

To: Provost T. E. Parker, President M.W. Scoggins, and the CSM Board of Trustees  
Cc: Tissa Illangasekare, Faculty Representative to the Board of Trustees  
From: CSM Faculty Senate  
About: Strategic Plan  
Date: November 22, 2013

The faculty senate would like to provide campus feedback on the full CSM Strategic Plan (SP). We appreciate the administration's excellent efforts to gather feedback via town hall meetings with the deans and Pepper consulting group (although at all such meetings administration members were present). The faculty senate provides a key additional avenue of feedback, in particular the candid views of many faculty gathered by 13 senators. This memo is the first of two we will write. This first memo deals with general issues in the SP as well as the proposed metrics, as requested by the provost. The second memo will deal with specifics once the general issues in the SP are completed. Our intention, as always, is to work together in a positive collaborative manner with CSM administration for the future of the campus, in which we as faculty are heavily invested. Some of us have been here for 30 years, and some of will be here for another 30 years. So the SP matters a great deal to us.

In general, we find much to admire in the draft, and appreciate recent changes that have been made in the Mission, Vision, and Values statement in part in response to faculty senate input. To facilitate the conversation moving forward, we would like to flag for your consideration some broad areas that CSM may wish to address as we continue our dialogue on the plan. In each case an explanation is provided for clarity. We start with a few overarching ideas, then focus on each goal specifically.

1. Graduate education: From the beginning, on slide 6 of the SP, "Competitive Position," all areas of concern appear to be about our undergraduate program. This focus is found throughout the SP, with only minimal mention of the graduate program. A key area of growth is in fact in graduate education, naturally tied to growth in research. Yes, our undergraduate program can always use improvement, and we do have ongoing challenges we need to prepare for, like MOOCS, but in fact our undergraduate program is already spectacular in many ways. If there is one comment we hear nationally, it is that CSM is well known for producing great undergrads, whereas we are relatively unknown for our grad program. The plan should more seriously address what we hope to achieve in graduate education.
2. Metrics: Many of the metrics (\$100M in research expenditures, etc.) are not supported by rationale or metrics for growth, despite explanations provided at the end of the SP document v6. We need metrics that focus on the quality of our education and quality of our research, not just quantity/productivity or rankings. Additionally, these goals will not be achieved without a significant investment in staffing, research infrastructure and space (i.e., new building(s)). For example, it is stated on slide 31 a justification is provided for the \$100M number for research; yet there is no statement of how we will increase faculty productivity by 50% to match our competitors and obtain about \$333K per faculty

member. It is possible that the teaching load at these competitors is lower per semester than Mines, for instance. Other factors may play a significant role, including direct staff support for PIs, proposal preparation support, financial management, graduate support through fellowships, etc. What are the real parameters?

3. Community: We applaud the “student centered” focus of the SP, but we note with some apprehension that the plan does not do much to address two other important constituencies: the faculty and our surrounding community. The plan should speak to our aspirations for our faculty and / or the community of Mines as a whole as well as how we see our role as an institution within our immediate community along the Front Range and within the state. We are, after all, the *Colorado* School of Mines.
4. Political allies: On a related front, the SP should make clear statements about our commitments to the public and the state of Colorado. The people of Colorado would be very unhappy to learn that the word “public” only appears in the SP in the phrase “public relations.” The ramifications could be very serious. CSM remains a public university at this time and for the foreseeable future. The SP will be a public document that may well be read and analyzed by members of the government of the state of Colorado.
5. Rewards: We are concerned that the goals and missions of the statement will not produce meaningful change unless coupled with appropriate strategies in the reward and incentive system.

#### Comments on Goal 1:

1. Active learning: We applaud the plan’s focus on innovative and effective pedagogies, such as its emphasis on active learning strategies. However, focusing on one aspect of pedagogy is a mistake. There is no magic bullet solution. Rather, we should take advantage of the tremendous resources we have for pedagogical R&D on campus and nationally to produce a variety of initiatives. The SP should provide specific resources to do pedagogical development, from faculty to infrastructure. In other words, pursuing such changes in pedagogy should not be some form of unfunded mandate, and should be backed with support, rewards and other incentives, and research to encourage positive change, as well as plans for additional flexible classrooms for innovative teaching. In promoting excellence in pedagogy, we also need to be mindful of the ramifications of over-reliance on part-time instructors (adjuncts) and class size (see below), both critical to student success, retention, and undergraduate satisfaction (all emphasized in the plan).
2. The graduate student experience: The SP presently mentions campus housing for grad students. There are far more pressing issues, including office space, infrastructure, physical and mental health services for students and their families, pedagogy in graduate courses, leadership training, professional development, job placement, and all aspects of research tied to the graduate experience from tech transfer to proposal support. The size of our institution allows for close collaboration between PIs and graduate students and facilitates interdisciplinary research. We are also of a size to train the best graduate students by providing those with an interest in academic careers the opportunity to teach as instructors of record. A good part of our research reputation and our rankings is affected by our graduate students. CSM should strive for a different and better model for graduate education than very large state schools; here, with our small size and innovative distinctive model, we can build on our successes in our undergraduate program towards similar successes in our graduate program.

#### Comments on Goal 2:

1. Communication skills: We see in this part of the document some continuing challenges for CSM undergraduate education, especially the call for graduates who are excellent communicators, critical thinkers, and leaders in their communities; our graduates should also appreciate other cultures and be capable of working in an international environment. We continue to face challenges in developing student communication skills, both orally and particularly in writing, and we also continue to face challenges in cultivating the broad interests and lifelong inclinations of our students. We think it worthwhile for the plan to articulate excellence in those areas as goals to be pursued through *both* curricular and extracurricular pathways (and we worry about some implications that communication skills will be developed primarily in an extracurricular context).
2. Diversity: We also value the plan's emphasis on openness, inclusivity, and diversity in all its forms. However, the plan could do more to articulate how CSM hopes to further its laudable aim of increasing ethnic, cultural, national, class, and gender diversity on campus. For example, to better partner with select tribal colleges, the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) and other minority societies would be great. How will we tap into the low-income yet bright students who, as national studies have shown, are neglected in the present US university system? The Board of Trustees has emphasized this matter, and we would like to see it appear explicitly in the strategic plan. The plan could also articulate the importance of creating an intellectual climate that is open to diverse views and perspectives, a campus culture that encourages the CSM community to challenge conventional wisdom, to think outside the box, and to respect and understand positions held by others. The pursuit of these two different forms of diversity – ethnic and intellectual – are closely linked. Each fosters the other and will be a growth / strength area for us.
3. Class size: We similarly appreciate the SP's focus on retention; however, as the FACTIR committee explored last year, it is important to keep in mind that issues of class size and quality faculty-student contact remain important strategies to improving our retention picture. The current plan puts emphasis on extra-curricular contact, an important but inadequate step (that requires shifts in the reward and incentive picture to work) and we believe that the strategic plan should reflect the importance of the classroom experience, and particularly class size, which remains an important factor in improving the retention picture.

#### Comments on Goal 3:

1. Endowment: We applaud the idea of moving away from tuition revenue alone. We suggest that raising a world-class endowment might be the top priority of the President. To that end, is more thought needed as to how such an endowment would be used? Would CSM direct interest from the endowment to critical areas, for example research infrastructure, by competition, by priority or by what mechanism? Would faculty / staff / community have input to that process? Who decides and how will be important considerations to move the school forward in the best manner possible.

#### Comments on Goal 4:

1. Campus Infrastructure. This section is where research priorities can become clearer. How many dollars are we aiming to put towards labs and shared lab equipment on

campus? What is our plan to grow the research side of campus infrastructure? How about teaching? It's great to streamline paperwork by moving to an all-electronic system, as is already happening administratively across campus. So what's our next step? We feel this whole section on campus infrastructure would work better if it was much more specific.

Aspirational Metrics:

The provost has requested our specific responses to aspirational metrics.

1. Top 30 engineering program in the nation. This is laudable, but what about the rest of campus, the applied science and science departments? Engineering is only part of what we do. We think it would be a mistake to focus solely on engineering in the SP metrics. We also wonder if this metric is achievable within the projected timeframe of this plan, especially since this ranking is based on largely on external perceptions and survey data of peers.
2. \$100 million in research revenue – please see comments on page 2 above. The number is not well justified. Most faculty on campus are very excited about growing our research capabilities; however, the SP doesn't provide a justified target or if the campus can even support this or a clear way forward.
3. Metrics on pedagogy are lacking.
4. Metrics on number of T/TT faculty, ratio of teaching to T/TT faculty, ratio of research faculty to T/TT faculty are lacking. Also lacking is a target faculty to student ratio that uses actual numbers.
5. We very much like the Alignments and Targets table on slide 25, up to a few additional items listed above in 3 and 4. However, we were not provided with any 3 year or 10 year goals, and so cannot comment on them. The faculty senate requests these numbers be provided to us and to the faculty so we can provide concrete input and hopefully endorse them, before final decision by the Board of Trustees.

We request that the faculty representative to the Board of Trustees present this memo at the meeting of the Board of Trustees of Friday, December 12. We also ask that this memo be posted on the Blackboard site for the strategic plan. We welcome discussions with the Board, members of the administration, and the Pepper consulting group, and look forward to working together towards the exciting future of the Colorado School of Mines.

Sincerely,



Lincoln Carr, Physics (Faculty Senate President)  
Joel Bach, Mechanical Engineering  
Bernard Bialecki, Applied Mathematics and Statistics  
Gerald Bourne, Metallurgical and Materials Engineering  
Uwe Greife, Physics  
Dan Knauss, Chemistry and Geochemistry  
Thomas Monecke, Geology & Geological Engineering

Ken Osgood, Liberal Arts and International Studies, McBride Honors Program  
Steve Pankavich, Applied Mathematics and Statistics  
Kamini Singha, Hydrologic Science and Engineering  
John Spear, Civil & Environmental Engineering  
Kim Williams, Chemistry & Geochemistry  
Ray Zhang, Civil & Environmental Engineering