

Flagship 2030 Final Report
University of Colorado at Boulder
Facilities Task Force
September 2008

Introduction

Facilities Task Force Membership: John Bennett, Michael Dunn, Carlos Garcia, Casey Jones, Joe Jupille, Terry Kleeman, Tad Koch, Kambiz Khalili, Paul Leef (Chair), Keith Maskus (Co-Chair), John Morris, David Normann, Patricia Rankin, Robin Suitts, and David Webb

Core and Flagship Initiatives: Our task force was assigned to consider three core initiatives (Enhance Education, Research Excellence, and Tools for Success) and five flagship initiatives (Residential Colleges, University Villages, Year-Round Learning, Making Enterprise Work, and Colorado's Research Diamond). We extensively discussed each of these areas and recommendations in each are listed below to the extent they reflect improving the use of facilities, expanding facilities, and contributing to broader goals of the University and Flagship 2030. However, we chose to prioritize our efforts and focus on critical issues as described in the report.

Workplan: The Task Force met numerous times in joint session to hear from university planning officials and private developers and architects and to discuss the initiatives with which we were charged. In the spring semester the group was split into a number of subgroups that made recommendations on specific issues. Over the summer the focus shifted to research and interviews of knowledgeable individuals. Research involved reading relevant materials available from other universities, consulting the management literature on university involvement in economic development and research parks, and interviewing officials at CU-Boulder and other universities. Task Force meetings in the summer were devoted to issues of university policy and process, on the one hand, and questions of planning and design, on the other hand.

Examples of research materials consulted include studies of the Research Triangle project in North Carolina, space-allocation models at the University of Michigan and Southern California University, a survey of space use at a number of university campuses, and recent plans to develop a residential village at the University of California-Davis. We also read the recommendations of the CU Capital Advisory Committee (CUCAC, Report to the President, 31 July 2007). Task Force members also interviewed Frank Bruno (VC for Administration), Deb Coffin (Dean of Students and former Director of Housing), Robert Davis (Dean of Engineering), David Getches (Dean of Law), Todd Gleeson (Dean of A&S), Anne Heinz (Dean of Continuing Education), Bill Kaempfer (AVC, Academic Affairs), Byron Koste (Executive Director, Real Estate Center, Leeds School), Jeff Lipton (Director, Research Building Services), Steve McNally (AVC, Planning, Budget and Analysis), Dan Sher (Dean of Music), Stein Sture (VC of Research and Dean of the Graduate School), Moe Tabrizi (Assistant Director, Facilities Management), and Jim Williams (Dean of Libraries). We also consulted with chairs of other task forces that were assigned initiatives overlapping with ours.

Part One

We identified nine “big ideas” that are highlighted below, along with several recommendations for their implementation, at least over the medium term. In each case we note the timeline and some indication of resources needed for implementation. Note that some of our recommendations are tied to new sources of funding and may not impose any claims on university resources under business as usual. In most cases, though, capital resources and sound planning should precede any facility solutions. Ideas 1-4 have a planning or funding component to them and are therefore presented first. Concepts of sustainability and technology infrastructure need to be integrated into the capital planning and budgeting process, since they are difficult to add later, so these are included in Ideas 3 and 4. Items 5-7 deal with actual campus development. Items 8-9 refer to improving relations with external constituencies in order to gain access to resources they may have for facilities development. The Task Force finds that these items need further study.

Big Idea 1: *Expand Capital Resources.*

It is clear that new and improved facilities are vital to the Flagship 2030 vision and planned growth, at levels above and beyond the \$700M five year capital improvement plan (CIP) for the Boulder campus. Initiatives for residential and academic living and learning arrangements will require reconfiguration of existing housing stock to attract upper classmen, accommodate academics and sustain undergraduate enrollment growth. Desired growth in graduate enrollment and research will necessitate construction of new labs and offices as well as provision of new graduate and family housing. As discussed later in this document, development of the 200 acre east campus and areas north of Boulder Creek requires large scale capital investment in both infrastructure and new facilities, at the same time deficiencies in the quantity, quality and types of existing space on campus also require capital expenditure. Furthermore, needed development will occur more economically if the work is prosecuted concurrently rather than incrementally. Therefore the following capital strategies should be explored, perhaps through the creation of a task force consisting of budget officers and campus planning and administration officials:

- Increase CU System debt capacity beyond the 7% threshold or issue longer term debt. Longer term debt, justifiable for CU as a long-standing state institution, makes strategic capital investment more attractive and affordable. (At the same time, emphasis should be placed on designing greater flexibility into future buildings, in recognition of longer bond terms)
- Investigate options for legislation enabling creation of a development authority with the ability to issue debt and raise revenue. A local example is the Fitzsimons Redevelopment Authority. A more intriguing example is the New York State Energy Research and Development Authority (www.nyserda.org) which was financed in part by public utility rate increases. NYSERDA has also played a lead role in the development of the Saratoga Technology + Energy Park (STEP) in upstate New York.
- Support a statewide COP (Certificates of Participation) to benefit higher education capital construction. In 2000, the state of North Carolina initiated a \$2.5B bond referendum which passed with over a 70% approval rate. That bond issue addressed both new

construction and deferred maintenance. It is critical that deferred maintenance and renewal of aging buildings and infrastructure be addressed in long term capital planning.

- Pursue a capital campaign congruent with forecasted capital needs.
- Investigate third party or public/private financing of new development.
- Engage students in dialogue about capital needs and the feasibility of a new capital or renewable energy fee.
- Pursue a federal and state legislative strategy that includes funding of major research centers or low cost loans for R&D facility construction. (Under the American Competitiveness Act, Congress passed legislation authorizing research park development through federally insured low cost loans, although funding was not provided. Currently, the Association of University Research Parks is promoting a legislative agenda that includes “the inflow of financial and facility capital” into “designated communities of innovation.” See www.aurp.net for more details.)
- Pursue research park infrastructure development through grants by the US Dept of Commerce Economic Development Agency.
- Set aside a percentage of the increased revenues generated by Enterprise flexibility, state mineral leases, and other new sources to establish a Facilities Improvement Reserve Fund. Revenues would be used for investments in deferred maintenance, information technologies, and related facilities needs.

With regard to this final item, it should be noted that the university faces major investment needs for deferred maintenance and upgrading its information technologies. Deferred maintenance is currently estimated to be well in excess of \$250 million on campus, a figure that is rising quickly with unforeseen increases in materials costs. To deal with this problem effectively the university needs to invest at least \$15-18 million per year for the foreseeable future. The university will also need to make significant investments in emerging information and communication technologies. While we think it important to consider using some of the existing resource streams for these investments, dedicating some portion of new revenues generated from Enterprise flexibility (see the report of the Task Force on Making Enterprise Work) and tuition paid by mineral leases should be allocated this way. We would further encourage the development from these sources of a sustainable fund that would permit additional borrowing to finance future building projects.

Big Idea 2: Optimize space planning and strategic capital planning at the institutional level.

The Task Force recommends that the campus significantly rationalize the processes for using current and future space on campus and for capital planning, while moving toward a more sustainable financing model. Recommendations for implementation:

Space Planning

- Investigate creation of a high-level Space Planning Committee to oversee space-allocation processes. This group would include representation across colleges, housing, auxiliaries, research property and facilities management to sharpen space guidelines, oversee annual space inventories, review periodic space utilization reports from Deans and other officials and consult with the Boulder Campus Planning Commission (BCPC) on backfill decisions. Provide staff support for this group and for managing space inventories.
- Have this policy group develop a space utilization component to responsibility-based budget management. This policy could include fiscal incentives and disincentives to units, colleges and other authority centers in order to promote efficient space usage.
- Academic units, colleges, and other responsibility-centers should engage in space planning. Strategic plans should describe means of improving efficiency of space utilization. This process could be part of Program Reviews.

Formation of the Space Planning Committee and allocation of funding for 1 FTE could occur within 12 months, but preferably in the current fiscal year in order to inform the campus master plan update.

Capital Planning

- As recommended by the CU Capital Advisory Committee, streamline the capital planning process.
- Create a high level, broad-based planning body to ensure that capital planning is continuously integrated with strategic planning, master planning, academic planning and staffing plans or reconstitute an existing body for this purpose. It should ensure that broad institutional goals, such as the flexibility of space and sustainability, are pursued.
- Make the capital planning process transparent. The planning body should ensure that all Deans and Vice Chancellors (or their designees) be informed in a timely manner of proposed projects and given an early opportunity for joint discussion of the projects. Building projects should be advanced on a well defined schedule with appropriate website postings and notifications of affected stakeholders.

Formation of the proposed planning body should occur prior to the end of the 2008 calendar year in order to guide planning efforts for the next fiscal year and to help design the process for the new campus master planning effort.

The justifications for this set of recommendations are straightforward. They stem from the fact that better use and improvements of *existing* space is at least as important as developing new facilities. First, the university has an *ad hoc* space-allocation model that encourages units to treat space as a free commodity rather than the scarce and valuable asset it is. Space is often used inefficiently and sometimes outside the scope of existing space guidelines. Further, units see space allocated to them as property rights, despite university guidelines stating otherwise, making it difficult and costly for colleges to reallocate offices. And information on space usage is updated sporadically, despite the centralized inventory, which only tracks allocations, not utilization efficiency. Thus, we find that a high-level Space Planning Committee (SPC) could do

much to sharpen and publicize the existing guidelines, sustain current information on space utilization, and encourage space agreements across colleges, particularly as backfill space becomes available. The intent is to achieve better management of space and an improved information flow for campus administration in its decisions regarding reallocation of space.

Second, we recommend that this SPC, among its first duties, study the feasibility of establishing fiscal incentives for efficiently using space and transferring space across units. Similar policies are in place at the University of Michigan, Stanford, and other major universities. Third, we think it important that units and colleges (including non-academic units) be required in their strategic plans and program review documents to engage in space planning, including planning for greater space efficiencies, including from eliminating ineffective centers and programs. As the university hires additional tenure-track faculty and enrolls more graduate students, as promised by Flagship 2030, the need to accommodate them will become ever more acute. Units need to identify in their hiring proposals their plans to find offices for new faculty and graduate students.

Third, we found uniform dissatisfaction with the current capital-planning process among Deans and other participants. The major root of this problem is that state funding for new buildings is inadequate, and state funding decisions may be rescinded or altered well into the process, making capital planning an uncertain and lengthy ordeal. We have little to suggest on that score other than redoubling the university's lobbying efforts with CCHE and the legislature to improve and streamline their system. However, there are problems even within the university's internal process. While the capital-planning system is built on sound principles, many projects arrive at the BCPC only after a program plan is developed. By that time a significant and high-level commitment has been made to the project by its advocates and facilities management, making it difficult for the BCPC to recommend more than minor changes. In short, the BCPC is no longer a *planning* commission and does not play its intended role in prioritizing land use on campus. Further, capital projects sometimes appear quickly and are presented to the BCPC without opportunity for Deans and other officials to vet them and discuss whether they meet the overall programmatic needs of the university. Therefore, we believe that a vital planning function is not being performed and this gap must be filled. Finally, we agree with the CUCAC that the process can be streamlined if many of the reviews and approvals were made concurrent rather than sequential and if selection of architects and contractors were made in Phase 3 (Project Approval Phase).

Regarding timeline, we recommend constituting the SPC immediately and have it develop a space-management plan, including potential incentives, within 12 months. The SPC would need at least one staff member. Internal changes in the capital-planning process can also be made quickly (except those potentially requiring new state legislation) and without cost, as can implementing space planning into program reviews. We recommend announcing the allocation of additional revenues to deferred maintenance and other needs immediately upon the implementation of policy changes generating such revenues.

Big Idea No. 3: Establish environmental sustainability as a central value of the university regarding facilities, transportation and parking and place these needs on a sound fiscal footing.

Recommendations for implementation:

- Incorporate principles of sustainability into the Boulder Campus Master Plan and all building and renovation projects. Build a “green cost premium” line item equivalent to 1.5% of total project costs into capital projects to pay for environmental improvements consistent with the University’s commitment to reduce emissions to a zero-net-carbon footprint.
- Incorporate energy efficiency into college-level and unit-level responsibility budgeting with fiscal incentives and awareness programs.
- As residential and academic buildings are renovated on main campus, architectural designs should work to make denser use of space possible. Possibilities include the use of cubicles, making multiple offices from large spaces, and increasing building height where campus architectural rules permit it.
- Reduce automobile congestion on main campus. One possibility is to impose differentially higher permitting fees. Another is to encourage, with cheaper permitting fees, campus users to park in new structures built on EC or Williams Village and ride the shuttle.
- Consolidate parking and transportation programs and services within Parking and Transport Services (PTS). This would permit efficiencies in terms of human resources, reduce transport service duplication, and also rationalize use of on-campus parking by unbundling housing from parking. The latter is important for ensuring that in the future each parking space is available for multiple uses.
- Develop sustainable funding streams for new parking and transportation programs and infrastructure. Less parking on campus will reduce revenues for sustaining the functions of parking and transportation services, including shuttle buses. A high-level administrative policy group should be impaneled quickly to consider new revenue models, such as “systems development charges” for units that do not currently pay for parking, consolidation of transportation-related student fees and auxiliary resources into one funding pool for campus parking and transportation needs, and relaxing policies preventing general fund dollars from being used for improving parking systems.
- Promote the consolidation of data centers (see also Big Idea No. 4)

Our justifications for these recommendations are as follows. At the same time the campus has planned a five year capital improvement plan with new buildings and renovations in excess of \$700M, it has also made a major commitment to reducing its energy use, with an ambitious plan to achieve carbon neutrality by 2050. We agree with this philosophy, noting also that investments in energy efficiency in new and renovated buildings can pay off through reduced energy use, albeit at higher initial cost. At least one other major research university already embeds a one percent green premium into project planning. New budgeting procedures should be developed so that additional first costs could be financed through savings in energy costs. At a minimum, the University should connect energy costs more closely to academic departments and other units that directly use energy by improving metering where necessary and having units pay for utilities.

The Boulder Campus Master Plan requires the densification of the main campus and developable land consists primarily of existing surface parking lots. Increasing campus density and pedestrian activity on campus will necessitate a reduction in on-campus vehicular travel

especially in the core. That reduction is essential both to improve safety and to enhance the on-campus pedestrian experience. To eliminate the significant modal conflicts along Colorado Avenue and 18th Street the University should reduce traffic by having that area available only for transit and emergency vehicular movement. Several demand-management strategies can meet this goal, including a student parking ban and differentiated pricing.

The ability of PTS to fund needed programs, services and infrastructure is limited the requirement that, as an auxiliary, it fund all of its programs through permit fees and parking fines. As parkers convert to other modes of transportation and the supply of campus parking spaces decreases, PTS resources will be depleted. At the same time, demands for alternative transportation and off-main-campus parking will increase. Rethinking the funding model is necessary in order to meet future transportation demands, while consolidating parking and transportation functions will provide efficiencies in program delivery and resource allocation.

This issue is listed following the campus planning recommendations because of the need to address sustainability early in the capital planning and budgeting process.

Big Idea No. 4: *Invest in needed infrastructure and technologies that enable research, creative work, and learning.*

Recommendations for implementation:

- Establish an expert group to ascertain the feasibility of constructing studio and/or video conferencing spaces to facilitate distance learning, teleconferencing, and streaming of academic content. Develop an annual capital improvement program to saturate the campus with video conferencing facilities within five years.
- Over ten years, invest in library facilities and collections reflecting best practices appropriate to a premier, flagship university campus. Complete the work proposed in the Program Plan for Norlin Library to the fullest extent that resources permit. To facilitate the needs of graduate students, build study carrels in libraries and new and renovated buildings.
- Incorporate intellectual commons areas in architectural designs for new and renovated buildings. This will facilitate work and communication needs and provide greater opportunities for students and faculty to interact.
- Establish a reserve fund for needed investments in information and communication technologies. Because the evolution of new ICT is uncertain there needs to be flexibility in the capacity to make investments. It is also important to be able to maintain the equipment in place. A reserve fund, established as discussed in Big Idea One, would establish such flexibility.
- Form a working group to develop plans for data-center consolidation. This would promote high-performance computing use on campus and centralization would achieve efficiencies with space use, energy consumption and support. Our research found that the New York State Foundation for Science, Technology and Innovation (NYSTAR) partnered with IBM and RPI for creation of a \$100M supercomputer facility; similar partnerships may be possible in Colorado. Such a facility could also be partitioned to meet campus central computing needs.

Development of video conferencing facilities offers immediate short term impact and meets multiple goals related to both the Flagship 2030 plan and recommendations of this task force. As discussed in Item 6 below, video conferencing could play a key role in the successful migration of programs to the east campus. It is also mentioned as a helpful solution to transportation and linkage problems between the main campus and east campus and also could reduce congestion and carbon emissions per the Chancellor's commitment to carbon neutrality. Development of a robust cyber infrastructure is also noted in the work of the research task force as critical to supporting interdisciplinarity and collaboration. Finally, video conferencing can also play a role in the globalization of the campus.

Big Idea No. 5: Accelerate planning for a new classroom and faculty-administrative office building.

The 1999 campus master plan identified a shortage of 233,508 ASF of academic office and service space beginning with AC 1999-2000. Using the growth model on which the 1999 master plan was predicated, this space deficit is currently estimated to be approximately 154,351 ASF in FY 2008-09. However, the deficit is, in reality, much greater because enrollment and staffing growth has occurred at rates in excess of those assumed in the 1999 campus plan. While it may be true that backfill of vacated space planned for in the 5 year capital improvement plan (CIP) may be adequate to address 300 new faculty hires (in part or in full) by moving programs to new facilities on the east campus, there still exists a significant space deficit that needs to be addressed.

In order to accommodate the unplanned growth which occurred since the last campus master plan, task force members reported that conference and meeting rooms have been converted to offices, faculty are doubled up or housed outside of their academic units and graduate students are not being accommodated with work space on campus comparable to peer institutions. In order to support the strategic goals of fostering collaboration, recruiting new faculty and increasing the numbers of graduate students, then, it becomes necessary to restore and promote interactive collaboration space and decompress overcrowding of existing facilities.

Furthermore, in reviewing the recommendations of the Task Forces on Research and Outreach, it is clear that an expansion of administrative office space may also be needed. Additionally, new centers may also be formed. Therefore, it will be critical to have new space available to provide the campus with flexibility as new initiatives for supporting and advancing the strategic plan are developed. At present, a new office building is listed on the campus five-year capital improvement plan but it is not actively being programmed. This task force recommends that planning efforts be initiated as soon as possible and in close coordination with the strategic capital planning body identified in Item 2 above. To optimize the uses of this building we recommend that planners consider making it a combined classroom and office building.

Big Idea No. 6: Build out East Campus (EC) as quickly as possible to be a second academic campus.

Recommendations for implementation:

- Begin planning facilities that would contain lecture halls, classroom-laboratories, office space for faculty, graduate students and staff, and common areas. The Task Force believes that development of the EC into a second academic campus is essential for ensuring its vitality and sustainability. Keeping it as a science-based research park without a significant teaching and residential function would keep it marginalized and also fail to meet space needs on central campus. Still, initial academic facilities on EC should complement planned migration of biochemistry, bioengineering, chemistry, and energy and environmental sciences to that location. The Task Force also believes that the layout of the EC should be consistent with the Main campus, which has proven to be successful and pedestrian friendly, and that architectural styles be compatible and complimentary.
- Special attention should be given to overcome the physical barriers to connectivity between the main and east campuses. Consideration should be given to a large, dedicated shuttle bus route running between central campus and EC and Williams Village and EC with a frequency no longer than every 15 minutes during peak times and investment in a sufficient number of free-use bicycles to permit rapid bicycle transit. There may also need to be a path parallel to the existing bike path to permit transport of scientific equipment and supplies on small motorized vehicles.
- Invest in additional infrastructure (for utilities, roads, landscape and parking) to facilitate physical development and a vision for the future. This is a time-tested strategy used by private developers to spur interest and facilitate construction. Federal grants may be available through the Economic Development Agency if it can be shown that the infrastructure will help support research and technology transfer.
- Provide opportunities to engage the larger community:
 - Establish a university welcome center (WC) and construct new and denser graduate- student housing. Within our task force and others multiple concepts involving the creation of a campus welcome center have been advanced. These involve several approaches: a WC as a stand-alone facility (on either main or east campus or both); a WC in an auxiliary facility, such as the UMC, and a WC as part of the hotel-conference center. Therefore, we recommend that the strategic campus capital planning body consider these options and provide clear direction to campus planning officers.
 - Planners should also consider locating a cultural facility on the EC, such as the Henderson Museum and Museum Collections, to increase its attractiveness to the community.
 - A satellite UMC (and possibly recreation center) should also be included in planning efforts. Amenities will also influence the success of the EC.
- Add new family housing, raze Smiley Court as soon as feasible and move the athletic fields to South Campus within ten years. The natural gateway to the EC and the primary point of physical connectivity between the main campus and the east campus occurs at 30th and Colorado Avenues. This gateway quadrant of the EC, inclusive of the Systems Biotechnology Building, should be developed first in order to create a striking visual image and psychological momentum to east campus development

- Work aggressively to acquire the Qwest (McAllister) building. Through the more transparent capital-planning process, develop a plan for its use, including academic functions.
- Accelerate the replacement of Smiley Court and the relocation of Potts and Printup Fields to the South Campus. Development of the quadrant of the EC that is closest to the campus at 30th and Colorado Avenue is viewed as critical to both connectivity and the creation of critical mass for the development. This necessitates the relocation of existing uses adjacent to the corner gateway of the campus.
- Quickly engage city officials to negotiate an appropriate update of the memorandum of understanding currently governing land use on the EC. This MOU significantly constrains the ability to develop the EC for at least 10 years and its renegotiation should be integrated with development of the new Boulder Campus Master Plan. Furthermore, an agreement on the south campus should be developed concurrently with EC planning.

Our justifications for these recommendations are as follows. First, we think it unlikely that the EC can thrive if it remains solely a research park with isolated science departments moving just their offices and laboratories. That strategy would create a separate mentality on EC that would detach faculty from the classroom, make it costly for faculty to teach on central campus, and limit opportunities for interdisciplinary work. The EC would retain its character as a residual location for some science departments and administrative services, failing to build a general academic vibrancy. This description is consistent with the experiences at other universities with research-only campuses. Next, the sooner this process begins the more vibrant the EC community will be, hence the need to reopen the EC MOU with the city and initiate serious negotiations about the south campus. We recommend that the EC development be made welcoming to the Boulder community through at least the establishment of a welcome center. (In that regard, we endorse the recommendation of the Outreach Task Force to build multiple welcome centers on campus.) We also urge the university to acquire the McAllister building and integrate it transparently into the EC planning.

There is no more important issue facing the development of EC than establishing a reliable and efficient transport system between main campus, EC and Williams Village. Relying on the Stampede Route with no increase in frequency will not be sufficient. Among the potential alternatives, we think a dedicated shuttle system with additional infrastructure for bicycles and light vehicles offers the best certainty for the investment made. We also note the possibility that classes on EC will need to have staggered starting times to facilitate inter-campus transportation.

The timeline is implicit in our discussion above. These projects would require investments in planning, perhaps including additional staff devoted to the EC project. Full build-out, including renovation of existing buildings, would require hundreds of millions of dollars over a long period, pointing to the need for more flexible revenue sources and financing models. Funding possibilities are mentioned in other sections of this report.

Big Idea No. 7: Establish a CU-Boulder Creek Village north of Boulder Creek in conjunction with a hotel-conference center. Recommendations for implementation:

- Quickly develop a plan to implement flood mitigation along the north side of Boulder Creek. Engineering plans already exist for this purpose and the primary initial challenge will be relocating residents of Athens Court and Marine Court.
- Once flood mitigation is achieved, construct denser mixed-use housing for faculty, graduate students and visitors. This housing would replace Athens Court, Marine Court and perhaps Newton Court.
- Establish a conference center and hotel complex within five years. The Task Force finds that the most sensible location for this facility would be north of Boulder Creek (i.e., along Arapahoe near Folsom) unless close study by the VC for Administration finds a better alternative use of that land. Design of this facility should ensure that the conference center is suitable for both academic meetings and training and for larger commercial conferences. While some members of the task force believed that a new academic program in hospitality should be investigated to help support hotel operations, others felt that a hospitality major was not consistent with curricular priorities at a research university.

These recommendations largely endorse a planning vision that already exists. Current housing along Boulder Creek is sub-standard and needs to be replaced. The location is ideal for denser housing development, which would help manage the needs of more faculty and higher numbers of graduate students. This development could be patterned after a residential village concept like that being planned at UC-Davis (see <http://www.westvillage.ucdavis.edu/plan.html>). The project, which could be termed the “CU-Boulder Creek Village” (or CUB Creek Village), should display more density and variety in housing choices, ranging from apartments in lower floors to higher-end units in upper floors. Planners could consider selling or renting upper units in the commercial market to attract private participation in developing the project. Along with the hotel-conference center and retail services that could be included, this would be the university’s first residential village, which might have an international theme for amenities.

The Task Force recommends development of these projects within ten years due to the need for accommodating more students and faculty while improving accessibility of the campus. We would hope this development could proceed in parallel with that of EC but recognize the need to stagger housing renovation, which would favor earlier development north of Boulder Creek than on EC. Again, creative financing models may be required to convert future rent streams into current construction projects.

Big Idea No. 8: Regularize and take advantage of partnerships with the city and private business. Recommendations for implementation:

- Quickly establish guidelines for best business practices and standards where university buildings involve private vendors or rental and use by non-university groups. This should be done within 12 months by impaneling a high-level policy group, directed by the Vice Chancellor for Administration, to develop standards for private use of university buildings. This group could have representation from the private sector. The university should command a significant share of revenues generated by such use.

- Within a year ascertain which existing privately owned buildings that are reasonably close to the university may be available for lease and are suitable for academic or auxiliary purposes.
- Explore alternative financing models for constructing and renovating facilities. Particularly on the EC and the suggested CUB Creek Village, new housing might be constructed more economically if the buildings are privately developed and owned but managed by CU housing. To the extent possible, selling existing research buildings to real estate concerns and leasing the space back may be an effective means of raising short-term finance.

The Task Force thinks a significant rethinking of the university's facilities relationship with private interests is in order. First, we are surprised that, despite guidelines to the contrary, colleges and units that invite retail businesses (e.g., coffee shops) into their buildings seem to develop these contracts without much recourse to central administration. There are no standards that govern such arrangements. Next, the short-term (over the next five years) office-space shortage will become ever more extreme and finding additional facilities off-campus for auxiliary and research functions must be a component of resolving it. Finally, because private construction tends to be faster and cheaper, and investors are willing to underwrite construction and renovation in return for repayment on a contracted payment stream, we find that new and expanded means of partnering with the commercial sector should be explored right away.

Big Idea No. 9: Develop a comprehensive and coordinated business plan for Colorado's Research Diamond. Recommendations for implementation:

- Within one year impanel a steering group to define the concept and write a business plan. This group must involve university administration and faculty from committed institutions, state and county development officials, and potential private partners such as Conoco-Phillips.
- If the suggested task force recommends pursuing the Research Diamond, begin preparing appropriate materials for enacting a coordinated, interuniversity Research Development Authority.

In interviewing people about the Research Diamond, the Task Force found that, while it is seen as an intriguing idea, there is no clear vision or leadership yet attached to it. It is quite possible to conceive of the Research Diamond as comprising simply the uncoordinated, but very impressive, basic scientific and engineering research going on at several potential partner universities. These universities and the state might get significant benefits simply from marketing this concept broadly, which could attract more high-tech applied businesses to the region. However, what vision there is involves a joint location for building research facilities and private companies, encouraging spinoffs and applied commercial research, with significant revenues from technology transfer. The Task Force cannot endorse this idea unless there is a substantive and coordinated business study of the feasibility of the idea, leading to a business plan. This plan needs to recognize that the Research Diamond would be an economic development strategy (as was the Research Triangle in North Carolina) requiring broad participation and public subsidies. It is unlikely that the University of Colorado could launch and sustain it on its own resources, nor could the university be expected to assume the greatest

share of risk in this venture. Thus, if the business plan seems feasible, we would recommend an interuniversity Research Development Authority, along the lines of the authority permitting development of the Anschutz Medical campus.

While we see value in organizing a steering group fairly soon, say within 12 months, development of the Research Diamond is surely a long-term project that could go forward only after a business plan is developed, a Research Authority established, and government and private participation ensured. Thus, the medium-term resource implications of our recommendations are small.

Part Two

The University of Colorado at Boulder cannot readily enhance its status as a comprehensive graduate research institution with strong undergraduate training unless it improves its management and development of the facilities that support that mission. In our view, this means using space more efficiently, re-orienting existing space to meet unmet and emerging needs of undergraduate and graduate students, planning new facilities that facilitate research and creative work while encouraging interdisciplinary collaboration, and investing in transportation and technological infrastructure.

Thus, if our proposals are implemented and successful the campus will have an improved management capacity for freeing up space for better uses, supplemented by auxiliary space from the community. It will have better library collections and information infrastructures, more spaces for graduate-student research and creative work, more classrooms, offices and laboratories to complement the EC development, and new housing that is technologically smarter. Backfill decisions informed by an overall campus vision should permit effective management of faculty growth in buildings that are currently at capacity.

The Task Force's proposals have significant implications for allocation of campus resources. If done correctly they should reaffirm that units occupy, but do not own, offices and laboratories. The proposals will require additional personnel for management, staff, planning, and facilities renovation and maintenance. None of that should be a surprise because it reflects the fact that the university has systematically underinvested in facilities management and maintenance. In our view, a larger and sustained share of financial resources should be devoted to investments in maintenance, technologies, infrastructure and capital projects. Our hope is that enough additional fiscal resources can be found through more flexible revenue generation and partnerships with the commercial sector that these investments will not strain other budgets. Without these investments, however, it will become increasingly difficult to improve the quality of education, attract more research dollars, and respond flexibly to new opportunities.

Conclusion

CU-Boulder has a beautiful campus, which in itself is one of its major assets. Unfortunately, the campus is under stress from poor maintenance and has been unable to grow sufficiently with programmatic needs.

Our proposals are aimed at restoring the campus to a condition in which it can meet emerging needs and respond to coming challenges and opportunities. This means that existing and future space use has to become smarter. It also means investing in new facilities, infrastructure and housing that integrate the many functions of a major research and teaching institution. We also hope to see the campus become greener, denser, and capable of sustaining enrollment growth. Finally, the Task Force wishes to see the extended campus become more welcoming to the community.