS). Both agencies are periodically unsure how to handle purchasing requests from the universities. In addition, both agencies do not always have the resources or flexibility to respond in a timely manner to a requested purchase, often which is a part of a larger project. In these instances, the purchase must occur within a timeframe that is driven by the larger schedule. Our sense of urgency, while understood at the state level, is often not shared because we are not the only agencies they serve. This hard reality creates problems for the university.

> Even if this recommended change is made, the responsiveness of both agencies needs to improve and their responsibilities should be more clearly defined (especially to their customers), so that the universities who continue to use them will have fewer issues.

> b. There exists the assumption that the involvement of P&C and ITS is beneficial in all cases. University purchases are often complex and require the use of consultants and/or independent contractors to develop specifications. The scope of these projects often exceeds our delegation, and requests must go to P&C or ITS for processing. In these situations there is little, if any, value added by either P&C or ITS because all of the work has been done with the exception of actually bidding the item. If the university is permitted to bid these projects, the process in many instances will proceed more quickly and efficiently.

> c. There is a requirement to request and obtain approval for higher p-card limits. Though the universities have delegated authority to make awards up to $500,000, we must request and obtain approval for a p-card transaction over $5,000. P-card responsibility should be delegated to the universities to allow for more efficient use.

d. The low small-purchase limit of $5,000 increases the workload of university central offices. In many situations the universities will operate more efficiently if the small purchase limit is increased.

<u>Advantages, Disadvantages and Risks</u>

There are several advantages to adopting this proposal. Each university will have broader options, allowing each to concentrate on areas of purchasing that complement the skill sets of the particular university's purchasing staff. At the same time, institutions will retain the flexibility to utilize the resources of both P&C and ITS-Raleigh. Purchases will move through the university process more efficiently. Individual university purchasing card programs will have more choices, such as payment of high dollar purchase orders, which will increase the value of the p-card.

The disadvantages are minimal. Not all universities may want the additional autonomy. Each university should demonstrate the ability to assume more responsibility. All institutions should be subject to some type of periodic review to ensure appropriate controls are established and adhered to.

The applicable General Statute and the recommended changes (in red) are presented below.

116-31.10. Powers of Board regarding certain purchasing contracts.
    (a)   Notwithstanding G.S. §143-53.(a)(1) or G.S. §143-53(a)(2), the expenditure delegation/benchmark and rules for a special responsibility constituent institution with regard to the acquisition, operation, maintenance and disposition of personal property and services shall be set by the Board of Governors. Competitive bid procedures and the bid value benchmark shall be an amount not greater than five hundred thousand dollars ($500,000). The Board shall set the benchmarks for small purchases, purchase orders, and purchase cards for each institution from time to time. In setting an institution's benchmark in accordance with this section, the Board shall consider the institution's overall capabilities including staff resources, purchasing compliance reviews, and audit reports. The Board may shall also consult with the Director of the Division of Purchase and Contract and the Director of the Budget prior to setting the benchmark.
    (b)   Each institution with an expenditure benchmark greater than two hundred fifty thousand dollars ($250,000) shall comply with this subsection for any purchase greater than two hundred fifty thousand dollars ($250,000) but not greater than five hundred thousand dollars ($500,000). This institution shall submit to the Division of Purchase and Contract for that Division's approval or other action deemed necessary by the Division a copy of all offers received and the institution's recommendation of award or other action. Notice of the Division's decision shall be sent to that institution. The institution shall then proceed with the award of contract or other action recommended by the Division. (1997-412, s. 1; 2003-312, s. 1.)

Proposal 2:

Current Situation:

Establish an e-procurement software solution for the universities. The solution will give the university system much greater leverage when negotiating with both service providers and vendors.

Current barriers to efficient purchasing include:

> a. The absence of an e-procurement process for the universities. The university system, and the smaller universities in particular, may benefit from a structured purchasing process that simplifies purchasing for university employees. The state's e-procurement solution, provided by Accenture, has never been an option for the universities because it requires double entry of data – first into Accenture to enter the request and perform the purchase, and a second time into the university's financial system. A fee is charged for each transaction (based on amount), and, while the state maintains the cost is not passed on, vendors have noted that it is added to the cost of the product.
>
> If a software solution is purchased, the decision to adopt the process and when to adopt should be left to each university. Staffing, skill levels, university programs affecting the financial system of the university, and other factors will all need to be considered before adoption.
>
> b. The inability to easily and accurately leverage the university system's purchasing power. The lack of a system-wide e-procurement process makes it difficult for the universities to fully leverage their spend.

Advantages, Disadvantages and Risks

Advantages include the sharing of information and pooling of purchasing dollars which become powerful tools in lowering costs and obtaining best value purchases. Best value negotiations by one university, and which may have been extended to the other universities via the contract, will be easier to share and utilize. All of the benefits of e-procurement purchasing will be available to the universities, not only reducing costs but also reducing the skill sets needed to make purchases.

Strong collaboration among the universities will be needed in order to take advantage of all the benefits.

Proposal 3:

Current Situation

Develop a university-system web site for sharing information, posting contracts, and disseminating other cost-saving measures, for use by university purchasing agents and management. This should be password protected, with updating performed by the universities.

Current barriers to efficient purchasing include:

a. The lack of an easily accessible site that all university purchasing agents may use. Tom Warner had committed to develop this; however, his departure occurred before it was completed. Site hosting at a central location seems most logical, with content maintenance to be performed by the university purchasing departments.

b. The inability to share contracts, pricing, and general purchasing issues. A common site, serving as a central exchange of information, will benefit all campuses, regardless of size.

Advantages, Disadvantages and Risks

Sharing information will become easier. As an example, the best RFPs in numerous categories could be posted for use by other universities. Competitively bid contracts may be contractually extended to all universities, and this site should become an ideal method for sharing those contracts.

The lone disadvantage is that continuing maintenance will need to be exercised so the site remains current and viable.

Proposal 4:

Obtain approval from the Attorney General's (AG) office for university legal staff to exercise discretion in relinquishing sovereign immunity in very specific circumstances within our delegation. When appropriate, we would like to be able to accept the governing law of another state and accept indemnification/hold harmless language. This flexibility will save taxpayer dollars by reducing wasted time, and will greatly speed up the purchasing process in certain areas. The categories in which this flexibility is requested are:

- Software purchases, in particular shrink-wrapped and click-through
- Hotel/catering use agreements.
- Services performed out of state.
- Contracts unique to a particular university and in which there is only one provider of the good or service.

Current barriers to efficient purchasing include:

a. These terms which, when written for the benefit of a prospective vendor, stop the process because the AG's office does not allow us to accept them. There is general agreement that, in most instances, we should never accept terms that disadvantage the state.

In some situations, however, we spend inordinate amounts of time negotiating terms for contracts containing very small risk. Some of our most contentious issues occur when dealing with other federal, state and local agencies. The inability of the university to accept certain liability wastes significant amounts of time. The current process requires the involvement of contract specialists, legal affairs, and purchasing staff. On the vendor's side, the cost can become significant if the company uses an outside attorney, cost which is ultimately passed on.

The university system will benefit if the AG's office will allow the university legal office to accept certain terms. History indicates the university system has had few problems arising from contractual issues. The time invested in protecting the state's interests in many instances is out of balance with the actual risk.

Advantages, Disadvantages and Risks

This change will significantly decrease workload and costs to the universities. It would also improve the turnaround of many time sensitive contracts and purchases.

Careful and continuing monitoring should occur at the university level.

Potential Savings

Every one percent reduction in costs would result in estimated $8 million savings across all campuses.

6. Compliance with General Statute §116-30.2 on appropriation to special responsibility constituent institutions and to the North Carolina School of Science and Math

Current Situation

It appears that the General Assembly attempted to give the universities more flexibility in budget management, yet that has not occurred. The current situation is that universities budget by purpose code and expenditure objects as detail items for personnel services, contracted services, supplies, current services, library books, utilities, fixed charges, capital outlay, and financial aid. Purpose codes are budgeted as regular term instruction, extension instruction, research, public service, library, academic support, student support, administrative support, facilities (physical plant) support, financial aid, as well as other purpose codes specific to programs. Over the years, purpose code detail for either flexibility budget revisions or BD 606 (Office of State Budget and Management) budget revisions have become more defined with less latitude for increased efficiency. Purpose codes have moved from the combination of academic support (152), student support (160), administrative support (170), and physical plant support (180) in to a general institutional support (189) to a more restrictive process of individual purpose code identification. This combining of purpose codes into general institutional support (189) gave the university more flexibility in providing a budget pool. The general institutional support (189) was then divided into academic and student support (187) and general administrative support (189). Purpose 187 incorporated academic support (152) and student support (160) while Purpose 189 incorporated administrative support (170) and physical plant support (180). This revision created less flexibility in requested budget revision for the university. At this point in time, both purpose 187 and 189 were dropped, each purpose 152, 160, 170, and 180 must be stand alone in requesting budget revisions for departments. Since 1990, the university budgeting between purpose codes has become more restrictive creating less efficiency and effectiveness.

Detail expenditure lines have been managed through either flexibility budget revisions or BD 606 budget revisions when moving funds from or between personnel lines, student temporary wages, non-student temporary wages, contracted services and operating lines. At the beginning of the fiscal year, institutions cannot predict how much will be used for student wages, non-student wages, or contracted services. Therefore, each year departments must allow time and effort to revise budgets to more accurately project for the additional cost of the expenditures. This revision of budgets must meet with all the necessary approvals rather than a designation of authority to revise budgets accordingly.

General Statute: G.S. §116-30.2 Appropriations to special responsibility constituent institutions and to the North Carolina School of Science and Mathematics.
(a) All General Fund appropriations made by the General Assembly for continuing operations of a special responsibility constituent institution of The University of North Carolina shall be made in the form of a single sum to each budget code of the institution for each year of the fiscal period for which the appropriations are being made. Notwithstanding G.S. §143.23(al), G.S. §143-23(a2), and G.S. §120-76(8), each special

responsibility constituent institution may expend monies from the overhead receipts special fund budget code and the General Fund monies so appropriated to it in the manner deemed by the Chancellor to be calculated to maintain and advance the programs and services of the institutions, consistent with the directives and policies of the Board of Governors.

<u>Recommended Improvement</u>

It is our recommendation that the Office of State Budget and Management comply with General Statute §116-30.2 as written, that "…appropriations…shall be made in the form of a single sum to each budget code of the institution…."

The most efficient way for the State to budget funds to the University would be through a lump sum appropriation instead of the purpose code method currently used as appears to have been legislated. The universities could account for the expenditures and revenues by purpose code; however, the budget would be pooled. Salary increases would be based on personnel schedules like they are now; however, increases for vacant positions could be reallocated to areas of the campus where they can best be used. The institutions would continue to request inflationary increases based upon the year preceding the continuation budget just the way it is done currently. The final allocation would be lump sum; thus, allowing campuses to place the funds where they can best be used. Expansion budget increases would be similar to how they are handled now with the only exception being funds provided in a lump sum with charge to the institution to implement the designated task. This process is consistent with how the institutions manage budget reductions. Once informed of the reduction amount, institutions determine where the cuts will take place. Institutions can be instructed to maintain certain programs, activities, and functions.

This approach would shift the focus away from the inefficiencies at both the state and institution levels and transfer the accountability to the individual chancellors and institutions. Management flexibility in essence provides this opportunity; however, a substantial amount of work is currently required to move funds around that could otherwise be eliminated by complying with the statutory lump sum appropriation method.

<u>Advantages, Disadvantages, and Risk</u>

This change in lump sum appropriation would enhance the efficiencies at the Office of State Budget and Management, The University of North Carolina, and the institutions. There would be a significant correlation in cost saving in time and effort allowing for staff involved with the time savings to focus more on their other enabling duties as well as core functions. It is this aspect of time savings, more so than as stated with surplus property, that can allow our people added time to be more proactive in budget and administrative related planning. The shift in staffing would allow for a higher concentration on the other core function duties.

Receipt supported programs within general funds, public service, and conference programs would be able to revise program budgets based on programmatic needs rather than on the approval of the Office of State Budget and Management.

Other states, such as Virginia, Georgia, South Carolina, and Vermont have already proven this efficiency in managing funds at the institution level.

There would be no significant disadvantages. Reporting would continue through the North Carolina Accounting System with detailed information on the expenditure of funds. The institutions would continue to maintain controls with the necessary checks and balances in place. Institutions would continue with both internal audit and the Office of State Auditor's review.

Potential Savings

A potential cost savings would include the time and effort for staff to prepare flexibility budget revisions and BD 606s, the review and approval of senior officers (or designees) to approve the budget revisions, and the system time and supplies. No reliable cost savings are available at this time. More importantly, the real value of the recommendation is clearly one of process improvement, resulting in a more efficient operation.

Recommendation

Go

7. Implementation of audit sampling using a risk return concept

Current Situation

The universities create inefficiencies by spending funds to audit a large percentage of expenditure and other transactions. The audits result in clean financial data and accurate reimbursements, but the benefits may be far outweighed by the costs of looking at every transaction. In other words, a university may spend $100 to ensure that an employee does not receive an over reimbursement of $5.

Improvement

To create efficiencies, consider implementing a cost benefit approach toward expenditures rather than one of ensuring that every transaction is correct. This could consist of using sampling techniques after the fact instead of looking at every transaction prior to processing. Employees would have to be held accountable for violations of regulations when situations are discovered during the audits.

Advantages, Disadvantages, and Risk

This concept would improve efficiency by speeding transactions through the process, creating faster reimbursements and faster vendor payments. There would be FTE savings from the reduced workforce required to process the transactions.

There could be more potential for fraudulent or incorrect transactions to be processed. Incidents of fraud could be widely publicized by the media, and there could be a backlash from the legislature and the Board of Governors. In the past, isolated situations occurring at an individual university have resulted in additional reporting requirements (some seen in this PACE study) for the entire university system which have little value other than to appease the media and public perception.

Potential Savings

A shift from reviewing every transaction to sampling as an audit technique would reduce the number of personnel currently performing the transaction reviews. The potential savings would be based on the level of risk tolerance at specific institutions. For example, one to three positions could be eliminated at a university the size of ECU, potentially saving $129,000 per year (three SPA salaries, including benefits, at the UNC average). The working group cautions overstating this savings, however, unless there is assurance that the current system (i.e., every transaction reviewed) is not reinstated.

Recommendation

Go

8. Home-Based Employees Report

Current Situation

The universities are required by statue to report annually on employees approved for home-based assignments or assignments at locations other than the university. This is another report which seems outdated given the current telecommuting capabilities available as technology continues to improve. With appropriate controls, we could maximize the off-campus assignments to more effectively use the State's facilities where they are most needed. The State Budget Office must currently approve each position.

Recommended Improvement

Have the statute changed to eliminate the reporting requirement. As government agencies face issues such as pandemic flu and other emergencies, institutional management should be taking advantage of at-home work assignments as a routine management option. Because of the transient nature of emergencies, we need the flexibility to alternate between at-home and on-campus assignments. This flexibility would make completion of the report extremely complex and time consuming. Eliminating the prior approval requirement also allows institutions flexibility in delivering the core mission without burdensome reporting requirements (for example, faculty working at home as his/her assigned duty station for a given semester while delivering all classes on line.) The applicable General Statute and the recommended changes (in red) are presented below.

§138-6. Travel allowances of State officers and employees.
(a)   Travel on official business by the officers and employees of State departments, institutions and agencies which operate from funds deposited with the State Treasurer shall be reimbursed at the following rates:
(1)   For transportation by privately owned automobile, the business standard mileage rate set by the Internal Revenue Service per mile of travel and the actual cost of tolls paid. Any other law which sets a mileage rate by referring to the rate set herein, instead establishes a rate of twenty-five cents (25¢) per mile. No reimbursement shall be made for the use of a personal car in commuting from an employee's home to his duty station in connection with regularly scheduled work hours. ~~Any designation of an employee's home as his duty station by a department head shall require prior approval by the Office of State Budget and Management on an annual basis.~~

Advantages, Disadvantages, and Risk

There are no real disadvantages. This reporting and required approval actually is a detriment to a situation which can save the State resources.

Potential Savings:

Elimination of this report would save approximately $5,000 based on survey results.

Recommendation

Go

9. Vacancy Report

Current Situation

The vacancy report is a quarterly accounting of vacant positions by purpose code and object code required by the staff of the Fiscal Research Division of the North Carolina General Assembly. University personnel must seek clarification to determine the reason for the vacancy. The management flexibility report also requires such a list. This report appears to be a holdover from the days when the university did not have management flexibility. Given that the universities can now utilize lapsed salaries, it is hard to think of any justifiable reason for developing such a report.

Recommended Improvement

Eliminate the report and recognize that under management flexibility the report serves no useful purpose other than to point out that a university has not filled a position. If budget cuts are required under management flexibility, the universities would decide on the best methods for meeting their required reductions.

Advantages, Disadvantages, and Risk

The advantage is time savings to institutions. The report does not serve a good management purpose since the universities have the flexibility to move funds from positions.

There would be no significant disadvantage. In the event the legislature requested the information, the information could be gathered on an as-needed basis.

While eliminating this report will achieve efficiencies, the Fiscal Research Division has indicated that they could seek position information that may be requested by the legislature. Therefore, a process would need to be developed to provide this information in a timely manner, if necessary.

Potential Savings:

Elimination of this report would save approximately $53,000 system-wide.

Recommendation

Go

10. Personal Services Report

Current Situation

The Personal Services Report is required annually by the State Budget Office. This report requires detail about each contracted individual who received payments from the University of $5,000 or higher. Completing this report requires pulling a considerable amount of detail documentation for each payment and must be created manually because the data are not available in the required format in the computer systems. This type of report adds to the overhead without providing any recognizable return. This report is required by the statute below.

G.S. §143.64.70 Personal services contracts - reporting requirements.
(a) By January 1 of each year, each State department, agency, and institution shall make a detailed written report to the Office of State Budget and Management and the Office of State Personnel on its utilization of personal services contracts that have an annual expenditure greater than five thousand dollars ($5,000). The report by each State department, agency, and institution shall include the following:

(1) the total number of personal services contractors in service during the reporting period.
(2) The type, duration, status, and cost of each contract.
(3) The number of contractors utilized per contract.
(4) A description of the functions and projects requiring contractual services.
(5) The number of contractors for each function or project.
(6) Identification of the State employee responsible for oversight of the performance of each contract and the number of contractors reporting to each contract manager or supervisor.
(7) The budget code, fund number, and expenditure account number from which the contract funds were disbursed.
(b) By March 15 of each year, the Office of State Budget and Management and the Office of State Personnel shall compile and analyze the information required under subsection (a) of this section and shall submit to the Joint Legislative Commission on Governmental Operations a detailed report on the type, number, duration, cost and effectiveness of State personal services contracts throughout State government. (2001-424, ss. 6.19(a), (b); 2005-276, s. 6.38.)

Recommended Improvement

Eliminate the report.

Advantages, Disadvantages, and Risks

This report takes a substantial amount of time to complete and there is no measurable benefit that can be ascertained. The time spent on this report could be spent on factors more directly related to the university's core functions.

This report is required by statute as part of a statewide compilation which must be submitted to the Joint Legislative Commission on Governmental Operations.

Potential Savings

The elimination of the report would save time (approximately 500 hours per year at NC State University, for example) which could be used towards the mission of the university. Based on survey results, elimination of the report would save approximately $26,000 across System.

Recommendation

Go

11. Duplication of data entry into HUBSCO and CAPSTAT

Current Situation

Data are currently entered in both the HUBSCO and CAPSTAT systems for projects. Some of the information required is common to both systems. The University of North Carolina General Administration (UNC-GA) began discussions with the Department of Administration Historically Underutilized Business (DOA HUB) office about the possibility of interfacing the CAPSTAT and HUBSCO systems to minimize double entry of information by developing a program for data transfer.

SB 914(01.01.02) - "Change to Public Construction Law" mandated stipulations for new reporting requirements for informal and formal construction projects for all public entities. The HUBSCO Reporting System was implemented to capture construction project data and report construction information to DOA. The name HUBSCO is derived from the two acronyms for Historically Underutilized Business (HUB) and the State Construction Office (SCO).

CAPSTAT is the University's web enabled capital project tracking database. This system is used to manage all of our capital projects. It contains capital financial data and project progress information. It was in place prior (circa 1997) to the HUBSCO system and tracks significantly more data than HUBSCO which is specific to tracking HUB participation. CAPSTAT allows the capital projects coordinators at the various campuses to collect and input data about capital projects in a standard format. These data are then analyzed by staff at UNC-GA and the campuses. UNC-GA feels that the use of CAPSTAT has enhanced the management of construction projects around the university system and has provided decision-makers with timely and accurate information about the status of projects.

HUBSCO requires quarterly reporting of very detailed information at project completion. If CAPSTAT is feeding the HUBSCO system the transfer could potentially be tied to projects completed on a quarterly basis.

Recommended Improvement

The recommended improvement is to develop an electronic interface between CAPSTAT and HUBSCO that will allow campuses to continue data entry into CAPSTAT and have the required information for HUB automatically update HUBSCO.

Advantages, Disadvantages and Risks

The advantage would be entering the data one time which would minimize time required for data entry and potentially reduce errors in the data.

The only disadvantages identified would be cost and the availability of programmers.

The risk is that both systems are so complex it may be difficult to write the appropriate interface programs, which could result in reporting errors. Appropriate testing during the development stage of the programming should mitigate this risk.

Potential Savings:

If duplication of data entry can be avoided through an interface between the two data bases, survey results estimate a savings of $32,000 across the system.

<u>Recommendation</u>

Go

12. Institutional Trust Fund Report

Current Situation

The State Budget Office is charged with the responsibility of determining trust fund reporting under the Statutes and requires the Institutional Trust Fund Report annually. The report was initiated as a quarterly report in the late 1970s when the trust fund legislation was first introduced. It was later changed to an annual report to reduce the amount of work required. This report appears to be completed only because of the State Budget Office requirement; any inquiries as to its actual use have been met with a response that it is just checked off and put in a file.

General Statute: G.S. § 116-36.1 Regulation of Institutional Trust Funds
(*e*) *Each institution shall submit such reports or other information concerning trust funds as may be required by the Director of the Budget.*

Recommended Improvement

Eliminate the report. Information about trust funds can be found in the information submitted to NCAS or the data mart monthly by all of the Universities. The State Budget Office has the statutory authority to determine if any reporting is required and could eliminate the requirement for this report.

Advantages, Disadvantages, and Risk

Adopting this recommendation eliminates an unnecessary report and the accompanying work to produce it.   As example, elimination of this report would save approximately forty hours per year at NC State University alone at the time of the annual fiscal year close, one of the most critical times of the year. The biggest argument for eliminating the report is that it is not used.

This would eliminate time spent on work which has no value, freeing up that time for mission-related tasks. The State Budget Office, at times, may have need for information on areas such as auxiliary or overhead receipts or expenditures. This information could be captured from the data mart or in a onetime survey.

There are no disadvantages. This information could be obtained from the data mart, if needed. There seems to be little downside to eliminating this report, so long as the universities are required to keep elements in their financial systems that enable them to respond to questions about categories of trust funds.

Potential Savings

The potential dollar savings are minimal (about 40 hours per year per university). The report, however, has been required since the late seventies and has received no significant use. A particularly troubling issue about this report is that it is due by August 15, the

most critical time of year for most fiscal staffs due to the statutory requirements for reporting the fiscal year financial data to the Office of the State Controller by August 31. The support staff and accounting resources used to prepare the trust fund report during that critical time period would be better spent ensuring the transmission of quality and timely data to the State Controller as required by the statutes.

Elimination of this report would save approximately $12,000 across the System according to survey results.

<u>Recommendation</u>

Go