University of North Carolina at Chapel Hill
Cost Diagnostic: Final Report
July 2009
Discussion topics

- Project context
- Report overview
- Option summaries
- Next steps
- Appendix
Objective

Identify options to improve UNC-Chapel Hill’s operating cost structure through more efficient and effective operations to facilitate long-term growth, within boundaries of guiding principles

Guiding principles

- Options must comply with regulatory, statutory, and policy environments under which the university operates
- Academic quality must be maintained
- Carolina’s reputation as a leading public institution must be preserved
- Must sustain sound internal control and compliance environment
- Costs must be evaluated against relative value they generate in return
Project scope

• Diagnostic **includes University Administration and all 14 Schools**

• Increased focus on expenses paid for by **General Institutional Support Funds (GISF)**
  - GISF includes State Funds and F&A (i.e., overhead)

• **Auxiliary Enterprises** that impact the use of GISF will be analyzed more closely
  - Energy Services, Facilities Services, Printing, Tar Heel Temps

• **Some areas were out of scope** for the 5-month diagnostic:
  - UNC Health Care System and UNC Physicians & Associates
  - New sources of revenue
  - Capital projects
Administrative expenses per student have grown faster than academic expenses

Note: Opex for Auxiliary Enterprises, Depreciation, and Other is excluded; Figures based solely on CAFR/IPEDS definitions. Public Service (~$96M in FY08) is comprised primarily of AHEC (~$50M) and WUNC (~$7M), remaining ~$39M includes contributions from 100+ other depts; Majority of Centers & Institutes expenses are included in Research & Instruction (including Carolina Center for Public Service)

Source: UNC-CH OIRA, CAFR 2007 & 2008

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UNC-CH has a complex org structure
Multiple layers of management can exacerbate complexity

Observations

- 9 layers of management
- Over 50% of supervisors are managing 1-3 people

Potential consequences

- Frontline workers too disconnected from strategy and decisions
- Leadership too filtered from what is really happening
- Substantial bureaucracy
- Employees not empowered

Note: Managers and personnel limited to permanent and part-time administrative and operations labor, does not include executive assistants, faculty, or research. Source: University organizational charts, UNC-CH interviews
Complexity and related operating issues lead to inefficiency

Operating Issues

- Insufficient Finance and HR systems
- Significant redundancy and shadow systems
- Processes built on exceptions and workarounds
- Many manual, paper-based processes
- Fragmentation and lack of scale in many operations

Inefficient Time

Note: IT n=36, Finance n=14, HR facilitators=20. Source: UNC-CH employee focus groups, interviews
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This report represents a summary of the findings from the Bain-led diagnostic.

Note: Diagnostic ran from January 2009 – May 2009
We used a rigorous and collaborative process to identify options to improve efficiency and effectiveness.

- Budget idea emails
- Data analysis and research
- Campus-wide interviews

**Long list of ideas**

- Gathered data from a variety of sources
- Codified long list of ideas

**High potential options**

- Used Guiding Principles to identify highest potential options
  - Costs evaluated against relative value

**Final options**

- Worked with key stakeholders to define and vet options, articulating likely benefits and risks
- Summarized options in this report

**UNC to select strategies**

- Chancellor will lead selection and prioritization of ultimate options to pursue
Report is focused on 10 potential options

Overall University Structure and Strategy
- Organization re-design
- Spans and layers optimization

Area Deep Dives
- Admin Support
- Teaching, Research, and Public Service
- University Operations

- Procurement
- IT
- Finance
- HR
- Centers & Institutes
- Research & Compliance
- Utilities
- Facilities services
- Space utilization

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This document is a compilation of potential options to improve efficiency and effectiveness, but should not be viewed as final recommendations for initiatives.

All options were designed and authored with input and consultation from the UNC leadership team.

Potential financial values and timelines are estimates:
- Value and timelines are dependent on option selection, leadership approach, and implementation.
- Savings could be reallocated to support Carolina’s core mission (i.e., teaching, research, and public service) or address budget concerns.

In general, organizations rarely achieve 100% of identified savings options.
- 60-80% is more common based on a variety of factors.
- 40-60% more likely at UNC given regulatory constraints.

Many options are difficult to implement and will require significant time and investment.
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How to read the options

**Slide type**

- **Overview**
  - Summary of the challenges UNC is facing and resulting key questions, with respect to a specific option
  - Some supporting evidence and analysis (i.e., data, quotes)

- **Potential options**
  - Summary of options available for UNC
  - Estimated financial value and timeline for realizing benefits
  - Certain options are “key enablers” or “catalysts” (i.e., necessary to realize full benefits of other options)

- **Individual option descriptions**
  - Detailed description for each option and key enabler, including quantitative and qualitative benefits and risks

**Description**

- **Overview:**
  - Create guidelines and policies to prevent new administrative layers across all areas of the University
  - Enables accurate monitoring of overall HR processes
  - Helps prevent gradual return of additional layers and low spans of control

- **Potential options:**
  - **Policy changes**
    - Key enabler (would improve viability of Option 2)
    - Approval process requires that new positions are evaluated and tracked
    - Restructure where necessary
    - Management time to design and implement

- **Illustration**

  ![Illustrative Image](image-url)

  **Option 1: Policy changes**

  - Description:
    - Decrease layers and increase spans of control
    - Enables accurate monitoring of overall HR processes
    - Helps prevent gradual return of additional layers and low spans of control

  - Potential benefits:
    - Reduced bureaucracy
    - Increased efficiency

  - Challenges:
    - Difficult to monitor/enforce implementation
    - May need to create new reward/recognition mechanisms in place of current methods

  - Timeline for realizing benefits:
    - 1-2 years

  - Estimated savings: $2.9M-$2.4M (15%-25% of SPA)

  ![Graph](graph-url)

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Agenda: Option summaries

1. Organization structure
2. Procurement
3. Information Technology
4. Finance
5. Human Resources
6. Centers & Institutes
7. Research Support & Compliance
8. Energy Services
9. Facilities Services
10. Space Utilization
11. Other Options
Overview: Organization structure

Situation

• ~11,700 permanent employees spread across ~400 departments
  - ~6,700 subject to State Personnel Act (SPA)
  - ~1,800 exempt from SPA (EPA-Non Faculty)
  - ~3,200 faculty

Challenges

• Organization is 10 layers deep in some areas
• Over 50% of supervisors have 3 or fewer reports
• Distributed nature creates very small departments in some areas

Key questions

• How can UNC reduce layers and increase spans of control?
• How can UNC prevent bureaucracy from creeping back into the organization over time?

Supporting evidence

Number of supervisors

“I find that bureaucracy and our systems prevent us from being a workplace of choice. It really prevents us from doing what we should do.”

UNC employee

“Given our current structure and performance assessments, it’s unclear what my career path is.”

UNC employee

Source: University organizational charts; HR personnel data

Note: Analysis for spans & layers includes ~4,100 permanent employees; Excludes executive assistants, faculty, and researchers
Potential options: Organization structure

1. Policy changes
   • Create guidelines and policies to prevent new administrative layers

2. Organization changes
   2a. Decrease layers and increase spans of control across all areas of UNC in the near-term
       - Charge managers with driving improvements in their individual areas
       - Restructure where necessary
   2b. Continue long-term flattening of the University through attrition

<table>
<thead>
<tr>
<th>Time to realize savings:</th>
<th>3-6 months</th>
<th>1-2 years</th>
<th>3-5+ years</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Estimated annual value:</th>
<th>N/A</th>
<th>~$3-12M ($1.5-6M GISF)</th>
</tr>
</thead>
</table>

Note: Excludes Centers & Institutes, researchers, and faculty
Source: HR salary data, University organizational charts, Bain analysis
## Organization structure option 1: Policy changes

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
</tr>
</thead>
</table>
| • Adopt effective policies and procedures to prevent growth of additional supervisory layers across the University  
  - Establish layer and/or span guidelines  
  - Define decision rights and approval process for introduction of new positions that would create additional layers in an organization  
  - Rewrite job descriptions to reinforce structural changes | • Helps prevent gradual return of additional layers and low spans of control  
• Ensures long-term preservation of changes  
• Enables accurate monitoring of overall organizational structure changes  
  - Approval process requires that new positions are evaluated and tracked |

### Potential value

- Estimated upfront investment: Management time to design and implement policy changes
- Time to realize: 3-6 months

### Risks/Hurdles

- Difficult to monitor/enforce implementation
- Additional approval requirements may slow HR processes
- May need to create new reward/recognition mechanisms in place of promotion into supervisor roles

Note: Excludes Centers & Institutes, researchers, and faculty  
Source: HR salary data, University organization charts, Bain analysis

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## Organization structure option 2: Organization changes

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2a Set near-term goals for reducing layers and increasing spans of control across the University - Goals should take into account the operations and mission for each area • Eliminate excess supervisory layers and increase spans of control - Individual managers identify and drive change in their own areas - Reassign some supervisors to individual contributor roles - Restructure organization where necessary</td>
<td>• Greater proximity to senior management (through decreased layers) should increase frontline morale - Less ‘over the shoulder’ supervision - Unfiltered communication from top-level management should increase employee connectedness to overall university goals • Fewer management layers will eliminate unnecessary work (i.e., fewer meetings, less duplication, etc.) and drive quicker approvals and decision cycles</td>
</tr>
<tr>
<td>2b Decrease number of layers and increase spans of control through several years of attrition</td>
<td>Risks/Hurdles</td>
</tr>
</tbody>
</table>

### Potential value
- Estimated upfront investment: Management time to identify options, HR time to implement job changes, and restructuring costs of up to $5.5M
- Estimated annual value: ~$3-12M
- Time to realize: (a) 1-2 years; (b) 3-5+ years

### Notes:
- Excludes Centers & Institutes, researchers, and faculty; severance cost based on UNC severance calculator using average statistics of permanent EPA Non-Faculty and SPA personnel; does not include leave payout, career transitioning counseling, health insurance continuation, etc.
- Sources: HR salary data, University organizational charts, Bain analysis

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Overview: Procurement

**Situation**

- UNC spent $431M* on goods and services in FY2008, of which $127M is GISF

**Challenges**

- De-centralized purchase decision rights have led to vendor fragmentation, and disparate pricing
- IT systems are not fully automated  
  - Material & Disbursement Services (M&DS) must perform some processes manually  
  - Data capture is insufficient, limiting the analysis necessary to realize savings
- Limited collaboration between M&DS and internal customers hinders spend optimization and the setting/enforcement of policies
- Few resources dedicated to actively managing and reducing spend

**Key questions**

- How can UNC save money with efficient and collaborative processes and systems improvements?
- Are there options to realize savings before ERP comes online?

**Supporting evidence**

* UNC-CH Accounts Payable (FY2008) *

- $686M
- 12.2K
- Top 100 Vendors
- 501-1000
- 101-500
- 2001-3000
- 1001-2000
- bottom ~9K

**Process**

- ~2 checks per week for each vendor
- Spend is <$2K per year with each vendor

"The State-imposed RFP process is confusing and complicated, and what I really need is support from procurement to help me solve problems."

Faculty Member

"I have never been able to rely on anyone else to provide itemized spend data. I have to track everything myself in Excel to produce the quarterly reports our Dean wants to see."

Senior School Staff Member

* AP data includes capital expenses not considered in the $431M of Goods and Services spend

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Potential options: Procurement

<table>
<thead>
<tr>
<th>Internal solution</th>
<th>Interim internal solutions</th>
<th>Share resources</th>
<th>Third-party provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wait for ERP</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Description:</td>
<td>Leave M&amp;DS unchanged until ERP implementation complete</td>
<td>Re-focus M&amp;DS on strategic analysis</td>
<td>Leverage existing State and UNC General Administration resources</td>
</tr>
<tr>
<td></td>
<td>Then focus group on strategic analysis</td>
<td>Develop short-term solutions to data/process issues</td>
<td>Integrate with ERP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Integrate with ERP</td>
<td>Select third party to provide procurement functions for indirect categories</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Integrate with ERP</td>
</tr>
<tr>
<td>Financial</td>
<td>~ $40-45M (~$10-15 GISF)</td>
<td></td>
<td>Select third party to provide procurement functions for all categories</td>
</tr>
<tr>
<td>Estimated annual value*:</td>
<td>24-36 months</td>
<td>12-18 months</td>
<td>6-12 months</td>
</tr>
<tr>
<td>Time to implement requisite systems:</td>
<td>24-36 months</td>
<td>12-18 months</td>
<td>9-15 months</td>
</tr>
<tr>
<td>UNC ownership:</td>
<td>High UNC control</td>
<td>Low UNC control</td>
<td>Low UNC control</td>
</tr>
</tbody>
</table>

*Realized gradually over 1-3 years, once requisite systems are in place*
## Procurement option 1: Interim internal solutions

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
<th>Risks/Hurdles</th>
</tr>
</thead>
</table>
| • Increase M&DS focus on strategic analysis  
  - Reduce number of vendors and consolidate volume to generate leverage in negotiations  
  - Analyze spend to identify options for reduction and make appropriate policy recommendations  
• Develop short-term solutions while waiting for ERP and related procurement applications to come online  
  - Process efficiencies  
  - Data-capture improvements  
• Look to shed non-core logistical capabilities (where feasible/beneficial)  
  - Ex: Receiving/Delivery, Storerooms | • UNC retains capabilities in-house  
  - Internal knowledge should help with ultimate ERP implementation  
• Procurement group will build on current expertise and become an enabler, helping internal customers meet their needs  
• Build-up of strategic focus could be partially self-funded  
  - Automation allows for shift away from process workarounds and towards value-adding analysis | • Effectiveness of strategic analysis is limited until system and data capture issues are resolved  
• UNC departments may be resistant to increased assistance from Procurement in managing spend on goods and services  
• Redundant efforts might be required to improve processes in short-term and then again at ERP installation  
  - Although, can leverage learnings for ERP implementation |

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## Procurement option 2: Share resources

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
<th>Risks/Hurdles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilize existing systems to reduce the level of manual processing by M&amp;DS, and improve data-capture</td>
<td>• Improved data capture will facilitate more robust spend analysis</td>
<td>• Risk of being “locked-in” to unfavorable rates</td>
</tr>
<tr>
<td>- State of NC’s Accenture-run Ariba platform</td>
<td>• Combined scale of buying group may allow UNC to realize better pricing on select items</td>
<td>- All purchases through State of NC may include a 1.75% fee</td>
</tr>
<tr>
<td>- UNC General Administration’s SciQuest eProcurement application</td>
<td>• May accelerate time to realize savings</td>
<td>- State/GA may consider interests of the group in its entirety (not necessarily those of UNC) when negotiating prices</td>
</tr>
<tr>
<td>M&amp;DS to focus on strategic analyses &amp; policy recommendations</td>
<td>- No need to invest in developing eCatalogs</td>
<td>• Leveraging scale at State/GA level may only reduce costs in certain categories</td>
</tr>
<tr>
<td>- Analyzing and reducing spend</td>
<td></td>
<td>- UNC procurement will still need to serve internal customers for remaining categories</td>
</tr>
</tbody>
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Procurement option 3: Third-party provider

<table>
<thead>
<tr>
<th>Description</th>
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</table>
| - Hire a third party to provide procurement functions  
  - Purchase processing  
  - Data capture and spend analysis  
  - Vendor relationships and negotiations |

<table>
<thead>
<tr>
<th>Benefits</th>
</tr>
</thead>
</table>
| - Leveraging an external provider’s technology, experience and scale may enable UNC to achieve better pricing and focus resources on better serving the needs of internal customers  
- Will accelerate time to realize savings  
- Easier to stand up organization if only focusing on University-specific categories |

<table>
<thead>
<tr>
<th>Risks/Hurdles</th>
</tr>
</thead>
</table>
| - Potentially the most expensive option  
  - Provider will likely keep some portion of the savings  
  - May be costly to repatriate if market dynamics change  
  - State of NC’s involvement in RFP process could limit UNC’s ability to select a provider  
  - UNC departments may be resistant to an outside provider managing spend  
  - May only reduce costs in certain categories  
  - Redundant efforts might be required to integrate with new systems in short-term and then again at ERP installation  
  - Although, can leverage learnings for ERP implementation  
  - Outsourcing could make the forthcoming ERP procurement applications unnecessary |

**Procurement option 3a: Indirect spend categories**

- M&DS to focus on policy recommendations regarding indirect categories (e.g. office supplies)  
- M&DS to perform all procurement functions for University-specific categories (e.g. scientific/research equipment)  
  - Processing purchases  
  - Analyzing and reducing spend

**Procurement option 3b: All spend categories**

- M&DS to focus on policy recommendation and enforcement
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Overview: Information Technology

**Situation**
- Central ITS provides core IT services and support in select areas across the university.
- IT functions are distributed across schools/divisions.
- Within schools and divisions, IT infrastructure and support are often distributed across departments.

**Challenges**
- Distributed functions often drive redundant infrastructure (hardware & software) and support capabilities.
  - Nearly 50% of servers are outside of central ITS.
  - Many areas run their own web servers, databases, email, etc.
- Current IT decision-making process is fragmented and unclear.
  - Central ITS and distributed IT leadership are often unsure who holds key decision rights.
- Distributed units lack trust and confidence in ITS’ ability to provide comprehensive support.
  - Similar mistrust sometimes exists between distributed departments and school or division central IT office.

**Key questions**
- How can culture/capability gaps within ITS be resolved to rebuild trust among distributed IT units?
- To what degree can IT infrastructure and support be consolidated?

"I’m duplicating some of what everyone else is doing. We’re doing some of the software or some of the desktop imaging...it changes from place to place."

UNC IT personnel

"The organization is so spread out, and we don’t know where everyone is...I don’t always really know who my customer is."

UNC IT personnel

Notes: Server count is meant to be an estimate only; does not include centers & institutes.
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Potential options: Information Technology

**Unit consolidation**

**Option set**

**Key enablers**

**Option set**

**Description:**

1a. Bring distributed IT infrastructure and support up from departments, consolidate within schools
   - Build strong perception of trust and clear decision rights between school IT & distributed stakeholders

1b. Potentially cluster some schools and divisions together, utilizing shared service centers to achieve scale

**Estimated annual value***: ~$7-10M ($3.5-5M GISF)

**ITS consolidation**

**Key enablers**

**Option set**

- Provide comprehensive IT support capabilities with clear & flexible service level options
- Build strong perception and trust of internal capabilities, customer service delivery
- Define roles and decision rights between ITS, distributed organization for strategic IT decisions

2a. Provide space, hosting, and support for ‘commodity’ IT systems within central ITS
   - Email, web hosting, network management, databases, server management, etc.

2b. Provides space, hosting, and support for select ‘value-add’ IT systems within central ITS

**Estimated annual value***: N/A

**Estimated annual value***: ~$5-9M ($2.5-4.5M GISF)

**UNC may pursue a phased approach:**

*Option savings are additive*

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# Information Technology option 1: Unit consolidation

## Description

1. **Remove “hidden” IT infrastructure and support that exists within distributed departments and sub-units**
   - Catalogued and/or consolidated into school/division IT organizations
   - Larger schools and divisions achieve stand-alone scale

2. **Potentially cluster some schools/divisions together**
   - Supported by shared service centers and/or ‘anchor’ IT organization within larger schools/divisions

## Benefits

- Cost savings achieved as benefits from scale are realized
- Tighter security for potentially sensitive data facilitated by server and other infrastructure consolidation
- Consistent platforms and systems make future IT developments, interdisciplinary integration easier

## Risks/Hurdles

- Diverse, specific service levels may be difficult to achieve with consolidation
- Pushback from distributed organization as control is perceived to be taken from distributed departments
- Hurdles for clustering schools/divisions:
  - Clear ‘payment’ or fund allocations for svcs
  - Appropriate ‘home’, governance for clustered IT org
  - Clusters may create additional 'central IT' organizations with the attendant confusion over roles and responsibilities, and resultant duplication of services

## Potential value

- Estimated upfront investment: Resources required to migrate infrastructure, support
- Estimated annual value: ~$7-10M
- Time to realize: ~1-2 years
### Information Technology key enabler: ITS consolidation

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
</tr>
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</table>
| - Build comprehensive support capabilities for diversity of IT solutions in ITS  
  - Flexible service level options to accommodate diverse needs  
  - Improved pricing/financial model with advantageous rates to encourage service migration (vs. current cost recovery)  
- Restore trust and repair perception of ITS through exceptional customer service, strong service delivery  
- Define clear decision rights so that distributed organizations & ITS can work together to make strategic IT decisions  
  - Include clear guidelines to prevent further IT proliferation over time | - Encouraging heavier future collaboration between distributed IT and ITS prevents further proliferation of IT costs  
  - Will be further facilitated by clear decision rights among all key stakeholders |

<table>
<thead>
<tr>
<th>Risks/Hurdles</th>
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</thead>
</table>
| - Past perceptions of ITS could be difficult to overcome in some areas  
- Past culture within ITS has been a barrier to collaboration with campus units  
- Cost recovery model is embedded in UNC organization (not just IT) and may be difficult to change |

<table>
<thead>
<tr>
<th>Potential value</th>
</tr>
</thead>
</table>
| - Likely necessary to facilitate service migration  
- Estimated upfront investment: Resources required to build key areas for future support  
- Time to realize: ~1-2 years |
## Information Technology option 2: ITS consolidation

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
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</thead>
</table>
| **2a** Provide space, hosting and support for ‘commodity’ IT systems (database, email, etc.) in ITS  
- Degree of centralization may vary by school, and likely will increase over time as ITS demonstrates ability to deliver  
  ‣ Enterprise solutions are designated ‘first option’ for all areas |  
- Cost savings achieved as benefits from scale are realized  
- Tighter security for potentially sensitive data facilitated by server, infrastructure consolidation  
- Consistent platforms and systems make future IT developments, interdisciplinary integration easier |
| **2b** Provide space, hosting and support for diversity of value-add IT systems in ITS  
- Service provision will likely vary by school and by application type  
- Research and instruction applications, ‘homegrown’ systems, and some support may remain in distributed organization |  
- Funding and charge-back options for units must be defined (specifically what's provided for free vs. what must be separately paid for)  
- Diverse and specific service levels may be more difficult to achieve with heavier service consolidation  
- Pushback from distributed organization as control is perceived to be taken from distributed departments  
  ‣ Mitigated with clearer decision rights |

### Potential value

- Estimated upfront investment: Continued resource investment in ITS to support infrastructure and support personnel shifts  
- Estimated annual value: ~$5-9M  
- Time to realize: ~1-2+ years
Agenda: Option summaries

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Overview: Finance

Situation

- UNC is a $2B+ organization with 6 key funding sources
  - Each fund source has unique rules and regulations
- Portions of finance function are decentralized, and some finance activities are executed at multiple levels

Challenges

- Finance personnel are largely transaction-oriented, with limited bandwidth to execute analysis or define strategy
- State policies are often a key hurdle, driving process and system inefficiencies throughout organization
  - Task completion requires significant experiential knowledge and is not intuitive for new hires
  - Finance personnel are only able to spend ~50% of their time on core finance activities
- Distributed organization often views task execution as a necessary component of decision-making

Key questions

- How can financial system and process hurdles be resolved and along what timeline?
- To what degree can core finance activities be consolidated?

Note: Salary spend functional allocations based on class and working titles
Source: 2008 HR payroll database
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Supporting evidence

2008 Non-faculty salary spend by function

<table>
<thead>
<tr>
<th>Function</th>
<th>2008 Spend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Affairs</td>
<td>$191M</td>
</tr>
<tr>
<td>Academic Affairs</td>
<td>$79M</td>
</tr>
<tr>
<td>Finance &amp; Admin</td>
<td>$75M</td>
</tr>
<tr>
<td>Other Provost</td>
<td>$68M</td>
</tr>
<tr>
<td>VC Res. &amp; Econ Dev</td>
<td>$51M</td>
</tr>
<tr>
<td>Athletics</td>
<td>$44M</td>
</tr>
<tr>
<td>Other</td>
<td>$508M</td>
</tr>
</tbody>
</table>

"A lot of non-core, administrative tasks have been pushed down to us in the departments from central finance offices..."

UNC Business Manager

"There are so many different kinds of accounts and so many different budgets...if my chair wants to know how much is in his research account, it takes me a couple hours..."

UNC Business manager
Potential options: Finance

1. Efficiency improvements
   - Determine and disseminate exhaustive set of current policies and processes
     - Streamline where possible to improve efficiency
   - In advance of ERP, consolidate diverse set of systems into a single, consistent, user-friendly platform (e.g., InfoPorte)

2. Unit consolidation
   - Elevate distributed finance from depts. and consolidate within schools and divisions
     - Realize stand-alone scale in select schools and divisions
   - Potentially cluster some schools and divisions together, utilizing shared service centers to achieve scale

3. Central finance consolidation
   - Establish central finance capability to enable core finance task execution and strategic support for distributed units

Time to realize:
- 1-2 years
- 1-2 years
- 2+ years

Estimated annual value*:
- $3-6M
  ($1.5-3M GISF)
- $1-2M
- $500K-1M
  ($250-500K GISF)

* Option savings estimates are additive

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Finance option 1: Efficiency improvements

**Description**

- Identify all core policies and processes, and determine ultimate source or enforcing body (Federal, State, Donor/grant institution, GA, UNC, etc.)
  - Work with other key functional areas (OSR, OHR) where necessary
  - Remove ‘self-imposed’ policy & process hurdles
  - Identify most complicated processes from state, GA, etc. and target for petition
- Consolidate existing financial systems into single, consistent, user-friendly platform
  - System should be flexible and easily utilized by all departments and sub-units as a bridge or ultimate accessory to ERP implementation
  - Integrate financial with other systems (e.g., OSR, OHR, etc.)
  - Embed state & donor policies into system to automate compliance checks

**Benefits**

- All personnel spend less time on low-value, administrative tasks
  - Benefits are heightened for finance personnel, where fewer FTEs may be required to do work
- New systems require less expertise in outdated technology, system idiosyncrasies
  - Finance, administrative personnel will require a less-specific capability set related to systems
- Improved effectiveness as reduction in errors eliminates duplicate work for central and distributed finance
- Easier and more consistent compliance with policies and guidelines

**Potential value**

- Estimated upfront investment: Significant time investment to catalog policies and processes; system upgrades likely a $1-2M investment*
- Estimated annual value: $3-6M and key enabler for other options
- Time to realize: 1-2 years

**Risks/Hurdles**

- Realizing cost savings may prove difficult, as existing inefficiency is only a portion of time for a large number of FTEs
- Likely will be difficult to develop a single, comprehensive, and flexible departmental accounting system that meets diverse needs of all departments and sub-units

*System upgrades includes development of single core solution for HR, Finance systems; assumes solution is primarily a front-end user interface rather than full replacement of core technology.

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## Finance option 2: Unit consolidation

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
<th>Risks/Hurdles</th>
</tr>
</thead>
</table>
| **2a** Elevate distributed finance function from departments and consolidate within schools and divisions  
  - Disaggregate traditional finance tasks and elevate core finance activities to dedicated school/division resources  
  - Realize stand-alone scale in select schools and divisions                                                  | • Shared service centers allow UNC to realize scale benefits with distributed finance operations  
  • Dedicated finance professionals may be able to provide services with less central support  
    - Clearer lines of communication and reduced interaction will free central finance for more strategic work | • Pushback from distributed organization as decision rights are *perceived to be* taken from distributed departments |
| **2b** Potentially cluster some smaller schools and divisions together to achieve scale  
  - Support with shared service centers and/or ‘anchor’ finance organization within larger schools/divisions |                                                                                                                                      | • May require position changes for distributed personnel as finance tasks are elevated and/or executed by end users (i.e., self-service)  
  - Cost-savings may be difficult to realize given distributed nature of responsibilities (finance tasks account for only a portion of many FTEs) |
| **Potential value**  
  • Estimated upfront investment: Resources required to sufficiently build out consolidated finance functions  
  • Estimated annual value: $1-2M  
  • Time to realize: 1-2 years |                                                                                                                                      |                                                                                                           |
### Finance option 3: Central finance consolidation

#### Description

- Transition dedicated finance personnel to central finance organization to elevate execution of core finance tasks
  - Establish dotted-line relationships to specific schools and divisions to ensure dedicated area expertise
    - Provide more strategic finance support for distributed units
  - Automate previously distributed finance tasks through self-service departmental finance systems

#### Benefits

- Cost savings from benefits of scale
- Dedicated finance professionals are better-suited for strategic financial analysis and planning

#### Risks/Hurdles

- Central finance capabilities may need to expand to provide additional support of distributed units
  - Including renewed focus on distributed perception of finance entities
- Pushback from distributed organization as decision rights are perceived to be taken from distributed departments
- May require position changes for distributed personnel as finance tasks can be elevated and/or executed by end users (i.e., self-service)
  - Cost savings may be difficult to realize given distributed nature of responsibilities (finance tasks account for only a portion of many FTEs)

#### Potential value

- Estimated upfront investment: Significant resources required to sufficiently build out central finance capabilities
- Estimated annual value: $500K-1M
- Time to realize: 2+ years

*Estimated value is incremental over unit consolidation

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Agenda: Option summaries

1. Organization structure
2. Procurement
3. Information Technology
4. Finance
5. Human Resources
6. Centers & Institutes
7. Research Support & Compliance
8. Energy Services
9. Facilities Services
10. Space Utilization
11. Other Options
Overview: Human Resources

### Situation

- UNC has 375+ HR facilitators distributed throughout the organization.
- Several distinct offices are involved in key HR processes (Equal Opportunity Office, Office of Human Resources, etc.).

### Challenges

- Central HR interacts with HR personnel with a wide range of HR experience and capabilities
  - <1/3 of all facilitators have an HR class title
  - HR facilitators spend anywhere from 5% to 100% of their time focused on HR activities
  - Heavy training and customer service burden for OHR due to high HR facilitator count
- Existing HR systems and processes are often a hurdle instead of an enabler
- Handling requirements of state personnel system add complexity to HR processes
- Lack of clarity between roles & responsibilities of various ‘HR’ entities (Facilitators, EOO, OHR, etc.) drives inconsistent customer service

### Key questions

- How can system inadequacies and policy hurdles be dealt with effectively and expediently?
- How can core HR activities and personnel be better structured?

---

"My job is **not really all that hard**...but it is **incredibly complicated.**"

UNC HR Facilitator

"I find that bureaucracy and our systems prevent us from being a workplace of choice. It really **prevents us from doing what we should do**…"

UNC HR Facilitator
## Potential options: Human Resources

<table>
<thead>
<tr>
<th>Description:</th>
<th>Time to realize:</th>
<th>Estimated annual value*:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Efficiency improvements</td>
<td>1-2 years</td>
<td>$1-2M ($500K-1M GISF)</td>
</tr>
<tr>
<td>2. Organization structure change</td>
<td>1-2 years</td>
<td>N/A</td>
</tr>
<tr>
<td>3. Unit consolidation</td>
<td>2-3 years</td>
<td>$1-2M ($500K-1M GISF)</td>
</tr>
<tr>
<td>4. OHR consolidation</td>
<td>3+ years</td>
<td>$1-1.5M ($500-750K GISF)</td>
</tr>
</tbody>
</table>

### Key enabler would likely improve viability of other options

- Elevate HR task execution out of departments and consolidate within schools and divisions
  - Stand-alone scale achieved in select schools, divisions

- Potentially cluster some schools and divisions together, utilizing shared service centers to achieve scale

- Adjust funding model to support expansion of OHR responsibilities (e.g., training and talent management support, etc.)

* Option savings estimates are additive
### Human Resources option 1: Efficiency improvements

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
<th>Risks/Hurdles</th>
<th>Potential value</th>
</tr>
</thead>
</table>
| • Establish a single, consistent, comprehensive, and user-friendly HR system (like EPAWeb)  
  - System should be flexible and easily utilized by all departments as a bridge (or ultimate accessory) to ERP implementation  
  - Integrate with other systems (within OSR, Finance, etc.)  
  - Embed state personnel policies into system to automate compliance checks  
  • Eliminate self-imposed, University-wide process hurdles for core HR tasks  
  - Clearly identify state personnel policies and streamline or automate where possible  
  • Determine funding model to support expansion of OHR responsibilities and continued investment into efficiency/ effectiveness improvements | • HR facilitators spend significantly less time on low-value, administrative tasks  
• New systems should require less expertise in outdated technology, system idiosyncrasies  
• Greater system automation could reduce errors and oversight requirements from central OHR, allowing central unit to focus on more strategic support | • Simplified systems and processes may require position description changes for distributed HR facilitators as responsibilities shift  
• Realizing cost savings may prove difficult, as existing inefficiency is found in a small portion of time for a large number of FTEs | • Estimated upfront investment: Significant time investment to completely catalog policies and processes; system upgrades likely a $1-2M investment*  
• Estimated annual value: $1-2M and key enabler for other options  
• Time to realize: 1-2 years |

*System upgrades include development of single core solution for HR and Finance systems; assumes solution is primarily a front-end user interface rather than full replacement of core technology

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**Human Resources option 2: Organization structure changes**

### Description

- Consolidate communication channels by routing distributed HR personnel through school and division HR Directors
- Potentially establish dotted-line reporting relationship into OHR to ensure collaboration in key areas of compliance and procedure
- Potentially establish hard-line reporting into OHR, with dotted-line into schools to ensure responsiveness to specific needs

### Benefits

- Consolidating HR facilitator communication through HR directors frees central organization to focus more heavily on value-add services (vs. policy clarifications, error-checking, etc.)
- HR directors encourage policy compliance and strong customer service for distributed organization, especially with a dotted-line structure
- Better training and talent management touches all aspects of University, improving quality of service across multiple functions and areas

### Risks/Hurdles

- Matrix reporting structures have been difficult to implement at the University in the past
- HR Directors would need to be highly skilled

### Potential value

- Estimated upfront investment: Personnel investments required to change organizational structure
- Time to realize: 1-2 years

<table>
<thead>
<tr>
<th>HR facilitators (5 per box)</th>
<th>HR Directors</th>
<th>OHR – Specialists (examples)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Director</td>
<td>Benefits</td>
</tr>
<tr>
<td></td>
<td>Cluster Director</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Director</td>
<td>Employee Compensation &amp; Classification</td>
</tr>
<tr>
<td></td>
<td>Director</td>
<td>Employee relations</td>
</tr>
<tr>
<td></td>
<td>Director</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cluster Director</td>
<td></td>
</tr>
</tbody>
</table>

Note: Illustration is meant to demonstrate a concept only, and is not a recommendation for actual structure.

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Human Resources option 3: Unit consolidation

Description

3a. Elevate distributed HR task execution from departments and consolidate within schools and divisions
   - Replace partially-focused HR facilitators with dedicated HR resources in shared service center
   - Realize stand-alone scale in select schools/divisions

3b. Potentially cluster some schools and divisions together to achieve scale
   - Support with shared service centers and/or ‘anchor’ HR organization within larger schools/divisions

Benefits

• Shared service centers allow UNC to realize scale benefits with distributed HR operations
• Dedicated HR professionals should be able to provide services with less central support
  - Clearer lines of communication and reduced interaction will free central HR for more strategic work
• More effective HR support should drive better results and smoother transition for all employees

Risks/Hurdles

• Pushback from distributed organization as decision rights are perceived to be taken from distributed departments
• Cost-savings may be difficult to realize given distributed nature of responsibilities (HR tasks account for only a portion of many HR facilitators’ time)

Potential value

• Estimated upfront investment: Some resources (primarily personnel) required to sufficiently build out consolidated finance functions
• Estimated annual value: $1-2M
• Time to realize: 2-3 years

Note: Illustration is meant to demonstrate a concept only, and is not a recommendation for actual structure

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### Human Resources option 4: OHR consolidation

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
</tr>
</thead>
</table>
| 4a Disaggregate HR activities and elevate select scalable tasks to OHR  
  - Target tasks that have little variation across diverse departments and divisions (e.g., I-9 forms, EEV, credentials verification) | • Cost savings from benefits of scale (many fewer FTEs needed to execute same HR tasks)  
  • Dedicated HR professionals would allow OHR to improve key areas, including training and talent management |
| 4b Elevate some value-added HR services to central shared service center  
  - Consolidate large portion of HR tasks, including those with more department or division sensitivity (e.g., Personnel actions, new position creation, etc.) | • OHR culture and capability gaps may need to be addressed to meet needs of distributed units  
  • Pushback from distributed organization as decision rights are perceived to be taken from distributed departments  
  • Cost-savings may be difficult to realize given distributed nature of responsibilities (core HR tasks account for only a portion of many HR facilitators) |

#### Potential value

- Estimated upfront investment: Significant resources required to sufficiently build out central HR capabilities  
- Estimated annual value: $1-1.5M  
- Time to realize: 3+ years
Agenda: Option summaries

1. Organization structure
2. Procurement
3. Information Technology
4. Finance
5. Human Resources
6. Centers & Institutes
7. Research Support & Compliance
8. Energy Services
9. Facilities Services
10. Space Utilization
11. Other Options
Overview: Centers & Institutes

**Situation**
- Over 100 Centers & Institutes (C&Is) conduct activities in research, instruction, and public service
- Many C&Is are part of the continuation budget and receive state funds every year

**Challenges**
- Centers & Institutes exist throughout the university and have no standard reporting structure
- Each Center & Institute often has its own support functions, including Finance, IT, and HR
- Limited consistency in policies & processes for managing C&Is, including:
  - Adjusting funding structure
  - Approving new C&I
  - Reviewing performance

**Key questions**
- Where should C&Is be positioned in UNC?
- Are there options for C&Is to share resources with each other?
- What processes and policies should UNC implement to better manage C&Is?

**Supporting evidence**

---

**UNC-CH Centers & Institutes**

- Total C&Is: ~110
- Jobs: ~2,500
- Funds: ~$370M

**By type**
- Pan-University Research: ~60%
- Instructional & Service: ~20%
- Within Schools: ~10%

**By personnel**
- Non-Support Staff: ~75%
- IT, Admin Support (incl HR): ~5%
- Finance: ~5%

**By fund source**
- State Funds (~$65-70M)
- Other (~$370M)

---

*Note: Classification of C&I as Research, Instructional, or Service reflects primary activity of C/I. Most C&I perform more than one activity. "by personnel" bar in chart data taken from payroll database (for 55 C&I), C&I websites (for 43 C&I), and extrapolated for the remaining 12; "fund source" bar in chart represents 74 C&I. Budget data was unavailable centrally for the remaining 36, but they are believed to be relatively small.*

Source: UNC Payroll database, C&I websites, UNC Ledger, C&I 2009 report to GA

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### Potential options: Centers & Institutes

<table>
<thead>
<tr>
<th>Description:</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1a</strong></td>
<td>Reorganize structure</td>
<td>establish policies &amp; procedures</td>
</tr>
<tr>
<td><strong>1b</strong></td>
<td>streamline reporting structure</td>
<td>share support services</td>
</tr>
<tr>
<td><strong>2a</strong></td>
<td>Funding policies</td>
<td>start-up policies</td>
</tr>
<tr>
<td><strong>2b</strong></td>
<td>start-up policies</td>
<td>performance review procedures</td>
</tr>
</tbody>
</table>

**Key enabler would likely improve viability of other options**

#### Description:

- **1a** Define C&I reporting relationships
- **1b** Create Unified Business Clusters (UBCs) with HR, IT*, and Finance expertise for use by smaller C&I
- **2a** Set guidelines for state fund consumption
- **2b** Ensure C&Is receive sufficient F&A to cover operating costs
- **2c** Develop criteria and approval process for starting new Centers & Institutes
- **2b** Develop review criteria
- **2c** Establish schedule and process for performance reviews

#### Estimated annual value**:

<table>
<thead>
<tr>
<th><strong>1a</strong></th>
<th><strong>1b</strong></th>
<th><strong>2a</strong></th>
<th><strong>2b</strong></th>
<th><strong>2c</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>$4-6M ($4-6M GISF)</td>
<td>$14-53M ($14-53M GISF)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

#### Time to realize:

<table>
<thead>
<tr>
<th><strong>1a</strong></th>
<th><strong>1b</strong></th>
<th><strong>2a</strong></th>
<th><strong>2b</strong></th>
<th><strong>2c</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>3-6 months</td>
<td>1-2 years</td>
<td>1-5 years</td>
<td>3-6 months</td>
<td>3-6 months</td>
</tr>
</tbody>
</table>

---

*ITS likely to provide IT support for pan-university Centers & Institutes

**$4-6M GISF from sharing support services would be included as part of $14-53M GISF from funding policies

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Centers & Institutes option 1a: Streamline reporting structure

Description
- Authority of central C&I Oversight Committee (CIOC) is expanded to develop and enforce C&I policies
- CIOC determines for each C/I if it is pan-university or should reside within a school
- Pan-university C&Is report to staff dedicated to overseeing performance
- C&I within schools report directly to Deans or Department Chairs

Benefits
- Addresses complexity concerns by simplifying reporting structure and standardizing oversight
- More focused management of C&Is:
  - Ensure C&Is receive necessary support
  - Review performance of C/I in addition to reviewing C/I Director
- Single committee (CIOC) responsible for C&Is and developing policies ensures all C&I are held to similar standards

Risks/Hurdles
- Changing reporting structure of some C&Is may be difficult due to historical, cultural, or political reasons

Note: Numbers in boxes are approximate and as of March 2009
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Centers & Institutes option 1b: Share support services

**Description**
- Create Unified Business Clusters (UBCs) consisting of a business officer and support staff (HR, Finance, IT*)
  - UBCs will be primarily used by smaller C&I to achieve scale; Larger C&I may be able to support their own support staff
  - UBCs will exist at Pan-University level
- C&I within schools encouraged to utilize school support staff
  - Schools can create their own UBC if they so choose
- C&Is budget may be adjusted to cover UBC costs

**Benefits**
- Allows Centers & Institutes to achieve cost savings and reduce state funds, as UBC service fee will cost less than maintaining own FTEs
- Provides cost effective option for smaller C&Is that cannot currently afford full time staff to receive administrative support

**Risks/Hurdles**
- C&I may be resistant to give responsibility for support functions to UBC over concerns of decreased service levels
- UBC employees may not feel a strong connection to a particular C&I since they will service more than one C&I

**Potential value**
- Estimate annual value: $4-6M
- Time to realize: 1-2 years

*Note: ITS likely to provide IT support to pan-university Centers & Institutes. UBC Savings assume every Center & Institute reaches a rate of 17 support staff/100 FTE or lower

Source: UNC Payroll Database
Centers & Institutes option 2a: Funding policies

Description

- Modify continuation budgets and decrease amount of ongoing state funds C&Is receive
- In some cases, may need to adjust F&A allocations to ensure C&I receives sufficient funds for operations
- Rate of dependence on state funds will be directly related to mission
  - For example, public service focused likely to receive greater state funding support than research focused
- Two options exist for implementation of reduced state funds:
  i. Give each C&I (new or existing) one-time state “seed” funding; C/I can spend at their discretion over as many years as they choose
  ii. Set a target for max % of budget (or max $ amount) that can be funded by state funds; Target may be defined on graduated scale over ~3-5 year timeframe

Benefits

- Direct state fund budget savings of $14-53M
  - If these state funds are replaced by contracts & grants, this could mean up to ~$20M in additional F&A revenue for the C/I and the entire university
- Ensures sufficient value and relevance of C&I missions to attract external funding
- Pushes C&I to become self-sufficient

Risks/Hurdles

- Not providing sufficient F&A to cover operating costs of C&I could hurt ability to find future funding
- May be unable to reclaim funds from valuable C&Is with little access to non-state funding
- Resistance from C&Is dependent on a large % or amount of state funds for operations

EXAMPLE: Potential value
(Assuming implementation Option ii: Set targets for max % of budget funded by state funds)

<table>
<thead>
<tr>
<th></th>
<th>Current average % of budget funded by state funds</th>
<th>Example: Future max % of budget funded by state funds</th>
<th>State fund savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pan-Univ. Inst. &amp; Service</td>
<td>~39%</td>
<td>25-30%</td>
<td>$2-4M</td>
</tr>
<tr>
<td>Pan-Univ Research</td>
<td>~23%</td>
<td>5-10%</td>
<td>$8-24M*</td>
</tr>
<tr>
<td>Within Schools</td>
<td>~12%</td>
<td>0-10%</td>
<td>$4-25M</td>
</tr>
</tbody>
</table>

Potential Savings

*Note: Savings calculations based on 74 C&I where financial data was available; Low side of "Pan-Univ Research" calculated by assuming no funds will be cut from Nutrition Research Institute (Kannapolis). Source: UNC Ledger, C&I 2009 report to GA

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### Centers & Institutes option 2b & 2c: Establish start-up and review policies

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
</tr>
</thead>
</table>
| **2b Start-up:** Define start-up policies for new Centers & Institutes, including:  
  - Criteria for approval  
  - Location within University (pan-univ. vs. within school) and reporting structure  
  - Usage of UBCs & funding model |  
  - Allows UNC administration to hold each C&I accountable to same standards  
  - Ensures no duplicate C&I  
  - Limits excessive proliferation of C&Is |
| **2c Review:** Establish process and criteria for reviewing C&Is and Directors* of C&Is  
  - Develop review criteria  
  - Decide who performs review  
    - CIOC? Deans? Faculty & staff committee?  
  - Determine frequency of review  
    - Annual? Every 3 years? Every 5?  
  - Identify consequences of poor performance  
    - Reclaim funds? Combine with existing C/I? Sunset C/I? |  
  - Ensures C&I are high performing and adhering to policies  
  - Increases accountability of Centers & Institutes |

#### Risks/Hurdles

- May be difficult to find standard start-up and review policies across all Centers & Institutes (i.e., uniqueness of each entity may lend itself to exceptions)
- Existing C&Is may be resistant to new policies for historical, cultural, or political reasons

*Note: A process is already in place to review pan-university C&I directors*
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Overview: Research Support & Compliance

Situation

- Greater than 25% of UNC’s revenue comes from sponsored research ($678M in FY 2008)
- Growth of sponsored research is expected to continue at historical rate of 3-5% per year
  - Potentially faster growth in short-term due to stimulus funding

Challenges

- Manual processes and non-standardization make it difficult for research support offices to scale quickly and meet demand of increased volumes
- In addition, many support offices are already resource constrained
- Overlapping responsibilities at some research support offices result in confusion and redundancies
- Support offices are housed in different locations across and off campus, driving additional inefficiency

Key questions

- Can automation be enhanced to increase capacity of key research support areas?
- What additional resources are needed to support expected increase in sponsored research awards?
- Can research support offices be restructured to better serve the campus?
- What are costs and options to co-locate research support offices in one building?

Supporting evidence

Volume of Research Support Activities per Year

<table>
<thead>
<tr>
<th>Activity</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effort Reports</td>
<td>~45K</td>
</tr>
<tr>
<td>Financial Reports</td>
<td>~12K</td>
</tr>
<tr>
<td>Conflict of Interest Submissions</td>
<td>~10K</td>
</tr>
<tr>
<td>IRB Submissions</td>
<td>~9K</td>
</tr>
<tr>
<td>Proposal Submissions</td>
<td>~4K</td>
</tr>
<tr>
<td>IACUC Submissions</td>
<td>~1K</td>
</tr>
<tr>
<td>Laboratory Safety Inspections</td>
<td>~1K</td>
</tr>
</tbody>
</table>

“Our [OSR financial reporting] employees spend their time printing out reports from FRS and then data entering numbers into Excel. I would rather they spend more time analyzing the financial reports we send to sponsors.”

UNC OSR Employee

“Stimulus funding requires increased reporting. Typically govt. funding only requires annual reports. Stimulus funding requires quarterly reports”

UNC OSR Employee

“I have to bake in an extra 20 minutes of travel each time I have to attend a meeting. It wastes a lot of my time.”

UNC OCT Employee

Note: Growth rate of 3-5% represents year over year growth from FY ’04-’08
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## Challenges detail:
### Research Support & Compliance

### Sponsored Research Process: Concerns

<table>
<thead>
<tr>
<th>Process/Systems</th>
<th>Proposal Review &amp; Submission</th>
<th>Award Set-up</th>
<th>Life of Award</th>
<th>After Award</th>
</tr>
</thead>
</table>
| **1** Process/ Systems | • RAMSeS does not link to payroll system  
• No standard budget formats | • Account set-up process not automated  
• Subcontracting process can be slow | • Effort reporting not automated  
• Financial reporting and invoicing not automated  
• Clinical trial sponsors billed by department, not OCT or OSR | • Final financial reports not automated |

| Resources | • OCT is resource constrained  
• Limited expertise in international proposals | • OACU is resource constrained | • Research Compliance Group is resource constrained | • OTD is resource constrained |

| Structure | • Multiple offices associated with industry sponsored research  
• Some support offices have a few overlapping functions  
  - SPO and OSR  
  - ORD and OIC | • OSR’s pre and post award groups not well integrated, disrupting workflow |  |

| Space |  |  |  |

• Research support offices are scattered across campus

Note: This is the “typical” process. Actual process varies for each award; SPO = Sponsored Program Office; OSR = Office of Sponsored Research; OCT = Office of Clinical Trials; OIC = Office of Information & Communications; ORD = Office of Research Development; OACU = Office of Animal Care & Use; OTD = Office of Technology Development.

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## Potential options: Research Support & Compliance

<table>
<thead>
<tr>
<th>Description</th>
<th>Investment Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Add Automation</td>
<td>$500K-1.5M</td>
</tr>
<tr>
<td>2. Increase Resources</td>
<td>$750K-1M</td>
</tr>
<tr>
<td>3. Streamline Structure</td>
<td>Minimal investment</td>
</tr>
<tr>
<td>4. Co-locate Support Offices</td>
<td>Moving costs</td>
</tr>
</tbody>
</table>

- **Add Automation**: Add automation to key processes
- **Increase Resources**: Increase resources within research support and compliance areas
- **Streamline Structure**: Consolidate offices that conduct similar research support activities
- **Co-locate Support Offices**: Co-locate VCREd offices to one building

---

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### Research Support & Compliance option 1: Add automation

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
<th>Risks/Hurdles</th>
</tr>
</thead>
</table>
| • Hire contractors into Office of Research Information Systems (ORIS) to automate key processes that support research  
  - Pre Award:  
    ‣ Link RAMSeS to payroll system  
    ‣ Standardize and automate budgets  
  - Post Award  
    ‣ Account set-up*  
    ‣ Financial reporting  
    ‣ Effort reporting  
    ‣ Clinical Trial billing  
  
• In addition to (or instead of), consider purchasing “off the shelf” software for some of these systems  | • Systems enable faster throughput times and therefore an ability to handle higher volumes  
  - Decreases number of additional resources needed in research support areas  
  
• Standardization will improve accuracy and efficiency of processes  
  
• Allows resources to spend less time on data entry activities and more time on higher-value activities (e.g. data analysis, customer service)  
  
• Contractors can be hired more quickly and are temporary resources  | • Will need to do a second round of system integration with ERP  
  - However, learnings can be applied to help ease ERP transition  
  
• Temporary decline in productivity as employees are trained on new systems  
  
• Potential decrease in checking accuracy of data as processes are automated  
  
  - False assumption that data in system is always right |

### Investment required

<table>
<thead>
<tr>
<th>Contractors:</th>
<th>Software:</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-time cost of ~$500K</td>
<td>One-time cost of $500K-1.5M plus annual fees of ~$500K</td>
</tr>
</tbody>
</table>

*Note: Resources are already in place to automate account set-up.
## Research Support & Compliance option 2: Increase resources

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
</tr>
</thead>
</table>
| Hire additional 7-12 FTEs in select research support areas  
- Research Compliance Program (3-8 FTE)  
- Office of Animal Care and Use (~1 FTE)  
- Office of Technology Development (~1 FTE)  
- Office of Clinical Trials (~1 FTE)  
- Office of Information and Communications (~1 FTE)  
Shift OSR personnel focus in conjunction with OSR reorganization  
- Address current capability gaps in OSR (i.e. more strategy oriented roles instead of task oriented)  
- Position roles to directly interact with faculty and department administrators  
If Option 1 is selected, assess automation impact before adding resources in other research support areas | Ensures research support offices are properly resourced in order to:  
- Provide adequate support to researchers on campus  
- Meet increasing and changing compliance requirements  
- Promote programmatic and financial compliance |

### Risks/Hurdles

- Potential for over-hiring if significant resources are added before automation and process improvements in place

### Investment required

- ~$750K-1M in recurring costs

---

Note: ~1 FTE means part-time or shared resources could be used in some cases
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## Research Support & Compliance option 3: Streamline structure

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selectively restructure key research support areas. Options include:</td>
<td>3a Allows OSR employees to more effectively manage awards and provide higher service levels to campus</td>
</tr>
<tr>
<td><strong>3a</strong> Streamline OSR</td>
<td>3b Eliminates redundancies and inefficiencies</td>
</tr>
<tr>
<td>- Integrate OSR pre and post award groups</td>
<td>3c Provides better customer service to industry/commercial research sponsors</td>
</tr>
<tr>
<td>- Incorporate SPO activities into OSR</td>
<td></td>
</tr>
<tr>
<td><strong>3b</strong> Consolidate ORD and OIC</td>
<td></td>
</tr>
<tr>
<td>- Combine similar grant search and interdisciplinary research support activities</td>
<td></td>
</tr>
<tr>
<td><strong>3c</strong> Build explicit capabilities and focus on industry research</td>
<td></td>
</tr>
<tr>
<td>- Provide one point of contact for corporations to UNC</td>
<td></td>
</tr>
<tr>
<td>- Focus on attracting more industry research contracts &amp; grants</td>
<td></td>
</tr>
<tr>
<td>- Work with Development, OCT, OTD, and OSR to determine distinct roles and responsibilities of each office</td>
<td></td>
</tr>
</tbody>
</table>

### Risks/Hurdles

- Altering structure may be difficult due to historical, cultural, or political reasons
- Temporary confusion as campus is educated about new structure

---

Note: OSR = Office of Sponsored Research; SPO = Sponsored Program Office; ORD = Office of Research Development; OIC = Office of Information Communications; OCT = Office of Clinical Trials; OTD = Office of Technology Development

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## Research Support & Compliance option 4: Co-locate research support offices

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
<th>Risks/Hurdles</th>
</tr>
</thead>
</table>
| • Co-locate all research support offices into one campus building  
• May require dislocating current occupants of building | • Eliminates time wasted by staff traveling to meetings across and off campus  
• Decreases support staff needed, as all offices can share resources  
• Increases collaboration across research support offices including dissemination of best practices | • Moving may cause a slight, temporary disruption to normal operations |

### Investment required

• Space renovation  
• Moving costs

Note: Investment required to renovate existing space in Taylor Hall includes significant upgrades to HVAC, lavatories, drinking fountains, windows, and floors; Assumes may cost less to move to other space that has already been renovated  
Source: VCRED Memos, UNC Facilities Planning & Construction
Agenda: Option summaries

1. Organization structure
2. Procurement
3. Information Technology
4. Finance
5. Human Resources
6. Centers & Institutes
7. Research Support & Compliance
8. Energy Services
9. Facilities Services
10. Space Utilization
11. Other Options

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Overview: Energy Services

Situation

- Energy Services centrally provides utilities to the campus through a district energy system
- District energy efficiencies reduce campus utility expenses
- In 2002, Energy Services began an expansion phase and has since added capacity to support campus growth

Supporting evidence

- Savings are absorbed by annual utility budget adjustments (i.e., no lasting impact on UNC’s GISF)
- Expansion, in anticipation of new capacity needs, limits financial flexibility
  - High fixed costs
  - High debt service costs

Challenges

- Key questions
  - How can Energy Services best utilize current investments and minimize the need for further expansion?

Note: Utilities include electricity, steam, chilled water, potable water, sewage, and natural gas
Source: Energy Services financial reports

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### Potential options: Energy Services

<table>
<thead>
<tr>
<th>Description:</th>
<th>1. Decrease operating expenses</th>
<th>2. Reduce consumption</th>
<th>3. Change business model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Delivered coal costs are largest variable operating expense*</td>
<td>• Achieve NC goal by reducing consumption 18% by 2015</td>
<td>• Spin-off current Energy Services division as a 501(c)(3) that is separate from the university</td>
</tr>
<tr>
<td></td>
<td>• Expand rail capacity near cogeneration plant to enable larger coal deliveries</td>
<td>• Use performance contracts to modernize campus buildings with a focus on laboratories and control systems</td>
<td>• Retain current management and staff</td>
</tr>
<tr>
<td>Time to realize:</td>
<td>2-4 years</td>
<td>7-10 years per project</td>
<td>2-4 years</td>
</tr>
<tr>
<td>Upfront investment:</td>
<td>$3-4M</td>
<td>$100-150M over 7-10 years</td>
<td>Legal and logistical costs</td>
</tr>
<tr>
<td>Estimated annual value**:</td>
<td>$700K-1M</td>
<td>$10-15M</td>
<td>$500K-1M</td>
</tr>
</tbody>
</table>

Note: *Coal is UNC’s most cost effective fuel source; the cost to produce energy with Natural Gas is approximately twice that of coal (based on 2006 EIA data); **Option savings estimates are additive, no GISF savings because savings will roll back to the state in utility budget adjustments

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Energy Services option 1: Decrease operating expenses

Description

- Delivered coal, used to generate steam and electricity, is the largest variable OPEX
  - Coal prices are market driven
  - Transportation rates have grown 11% p.a. since FY04 and are above industry average
- Small 11-car deliveries, below industry average, are driving up delivery expenses
  - Expanding rail siding near the cogen plant will allow UNC to receive larger deliveries

Benefits

- Larger coal deliveries will not go through a switching station, which will expedite delivery, improve reliability, and reduce costs
- Larger deliveries will be easier to coordinate, reducing the amount of time UNC spends coordinating logistics
- Larger deliveries, and the necessary investment in rail siding, will be required if UNC switches from coal to biomass

Potential value

- Estimated upfront investment: $3M to $4M
- Estimated annual value: $0.7M to $1M
- Time to realize: 2 to 4 years

Risks/Hurdles

- UNC’s location and relatively small coal needs limit delivery options
- Rate savings may be phased in over the course of several years in the form of limited rate increases instead of a near-term rate reduction
- May be hidden costs associated with the construction of new siding capacity
  - Actual potential size of siding is currently being determined

Variable costs, FY08

- Purchased utilities
- Raw materials
- Delivered coal
- Commodity coal
- Services supplies

Source: Energy Services Consolidated Financial Statements; UNC subsidiary ledger data; NCDOT Rail Division; BNSF, CSX, NS, and UP annual reports
Energy Services option 2: Reduce consumption

**Description**
- Energy Management to aim for North Carolina goal and reduce energy consumption 18% by 2015
- Use vendor performance contracts to secure funding and guarantee results
- Focus on retrofitting labs and improving control systems

**Potential value**
- Estimated upfront investment: $100-150M over 7-10 yrs (underwritten by vendor)
- Estimated annual value: $10-15M
- Time to realize: 7-10 years per project

**Benefits**
- Energy conservation projects are self-liquidating and will help modernize the university campus
- Energy consultants estimate savings and underwrite loans, allowing UNC to complete projects with risk-free returns
- Performance contracts will not create a liability on UNC’s balance sheet
  - Will not contribute to UNC’s debt load
- Reduced consumption will limit the need to further expand the utility system, reducing Energy Services’ long-term debt load

**Risks/Hurdles**
- In the short-term, fixed costs may be spread over a smaller base of consumption, which could lead to higher utility rates despite lower total costs
- After the performance contracts are paid off, operating savings may be recouped by NC in the form of a lower utility budget

Note: Potential reduction based on lowering consumption in outlying buildings to type average
Source: Energy Management building statistics; EnergyStar.gov

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# Energy Services options 3: Change business model

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNC may be able to spin-off the current Energy Services division as a 501(c)(3) to increase operational flexibility</td>
<td>UNC debt load may be reduced</td>
</tr>
<tr>
<td></td>
<td>May help Energy Services improve their purchasing of goods and services</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Potential value</th>
<th>Risks/Hurdles</th>
</tr>
</thead>
<tbody>
<tr>
<td>There will be upfront legal and logistical cost to transition current operations</td>
<td>Transition from current operation to a 501(c)(3) will require extensive senior administration time and effort</td>
</tr>
<tr>
<td>Estimated annual value: $500K-1M</td>
<td>Appear to be limited financial benefits in the short-term</td>
</tr>
<tr>
<td>Time to realize: 2-4 years</td>
<td>Will create unease and tension within the workforce until specific plans are determined and communicated</td>
</tr>
</tbody>
</table>
Agenda: Option summaries

1. Organization structure
2. Procurement
3. Information Technology
4. Finance
5. Human Resources
6. Centers & Institutes
7. Research Support & Compliance
8. Energy Services
9. Facilities Services
10. Space Utilization
11. Other Options
Overview: Facilities Services

Situation

- Facilities Services has ~1,000 FTEs
- Expenditures have grown 8% p.a. since FY04, less than baseline growth of 9% p.a.*

Challenges

- Facilities Services has cut expenses and improved operations to serve a larger, growing campus
- Housekeeping has funding to provide less than APPA service level 3, “casual inattention,” and requires 40% more staff to provide historical standard of level 2, “ordinary tidiness”

Key questions

- How can Facilities Services maintain acceptable service to the university and further reduce spending?

Supporting evidence

Facilities Services expenditures

<table>
<thead>
<tr>
<th>Division</th>
<th>FY04</th>
<th>FY08</th>
<th>CAGR (04-08)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Ops</td>
<td>41</td>
<td>56</td>
<td>11%</td>
</tr>
<tr>
<td>Design &amp; Constr</td>
<td>41</td>
<td>56</td>
<td>0%</td>
</tr>
<tr>
<td>Grounds</td>
<td>41</td>
<td>56</td>
<td>14%</td>
</tr>
<tr>
<td>FS Div</td>
<td>41</td>
<td>56</td>
<td>3%</td>
</tr>
<tr>
<td>Housekeeping</td>
<td>41</td>
<td>56</td>
<td>11%</td>
</tr>
</tbody>
</table>

"Facilities Services has always been one of the first areas to make budget cuts."

UNC Administrator

Note: *Baseline growth consists of 4.8% p.a. growth of gross square footage and 4.2% p.a. LSI raises; APPA service levels depict a general state of cleanliness from spotless (1) to neglectful (5)

Source: APPA guidelines; Facilities Services org chart; UNC subsidiary ledger data

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# Potential options: Facilities Services

<table>
<thead>
<tr>
<th>Grounds</th>
<th>Building Services</th>
<th>Design &amp; Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reduce installation staff</strong></td>
<td><strong>Improve material purchasing and delivery</strong></td>
<td></td>
</tr>
<tr>
<td>• As the major capital campaign slows, Grounds Services eliminates positions created to install landscapes for new buildings</td>
<td>• Hire 4-6 FTE material runners to purchase and deliver materials to job sites, saving ~8-12 FTE of skilled job time</td>
<td></td>
</tr>
<tr>
<td>• Some installation staff will be maintained and others can be shifted to maintenance work</td>
<td>• Reduce vendor fragmentation to drive price savings and reduce complexity</td>
<td></td>
</tr>
<tr>
<td>• Grounds Services uses annual attrition to reduce installation staff</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time to realize:</th>
<th>Grounds</th>
<th>Building Services</th>
<th>Design &amp; Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-4 years</td>
<td>$150-250K</td>
<td>1-2 years</td>
<td>$1-1.5M</td>
</tr>
</tbody>
</table>

* Option savings estimates are additive

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Facilities Services option 1: Reduce installation staff

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
<th>Risks/Hurdles</th>
</tr>
</thead>
</table>
| • As the need for new landscapes in support of capital projects declines over the next several years, Grounds Services can reduce installation staff from 12 FTEs to 7 FTEs, retaining only non-capital project funded positions | • Avoid spending general institutional support funds on capital projects without lowering service levels | • Personnel that installed a landscape are often well suited and motivated to maintain the landscape
- Can mitigate by shifting personnel from the installation crew to a maintenance crew |
| • Remaining installation staff focus on recurring work, unrelated to capital projects | • Can be fully implemented through attrition | |
| • Reduce staffing levels through attrition
- Based on FY08 15% attrition rate | | • Personnel that installed a landscape are often well suited and motivated to maintain the landscape
- Can mitigate by shifting personnel from the installation crew to a maintenance crew |
| • Timeframe depends on the capital project schedule | | |

**Potential value**

- Estimate annual value: $150K to $250K
- Time to realize: 2 -4 years*

Note: *With current rate of attrition (~15%), Grounds Services could realize change within the year; Time to realize is limited by the continuing needs of capital projects
Source: Facilities Services interviews
Facilities Services option 2: Improve materials purchasing and delivery

Description

- Hire 4-6 material runners to purchase goods for multiple jobs and deliver directly to the skilled tradesmen
  - Replaces ~8-12 FTEs of skilled job time
- Material runners reduce the number of purchasers, which helps procurement consolidate spend with fewer vendors

Benefits

- Improve morale of the skilled tradesmen by allowing them to focus on their core tasks instead of picking up materials
- Drive more reliable service from a smaller pool of vendors
- Gain additional insights into spend when more purchases and data are centrally administered

Potential value

- Estimated annual value: $1-1.5M
- Time to realize: 1-2 years

Facilities Services material spend, FY08

<table>
<thead>
<tr>
<th># of vendors</th>
<th>250-500</th>
<th>100-250</th>
<th>50-100</th>
<th>10-50</th>
<th>Top 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNC-CH spend</td>
<td>$11.1M</td>
<td>~1,100</td>
<td>500+</td>
<td>19,384</td>
<td></td>
</tr>
</tbody>
</table>

Risks

- Lead time for material purchases is often less than a day for maintenance work and waiting for material runners may create idle job time
- May be resistance from skilled tradesmen that like selecting specific vendors and choosing particular brands
- In select instances, skilled tradesmen may spend significant time communicating specific material needs to runners

Note: Reducing vendor fragmentation by centralizing more purchases should produce similar 10% cost savings as the university-wide procurement initiative.

Source: Facilities Services purchase data
Agenda: Option summaries

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7. Research Support & Compliance
8. Energy Services
9. Facilities Services
10. Space Utilization
11. Other Options
Overview: Space Utilization

**Problem statement**
- Student FTEs increased 20% from 1997 to 2007
- Research expenditures increased by more than 270% from 1997 to 2007
- UNC has spent more than $1B in the past six years on capital projects to support university growth

**Supporting evidence**

<table>
<thead>
<tr>
<th>10-year space requirement (ASF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P&amp;A Guidelines</td>
</tr>
<tr>
<td>Current ratios</td>
</tr>
</tbody>
</table>

**Challenges**
- The number of students and classes are expected to grow
- Sense of ownership and lack of central scheduling limits UNC’s ability to efficiently schedule classes

**Key questions**
- How can UNC support expected university growth with the existing classroom space?

"The goal is not to have a zero space deficit based on the Paulien & Associates report, but just to address some of the compression issues around campus."

UNC Administrator

Note: ASF stands for Assignable Square Footage; 10-year growth assumes 5,000 additional students, constant graduate to undergraduate ratio

# Potential options: Space Utilization

<table>
<thead>
<tr>
<th>Description:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standardize class times</strong></td>
<td>• Schedule classes on standard start times to eliminate unusable gaps</td>
<td>• Increase classroom utilization to 75%-80% during peak hours (9am - 5pm)</td>
<td>• Increase classroom utilization to 35%-40% during off-peak hours (M-R, 8am &amp; 5pm - 9pm)</td>
<td>• Schedule classes in ~16 resident hall seminar classrooms that are currently under utilized</td>
</tr>
<tr>
<td><strong>Add’l students supported (FTE):</strong></td>
<td>840 – 1,680</td>
<td>1,400 – 2,800</td>
<td>740 – 1,480</td>
<td>180 – 360</td>
</tr>
</tbody>
</table>

Note: Class length includes time for students to transfer between classes. Only includes central campus schools (General College, Arts & Sciences, Education, SILS, Journalism, and Social Work). Operating savings include the cost of utilities, housekeeping, and maintenance. Capital savings is based on current classroom space requirements and an average of UNC construction costs.
Space Utilization option 1: Standardize class times

**Description**
- Standardize the start time and optimize the day of the week to avoid creating gaps in classroom schedules
- Registrar coordinates classroom schedules to ensure standardization

**Benefits**
- Avoid additional annual operating expenses
- Avoid additional short-term capital expansion costs
- Increase student course options by reducing the number of overlapping classes
- Reduce scheduling complexity

**Potential value**
- Potential additional students supported with current classrooms: 840 to 1,680
- Time to realize: 6-12 months

**Risks/Hurdles**
- Requires central coordination of schedules, which goes against the culture of departmental classroom control
- Certain scheduling requirements (e.g., lab prep time) may limit realization of option

![Graph showing classroom usage and potential value](image)

Note: Wasted classroom time only includes savings from those classes that could be moved (e.g., a class that meets 5 times a week cannot be rescheduled to only TR); analysis accounts for time required to switch classes; Only includes central campus schools (General College, Arts & Sciences, Education, SILS, Journalism, and Social Work)

Source: Student Academic Information Datamart, Office of the University Registrar

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Space Utilization option 2: Increase peak utilization

<table>
<thead>
<tr>
<th>Description</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>Push more classrooms to be “general purpose” to facilitate higher utilization during peak hours</td>
<td>Avoid additional annual operating expenses</td>
</tr>
<tr>
<td>Increase peak utilization 15%</td>
<td>Avoid additional short-term capital expansion costs</td>
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</table>

### Potential value

- Potential additional students supported with current classrooms: 1,400 to 2,800
- Time to realize: On-going

Peak classroom utilization by classroom type:

<table>
<thead>
<tr>
<th>Class start time</th>
<th>General Purpose</th>
<th>Departmental</th>
<th>Target 75-80% utilization</th>
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### Risks/Hurdles

- Requires central coordination of schedules, which goes against the culture of departmental classroom control
- May require departments to use classrooms outside of their traditionally defined space

Note: Only includes central campus schools (General College, Arts & Sciences, Education, SILS, Journalism, and Social Work)


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### Space Utilization option 3: Increase off-peak utilization

#### Description
- Push more classrooms to be “general purpose” to facilitate higher utilization during certain off-peak hours
- Increase off-peak utilization 8%

#### Benefits
- Avoid additional annual operating expenses
- Avoid additional short-term capital expansion costs
- Wider timeframe decreases the number of schedule overlaps that force students to choose between courses
- With more general purpose classrooms, the registrar will be able to better match class size to room occupancy

#### Potential value
- Potential additional students supported with current classrooms: 740 to 1,480
- Time to realize: On-going

Off-peak Mon-Thur classroom utilization by classroom type

![Graph showing off-peak classroom utilization](chart.png)

#### Risks/Hurdles
- Requires central coordination of schedules, which goes against the culture of departmental classroom control
- May require departments to use classrooms outside of their traditionally defined space
- Requires professors and students to be more flexible with their schedules

Note: Off-peak does not include Friday (evening classes less likely); only includes central campus schools (General College, Arts & Sciences, Education, SILS, Journalism, and Social Work)


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Space Utilization option 4: Utilize resident hall seminar space

Description

- ~16 classrooms attached to residence halls are currently underutilized and not included in the Paulien & Associates report
- Increase available classroom space 1.4% by increasing utilization of this space

Benefits

- Avoid additional annual operating expenses
- Avoid additional short-term capital expansion costs
- Classrooms are convenient for students living on-campus in or near those residence halls
- Resident hall classrooms are generally smaller and provide a good learning environment for seminar style classes

Potential value

- Potential additional students supported with current classrooms: 180 to 360
- Time to realize: 6-12 months

Unused resident hall seminar space (ASF)

- Cobb: 1,540 (0.56%)
- Horton: 684 (0.25%)
- Craig North: 678 (0.25%)
- Koury: 677 (0.25%)
- Hardin: 280 (0.10%)

Risks/Hurdles

- May take students more than 10 minutes to move between resident hall seminar space and main campus classrooms
- South grounds location may require professors to leave their traditionally defined space

Note: Resident hall seminar space shown here is not included in the Paulien & Associates report
Source: UNC plan room; Housing Department

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Agenda: Option summaries

1. Organization structure
2. Procurement
3. Information Technology
4. Finance
5. Human Resources
6. Centers & Institutes
7. Research Support & Compliance
8. Energy Services
9. Facilities Services
10. Space Utilization
11. Other Options
## Overview: Other options

<table>
<thead>
<tr>
<th>Document Imaging</th>
<th>Options</th>
<th>Potential benefits</th>
</tr>
</thead>
</table>
| - There are many large scanning projects  
  - One-time (e.g. fund authorities)  
  - Recurring (e.g. admissions transcripts, HR records)  
  - Scanning projects use slow machines and consume significant time of employees | 1. Create a centralized document imaging group within ITS, equipped with higher quality equipment  
2. Outsource large scanning jobs | - Likely >50% cost savings across all large scanning jobs  
- Allows employees to focus on higher value-add aspects of job |

<table>
<thead>
<tr>
<th>Development</th>
<th>Options</th>
<th>Potential benefits</th>
</tr>
</thead>
</table>
| - Redundant prospect/alumni databases exist within schools as a workaround to outdated central system  
- Distributed nature of prospect management leads to multiple points of contact  
- Gift processing is not automated and highly decentralized | 1a. Invest in modern donor management system  
1b. Better define roles and responsibilities of distributed and central Development  
1c. Centralize and automate gift processing functions | - Increases efficiency by improving systems and processes  
- Enhances donor experience and therefore potentially increases gift receipts |

<table>
<thead>
<tr>
<th>Library</th>
<th>Options</th>
<th>Potential benefits</th>
</tr>
</thead>
</table>
| - Some small branch libraries perform duplicate functions of central libraries | 1. Absorb smaller branch libraries into central libraries (as space for additional books becomes available) | - Frees branch library space for other university use  
- Provides economies of scale for library support functions |

<table>
<thead>
<tr>
<th>Compliance (Excluding Research Support)</th>
<th>Options</th>
<th>Potential benefits</th>
</tr>
</thead>
</table>
| - Govt. regulations are increasing/changing for a number of areas:  
  - Personal information/data security  
  - Health information privacy (HIPPA)  
  - Environmental, Health, & Safety  
  - Export Control | 1. Increase investment in internal controls and systems | - Ensures continued compliance with regulations  
- Minimizes UNC risk for legal consequences |

<table>
<thead>
<tr>
<th>Printing</th>
<th>Options</th>
<th>Potential benefits</th>
</tr>
</thead>
</table>
| - UNC departments source from external printing providers, but fail to account for full cost-to-serve  
  - Labor, shipping, etc.  
- UNC Printing Services offset presses are under-utilized | 1a. Transfer vendor knowledge and relationships into M&DS  
1b. Sunset current Printing Services group | - Cost savings of ~10% by better routing small print jobs to lowest cost vendors  
- Allows UNC to shed printing assets |
Discussion topics

• Project context

• Report overview

• Option summaries

• Next steps

• Appendix
Where do we go from here?

• Chancellor to lead selection of options
  - Align key stakeholders and university around which options to pursue and relative priority

• Establish program management, process and tools to lead and track change initiatives

• Identify and assign sponsors and owners for initiatives to drive change

• Bain has committed to return for a pro bono engagement to help measure progress of initiatives
Discussion topics

• Project context
• Report overview
• Option summaries
• Next steps

• Appendix
Procurement: After adjustments, opex totals $1.96B; $431M of Goods & Services in scope for diagnostic

UNC-CH FY08 cash expenses ($M)

Source: UNC subsidiary ledger data; Director, Financial Reporting & Management Services; Bain analysis
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Procurement: UNC spent $431M on Goods and Services in FY2008

UNC-CH Goods and Services spend (by fund source and object code)

Source: UNC subsidiary ledger

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Procurement: Accounts Payable database includes capital expenditures not considered Goods and Services

FY2008 Spend

$800M

686

-395

291

140

431

All spend

Non-G&S

G&S in AP data

Other G&S

Total G&S

Source: UNC Accounts Payable and General Ledger data
Note: first bar only includes “V” vendors

APPENDIX
Procurement: Analysis indicates there are opportunities both in process improvements and optimizing spend

In AP data alone, UNC made purchases from over 12K vendors in 2008

In addition, disbursement manually processed over 200K vouchers

And, cut checks for some vendors as frequently as 2-3 times per week

UNC-CH Accounts Payable (FY2008)

Top 100 vendors = 91% of spend

Source: UNC Accounts Payable; figures only include “V” vendors
### Procurement: Similar products are sourced from multiple vendors

**EX: SCIENTIFIC EQUIPMENT**

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<th>Vendor</th>
<th>Enzymes PCR &amp; Real Time PCR</th>
<th>PCR Plastics</th>
<th>Thermal Cyclers</th>
<th>Real Time PCR Instrument</th>
<th>DNA Analyzer</th>
<th>LC-MS</th>
<th>siRNA</th>
<th>miRNA</th>
<th>Microarray Instrument</th>
<th>Microarray Labeling</th>
<th>Sample Prep</th>
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</tbody>
</table>

**APPENDIX**

- X = Item purchased from vendor in FY08

Source: UNC Materials & Disbursement Services

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## Procurement: M&DS is focused on processing purchases

### Example responsibilities

<table>
<thead>
<tr>
<th>Demand Analysis</th>
<th>Supply Analysis</th>
<th>Strategy</th>
<th>Supplier Selection</th>
<th>Implementation</th>
<th>Purchasing</th>
<th>Logistics &amp; Disbursement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify baseline needs</td>
<td>Track supplier performance</td>
<td>Set policies and targets</td>
<td>Manage the “Best Value” selection process</td>
<td>Negotiate contract terms</td>
<td>Receipt of purchase orders &amp; check requests</td>
<td>Receiving dock</td>
</tr>
<tr>
<td>Determine ways to consolidate volume</td>
<td>Limit number of vendors</td>
<td>Convert to eCommerce</td>
<td>Mitigate risk by piloting</td>
<td></td>
<td>Verification</td>
<td>Warehousing</td>
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<td></td>
<td>Process RFPs</td>
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<td>Drivers</td>
</tr>
</tbody>
</table>

### Number of M&DS employees*

- **Procurement:**
  - M&DS is focused on processing purchases
  - Source: M&DS interviews
  - Employees included in all applicable categories, so sum of figures exceeds total M&DS FTEs

---

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IT: IT infrastructure is fragmented both across and within schools

Notes: Approximations shown here are intended to be an estimate only, and may not reflect total server counts in each area; “Other” includes Nursing, Dentistry, Pharmacy, Gov’t, SILS, Journalism, Education, Social Work, Law, Business, student affairs, libraries
Source: UNC IT Infrastructure Survey; UNC interviews
All observations contained in this document are for discussion purposes only. This information was prepared solely for the use of the University of North Carolina at Chapel Hill; it is not to be relied on by any 3rd party.
IT: Many schools support their own solutions for core IT services

% of respondents running own solution

<table>
<thead>
<tr>
<th>Service</th>
<th>% of Respondents Running Own Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Server</td>
<td>88%</td>
</tr>
<tr>
<td>Database</td>
<td>88%</td>
</tr>
<tr>
<td>Active Directory*</td>
<td>60%</td>
</tr>
<tr>
<td>Mail Server</td>
<td>41%</td>
</tr>
</tbody>
</table>

Minimum count of unique solutions:

- Web Server: 5
- Database: 5
- Active Directory*: 1
- Mail Server: 2

Note: Active Directory share refers to schools/areas that manage their own domain, not an actual 'forest'; in some instances (e.g. School of Gov't mail server) these services are in the process of being transferred to ITS.

Source: UNC IT Infrastructure Survey, n=17

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IT: Distributed support personnel often are not able to spend enough time on core activities

% of time spent on core activities

- 100% Low-value or redundant activities
- 100% Core and/or strategic IT tasks

“I’m duplicating some of what everyone else is doing. We’re doing some of the software or some of the desktop imaging...it changes from place to place.”

UNC IT personnel

“There are plenty of things I do, like maintain email and web server, that I would love for ITS to do for me ... then I can spend more time focused on value-added services for my department...”

UNC IT personnel

“The organization is so spread out, and we don’t know where everyone is...I don’t always really know who my customer is.”

UNC IT personnel

Note: IT n=36,
Source: UNC employee focus groups
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**IT**: Schools and divisions have not shown a consistent ability to realize scale benefits.

Notes: Excludes CIO, VC R&ED
Source: HR payroll database; Bain analysis
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Finance: Distributed support personnel often are not able to spend enough time on core activities

% of time spent on core Finance activities

0
25
50
75
100%

Low-value or redundant tasks

Core finance tasks

“A lot of non-core, administrative tasks have been pushed down to us in the departments from central finance offices…”

UNC Business Manager

“There are so many different kinds of accounts and so many different budgets set up on an account...if my chair wants to know how much is in his personal research account, it’s going to take me a couple hours to tell him…”

UNC Business manager

“Gathering reports from multiple systems requires a huge amount of time...a lot of time is spent checking and re-checking to gain a mild sense of confidence in the reporting.”

UNC Business manager

Note: n=14
Source: UNC employee focus groups
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Finance: Process inefficiencies result in paper forms, redundant feedback loops, and wasted time.

Check Requests

Lab technician/ PI
- Decides to purchase lab equipment
- Place order (General Order Form requires K number)
- Receive item, packing slip, invoice
- PI reviews and signs check request

Admin. Assistant
- Obtain check request number (K number)
- Check request prepared and printed
- Approved request sent to account tech.

Account Technician
- Verify request (right documents, sufficient balance, etc.)
- ok? Yes
- More action required
- No

Business Manager
- Approval required
- ok? Yes
- No

Approval loops, excessive communication drive inefficiency, even within departments/schools.

Source: UNC Interviews
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Finance: Schools and divisions have not shown a consistent ability to realize scale benefits

Notes: Excludes VC Finance, VC R&ED, Athletics
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## Finance: System upgrades may help facilitate shift from task-oriented to strategy-oriented personnel

<table>
<thead>
<tr>
<th>Strategic planning</th>
<th>Task: Consolidating initial balances from disparate systems</th>
<th>Self-service: General comprehension of fund sources &amp; account management</th>
<th>Distributed finance</th>
<th>Consolidated finance group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel actions</td>
<td>Task: Analyzing &amp; forecasting spend; allocating revenue</td>
<td>Task: Effort allocation and benefit implications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transactional finance</td>
<td>Task: Pay raises (ARP, LSI, off-cycle)</td>
<td>Task: Pay raises (ARP, LSI, off-cycle)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Task: Check requests, purchase orders, travel reimbursement, etc.</td>
<td>Task: Consolidating initial balances from disparate systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Task: Generating reports on current balance, transaction history, etc.</td>
<td>Task: Pay raises (ARP, LSI, off-cycle)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: UNC interviews

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HR: Distributed support personnel often are not able to spend enough time on core activities

"It seems that *70% of my actions are work-arounds* from the way the system was originally designed to work...*if the system was actually designed to work we wouldn’t have to spend so much time...*"

UNC HR Facilitator

"My job is *not really all that hard*...but it is *incredibly complicated.*"

UNC HR Facilitator

"I find that bureaucracy and our systems prevent us from being a workplace of choice. It really *prevents us from doing what we should do...*"

UNC HR Facilitator

Note: N=20
Source: UNC employee focus groups
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HR: Processes often drive excess work for distributed personnel

In-school workarounds cannot address root process inefficiency

Source: UNC interviews
HR: Schools and divisions have not shown a consistent ability to realize scale benefits

Notes: Excludes OHR
Source: HR payroll database; Bain analysis
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C&I: There are a large number of small C&Is – many have their own support staff

Number of Centers & Institutes

<table>
<thead>
<tr>
<th>FTEs at Center/Institute</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10</td>
<td>54</td>
</tr>
<tr>
<td>10-50</td>
<td>32</td>
</tr>
<tr>
<td>51-100</td>
<td>9</td>
</tr>
<tr>
<td>&gt;100</td>
<td>3</td>
</tr>
</tbody>
</table>

UNC-CH Centers & Institutes

- Non-Support Staff: ~2,500
- Admin Support (incl HR): ~$22M
- IT: ~$22M
- Finance: ~$22M

Note: Represents 98 C&I; Left chart values extrapolated to the full 110 C&I. Assumed the remaining 12 C&I had on average 15 FTE, with a distribution of roles similar to the 98 with data. Assumes average salary for Finance is ~$45K; IT is ~$60K; Admin is ~$34K; Excludes temporary and student employees. Excludes faculty with a non-center/institute “home department” listed in payroll database. Source: UNC Payroll Database, C&I Websites

APPENDIX
C&I: Creating state fund targets could drive as much as $14-53M of savings

UNC Centers & Institutes, % State Funds

- Within Schools: 12% (Represents 43 C&I, $25.2M)
- Pan-University Research: 23% (Represents 15 C&I, $31.6M)
- Pan-University Instructional & Service: 39% (Represents 16 C&I, $9.4M)

Total State Funds = $66.2M

Sample Target (% State Funds)
- 0-10%
- 5-10%
- 25-30% Total Savings = $14-53M

Savings for reaching Sample Target
- $4-25M
- $8-24M
- $2-4M

Exchanging State Funds for Contract & Grants could also provide up to ~$20M in F&A for entire university

Note: Represents 74 C&I; F&A estimates assume C&I backfill all state $ with Contracts & Grants that have a 48% F&A Rate; Excludes Friday Center for Continuing Education
Source: UNC Center & Institute Data; Ledger Data

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Research Support & Compliance: Research is one of three core components of UNC’s mission

UNC-CH Sponsored Research Awards

- **$678M**
- Federal
- Other Govt
- State of NC
- Industry
- Foundations
- Non-Profit

FY 2008

Sponsored Research

- ~4,000 sponsored research projects
- Average award size: $180K

Compliance

- 44,500 effort reports
- 12,000 financial reports
- 9,000 IRB submissions
- 1,350 IACUC submissions
- 1,000 laboratory safety inspections

Note: IRB = Institutional Review Board (review research protocols involving human subjects), not all IRB applications are for sponsored research; IACUC = Institutional Animal Care & Use Committee (review research protocols involving animal subjects); Compliance values are approximate

Source: OSR Annual Report; RAMSeS; UNC Departments

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Research Support & Compliance: Sponsored funding has increased 4% year-over-year for the past 5 years

UNC-CH Sponsored Research Awards

Note: CAGR = Compound Annual Growth Rate
Source: OSR Annual Report

APPENDIX

CAGR
'04-'08

4.1%
**Research Support & Compliance: UNC is receiving less funding from industry sources than peers**

<table>
<thead>
<tr>
<th>UNC</th>
<th>Overall Funding</th>
<th>Federal Funding</th>
<th>NIH Funding</th>
<th>Industry Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNC</td>
<td>27</td>
<td>19</td>
<td>11</td>
<td>84</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Peer Schools</th>
<th>Overall</th>
<th>Federal</th>
<th>NIH</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johns Hopkins</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>U of WI, Madison</td>
<td>3</td>
<td>17</td>
<td>17</td>
<td>28</td>
</tr>
<tr>
<td>UCLA</td>
<td>4</td>
<td>5</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>U of Michigan</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Ohio State U</td>
<td>9</td>
<td>33</td>
<td>38</td>
<td>2</td>
</tr>
<tr>
<td>U. of Florida</td>
<td>17</td>
<td>44</td>
<td>49</td>
<td>19</td>
</tr>
<tr>
<td>UC Berkeley</td>
<td>20</td>
<td>34</td>
<td>47</td>
<td>27</td>
</tr>
<tr>
<td>U of IL – Urbana-Champaign</td>
<td>28</td>
<td>36</td>
<td>69</td>
<td>58</td>
</tr>
<tr>
<td>U of TX – Austin</td>
<td>32</td>
<td>54</td>
<td>75</td>
<td>17</td>
</tr>
<tr>
<td>Emory</td>
<td>37</td>
<td>28</td>
<td>18</td>
<td>99</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Triangle Area Schools</th>
<th>Overall</th>
<th>Federal</th>
<th>NIH</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duke</td>
<td>7</td>
<td>6</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>NC State</td>
<td>53</td>
<td>88</td>
<td>142</td>
<td>13</td>
</tr>
</tbody>
</table>

Note: Overall, Federal and Industry based on R&D expenditures; NIH based on grants awarded.
Source: NSF Science Research Statistics (Overall, Federal, Industry); NIH.

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Research Support & Compliance: Location of research support offices

Central Campus

Office Locations

1. South Building
   - VCRED Office
2. Bynum Hall
   - OTD
   - Federal Affairs
   - OIC
3. Bank of America Building
   - ORIS
   - ORD
   - Research Compliance Program
4. Carrington
   - OHRE
5. Bioinformatics
   - SPO
   - OACU
6. Medical School Building #52
   - OHRE

Off Campus

- Administrative Office Building (~2 mi. away)
  - OSR

Note: Excludes animal care facilities and Office of Postdoctoral Research and Office of Economic and Business Development; VCRED = Vice Chancellor Research & Economic Development; OTD = Office of Technology Development; OIC = Office of Information Communications; ORIS = Office of Research Information Systems; ORD = Office of Research Development; OHRE = Office of Human Research Ethics; SPO = Sponsored Program Office; OACU = Office of Animal Care & Use; OSR = Office of Sponsored Research

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Facilities Services: Limited opportunity to further reduce Housekeeping service levels

FTEs required by APPA service level

APPAN Custodial Service Levels

1: Orderly spotlessness
2: Ordinary tidiness
3: Casual inattention
4: Moderate dinginess
5: Unkempt neglect

Current FTEs

<table>
<thead>
<tr>
<th>Area</th>
<th>FTEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>268</td>
</tr>
<tr>
<td>Laboratory</td>
<td>195</td>
</tr>
<tr>
<td>Public space</td>
<td>162</td>
</tr>
<tr>
<td>Bathroom</td>
<td>89</td>
</tr>
<tr>
<td>Classroom</td>
<td>63</td>
</tr>
<tr>
<td>Patient care</td>
<td>23</td>
</tr>
<tr>
<td>Gymnasium</td>
<td>33</td>
</tr>
<tr>
<td>Library</td>
<td>24</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
</tr>
</tbody>
</table>

Total = 340

Note: *Offices are maintained at a standard slightly above level 4, which requires 54 FTEs. FTE numbers includes recent FY09 reductions; APPA service levels depict a general state of cleanliness from spotless (1) to neglectful (5); does not include 87 FTEs supporting Housing.

Source: APPA Custodial Staffing Guidelines for Educational Facilities; Facilities Services org chart; Facilities Services space data.

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