March 4, 2021

TO: Jason Stajich, Chair
                Academic Senate

FROM: Philip Brisk, Chair
                BCOE Executive Committee

RE: "Future Fluent" Strategic Plan Draft Report

Dear Jason,

The BCOE Executive Committee reviewed the campus *Future Fluent* Strategic Plan Draft Report; the Committee also solicited feedback from the Departments. Responses from the Department of Chemical and Environmental Engineering and the Department of Electrical and Computer Engineering are attached; feedback from other Departments has been integrated into this letter.

The Executive Committee has also seen the rather harshly-worded feedback provided by the CNAS Executive Committee to the University Administration. The BCOE Executive Committee concurs with the conclusions of the CNAS Executive Committee: **the Draft Report is not acceptable, and it would be a detriment and embarrassment to the University to move forward with this document**.

The *Future Fluent* Strategic Plan Draft Report does not even attempt to articulate a strategic vision. It is at best a high-level vision statement, and at worst high-minded feel-good bloviation. The flaws are obvious when compared side-by-side with its predecessor, *UCR 2020: The Path to Preeminence*, which clearly articulates Strategic Goals and explicitly-stated Strategies to achieve each goal, backed by (once-again) explicitly-stated priorities and/or criteria that could guide the implementation.

The *Future Fluent* plan offers none of this. It is not a strategic plan; and the process that produced it is fundamentally flawed. The BCOE Executive Committee is aware that at least one subcommittee report (*Thriving Campus Community*) featured explicitly stated Strategic Goals, with specific Recommendations and Target Metrics for each of them. The Committee explicitly is strongly opposed to whatever internal process aggregated the subcommittee reports and stripped them of their strategic content.

While the CNAS Executive Committee has called for an explicit reboot of the strategic planning process, the BCOE Executive Committee would like to propose an alternative: the subcommittee reports could provide a reasonable starting point, assuming that there is some commonality in terms of how their strategic recommendations are articulated. For example, all subcommittee reports could be rewritten to have the same style and structure as the *Thriving Campus Community* report in terms of Strategic Goals, Recommendations, and Target Metrics, if they don't already share these common features.

The purpose of a strategic plan is to allow the campus to understand and assess its priorities. An effective plan will integrate vision, strategic, and operational components backed by sufficient substance (*UCR 2020: The Path to Preeminence* did so with aplomb). Guidance and prioritization are needed for 2-, 5-, and 10-year periods to provide a substantive framework for campus-level decision-making. The *Future Fluent* Strategic Plan Draft Report lacks this information, which the BCOE Executive Committee considers to be absolutely essential to the achievement of an effective plan.

The *Future Fluent* Strategic Plan Draft Report is effectively content-free. The BCOE Executive Committee considers this to be an unacceptable risk. The plan is so general that it could be used to justify practically anything and everything under the sun. As a result, future decision-makers and constituencies will have free reign to interpret the plan as they see fit in support of whatever agenda they may have. This is precisely why the missing strategic component is so important.

The BCOE Executive Committee was quite surprised that the *Future Fluent* Strategic Plan Draft Report did not link either to the 2020 Strategic Plan or the most significant events that have occurred on campus since the 2020 plan was approved. The starting point for a strategic plan should be a discussion that explains past decisions and their assumptions, and explains the position and trajectory of the campus as it embarks on the next plan. There is no mention of the now-concluded cluster hiring effort, which was the single biggest activity that occurred on campus over the past 6-7 years; there is no discussion of the constructiuon of MRB and its associated cost to campus; and there is mention of how campus has responded and continues to respond to the COVID-19 pandemic. What lessons have we learned? How can we move forward? We can't guide our successors and future decision-makers without imparting some wisdom. A planning document that is effectively memoryless does them a major disservice.

In retrospect, it is clear to the BCOE Executive Committee that the circumstances under which the *Future Fluent* planning process unfolded were not conducive to effective planning, and likely contributed to some, if not all, of the weaknesses in the Draft Report. The position of Provost/EVC has undergone consistent churn in recent years, which is particularly concerning; in retrospect, it may have been unwise to engage in this effort under and Interim Provost/EVC. A Provost/EVC needs to be heavily involved in strategic decisions, especially those involving academics; this is in many respects the heart of what is missing in the current draft.

The COVID-19 pandemic and the State budget cut that followed created further uncertainty about the viability of UCR's present trajectory. The recent across-the-board budget cuts imposed within campus were notably the opposite of "strategic," and hurt growing Colleges like BCOE. While leaving the 2020 Strategic Plan in place runs the risk of having it become stale, it's likewise fair to argue that the key strategic decisions enacted over the past 10 years did not adhere to its vision. None of these factors can justify moving forward with an ultimately flawed Strategic Plan.

If the objective of the *Future Fluent* Strategic Plan is to guide decision-making through 2035, the parameters that characterize the outcome are important as goals; however, those parameters alone are insufficient. Operational plans backed by coupling of resources is where strategic decision-making is made. There is a balance between a wishlist of everything that UCR would like to do, and meaningful prioritization. An effective strategic plan must identify priorities in order to be effective; this is best achieved through quantitative and metric-based approaches; **notably, these approaches were present in the 2020 Plan and the *Thriving Campus Community* draft reports**!

The COVID-19 pandemic has taught us that strategic decision making requires a short- term and strongly-operational basis. Short- and medium-term non-emergency decision making should be guided by SWOT (Strengths, Weaknesses, Opportunities, Threats) Analysis or similar. And there needs to be a clear, yet synergistic, delineation between vision, strategic planning, and operational planning.

The Committee would like to provide some suggestions for things that are missing from the *Future Fluent* Strategic Plan Draft Report, in the hopes that these suggestions will guide future revisions. This list is necessary, but non-exhaustive:
- The plan need to include a continuous improvement process that will be carried out by campus stakeholders at appropriate intervals:
  - How is success defined? What metrics will be used to assess success?

- What is an appropriate shared governance process to intervene when success is not achieved?
        - How will the plan be updated to reflect successes?
        - How can the plan evolve in the face of presently unforeseen circumstances and opportunities?
- A framework for overall campus decision-making is lacking:
    - Which decisions will be made centrally, both by administration and the Senate, and what decisions will be deferred to the Colleges?
    - How will the Colleges be funded and how will resources be allocated?
    - What metrics will be used to guide these decisions?
    - What metrics will be used to assess success of the strategic decision-making process?
    - When failures occur, will there be an equitable process to air grievances, reallocate resources, and recalibrate the decision-making process?
- The plan needs to be coupled to a budget statement and a financial operations component. UCR has failed to do this in the past and present, and clearly this approach has not worked and is not working:
    - The plan needs to clearly articulate the strengths and weaknesses of the RCM budget model. The budget model provides perverse incentives and correcting those incentives must be integral to the plan.
    - A framework is needed to either recalibrate the RCM model or replace it.

Unfortunately, the title of the plan will need to change: as per CNAS' commentary, the pun "*Future Effluent*," for better or for worse, will forever be associated with the current title.

In terms of the contents of the plan itself, many BCOE constituencies were quite frustrated. For example, the 2020 plan "selected the criteria of the Association of American Universities (AAU) as a benchmark because … the criteria used to judge AAU membership represent a valid measurement of what it is to be an academically excellent research university." Within the timeline of the 2020 Plan, UCSC was accepted into the AAU, while UCR, apparently, didn't even try. The *Future Fluent* plan lacks a substantive AAU focus, while claiming that UCR has met the metrics; this is not an acceptable proxy or excuse of failing to achieve membership.

In fact, the *Future Fluent* Draft Report places greater emphasis on membership in the Association of Public Land-grant Universities (APLU) in comparison to AAU. Here, there are target metrics such as aiming for APLU awards with specific dates. It is unfortunate that there is no commitment to applying for AAU membership by a specific date.

The APLU/AAU dichotomy, in turn, speaks to a more general concern with the *Future Fluent* Draft Report, and the apparent general strategy that has plagued UCR in recent years: undergraduate education is always prioritized, while graduate education and research are treated as second-class citizens.

Graduate education is particularly important for BCOE. One of the few statements regarding graduate enrollment (which is also one of the few legitimately *strategic* statements in the Draft) occurs on Page 9:

> "*Graduate students currently comprise around 14% of our total enrollment at UCR. While PhD enrollments (9%) are similar to our sibling UC campuses, Masters enrollments (4%) are much lower. By 2030, we plan to double the proportion of Masters enrollments while maintaining a stable proportion of PhD students, thereby raising our total graduate enrollment to 18%.*"

It is important to note that MS students are not uniformly distributed across the Colleges and School; BCOE (and SOBA) disproportionately enroll the most MS students. The report should explicitly recognize that much of the projected 4% growth in MS enrollment is expected to come from these two schools; moreover,

given a projected number of M graduate students enrolled by 2030, it is expected that N MS students will need to be enrolled per year to meet that goal. A subsequent implementation plan should make a clear commitment of the resources, staff, etc. that campus will provide to achieve that goal with clear metrics. If the campus is unable or unwilling to provide these resources, then the metric cannot be achieved.

The CNAS letter to the Administration described adverse treatment of a frustrated student representative on one of the planning subcommittees. While the BCOE Executive Committee knows nothing more about the specifics of this situation, we are concerned about the power dynamics that may have been involved, as well as the overall lack of collegiality. This student's complaints are in alignment with some of the major findings of the recent Faculty Climate Survey with respect to campus administrators' lack of consultation with faculty, especially the anecdotes listed in Section 2.1.2. While it is not possible to discern if this situation contributed to the flaws in that the Committee has identified in the Strategic Plan Draft Report, the Committee feels quite strongly that any plan that is to move forward must be produced under a process that is fair and equitable.
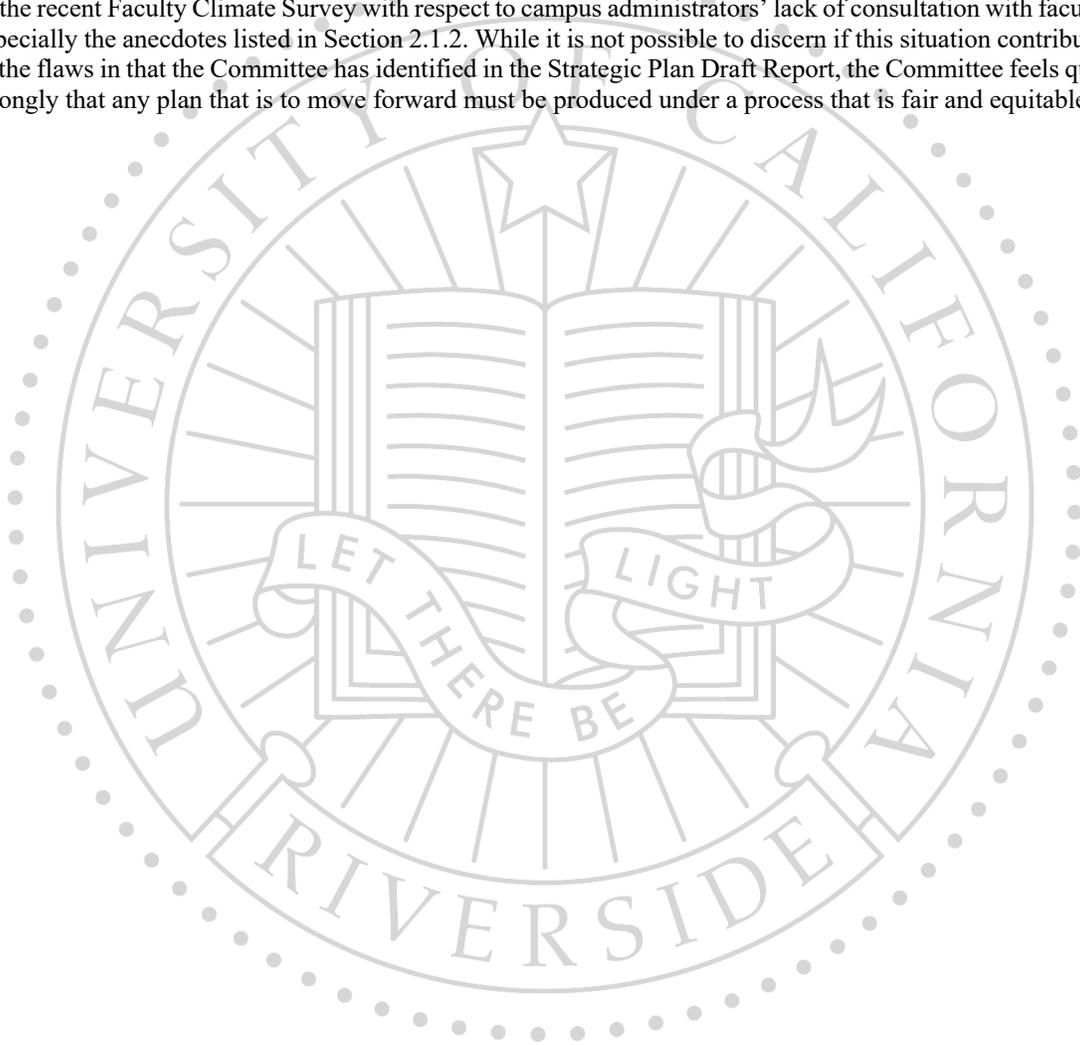
Department of Chemical and Environmental Engineering :
 Comments on UCR's Strategic Plan "Future Fluent"

1. The title of the plan is very unfortunate. It should be revised to better indicate the intent of the strategic plan for the campus. (it is likely to be read as "effluent" or "fluid" -- neither of which has a positive connotation).
2. The Foreword (p3) is generic, applying to any of the hundred or so research universities in the US. It includes current buzz words, such as "world-class research", "community engagement" and "diverse backgrounds". Less buzzwords and a better sense of how the plan is going to be used to guide the UCR campus in terms of areas for growth and areas for reduction in activities (some disciplines have run their course).
3. The Introduction (p4) could usefully point to some metrics of UCR accomplishments. For example, a leading institution in graduating Hispanic students, a leading institution in plant sciences that has supported growth of California agriculture etc. The Sidebar on how many people were involved in drafting the plan is irrelevant (some might be impressed by 100, others shocked by how few).
4. Mission, Vision Statement.

   1. UCRs mission is not to transform lives, it is to educate and provide knowledge. This may subsequently transform lives, but the order in the Strategic Plan is backwards.
   2. Core values. The role of the University in society has been the subject of much discussion over the past 100 years. It is clear that its main role is not to serve as the engine for social change and justice. UCR's core values need to reflect the prime objectives of the university and reflect this in the core values statement.

5. Institutional Goals. The statements in this section are far too general and do not reflect UCR's current strengths and how growth might be based on these areas.

   1. How is UCR preparing students for jobs in society? Surely this is more important than many of the other "thematic areas" described on p7.
   2. The objectives of the US medical enterprise may not correspond to those of society. A more pressing societal challenge might be to provide access to healthcare rather than developing new biomedical technologies.

6. Inclusive excellence in graduate education. The assumption here appears to be that graduate education is a more significant undertaking for underrepresented students than is undergraduate education. Shouldn't U/G education be #1 priority and then graduate education in certain fields be a secondary priority. Does the job market require graduate training in all areas? This is true in only a few areas in the sciences and engineering, but not in the humanities.
7. Section II. Learning Environment. This is a discussion of "how" and not "why", i.e., it is part of an execution plan not a strategic plan. The strategic and implementation strategies could be included in an overall document, but the strategic plan needs to be first clearly laid out.

8. Section III. Welcoming, inclusive … community. How is this part of a strategic plan ? it is certainly a component of a operational plan. This section reads like a testimony to "happy clapping".
9. Section IV. Advancing the public good. The role of the university in society needs to be clearly delineated before UCR's strategic plan involves extensive social "engineering". UCR can provide the knowledge and background for society to make decisions, but it should not presuppose the answers and make the decisions for society. Examples in the document include "we commit to being a powerful advocate for social progress … and effect positive change". Whose definition of social progress applies?
10. Equitable economic development (p17). There is no indication in this section what makes the approach described "equitable".
11. Sustainably Pursuing Goals. This is part of an operational plan, not a strategic plan.

Response to campus strategic plan

The faculty in the Electrical and Computer Engineering (ECE) department discussed the strategic plan in the faculty meeting on Feb 10, 2021. There were many concerns about the plan, especially with respect to research and graduate student support, which are enumerated below. We begin with a brief background of ECE research that places our feedback in context. ECE research has three broad pillars:

   a) Signals, systems and machine intelligence (SSMI), which includes topics like control, machine intelligence, robotics, signal processing, smart grid, wireless communication; it is sometimes referred to as information sciences;
   b) Nano-materials and devices (NMD), which includes low-dimensional materials, nanotechnologies, phononics, spintronics, and thermal fields with applications in electronics, sensors, computer technologies and energy conversion;
   c) Computer Engineering (CEN), which includes electronic design automation, embedded and real-time systems, computer architecture, data center scale systems, and computer system security.

ECE research is funded by NSF Directorates of Computer and Information Sciences and Engineering (CISE) and Engineering (ENG), and similar units in other funding agencies. All ECE faculty maintain active research groups and are PIs on highly visible research projects. ECE faculty lead campus research centers like CE-CERT, WCGEC, CRIS and POEM. According to the report by RED, ECE received extramural awards of about $7.8M in 2020; considering related research at the centers, particularly CE-CERT, we anticipate ECE's research awards to be close to $9M.

Overall, the faculty felt that the strategic plan draft lacked an understanding of ECE-related, and more broadly, engineering-related research. The following are specific points of feedback:

   1. The theme of Enabling a globally-connected economy (page 8) does represent many of the ECE research areas. The theme of Mitigating and adapting to climate change also addresses some aspects of ECE with relation to the NMD area. However, it was felt that the impact of electronics, computing and communication in shaping the future of society, commerce and defense, and the fact that UCR has core strengths in these areas was relatively weakly represented in this draft. The draft does not distinguish between investment in fundamental research in these areas vs those that are focused on specific applications. (Some suggestions at the end of this response.)
   2. Related to the above, there is discussion about improving core facilities, but no specifics are provided as to what these facilities should be (e.g., microscopy, nanofab, robotics) and what the vision is for the development of such facilities. The report has details about developing a museum, but no such details about how to develop corresponding facilities for excellence in engineering research.
   3. The portion about AAU status was especially weak, with no vision provided on how the goal would be reached, what the steps are, and what actions campus will take.
   4. While the goal of increasing graduate students is laudable, it is not backed up with specifics of how that would be achieved. The goal of increasing graduate students, especially MS students, requires engineering to play a pivotal role (as is evidenced by

many other schools with large graduate student populations). However, this is not emphasized in the report.

5. Overall, the UCR strategic plan seemed to provide a compilation of bullet points highlighting aspirational goals in different areas, without going into specific action items on how to accomplish these goals. Further, none of these bullet point items seemed to cohesively integrated together. It is unclear what role this document will play when UCR wants to create new major initiatives, such as starting new departments or research areas, hiring additional faculty, positioning itself better within the UC, etc.

Suggestions for bullets 3 and 4 in Selected Areas of Research (page 8):

- Mitigating and adapting to climate change: Deepening our understanding of the natural environment and how human activity impacts it. Protecting, recovering, and enhancing environmental quality and agricultural productivity. Developing clean technologies and energy sources. Advancing environmental sustainability. Creating and ensuring sustainable supply chains.

- Enabling globally-connected & information economies: Advancing basic and applied research in electronic materials, devices, computing and communication systems that power the digital world. Mobilizing innovative uses of automation, robotics, artificial intelligence, machine learning, data science, embedded systems, and logistics to support and grow the economy. Securing and protecting information systems. Understanding the effects of social-networks and the democratization of information on society.