Infrastructure Task Force

Executive Summary

In our ambitions to develop as an institution as articulated in Realizing UB2020, we understand that changes to our infrastructure - the core functions that support our university - can dramatically influence our level of success. To be the institution we aspire to be we realize that we must have campus environments of which we are proud; be a place to work that fosters inquiry and professional growth; be a university that offers advanced technological capacity; and be student/customer focused in all facets of our enterprise. All of these areas help to define the UB experience.

Our Task Force was charged with identifying important initiatives to serve and support the academic mission, vision and priorities of the university. All initiatives will advance our ambition towards operational excellence, cultivate a culture of innovation, and integrate efforts across all of our organizations toward a common purpose. The criteria for these initiatives were:

- They must align and integrate with the academic priorities of the university;
- They must serve to build and maintain the capacity of the university to achieve the goals of Realizing UB2020- and in a cost-effective manner;
- They must result in organizational and service models that are effective, efficient, flexible and sustainable;
- They must create, enhance and perpetuate a university that is a learning organization where creativity, innovation and professional development are encouraged and rewarded;
- They must demonstrate us to be wise stewards of public funds, the public’s trust and the environment.

The Infrastructure Task Force is composed of the following members:

1. Laura Hubbard, Vice President for Finance and Administration
2. Dennis Black, Vice President for University Life and Services
3. Liesl Folks, Dean, School of Engineering and Applied Sciences
4. Michael Glick, Dean, School of Dental Medicine
5. Robert Shibley, Dean, School of Architecture and Planning and Campus Architect
6. Scott Weber, Senior Vice Provost for Academic Affairs
7. Brice Bible, Chief Information Officer
8. Thomas Furlani, Director, Center for Computational Research
9. Austin Booth, Vice Provost for University Libraries
10. Kenneth Tramposch, Associate Vice President for Research and Economic Development
Our Task Force was divided into four distinct areas of interest: Campus Environment, Employee Development, Information Technology and Service Models. Each of these groups was led by members of the Task Force with expertise and interest in the particular area. All of the recommendations made were based on a thorough understanding of our current operational practices and a study of best practices of our peers. They range in their scope from modest to ambitious. Some will require significant expenditure while others will require little financial investment. All are recommended because they will make UB a better place in which to learn, live and work. These initiatives were ranked in order of priority and their potential impact on our university.

**Campus Environment**  
*Leadership: Laura Hubbard and Robert Shibley. Staff member: Kelly Hayes McAlonie*  
The Campus Environment committee was interested in identifying strategies that will result in our UB community experiencing our buildings and grounds with pride. A series of decision making processes were recommended that will provide a completely transparent vehicle to improve and maximize the efficient use of our assets. Our capital plan was also evaluated and recommendations were made on the impact these projects will have on our three campuses. Initiatives that promote volunteerism and community engagement, such as a “University Day” were also identified.

**Employee Development**  
*Leadership: Liesl Folks. Staff members: Kelli Hennessy, Sue Krzystofiak, Jeff Reed*  
The Employee Development committee sought to identify opportunities for consistent professional development and satisfaction throughout the UB community. Proposed initiatives encourage the development of strategies that connect the employee’s professional goals to the mission of their unit and that create a culture of inquiry and lifelong learning among faculty and staff.

**Information Technology**  
*Leadership: Brice Bible and Tom Furlani. Staff member: Nancy Kielar*  
In keeping with the mission of Realizing UB2020, the IT committee explored and proposed initiatives that would advance the learning experience at UB and provide better opportunities for collaboration with our university and with other institutions. Some initiatives are required for us to simply offer capabilities on par with other institutions while others will enable us to far exceed those of our peers.

**Service Models**  
*Leadership: Dennis Black and Austin Booth. Staff member: Laura Barnum*  
The Service Models committee explored a vast array of our service units and recommended processes and plans that would encourage better collaboration between these units while improving the UB experience for students, faculty, visitor and staff and improve our effectiveness, our service and our efficiency.
## CAMPUS ENVIRONMENT: RECOMMENDATIONS/IMPACTS

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## EMPLOYEE DEVELOPMENT: RECOMMENDATIONS/IMPACTS

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<tbody>
<tr>
<td>1. Annual campus-wide goal setting and performance assessment</td>
<td>12 months</td>
<td>low</td>
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<td>2. Establish a campus-wide specialist staff pool</td>
<td>12 months</td>
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<tr>
<td>3. Achieve paperless HR operations by 2015</td>
<td>12 months</td>
<td>medium</td>
<td>low</td>
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<td>4. Create a culture that values continuous learning</td>
<td>24 months</td>
<td>low</td>
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<tr>
<td>1. Deploy Emergency Notification Systems that will enable communication with the campus in the event of an emergency</td>
<td>high</td>
<td>high</td>
<td>medium</td>
<td>low</td>
<td></td>
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<tr>
<td>2. Extending campus ability to provide analytics across structured and un-structured data sources</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
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<td>3. Provide for Capacity Expansion and Equipment Refresh in the Core Data Centers</td>
<td>high</td>
<td>high</td>
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<td>4. Transform our classroom audio and video facilities</td>
<td>high</td>
<td>high</td>
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<tr>
<td>5. Install conduit pathway and fiber cable between buildings to enable the construction of data communications networks</td>
<td>high</td>
<td>medium</td>
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<tr>
<td>6. Implement a mobile strategy that embraces the mobile mind-set, while executing in a manner that is nimble, scalable, and aligned with best business practices</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
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<tr>
<td>7. Refresh and enhance video conferencing and video content distribution equipment and services</td>
<td>high</td>
<td>high</td>
<td>medium</td>
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<tr>
<td>8. Fully utilize/deploy the enterprise license for Perceptive’s Nolij/Image Now document management software transforming UB’s business processes. This requires business process re-engineering at both the local department and cross departmental/campus wide levels</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
<td>medium</td>
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<tr>
<td>9. Move task oriented workers to desktop as a service infrastructure thereby reducing desktop support costs across the institution and enabling standardization</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
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<tr>
<td>10. Update the learning management infrastructure to allow for mash ups with student information systems, social media, e-learning and student centric adaptive learning</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
<td>high</td>
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<tr>
<td>11. Provide research IT services and support for faculty across the Institution including SUNY-wide cluster service (condo), self-service cloud computing, and research IT support</td>
<td>medium</td>
<td>medium</td>
<td>medium</td>
<td>medium</td>
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<tr>
<td>12. Unify and improve business processes for end user support across campus through the implementation of ITIL processes across all information technology support providers on campus</td>
<td>high</td>
<td>medium</td>
<td>high</td>
<td>medium</td>
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<tr>
<td>13. Refresh the data communications network infrastructure to maintain a reliable and robust infrastructure</td>
<td>high</td>
<td>high</td>
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<tr>
<td>14. Provide robust WiFi wireless coverage for the campus</td>
<td>high</td>
<td>high</td>
<td>medium</td>
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<tr>
<td>15. Offer the UB*WiFi service on the UB buses that travel in between campuses as well as the major bus shelters.</td>
<td>low</td>
<td>low</td>
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### SERVICE MODELS: RECOMMENDATIONS/IMPACTS

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<tr>
<td>1. Assess campus readiness</td>
<td>Medium</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>1</td>
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<tr>
<td>2. Engage an outside consultant</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>3</td>
</tr>
<tr>
<td>3. Review successes and challenges of current and completed UB service transformation projects</td>
<td>Medium</td>
<td>Low</td>
<td>High</td>
<td>Medium</td>
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<tr>
<td>4. Establish strategic intent/focus area(s) for continued development</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>1</td>
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<tr>
<td>5. Update inventory/assessment of current service landscape</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>2</td>
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<tr>
<td>6. Review national and international trends in higher education service model transformation</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
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<td>2</td>
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<tr>
<td>7. Implement recommendations from UB-Buffalo State shared service report</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
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<tr>
<td>8. Develop pilot/proof-of-concept service model transformation initiatives</td>
<td>Medium</td>
<td>Low</td>
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<td>9. Establish project principles</td>
<td>Medium</td>
<td>Low</td>
<td>High</td>
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<td>10. Create and implement a University-wide continuous improvement initiative</td>
<td>Medium</td>
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In our ambitions to develop a community of excellence at the University at Buffalo, one of the fundamental changes that our institute will need to address is our attitude towards our campus environment. Attracting the best faculty, students and staff will require a campus environment that rivals our peers in the AAU, many of whom have mature and established campuses cultivated over generations. Of the four objectives stated in Realizing UB2020, all of them will be impacted by the quality of our architecture and landscapes.

The Infrastructure Task Force for the Campus Environment was charged with the following:

- Recommend and review proposed space management and utilization policies needed to advance the priorities of Realizing UB2020.

- Review university-wide space management studies and capital plans and recommend investments needed to advance priorities of realizing UB2020.

As we develop processes around our space utilization and the development of our capital plan, we must ensure that our entire UB community has had the opportunity to review or participate in decision making. As such, we will create transparent processes that allow us all to understand future plans for our campus environment. The following recommendations will address our space management and utilization needs as well as identify priorities and immediate opportunities for UB which are consistent with our UB Comprehensive Plan, completed in 2010 and our SUNY Facilities Master Plan from 2011.
## Task Force Recommendations

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Recommended Space Management and Utilization Policies

The University must continue to evaluate our enrollment, launch new programs and promote new research to maintain our vitality and realize our ambitions.

Given the financial realities impacting our ability to build new space to meet current and future growth needs, it is critical that, in addition to building new space, we make better use of the space that we have.

We should identify funding for projects and clarify who is responsible for the cost of maintenance.

All process must be completely transparent to ensure that the UB community is invested in our investments.
Recommendation: **Implement disciplines to improve utilization**

*These disciplines will allow us also to improve the quality of our existing space, enhancing our campus experience. Drawing from peer academic research institutions practices, the following recommendations will provide us with the mechanisms to improve our effective use of space.*

**Utilization measurement dashboard:**

The University purchased X-25, which is software to manage classroom utilization but the software is currently not in use.

We should either implement this software or identify other software for the utilization of classrooms, offices, administration space, teaching and research labs.

This software will cross reference space use with other utilization criteria yet to be developed:

i. Research labs: grant funding
ii. Office space: mission, accreditation, Realizing UB2020, teaching function
iii. Teaching Space: hours of usage, room capacity
Develop space standards and a space management policy:
Update our current space standards based on peer review data and expert advice as recommended through our Facilities Master Plan. In addition, we should identify under performing space and establish expectations and opportunities to reach target utilization standards.

Create unit-level incentives for adhering to allocation targets:
Develop incentives for Schools, Colleges and Units to surrender unneeded space and penalties for maintaining under utilized space.

Develop central space banks:
Provide a loan fund for space modernization and scheduling clearinghouse to increase utilization. This will be funded by the UB Administration. It will provide us the ability to target capital investments to renovate and return under performing, under utilized space to a higher productivity use and improve the quality of our space incrementally.
Define University-Owned criteria:
The University will clearly define that all space is University owned and how it should be controlled by the Administration. This will provide guiding principles for utilization, capital expenditures and avoid potential conflicts over space ownership.

Encourage flexible, shared and collaborative space:
One of the signature aspirations of Realizing UB2020 is the development of communities of excellence themes; Humanity, Justice, Innovation, Environment and Health. Implementing and advancing these communities will depend partly on our ability to encourage interdisciplinary collaboration. We can facilitate this collaboration through our campus environment by providing flexible work space environments, multi-purpose learning spaces and shared research space. Encouraging units to share high quality collaborative space as opposed to owning poorly designed and utilized space will be a priority.
Recommendation: **Rehabilitation Process audit/review**

While we have added several new buildings to our campuses, we have a stable of buildings with spaces and systems that have reached the end of their useful lives.

The goal of audit/review of our existing rehabilitation process is to identify opportunities to conduct our design and construction work more effectively within the context of our fiscal constraints.

The following are issues that should be addressed in the study:

a. Parameters to determine scope of renovations in terms of time of occupancy, etc.

b. Sign-off process and scope

c. Ratify the existing small-cap renovation process or establish a new one that is more time and cost efficient

d. Identify funding for projects and who is responsible for the cost of maintenance
Recommendation: Revive Space Management Committees

UB has several committees that are responsible for assisting in the management of learning environments and space management.

They act as liaisons between the Administration, Capital Planning Group and Facilities Planning & Design and the units they represent.

They also assist in the development of the rehab projects within their units and/or their areas of expertise.

These groups have not been active for the past year and it is recommended that they be engaged and participate in future space planning and management.
The following are the two space management committees which should be revived:

**Facility Planning Management Officers (FPMO’s)**
Responsibilities include:
  i. Internal space assignments
  ii. Unit liaison for capital and rehab projects
  iii. Unit liaison for off-campus leases
  iv. Inter-unit space negotiator
  v. Assist in space audit

**Instructional Facilities Subcommittee**
Responsibilities include:
  i. Work with CPG/FP&D to develop list for classrooms for renovations
  ii. Develop instructional support standards for classrooms
Recommendation: Develop and Implement Design Standards:

As we seek to improve our campus environment and grow our three campuses, defining design standards for our buildings and landscapes provides us with the vehicle to document our lessons learned and to establish a separate identity and architectural vocabulary for each campus.

The design standards should build on the context of each campus, be consistent or sympathetic with the materials currently used in the existing buildings and be appropriate for the academic programs offered.
Ratify the Design Forum

The Design Forum was formed in 2010 by the Campus Architect to act as an advisory board for all design matters related to the campus environment.

The Design Forum is led by the Campus Architect.

The current members are directors/associate directors of the Capital Planning Group and Facilities Planning & Design.

A committee whose main priority is enriching the quality of our campus environment is critical to ensuring that our design standards are raised and maintained.

Careful consideration should be given to the members of this committee and it should be ratified as a vital component of our Campus Environment Team.
A vital aspect of our campus environment is our landscapes. We are blessed with significant land holdings, in particular on North and South Campuses.

To ensure that we maximize the impact of these assets, we should maintain a land use policy and a decision making process that considers the campus experience, development opportunities such as Start-Up NY, our long-range master plans, opportunities for experiential learning and research that advances the mission of our institution.

Recommendation: Develop land use policy and decision making process:
In addition, we should develop opportunities for the university community to participate in the enhancement of our landscapes such as:

**Stewardship agenda:**
With the Director of Sustainability and the Environment Stewardship Committee, identify opportunities for sustainable gardens and other maintenance processes that will improve our impact on our environmental resources as well as other opportunities to preserve our land assets.

**“University Day”**
Implement a “University Day” for volunteer campus cleanup and landscape improvements.
Recommendation:  Revive Planning Board

Drawing from peer academic research institutions practices, reviving the University Capital Planning Committee will provide us with the mechanisms to make thoughtful decisions on capital investments. The committee membership should be agreed upon by the University President, Provost and VP, Finance and Administration.

MEMBERSHIP

Provost and Executive Vice President for Academic Affairs
Vice President, Finance and Administration
Vice President, University Life and Services
Vice President, Health Sciences
Vice President, Research and Economic Development
President’s Chief of Staff / Government Relations

Staff Representation

University Facilities
Resource Planning
Academic Planning, Budget, and Evaluation

Advisor

Campus Architect
CHARGE
The University Capital Planning Committee is appointed by the President to guide long-range campus development, including buildings, land use, landscape, and all forms of capital infrastructure; to guide the strategic efforts required to implement the comprehensive physical master plan; and to review and advise on policies related to capital and space development and management. The Committee works as an internal team and together with external partners as necessary to achieve the full potential of the university’s capital plans. The Committee oversees all physical development of campus land holdings and participates as appropriate in the planning and execution of capital development initiatives conducted by affiliated entities and related programs (the Dormitory Income Fund Reimbursable Program (DIFR), the University at Buffalo Foundation (UBF), the Research Foundation (RF), University at Buffalo Associates, Inc. (UBA), Faculty Student Association (FSA), the Buffalo 2020 Development Corporation, etc. and other entities that we may form or affiliate with in the future) that have impact on the university’s effort to achieve its strategic goals and objectives.
The Committee will coordinate, evaluate and advise in affiliate capital initiatives to ensure that they are consistent with the objectives of UB’s master plan. All capital development work conducted by UB will be managed consistent with the policies and processes established by the Committee.

The Committee will:

1. Make recommendations regarding the university’s one-, five- and 10-year capital plans and priorities and regarding the vision, policies, processes and funding plans that ensure effective capital plan implementation.
2. Decide upon major policy and project action recommendations made by project teams to the Committee. Board decisions are the required formal steps to be taken to ensure that major plan actions occur.
3. Receive regular updates on capital plan implementation and facilitate continuous improvement activities by assessing policies and processes that best advance the university’s capital plans.
4. Advise on communication plans for capital plan implementation to internal and external groups in a regular and transparent manner.
SCOPE OF WORK
The Committee has five ongoing tasks. These tasks should be conducted in a principled, yet flexible manner to ensure maximum productivity in the implementation effort.

- Review and recommend for Presidential approval, capital spending plans for 1, 3 and 5 years in duration. These plans would identify approved budget sources and spending levels for all projects in and across each major capital spending budget category including those many likely projects that will be funded from a blend of these sources:
  - State University Construction Fund (SUCF)/State University of New York (SUNY) Funded Initiatives
    - Critical Maintenance (CM)
      - Maintenance and Repair
      - CM only
# IMPACTS - RECOMMENDED PLANNING STUDIES

<table>
<thead>
<tr>
<th>Recommended Planning Studies</th>
<th>Time</th>
<th>Cost</th>
<th>Complexity</th>
<th>Overall Impact</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. South Campus Relocation Plan</td>
<td>medium</td>
<td>low</td>
<td>high</td>
<td>medium</td>
<td>1</td>
</tr>
<tr>
<td>2. Academic Space Utilization</td>
<td>medium</td>
<td>medium</td>
<td>high</td>
<td>medium</td>
<td>1</td>
</tr>
<tr>
<td>3. Graduate School of Education &amp; School of Social Work Master Plan</td>
<td>medium</td>
<td>low</td>
<td>medium</td>
<td>medium</td>
<td>1</td>
</tr>
<tr>
<td>4. School of Management Master Plan</td>
<td>medium</td>
<td>low</td>
<td>low</td>
<td>low</td>
<td>1</td>
</tr>
<tr>
<td>5. Non-Academic Space Utilization</td>
<td>high</td>
<td>low</td>
<td>high</td>
<td>medium</td>
<td>1</td>
</tr>
<tr>
<td>6. Learning Landscapes / Faculty Commons</td>
<td>low</td>
<td>low</td>
<td>high</td>
<td>medium</td>
<td>3</td>
</tr>
<tr>
<td>7. College of Arts and Sciences Master Plan</td>
<td>medium</td>
<td>low</td>
<td>medium</td>
<td>medium</td>
<td>2</td>
</tr>
<tr>
<td>8. Baldy Hall Office Design</td>
<td>low</td>
<td>low</td>
<td>medium</td>
<td>low</td>
<td>3</td>
</tr>
<tr>
<td>9. Ellicott Complex Master Plan</td>
<td>low</td>
<td>low</td>
<td>medium</td>
<td>low</td>
<td>3</td>
</tr>
<tr>
<td>10. Lab Animal Facilities Study</td>
<td>low</td>
<td>low</td>
<td>medium</td>
<td>low</td>
<td>2</td>
</tr>
</tbody>
</table>
## Recommended Capital Projects

### Townsend Hall/Parker Hall

Renovating both Townsend Hall and Parker Hall will provide space for both the School of Social Work and the Graduate School of Education on South Campus. Townsend Hall has been vacant since the mid 1980's and after this renovation will be able to service our space needs. Parker Hall is in need of a full building renovation, which includes demolishing the existing high bay additions and adding a new rear addition to accommodate the two new programs, and decommissioning the existing cyclotron.

<table>
<thead>
<tr>
<th>Scope</th>
<th>Renovation of both buildings, plus 70,000 GSF addition to Parker Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$75.8M</td>
</tr>
<tr>
<td>Completion Date</td>
<td>Fall 2016</td>
</tr>
</tbody>
</table>

**Impacts**

As the health sciences schools move to UB's downtown campus, the population of South Campus will decrease. Relocating the professional schools to South Campus, starting with the School of Social Work (SW) and the Graduate School of Education (GSE) will assist in maintaining the population of South Campus. In addition, the two programs will be able to extend their expertise and services into the surrounding neighborhoods and the city of Buffalo. This project will also make space available on North Campus for the remaining academic units, such as College of Arts and Sciences (CAS), School of Engineering and Applied Sciences (SEAS) and the School of Management.

### Rebid Hayes Hall - School of Architecture and Planning

Construction of Hayes Hall began in November 2011, but construction was terminated for convenience due to unforeseen structural conditions. The project is back in design and anticipated to go to bid late fall 2013 with construction to start April 2014 and completion scheduled for summer 2015.

| Current Funding Request | $10.3M |
| Completion Date | Fiscal Year April 2013- March 2014 |
# Recommended Capital Projects

## Cooke-Hochstetter-Dorsheimer Restoration

Since the construction of the complex 1970’s, there have been no significant infrastructure maintenance or upgrades. This restoration project will address the deferred maintenance issues of the buildings, which are rated two of the poorest academic buildings on North Campus per the Facilities Condition Index (FCI).

<table>
<thead>
<tr>
<th>Scope</th>
<th>162,000 NASF (298,000 GSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$211M</td>
</tr>
<tr>
<td>Completion Date</td>
<td>Spring 2019</td>
</tr>
</tbody>
</table>

**Impacts**

With the renovation of these buildings, the department of Geology will consolidate into one space, and make available space throughout North Campus for program growth. Currently 60,000 NASF is vacant within the complex due to the new School of Pharmacy building on South Campus. Since a significant portion of the building is currently vacant, there is an immediate opportunity to upgrade and modernize the building systems as well as architectural finishes of the complex. There is also an opportunity for space to be made available for the Start-Up New York Program.

## School of Engineering Backfill

This project will renovate space in Bonner Hall and Bell Hall that is currently vacant due to the completion of Davis Hall. This project will improve and unite facilities for the School of Engineering and Applied Sciences (SEAS).

<table>
<thead>
<tr>
<th>Scope</th>
<th>61,500 GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$16M</td>
</tr>
<tr>
<td>Completion Date</td>
<td>Spring 2018</td>
</tr>
</tbody>
</table>

**Impacts**

Due to the large amount of vacant space currently in the buildings, it is imperative that the University efficiently repurpose the space for the needs of the growing school. Without the renovation of this square footage, the school will not be able to fulfill its goals of faculty growth, and therefore affect academic excellence. There is also an opportunity for space to be made available for the Start-Up New York Program.
Recommended Capital Projects

Heart of the Campus (North Campus)
This project is the first step towards a larger vision to create a true “Heart of the Campus” on each of UB’s three campuses. This project will renovate space in Capen, Norton and Talbert Halls, which are the center of the academic spine of North Campus. The program will provide one-stop support facilities for students and reinforce the “UB brand and experience.” This project will also feature a renovated state-of-the-art library.

<table>
<thead>
<tr>
<th>Scope</th>
<th>120,000 GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$125M</td>
</tr>
<tr>
<td>Completion Date</td>
<td>Fall 2019</td>
</tr>
</tbody>
</table>

Impacts: This project is related to UB’s ability to recruit and retain high quality students compared to our peer institutions who have similar central campus services and programs. As a large and complex project, the sequencing and staging is a crucial consideration towards minimizing disruption for departments and building occupants involved.

Crosby Hall - School of Architecture and Planning
This project will replace deteriorated building infrastructure with new modern systems. This project will improve building finishes as well as MEP systems while improving programmatic functions. Design is currently suspended with the anticipation of restarting in August of 2014 followed by bidding Fall 2015, construction start 2016 and completion in Summer 2017.

<table>
<thead>
<tr>
<th>Current Funding Request</th>
<th>$21.3M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion Date</td>
<td>June 2017</td>
</tr>
</tbody>
</table>
## Recommended Capital Projects

### COE in Materials Informatics

This project will provide a state-of-the-art facility that will enhance UB’s ability to conduct cutting-edge research and partner with local industry.

<table>
<thead>
<tr>
<th>Scope</th>
<th>125,000 GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$70M</td>
</tr>
<tr>
<td>Completion Date</td>
<td>2018</td>
</tr>
</tbody>
</table>

**Impacts**

This project will provide an opportunity to continue UB’s pursuit of design excellence and leadership role in the development of sustainable and environmentally conscious facilities.

### Allen Hall Restoration

Allen Hall is in need of renovations and upgrades to comply with the new NYS building and accessibility codes. The building is currently near-vacant and could be renovated with little disturbance to the campus population.

<table>
<thead>
<tr>
<th>Scope</th>
<th>42,000 GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$10M</td>
</tr>
<tr>
<td>Completion Date</td>
<td>Spring 2016</td>
</tr>
</tbody>
</table>

**Impacts**

This project is linked to many South Campus initiatives. Allen Hall is planned to hold Buffalo Prep which is currently in Acheson Annex (planned to be demolished.) It will also house displaced classrooms and lectures halls from the C/F/S Complex (planned to be demolished), and community engagement spaces. This project is also linked to the renovation of Parker Hall, since Acheson Annex will need to be used as surge space for the Architecture Shop.
Recommended Capital Projects

**BEB & BRB Reprogramming and Rehab**

By completing this project improved facilities will be provided to the remaining Health Sciences Schools on South Campus. This project focuses on reusing existing assets to their maximum potential by retaining their original functions of high-quality educational and research facilities.

<table>
<thead>
<tr>
<th>Scope</th>
<th>200,00 NASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$14M</td>
</tr>
<tr>
<td>Completion Date</td>
<td>Spring 2017</td>
</tr>
</tbody>
</table>

**Impacts**

Without the completion of this project, the high-quality educational and research facilities, which are mainly wet labs, will be forced to become dry and administrative spaces for those programs that need to be vacated from the Cary\Farber\Sherman Complex. By reprogramming additional spaces on South Campus, including Foster Hall, the University can retain valuable investments already made in these facilities.

**Demolition of Cary, Farber, Sherman Halls**

This phased demolition will fulfill our commitment to reduce campus operating costs as part of the NYSUNY2020 agreement to relocate SMBS to the Downtown Campus. These facilities have outlived their useful lifespan.

<table>
<thead>
<tr>
<th>Scope</th>
<th>450,000 GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$13M</td>
</tr>
<tr>
<td>Completion Date</td>
<td>2016-2019</td>
</tr>
</tbody>
</table>

**Impacts**

Without the demolition of the vacant Cary/Farber/Sherman Complex following the relocation of SMBS to the Downtown Campus, the University will be paying to operate both the C/F/S Complex as well as the new SMBS building.
## Recommended Capital Projects

### South Campus Site Restoration

Improvements shall be made to existing concrete walkways and green spaces that have deteriorated and have been disturbed by recent underground utility construction activity throughout campus.

<table>
<thead>
<tr>
<th>Scope</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$25M</td>
</tr>
<tr>
<td>Completion Date</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>This project allows the University to build on E.B. Green’s 1930 campus plan, which reinforces historic quadrangles, removes unsightly temporary buildings, recovers grand lawns from parking and revitalizes landscapes, therefore improving the campus experience at UB.</td>
</tr>
</tbody>
</table>

### Demolition of South Campus Temporary Buildings

This phased project will demolish Hayes Annexes A, B, C, Diefendorf Annex, and Acheson Annex as they become vacant.

<table>
<thead>
<tr>
<th>Scope</th>
<th>80,000 GSF (total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$2.3M</td>
</tr>
<tr>
<td>Completion Date</td>
<td>2016-2021</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>This project allows the university to build on E.B. Green’s 1930 campus plan, which reinforces historic quadrangles, removes unsightly temporary buildings, recovers grand lawns from parking and revitalizes landscapes, therefore improving the campus experience at UB.</td>
</tr>
</tbody>
</table>
# Recommended Capital Projects

## Demolition of MacDonald, Pritchard and Schoellkopf Buildings

With the opening of Greiner Hall on North Campus, 3 of the 4 “Triad” buildings sit vacant on South Campus. This project will demolish these unused buildings.

<table>
<thead>
<tr>
<th><strong>Scope</strong></th>
<th>111,000 GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Budget</strong></td>
<td>$3.2M</td>
</tr>
<tr>
<td><strong>Completion Date</strong></td>
<td>TBD</td>
</tr>
<tr>
<td><strong>Impacts</strong></td>
<td>Demolishing these structures would assist in restoring the South Campus landscape, therefore improving the campus experience at UB, as well as cutting down on utility costs.</td>
</tr>
</tbody>
</table>

## Architecture Connector - School of Architecture and Planning

This project will relocate the School of Architecture and Planning (SAP) Methods and Materials Shop closer to Hayes and Crosby Hall, and also create a physical link between the two buildings.

<table>
<thead>
<tr>
<th><strong>Scope</strong></th>
<th>33,000 GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Budget</strong></td>
<td>$7.5M</td>
</tr>
<tr>
<td><strong>Completion Date</strong></td>
<td>Fall 2021</td>
</tr>
<tr>
<td><strong>Impacts</strong></td>
<td>This project will unite the SAP into one area of South Campus, and strengthen a valuable research function of the school. In order to renovate Parker Hall for GSE and the School of Social Work, all existing units must vacate the building, which includes the SAP Methods and Materials Shop.</td>
</tr>
</tbody>
</table>
## Recommended Capital Projects

### School of Dental Medicine - Phase I

This project represents the first of five phases which will focus on the renovation and reorganization of Squire Hall to improve pedagogical needs within the school. This first phase project will concentrate on renovation of the pre-clinical lab.

<table>
<thead>
<tr>
<th>Scope</th>
<th>212,000 NASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$30M</td>
</tr>
<tr>
<td>Completion Date</td>
<td></td>
</tr>
</tbody>
</table>

**Impacts**

The preclinical lab is undersized, and severely antiquated compared to peer dental schools. The preclinical lab needs to be renovated and enlarged to first increase the size of the class and thereby faculty head count in accordance with the Provost's directive and second, bring the teaching space up to modern pedagogical standards and thereby aiding in recruitment and retention of students and faculty.

### North Campus Site and Underground Utilities Restoration

This project involves landscape improvements and restoration of underground utilities on North Campus within the academic spine and the Ellicott Complex.

<table>
<thead>
<tr>
<th>Scope</th>
<th>Phase 1: $5.75M, All Phases: $40M+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td></td>
</tr>
<tr>
<td>Completion Date</td>
<td></td>
</tr>
</tbody>
</table>

**Impacts**

This project will allow the University to investigate, improve and modernize our outdoor public spaces and landscapes on a larger campus scale.
## Recommended Capital Projects

### Heart of the Campus (South Campus)
HOTC South Campus will transform Abbott Hall to become the center for academic life on South Campus. To serve the professional schools, Abbott Hall will hold a 21st century library, cybrary, classrooms, informal study spaces, and central resources.

<table>
<thead>
<tr>
<th>Scope</th>
<th>101,000 GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$31M</td>
</tr>
<tr>
<td>Completion Date</td>
<td></td>
</tr>
<tr>
<td>Impacts</td>
<td>As the Health Sciences Schools move to the Downtown Campus, Abbott Hall will absorb the collection and resources for the professional schools moving to South Campus.</td>
</tr>
</tbody>
</table>

### Professional Education Center - South Campus
This building will house executive education programs for the Professionals Schools on South Campus, and accommodate continuing education programs.

<table>
<thead>
<tr>
<th>Scope</th>
<th>120,000 GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$41M</td>
</tr>
<tr>
<td>Completion Date</td>
<td></td>
</tr>
<tr>
<td>Impacts</td>
<td>The building’s intention is to be a central destination for educational spaces and functions for the professional schools. This building will house classrooms and lecture halls as well as learning landscapes and group meeting areas.</td>
</tr>
</tbody>
</table>
# Recommended Capital Projects

## South Campus Parking Structure

This project will create a parking structure that will accommodate the parking demand on South Campus and eliminate existing surface parking.

<table>
<thead>
<tr>
<th>Scope</th>
<th>382,000 GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$25M</td>
</tr>
<tr>
<td>Completion Date</td>
<td></td>
</tr>
</tbody>
</table>

**Impacts**: This project will allow for some elimination of surface parking lots which currently creates a perpetual barrier between the campus and community. This parking structure will also create many environmental benefits to the campus and community.

## New School of Law Building - South Campus

A new School of Law Building on South Campus reinforces the University’s commitment to brand South Campus as the University’s Professional Campus.

<table>
<thead>
<tr>
<th>Scope</th>
<th>181,000 GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$58M</td>
</tr>
<tr>
<td>Completion Date</td>
<td></td>
</tr>
</tbody>
</table>

**Impacts**: Relocating the Law School to South Campus will provide space within the academic spine on North Campus for continued growth in undergraduate programs.
Recommended Capital Projects

**School of Medicine and Biomedical Sciences - Phase II**

This project is the second phase of the new School of Medicine and Biomedical Sciences on UB’s Downtown Campus.

<table>
<thead>
<tr>
<th>Scope</th>
<th>426,000 GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$190M</td>
</tr>
<tr>
<td>Completion Date</td>
<td></td>
</tr>
<tr>
<td>Impacts</td>
<td>This project will consolidate SMBS to the Downtown Campus.</td>
</tr>
</tbody>
</table>
The University at Buffalo has a rich and diverse employee base, with around 6,000 full time employees, and a great many part time and seasonal employees (especially student employees). For the many facets of Realizing UB2020 to be successfully implemented, we will need employees at all levels of the organization to understand the objectives and to align their performance goals and professional development activities with those broader institutional objectives.

We note that we have an unusually complex employment environment, including multiple unions each with differing contract language, SUNY system-wide considerations, several payrolls (State, UBF, RF) and multiple missions (education, research, service and engagement). It is a widely observed that employees have not always been encouraged to maintain their skills so as to stay highly relevant to the needs of the organization.

In this taskforce, we have considered the question “What measures could we implement that would serve to maximize alignment of employees with the goals of Realizing UB2020, and also serve to improve job satisfaction at UB?”. We sought and received very valuable input from across campus, and considered best practices from other academic and non-academic institutions. Our recommendations are summarized as follows;

1. Establish program for annual campus-wide goal setting and performance assessment
2. Establish a campus-wide specialist staff pool
3. Achieve paperless HR operations by 2015
4. Create a culture that values continuous learning
## IMPACTS

<table>
<thead>
<tr>
<th>Task Force Recommendations</th>
<th>Time</th>
<th>Cost</th>
<th>Complexity</th>
<th>Overall Impact</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Annual campus-wide goal setting and performance assessment</td>
<td>12 months</td>
<td>low</td>
<td>medium</td>
<td>high</td>
<td>1</td>
</tr>
<tr>
<td>2. Establish a campus-wide specialist staff pool</td>
<td>12 months</td>
<td>medium</td>
<td>low</td>
<td>medium</td>
<td>2</td>
</tr>
<tr>
<td>3. Achieve paperless HR operations by 2015</td>
<td>12 months</td>
<td>medium</td>
<td>low</td>
<td>medium</td>
<td>2</td>
</tr>
<tr>
<td>4. Create a culture that values continuous learning</td>
<td>24 months</td>
<td>low</td>
<td>high</td>
<td>high</td>
<td>1</td>
</tr>
</tbody>
</table>
Current State at UB

UB has a team dedicated to employee development and training (the Organizational Development & Training unit, within Human Resources) that offers a great many training programs each year that serve many employees (see appendices 1 and 2). In addition, we are aware that many employees take advantage of off-site training opportunities offered by professional organizations, etc. There are no data to track these external activities that we are aware of.

Despite this ongoing investment in our employees we are aware that problems relating to employee development exist that impact UB adversely. At the highest level, there is no institutional system currently in place for aligning individual employees’ goals with institutional goals, which leads to operational inefficiencies and increases the difficulty of implementing any changes across campus. Then, development of cross-campus understanding of activities and processes in different units, and sharing of best-practices, occurs primarily through ad-hoc arrangements rather than structured activities.
Within the organizational units, UB employees have not always been encouraged to update their skills to stay highly relevant to the needs of the organization, which has in some cases lead to stagnation, job dissatisfaction and, ultimately, to under-performing employees. Managers have not always been willing to grant time to employees to undertake in-house or external training, even when it seemed well aligned with the employee’s current job. The risks for individual employees, and for the organization as a whole, associated with failing to maintain appropriate skills to address new challenges are, if anything, growing as the range of technologies we use increases year by year.

We recognize that in order to implement our plans for Realizing UB2020, it is imperative that we have a great workforce, so now is the right time to address these challenges directly.

This task force asked the question:

“What measures would serve to maximize alignment of employees with the goals of Realizing UB2020, and also serve to improve job satisfaction?”
Best Practices

Among the best practices we are aware of from other institutions and other settings, and that seem to be relevant to UB today, are:

- Annual performance and professional development goal setting and review practices
  - This practice is widespread in industry, and reasonably common in institutions of higher education. It enables alignment of both performance goals and professional development goals by individuals at every level of the organization with the goals that are established by the leadership team. It is particularly helpful when organizational change is desired.
- Software tools that enhance productivity
  - Tools to streamline employee management functions (time keeping, etc.) can also serve to enhance productivity for managers and individual employees.
  - Tools to manage the annual setting and review of performance goals and professional development goals also provide a record of progress against specific goals.
- Employee rotation programs
  - Many institutions have programs that permit at least small numbers of employees to rotate between operational units, developing their own skills and understanding, and forming a conduit for best-practices to spread across the organization.
Issues/Opportunities

**Issues;**
- Many professional employees are required to obtain professional educational credit units to maintain certifications or to obtain federally mandated training such as for OSHA regulations
- Multiple unions on site, each with its own contract language
- SUNY system-wide considerations
- Multiple payrolls (State, UBF, RF)
- Multiple missions (education, research, service and engagement)
- No electronic systems in place to efficiently manage performance and professional development goals, and/or annual assessments
- Strong dependence on paper-based tracking of employee hours and activities, which is highly inefficient, and inconsistent with UB’s sustainability goals
- Arcane processes are built into union contract agreements
- Unit-level practices are deeply entrenched in places, with limited cross-campus sharing of best practices
- Managers do not always encourage employees to remain optimally skilled for challenges of the future
- Managers are not always actively supportive of career growth for staff, preferring stability within unit
- Movement of staff around campus occurs, but perhaps not at the level that would be optimal for employee development goals

**Opportunities;**
- Enhance productivity across campus by aligning objectives top-to-bottom, permitting the campus-wide changes associated with Realizing UB2020 to be implemented efficiently
- Increase efficiency with software tools to handle routing human resource management matters
- Increase efforts to ensure the UB workforce remains trained to meet new challenges
- Enhance job satisfaction and employee retention while executing on the goals of Realizing UB2020 through increased focus on employee development and provision of growth opportunities
- Enhance job satisfaction and employee retention while executing on the goals of Realizing UB2020 through increased focus on employee development and provision of growth opportunities
Recommendation:
Establish campus-wide program for annual goal setting and performance assessment

Objective

- Align the activities of the employees with the goals and objectives of UB, as established by the Provost, President, and unit leaders, and to encourage stronger focus on professional development of individuals for their own benefit as well as the University’s.
Implementation

- Choose a time of the year during which all employees would have annual reviews and set high-level goals for the following year.
- The 3-4 performance goals should be aligned with the organizational goals developed by the leadership / management teams at each level.
- The 1-3 professional development goals may include training offered by UB or outside of UB, and should also relate to the organizational goals.
- During the performance review process, each employee should assess her/his own performance against these goals in the prior year, and set goals for the following year, using an appropriate software tool (cost, on order of $100k)
- Each supervisor to comment on employee performance against goals after the employee provides inputs.
- Supervisors to have discussion with each employee about past performance, future performance and professional development goals.
- Supervisors should be evaluated on how effectively their reports take advantage of professional development and training opportunities.
- Training all employees, and particularly supervisors, on the annual goal setting and performance program should be tightly linked to Recommendation 4, on creating a culture that values continuous learning.
- Some discussion with unions would likely be required to integrate with existing contract arrangements.

Note: Implementation would likely require some discussions with the unions.
Recommendation:
Establish a campus-wide specialist staff pool

Objectives

• Build cross-campus understanding of activities and processes
• Encourage cross-fertilization of best practices between units
• Elevate level of professionalism across campus
• Provide a mechanism for stronger staff development
Implementation

- Start program with (say) 3 new headcount, employed initially in HR, chosen from among highly qualified individuals with a wide range of skills (cost ~ $175k)

- Provide extra development training to these employees (computer skills, communications skills, project management skills, etc.)

- Allocate those in the pool to host units as needed, matching skill sets of pool staff with unit needs, to cover gaps in coverage due to illnesses, leaves, etc., or to meet needs of special projects

- Recover costs of employment from host units, with excess cost due to inefficiency of assignment to be covered centrally (likely to be less than 1FTE annual cost, or around $55k p.a.)

- Permit others to join the pool as/if demands grow

- Anticipate employees will be part of the pool for around 2 years, and then move into a more conventional position
Recommendation:
Achieve paperless HR operations by 2015

Objectives

- Minimize waste and cost of paper processing and storage while maintaining regulatory compliance
- Increase productivity across campus
- Deliver on a long-awaited goal for the institution while upgrading outdated systems
Implementation

• Support from IT essential to introduce appropriate systems and migrate from old systems

• Existing innovations from the units might be leveraged across campus, with sufficient support

• Cost is not established yet, but commercially available solutions exist

• The specific target date is not as important as having a commitment to accomplish this long-awaited goal by a target

• By undertaking this activity HR would set an example for other activities on campus that would also benefit from paperless operations
Recommendation:
Create a culture that values continuous learning

Objectives

• Encourage managers to understand the importance of lifelong learning by everyone for the long-term health of the organization.

• Encourage unit managers to assign budget for targeted training activities.

• Encourage employees to understand the importance of maintaining relevant skills in a rapidly changing environment.

• Instill confidence in employees to embrace change, by helping them to adapt to the needs of the UB of tomorrow.

• Create a synergistic environment where employee projects and accomplishments that add value to the organization are shared widely.

• Ensure that computer facilities, instructional classrooms and distance educational classrooms with up to date approved software configurations, up-to-date projection equipment, and technical support appropriate to the purpose of delivering employee instructional training are available for this purpose on our campuses.
Implementation

- At the highest level, unit goals that align and support overarching university goals should be the basis for employee development

- Units should assess their short and long term operational and strategic goals and then build knowledge, skills and competencies within their staff that support these

- Training and on-going messaging to managers on the importance of professional development, and time release to permit these activities to occur, should be implemented

- Implement a system for issuing credits for engagement in professional development activities, perhaps with certifications for allotted numbers of credits, to assess level of employee activity, via a Learning Management System (cost, ~ $75k)

- Ask CIT and facilities to prioritize making appropriate classrooms available for employee development and training activities

- Allow employee to earn certificate/transcript or other assessment measures verifying successful completion of training

- Consider developing or using an externally-sourced professional development digital library.

- Following professional development activities, employees should be offered opportunities or focused projects to utilize and apply these new skills within the workplace

- Use succession planning as one mechanism to ensure that units are thoughtful about development of their existing talent pool.

- Tie these activities to Recommendation 1, and the professional development goals within the annual assessment tool
APPENDIX 1: AY 12/13 engagement by employees in in-house training opportunities.

<table>
<thead>
<tr>
<th>Class Type</th>
<th>Category</th>
<th>2012 Classes Offered</th>
<th>2012 Participants Registered</th>
<th>2012 Participants Attended</th>
<th>2013 Classes Offered</th>
<th>2013 Participants Registered</th>
<th>2013 Participants Attended</th>
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<tbody>
<tr>
<td>Career &amp; Personal Development</td>
<td>Building Relationships &amp; Influencing Others</td>
<td>18</td>
<td>188</td>
<td>173</td>
<td>19</td>
<td>120</td>
<td>96</td>
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<td></td>
<td>Effective Communication</td>
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<td>266</td>
<td>232</td>
<td>33</td>
<td>305</td>
<td>261</td>
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<td></td>
<td>Increasing Productivity</td>
<td>21</td>
<td>205</td>
<td>168</td>
<td>29</td>
<td>287</td>
<td>182</td>
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<td></td>
<td>Supervision &amp; Management</td>
<td>26</td>
<td>528</td>
<td>439</td>
<td>45</td>
<td>791</td>
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<td>Adobe Acrobat</td>
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<td>45</td>
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<td></td>
<td>Microsoft Access</td>
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<td>137</td>
<td>119</td>
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<td>174</td>
<td>137</td>
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<td>34</td>
<td>10</td>
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<td></td>
<td>Microsoft Outlook</td>
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<td>51</td>
<td>43</td>
<td>5</td>
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</tr>
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<td></td>
<td>Microsoft PowerPoint</td>
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<td>29</td>
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<td></td>
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<td></td>
<td>Microsoft Word</td>
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<td>61</td>
<td>52</td>
<td>12</td>
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<td>Grand Total</td>
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<td>1786</td>
<td>1510</td>
<td>220</td>
<td>2170</td>
<td>1634</td>
</tr>
</tbody>
</table>

*2013 data as of November 18, 2013.
APPENDIX 2: On-campus training participation, by unit

Organizational Development & Training
Class Participants

- Finance and Administration
- University Life and Services
- Office of Academic Affairs
- Chief Information Officer
- School of Medicine and Biomedical Sciences
- Independent Entities
- College of Arts and Sciences
- Research and Economic Development
- Development & Alumni Relations
- Graduate School of Education
- School of Dental Medicine
- School of Engineering and Applied Sciences
- School of Nursing
- School of Pharmacy and Pharmaceutical Sciences
- School of Social Work
- School of Management
- School of Public Health and Health Professions
- Division of Athletics
- Law School
- International Education
- Buffalo State College
- Office of the President
- School of Architecture and Planning

Number of Participants

*Independent Entities includes UB Child Care Center, External Affairs, Campus Dining & Shops, Sub-Board I, UB Foundation, UB MD, and WBFO.
Information technology (IT) at University at Buffalo is integral to all aspects of teaching, research, and service. The key foundational infrastructure services (network, wireless, data center, etc) are vital to day-to-day success of the Institution. Regular upgrades are necessary to ensure appropriate equipment reliability and capacity.

Value-added IT applications and services facilitate successful student engagement, faculty research, and national competitiveness. These IT services ensure collaboration and knowledge sharing between and among the UB constituents.

These proposed UB IT initiatives represent both necessary and opportunity projects to ensure UB remains competitive as well as move into a national leadership role related to technologies facilitating academic success.
## IMPACTS

<table>
<thead>
<tr>
<th>Task Force Recommendations</th>
<th>Time</th>
<th>Cost</th>
<th>Complexity</th>
<th>Overall Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Deploy Emergency Notification Systems that will enable communication with the campus in the event of an emergency</td>
<td>high</td>
<td>high</td>
<td>medium</td>
<td>low</td>
</tr>
<tr>
<td>2. Extending campus ability to provide analytics across structured and un-structured data sources</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
<td>high</td>
</tr>
<tr>
<td>3. Provide for Capacity Expansion and Equipment Refresh in the Core Data Centers</td>
<td>high</td>
<td>high</td>
<td>high</td>
<td>high</td>
</tr>
<tr>
<td>4. Transform our classroom audio and video facilities</td>
<td>high</td>
<td>high</td>
<td>medium</td>
<td>high</td>
</tr>
<tr>
<td>5. Install conduit pathway and fiber cable between buildings to enable the construction of data communications networks</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
<td>high</td>
</tr>
<tr>
<td>6. Implement a mobile strategy that embraces the mobile mind-set, while executing in a manner that is nimble, scalable, and aligned with best business practices</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
<td>medium</td>
</tr>
<tr>
<td>7. Refresh and enhance video conferencing and video content distribution equipment and services</td>
<td>high</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
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<tr>
<td>8. Fully utilize/deploy the enterprise license for Perceptive’s Nolij/Image Now document management software transforming UB’s business processes. This requires business process re-engineering at both the local department and cross departmental/campus wide levels</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
<td>medium</td>
</tr>
<tr>
<td>9. Move task oriented workers to desktop as a service infrastructure thereby reducing desktop support costs across the institution and enabling standardization</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
<td>high</td>
</tr>
<tr>
<td>10. Update the learning management infrastructure to allow for mash ups with student information systems, social media, e-learning and student centric adaptive learning</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
<td>high</td>
</tr>
<tr>
<td>11. Provide research IT services and support for faculty across the Institution including SUNY-wide cluster service (condo), self-service cloud computing, and research IT support</td>
<td>medium</td>
<td>medium</td>
<td>medium</td>
<td>medium</td>
</tr>
<tr>
<td>12. Unify and improve business processes for end user support across campus through the implementation of ITIL processes across all information technology support providers on campus</td>
<td>high</td>
<td>medium</td>
<td>high</td>
<td>medium</td>
</tr>
<tr>
<td>13. Refresh the data communications network infrastructure to maintain a reliable and robust infrastructure</td>
<td>high</td>
<td>high</td>
<td>medium</td>
<td>high</td>
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<tr>
<td>14. Provide robust WiFi wireless coverage for the campus</td>
<td>high</td>
<td>high</td>
<td>medium</td>
<td>high</td>
</tr>
<tr>
<td>15. Offer the UB*Wifi service on the UB buses that travel in between campuses as well as the major bus shelters.</td>
<td>low</td>
<td>low</td>
<td>medium</td>
<td>medium</td>
</tr>
</tbody>
</table>
Deliverable:  
Campus-Wide Emergency Notification

Recommendation:
Deploy Emergency Notification Systems that will enable communication with the campus in the event of an emergency

In the event of an emergency it is often necessary to communicate with a broad audience as quickly as possible. The campus has adopted RAVE as a method to push out SMS text and e-mail messages concerning events when they occur. In addition there are a number of other communication channels that could be utilized for either widespread or targeted audience communication. Multiple channels of communication provide a level of redundancy that safeguard against single points of failure.

In large lecture halls, classrooms and lobbies it is desirable to take advantage of audio systems to create an IP based public address system. Similar announcements can be broadcast over VoIP phones to people in offices.

There are a number of digital signage platforms in use on the campus. The dominant platform is the Visix platform managed by the Office of Medical Computing which currently hosts over 60% of the screen installations. A goal of the emergency communications plan is to convert the non-Visix installations to the de-facto standard platform so that they can be uniformly accessed.
Estimate $1.4M

Costs include broadcast software licensing for all campus VoIP phones and IP loudspeakers in all public lobbies and learning spaces, including both central and departmentally scheduled spaces. Also includes costs to convert non-standard digital signage to Visix.

Note: Original planning with University Communications revealed a desire for a system that would provide simultaneous input to multiple communications channels. Known as “the big red button” this integration effort and cost was not estimated.
Deliverable: 
**Data Analytics & Business Intelligence**

**Recommendation:**

**Extending campus ability to provide analytics across structured and unstructured data sources.**

**Deliverables:**

- Implementation of Enrollment Management functionality that exists within our Blackboard Analytics infrastructure. Key benefits include:
  - Analyze past and present student trends for optimal recruiting strategies, planning and performance measurement.
  - Track student progress, including the identification of potential at-risk students through correlations of student class load, class complexity, SAT, GPA, high school, etc., facilitating timely intervention for student advising.
- Implementation of Blackboard Analytics for Blackboard, which is an add-on to our existing Blackboard Analytics installation. This product allows insight into user activity, course design and student grade and learning outcome data across departments and colleges in support of teaching, learning, and student success.
• Develop an Enterprise Information Management strategy that recognizes information as an asset that drives business outcomes. Current data access implementations are often “point solutions” that are often difficult to integrate across the enterprise. New requests are handled in an adhoc fashion with few guiding principles in place. The strategy must be applicable to legacy data applications, in addition to future initiatives. Key components of a framework would include the following building blocks:
  • Vision — Aligning the effort with business outcomes
  • Strategy — Supports the vision, building on small, business-value-generating efforts, and that captures all the opportunities and challenges for the short and long term
  • Metrics — That relates data to business processes instantiated in applications that are destined to deliver a business outcome
  • Information Governance — That describes the decision rights and authority model over data
  • Organization and Roles — The roles and structures that need to be established/changed
  • Information Life Cycle — That discovers, documents and understands the flow of information across the business and its systems
  • Enabling Infrastructure (our information infrastructure) — The technology needed
• Development of a campus “big data” strategy. Fueled by both a burgeoning interest and a lack of understanding, the strategy gap creates both tremendous risk and tremendous opportunity. On one hand, there is the risk of overinvesting in big data before execution; on the other there is the risk of under-investing and ceding competitive advantage. Strategy essentials include:
  • Ensure infrastructure adequacy
  • Consider alternate information architectures
  • Anticipate and govern risks
  • Expand analytic capabilities
  • Assemble necessary skills
  • Alter IT organization structures

Dependencies:

Stakeholder involvement, data validation of key constructs to support Blackboard Analytics enrollment management functionality
**Recommendations:**

- Work with representatives from the Vice Provost for Undergraduate Education and Blackboard Analytics to explore product offerings in the domain of enrollment management. This includes functionality we currently have in addition to functionality that can be extended via supplemental product offerings.
- Engage senior leaders in the need to treat our information assets differently to extend beyond current operational uses. Develop a UB version of an information strategy focused on the cultivation of information needed and the retirement of that providing little or no value. A cross-enterprise team of key stakeholders should be formed to oversee effort needed throughout the process.
- Explore “big data” implementations to gain a better understanding of the infrastructure and policies that are required to support such an initiative. Begin investigation into tool suites (e.g. Hadoop) that are employed in “big data” initiatives, with the goal of provision as a campus service.
- Establish governance for developing strategies, setting policies and prioritizing projects.
Deliverable: 
Existing Data Center Upgrades

Recommendation:
Provide for Capacity Expansion and Equipment Refresh in the Core Data Centers

The Campus relies on IT infrastructure (servers, applications and storage) that are housed at the primary and remote data center facilities in Norton, Hayes D and the Library Storage Facility (LSF). The power and cooling systems that support these spaces are critical to the continuity of all central IT services.

Server virtualization and miniaturization has limited the growth of computing platforms in physical size but has resulted in denser hardware deployments. These denser rack configurations require correspondingly denser power and HVAC support. At the same time, demand for increased compute power and storage capability has neutralized much of the potential space gain. The net result has been a small but steady physical footprint growth accompanied by a large increase in power and cooling requirements.

While the primary site in Norton has adequate power and cooling capacity to satisfy projected demand through 2020, the remote sites providing redundancy and survivability for the most critical IT services have already reached capacity and require significant investments to maintain existing levels of capability and reliability.
Growth in scope and importance of research computing is pushing the need to provide more reliable power infrastructure for the CCR in the COE building. The existing UPS systems require life cycle replacement in the coming years and the facility suffers drastically from the lack of generator backup.

Estimate $8M

CIT worked with Facilities to determine cost estimates for the facilities improvements required to support the projected server load in each of the current locations through 2020. It was assumed that potentially longer term solutions involving relocation of data center facilities to other physical locations or joint efforts with SUNY were not realistic near term possibilities. The estimates include power and cooling capacity increments at Hayes D and LSF. It also includes the cost to refresh the HVAC units in Norton as well as some incremental rack space and network growth at that location. The power system in Norton was overhauled in 2012 and is not anticipated to require major maintenance until 2022 so is not included. Modest costs to refresh the Disaster Recovery site at the NYSERNet facilities in Syracuse are included. Costs for a generator and re-deployment of the UPS equipment from IHI to the COE are included. Costs of the servers themselves are not included.
Deliverable:  
Interactive Learning Spaces  

Recommendation:  
Transform our classroom audio and video facilities  

The availability and widespread adoption of technology is transforming the way students interact and learn. Classrooms need to adapt and support interactive and group learning styles, free from the constraints of the predominantly single point focused lecture halls.

The ability to capture and store course content should be available in all classrooms. While there are a few special purpose operator run “studio” rooms, we envision a self-service capture capability for the majority of the classrooms. We need to replace the home grown systems that require considerable staff support with off-the-shelf vendor supported products. This will enable faculty to capture lecture content for later use as a study aid or distance learning.

The world of audio/video technology is undergoing a transformation from analog to digital. At some point, new content is likely to only be available in digital format. We believe all centrally scheduled classrooms should have the ability to support digital content by 2015. A significant quantity of the classroom projectors, control and switching equipment requires refresh in the next several years anyhow, and we will upgrade the capability to digital when that occurs.
We need to add support for mobile devices that will allow Faculty to control the classroom equipment and display content from their hand held devices. We should replace outdated and environmentally wasteful transparencies with document cameras that will serve the same function. We need to improve system reliability through component redundancy so as to preserve class time when equipment failures occur.

We foresee a development classroom where faculty can experiment with new technologies, discover how to best incorporate them into their teaching styles and allow us to plan for wider rollout. Interactive systems, 3D projection and social media integration are all technologies that will be mainstream in the near future.

Estimate $8.4M *

The estimate includes a concentrated replacement of analog AV equipment with components that support digital formats over the next three years. Costs for replacement and expansion of the capture systems, overhead transparency replacement and some modest new technology incorporation are also included. An initial rapid scope of deployment is desired for many of the newer technologies. Faculty adoption rates would determine the potential timeframe for broader rollouts.

* Note: The current annual $660k allocation from the Technology Fee could be used to offset $4.6M of this expense.
Deliverable:  
Downtown Campus Communications Infrastructure

Recommendation:  
Install conduit pathway and fiber cable between buildings to enable the construction of data communications networks

As the University increases its presence at the Downtown Campus, it becomes increasingly important that we provide a robust communications infrastructure. The Medical Community inhabiting the Downtown Campus has significant requirements for IT and communications that will support business functions, research, patient care, teaching and learning as well as improved quality of life. The rapid development of technology in support of this field means that change is constant and necessary in order to stay competitive. While we can’t anticipate all the uses of technology that will develop in the future, we can be certain that communication requirements will continue to grow as new technologies are developed to exploit them.

The University must construct a robust and flexible communications infrastructure that will allow us to rapidly respond to new demands for connectivity as they arise. We can be fairly certain that for the foreseeable future this communications infrastructure will be based on Fiber Optic technology.
To facilitate the installation and re-configuration of fiber optic cables we require a system of conduit pathways that can be easily expanded to deploy additional capacity as specific needs are identified. A flexible infrastructure, meeting multiple needs, is often leveraged to attract research grants. Pathway construction requires significant planning but, carefully done, results in a long lived asset.

The Master plan for the Downtown Campus provides an overview for the placement of spaces and functions. This is a living plan. As the needs of the University and its partners evolve over time the specific solutions are formed within the context of the plan. The dynamic nature of this plan requires us to design flexible infrastructures that can adjust to the changes in the specific construction and occupancy timelines as they develop. Partnering with campus cohabiters (Kaleida, RPCI, BNMC) provides an opportunity to build a system that supports multiple needs, now and into the future.

The Communications Duct Bank pathways on the North Campus, which were designed in 1970’s, is an example of a well thought out plan for cable distribution that has enabled the rapid deployment and updating of internet services to the Campus. In the 1980’s and 1990’s while other campuses were trying to figure out how to run fiber cables between buildings to exploit this new technology, UB simply opened the manholes to access the Duct Bank infrastructure. Since then, we have been able to utilize the same pathways that were created in the 1970’s and 80’s to update the cable technology (fiber versus copper as well as increased bandwidth demands).
As a result, this structured system has enabled UB to keep its faculty and researchers supplied with ample bandwidth in support of their teaching and research endeavors.

Estimate $500k

The foundation infrastructure consisting of the Ellicott Street Spine and High Street arm were constructed in the Summer/Fall of 2013. We need to complete the redundant connection to the Best Street subway station and run fiber through the ducts to connect the buildings as they come on line. We expect the SMBS building to require a fiber installation in the 2015/16 fiscal year. In the years following it is likely that we will need to provide additional connectivity to other locations however specifics have not yet been identified.
Deliverable: Enterprise Mobile Implementation

Recommendation:
Implement a mobile strategy that embraces the mobile mindset while executing in a manner that is nimble, scalable and aligned with best business practices.

Our customer’s expectation is that existing communications and services will be adapted to deliver effectively on mobile devices. This is currently not the case, as only a very small percentage of UB’s myriad websites and web-based services are optimized for mobile.

If we are to be competitive for attracting and retaining higher quality and more diverse students we need to support a strategy that embraces the mobile mindset while executing in a manner that is nimble, scalable and aligned with best business practices.

A comprehensive mobile implementation would include a both a comprehensive strategy, and a list of concrete deliverables to meet this demand. The sections below represent the current list of high impact deliverables.
Deliverables & Recommendations:

Responsive Web Design (RWD) for UBCMS
It is very important that existing and future University websites are usable and effective on mobile devices. The most effective and efficient way is to make all websites that utilize the University’s enterprise web content management platform (UBCMS) mobile friendly “out of the box”. Work has been started in order to make this possible, and will continue on through early 2014.

BYOD and related policy development
Mobile users and technologies are included in some existing policies including the UB Acceptable Use Policy; however this and other policies should be reviewed and revised to ensure that mobile technologies are adequately covered. In opening the university’s applications and networks to personally owned devices, there is greater ability for users to access data and collaborate more easily and conveniently, but there is also greater risk of personal identity information and other regulated data leaking out. Stringent enforcement of policies dictating who can access what resources and services will be essential.

It will be essential to determine what types of access to UB’s data and systems will be allowed to personal devices. There will likely need to be several classes of access defined with varying levels of management and policy enforcement required based on the security risk of the data being accessed. eDiscovery collection consideration should be included in BYOD policy documents developed.
Enterprise MDM solution (including related policy development)
An enterprise Mobile Device Management solution will need to be implemented to enforce compliance of UB’s mobile device policies and to protect the security and integrity of UB’s systems and data. An assessment and product selection should follow the Mobile/BYOD policy development to ensure the product selected incorporates the appropriate features required to manage and enforce UB’s mobile device policies. In general, the MDM solution selected should at a minimum have the following capabilities:

- Multi-platform support
- Remote Device Wipe
- Opt-in self-service registration
- Policy based
- Self-service app deployment
- Apple VPP integration
- Track location of lost devices
- Basic Inventory

Allocate a minimum of 1 FTE to support/enhance the UB Mobile App
UB has developed and implemented the UB Mobile app for iOS, Android, and Mobile Web. Currently, there is .3 FTE allocated to this project for support and small enhancements. For UB’s mobile app to grow and not become stagnant, it is recommended that at a minimum of 1 FTE be allocated to supporting and enhancing UB Mobile.
Implement mobile for HUB
UB has purchased Grey Heller’s PeopleMobile product, but has been unable to staff a project to implement the product, as the skills sets needed have been allocated to higher priority projects. It is important to mobilize HUB, as students would find great value in being able to access timely information (e.g. Grades, Holds, To-Do’s, etc.) in HUB from anywhere at any time.

Leveraging UBCMS for mobile content development
UB Mobile was built using UBCMS as its primary source of content, meaning that content authors have the ability to easily create new sections/features within UB Mobile. University Communications, CIT’s primary partner in the development of UB Mobile, has not had the resources to reach out to key departments (e.g. Admissions) to discuss how they might leverage this untapped feature of UB Mobile for communications and service.

Influence vendor adoption of mobile/RWD
EAS has created an inventory of software applications we currently support, and has reached out to vendors to gather information about their mobile capabilities. EAS should continue to influence vendors to adapt their product for mobile, and to evaluate/implement mobile capabilities as appropriate.
Provide Centralized Management of Native Apps

Over time, various units at UB will develop native mobile Apps. There are three that are currently under development by units outside of CIT (that we’re aware of). It’s important for CIT to manage and deploy these apps using the appropriate license, to prevent a “wild west” of UB apps.

This would allow CIT to provide assistance to external units for deploying native apps, (which can be an extremely confusing and difficult process), and utilize the appropriate license such as the iOS Standard and iOS Enterprise license. This will have the added benefit of having these apps associated with one another in the App Stores.

- Ensure there is no duplication of services among these apps.
- Identify apps that should become part of UB Mobile, or be linked to from UB Mobile.
- Develop an internal App store to provide a one-stop shop for all of UB’s mobile apps for download.
- Coordinate with the campus Mobile Device Management service providers to determine which Apps should become part of a standard install.
- Form a Mobile Advisory Council

Form a governance group charged with optimizing UB’s investments and tightly coordinate tactics for our mobile-presence.

Dependencies

Wireless, Bandwidth, Device Support, appropriate resourcing by University Communications.
Deliverable:  
**Enterprise Video Services (MCU)**

**Recommendation:**
**Refresh and enhance video conferencing and video content distribution equipment and services**

There is significant demand for easy to use high performance video conferencing and content distribution in support of teaching and research. Over the last several years UB has invested in several specific purpose platforms that provide a portion of the desired functionality but have not yet been integrated for interoperability. We are well positioned to leverage existing capabilities through relatively small additional investments targeted at integration, training and education.

While these tools are utilized separately today, the complexity of integration presents a formidable challenge and discourages routine use. As a result, we are not taking full advantage of the benefits that could be derived from the use of these tools in support of teaching and learning. We foresee a set of standard operating modes and support services that combine functionality from several best of breed tools that are stitched together in ways that make them useful and lower the barriers to entry.
The integrated conferencing suite would allow anytime and anywhere meeting, consulting and collaboration between students and colleagues. Automated scheduling and ad-hoc conferencing modes should be supported. The solutions would leverage off the shelf consumer products with built in functionality that are already being carried on campus.

Estimate $1M

The estimate is based on the need to maintain existing functionalities of the underlying VoIP, point-to-point and multi-point videoconferencing (MCU) systems as well as begin to develop integrations of these tools to support both on and off campus collaboration. The timeline for specific integrations is dependent on the ability to make significant staff time available for this purpose but is anticipated to span the next seven years.
Deliverable:
Expand Enterprise Document Management

Recommendation:

Fully utilize/deploy the enterprise license for Perceptive’s Nolij/ImageNow document management software transforming UB’s business processes. This requires business process reengineering at both the local department and cross departmental/campus wide levels.

Deliverables and Recommendation:

- Forming of a Governance Structure: Demand for utilizing this technology on campus is high and therefore appropriate prioritization of proposed projects is paramount. The governance and steering structure will:
  - Formulate a strategic plan for utilizing document management and workflow resulting in the highest impact.
  - Standardize project intake and review
  - Set project priorities
  - Provide a forum for discussion with respect to standards, best practices, retention policies and risk reduction
• Review opportunities for opportunities to centralize or outsource scanning/intake services
• Review and recommend funding models and approaches to outsourcing as needed.

• Optimization of staffing, roles and responsibilities with respect to this technology and business process reengineering efforts in the following (but not limited to) campus units
  • Chief Information Officer
  • Policy and Internal Control
  • Finance and Administration
  • Academic Affairs.

• Identify high impact business processes which can be significantly improved by utilizing electronic document management and business process workflow.

• Reduce the number of document management systems supported on campus.

• Improve campus understanding of how document management technology relates to Enterprise Content Management (ECM).
  • Business process documents (invoices, work orders, etc.) differ from campus policy documents, class lecture recordings, architectural drawings, local file space and other unstructured data files.
Deliverable:
Enterprise End User Virtualization

Recommendation:
Move task oriented workers to desktop as a service infrastructure thereby reducing desktop support costs across the institution and enabling standardization.

Faculty and staff desktop support time is a huge support cost for the limited IT staff across campus. Enterprise end user virtualization offers an opportunity, through desktop as a service, to reduce the total cost of ownership for desktops in large environments like UB. The individual department will see a direct cost saving on desktops of approximately 65%. There is an incremental cost increase for the infrastructure of approximately 25% still saving the university a net 40% on desktop support. In addition the time saving through more efficient desktop management can allow the departmental IT staff time to be allocated for other IT support needs. An indirect benefit of standardization through virtualization is the reduction in help desk and maintenance support costs.
Estimate $150 K – 200K (need to put the number of desktops this would support here)

Costs include server infrastructure, storage and licensing costs.
Deliverable:  
**Multi-Platform Learning Stack Implementation**

Recommendation:  
*Update the learning management infrastructure to allow for mashups with student information system, social media, e-learning and student centric adaptive learning.*

With an eye to improving our rankings in AAU and focusing on infrastructure to enable the teaching and learning mission of the university, investment in the multi-platform learning stack implementation is inevitable. Social media and mobile technologies have changed the way how students approach their learning environment. Our traditional learning management system needs to be transformed with technology-enabled pedagogy to produce a scalable, affordable education infrastructure that can enable the student to be guided to a successful outcome and simultaneously enable the faculty to leverage a variety of technological tools to aid in delivering quality content and curriculum effectively. UB’s business model for online education will benefit heavily from the ability to mashup with student information system, social media, e-textbook, e-learning and student centric adaptive learning technologies. UB is generating a variety of data that can be leveraged through an adaptive and integrated learning management system to improve student outcomes and retention rates.
Many schools are already dabbling in open education resources such as MOOC’s to make inroads into potential student markets and enable access to education at comparatively lower cost per credit hour delivered.

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Estimate $150K – 300 K (dependent upon integration needs and licensing volume)

Includes cost of software licensing, storage and server costs.
Deliverable:
Research Computing and Support

Recommendation:
Provide research IT services and support for faculty across the Institution including SUNY-wide cluster services (condo), self-service cloud computing, and research IT support.

The CCR is a valuable resource for compute intensive research needs at UB. The purpose of this recommendation is to provide several additional research IT services: (1) a statewide computing infrastructure to support the SUNY research initiative described in the proposed SUNY Capital Plan, (2) a self-service compute infrastructure (BlueCloud) for UB researchers, and (3) research IT services for non-compute intensive researchers across the Institution.
Estimate $500k* (UB only)

This estimate includes expansion of CIT virtual server and storage environment with a self-service front-end to allow researchers to configure and active compute instances. It also includes resources to coordinate and document non compute-intensive IT resources (such as software access and training) for researchers at UB.

* Note: This estimate does not include any SUNY investment from their capital request to expand CCR for full statewide support.

Dependencies
SUNY capital investments
Deliverable: 
**UB IT Service Realignment and Standardization**

**Recommendation:**
Provide research IT services and support for faculty across the Institution including SUNY-wide cluster services (condo), self-service cloud computing, and research IT support.

With the internet of things exploding around the bend and every student, faculty and staff coming to the campus with more than one network attached device, our ability to provide quality customer support depends heavily on our agility and seamless service delivery throughout the university. It requires processes that blend through all decanal and administrative units leaving the end user with a quality experience that is reliable and consistent. The first step towards providing such an experience is a realignment of UB’s IT services across the campus and standardizing basic functions. One such function is the IT shared services help desk. The IT Shared Service Desk will integrate IT resources from across the campus to provide unified service delivery — so regardless of the number of IT professionals required to resolve a customer issue, the location of those resources, or the organizational management of those involved, the Shared Service Desk will serve as a single point of initial contact for the campus community.
Estimate $150 K – 200K (depending upon software tool used and licensing layer)

Costs include server infrastructure, storage and licensing costs.

Note: This requires an alignment and unification of business process for end user support across campus through the implementation of ITIL processes across all information technology support providers on campus
Deliverable:
Wired Network Modernization

Recommendation:
Refresh the data communications network infrastructure to maintain a reliable and robust infrastructure

The campus wired data network is the lifeblood of all IT services that the University relies on to function. Equipment and cabling needs to be refreshed on a regular schedule to maintain reliability and performance. Even as wireless use and capability grows, the wired network will continue to play a significant role in providing connections for the multitude of devices that we expect to be connecting in the future. Known as “the internet of everything”, we expect many common things will be connected to the network. There simply isn’t enough radio spectrum available to support all these devices via wireless. The performance of wired networks will always be higher than wireless (currently ~1000x). Higher bit rates are required to support many scientific and imaging applications. We anticipate desktop devices will make native use of 10Gbps wired interfaces by 2020. The wired network is also required to support all the traffic generated by the wireless network. Replacement and upgrade of this asset should be viewed in the same light as requirements for mechanical, electrical and plumbing (MEP) infrastructures.
Estimate $13M

Costs include equipment refresh over the seven year period 2013-2020, some fiber optic cable plant augmentation as well as an effort to upgrade copper cable technology to Cat6a for 20% of the desktops in support of 10Gbps by 2020.
Deliverable:  
Wireless Network Modernization

Recommendation:  
Provide robust WiFi wireless coverage for the campus

The University at Buffalo has made a significant investment in WIFI technology, but we need to do more. The rate of mobile wireless device adoption by Faculty, Staff and Students has outstripped our current resource allocation and ability to keep pace. Students now carry an average of over 3 WIFI connected devices.

In addition, a significant portion of our current resource allocation now has to go toward maintaining the infrastructure that we built over the past six years. To improve WIFI performance we must undertake several initiatives aimed at better managing the limited radio spectrum.
Users experience fluctuations in signal strength and symptoms ranging from slow speed performance to disconnection. This results in dissatisfaction with the service, frustration and loss of productivity. As the number of users grows, so does the size of the problem. To overcome these limitations we need to reduce the number of potential sources of interference and decrease the designed coverage radius for each access point radio. The University needs to make a significant investment in WIFI density similar to the efforts we had to build the initial campus internet deployment.

Estimate $6M

Based on industry standard design guidelines and the experiences of our peers, we estimate the need to roughly double the number of access point radios that are currently installed. We should do this as a concentrated effort over the next three years with a dedicated pool of resources. The Phase Two deployments should be prioritized to target areas where we are experiencing the worst congestion and interference issues. In addition, we need to replace many of the radios that were installed at the early stages of the Phase One build out. Once the Phase 2 deployment is completed, we need to spend $600k/year to maintain and refresh the existing inventory on a 7 year replacement cycle.
Deliverable:
Wi-Fi Enabled Bus Service

Recommendation:
Offer the UB Wifi service on the UB buses that travel in between campuses as well as the major bus shelters.

The time spent by students riding the busses between campuses could be put to better use if we provided the ability for them to connect laptops and other Wi-Fi equipped portable devices to network accessible applications. This capability can be facilitated by installing special purpose Wi-Fi Access Points on the buses and subscribing to a cellular data plan that would support shared access. This would be the same service and SSID’s that are offered on campus.

Each bus would be equipped with a cisco router with a Verizon 4G LTE card and an access point. The access point will advertise the SSID’s and do all wireless communication. They will be setup in Flex-connect mode so that they will dump all traffic off locally but will still authenticate centrally. The routers would enforce our security policies and route the traffic to the internet via the Verizon wireless card. The setup will be installed in a secure ruggedized manor in order to protect it from damage.
We have approximately 28 UB stampede buses that would be equipped for wireless. We would not equip the shuttles as the trips are too short to warrant it.

We will also cover a handful of the larger bus stops via wireless patch antenna’s from nearby buildings. The stops would be selected based on the average length of time waiting and the relative cost of equipping them.

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Estimate $200,000

Estimate covers the initial purchase and installation of equipment as well as the first year costs for backhaul link subscription. Note: Annual recurring subscription costs for the data plans are on the order of $30-40k.
In the contexts of reduced federal and state funding as well as public demand for greater accountability, many universities have focused on transforming academic support and administrative service areas in order to reduce costs, increase efficiency and improve quality. UB, like many of its peers, has undertaken service transformation initiatives in order not only to reduce administrative costs, but also to improve the quality of services and the effectiveness of our service delivery. In addition to these large-scale initiatives, multiple units across the university have conducted process improvement initiatives over the past decade in order to improve campus collaboration, customer service responsiveness and service quality. Many of the “easy” transformation opportunities at UB have been realized; however, new opportunities to increase efficiency and effectiveness through the development of alternative service models have emerged recently with the advent of Realizing UB2020.

As we enter the next phase of implementing UB2020, it is crucial that we maintain or develop service models that advance the goals of Realizing UB2020 (that is, that align and integrate with academic priorities of the university), facilitate innovation, and are effective, efficient, flexible, and sustainable.
We must examine current academic support and administrative service models in order to identify opportunities both to increase quality of service and to reduce costs. Services provided within academic units as well as those provided by academic support/administrative units must be assessed.

Functions to be studied might include finance, human resources, payroll, procurement, IT, communications, facilities, fundraising and development, student services, research administration, libraries, shared administrative support, academic instrument shops, and more. Service models to be explored could include creating service centers, sharing services, outsourcing, re-engineering processes, and automating workflows. New service models should be created both within UB and among UB and its partners. UB has a strong history of collaborating with other institutions--several peer institutions have consortial and system/state-wide models in place that we can review. While considering all of these potential models we should also determine if there might be value to be gained through working with consulting agencies with expertise in higher education service transformations.
### Task Force Recommendations

<table>
<thead>
<tr>
<th>Task Force Recommendations</th>
<th>Time</th>
<th>Cost</th>
<th>Complexity</th>
<th>Overall Impact</th>
<th>Priority</th>
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</thead>
<tbody>
<tr>
<td>1. Assess campus readiness</td>
<td>Medium</td>
<td>Low</td>
<td>High</td>
<td>High</td>
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<tr>
<td>2. Engage an outside consultant</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
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<tr>
<td>3. Review successes and challenges of current and completed UB service transformation projects</td>
<td>Medium</td>
<td>Low</td>
<td>High</td>
<td>Medium</td>
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<tr>
<td>4. Establish strategic intent/focus area(s) for continued development</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
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<tr>
<td>5. Update inventory/assessment of current service landscape</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
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<tr>
<td>6. Review national and international trends in higher education service model transformation</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>2</td>
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<tr>
<td>7. Implement recommendations from UB-Buffalo State shared service report</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>3</td>
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<tr>
<td>8. Develop pilot/proof-of-concept service model transformation initiatives</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
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<tr>
<td>9. Establish project principles</td>
<td>Medium</td>
<td>Low</td>
<td>High</td>
<td>High</td>
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<td>10. Create and implement a University-wide continuous improvement initiative</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
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</table>
UB has a robust history of service improvement programs. From 2000-2005 a campus initiative called The Institute for Administrative Quality Improvement (IAQI) provided focus and support for improving the quality of administrative functions, processes, and services in the context of meeting customer needs and improving overall efficiency and effectiveness. The Institute acted as an umbrella for the following project areas: Service Excellence, Learning and Development, Information Technology, Human Resources, Students First Initiative and other quality improvement initiatives undertaken at UB by the Office of the CIO, Student Affairs, and University Services. A summary of the background, organizational structure, process, and project lists of IAQI can be found in Appendix B.

Approximately 40-50 projects a year were selected as priorities for IAQI based on the following criteria: maintenance of customer focus; ability to instill accountability and measurable outcomes and timeframes for projects; fostering of staff development and training at the individual, team and organizational levels; potential to impact the campus culture and promote receptivity to change; and capacity to empower staff. Some projects served as a springboard for campus-wide transformation efforts that are still in place today.
Critical to the success of IAQI projects and their impact on the campus, was our participation with Network for Change and Continuous Innovation (NCCI), an organization developed in 1999 as a spin off from the National Association of College and University Business Officers (NACUBO) focusing on quality improvement in higher education. NCCI is dedicated to improving higher education nationally and internationally through providing a collaborative professional network for change leadership. NCCI’s vision is to function as a catalyst for higher education institutions to work collaboratively across institutions to employ effective methods to advance academic and administrative excellence.

Our NCCI membership provided the resources and foundation for UB to develop a framework/model based on the Baldrige Model for organized change management and continuous improvement within participating units. The IAQI led to a degree of successful transformation that had rarely been experienced on campus. Senior leaders cooperated through common processes to achieve and measure stated goals; staff were better trained and supported; and documented progress and palpable shifts in campus culture were experienced.
Recent Service Model Initiatives

The initial UB2020 planning process looked for ways to transform UB through realignment of our operational services so that we could benefit from more efficient service, improved process delivery, and cost savings that could be reinvested to support our research and academic goals. Phase I of UB2020’s academic support planning effort concluded that: UB’s campus systems and processes were non-integrated (many shadow systems were being used across campus to collect, analyze, and distribute information); support services were decentralized and fragmented; and administrative support systems and processes were inefficient (processes did not leverage available technologies and process workflows had unnecessary multiple approval layers). Four major process areas emerged in which opportunities for improvement presented themselves: Human Resources, Information Technology, Financial Services, and Facilities. After an examination of factors--including level of interest in change, strategic value, complexity, resource requirements, ROI, and connection to the academic plan--it was decided to focus on two major areas: Human Resources and IT. A consulting team (AVCOR) was engaged to facilitate the process and project teams for each area were developed to create and implement project and program action plans within a team environment. Other initiatives were added to UB2020 transformations as implementation of UB2020 itself progressed (see below).
Several of these initiatives are ongoing, while others have concluded. An important next step for UB is to assess the success of these initiatives.

Project teams included the following areas:

- **Information Technology Transformation.**
  Goal: to consolidate common services, develop common service delivery tools and processes, and create capacities by addressing the presence of too many duplicate services across departments, too many support options for faculty and students, and too little available resources to respond to needs.

- **Student Services Transformation.**
  Goal: to change and streamline students’ conduct of UB-related business by moving all student-related data into a seamless and secure environment that is shared across the university.

- **Environmental Stewardship:**
  Goal: endorse the American College and University Presidents Climate Commitment, craft an ambitious Climate Action Plan and rededicate the institution to meeting the challenge of climate change.
• **Digital Communication Transformation:**
  Goal: campus-wide standards and tools for a branded, message-centric, user-friendly Web environment through creating shared tools, templates, standards, documentation, information architecture and staffing models.

• **Human Resources Strategic Transformation:**
  Goal: implement dramatic changes in the way human resources are delivered to the UB community in order to become more efficient.

• **Sponsored Programs Improvement Initiative:**
  Goal: to integrate the staff and operations of Grants and Contracts Services and Sponsored Programs Administration into a single organization to provide full support of sponsored projects—from proposal concept all the way through award close-out—with improved customer service to UB faculty and the research community, and enhanced compliance with sponsor regulations.

• **Strategic Financial Advisory Committee:**
  Goal: to respond to significant reductions in funding from New York State. The advisory group provided advice on how to best to achieve financial targets while preserving the university’s mission, vision, and strategic objectives.
Service Model - Multi-Campus Collaborations

UB has a rich history of working with other campuses to gain efficiencies and deliver improved services. A recent example of our collaboration with other campuses is our 2012-2013 work with Buffalo State on developing shared services. A six-person UB/Buffalo State Campus Alliance Network working group met monthly throughout 2012 in response to the June 2011 SUNY Board of Trustees’ charge for a Campus Alliance Network to explore shared services. This charge was further emphasized in Chancellor Nancy Zimpher’s January 2012 State of the University Address. The UB/Buffalo State team formed in 2011 has focused on assessing the administrative areas where shared services exist or may be possible.

The UB/Buffalo State team began with identifying existing collaborations and shared services. To that end, an inventory of services the two campuses share with each other, as well as with other SUNY institutions, was created. In addition, an extensive list of potential shared service projects with Buffalo State was developed. The UB/Buffalo State working group developed 14 recommendations to guide implementation of shared services. The results and recommendations from this working group find UB and Buffalo State poised to continue existing collaborations, to initiate new cooperative activities, and to include other SUNY partners--community colleges (Erie and Niagara) and regional colleges (Alfred State, Brockport, Fredonia and Geneseo)--in this alliance.
The report from the UB/Buffalo State Campus Alliance Network working group provides governance model considerations, inventories of collaborations past and future, project criteria, shared service principles, and a simple rubric that can be used to determine if a shared services approach is warranted.

Many other examples of multi campus collaborations are available within the higher education community. Various institutions have formed consortia that have expanded educational opportunities, transformed programs, advanced research, enhanced efficiency, and reduced costs. Opportunities have been generated in areas such as course sharing, study abroad, research, libraries, IT, purchasing, staff training and development, travel, background checks, etc. Successful implementations include:

- Committee on Institutional Cooperation (CIC): http://www.cic.net/about-cic
- Claremont University Consortia: http://www.cuc.claremont.edu/aboutcuc/
The 2012 SUNY efforts aimed at cost savings and productivity were articulated with the desire to shift at least 5% of administrative spending to academic areas and academic and student support services over the next several years. Approaches to this will include:

- Strategic sourcing in order to use buying power to save on products and services
- IT transformations to improve efficiencies while reducing spending
- Creation of transaction processing centers, regional hubs, and centers of excellence
- Formation of campus alliance networks (such as UB’s partnership with Buffalo State) and administrative alliances
- Campus-to-campus projects and programs

SUNY shared services offers an effective model for improving efficiency, generating cost savings, building capacity, and increasing resources for core academic mission and student services. To be successful, and to realize its significant potential, however, the shared services approach must become part of campus culture.
It is anticipated that the SUNY shared service efforts, if properly planned, implemented, and assessed, can greatly assist institutions in reaching excellence, as well as cost and productivity goals. While a dollar value for efficiency gains is difficult to measure, the potential for increased productivity is significant for all partner institutions.

This interest in SUNY system-wide solutions should influence our efforts. Successful implementations of shared services within at state systems include:

State System Models:
- Oregon State Model:  http://www.ous.edu/about/university_presidents/sharedservices
- University of California System, UCPATH:  http://workingsmarter.universityofcalifornia.edu/
- University of North Carolina Shared Services Alliance Board:  http://www.northcarolina.edu/ir/alliance/board/roles.htm
- Georgia State System:  http://www.ssc.usg.edu/SitePages/Home.aspx
- University of Texas Systems:  http://www.utsystem.edu/offices/system-wide-information-services/shared-services
A shared service center is characterized by the provision of a service by one part/unit of an organization rather than the provision of that same service by multiple parts/units of an organization. Shared service centers are a way of reorganizing transactional functions to deliver cost-effective, flexible, and reliable services to customers. The key to shared service centers is the idea of “sharing” within an organization or group. As such, shared service centers differ from centralized services. Shared service centers are being implemented across higher education institutions as well as in private industry.

Reasons to consider Shared Service Centers include:

- Quality: reduce process errors through reliable/direct communication with staff responsible; process transactions and support/advise customers across campus units with dedicated/highly trained staff specialists; improve customer service with staff performance program/appraisals tied to success on shared service outcomes; offer additional staff incentives such as opportunities for advancement; consolidate and streamline administrative functions to ensure the most efficient and effective service delivery; provide more responsive customer service

- Strategic: free up unit staff to address areas of expertise/focus on each unit’s goals/objectives; eliminate service gaps/delays - especially in small units with unexpected staff absences; create flexibility to adapt to evolving campus needs; allow/support a performance-driven culture
• Economic: increase productivity through improved workflow, decrease costs of centralized technology use/support, shared expert/specialist staff; lower cost of ownership over time to allow a broader range of services to a greater number of departments at a lower cost

• Speed: improve workflow; leverage volume to result in reduced cycle/process times/higher priority response/impact

Criteria/Candidates for Shared Service Centers:

• High/shared transaction volumes across different types of units (academic, operations, service)

• Processes that are transactional/administrative in nature (not strategic/objective); processes that are simple, repeatable

• Limited customizations/exceptions required

• Consistent and stable content, information, and services

• Centralized computing system/Enterprise Resource Planning (ERP) currently being used for transactions
Potential UB Opportunities for Shared Service Centers Implementation:

- Shared Business Services – financial, procurement, travel
- Shared Administrative Services – clerical, support staff functions
- Shared Operations – instrument shops, print services, marketing, communications
- Shared HR – recruiting, personnel transactions
- Shared IT
- Redistributed central services functions

Shared Service Centers in Higher Education Institutions (examples):

- UC Santa Barbara: IT/communications, personnel, finance, procurement, shop services, conferences/events http://www.pmo.ucsb.edu/content/welcome
• University of North Carolina: finance, IT, HR system-wide: http://www.northcarolina.edu/leadership/ga.htm

• Yale: finance, operations http://yss.yale.edu/

• Cornell: financial transaction centers http://www.dfa.cornell.edu/universitybusiness/

• UC Berkeley: administrative/clerical support centralization, HR, IT, financial, research http://www.nacubo.org/Business_Officer_Magazine/Magazine_Archives/January_2012/Remodeling_in_3%E2%80%93D.html

• University of New Hampshire: business service centers http://www.unh.edu/vpfa/budgetbsc.html

• Oregon State University: HR, finance, research administration http://oregonstate.edu/fa/bc/

• University of Kansas: HR, finance, research administration http://cfe.ku.edu/ssc/

• John Hopkins University: finance, HR http://ssc.jhmi.edu/generalssc/faq.html
Recommendation:
Assess Campus Readiness

Before implementing service model transformations, we must assess whether the university is willing to consider alternative service models and/or administrative structures. The following questions can be used to assess our readiness for service model transformation:

- Do we want to take on large-scale “transformations” or small-scale unit-based initiatives or a mix?

- Are we committed to applying new approaches (e.g., a shared service approach) to academic as well as academic support units?

- Do we have the capacity to implement large-scale changes?

- What is the primary goal for exploring service models in general and/or any specific service model? (Cost savings, improved services, both?)

- What is the desired service impact of changing a particular service model and how will we assess that impact?

- If a cost-savings is achieved, where are the savings to be reinvested?
• How can we ensure that apparent cost savings are not merely cost shifting (e.g., from administrative units to academic units or vice-versa?)

• How can we ensure that a reduction or centralization of services does not result in duplicated staff, structures, or systems (e.g., shadow systems) elsewhere in the university?

• How do we maintain a balance between autonomous and highly decentralized academic structure and a potentially more efficient, cost-effective delivery of administrative/academic support functions?

• Are the benefits of any particular change adequate to entice participation by multiple units?

• Will a given approach be flexible enough to support modifications to support unique environments/unit needs?

• Does the campus have adequate resources to launch and sustain a new transformation initiative?

• Are we willing to invest time and effort required to do detailing planning and phased implementation with the possibility of limited or delayed ROI (that is, scenarios that are not quick wins)?
Recommendation:
Consider Engaging Outside Consultants

Recommendation:
Review Successes and Challenges of Current and Completed UB Service Transformation Projects

Recommendation:
Establish Strategic Intent/Focus Area(s)
Recommendation:
Update Inventory/Assessment of Current Service Landscape

Recommendation:
Review National and International Trends in Higher Education Service Model Transformation
Recommendation: Implement Recommendations from UB-Buffalo State Shared Service Report

- Create a shared services culture on both campuses and institutionalize that culture

- Integrate shared services as a part of the strategic plan of each of the campuses

- Build shared services into the projects considered by campuses

- Communicate to the campuses that shared services decision-making should follow traditional office/unit decision-making (i.e. same authority to share services as authority to hire/buy, etc.)

- Build shared services into standard operating procedures: include in strategic plans, operational goals, annual reporting, hiring and purchasing policies, project intake and portfolio management, employee performance programs and appraisals, awards and recognition programs

- Regularly collect information on current/ongoing shared services and the impact of those services (i.e. savings, benefits, reinvestments) to maintain the Inventory of Current Alliances (ICA)
• Establish clear responsibility on both campuses for maintaining a shared services program (i.e. identify responsible officer/office)

• Continually assess the impact of shared services projects (i.e. Is it working? Are campus needs being met?)

• Continue to review other higher education consortium/shared services projects to learn and improve and expand work with others

• Update the UB/Buffalo State working group report one year from now, in order to assess progress and make recommendations on next steps

• Look beyond the current opportunities for new and larger shared services opportunities. Expand the positive impact of sharing services, and move that process to the next level

• Continue to work with SUNY, area community colleges and Finger Lakes region SUNY colleges to expand the benefits of shared services

• Fulfill the working group charge by pursuing implementation of the proposed projects

• On a regular basis report to the campus communities on the implementation of shared services, the impact of collaborative efforts, and the extent of savings, reinvestment or cost avoidance
Recommendation: 
**Develop Pilot/Proof-of-Concept Service Model Transformation Initiatives**

Using models outlined above, multi-campus collaborations (shared services among campuses); state system models (shared and/or centralized services across the SUNY system); and shared service centers (within UB):

- Establish working groups that will develop and advance recommendation(s) for approval/endorsement by senior leadership
- Develop benefit/cost analysis, including risks, for pilots (look at cost and service level if change nothing)
- Examine resources available, willingness to change, tolerance for disruption, support of top senior leadership
- Ensure appropriate ownership of any given pilot
- Decide whether a particular pilot represents a transformational strategy or an incremental unit-based improvement effort
- Create robust assessment plans
- Clearly and widely communicate pilot project details
Recommendation:  
**Establish Project Principles**

In adopting any new service model or significantly adapting a current model, we must:

- Be clear about what the impetus for change is as well as how the process of change will be managed
- Articulate goals and objectives (short and long term)
- Ensure strategic significance and alignment with campus plan (Realizing UB2020)
- Recognize the external environments we operate in as well as cultural differences among units
- Develop clear governance/decision-making structures
- Include a broad range of stakeholders
- Ensure that senior administration is committed
- Develop a communications process
- Provide adequate budgetary support (initial and ongoing)
- Invest resources (staff, technology etc.) necessary to make the model a success
- Provide clear service level agreements among participating areas
- Establish end-to-end process ownership
- Utilize assessment and feedback during and after the implementation process
- Create flexible process in order to adjust to customer/campus needs
Recommendation:
Create and Implement a University-wide Continuous Improvement Initiative

Investing in an university-wide culture of continuous improvement will assist the University in fulfilling its mission of excellence, efficiency and engagement. Through the Continuous Improvement Initiative, the University can encourage and facilitate a positive culture that engages all employees in continuous and measurable improvement when approaching all work processes.