

The University of Massachusetts Amherst 250 Plan

The UMass Amherst 250 plan identifies the crucial investment required to maintain the campus as a nationally competitive public research university. This campus has traditionally found its place among the top American research universities, and while the competitiveness of its faculty remains at national levels, its competitors among public flagship institutions have grown larger and stronger. This problem becomes even more acute when we recognize the decline in the number of continuing faculty in Amherst over the past decade or so and, in addition, observe the reduced investment in facilities repair and renewal that has accompanied the decline in faculty.

These circumstances bring the campus to a significant decision point. Either we will find the support to grow back to competitive size or we will need to change our mission. We have a window of between three to five years to demonstrate significant progress before a major reevaluation of our role as a significant public research university becomes unavoidable.

Although the critical element in the Amherst 250 plan is clearly the restoration of faculty strength, success in achieving our goal has a number of interrelated elements that connect to the faculty or result from the faculty restoration.

Students, undergraduate and graduate, represent not only a commitment within our mission but also a key element in defining the competitive quality of the institution. The 250 Plan anticipates restoring our faculty so that the quality and breadth of our instructional offerings can reflect the quality of our students and faculty. Although the campus will also grow some in number of students, both in and out of state, the 250 plan focuses on restoring faculty strength relative to the number of full-time equivalent students currently enrolled. One of the benefits of this plan is the opportunity it provides to diversify our faculty and become more effective in recruiting an appropriately diverse student body.

In addition to its focus on faculty restoration to improve the quality and breadth of instruction for students, the Amherst 250 plan requires the completion of the current 5-year capital plan and the initiation of the second 5-year capital plan. The renovation and renewal of instructional, research, student activity, and support space and infrastructure must accompany the restoration of faculty numbers.

Finally, as faculty numbers return to full strength, their work will require some increase in the staff support essential for effective teaching and research.

Achieving the Amherst 250 Plan

The plan summarized here represents a major challenge to everyone interested in the campus and recognizes that its achievement will test the commitment of faculty, students, staff, legislators, governor, alumni, and friends. These challenges are clear in the discussion that follows because the 250 Plan alone does not suffice to meet the competition that characterizes America's top public research universities. To succeed, we will need not only the increased state revenue of the 250 Plan but also an exceptional focus by faculty and staff on helping increase revenue to the campus from all sources.

Revenue for all of the investments required by this plan will come from the same sources that every other major public research university identifies. The core investment comes from the state and the students. The state must commit to an additional investment in this campus that will allow an expansion of the faculty by 250 over the next three to five years. This commitment underlies the rest of the financial plan. The students have already made their commitment by accepting dramatically increased required fees imposed during the state financial crises of recent years. Our required fees now put us close to the top of the marketplace, and while some growth may be possible, our plan anticipates no more than inflationary increases in required fees. With

the commitment of the state to faculty restoration and the continued commitment of the students, the Amherst 250 Plan has a foundation for success.

The achievement of this plan also requires growth in the campus' externally funded portfolio of research and other activities. External funding expands the value of the investment in faculty. One of the key indicators of institutional competitiveness is the success of its faculty in securing federal research dollars and other funding for research and creative activity. Growth of the campus research base constitutes an essential part of the total revenue increase that will leverage the 250 Plan's state investment. The campus capital plan includes an investment in new and renovated research facilities. The expectations for research performance depend on the specific disciplines involved, but the plan will identify appropriate comparators to ensure that the investment in faculty results in nationally competitive research performance.

The restoration of faculty positions will also have an impact on the teaching programs, although in this instance we anticipate a dramatic improvement in the quality of the instructional programs, currently under great stress from the budget declines of recent years. Improvement will take several forms: better access to regular faculty; greater availability of smaller classes; and increased opportunities for undergraduate students to participate directly in research programs, one of the unique strengths of a flagship research university. We will measure our progress as an institution in improving instructional quality through comparisons with other public research universities across several dimensions: student "engagement" with faculty and curriculum; distribution of class sizes, and course contact with regular faculty; and student success in moving through the curriculum. We will also monitor the post graduation performance of students in standardized tests for law, medicine, business, or graduate school to assess the value added by a UMass Amherst education.

No major public research university succeeds without a professional, volunteer driven, fundraising organization. Annual giving, capital gifts, and endowment earnings provide another essential element that leverages the state investment in the Amherst 250 plan. The financial structure for our success requires a fundraising campaign in the \$350 million dollar range over the next seven years. The campaign total will depend in part on the state's continuation of matching programs for capital construction and endowments, but most of all it will depend on the commitment of alumni and friends to this plan.

The campus also earns significant income by extending its expertise into new markets through continuing education, outreach, and the commercialization of intellectual property. This 250 Plan anticipates sustained growth of net revenue from these sources for investment in achieving its goals.

Implementation of the Amherst 250 Plan

The restoration of the UMass Amherst faculty through the 250 plan requires clear guidelines to govern the allocation of new resources to campus units. Several main principles create the framework for this activity, and a data based process supports the allocation of resources. The principles described here generally reflect those that guided the campus in its budget reductions of a few years ago, and will now guide the restoration of the faculty. This part of the 250 Plan represents a draft description that will require further review and consultation by appropriate Faculty Senate groups as well as by the units in Academic Affairs affected by this plan.

The primary focus of UMass Amherst is on teaching and research, students and faculty. We look at opportunities in terms of how they support our mission to teach graduate and undergraduate students and how they enhance the campus' national research performance. As these twin engines of our mission succeed, they generate additional opportunities for outreach, for continuing education, for support of economic and social development in the Commonwealth and in our communities, but these benefits depend on the success of the campus in fulfilling its primary teaching and research mission.

The first allocation decision for the 250 Plan rests on an assessment of the teaching capacity of each college or school referenced against national norms. That is, do we have sufficient numbers of faculty, and the right mix of instructors, to teach the students enrolled in classes taught within each school or college. National norms for this come from the Delaware Study that provides reasonably good data for institutions similar, if not identical, to our own. If a college or school is significantly deficient in instructional resources relative to the national marketplace, we assume an increase in faculty will be required. If a college or school is significantly over the national norm, we assume no increase in faculty are required for teaching purposes. We have been conducting such an analysis for several years, and a significant fraction of any new faculty will be used to fill existing instructional resource shortfalls in the humanities and social sciences. With basic needs met, additional faculty allocations can address further quality improvements.

The second allocation decision involves an assessment of the research performance of each college and school. If a college or school's research performance has been increasing on a per faculty basis for the past four years, then we have reason to believe that additional investment in this unit's research capacity would be wise. If a college or school's research performance has been flat or declining on a per faculty basis for the past four years, then additional faculty resources for research would depend on very compelling evidence that investment will produce results.

These first two are the key decision elements, but university improvement is not a simple mechanical process, it requires a data based judgment. For example, in some cases, accreditation requirements or other national standards will define certain levels of faculty staffing, regardless of the workload. In such cases, the decision about allocation may well be a decision about whether to sustain the school, department, or program at all, and not an incremental decision about adding or subtracting faculty support.

A third allocation consideration implements the principle that the campus rewards success. An example here that relates to faculty resources could involve the opportunity for a major research grant. When a college or group of colleges submits a major proposal for a federal grant, the proposal may require a campus commitment of additional faculty resources beyond those already allocated to the units involved. In this case, the campus will guarantee the additional needed faculty resources on a conditional basis. Only if the grant application is successful will the campus will allocate additional faculty resources. Similarly, in the event a unit, program, or department seeks a major private gift in support of an activity that will require additional faculty resources, then the campus will guarantee the resources, but only if the gift materializes. Approval to seek these grants and gifts comes from the deans and the provost and on occasion the vice chancellors for Administration and Finance, and Advancement and Alumni Affairs.

The fourth allocation consideration relates to the capital budget. Each faculty hire beyond the current number requires an additional investment in library, support, and especially in the sciences, start up funds to permit new faculty members to carry out their research programs. Startup funds, while one-time for each new faculty member, taken together create a continuing obligation that accompanies the growth of the faculty.

The process that implements these allocation decisions and considerations is iterative in that it responds to the behavior of the students and faculty. If students shift their focus from one area of the campus curriculum to another, over time the process will accommodate that shift so that adequate resources will flow to where they are required for teaching. If faculty in one unit are remarkably successful in gaining external support, the institution will readjust its budget to meet the new requirements of that success.

The campus is just now beginning to develop the tools that will permit this allocation process to work in an effective and transparent process. Allocation decisions affect everyone, and while not everyone will celebrate the campus allocation results, everyone should have the same

information in evaluating the process and the results. The process of reviewing these criteria, refining them, and collecting the essential data requires the engagement of the faculty both through the process of the Faculty Senate and its councils and committees as well as the deans and departments in the various colleges and schools.

The Data

The data on which this allocation process relies reflects the performance of the colleges and schools. Some of the indicators the campus collects centrally as part of the regular operations of enrollment and financial management. Other indicators, especially those that relate to quality and productivity of research and creative activity, require definition and in some instances, collection, by departments and programs themselves within a campus-wide framework. The frame of reference is always a moving four-year window with special attention to trends rather than annual one-time changes. The best data on quality and productivity for these purposes comes from national comparisons by discipline, rather than internal comparisons between disciplines. The performance indicators for political science differ in many ways from those in psychology for example, and what we expect from the English department differs from the expectations for chemistry. The campus will use national data wherever available, and schools and colleges will develop appropriate measures for teaching and research performance that reference the national context of particular disciplines as needed.

Academic units also have the reference that comes from the periodic AQAD process that provides a qualitative as well as quantitative review of each academic department and unit. This information supplements and deepens the data available from national and other quantitative sources. This review process also assesses the effectiveness of the various units in meeting other campus goals related to diversity, student success, and service obligations.

Finally, the campus capital planning process serves as the reference point for the capital requirements of any changes in teaching and research, whether related to classroom renovation or construction, teaching laboratories, office space, research space, or infrastructure needs.

Each year, after July 1 when the budget closes, the campus will prepare complete revenue and expenditure budget and performance reviews for the each college and school for the most recent four years. The budget and performance reviews include all funds and in addition, all quantitative data on credit hours and research expenditures. To that information, we add data on faculty size and distribution, data from the national references, and other systematic and reliable information on the performance of colleges and schools. Based on this information, we can then update the budget projection for the next five years, accounting for changes observed in the past four and recognizing any anticipated changes in the next five. Each year, the campus updates the five-year budget plan to reflect the performance of the most recently completed four years.

The Provost's office, in consultation with the Deans, provides the information and projections of such items as faculty hiring pools and other support costs that drive the academic part of the budget projections, and develops the annual performance data. The other vice chancellors provide information and projections that reflect changes in their areas of responsibility (for example uncontrollable cost increases in utilities, centrally charged services from the university system, increases in health care and other cost, increases in student fees and financial aid, investments in diversity and other student services, anticipated revenue from gifts and endowments, and the like).

The Impact of the 250 Plan

All of this is to make clear that the allocation of 250 additional faculty members to the various programs and activities of the campus follows a complex, serious, and data driven process in which the advice and counsel of groups such as the many councils of the Faculty Senate, various student organizations, and others play a significant role. This process is open, data-driven, and

accessible so that the conversation on the optimal allocation of resources will focus on issues of performance.

The 250 Plan anticipates that each additional faculty member will cost the campus at least \$130,000 (using 2004-2005 costs). This number, as indicated above, includes salary plus the associated cost of supporting the new faculty member. It is probably an underestimate, given the rapidly escalating cost of acquiring and supporting faculty members in the sciences, engineering, and other high technology fields. In addition, faculty in fields such as music, history, English, languages and cultures, have significant support requirements related to their research and teaching reflected in library and other costs that may not be located in their home departments. As inflation raises competitive salaries for faculty and as the cost of the physical plant renovations required continue to escalate, the campus may need to adjust the \$130,000 estimate.

The UMass Amherst Commitment to the Legislature and the Governor

When the Legislature appropriates and the Governor approves budget increases that deliver new resources for faculty support to the Amherst campus, the campus will immediately move, following the procedures outlined above, to recruit the highest number of faculty possible. We use a conservative estimated average rate of \$130,000 per faculty position for salary and all other support costs from the new funds provided. As we continue to hire additional faculty within the competitive marketplace we may well find the \$130,000 average too low, especially when including the costs of setting up new science faculty with laboratories. The campus makes this commitment with the understanding that the funds appropriated and delivered to the campus reflect new money and that the other fiscal circumstances that drive the campus budget remain stable within the parameters of the campus five-year plan.

Perhaps the greatest risk to the 250 Plan involves delay. The plan reflects costs as of 2004-05 with the very conservative estimate of \$130,000 per faculty position including support costs. If the implementation of the Plan takes a long time and the cost of faculty, equipment, renovation, and new construction rises significantly, the \$130,000 figure will be too low and we will need to readjust the estimates. Other risks come from policy issues. For example, if the state changed its requirements for construction resulting in an increase in the cost of renovation and repair of facilities, the cost per faculty member for supporting teaching and research will rise. If the state reduced its support of the matching program for private gifts for construction or endowment, this would reduce the amounts available from these private sources in support of faculty needs for teaching and research. Although not a risk, it is important to recognize that the 250 Plan anticipates all new faculty acquisitions at the entry level. However, in the event that the campus and its colleges need to acquire some senior faculty in some positions because the early retirement program left a department without senior scholars and teachers, the number of faculty possible within the 250 plan will be somewhat reduced given the higher salaries of senior scholars.

Other changes may also affect the number of faculty we can add for a given additional state appropriation. For example, if the campus is even more successful than anticipated in identifying private support for academic programs, the average cost per new faculty member from state funds could be less, permitting some significant improvement in the numbers. Should the volume of grants and contracts grow much faster than anticipated in the five-year plan, the number of faculty could increase beyond what is possible with the estimates in our current 5-year plan and the additional funding from the 250 Plan. For these reasons, the clear and transparent availability of full budget data will help everyone track the success of the campus in meeting its goals within the terms of the 250 Plan.

The Schedule

The most effective schedule for funding the 250 plan would be an increase of 30 million dollars in the campus' state budget in 2005-2006. This would allow for the fastest restoration of the faculty.

However, under current economic circumstances and recognizing the time lag required to recruit and hire first-rate faculty, this schedule may not be realistic. The best alternative is a commitment to fund the 250 Plan over a period of about three years. The campus can hire about 80 to 85 faculty per year effectively. This would require at least 10 million dollars per year for three years to accomplish this restoration. If inflation and other costs do not rise dramatically, this would allow us to recruit effectively over this period and restore the faculty to appropriate levels within the current five-year plan.

Conclusion

The University of Massachusetts Amherst will succeed in maintaining and improving its position as a major public research university and the flagship of the University of Massachusetts system with the investment implemented as described in this plan. The campus' commitment is to performance, measured against the national marketplace of major research universities, public and private. The campus' faculty and students have already demonstrated their ability to fulfill this commitment, and they only require the additional resources outlined in the 250 Plan to bring UMass Amherst well into the upper tier of national flagship university competition.