

UNIVERSITY OF COLORADO AT BOULDER

SUBCOMMITTEE REPORTS

FLAGSHIP 2030 STRATEGIC PLANNING PROCESS

May 1, 2007

Our Graduating Students
Research, Scholarship, and Creative Work
CU-Boulder and the State
CU-Boulder and the Boulder Community
The CU-Boulder Campus Community
Finances and Operations

SUBCOMMITTEE REPORT ON OUR GRADUATING STUDENTS

March 4, 2007

Question: *“What will our graduating students need to know and be able to do in the year 2030?”*

Summary:

Our main recommendations are in three key areas:

- **Graduates’ abilities and attributes:** Key attributes that a CU-Boulder education should supply include critical thinking ability, agility, global perspective and understanding, environmental understanding, values and ethics, civic engagement, and deep knowledge of one or more disciplines.
- **Institutional flexibility:** CU-Boulder needs to institute processes and a culture that allows it to consider and make significant institutional changes in response to unforeseen developments. These could include things as fundamental as the structure of course units, majors or degrees; the contractual or rostering patterns for faculty; and the structure of schools and colleges.
- **Interdisciplinarity:** CU-Boulder particularly needs to consider structures that support the hiring and evaluation of faculty engaged in interdisciplinary work, and that support the creation and operation of interdisciplinary academic programs. The campus should seriously considering creating a Dean of Interdisciplinary Studies to advocate for such faculty and programs, and a possible overarching institute structure for interdisciplinary programs.

We recommend an immediate step that would support and exhibit these characteristics:

- **The CU-Boulder Academy:** Create a four-year residential academic program where students gain the suggested abilities and attributes through an approach that is customized for each student. Rather than taking a prescribed set of core courses, the student and advisor would construct a set of curricular and extra-curricular experiences (including, for example, community service and international experiences) that provide the abilities and attributes in a unified and mutually reinforcing manner. The Academy should be regarded as a pilot and an example of institutional flexibility, not the only method of moving toward the goals.

Report:

Assumptions about developments leading to 2030

- Knowledge, facts will be readily available – so main point of education will not be accumulating knowledge, facts, but learning how to access, synthesize, analyze, evaluate and apply information
- Many basic structural characteristics of CU-Boulder will remain:
 - Will continue to emphasize integration of research and scholarship into undergraduate and graduate education, and comprehensive faculty research and creative work contributions.
 - Liberal arts majors/programs will remain large portion of campus/students.
 - Professional majors/programs will remain important aspect of campus
 - Probably will still offer degrees, mainly comprised of individual courses. Student probably still will come here and takes courses. But these characteristics could change.
- The state of Colorado and the nation will be increasingly diverse
- Global and civic issues will be increasingly important in education.
- The increased mobility of learners and teachers will create a need for students and faculty who are more open to culturally different points of view, and more capable of communicating across cultural boundaries, in educational and work settings
- Increasing numbers of incoming students will already have had an international/intercultural experience before coming to CU-Boulder
- Interdisciplinarity will be more important – curriculum, research
 - Interdisciplinary can mean many different things. These can include task oriented team work to solve a problem, different viewpoints within a single department, or combining multiple departments or disciplines.
- Life long learning and continuing education will have increasing role.
 - This includes expanding the scope of instruction beyond the residential campus, an increased role in life-long education of alumni, and more just-in-time learning
 - This includes while student is here, preparing students to continue learning
- Technology changes will strongly influence pedagogy and content.
 - Information is readily available, classroom experience is about how to access, evaluate, analyze, synthesize and apply information.
 - Students will expect more active and visual pedagogy, utilizing technology
- Students and parents will expect that a CU-Boulder education will prepare students for employment and to be able to get a job upon graduation
- Although English may continue to be a dominant international language, increased levels of international interaction will necessitate that more graduates have competencies in other languages
- Employers will expect students to have learned communication and technology skills and be able to integrate them into their study and work

Scenarios: The envisioned scenario in 2030 that CU-Boulder will have to respond to

- We can't predict the future 25 years out. Looking back 25 years shows this clearly. Thus, it is crucial that we create a university that is agile enough to adjust to a future that is unpredictable.
- There are likely trends that show that this will likely be a quite different world in 2030. Students may be more focused on the survival and health of the planet and nation than recent generations have been, and less in the mindset of a generally prosperous society. Some examples of likely influential forces include:
 - The environmental issues that students who are being educated in 2030 will see themselves as facing in the next 50 years of their lives may appear far more daunting than most of us think about now, potentially encompassing massive population redistributions and even the survival of the planet due to global warming and rising ocean levels.
 - Health issues could go in many influential directions. On the one hand, pandemics could have far greater impact than ever before, with the population of the planet reaching a saturation point also playing a role. On the other, we could be looking at 100-200 year life spans at some point which would greatly change the framework of society.
 - Geo-political forces could work in a myriad of ways. It is possible that by 2030 we will see greater destabilization (terror, war) caused by age-old ethnic and religious differences. We are almost certain to see a redistribution of economic and political power towards Asia.
 - Energy issues could reach a critical point, with some of them (e.g. depletion of some oil fields in the Arabian Peninsula) also impacting political stability.
 - Artificial life, ranging from robotic aids to environments that sense and react to human needs to fully functional androids, could enormously change and perhaps ease the human experience. It also is possible that virtual reality will have made the sensory experiences of being in the same space as another person achievable even if people are a great distance apart.
 - At the pessimistic end, it is possible that by 2030 the focus of students' studies will be more on future survival than reaping the rewards of prosperity during their careers. On the other hand, they could be preparing for a life whose length and/or quality is much higher than what we can imagine.
- Our graduates will need the critical thinking abilities, breadth and depth, global perspectives, civic knowledge, values, and agility to contribute in this uncertain world.

Strengths, weaknesses: CU-Boulder's current strengths and weaknesses in responding to that scenario; barriers to and opportunities for responding to that scenario

Note: The subcommittee did not spend much time on this topic, assuming that many of the same statements would come from each group. The following is a partial list of some key overarching strengths and weaknesses of CU-Boulder, coupled with some

strengths and weaknesses that are particularly relevant to some of our key recommendations.

Strengths:

- Excellent faculty
- Many high quality academic programs
- Appealing location
- Strong interdisciplinary research tradition, particularly in the institutes, sciences and engineering
- Excellent level of external research funding
- High quality environmental curricular and research programs and strong campus environmental culture
- Strong study abroad program

Weaknesses:

- Poor state funding
- Quality of academic programs not uniformly strong across all disciplines
- Low proportion of graduate students
- Overall quality of undergraduate students not as strong as at the leading public institutions
- Lack of a strong culture of institutional innovation
- Insufficient ethnic and international diversity in student body
- Lack of success in re-examining undergraduate core curricula
- Limited structure for creating and supporting interdisciplinary degree programs
- Insufficient support for success of faculty with interdisciplinary teaching, research and creative work interests
- No overarching campus plan for international engagement

Responses: CU-Boulder's necessary responses to be successful in that envisioned 2030

- A CU-Boulder education should equip our graduates to have the following abilities and attributes:
 - Critical thinking ability -- know how and why to acquire, evaluate and synthesize knowledge, facts.
 - Agility – ability to move from one field to another quickly in order to address problems as they arise Also ability to work with people in other disciplines.
 - Educated citizens – understanding the world around them, including geopolitical, anthropological, and ecological aspects of the world and world history.
 - Global perspective and understanding – of diverse cultures and perspectives within the U.S. and internationally
 - Values, ethics – foundations and applications within their areas
 - Civic engagement – inclination and experience, ability to contribute to the community
 - Appreciation of music, arts, literature, ways of knowing about being human

- Understanding and appreciation of environmental issues
- Knowledge of one of more disciplines and the way of thinking and approach in that discipline
- Ability to navigate between breadth and depth, and between reason and emotion, and to appreciate the roles of each
- Communication abilities, written and spoken
- Equipped to get and succeed at a job, including adaptability and ability to change
- CU-Boulder needs the flexibility to make significant changes (potentially including the structure of colleges and schools or other changes of that magnitude) in response to unforeseen developments. To do this, the campus needs an ongoing structure to systematically review institutional issues; a regular “Campus level program review.”
 - Given that we cannot accurately predict change and given the fact that the needs of our graduates will in fact change, the campus must put in place processes that will enable us to react quickly, efficiently, and intelligently to developments within higher education. We need to improve our ability to evaluate and to alter programs at all levels, from individual departments and institutes to the campus as a whole. While we should make use of current practices, such as program review, we will need to develop new structures that will be able to move nimbly and have the authority to make real changes.
 - These practices may involve such ideas as regular assessments at the department level of the success of curricular offerings, external advisory panels that might help in steering the direction of colleges and schools, or the creation of a campus entity dedicated to institutional change. In a sense, we want to create a culture of review and planning that would enable us quickly to perform a review on anything from a particular program in an individual department to decisions for the campus as a whole
- The hiring, evaluation and reward structure for faculty must recognize interdisciplinary contributions and abilities.
 - As interdisciplinary work becomes more common, the campus should consider whether a new structural approach is needed to foster the hiring and success of faculty engaged in interdisciplinary research and education. Issues include the ability to teach interdisciplinary courses and the recognition of interdisciplinary research, sometimes in areas where established conferences, journals and other mechanisms are young or non-existent. Examples of structural approaches include a new Dean of Interdisciplinary Studies who works with disciplinary deans/chairs in overseeing interdisciplinary faculty, a form of matrix management for faculty engaged in centers or institutes (as well as departments), and/or an overarching institute for interdisciplinary studies.
- CU-Boulder needs to significantly increase the diversity of its students and faculty. (We have not expanded upon this item as we expect it will be contained in another subcommittee’s recommendations.)
- CU-Boulder needs to continually assess the technologies that current students are using in their lives, and consider how these should impact the instructional methods that the faculty uses. There is likely to be a need to provide resources to help faculty bridge the gap between the technologies they are accustomed to and the ones that students use, and to examine which are useful pedagogically.

- CU-Boulder needs to integrate its curriculum and skills expectations with the Colorado K-12 system, and play a leadership role in the State's K-PhD educational system.
 - As demands on our graduates increase over the next decades, so too will demands on the State's entire educational system, from pre-K to post-graduate. CU-Boulder should provide leadership to dramatically strengthen this system to create opportunity for all of Colorado's children. In particular, CU-Boulder should strengthen its efforts to work with K-12 and community and state college educators and students to improve preparation in science and mathematics, to ensure that that Colorado's children are not compromised in their opportunity to participate in careers in "high-tech" fields, and to enhance the scientific literacy that is increasingly critical to full participation in civic life. The University should maintain a close partnership with K-12 curriculum developers and evaluators to improve communication and feedback regarding college preparation in all areas.
- We need to rethink the structure and purpose of continuing education
 - At least two factors will make just-in-time access to lifelong learning opportunities critical for our graduates: the speed of change in most professions, and limited opportunities to return to school for further classic education. CU-Boulder should get ready to provide ongoing access to education for its graduates; perhaps we should even guarantee ongoing educational support for graduates of our institution. This will require us to think about real-time virtual learning environments and non-traditional scheduling. We can't fully prepare our students for the rapid evolution of IT or its impact on their fields of expertise, but we can help them address their own changing needs into the future.

Actions to implement these responses

Time periods:

- *Short term: Up to 18 months*
 - *Mid: 3-5 years*
 - *Long term*
- Re-conceiving general education:

Notions of general education have changed several times in the last thirty years and will surely change again in the next thirty. Most often today general education is conceived as a set of courses in various categories that are set up to insure that students get a broad education. This model, enshrined in core curricula, does not insure that the student will get a coherent general education nor does it speak to the quality of that education. As CU moves towards 2030, the campus should engage in a conversation about general education that might move from a smorgasbord of courses to linked groups of courses or a notion including varying kinds of educational experiences (e.g., service learning, hands-on learning, and international education). Steps that might be taken:

 - In the short run, one or more of the residential colleges could be used as a pilot program where faculty and students could experiment with a changed notion of general education. This could involve designing a group of

curricular and extra-curricular experiences for each student to foster achievement of the abilities and attributes outlined above, in a unified and coherent manner. (Short and medium term).

- Another short term possibility is to use the current core curriculum but to advise students to pursue courses that link to one another, that speak to one another in interesting ways. (Short and medium term)
- In the longer term, the campus should engage in a conversation about re-conceiving general education that would result in a restructuring of the core curriculum, addressing the abilities and attributes outlined above. (Medium and long term)

- Additional steps related to the suggested abilities and attributes for our graduates:

Short term: Next 18 months

- Communicate this vision of our graduates from early recruitment throughout the learning experience.
- Define the University's values and expectations to all members of the University community. Articulate these values through a broad range of media.
- Implement a requirement that all graduates must participate in civic engagement and service learning for 20-40 hours prior to beginning their junior year.
- Implement University 101.
- Define effective and successful communication abilities which support this vision. Assess student communication abilities, written and verbal. Develop a plan of action which addresses gaps.
- Complete a climate assessment of the campus, with particular attention to the climate for those of diverse backgrounds. Identify issues and develop a plan for response.
- Enhance CU-Boulder's performance and reputation for academic excellence and high academic standards, perhaps by increasing focus and emphasis on critical thinking, effective oral and written communication, broad intellectual content, and complex problem solving skills suitable for all undergraduate degrees. Accomplish via developing new pathways for degree options with concomitant curriculum modification and emphasis plus highly visible statements in recruiting, admissions, etc. which point to these points of focus. Consider the addition of a senior thesis requirement.
- Enhance CU-Boulder's performance and reputation for graduating students who are well prepared to be active, ethical participants in a dynamic, democratic society. Possible pathways to accomplish could be via additional or different curriculum requirements such as portfolio requirement, service learning requirement, community service/civic engagement requirement, registration and/or voting in at least one national or local election requirement or other means. Expand and strengthen the 'residential college' idea to include opportunities for students in all four undergraduate years.

Medium term: 3-5 Years

- Implement the communication abilities plan (mentioned above).

- Implement the recommendations of the climate assessment plan. Re-assess the climate every two years.
 - Identify and implement the strategies and resources needed to support recruitment and retention of diverse staff and faculty.
 - Identify the strategies and resources needed to support diverse student recruitment and retention with the goal that the campus enrollment demographics, at minimum, reflect the State of Colorado high school graduate demographics. Ensure programs which support these students receive requisite funding and support.
- Require all students complete 20-40 hours of civic engagement and service learning each year as a condition of academic advancement. Develop the infrastructure which supports students' connecting with and achieving this expectation, including financial aid that makes this experience available to all students regardless of financial means.
- Enhance the Office of International Education to include the role of coordinating curricular offerings to students as well as all other aspects of international intersection within the University.
- Provide the infrastructure and the intellectual leadership to enhance the international perspective in student body composition, curricular offerings, and exchange programs. For example, given sufficient infrastructure, we could double the current proportion of students who have a 'study abroad' experience to 50% of undergraduates. In the longer term, require a study abroad experience of each undergraduate student. Couple this requirement with significant financial aid to make this experience available to all students regardless of financial means.
- Require some endeavor by each student that contributes to the objective of creating a green campus.
- Identify formal and informal practices and traditions which detract from achievement of the vision for our graduates. Engage the campus in supporting the elimination of these practices.

Long Term:

- Continue assessing the climate of diversity for our campus. Implement actions and identify resources needed to continue resolving and responding to issues.
 - Consider whether there should be a College of Interdisciplinary Studies or other structure to support curricular as well as research objectives.
 - Commit to be a green campus.
- Adapting to an ever-changing environment for higher education:
Given that we cannot accurately predict change and that the needs of our graduates will change, the campus must put in place processes that will enable us to react quickly, efficiently, and intelligently to developments within higher education. We need to improve our ability to evaluate and to alter programs at all levels, from individual departments and institutes to the campus as a whole. In a sense, we want to create a culture of review and planning that would enable us quickly to perform a

review on anything from a particular program in an individual department to decisions for the campus as a whole. Steps that might be taken include:

- Articulate “principles for a flagship” to help guide institutional level strategic planning
 - Revise the Program Review process to make it a more nimble way to engage in planning at all levels. (Medium term)
 - Periodically (say every 3-5 years), constitute an ad-hoc task force consisting of a small number of particularly creative thinkers who have a campus-wide perspective to assess the need for significant cultural, structural or other changes at the campus level, with the understanding that the recommendations of this group then will be seriously reviewed and considered by the campus. (Medium term)
 - Create a campus entity dedicated to institutional change. That is, form a body (e.g., “The Chancellor’s Committee on Agitation”) that has the task of agitating for change. (Medium term)
 - Institute regular assessments at the department level of the success of curricular offerings
 - Charge external advisory panels to help in steering the direction of colleges and schools
- Hiring, evaluation and reward structure for faculty
The hiring, evaluation and reward structure for faculty needs to recognize interdisciplinary contributions and abilities:
 - Create a Dean of Interdisciplinary Studies who works with disciplinary deans/chairs in overseeing interdisciplinary faculty. (Short term)
 - Consider whether a new structural approach is needed to foster the hiring of faculty engaged in interdisciplinary research and education, and their success including the ability to teach interdisciplinary courses, and the recognition of interdisciplinary research and creative work. Examples of structural approaches include a form of matrix management for faculty engaged in centers or institutes (as well as departments), or a new overarching institute of interdisciplinary studies.
 - Implement the new structure suggested by the above process. (Short to medium term.)
 - Integration with K-12:
Short term:
 - Participate in the Workforce Innovation in Regional Economic Development (WIRED) initiative and other efforts to assess the current status of K-12 programs in Colorado and develop strategies for improving the State’s educational system.
 - Initiate a campus-wide process of evaluating our existing outreach programs to determine what is and isn’t working, and benchmarking outreach strategies with other universities across the country, to identify strategies to enhance the pipeline of diverse students attending CU-Boulder.

- Expand existing outreach and teacher training programs aimed at increasing preparation and participation in science and mathematics by diverse students, with a special focus on creating strong, long-term partnerships with targeted K-12 schools with high enrollments of minority/economically disadvantaged students.

Medium term:

- Expand science, mathematics, and engineering outreach and teacher preparation programs to reach at least 25% of the middle and high school students in the state, targeting school districts with high percentages of minority/economically disadvantaged students and using remote delivery methods as appropriate.
- Utilize a process of continuous evaluation and improvement to sharpen the value of outreach programs across the University.
- Participate with other educational partners to raise funds to guarantee in-state tuition assistance for all Colorado students who qualify, so that tuition costs are not a barrier for any student.

Long-term:

- Collaborate with others to provide sustained funding to guarantee access to in-state higher education for all qualifying Colorado students.
- Achieve diversity at CU-Boulder that mirrors the diversity of the State's high school graduates..

- Continuing education

At least two factors will make just-in-time access to lifelong learning opportunities critical for our graduates: the speed of change in most professions, and limited opportunities to return to school for a classic education. CU-Boulder should get ready to provide ongoing access to education for its graduates; perhaps we should even guarantee ongoing educational support for graduates of our institution. This will require us to think about real-time virtual learning environments and non-traditional scheduling. We can't fully prepare our students for the rapid evolution of IT or its impact on their fields of expertise, but we can help them address their changing needs into the future.

Short term – 18 months:

- Assess delivery mechanisms for bringing just-in-time continuing education options to our graduates. (Web classes, scheduled chat sessions, virtual world meetings such as in Second Life)
- Pilot one such outreach course for graduates, on the topic of IT and its impacts on your profession.

Medium term – 3-5 years:

- Survey graduates 3-5 years out of CU for what type of educational experience do they wish they could get from us at this point in their lives.
- Pilot at least 10 alumni educational experiences online, surveying for effectiveness

Long-term:

- Guarantee to every graduating student that there will be a certain number (say 10) of free educational online experiences available to them. These might be 1-hour chat sessions, virtual world interactive sessions, or some other form of delivery.
 - Provide for-fee in-person educational experiences on the CU-Boulder campus over long weekends or vacations for those who want to come back and recharge their intellect.
- Enhancement of teaching:

Enhance CU-Boulder's performance and reputation for effective teaching by placing greater emphasis (resources and rewards) on employing 'best teaching practices' such as more research participation, service learning, individual student projects, IT, and, perhaps, senior theses. Primary pathway will be revision of reward and evaluation structure for merit pay, tenure and promotion to be broader, more inclusive and well publicized.

 - Consider a process that achieves this goal. For example, all annual merit pay allocations could be mandated to be awarded, and justified, in a proportional allocation manner, e.g. 40% to teaching merit, 40% to research/creative work merit, and 20% to service merit. To get highest raises, faculty would need to be excellent along all three dimensions and salary decisions for each category would be made independently of each other. (Short term)
 - Implement a process that achieves this goal (Short to medium term)

**SUBCOMMITTEE ON RESEARCH, SCHOLARSHIP, AND CREATIVE WORK
(RSCW)**

April 2, 2007
Plus Action Items from 4-20-07

Question: *“To what needs of the year 2030 will our research, scholarship, and creative work respond?”*

Executive Summary

1. Take CU to the world, and bring the world to CU. Make CU into an international and national crossroads and provide a range of opportunities for our students to explore other cultures and countries.
2. Make hands-on education and training the hallmark of CU-Boulder. Engage our students in the creation of knowledge and art by close collaboration with faculty and staff.
3. Invest in the traditional disciplines that define a liberal arts education as well as interdisciplinary collaborations and programs. Prepare our students to think critically about complex and global problems.
4. Create nimble and adaptable administrative structures. Create an administrative infrastructure that allows us to respond and innovate.
5. Invest in faculty, students, and infrastructure to support our mission of research, scholarship and creative work. Provide the workplace that allows faculty and staff to focus on teaching, scholarship, research, and creative work.

Assumptions about developments in research, scholarship, and creative work leading to 2030

One main virtue of choosing such a far horizon for strategic planning is to force us to look beyond current problems and admit that we cannot imagine today how different the world will look by 2030. If we think back to how the university has changed since 1984—when we were just adopting the first PCs on campus, before there was any internet, when campus activists were busy protesting the U.S.-sponsored wars in Central America, when no one had yet heard of AIDS or global warming—it is clear that the future for which we must prepare is highly uncertain.

While there is a certain temptation to think of the key challenges for the future as developing new technologies—for carbon sequestration, fighting cancer and extending human life, cleaning up our oceans, and creating new products – many of the gravest and enduring problems of the emerging global society are not solely scientific or technological, but also include broad social constructs. For example, alleviating global climate change requires not only scientists and engineers from multiple disciplines but also social scientists, educators, city planners, political scientists, among others. There are other problems for which divergent forms of scholarship are essential, such as war, violence, poverty, and crime. And, if we believe that human nature in fact changes quite slowly, then issues of (individual and collective) love and honor, power and greed, good and evil, horror and beauty will also be critical issues in the university of the future. At a

minimum, we will need many diverse kinds of knowledge in 2030, spanning science and technology to social sciences, humanities, and the arts.

In thinking back to 1984, we can ask ourselves what should we should be teaching our undergraduates to prepare them for life in 2007 and beyond. Our list includes critical thinking (about values as well as facts), problem-solving, effective communication, the ability to learn new technologies, to understand our past, to understand others, and to understand the physical and natural world we live in. In an age of continuing knowledge specialization, students and faculty will be faced with even greater tasks of integration across specialties, in dealing with issues like energy or climate change, conception and abortion, living and dying, which involve not just one discipline or sub-discipline, but require us to grapple with science, uncertainty, human behavior, natural systems, values and beliefs, all in the same question. If the assumptions above regarding the growing demand for “useable knowledge” are correct, we will not have the luxury of researching only our specialized technical piece of these issues. In our future research on sustainable energy choices, for example, we will have to integrate the climate science, the chemistry, the engineering, the economics, the human behavior, the business, the ethics, and the policy, rather than assuming that it is someone else’s job to figure out where our piece of the puzzle fits in.

Trends of recent decades lead us to make the following projections:

- We are more globally interdependent and interconnected, while still fractured socially, politically and economically. Our graduates will be faced with even greater challenges of integration throughout their careers.
- Technology continues to evolve at a rapid pace and technological competence will be required in nearly every discipline. Updating our skills will be as important as updating our hardware.
- We are more populated locally, nationally and globally, with increasingly diverse populations
- Colorado continues to be a leader in high technology industries and research, increasing the need for a highly educated workforce
- Worldwide communication and information access continues to be easy and instantaneous, making the location of individuals, ideas and resources less important
- Communities of practice continue to provide networking and face-to-face communication with colleagues distributed nationally and internationally
- The academic marketplace continues to be increasingly mobile and transient
- Education is increasingly distributed, within the university community, as well as externally, in local, national, and international communities
- Students will need skills in critical thinking, problem-solving, effective communication, the ability to learn new technologies, the ability to understand human interaction, as well as the content of the discipline.
- Universities must be innovative if they are to survive in the global economy and solve global problems. The flexibility to rapidly and effectively respond to changing circumstances is critical for success.

The envisioned scenario in 2030 that CU-Boulder will have to respond to (related to your topic)

In 2030 the United States is not the preeminent economic power in the world but rather is both a competitor and a partner in the world economy. Many countries and economic unions around the world are economically and technologically advanced yet there are wide divisions between the haves and have-nots and poverty, hunger and disease are everyday concerns of billions of people. The citizens of Colorado, the United States and the world depend on each other in many ways that are not imaginable from our current perspective. Highly educated work forces across the world are inventing and developing the products, services and technologies that drive the evolution of society. The ideas that shape the world occur and are developed in a wide variety of venues -- in seamlessly integrated collaborations of universities, government laboratories, and large and small companies and in the art studios, music rooms, libraries and garages of talented individuals around the world.

Increasingly, universities serve as the research and development incubator for U.S. industries. Many industries have reduced the amount of investment in research and development, which has made universities even more relevant in research and scholarship. It is tempting to think of CU as the flagship of this endeavor, and CU's success has certainly been a factor in the region's and state's success. However, a better metaphor might be found in Richard Newton's notion that, related to the University of California – Berkeley, the “Bay area is the corporation”. As with UC – Berkeley, CU, the state and the broader Boulder community are inextricably linked and CU will continue to benefit from the general success of our industries, K-12 education, and our economy.

The metaphor we would like to adopt is “CU – a mountain in a flat world”, which views CU as a resource, an exemplar, and a leader in the state and region. Our success is inextricably interrelated to that of our larger community's. If we view CU as part of Colorado's “research diamond”, partnerships and collaborations help us and our larger community. The success of Colorado and the United States is critically dependent on the training of students to be successful in a globalized world. Universities provide both new ideas and a trained workforce for the strongly interconnected array of public multinational companies that drive the global economy. Students have an advantage over less flexible competitors when they are trained in depth and breadth in their discipline and when they possess skills that allow them to adapt to new problems, cultures, and careers. The global workforce is highly trained in the scientific and technical fields on which the world economy depends but students who are not trained in the languages, history, philosophy, cultures, religions, social structures, and economies of the world find themselves at a serious disadvantage. To train this global workforce, universities collaborate globally by freely exchanging students, faculty and ideas.

In general, Colorado has been very successful in attracting and supporting businesses and industries that bring jobs requiring a highly trained workforce.

- We expect Colorado to maintain and strengthen its competitive edge in a variety of businesses, including those that employ highly educated people with high-paying jobs.
- Colorado's highly educated workforce and entrepreneurial environment will continue to attract and create new companies, with a high concentration of scientists and engineers.
- The quality of the K-12 educational system will continue to provide our universities with a pool of well-educated students. A well-educated workforce will create an increased demand for high quality postsecondary education for their children.
- Businesses, industries, health care, education, and arts will continue to need a well-trained workforce both in terms of initial degrees as well as continuing education.

CU-Boulder's current strengths and weaknesses in responding to that scenario; barriers to and opportunities for responding to that scenario

Strengths

- The University of Colorado at Boulder is internationally recognized in many core disciplines and in its many interdisciplinary programs. Many of our faculty are recognized with the highest national and international awards and recognitions.
- UCB has a long history of strong federal funding for research and CU's funding base is very diversified across many different government agencies.
- The University of Colorado at Boulder is located in a metropolitan area with numerous unique regional strengths including several large federal government laboratories and many outstanding companies that have built their businesses upon research and development. The University has many strong partnerships with government laboratories and private companies in the area: NCAR, NIST, NOAA, NREL, Ball, Lockheed-Martin to name a few. Nearby excellent universities create many opportunities for collaborations with government laboratories and the private sector.
- The State of Colorado has a very well-educated and highly paid work force. Colorado per capita income is the 8th highest in the nation and Colorado ranks 4th in venture capital investments.
- The University of Colorado has a tradition of success in its many broadly interdisciplinary research centers and institutes.

Barriers

Current organizational structures pose significant obstacles to integrating research, scholarship and creative work into classroom, especially across disciplinary boundaries. Departmental structure, while useful in many regards, can create barriers to collaboration in teaching, curriculum, advising, grants, and research. While these barriers are surmountable in theory, in practice rules and practices often are difficult and time-consuming to overcome, leading to disincentives to self-organized collaboration. Specific barriers include issues regarding ICR dissemination, laboratory space allocation, matching funds for grants, creating and staffing interdisciplinary courses and reward mechanisms for faculty who work in domains that cross departmental lines. All these discourage innovation and collaboration.

Campus infrastructure is weak in many domains and levels. Examples include lack of suitable laboratory and office space for faculty and staff, chronically underfunded libraries, weak institutional support for grant applications and administration, and insufficient funding for teaching and research staff.

Financial support for graduate students is chronically underfunded for all units across campus. CU is often not able to recruit and retain outstanding graduate students because our fellowship packages are not competitive with those at peer institutions. While many students are funded on research and training grants, many disciplines have few resources to recruit and retain the best students. Students in many domains are unable to focus on research, scholarship, and creative work because of the need to support themselves through teaching or other work. This adversely impacts our research productivity and the quality of our graduate training.

CU has very few professional masters programs. Investment in both Ph.D. and professional masters programs would allow CU to evolve toward a healthier mix of graduate and undergraduate students on campus.

Too few of our graduate and undergraduate students come from other countries.

We need better mechanisms to connect CU to the surrounding businesses, government laboratories, and education and arts communities. There is little central leadership and almost no resources are devoted to this.

The state and regional community often does not know or understand what we do. We need more community engagement and opportunities to bring a wider array of individuals into the CU environment.

Significant constraints exist to working with other institutions of higher education in Colorado both in terms of research and student coursework.

The University invests too little in new opportunities for expanding and diversifying our research, scholarship and creative work. There is limited seed money available and the vast majority of that is targeted for projects with potential for future grant funding.

Our administrative model does not encourage long-term strategic planning. Strategic planning is distinct from departmental level planning, and local and campus goals often contradict each other.

CU-Boulder's necessary responses to be successful in that envisioned 2030. These responses can be described as the characteristics and traits that CU-Boulder will need in 2030 to be successful.

1. Take CU to the world, and bring the world to CU

University of Colorado at Boulder should strive to be more than to be just a leading university in the region and the nation. We should become an international center of learning and a crossroads for faculty and students from around the world to work together to create and synthesize the knowledge that will drive society in 2030. This will involve two related initiatives. First, our campus should strive to be an international university with an international student body and faculty and fields of study that are designed to bring scholars, researchers and artists from all over the world to CU. In this environment, students and faculty can work together to understand, appreciate and solve the global problems that will be critical to the strategic and economic security of our state, the country and the world. Their training in the cultures, languages, literatures, arts, religions and societies of the world will allow our graduates to work freely in the global economy. Our rostered and visiting faculty will consist of scientists, scholars, humanists, artists, musicians, engineers and business leaders from around the world. Our students will be trained to attack global problems by immersion in an academic environment that encourages inquiry into a complex array of scientific, social, cultural and political issues. Second, CU should reach out to the world and establish academic footholds in key cities around the nation and world, providing opportunities for our students to expand their academic horizons. They can learn first-hand by studying in Washington or outside the U.S. while still being part of CU and working closely with CU faculty. Our international focus will attract talented students and faculty from around the world. Companies needing to compete in global markets will come to us to invest in our programs and support our students. This investment will cut across all disciplines. Colorado will benefit from a university that is not just a regional and national power, but is a leader in the creation of the interconnections and relationships that will define academic research and scholarship in 2030.

2. Make hands-on education and training the hallmark of CU-Boulder

All of our students should be engaged in the creation of knowledge by teaching them the tools and processes of academic inquiry. Close collaboration with researchers, scholars and artists gives students the tools to answer deep questions and solve real-world problems. Students engaged with faculty and staff increase and enhance the research,

scholarship and creative work output of the faculty while preparing students with the skills they will need to be successful.

Our classroom teaching should reflect the kinds of interdisciplinary and global problems that will face our students. Our courses and curriculum should be as innovative as our research, scholarship, and creative work, involving team and interdisciplinary teaching. We need to model the kinds of scholarly inquiry that are required to solve complex and global problems.

Cultivating students to think critically and synthetically are important attributes of college pedagogy. Equally important is our ability to encourage student's dreams. Flights of imagination not only help solve complex problems, they also address fundamental issues what it means to be human and humane.

Giving every student the opportunity to experience the joy of discovery will benefit them and us in countless ways. Our success in training the innovators, scholars, artists, and leaders of the future will be our most enduring legacy.

3. Invest in the traditional disciplines that define a liberal arts education as well as interdisciplinary collaborations and programs

Universities represent one of civilization's greatest accomplishments, and the traditional disciplines that have defined the core of university life for centuries have provided the intellectual space in which many of our most valuable achievements have been realized. Among the traditional disciplines, the arts and humanities have always been central to the core values that define a true university: it is here that students, scholars, and artists explore and interrogate the legacy of human history, human thought, and human creativity, keeping alive the best of past knowledge while also discovering new knowledge about what we thought we already understood. Our greatest gift to society is the training of students to exercise that freedom of thought and creative imagination -- driven by restless curiosity, grounded in the power of reflection, and responsible only to truth and beauty -- that a liberal arts education is meant to foster. If the University is to succeed in the future, it must ensure strength across a wide variety of disciplines, both those that will emerge and those that have long made higher learning so uniquely valuable an institution. Deep study of literature, history, art, music, philosophy, mathematics, and the sciences, both natural and social, are essential to the education of ethical and compassionate humans, as well as thoughtful and engaged citizens.

At the same time, many of the biggest problems our society and world face require collaboration across disciplines in the sciences, humanities, and arts. In many ways, a university that serves a comprehensive range of science and scholarship needs to maintain a balance between the depth a scholar needs in a traditional discipline while encouraging a more entrepreneurial model that interdisciplinary work often entails. We need to foster and encourage new interdisciplinary work and teaching, allowing faculty and staff to explore the complexity of problems and questions from multiple perspectives.

Graduates who have been trained to think critically and synthetically across a wide array of disciplines will be critical to addressing the most enduring, complex and challenging global problems. Global solutions will require students who can think broadly and creatively and who can work in interdisciplinary teams: scientists and scholars, engineers and artists, social scientists and lawyers, accountants and writers, entrepreneurs and teachers.

4. Create nimble and adaptable administrative structures

CU needs encourage and support a variety of flexible administrative models and structures that support the faculty, remove barriers and encourage interactions across all disciplines. Rapid response to changing academic conditions will be critical to CU's success. Rather than to try to suggest new administrative models, we instead describe some of the characteristics that a nimble and adaptable organizational structure should have.

- Allows for multiple administrative models to meet the needs of a diverse array of disciplines and interdisciplinary collaborations.
- Allows for systematic review of what's working and what's not.
- Invests in and rewards innovation and creativity.
- Provides a supportive environment to attract, nurture and retain high quality faculty, staff and students.
- Provides opportunities for focused early strategic investment in emerging areas.
- Encourages entrepreneurship.
- Encourages and supports interdisciplinary and multidisciplinary collaborations.
- Provides opportunities for rapid strategic redeployment of resources.
- Nurtures collaborations and partnerships with other universities, government organizations, education, and the private sector.
- Provides reward structures to encourage individuals and units to contribute to university strategic goals and initiatives.
- Develops and rewards skilled and flexible staff that can move across administrative structures.
- Creates an inclusive process that continues to engage faculty, students, staff, and others in co-constructing CU's future

5. Invest in faculty and infrastructure to support our mission of research, scholarship and creative work

For the University of Colorado to be an international leader in the creation and synthesis of new knowledge we must recruit, support and retain the best faculty and we need to provide them and their students with the academic infrastructure necessary to support that

mission. Without this investment, any new initiatives are moot. Investments should include:

- Modern research laboratories and spaces for scholarship and creative work
- Outstanding research libraries
- Excellent visual and performing arts spaces
- Highly trained academic and research support staff
- Competitive fellowships and stipends to recruit outstanding graduate students
- Competitive faculty salaries and startup support

Research, Scholarship and Creative Work Action Items:

Take CU to the world, and bring the world to CU:

18 months: Examine the programs and relationships we already have with other universities to decide which ones to expand or emulate. We should focus on developing enough student interest at selected universities so that economies of scale allow for mutually beneficial student and faculty exchange.

18 months: Encourage departments to examine how their curriculum aligns with international issues and globalization, such as the requirements for foreign language at the undergraduate and graduate level.

3 years: Appoint a director to begin the creation of a CU in DC program. The director would consult with appropriate faculty and administrators to establish the role and scope of the CU presence in Washington and to develop an interuniversity relationship with a university in DC.

3 years: Create a high-level administrative position to oversee international, state, regional studies and research. This position would coordinate programs on the UCB campus that involve international exchange and international studies including: International Studies and Study Abroad, student and faculty exchange programs, international sabbatical programs for our faculty, and programs for visiting faculty. It would provide a single office to oversee the bureaucracy necessary for international student and faculty exchange.

3 years: Review the balance of world regions represented in our teaching and curriculum. For example, consider expanding our offerings in foreign languages and coursework to include more on the Middle East, Africa, Asian, and Latin America.

3 years: Expand the existing CU study abroad program to increase the number of students taking advantage of this program.

Long term: Create and foster connections with businesses, schools, and organizations in the local community, state, and region to increase opportunities for collaborative work.

Long-term: Establish relationships with many universities around the globe to foster student and faculty exchanges. Our students should be able study abroad while having regular classes and mentoring from our faculty. This will benefit our faculty who can use the opportunity work with scholars overseas while they continue to work with our students. As part of the exchange, faculty and students from our sister universities will spend time working with our faculty and enriching the experience of our students.

Create opportunities and pathways for all faculty to pursue engagement of our research with external constituents and audiences by immersing themselves in businesses, government, and social organizations, and other sectors. Such models could include faculty leaves, rewards. Part-time appointments. Partially funded, part-time appointments. We should encourage faculty and staff to get engaged in the real world.

Make hands-on education and training the hallmark of CU-Boulder:

18 months: Expand the funding and role of UROP, SURE, Honors, the Undergraduate Academy and related programs to expand the opportunities for undergraduate RSCW.

18 months: Develop a central portal to connect students with local businesses, schools, and organizations for paid and unpaid internships.

18 months: Appoint a task force of faculty and administrators to consider long-term changes to the balance between graduate and undergraduate education. They should examine the costs and benefit of evolving CU toward a faculty mix or teachers and researchers more appropriate for an AAU institution with a larger graduate student population and more research-oriented undergraduates. They should develop a plan for increasing the numbers of graduate students on the campus and the effects this would have on undergraduate teaching and research, faculty workloads, and laboratory and office space.

18 months: Vastly increase the amount of funds for graduate fellowships and teaching assistantships. Investment in graduate fellowships and teaching assistantships would greatly benefit the RSCW productivity of the faculty and would ensure that our graduates have experience in creating knowledge.

18 months: Invest in our graduate student training. Vastly increase funding for graduate research fellowships and teaching assistantships, drawing on university resources as well as on federal and private foundation sources such as US Dept of Education Title VI. A large number of multi-year fellowship and TA-ship packages must be available in disciplines across the full spectrum of the Arts and Sciences if CU is to realize its true potential as a national leader in the advanced training of scholars and scientists for the 21st century. Reexamine the expectations for teaching assignments in departments. Develop funding models that allow students to work in research.

Long term: Evolve CU Boulder toward a learning environment in which all students participate in the research, scholarship and creative work of our faculty. This will involve long-term changes in the mix of graduate and undergraduate students, research and teaching faculty, and lower division and upper division undergraduates.

Long term: Establish more connections with the local community, state, and region in research, scholarship, and creative work, to provide our students with multiple opportunities for engagement.

Invest in the traditional disciplines that define a liberal arts education as well as interdisciplinary collaborations and programs.

18 months: Begin immediately to increase the fraction of tenure-track faculty to teach our students in the classroom and in the hands-on RSCW environment. This will require investment in salaries, startup and space. Initially this action will serve to restore the historical level but would begin to address the goal of moving toward a faculty more appropriate for a comprehensive research university.

18 months: Examine the basis for the financial and academic tensions between the departments and the institutes. Develop incentives for departments and institutes to work together to address the teaching and RSCW strategic goals of the campus.

18 months: Examine the rules and practices that create barriers and obstacles to interdisciplinary scholarship and teaching.

3 years: Develop an incubator model for developing new RSCW areas within the university and in collaboration with other universities and with the private and government sector. An analysis of the process used to create the Renewable Energy Collaboratory would provide excellent guidance about successful strategies. The campus needs a regular system of seed funding for faculty to develop new research, scholarship and creative work projects. These funds would both bootstrap new extramurally funded projects and revitalize faculty scholarship in areas where extramural funding is not available.

Long term: Invest in a variety of disciplines and interdisciplinary programs to raise the international reputation of the university across a wide variety of academic areas.

Create nimble and adaptable administrative structures.

18 months: Establish a system of campus review and approval of all system level procedures prior to implementation.

3 years: Encourage collaborations of faculty and departments to develop experimental administrative models that might better meet the teaching and research missions of the campus. Allow for a moratorium on financial and administrative rules that inhibit

creative solutions. Allow strategic budget and hiring decisions to be made at administrative levels as close as possible to primary units.

3 years: Develop a staff personnel system that is designed to serve the needs of the campus rather than the needs of the state. Our personnel system should be designed to attract and retain the high –quality staff needed to run a first-rate teaching and research campus. Our staff need better training opportunities, more authority, and a rewards structure that encourages outstanding accomplishment. The salaries for the staff that support our teaching and research missions are below comparable private sector salaries and the state process for awarding staff raises is unfunded in most years. Our best staff often go years without raises and attrition is a constant problem.

3 years: Create an administrative team whose role is to identify emerging opportunities and recommend rapid strategic investment and redeployment of resources. Provide support to faculty and staff who develop collaborations with businesses, labs, and other organizations in the broader community. Foster a culture where entrepreneurship and technology transfer is supported and rewarded.

3 years: Develop a faculty-driven review system that regularly evaluates all aspects of campus programs and operations and has the authority to both invest in successful programs and recommend elimination of unsuccessful ones. Develop incentives to align departmental goals with university goals.

Long term: Have a variety of successful administrative models for faculty to choose from as they develop new interdisciplinary teaching and research areas.

Invest in faculty, students, staff, and infrastructure to support our mission of research, scholarship and creative work.

18 months: Faculty salaries continue to lag behind AAU peers. The campus needs to commit more resources to hiring, supporting and retaining our best faculty.

18 months: Continue to examine the type of resources required to maintain libraries as a critical element in support of research, scholarship, and creative work.

18 months: Examine how the Office of Contracts and Grants can better support grant submissions, particularly for faculty new to the process.

3 years: The CU campus is drastically short of faculty and staff office space and appropriate space that can be used for research, scholarship and creative work. The capital construction process needs to be more open and transparent and it needs to align with the campus review processes for strategic investment. Campus deferred maintenance is critically underfunded and the decision process for prioritizing projects even less aligned with campus strategic decision processes than capital construction. A committee composed of faculty, chairs and directors, academic administrators, BCPC members and Facilities Management should be charged with making changes to align space decision processes with other campus strategic planning and review processes.

Long term: Develop a long-term strategic plan to replace or renovate all space on the campus before it exceeds its useful life and plan for construction of new facilities in time to meet critical academic needs.

Long term: Develop a sustainable funding model and resource allocation model to fund all aspects of the research, scholarship and creative work mission of the campus on the a level commensurate with our peer institutions.

SUBCOMMITTEE ON CU-BOULDER'S ROLE IN THE STATE

March 9, 2007

Question: *“What will the State of Colorado need from us in 2030?”*

Basic Philosophy

The Subcommittee determined that CU-Boulder can best serve the state in 2030 by taking an active role in shaping that future- by choosing ambitious goals and by establishing the intermediary steps needed to ensure that we can meet the ensuing challenges. The Subcommittee deliberately rejected a more incremental and passive approach of extrapolating current trends to determine how the state likely will have changed by the year 2030. CU-Boulder's role in the state should be to provide an excellent education to its students including its Colorado citizens and to advance knowledge that will serve society through its research capability. There will be a need to provide both for a broad based liberal arts education and for the opportunity to pursue specialized fields of study. At the same time we need to acknowledge our role in developing the values of our students and in fostering an environment for the free exchange of ideas. While serving a broad constituent base, CU-Boulder's research efforts can advance and support Colorado's industries. Our relationship with the state must be nurtured so that our value in playing this role for the state is firmly established well before 2030.

What will the state need from us?

The state needs CU-Boulder to be a key educational resource, an exemplar, and a leader.

- A resource that provides
 - ♣ A skilled and knowledgeable workforce
 - ♣ A knowledge base providing access to specialized expertise and equipment
 - ♣ Facilitators for strengthening the economy
 - ♣ Access to educational opportunity for individuals of all ages

- An exemplar of
 - ♣ An integrated society that values diversity in all its aspects (including socio-economic, cultural, ethnic, geographic and gendered) and demonstrates its benefits
 - ♣ The use of green technologies and resource preservation
 - ♣ Transparency and accountability, innovation and stewardship, fiscal responsibility and entrepreneurship

- A leader that
 - ♣ Takes responsibility for working collaboratively with the state
 - ♣ Co-ordinates with the other institutions of learning in the state to break down educational silos

- ♣ Champions educational and research initiatives appropriate to its role and important to the state
- ♣ Acts with vision and integrity

This will require us to

Provide the capstone to the K-20 (and beyond) education system within the state of Colorado.

- Ensure that the citizens of the state can compete in the global marketplace. This is likely to require that they have a skill set such as that suggested by enGUAGE¹. That is, they possess
 1. Digital-Age literacies: Basic scientific, economic and technological literacies; visual and information literacies; multicultural literacy and global awareness.
 2. Inventive Thinking: Adaptability, managing complexity, self-direction, curiosity, creativity, risk-taking, higher-order thinking and sound reasoning;
 3. Effective Communication: Teaming, collaboration and interpersonal skills.
 4. Personal, social and civic responsibility and interactive communication.
- Ensure that citizens of the state can obtain a world class education in the state – Colorado’s flagship and capstone public university should provide an education that is comparable to top tier universities. Education provides many benefits, including a way to improve an individual’s socio-economic standing. Lack of access to education promotes an unstable bi-modal distribution of wealth.
 - The demographics of the state in 2030 require thoughtful strategies to enhance the diversity of the University. It is important to move to develop a funding model that allows us to select students independent of their origins. Recruiting, retaining and graduating the residents of the state, particularly the growing number of Hispanic residents, is a critical issue for the University. The economy of the state will depend on a skilled and educated workforce and the University should play a leadership role in addressing the economic and cultural barriers that have limited the University’s diversity.
 - Colorado will benefit from a stronger working relationship among the state’s colleges and universities. As an example, the Colorado Renewable Energy Collaboratory agreement exemplifies the type of partnership that is good for both higher education and the citizens of the state. This collaboration among CU-Boulder, NREL, CSU and the Colorado School of Mines, provides an opportunity to develop renewable energy technologies. The Colorado Legislature will provide matching funds for large federal and private renewable energy research projects.

Provide opportunities for the citizens of Colorado to continue their education as needed to adapt to a changing world.

- Recent surveys (Schmidly et al., and NSF 1996) report that employers are becoming more interested in the analytical and synthesis skills of students than specific knowledge sets. In the future, with ease of access to information,

emphasis will be placed on problem-solving, communication, and critical thinking skills. It is likely that meta-professional (<http://www.cedanet.com/meta>) skills will increase in importance.

Provide an education that attracts the best and the brightest of students from outside the state (and the USA) to CU

- Many of these students will stay in Colorado and add to our economic base. Many of those who do not stay may continue to be linked to the state through research or business activities.

Provide a resource base of research activity that will continue to act as an economic engine in attracting investments in desirable Colorado industries.

- Note – given trends in federal funding, CU-Boulder needs to develop a broader understanding among key state leaders of the importance of seed funding/partnering in research for payoffs down the line.
- While tourism, natural resources and agriculture will remain an emphasis, they will not dominate the state's economy. Five knowledge-based industry clusters key to the state's economy in both the near term and longer term include:
 - aerospace
 - bioscience
 - energy, including renewable energy
 - information technology, particularly software
 - financial services
 - ♣ Nanotechnology is considered an enabler used in manufacturing, information technology and other industries. There are 5-10 states with robust nanotechnology initiatives and Colorado's leadership position in nanotechnology is still evolving.
- Research corridors can provide a useful tool to attract and retain industries. The research corridors in New York and Michigan were established in states that were keenly aware of their aging industries. These states invested resources in their research corridors and they were seen as a strategy to invigorate their economy. Colorado isn't in a panic mode despite the downturn of the IT industry so it's unclear whether such support would be available. Research corridors need state support in order to compete for matching federal support.

As an institution CU-Boulder will need to

- Compete with other prestigious institutions for the elite
 - Have the ability of recruit and retain the best talent by providing a platform matching their abilities with
 - ♣ Cutting edge facilities
 - ♣ University structures that encourage interactions across boundaries
 - ♣ Startup/matching grant support
 - ♣ Supportive collaborations
 - ♣ Commercial opportunities (including support for technology transfers)

What are we assuming will develop/happen in the years leading to 2030?

CU-Boulder will continue its flagship role with faculty expected to be research active and leaders in their fields of study.

We will be dealing with a global economy.

The state's demographics will have changed significantly. By 2030 access to higher education will be dependent only on ability – not on economic resources.

- We will need to have solved the challenge we currently face in enrolling under-represented, first generation and minority students throughout Colorado
- We will be dealing with increased numbers of non-traditional students – older students returning to school to re-tool

Faculty demographics/characteristics will change as will faculty expectations of the demands and constraints of their jobs. The tenure system will adapt to the need to accommodate life transitions and work-life balance constraints.

We will see substantial K-12 reform that will impact higher ed. Response to reform initiatives such as "Tough Choices or Tough Times" Report will result in restructuring K-12 within the perspective of a broader P-16 education continuum. Adaptation of individual-based, technology-enabled, achievement-based measures supported by testing are likely. Funding formulas are likely to change to support a continuum, breaking down the current silos among preschools, K-12, community college/trade schools and higher education.

CU will act as a broker of educational programs ensuring that the needs of different constituencies are met including K-12; business and industry; government; nonprofit and other higher education groups.

- CU-Boulder will partner with other providers to meet these needs
- CU-Boulder will continue to provide a full undergraduate curricula, but a larger percentage of students could elect to take their lower division courses via distance education or through their local community college. In addition:
 - Consider CU-Boulder becoming an upper-level undergraduate (junior-senior), Master's, Ph.D. granting institution. CU-Boulder would develop stronger connections to feeder community colleges (possibly even on a nearby site)
 - Develop a dual campus system of UG education with freshmen-sophomore education at a separate site

Over the past twenty years, research has advanced our understanding of cognitive development and will likely continue to develop. CU-Boulder will need to respond to the many different types of intelligences and learning styles that exist. Students will come to CU being informed about their learning styles and CU will provide classes that match these styles. There will be an evolution at all levels of Colorado's educational system

based on an improved understanding of cognitive development. Different state educational institutions will develop to match specific goals and objectives.

One of the things that will not change is the advantages to an individual of having a strong and broad education – the benefits of exposure to new concepts from a diverse range of topics will likely only increase.

The information technology infrastructure will allow distance interactions at levels currently unanticipated. We may be dealing with a situation in which basic instruction is standardized and delivered remotely (students in any location in the state will have access to effective instruction in all subjects). Access to data will have improved to the level that once basic skills have been mastered an ability to memorize large amounts of data will be unimportant – however an ability to assess data sources for legitimacy and analyze/synthesize data will be essential. The role of the CU-Boulder faculty will be to facilitate student's development of relatively advanced skills. There will need to be a clear value-added from individualized, in-person instruction.

- The DVD reviewed by the Subcommittee highlighted the increasing role of media in education and the risk of entertaining at the expense of providing substantive educational content. The University will need to use technology wisely to actively engage its students and cultivate passion in their students' chosen fields.

The cost of information distribution will continue to plummet and accessing information will increasingly be available to more and more people. The cost of being on-site will be significantly greater than technology-enabled distance learning opportunities.

CU-Boulder will need to increasingly collaborate with other universities within and outside of Colorado to successfully compete for research funding. Public-private partnerships will also be critical to the University's development of its tech transfer programs.

Multi-disciplinary approaches will continue to increase in importance. Innovation often occurs at the seams¹¹ and creativity and innovation are where our country needs to focus if we are to maintain a high standard of living and productivity. CU-Boulder will provide both subject-based and problem-based degree options – students may specialize in a specific field or choose courses based on a topic, such as energy management.

What will CU-Boulder have to respond to by 2030?

We have already discussed many important trends such as changing demographics, knowledge-based industries, etc. To summarize the key issues:

The educational system will need to enable people to adapt as needed to changing external conditions. It is likely that people will have multiple careers and that advances in many fields will require the efforts of multi-disciplinary teams – collaborative skills will be in high demand. People will need “translational” skills – that is, the ability to take expert knowledge from one field and apply it in another.

- Given the pace of change within the knowledge-based industries that will be key to Colorado's economy, the University must play a key role in providing college level workforce training and education.

CU will have to develop better ways to build and accommodate a multidisciplinary faculty. One way to do this would be to continue to combine single-discipline faculty into problem-focused institutes – but we will need to learn how to adapt as the problems change with time.

Changing demographics will also impact the concept of a faculty member. The current model arises from the European tradition of the middle agesⁱⁱⁱ and favors a full-time career with no interruptions. Work-life balance and career entries and re-entries will require the tenure system to evolve.

CU-Boulder will need to ensure that the added value of coming to an institution such as CU-Boulder outweighs the costs compared to alternatives. Classes providing hands-on experiences and those designed to develop higher level cognitive processes will be important.

- CU-Boulder, CSU and Colorado School of Mines are likely to evolve as the elite institutions of the state that will be responsible for providing the capstone (junior and senior) undergraduate experience along with graduate education. The first two years of an undergraduate education will be provided by CU-Denver and other institutions in the state.
 - This shift in emphasis will allow CU-Boulder to accommodate a larger number of upper division and graduate level students. The quality of our research will increase and some spaces, such as some of the residential halls, will be converted to laboratories and other spaces.
 - There are other options that could be used to serve a larger number of undergraduate students without bringing them to campus, such as the option of becoming increasingly electronic in the delivery of instruction.
 - It will be a critical question whether CU-Boulder develops the ability to shift focus to largely serve upper division and graduate level students. This has implications for the funding model for higher education.

What are CU-Boulder's current strengths and weaknesses in responding to that scenario; barriers to and opportunities for responding to that scenario?

A significant effort is already underway to redesign many courses to stress reasoning skills. The School of Education is working on many initiatives within the state to strengthen K-12 education.

In addition, CU-Boulder has already developed a strong focus on interdisciplinary research. Boulder is home to many federal research laboratories.

However, the University's structure around disciplines doesn't necessarily provide the agility to respond to emerging fields of study.

- The current structure separating institutes/departments and stressing different activities may impede multidisciplinary research in the long run. Institutes offer agility in their early years but they can also become less flexible over time just like departments.
 - Consider structures (perhaps institutes with a sunset clause) that might be more flexible
 - Consider term appointments for faculty to come in and work on a specific topic.
- Require faculty to take sabbaticals outside their disciplines (preferably in a state or federal agency or in industry) to broaden their perspectives and keep them current on broader trends.
- Reconsider practice of placing 'tenure homes' in departments and basing recruiting at the unit level. Other approaches be useful to foster new initiatives. Consider ways to broaden units/ensure critical mass of faculty in key areas. Consider more "schools" and fewer "departments"?
- Reconsider what is meant by a "degree" – will a four year major fit the needs of 2030? What models will allow for more flexibility and fluidity in defining courses of instruction and enabling people to drop in and out of the educational system as their needs change?

There are many social, demographic, geographic and economic factors that will affect public policy in Colorado over the next 25 years. For example, baby boomers will "go out with a bang not a whimper", placing demands on various systems, particularly health care. The baby boom echo, larger than the baby boom in real numbers, will also strain public education.

A key issue facing the state (and the US) will be the management of finite resources such as water and non-renewable energy sources. Technological advances may allow access to significant reserves of oil in the shale deposits of the Peance basin without the environmental degradation encountered in the past but we need to become smarter about our use of oil. Energy will be front and center. The recently announced Colorado Renewable Energy Collaboratory involving CU-Boulder, NREL, CSU and the Colorado School of Mines provides a good opportunity to develop renewable energy technologies.

What are CU-Boulder's necessary responses to be successful in that envisioned 2030?

Need to define a set of learning goals for graduates from the institution

Need to develop funding model that allows change/open access

Need classroom infrastructure to evolve

What actions need to be taken to implement those responses?

We need to ensure that we are educating the citizens the state needs – ones that can meet the demands of the modern workplace and broader needs of the state. The Subcommittee recommends that:

- All students will do an honors thesis/research
- All students will be expected to spend time abroad to increase their adaptability and understanding of other cultures. By 2030, CU-Boulder should offer programs that enable our students to become better global citizens and citizens of the state. Study abroad programs can promote broader global awareness and, in turn, lead to more effective U.S. foreign policies. See www.lincolncommission.org/ for a description of the Commission on the Abraham Lincoln Study Abroad Fellowship Program established by Congress in 2004. Currently, about 25% of CU-Boulder students study abroad. By 2030, 100% of our students should have this international experience, irrespective of their family's income. This initiative will provide a fund-raising opportunity with our alums, business and industry and other constituents who recognize the importance of an internationally competent graduate.
- All faculty should have experience with another culture.
- All students will be able to work with a wide range of technological tools
- All students will be familiar with another culture and a second language
- All students will be expected to have the experience of working with non-profits to address state needs and develop a broader understanding of the world.
 - Consider expanding “work-study” to cover broader range of activities such as working with faculty in lab or service to state
 - Require all CU-Boulder students to select from a comprehensive set of service learning courses that are offered statewide. To facilitate outreach, our faculty could offer some of these courses in the summer to enable courses on the western slope, in rural Colorado communities and other locations beyond the Denver metro area.
- To address the diversity challenge, the University should continue its efforts to bring Colorado teachers and high school students to our campus in the summer. These summer activities and outreach efforts to communities throughout the state can enable our faculty to play a leadership role in strengthening the K-12 curricula taught in Colorado and heighten awareness of our campus as a college of choice for Colorado residents. Further, these activities can help CU-Boulder promote the importance of education throughout the lifespan (Pre-K to Post-graduate) and leverage technology to most effectively serve the varying needs of its students.

We need to work with the broader educational community (K-12, CCHE) to develop an integrated educational model and avoid redundancy (eg teaching basic literacy and numeracy skills at college level)

Long-Term

All students have a study abroad experience

All students have an off campus study experience (service learning, internship)

All faculty should also have experience of living abroad

Intermediate (3-5 years)

Have course syllabi explicitly outline desired learning outcomes

Provide support for faculty to “retool” by taking a short course either during the semester or summer related to pedagogy, improving second language skills, cultural awareness

Adjust financial model to reward quality not quantity of teaching and ensure that the proportion of out-of- state students recruited is not dependent on economic need but on the academic qualifications of the students.

Provide needed distance learning infra-structure

Grow endowment

Near-Term (up to 18 months)

Identify the current paradigms that we will need to challenge when discussing the 2030 flagship (for example, the concept of a residential campus)

Work on improving our public image by publicizing the economic impact we have on the state, our research, etc.

- Continued development of CU-Boulder’s academic outreach efforts that extend the scholarship of the faculty to the citizens of the state
- Consider re-introducing the faculty state-wide “bus tours” that acquaint faculty with Colorado’s communities while providing additional outreach programs
- Encourage student internships at state capital and in state agencies
- Encourage faculty to volunteer one day a year – have departments adopt a cause

Extend connections (through School of Education, for example) to other educational units in the state and encourage discussion/definition of learning goals /grade level/function of each institution

- Find long term support for the STEM-LA program
- Encourage students to learn another language
- Increase the involvement of the university in helping to develop the educational standards that should be met at various stages of development. Work to shift the focus towards progress based on skill development.
- Work to develop effective ways to assess skill attainment.

Reach out to under-represented groups and engage in educational process

- Establish “magnet areas” at CU-Boulder– areas of acknowledged excellence – and focus on recruitment of students into those magnet disciplines (full scholarships – public-private partnerships?) and work to recruit a critical mass of under-represented students into these magnet areas (UM Baltimore – Chem.

Meyerhoff scholars program, Berkeley bio scholars). Stress performance; require repetition of core courses until reach standard that will ensure success in later studies.

Explicitly adopt the AAC&U outcomes for our students

- 1) analytical, communication, quantitative, and information processing skills;
- 2) understanding inquiry practices of the natural sciences, social sciences, humanities and the arts;
- 3) intercultural knowledge and collaborative problem-solving skills;
- 4) proactive sense of responsibility for individual, civic, and social choices” and
- 5) habits of mind that foster integrative thinking and the ability to transfer knowledge and skills from one setting to another.

At orientation have a session for students and parents on study skills and expectations for time spent outside of class mastering material.

Have faculty members adopt a first-generation student – commit to seeing them early in semester for coffee/lunch and discuss study skills, CU-Boulder culture, etc.

The research, education and outreach activities of CU-Boulder are not widely understood or appreciated by the citizens of the state. CU-Boulder needs a stronger positive message around the state and it may want to consider a tv campaign along with its other messaging strategies.

Working in concert with CCHE Executive Director, David Skaggs and Governor Bill Ritter, a state plan could emerge that would identify the particular strengths and distinctive competencies of the colleges and universities that could direct where we should be by 2030.

¹ Metiri and Learning Point Associates enGauge: 21st Century Skills

¹ See the “Medici Effect” and others

¹ Debra Rollison – Title IX and education...

¹ AAC&U 2004 Our Students’ best work” A framework for accountability worthy of our mission
Washington DC: Association of American Colleges and Universities

SUBCOMMITTEE ON THE BOULDER COMMUNITY

March 14, 2007

Question: *“What should our relationship with the Boulder Community be in the year 2030?”*

Vision

CU-Boulder shall be a vital partner with the greater Boulder community, including city and county governments, businesses, educational institutions, the arts community and the federal research labs. We value responsible, transparent and open communications and envision careful management and stewardship of CU’s impacts on the larger community. This partnership strengthens and sustains all parties intellectually, economically, environmentally, culturally and socially.

Charge

The charge of the Subcommittee on the Relationship with the Boulder Community is to identify what the ideal relationship with the Boulder community would be in the year 2030; what issues are most likely to affect this relationship, and how we can best prepare for the relationship and/or avoid or mitigate the negative impacts of problems or issues.

Background

As America transitions to a knowledge-based economy, institutions of higher education have increasingly become engines of economic vitality and key partners with their communities. In addition to their fundamental mission of educating students and research, academic institutions are recognized as centers for the arts, humanities and science; incubators for new companies; major employers; creators of housing; and purchasers of goods and services. While many universities may have set themselves apart from their communities in the past, they can no longer afford to ignore the well-being of their communities. And conversely, the communities in which they are located must work cooperatively to help their universities flourish.

The University of Colorado at Boulder and the Boulder community have had a long and complex relationship. Historic challenges of enrollment growth, land use strategies, environmental stewardship, campus expansion and student behavior have, and will continue to shape the nature of this relationship. While at times, both the University and the community have independently formed their own views of appropriate responses, opportunities for and benefits of collaboration abound. Over the course of history, communication and cooperation between the entities has been ad hoc and at times, sporadic.

The Flagship 2030 Subcommittee on Boulder Community Relations has examined the existing relationship with the Boulder community from the perspective of diverse constituents including representatives from city and county government, adjacent neighborhoods, federal laboratories, student groups, the Boulder Valley School District, key arts and cultural organizations, citizen groups and economic development interests. Overall, the subcommittee has held twelve meetings, including one open forum, and spoken with 42 individuals representing different interests. In examining the existing relationships, we can begin to identify what the ideal relationship might look like in both the near and long term and what steps might be necessary to get there.

Assumptions Leading to 2030

1. Defining “The Boulder Community”

The Boulder Community incorporates areas impacted by CU-Boulder’s sphere of influence and shall be defined as the City of Boulder, most of Boulder County and adjacent counties. The community continues to expand as faculty, staff and students live further from the campus.

2. Campus Size

- Unless new policies and funding mechanisms are put in place, CU-Boulder’s student population is likely to increase from the current level of 29,000 students, albeit at lower growth levels than the state population. In such a scenario, the ability of the campus to continue to meet its goals of quality and comprehensiveness will require an even greater investment in facilities, staff, and faculty.
- Enrollment levels at CU-Boulder may continue to be subject to political pressures to meet the needs of increasing population levels in the state.
- Recognizing that growth is not necessarily a path to quality, this subcommittee prefers to assume that CU is best served by limiting overall enrollment growth.
- New campus facilities will primarily be located on the main campus and adjacent university-owned properties, specifically the Research Campus, Williams Village and Grandview. Some expanded use of CU-South may evolve.

3. Demographics

- The current population of the City and surrounding area is expected to increase approximately 12% from 111,500 to 124,400 by 2030. This is well below the 35% growth rate projected for the State of Colorado during this same period.
- As baby boomers age, and increasingly choose to retire in Boulder, the population of those over 60 years old is expected to grow rapidly. By 2030, the median age of Boulder’s residents is predicted to be 51 years old, compared to the current median age of 35.
- Young families may continue to leave Boulder in increasing numbers, largely due to the high cost of housing.

- The current “barbell” distribution – low and high income households with a shrinking middle class – is likely to become even more pronounced.
- Boulder is competing to retain the “creative class” (young adults) who are increasingly turning to Denver for a more vibrant cultural and social environment.

4. Economics

- Changing the current funding model to include increased gift giving, endowments, state support and tuition flexibility will allow a greater focus on the quality of the overall educational experience.
- High housing costs will place the current and future economic diversity of the community at risk with many low and moderate income households seeking more affordable housing options further and further away from the campus.
- Job growth is expected to continue to outstrip housing growth resulting in a corresponding increase in the number of faculty, staff and students commuting into Boulder, thus placing additional stress on the transportation infrastructure.
- The City’s model of economic sustainability will continue to be challenged as the population increasingly shifts from consumers of goods to consumers of services.

5. Student Learning

- Learning will be more distributed as the internet (or its successor) becomes an increasingly important instrument for the transfer of information, knowledge and learning; experiential learning, community interaction and a residential campus environment have the potential to set this campus apart from others.
- Innovation, creativity, love of change, ability to learn fast and resourcefulness are values that will need to be taught and developed in students. Flexibility and adaptability will be important for success in our changing world.
- Students will need a global understanding and awareness to be successful.
- Due to the increase in access to higher education, competition for the best faculty will be even greater.
- The importance of social development for students will be increasingly important as access and tools for a virtual world continue to accelerate.
- Lifelong learning will be an important component in 2030; therefore the University will play a critical role in the community in that area.

CU's Strengths and Weaknesses

Strengths:

- The vast majority of Boulder residents and community members recognize that the University helps to identify Boulder as an intellectually and economically vibrant community that is integral to the City's future sustainability.
- Top level administrators and staff from the City and the University have forged relationships that can be a launching point for more institutionalized partnerships. For example, the City Manager and Vice Chancellor for Administration meet monthly and have developed both a solid communication pathway as well as an atmosphere for testing new ideas which facilitates further innovation and collaboration.
- CU-Boulder has the intellectual capital to provide significant expertise, advice, and support to the local community in order to facilitate economic development.
- CU-Boulder has an inventory of real estate that has the potential to deliver a quality environment and meet projected growth needs throughout the planning period, with the corresponding investment and support from the Boulder community.
- The University's existing relationships with the local federal labs provides opportunities to attract top caliber researchers and federal funding.
- CU-Boulder has a strong community presence in the cultural arena through its offering of courses, symposia, arts and cultural events for the public.
- The Front Range region has resources unparalleled in the fields of geosciences, climate and weather research and environmental studies.

Weaknesses:

- Declining levels of state funding have made the University more dependent on tuition revenues, and with that, enrollment growth, for sustainability.
- Access to the University, both physical and psychological, is a barrier to collaborative efforts and relationships with the community.
- Without greater progress and commitment in creating and maintaining a community that is welcoming to people of diverse backgrounds, race, religion, sexual orientation, socio-economic status, age, and political viewpoints, it is unlikely that the University, City of Boulder, Federal labs and other entities will be successful in recruiting, retaining and serving a diverse workforce, faculty, student body and community.
- Inconsistent information from the University with respect to plans and intentions creates a sense of confusion, fear and distrust in the community.
- Inadequate affordable housing on or near the campus has forced many faculty, staff and students to move further from the University, making it more difficult to maintain a true sense of community.

- Collaborative efforts with the community, while certainly in existence, are highly decentralized and largely dependent on personal relationships rather than an institutional approach.
- Mixed messages are sent regarding the community's support for the University's development of its real estate inventory.

Envisioned Future of CU-Boulder and the Boulder Community

Characteristics of the Ideal Relationship:

It is generally recognized that the Boulder Community and CU-Boulder are inextricably linked and that the success of each is dependant upon the other. It is further recognized that it is not necessarily a reasonable expectation that the goals and objectives of the University and the community will always be in complete alignment, but that CU-Boulder and the Boulder community stand to benefit by aggressively recognizing and accommodating the needs of the other. As such, the relationship between these entities should be a symbiotic, complete partnership which:

- ♣ recognizes that the actions of one impacts the other;
- ♣ encourages a strong sense of community and community engagement;
- ♣ supports the development of good town/gown traditions;
- ♣ values the synergy of economic impacts;
- ♣ supports the University's and community's strengths while assisting with weaknesses; and
- ♣ fosters trust and collaboration on issues of mutual interest.

The ideal relationship is a collaborative partnership that strengthens and sustains the University and the community (i) intellectually, (ii) economically, (iii) environmentally, (iv) culturally, and (v) socially.

Issues Affecting the Ideal Relationship:

While the issues affecting the relationship between CU-Boulder and the Boulder Community in the Year 2030 are difficult to foresee, it is likely that many of today's issues will continue to present challenges well into the future. The issues identified revolve around the following key themes:

- ♣ ability to offer affordable housing for the University community (students, faculty, affiliated researchers and staff)
- ♣ ability of campus and city infrastructure to accommodate future enrollment
- ♣ potential erosion of the economic vitality of the area, including the high-tech employment base

- ♣ change in educational and cultural offerings by the University as the median age of Boulder residents increases
- ♣ land use and redevelopment initiatives on both university-owned land and privately-owned properties adjacent to the campus
- ♣ a town/gown relationship which is institutionalized and less dependent on individuals for success
- ♣ appropriate student behavior and sense of civic responsibility
- ♣ strain on transportation infrastructure and need to offer mitigating strategies

The Envisioned Scenario in 2030

In 2030, CU-Boulder will continue to be the flagship comprehensive research university in the State of Colorado. The campus will remain a primarily residential campus with the vast majority of students and an increased number of faculty and staff living on or in close proximity to the campus. The campus community, including students, faculty and staff, will be inextricably linked to the Boulder community through meaningful, collaborative partnerships. CU-Boulder will have moved from merely coexisting with the Boulder community to having an integral relationship, the objective of which is to enhance the economic vitality of the region while realizing the strategic objectives of the University.

During this planning period, the University and the Boulder community will have made progress in:

- creating affordable, sustainable housing on or in close proximity to the campus for an increased number of faculty, staff and students;
- integrating the relationship between the campus and the community into the fabric of the institution in order to best serve the interests of both entities, thereby moving beyond a reliance on individual personalities and relationships;
- increasing collaboration with federal research labs not only in specialized research but in the development of a shared vision and contributions to the community;
- facilitating the creation of many small, successful “niche” businesses through improved connections between the private sector and university research;
- successfully developing the research infrastructure in order to foster continued research growth, development of new businesses in key industries and private and public sector collaboration in science and technology;
- redeveloping the Grandview area to meet the growth needs of the campus in a way that compliments the City’s growth patterns while fostering true town/gown collaboration;

- developing closer collaborations and communications between the CU arts and humanities and cultural organizations in our geographical realm of influence;
- providing for the needed growth in campus facilities in a way that recognizes community land use objectives;
- creating a more accessible campus, both physically and psychologically.

CU's Necessary Responses to the 2030 Scenario

With the vision that the ideal relationship between the University and the Boulder community is a collaborative partnership which strengthens and sustains each entity in each of five key areas, the following responses are critical to achieving this vision.

Intellectual Partnership

- contribution of faculty in the community as advisors, content specialists and mentors to local non-profits, economic development efforts and K-12 students
- impart a greater sense of civic responsibility in our students
- work with local school districts to improve opportunities for underrepresented populations (e.g. immigrants, low income, minority)
- continue to develop relationships with federal labs which includes improved communication, collaboration, research strategies and a shared vision
- be more impactful in lifelong learning through continuing education offerings

Economic Partnership

- with the entire community (City, private sector and CU), provide affordable housing alternatives for faculty, staff and students to increase the ability of these groups to live on or close to campus
- take a more proactive role in the partnership of business development and economic development efforts to facilitate the transfer of innovative ideas into viable businesses
- work with the City to encourage or facilitate redevelopment of privately-owned commercial areas contiguous to the campus and explore opportunities for public/private partnerships
- better understand the needs of local businesses with respect to workforce training and provide possible venues to meet those needs
- engage the community in attempts to increase financial support for the University through legislative action, fundraising activities and financial partnerships

Environmental Partnership

- help create a shared vision for and partner with the Boulder community to implement sustainability action plans and renewable energy initiatives
- embrace the concept of sustainability in all future university projects, minimize the University's environmental footprint and maximize opportunities for open spaces throughout the campus
- strive to maintain a compact campus that maximizes development potential of areas contiguous to the Main Campus, specifically Grandview and the Research Park
- ensure the maintenance of the campus infrastructure and honor, respect and integrate the traditional Klaunder architecture in all new campus construction
- incorporate alternative transportation infrastructure in all future campus development to minimize the impact of traffic and parking demands and continue collaboration with the City with respect to new transportation initiatives
- seek opportunities to collaborate on natural hazard risk assessment, mitigation activities, emergency preparedness and related local policy decisions that are of mutual interest and concern

Cultural Partnership

- engage in a dialogue with Boulder's arts and cultural organizations to determine the best ways to enhance and compliment offerings to the public
- increase accessibility to and affordability of the campus for those wishing to participate in the vast cultural offerings
- provide more awareness of cultural, educational and social events that are available to the public in order to enhance a vibrant social environment attractive to a diverse population

Social Partnership

- develop a formal structure that will ensure ongoing communications between the University and community to accomplish specific objectives, thereby institutionalizing synergy, collaboration and cooperation
- provide a central point of contact within the University for external constituents, improving accessibility to the institution.
- have students more visibly engaged in the community through service learning projects, volunteer work and internship opportunities
- instill a sense of pride and respect within the student population for the community in which they live
- lead the diversity effort so that the entire Boulder community is more attractive, welcoming and comfortable for diverse populations

Boulder Community Subcommittee

Actions to Implementation

Near-term (0-2 years)

- Commit the resources necessary, including the identification of a specific position, to ensure there is an appropriate focus on the continued development of scientific research, on the optimal relationships between the research labs and the campus, and on the administrative support necessary to optimize state and federal grant funding.
- Commit resources to facilitate economic development beneficial to both the University and the Boulder community. The University should dedicate resources and identify a specific position whose responsibility would be to foster economic development by connecting industry with university programs and research (see CSU Office of Economic Development at <http://www.oed.colostate.edu/> for an example of what this might look like).
- Gain community support and university approval for development of the land designated for the CU Research Campus (current Research Park) as a vibrant, environmentally respectful, and sustainable extension of the Main Campus, with a focus on science and technology, and mixed uses including research, teaching, academic support, housing and recreation.
- Further incorporate the concept of civic engagement and responsibility into freshmen orientation experiences.
- Engage the arts and cultural communities in dialogue with the Campus Arts Council to improve collaboration, communication and access.
- Consider proposals to partner with private development interests which might include the transfer of university-owned land in the University Hill area as part of a larger Hill redevelopment plan.
- Initiate the planning, design and construction of a new university performing arts center which meets the needs of the campus as well as the community.
- Formalize a pre-collegiate or mentorship program between CU faculty and the BVSD to better integrate high school students into the campus and encourage enrollment of minority students.
- Enhance visitor access to the campus with improved campus signage and a central welcoming center as well as technological improvements that personalize visits to the campus through web-based interactive information and easily understood public portals.
- Expand faculty and staff service responsibilities to include service to the community such as participation on local boards, consulting to or mentoring of community members.

- Assess existing University and City collaborative efforts such as the CU/City Task Force, Oversight Committee and City Manager’s Student Advisory Committee to determine opportunities for enhancements to such collaborative efforts; consider an annual gathering of city, university, federal labs, school district and community leaders to ensure open communication and brainstorm future initiatives to benefit the community as a whole.
- Request that the City review the current requirement of city residency as a pre-condition for service on various City Boards and Commissions so that university faculty and staff may have an opportunity to participate.
- Collaborate with the City, County and community to evaluate a range of options for the future of the South Campus.

Intermediate term (2-5 years)

- Prepare a Grandview redevelopment plan, with a timetable for implementation, which capitalizes on the property’s unique location in proximity to the main campus, the University Hill commercial district, downtown Boulder and the Pearl Street Mall.
- Respond to identified community and university needs for additional conference and hotel space and a performing arts facility through collaborative partnerships with the City and private development interests.
- Enter into partnerships with private developers to encourage redevelopment of existing commercial areas adjacent to the main campus such as the Williams Village Shopping Center, Basemar Shopping Center and the commercial area to the north of the East Campus on Arapahoe Avenue.
- Develop a service-learning program that places students in community-based organizations and formalize student participation in local professional (e.g. architectural, engineering, journalism), municipal and business endeavors.
- Create “one-stop shopping” for users of university facilities for special events which includes conference services, food, parking, educational opportunities, security and facility rentals.
- Partner with the City and federal labs to recruit new research facilities to Boulder; develop a joint marketing effort to sell Boulder.
- Plan for the redevelopment of existing university housing stock, specifically graduate and family housing, in order to offer more diverse housing options and better meet the needs of future students. Future housing could include multi-generational components, expansion of the residential campus concept and expansion to include opportunities to meet the needs of the federal labs.
- With the City leadership, develop a plan similar to the UC-Davis West Village project, a mixed-use district integrating student, faculty and staff housing and

educational facilities around a village square, in order to provide affordable, attractive housing for the University community (see UC-Davis website at <http://www.westvillage.ucdavis.edu/>).

Long-term (5-23 years)

- Redevelop existing university housing stock based on the concepts and partnership opportunities that come forth as a result of planning efforts undertaken in the intermediate-term.
- Phase the development of the South Campus based on community and university needs assessments and development opportunities.
- Explore opportunities for property acquisitions adjacent to the main campus if they become available in order to meet future long-term needs of the campus.
- Develop a state-of-the-art rapid transit system to connect and facilitate travel between the various university properties.

SUBCOMMITTEE ON THE CAMPUS COMMUNITY

March 15, 2007

Question: *“What kind of a University community do we aspire to be in the year 2030?”*

Assumptions about developments leading to the kind of community aspired for CU-Boulder in 2030

The University of Colorado at Boulder is faced with environmental factors like all large research higher education institutions that challenge its ability to foster a sense of community on campus. The size of the institution, the breadth and depth of difference in functional roles and responsibilities, as well as perspectives and experiences cause a tension and disengagement rather than a collaborative sense of the greater good. The large organizational structure can easily isolate campus members such that a common ground is felt to be missing. Exacerbating this perceived lack of cohesion is a feeling that there is no campus ethic that recognizes good work, values diversity, and/or promotes mutual regard and service to others.

The prevailing assumptions for the development of a community aspired for CU-Boulder to 2030 are as follows:

Assumption 1: A civil and respectful environment that is actively supported by all campus members can be accomplished. Such an environment will require thoughtful holistic planning with an on-going commitment over time.

Assumption 2: The University will be a community of people reflecting the demographics projected for the year 2030. CU-Boulder's welcoming environment will attract and retain quality faculty, staff and students who today are considered underrepresented on our campus. This enhanced environment will strengthen CU's educational mission and better prepare its graduates for leadership in a global economy.

Assumption 3: CU-Boulder will accept responsibility for sustaining the worldwide community through advances in biotechnology, protecting the natural environment, graduating students prepared for world-wide citizenship, etc.

Assumption 4: As the flagship public research institution for the State of Colorado, CU-Boulder will foster interdisciplinary studies and aggressively pursue collaborative partnerships in fulfilling its role and mission. Additionally, academic delivery methods will change as needed to reflect the world in 2030, including technological advancements, artistic creations, business needs and the needs of individuals.

The kind of University community that is aspired for CU-Boulder in 2030

In *Campus Life: In Search of Community*, Ernest Boyer wrote that successful communities within higher education are purposeful, open, just, disciplined, caring, and celebrative. He felt that these six principles should guide campus governance and activities in building community. Boyer's principles provided guidance and aspiration for the subcommittee in envisioning the University of Colorado at Boulder's community in the year 2030. However, the definition of community for the campus is one that must be determined by the community members themselves. To be a true community, campus members must realize the value of community, define what it means for them, and invest themselves in it. This investment is fostered by providing the opportunity for campus members to express their thoughts on the community they experience today at the

University of Colorado at Boulder and their vision of community for tomorrow. Therefore, Boyer's principles were used as a frame of reference and a starting point in creating this vision for our campus. We solicited feedback from members of the CU-Boulder community and incorporated their collective suggestions into the proposed principles of community for CU-Boulder.

CU-Boulder's Aspired Principles of Community Flagship 2030:

First, CU-Boulder is an educationally *purposeful* community, an institution where all individuals and groups work together both on and beyond the physical campus to strengthen and carry out the institution's research, education, public service and civic engagement mission.

Second, CU-Boulder is an *open* community, a place where an environment of trust is encouraged, freedom of expression is protected such that controversial issues are openly and respectfully discussed, and where civility is valued and expected.

Third, CU-Boulder is a *just* community, a place where each person is respected, diversity is promoted and valued, and campus leaders and community members demonstrate fairness, equality and support for all individuals.

Fourth, CU-Boulder is a *disciplined* community, a place where individuals accept their obligations to the CU-Boulder community, the institution and environment, and where well-defined governance procedures guide behavior for the common good.

Fifth, CU-Boulder is a *caring* community, a place where the well-being of each member is supported and where responsibility and service to others is encouraged.

Sixth, CU-Boulder is a *celebrative* community, one in which the heritage of the institution is remembered, where rituals affirming both tradition and change are widely shared, where individual, group and institutional accomplishments are acknowledged, challenges and successes are celebrated, and the process as well as the outcome is applauded.

Seventh, CU-Boulder is a *responsible* community, a place where continuous improvement is valued and incorporated in all University programs, actions and activities.

The sub-committee envisions a collective of faculty, staff, and students who are attracted to the University of Colorado at Boulder because of its learning, service and work environment and its sense of community.

The sub-committee further envisions a community where all campus members feel that the University enriches them and their experience. They take responsibility for maintaining this community by practicing the virtues that support it. These virtues include confronting and correcting any actions that diminish community while

maintaining the vital practices and activities that define the community. Sustaining the community for its own sake is itself a virtue.

CU-Boulder's current strengths and weaknesses in becoming the aspired community of 2030.

The point can be made that the University of Colorado at Boulder has a genuine interest in fostering community because of the many campus offices and organizations that build community. These groups fill various niches from campus-wide (e.g., the Building Community Committee), student and employee behavior (e.g., Colorado Creed, Power of One, Honor Code, the Office of Discrimination and Harassment, and the Office of Labor Relations), school spirit (e.g., Inter Collegiate Athletics, and the HERD), recognition of exemplary performance (e.g., Faculty Teaching Excellence Awards, Distinguished Faculty, Chancellor's Employee of the Year Award, departmental recognition awards), and support (e.g., Black Student Alliance, Multicultural Greek Organizations, Women's Resource Center, and the Gay, Lesbian, Bisexual, Transgender Resource Center). The presence of these groups and programs provides a base for enhancing future efforts to build community. (See Appendix A for a more complete list of groups and organizations which foster community at CU-Boulder.)

The point can also be made that the University of Colorado at Boulder is today not doing enough to foster community. Campus members can too easily describe acts that make them feel unwelcome, disrespected, and/or devalued. The students, faculty, and staff who experience such acts feel that there is a general lack of prevention and response to these acts. They also feel the campus leadership does not do enough to bring about change. This situation contributes to the perspective of the campus being unwelcoming, which results in the inability to attract and retain under-represented students, faculty, and staff.

Community is enriched by simple acts of appreciation and recognition for work well-done or for routinely completing demanding tasks. From the sub-committee's survey, it is apparent that, many students, faculty, and staff feel under-appreciated for what they do on a daily basis that goes beyond what is expected of them. They also feel disconnected from a greater good. For many, there is a sense of being "dis-spirited." In a 2006 employee engagement survey of classified staff and exempt professional employees, the Department of Human Resources learned how staff employees perceive the culture and climate of CU-Boulder's workplace. A significant strength identified by almost ninety percent of respondents is that employees see their job as vital to the overall purpose of the university and are more than willing to go above and beyond their normal work duties to help the university succeed. Other strengths are that employees understand what is expected of them, they receive feedback about their work progress, and feel they have the equipment and resources necessary to perform their jobs. Key elements sustaining our community are that most employees have strong friendships here, believe at least one person at CU cares about them as an individual, and reported sheer enjoyment of their work. CU-Boulder will rely on these strengths as we move toward Flagship 2030.

Survey respondents suggested borderline areas which fall just below the strengths and demonstrate some important employee beliefs. Almost two-thirds of respondents believe they were utilizing their talents on the job and agreed that they strive for quality in their work. Survey results confirm that employees desire recognition for a job well done, want their development encouraged by someone, and wish to be provided new experiences and chances for growth; however, only slightly more than half of respondents agreed that was the case at CU-Boulder. In addition, less than half of respondents believe their opinions matter to the University. How we address these borderline areas will influence the staff's perception of the CU community which in turn will impact their willingness to recommend others to work here and to contribute to Flagship 2030 goals.

According to AlphaMeasure, the company that administered the survey on behalf of Human Resources, the primary factors that influence employee engagement are:

- ♣ A culture of respect where outstanding work is valued
- ♣ Availability of constructive feedback and mentoring
- ♣ Opportunity for advancement and professional development
- ♣ Fair and appropriate reward, recognition and incentive systems
- ♣ Availability of effective leadership
- ♣ Clear job expectations
- ♣ Adequate tools to complete work responsibilities
- ♣ High levels of motivation

All of these factors relate directly to the proposed principles of community and should be considered in the development of an action plan for Flagship 2030.

CU-Boulder's necessary responses in becoming the aspired community of 2030

The response to become the aspired community of 2030 begins with committed leadership to develop a vision and then develop and carry out a plan and process to achieve it. The development of the vision and the plan must be done in a manner that generates a sense of ownership and responsibility in order to insure its successful implementation. The plan should have measurable benchmarks, a budget, and an accountability means which guides the successful implementation and maintenance of community.

Actions to implement the responses in becoming the aspired community of 2030

The actions needed to be taken include:

1. An appraisal of the campus assets and challenges to community
 - What do students, faculty, and staff consider the community to be at CU-Boulder today?
 - How would one feel when "in community" at CU-Boulder?
 - What programs and services are currently in place that support community?
2. Learn from others concerning building community.

- A review of the literature on campus community to learn more about what is community. What information and direction can be found in the literature that informs the process of building community, including technological advances in virtual communities like *Second Life*.
 - A review of campuses and businesses that are considered to be models of the aspired community for the University of Colorado at Boulder.
3. Develop CU-Boulder Action Plan for achieving the aspired 2030 principles of community. A broad-based group that facilitates the campus's identification of 2030 objectives might consider these possible ideas:

Purposeful

- Academic collaboration and partnerships
- Community involvement and inclusion (decision making, policy development, etc.)
- Adult education programs
- Faculty tenure process
- Diversify the community and educate students to function within the global community of 2030 and beyond.
- Structure diversity-focused policies and institutional programs throughout the entire campus experience at CU-ranging from outreach, to financial policies, to recruitment strategies, to the ways we communicate and enforce codes of conduct, to managing alumni communications and functions, as well as everything in between.
- Define roles of Athletics and cultural programs

Open

- Statement on Civility
- Balance respect and civility

Just

- Codes of conduct
- Academic grievance procedures
- Review of tuition rate structure and scholarship policies
- Employ effective outreach methods to overcome the perception of inaccessibility for students who are part of currently underrepresented groups
- Curriculum reform with focus on communication and performance within a global, pluralist, multi-cultural society
- Faculty recruitment, retention and training systems that emphasize the value of diversity

Disciplined

- Individual pledge
- Governance structure
- Codes of conduct (Student, Employee)
- Academic grievance procedures
- Campus Sustainability Plan

Caring

- Work-life balance
- Student volunteerism
- Faculty teaching loads
- Recognition programs
- Appropriate, fair and equitable compensation
- Employee training and development programs
- Succession planning

Celebrative

- Individual and programmatic programs
- Recognition of service, volunteerism
- Overview and training regarding CU's heritage

Responsible

- Program Reviews

4. University of Colorado Boulder Community in 2030.
 - A broad-based group that monitors the campus's plan to realize and sustain this community in 2030.
 - Identify a set of benchmarks that are used to regularly assess the campus's progress in achieving the aspired community of 2030.
 - Create a budget to realize the implementation of Community 2030.
 - Develop an accountability means which guides implementation of community that is consistent with state and campus policies.

APPENDIX A

CU Campus Groups which Build Community:

I. Student to Student

Colorado Creed
 HERD (3000 students)
 Honor Code
 Power of One

Competing With Class (spectators who attend athletic events)
need a list of all official student groups (w/ SOFA accounts)
Intramural Athletics / Clubs
Panhellenic Council, Fraternities, Sororities
UCSU – student leaders
Housing on campus & Married Student Housing
Office of Admissions
Students Groups which focus on diversity:
 COURAGE
 Interactive Theatre Project
 Transform
 Recovery group
 Religious groups
 National origin groups

II. Faculty to Faculty

Boulder Faculty Assembly
Arts & Sciences Council

III. Faculty to Student

RAP (Resident Academic Programs)
Honors Program
MASP (Minority Arts and Sciences Program)
PLC (Presidents Leadership Class)
UROP (Undergraduate Research Opportunity Program)
CAPRH (Council on Academic Programs in Residence Halls)
SURE (Summer Undergraduate Research Program)
SURF (Summer Undergraduate Research Fellowships)
SMART (Summer Minority Access Research Training)
UMP (University Mentoring Program)
REU (Research Experience³ for Undergraduates)

IV. Staff to Staff

Staff Council
Staff development and training

V. Entire CU Community

Building Community Committee
Chancellor's Standing Committees:
 Women
 CACMA (Minority Affairs)
 GLBT
 Disability & Access
Blue Ribbon Commission on Diversity (2006)
Homecoming Committee

Women's Resource Center
Gay, Lesbian, Bisexual, Transgender Resource Center

Outside Groups who connect to CU

Chamber of Commerce
Homecoming Committee & the event itself
Student Advisory committee to City Mgr.
Blue Ribbon Commission on Diversity
Boulder Community United
CU Alumni Chapters
trips organized by the Alumni Association
Hill Liaison
various Advisory Boards (academic programs & institutes)
Parents Association
CU Foundation (friend / fund raising)
religious groups
CU auditors

Outreach

Business links to campus via employment, internships, and service learning
CU members volunteering in the community
BUENO Program (Bilinguals United for Education and New Opportunity)
Outreach to community: students & faculty presenting off-campus:
athletics
arts & culture
speakers / conferences
web resources
campus programming attended by the public:
athletics
arts & culture
speakers / conferences
libraries
web resources
Study abroad
Recruiting & Admissions: National Council & College Nights

SUBCOMMITTEE ON FINANCES AND OPERATIONS

March 4, 2007

Question: "What kind of financial and organizational models will CU Boulder need in order to succeed in 2030?"

Introductory Statement:

The University of Colorado at Boulder is defined as a comprehensive graduate research university with selective admissions standards. Colorado Revised Statutes (23-20-101.1(a)) defines our educational responsibility as providing a comprehensive array of undergraduate, masters, and doctoral degree programs...” As the recognized Flagship University for the State of Colorado, CU Boulder is charged to conduct its educational mission and its pursuit of research knowledge and creative works at the highest levels practiced nationally. As the only member of the prestigious American Association of Universities (AAU) from Colorado and most of the inland western United States, Boulder’s educational and research enterprises must attract and maintain a nationally competitive faculty, must train undergraduate and graduate students to a high state of expertise and creativity, and must compete with the largest public and private research institutions for research funds, gifts, and contracts. In order to meet the expectations of and responsibilities to the State of Colorado, it must remain an economically healthy institution.

Unless the University of Colorado at Boulder is able to establish and maintain economic viability, it will become increasingly dependent upon state subsidies, and the quality of its educational, graduate training, and research infrastructure will inevitably decline. The investment in an AAU-caliber institution by the citizens of Colorado over the past 130 years demands protection. Our strategic vision calls for a new economic model for the Boulder campus that is more independent from and structured somewhat differently than that of its sister University of Colorado campuses. Our vision also calls for the Boulder campus to adopt its organizational structure and its business processes to respond to and to optimize this new economic model, so that it may effectively adapt to any unpredictable future fiscal environment.

Assumptions about developments leading to 2030:

We make the following assumptions about our institution, our state, and our mission as we vision the year 2030:

- The Boulder campus aspires to be among the top 1/3 of AAU public institutions, and that the Board of Regents and the citizens and businesses of the State of Colorado continues to ascribe to that same aspiration. Boulder will continue to be the flagship institution of higher education within the State of Colorado and the Rocky Mountain west, and will remain the destination of choice for the majority of the State’s top high school graduates.
- The Boulder campus will stay committed to our public mission.
- The Boulder campus will attempt to provide increased educational access for students from all areas of the State.
- The Boulder campus will remain a residential university with personal instruction being a primary component of its educational model.
- The State of Colorado and the nation will be increasingly diverse.
- High school graduates in Colorado will increase by 30% between now and 2030, with the fastest growth among Hispanic populations, and that the Boulder campus

- will need to accommodate its share of this demographic growth by expansion in its facilities, faculty, and services to students.
- The Boulder campus will likely require more abundant financial aid in order to assure access.
 - State funding for higher education in general will continue to be limited and below national averages, and may in fact decline below present levels.
 - The reinstatement of TABOR restrictions and/or the next economic recession will create a financial crisis for higher education that will threaten the Flagship and AAU status of the Boulder campus unless the campus migrates to a more self-sufficient economic model.
 - The Boulder campus will need to encourage entrepreneurship and new business processes by all parts of the University that maximize the efficient use of its limited resources.
 - Interdisciplinary programs and initiatives will become increasingly important.

The envisioned scenario in 2030 that CU-Boulder will have to respond to:

In order for the University of Colorado at Boulder to continue its success as it moves towards 2030 we must solve the problem of providing adequate financial resources to achieve our mission. Additionally, it is clearly recognized we will need to rely upon greater self-sufficiency than our current financial and operational models provide. Highlighted below is how we envision limiting the campus dependence upon State subsidies and establishing fiscal self-sufficiency.

Financial Self-Sufficiency

The 33 U.S. Association of American Universities (AAU) flagship public universities are a unique subset of the 1,700 teaching and comprehensive public universities in the United States of America. Their costs to offer the expected wide range of undergraduate programs and the higher costs of graduate training require financial support at a level higher than community colleges and less comprehensive research intensive four-year institutions. Flagship universities are able to meet the expectations of their states under one of two financial models. One model involves high state subsidization and is usually accompanied by low tuition levels (Chapel Hill, Wisconsin, Florida) or moderate tuition rates offset by state-funded need-based financial aid (Michigan, Minnesota). The second model for securing the operation of a flagship university is a model where there is more of a balance between state subsidy and a higher level of tuition-derived revenue (Indiana, Pittsburgh, Virginia, and Rutgers). The Colorado model, with low state subsidy AND low tuition, is unique among the AAU to the Boulder campus and is not a sustainable model.

We believe that the University of Colorado Boulder campus must move to one or the other model in order to sustain the mission set for it by the State. It is unlikely that Colorado can afford the high subsidy model given the budgetary pressures on the State. While we envision the State remaining an important fiscal partner, particularly with regards to supporting graduate education and training, we believe the future of

the Boulder campus is to move resident tuition rates to the national average for AAU public universities. Holding our tuition rates to AAU average, coupled with the unique attractiveness of Boulder to non-resident students who will pay a premium rate to attend, will allow the campus to reach self-sufficiency and still meet its goal to ascend into the top 1/3 of the AAU public institutions. Ironically, higher resident tuition rates also provide the best vehicle for increasing need-based aid and assuring access to the State flagship institution without placing additional demands on the State for financial aid support. The support of Student's and Parent's will be critical for achieving these objectives.

We envision a stronger partnership with the CU Foundation as part of our fiscal self-sufficiency strategy. Self-sufficiency also allows the Boulder campus the flexibility to adjust tuition revenue up or down in response to increases or decreases in Foundation and State revenue support as economic cycles wax and wane, or as other revenue sources (for example, technology transfer, corporate partnerships and joint research ventures, Foreign governments, etc.) are developed.

We also believe that targeted initiatives, which are integral to the interests of the citizens of Colorado, will develop mutual respect (and ultimately additional funding) between the State and the University.

Operational Flexibility

The University of Colorado Boulder campus will need to develop new relationships between itself, the rest of the University of Colorado system, and State government if it is to effectively serve the System and the State in a positive and non-competitive manner. We envision the development of a Board of Visitors or Friends that can serve as trustees and advocates for the Boulder campus. This organization might be an effective intermediary between the campus and the System Regents, and between the campus and the State government in a way analogous to the functions of the Board of Directors for University Hospital.

We envision enabling legislation that allows for the financial self-sufficiency described above. An elaboration of enterprise status, delegation of fiscal authority analogous to Public Authority status, or some new model for defining government-campus relations and responsibilities would best serve the higher education mission of the Boulder campus.

Within the campus, we will also need to refine old processes and develop new ones to optimize operational efficiency. We encourage the development of funding mechanisms that facilitate coordinated but not overtly competitive entrepreneurial activities among academic units and support services alike. We envision the full exploration of responsibility centered management systems for academic, student and administrative services units that provide incentive for controlling costs and rewarding efficiencies as well as incentives for entrepreneurial activities.

It should be noted that this system will involve suitably sized cost-centers and in addition high level management teams to coordinate inter-unit and inter-disciplinary initiatives. Finally, our current personnel system will need to be examined to ensure it will adequately support this new environment.

In order to cultivate a renewed flexibility and nimble-ness into the university structure, we encourage exploration of linking responsibility centers to the concept of sunset provisions for all organizations, so that the campus reviews investments in its internal organizations on a regular schedule.

Current Strengths: (As they relate to our scenario)

- Entrepreneurial potential of our outstanding faculty and staff.
- A productive University of Colorado Foundation, which is currently gearing-up for more active and aggressive fund raising activities. The CUF contributed \$27.5M to the Boulder campus budget during the most recent fiscal year, approximately 3% of the \$880M campus budget.
- The University of Colorado has previously obtained Enterprise status whereby enabling certain autonomy from the State of Colorado governmental requirements.
- The University and the State of Colorado already have a fee-for-service contract in place for graduate level education which could be a model for future funding relationships with the State.
- Geographic attractiveness to our non-resident students.
- Financial room between the current tuition rates and those rates charged by our peer institutions for resident tuition.
- Growing awareness by the general population that significant changes need to be made to the higher education funding model in order to maintain accessibility, quality, and utility for the State.

Current Weaknesses: (As they relate to our scenario)

- Our current low tuition and low financial aid model limits access to certain populations of students.
- Our current low tuition and low financial aid model limits revenues that might be available for new student initiatives.
- Inefficient internal resource allocation model which tends to discourage entrepreneurial behavior.
- An aging physical plant operating at capacity and which is unable to accommodate significant future growth.
- Fastest growing part of the State and nation's college-age population is not a significant portion of our current student base.
- Insufficient public perception of the value of a Flagship campus to the State.
- Inability to self-define business processes and practices to meet our changing needs.

- Inability to significantly raise non-resident tuition rates, or proportion of non-residents in the enrollment mix without extensive engagement of the State’s political process.
- Modest investment in graduate education limits University of Colorado at Boulder’s ability to provide maximum intellectual and entrepreneurial benefits to the State.
- Internal change is very difficult to accomplish due to cumbersome governmental oversight systems.
- Inability to articulate the research and teaching accomplishments to the people of Colorado.

Characteristics and Traits:

As the University of Colorado at Boulder moves towards 2030 it will need to consider the appropriateness of the following items:

- The value of a campus-specific governing or oversight board as a means to increase awareness, enthusiasm, goodwill, and to provide policy and financial oversight.
- Continue to focus on increasing scholarships and endowments relative to our total budgets.
- Examine the appropriateness of reorganizing as a Public Authority such as the University of Colorado Hospital Authority as a means for providing some fiscal self-sufficiency, or alternatively, legal changes of the Enterprise status to achieve these same ends.
- Take steps to move the campus progressively towards a higher resident tuition, higher financial aid funding model.
- Increase accessibility and attractiveness of the University of Colorado at Boulder to all economic and demographic sectors of the changing population.
- Willingness to adapt and change as State needs, research opportunities, and educational requirements change.
- Bettering our statewide image would likely lead to further investment and support.
- The University’s current successes are not being adequately recognized and hence the value being provided is being understated.

Necessary Actions:

The Chancellor should:

- Explore the appropriateness of a campus specific Board of Visitors similar to those found at other public AAU institutions.
- Explore enabling legislation for a model analogous to the Public Authority model currently being utilized by the University of Colorado Hospital; or alternatively legal changes in the Enterprise status.

- Explore the appropriateness of implementing coordinated responsibility centered management systems for academic, student and administrative services units that provide incentive for controlling costs and rewarding efficiencies. In tandem, our current personnel system will need to be examined to ensure it will adequately support this new environment. In addition, examine whether sunset provisions for internal organizations, such as centers, institutions and departments are necessary.
- Work closely with the University of Colorado Foundation to increase private giving whereby we are able to increase the number and amount of scholarships offered to our students and endowed chairs and faculty members.
- Attempt to broaden the geographical distribution of attending Colorado in-state students.

Long-term

- Determine internal organizational and financial changes needed for an agile and flexible response to the overall strategic plans.
- Continued efforts across the campus with the CU Foundation to increase our scholarships and endowments.
- If deemed appropriate, complete the implementation of the Public Authority or other legislative alternatives.
- Articulate the teaching and research contributions to the people of Colorado.
- In cooperation with the President, Board of Regents and Board of Visitors explore alternative funding source which may be available.

Intermediate (3-5 years)

- Continue the development/enhance/utilize of the Board of Visitors.
- Continued efforts across the campus and with the CU Foundation to increase our scholarships and endowments.
- Conclude the exploration of the Public Authority concept or legislative alternatives. Based on the outcome of those efforts decide the appropriateness of going forward with some type of a Public Authority model. If supported begin the implementation.
- Make efforts to interact with statewide businesses and increase Technology Transfer income.

Near-term (up to 18 months)

- Thoroughly explore the feasibility of a coordinated responsibility-management structure.
- Begin the establishment of a robust Board of Visitors as advisors to the Chancellor and advocates for the campus.
- Continued efforts across the campus and with the CU Foundation to increase our scholarships and endowments.

- Begin the detailed exploration of Public Authority concept; or other legislative alternatives.
- Examine the feasibility of admitting the top 5% of students from all high schools in Colorado as a mechanism to improve Boulder's accessibility to all Colorado residents.
- Examine the possibility and appropriateness of Legislative Scholarships.
- Evaluate effectiveness of campus-wide research initiatives.

Current Problems and Issues:

The overall ability of the University of Colorado at Boulder to provide the necessary education and research depends on the efficiencies of the faculty. Standards should be rigorously maintained. Tenure should be carefully awarded and more effective post-tenure review is necessary.
