

# **A lighthouse built on a rock-solid foundation lighting the way for a bright future –**

## **The University of Minnesota**



**Report of the Instrumentalization Task Force (Professors Ronald L. Phillips<sup>1</sup>, Chair, Bert Ahern<sup>2</sup>, Patricia Bauer<sup>2</sup>, David Bernlohr<sup>3</sup>, Sara Evans<sup>1</sup>, Al Michael<sup>1</sup>, and Nelson Rhodus<sup>2</sup>)**

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***Based on the Albert Einstein quote “Not everything that matters can be counted, and not everything that can be counted matters”***

### **Summary**

Have you ever tried to define the University of Minnesota without using numbers? Try it! It is exciting! Ignore the numbers--the number of faculty, staff, and students, the number of undergraduate and graduate programs, the number of National Academy of Science members, the amount of private donations through the University of Minnesota Foundation, the number of patents, the income from grants, the economic advantages to Minnesota, the spin-off companies, the .....! This exercise will allow you to discover what the University of Minnesota really is all about. And you will find--as we did--that the people of Minnesota and the world are enriched beyond measure by the University of Minnesota. Sure there are imperfections and bumps in the road, but the contributions of the University to the quality of life for residents of Minnesota and that improve the lives of the global community are tremendous.

This task force report responds to a growing awareness that the University and its worth to the State may well be lost unless we communicate more effectively the values and the contributions of this “mighty light” over the past 153 years. In our deliberations, we found that the metaphor of the lighthouse captures the relationship between the University and the people of Minnesota. Like the beam of the lighthouse, the University produces public goods that cannot be hoarded by any one group but are available to all. Too often public understanding of the value of these goods is lost because of our inability to adequately inform each other of the day-to-day contributions of the University. Like the lighthouse, the University provides the light that enhances all of our lives. We are in grave danger, however, of taking the light for granted. If the light is bright, we clearly see the way ahead. But if the light should disappear, we would find ourselves in the dark and suddenly become aware of its fundamental value. In this report, we use the lighthouse as a metaphor to help visualize the importance of a great university to a great State, and vice versa. By imagining the University of Minnesota as a lighthouse for the “ship” of our State, we can more effectively recognize its unique mission and contribution, and recommit ourselves to sustaining it for future generations.

**The Lighthouse Rests on a Rock Solid Foundation** by providing education in many forms: traditional and non-traditional classrooms; publication of research; the production of educated citizens who can be creative problem solvers for the future; and the full spectrum of professionals and Ph.D. research scholars. A central task at the University of Minnesota is to enhance the ability of our students to become creative problem solvers.

**Lighthouse Infrastructure is Essential.** From its beginning as a land-grant institution, the University has been structured to generate public goods; i.e., goods available to all that cannot be hoarded by any one group--like the light of the lighthouse. The University provides a continuum of research and education from the basic to the applied in an internationally competitive manner. But to do this the quality of its classrooms and laboratories require consistent, thoughtful attention.

**Lighthouse Beam is Available to All.** The University enhances the quality of life for all Minnesotans through artistic and literary expression, generating jobs and new businesses, offering practical applications of new knowledge for families, gardeners, farmers, health care providers, businesses, and the general public wishing to better understand everything from weather patterns to conflicts in the far corners of the earth. It welcomes diversity of ideas, perspective, and culture into the “marketplace of ideas” and teaches students to live more effectively in a world increasingly dependent on the human capacity to discover common ground across enormous differences. There is a growing perception, however, that the changing nature of funding for both education and research could transform that beam from a public into a private good, available primarily to those able and willing to pay for it.

**The Light Shines Across the Waters** linking Minnesotans to peoples, cultures and scientific communities across the globe. The community of scholars is itself global and education within it gives students access to experiential education that equips them with the life-long capacities for creative problem solving. New ideas and professional expertise generated here find application not only throughout the State but also the world. Fundamental to this, however, is a culture that supports basic research and seeks knowledge for its own sake, challenging what we already think we know in order to open up new possibilities whose practical applications may remain invisible for a long time.

**The Security of those Illuminated.** The light that makes it possible to foresee shoals and to change course rapidly is not just an inherent quality of the University but rather something it imparts to its students. They enter a world in which change continues to accelerate, encountering jobs for which no current training exists and problems which have not been anticipated. A measure of the University's success is the degree to which our students become independently thinking leaders in the community with the tools to continue to learn and grow by thinking in new ways.

**Knowing the Light will be Ever-Present.** The University's role in basic and applied research and the discovery and dissemination of new knowledge lights the path for the future, providing a “heads up” to our graduates. The future of our sons and daughters depends on a continually evolving and improving world-class university.

*Let's not be as silent as the lighthouse light (Recommendations)*

The kinship of the University of Minnesota with the people of the State has been highly successful--a winning

combination. The decisions we make now will have consequences for the future. We do not believe that the people of Minnesota want the lighthouse beam to be diminished or restricted. Unfortunate decisions could lead to the University becoming less accessible with unaffordable tuition, possibly a smaller student enrollment. The cutting-edge education that characterizes the University of Minnesota could be diminished. Everyone would be concerned if the privatization of the University becomes too pervasive. Minnesota has only one flagship university and may be more vulnerable than some other states to subtle shifts in the educational environment. If we are not careful, the University could become quite a different place!

Here are the recommendations:

- Emphasize the goals of the University in terms of “public goods” which are products of its partnership with the people of the State.
- Reaffirm that students need to be educated as analytical, creative problem solvers for a changing work and life experience. Human interaction is central to the educational process.
- Recognize that education includes research, teaching and outreach.
- Commit to informing the citizens of Minnesota about the contributions of their University of Minnesota.
- Understand that the University is an ever-evolving institution where priorities may change but affirm that the basic mission remains constant.
- Value and protect intellectual freedom and the search for knowledge.
- Support basic research as a pivotal component at the U of M.
- Foster the complementarity of the University of Minnesota campuses to provide the fullest range of opportunities to students.
- Differentiate clearly the role of the University relative to other Minnesota institutions of higher learning while recognizing that a familial relationship exists among all these campuses.
- Recognize even more vigorously that diversity provides strength to all programs and means the inclusion of different cultures, openness to all voices, and a refusal to squelch dissent. An international perspective should be an integral part of all educational programs; a peaceful world depends on education.
- Use income streams available to the University to foster a broad array of programs, not only those from which the funds are generated.
- Develop priorities for future capital improvements to ensure consistency with the full mission of the University. Those priorities must include consideration of long-term maintenance costs.
- Broaden opportunities for community engagement for students to gain leadership skills and to achieve a greater involvement with people in the State.
- Develop a covenant with the State of Minnesota about the level of state funding that will be provided to the University of Minnesota as well as about the level that reasonably should be furnished through tuition.

Citizens of the State as well as members of the University community have an obligation to recognize that an underinvestment in education leaves a diminished legacy for Minnesota’s future.

Please read on--

### **A Rock-solid Foundation:**

#### *“Minnesota Hail to Thee, Hail to Thee Our College Dear” (from Hail! Minnesota)*

The images of Minnesota and Minnesotans abound in popular culture. From Wendy Anderson extolling “the good life” to Mary Richards epitomizing “Minnesota nice,” we have been positioned nationally as a place where one can live and work and play and be assured of always being “above average.” Although the Minnesota culture has often been labeled with euphemisms linked to our winters (too cold), our politics (too liberal), our bugs (too many mosquito’s), our malls (too big), or our lakes (too good to be true), we are rather uniformly admired for the general qualities of steadfastness and stability. The pendulum of national public and private issues seem buffered by the seemingly endless

capacity of the State to weather any storm with characteristic equanimity. In this regard, the University anchors the State as an unequaled and unique public good and a natural resource providing perspective and opportunity.

The University of Minnesota functions as the *de facto* alma mater for the entire state, and as a consequence, all people of the State have an opinion of the University. Many Minnesotans attend cultural or sporting events at the University and nearly a quarter use the University extension service in a given year. People are well aware of the medical advances at the University, yet much of the world-class research, teaching, and outreach seem to be hidden from public view. People think the University is big and “pretty good.” The citizens enjoy its successes and lament its failures. Nearly everyone has a piece of the University in their home or office, even though maroon and gold may not be the favorite colors of Minnesota residents. As a public good, the University serves lifelong learning, a resource for personal growth, and a focus for economic development. From recent polls, the message is that Minnesotans want to know what distinguishes the University; they want a University that enhances the State’s research and technology capabilities, that creates a sense of pride, that prepares the workforce for the future, that improves the State’s quality of life, that keeps young people in the State, and that attracts businesses and employees to the State.

Founded with a land-grant mission to educate, lead and serve the population, today the University occupies a singular position within the State as a national research institution catalyzing discovery-based development and intellectual exploration while providing educational access to its residents. A multi-campus university that reaches every sector of its population, the charter of the institution within the framework of the State constitution establishes a unique partnership with the people that allows for autonomy and independence yet promises connectivity and commitment. The University of Minnesota gains its unique identity in Minnesota as a Ph.D. granting institution and through the provision of professional training in agriculture, medicine, veterinary medicine, and several specialized areas. The land-grant foundation ensures the integration of research, teaching, and outreach in a single institution; this arrangement has transformed our society and is the envy of people around the world. In many ways, the University's uniqueness is a matter of degree or level of offerings, achievements, and contributions. Valuing original thought and creativity, the University affords opportunities for intellectual training and advancement unequaled elsewhere in the State. Its resources, both natural and human, extend from rural to urban and invite cooperation and community. As such, the University serves as the bedrock for the State, performing the role with integrity and pride.

Despite the University's successes, the historic covenant with the State is being challenged and its mission questioned. Publishing in scientific journals and participating in international conferences, although a sign of quality and relevance, do not let people know what treasures are available at their fingertips. How many people know that the first person NASA called about the problem when the space shuttle heat shield failed is a University faculty member? Examples of this sort abound; that is why the faculty’s success rate is so high in bringing millions of dollars in federal grants into the State every year. The University, however, is being asked to define itself in an environment that documents matriculation in terms of cash flow and academic discovery in terms of intellectual property. The line between autonomy and obligation has become blurred questioning the ability of the University to focus its energy on mission and shadowing its responsibility to illuminate.

Over the coming decades, public research universities will be charged with three seemingly-incompatible missions: provide access to all who desire an international perspective taught by world-class faculty, carry out cutting-edge research with the real potential to develop public commerce, and survive financially in an environment of diminishing State resources without restricting student access to only the children of privilege. Moreover, we must solve this conundrum within the context of our history and structure, our geography and demographics, and our partnership with the people of Minnesota as a beacon illuminating the way to our future.

Everything that the University does is ultimately linked to education, and education is a pre-eminent public good whose benefits extend across the entire society. A public good can be likened to a lighthouse where the light provided is available to everyone. Public goods are expected to benefit everyone and enhance all aspects of our life. Research provides the educational information to grow a new variety of apples, or apply computer imagery to restore ancient paintings, or to develop a new transportation system. In today’s world, the average time spent on a particular job is about three and a half years. A student’s experience at a university must include a liberal education to make them creative and analytical problem solvers, not just specialists in a specific field. The “human capital” invested in these future citizens is the best insurance we could have for a vibrant economy and exceptional quality of life for all

Minnesotans in the next generation. Education influences everything in life, from the appreciation of diversity to our enjoyment of nature. The faculty at the University of Minnesota are often the seminal thinkers in their fields. The University fosters education from an internship to a Ph.D., and the opportunity for learning the most up-to-date information is readily available to every citizen thanks to the support of the people of Minnesota and years of dedicated activity at the University. Each of the University of Minnesota campuses provides a strong base for students of all ages to more fully understand and appreciate the complexities of life as well as receive training for their expected life's work.

### **The Lighthouse Infrastructure:**

*“Thy light shall ever be” (from Hail! Minnesota)*

If you grew up in Minnesota, the chances are that you may love to see mountains and oceans, but have a warmer place in your heart for the lakes, green forests, and clean air of the Upper Midwest. If you are a new resident, we suspect that you have found friends who are considerate and share many of your personal values. This sense of “place” occurs rather quickly in Minnesota. The University of Minnesota is central to that sense of place and its whole purpose is to be of benefit to you and others. The infrastructure that has been built over the years is here to provide that continuing sense of place and purpose.

Lighthouses require facilities and instruments attuned to their specific settings and missions. Lake Superior's cliffs and shoals necessitated different beacons. The University of Minnesota has developed four different campuses to bring to the breadth of the State a complete vision of a land-grant university. The University of Minnesota, Crookston (UMC) provides its unique contribution through polytechnic programs that combine theory, practice, and experimentation in a technologically-rich environment. UMC connects its teaching, research, and outreach to serve the public good. The mission of the University of Minnesota, Morris, as an undergraduate, residential, liberal arts college, is distinctive within the University of Minnesota. The Morris campus shares the University's statewide mission of teaching, research, and outreach, yet it is a small college where students play a major role in shaping their own education. Recognized as one of the best liberal arts colleges in the nation, the campus serves undergraduate students primarily from Minnesota and its neighboring states, and it is an educational resource and cultural center for citizens of west central Minnesota. UMD serves northern Minnesota, the State, and the nation as a medium-sized comprehensive university dedicated to excellence in all its programs and operations. As a university community in which knowledge is sought as well as taught, its faculty recognizes the importance of scholarship and service, the intrinsic value of research, and the significance of a primary commitment to quality instruction. UM-Twin Cities provides the powerful lamp of a world-class research campus, wherein students at every level of higher education join with faculty to enlighten lives and enhance our understandings of the full range of the human experience. Scientific discoveries, engineering marvels, artistic expressions, individual and group endeavors are essential for the extraordinary quality of life that Minnesotans enjoy. The fruits of scholarship and creative effort as well as academic instruction reach to all corners of the world. More recently, the University has established a collaborative center and partnership with the Minnesota State College and University system and with the Mayo Clinic in Rochester to enhance educational opportunities in that region of the state.

Each of the campuses has a lamp of distinctive focus; they work together in their instructional, research and service endeavors to enlighten all corners of the State through the University's three-fold mission:

-- Research and Discovery--Generate and preserve knowledge, understanding, and creativity by conducting high-quality research, scholarship, and artistic activity that benefit students, scholars, and communities across the State, the nation, and the world.

-- Teaching and Learning--Share that knowledge, understanding, and creativity by providing a broad range of educational programs in a strong and diverse community of learners and teachers, and prepare graduate, professional, and undergraduate students, as well as non-degree-seeking students interested in continuing education and lifelong learning, for active roles in a multiracial and multicultural world.

-- Outreach and Public Service--Extend, apply, and exchange knowledge between the University and society by applying scholarly expertise to community problems, by helping organizations and individuals respond to their changing environments, and by making the knowledge and resources created and preserved at the University accessible to the citizens of the State, the nation, and the world.

Like lighthouses, the University requires a physical plant in keeping with its mission. From its humble beginnings on the banks of the Mississippi before Minnesota was a State, the physical plant has grown commensurate with the reach of the University's light. For over 150 years, the State of Minnesota has invested in and maintained an infrastructure that allowed the University to become a world leader and earn admiration from across the nation and around the world. As the quality of the University has improved, its faculty has garnered ever-increasing resources from the private and federal sectors of the economy. For several years, it has ranked in the top ten Universities in securing federal dollars. Minnesota State funds now provide only 24% of the University's annual budget, but those funds are essential to the maintenance and improvement of the facilities and equipment that allow the University campuses to meet their indispensable missions and to assure that "thy light shall ever be."

Even more important than buildings and equipment are the human resources of the University. The faculty and staff provide the candle power to brighten the State and develop the talents of new generations who raise the State ever higher. The University campuses not only encourage Minnesota youth to develop to their full potential but they draw human resources from elsewhere to contribute to the State's progress. Faculty and students from within and beyond Minnesota have played critical roles in establishing Minnesota's pre-eminence, ranging from the rapidly evolving field of medical technology to its vibrant performing arts community. For example, there are more than 50 professional theater companies in the Twin Cities.

More broadly, the University prepares leaders. Students not only want to learn their subject matter, but also, perhaps more importantly, to gain independence of thought and to develop abilities to take the initiative. They want a University education that helps them develop leadership skills in achieving public engagement. They know that a bright future involves making a difference in this world beyond just their professional contributions. An education that reflects this greater engagement in the affairs of their community is critical to today's students. Small relative to the return in economic--let alone qualitative--terms, public investment in these human resources is crucial. Salary freezes and an erosion of compensation threaten the quality of faculty and staff – good people leave, fewer are attracted. According to Federal Reserve Bank Vice President Art Rolnick, financial aid to allow students to fulfill their potential unlimited by family circumstances or thoughts of short-term gain was crucial to the Minnesota Miracle of the second half of the twentieth century. Erosion of such public investment and decline in recognition of higher education as a public good threatens to dim the lamp of the lighthouse. It must not happen!

Minnesotans enjoy a high per capita income and can afford support of a premier university –one that has proven time and again to be next best to a fail-safe investment. A financial analyst would say the University is underinvested given the high rate of return, and some of the dividends need to be re-invested in order to maintain its infrastructure. Maintenance is not cheap, nor is the construction of state-of-the-art facilities that provide Minnesotans the opportunities needed to be successful. A covenant exists between the people of Minnesota, the government, and the University to provide the best education possible; all parties must work together to keep that covenant meaningful.

### **The Lighthouse Beam:**

*"A beacon bright and clear" (from Hail! Minnesota)*

"To be an educated person is to understand the bigger picture." Parker Palmer, PhD.

It is not just the destination that counts, it is the journey itself. Higher education is as much process as it is product. There is so much value in the process of learning--learning to think with the proper training and tools and learning to think critically. The true value of learning is not found only for a few years, or for a specific purpose, but learning for a lifetime. University students are present and future citizens of our society, and University students value these lifelong and lasting qualities of education. Higher education is the cultivation of the intellect. Intellectual virtues are ends unto

themselves; they are a good unto themselves which serve not only the individual student, but society in general.

Intellectual virtues resulting from training of the intellectual powers, are habits learned and practiced in the University. An intellect properly disciplined, an intellect properly habituated is an intellect which spans time and place and can operate in any environment. To paraphrase Robert Hutchins, former President of the University of Chicago (The Higher Learning in America), education implies learning; learning implies knowledge. Hutchins asserted that “the cultivation of the intellect is for the good of all societies and it is the same in all societies. Hutchins also maintained that “education is the good for which other goods are only means. Material prosperity, peace, justice, civil order, cultural appreciation, tolerance and moral values are the means to the cultivation of the intellect.” Higher learning instills and cultivates cognitive insight. Minnesota is a unique and exceptional place where most citizens are well-educated, well-informed and intellectually active. Our museums, public radio and TV programs, outreach and extension educational programs, libraries, museums and concert halls are a testimony to this. These attributes derive from education.

A fundamental characteristic of a university is intellectual freedom and the opportunity and the venue for free thinking and openly expressing and sharing those thoughts and opinions. Universities are for discovering knowledge and freely sharing it with all members of society. There are many areas of research and discovery being pursued at the University, and the knowledge is public, open, and freely accessible. Professors are passionate about knowledge. A career in academics is motivated by a passion to pursue truth. It is not measured by a product nor a finite number of hours or dollars or widgets, but by the process of the discovery. The pursuit of knowledge keeps us going day after day, year after year and coming back for more. And this knowledge is only valid when it is shared, discussed, debated, and validated or disputed, openly with colleagues, students, and society. The passionate pursuit of knowledge is highly contagious. Students who are conscientious catch the infection and engage in the pursuit. That is the greatest joy and highest compliment to the professor, to see the infection spread among students to the point of explosion. Students value knowledge and experience--learning from those who have it, extracting it and using it to go even further. The joy of professors in the University is to lift the students upon their shoulders, so the students can see even further than they. The professor stimulates, engages, enlightens and encourages the student in directed inspiration to undertake this challenge to pursue truth (knowledge) for its own sake. The university is a community which facilitates this process and allows it to occur.

Another purpose of education in a university is to elevate one's sense of responsibility as a citizen. A recent survey demonstrated that two-thirds of all students at the University of Minnesota participate in experiential educational programs in service to the community. Hence, the sense of becoming an active contributor to society begins even while a student. This is testimony to the University as a sort of model (or practice) environment which prepares students (citizens) for the 'real world' in so many ways other than simply to get a good job.

Sometimes, it must be said, the intellectual freedom of a university also means the institution will serve as a prod, even occasionally an irritant, to the society that funds it. Individuals in a university may question deeply-held beliefs, or may advance ideas or proposals that affect vested interests or those who hold certain views. The commitment to protect those dissenting voices against those who would silence them is a fundamental value of the University.

Accountability comes with the realization by the student, (ultimately the citizen of society) that a magnificent transformation has occurred--they can think on their own. They can evaluate political platforms, they cannot only understand legislation, healthcare, finance, etc., but they can analyze it and challenge it persuasively. They can read a book, not because they have to, but because they love to. They can appreciate history, literature, music and art. They can understand the subtle humor of Garrison Keillor.

The University of Minnesota has many programs which benefit the State of Minnesota every day. Graduates from the University of Minnesota are spread all across the State in professions and vocations of all sorts, ranging from agriculture to secondary education to high technology. Forty percent of all the Ph.D.s., other graduate degrees, and professional degrees held by people in this State were obtained at the University of Minnesota. The University is the only institution of its type in the State, producing the researchers, developers, and scholars of tomorrow. Indeed, the University develops lifelong virtues that will forever persevere--“A beacon bright and clear.”

In today's world of patents, contracts, grants and a myriad of other funding mechanisms beyond that of the State legislature we must be careful that the source of funding does not skew the University's priorities or cause neglect of various aspects of what leads to students becoming creative problem solvers. State funds, as noted, now account for only 24% of the University's funding, and those funds have decreased significantly in real dollars in recent years; they have also decreased as a percentage of the state budget for many years. Funding from the State, however, is central to maintaining a well-balanced program.

The University recognizes the potential skewing of program offerings that can occur with major funding coming from a single source, such as the royalty stream from the drug Ziagen that is a major factor in fighting HIV/AIDS. The University is investing a considerable portion of these funds in the 21<sup>st</sup> Century Graduate Fellowship Endowment Program. The interest earned on an endowment in this program will be matched by the fund, in effect doubling the value of the contribution. Another portion of these funds will support the central library. Such efforts are in recognition of the dire need for such funding but also reflect a concern about not having the funding source alter the basic roles of the University. The Bayh-Dole Act allowed universities to patent federally-funded projects and led to the expansion of patenting by U.S. universities and, incidentally, in other countries as well. The ramifications of such increased patenting activity at universities carry an immense burden in terms of assuring no conflicts of interest, and avoiding divisiveness among faculty, staff, and students. Defending such patents in the future also may take a toll on faculty time and creativity. The University must reassure the public why patenting is in the best interest of the institution and State and why, carefully controlled and monitored, it will not restrict or redirect the beam from the lighthouse inappropriately.

## **The Light across the Waters**

*“Thy sons and daughters true, Will proclaim thee near and far” (from Hail! Minnesota)*

The people and the ideas nourished by the University of Minnesota carry our light across the waters. In teaching, research, and service this University touches the far corners of the earth.

Students grounded in a strong liberal education (arts, sciences, and humanities) are the creative problem solvers of the future. There is no narrowly-targeted training but rather an engagement with the very process of learning and with multiple ways of framing questions, analyzing problems, and articulating possibilities. Historical, literary, and artistic explorations are as central to education as are mathematics and the sciences. When students bring their classroom knowledge into the experiential laboratory of involvement in the local community, each is a citizen for whom the skills of civic engagement will be life-long tools.

The world has become a global community where problems such as political and religious conflict, climate change, food production, poverty, and disease are never contained in one place but affect the whole. If international travel and business relationships expand as much in the next generation as the last, understanding the global dimensions of everything we do will be imperative. Students of today must have exposure to world events, diverse cultural practices, varying societal values, political and religious differences, important demographic trends, and all aspects of globalization. International experience will need to be a part of most students' curriculum. A student testified recently that one of the most valuable aspects of his education was a new capacity to visualize experiences in past times and other cultures that were not his own. In a globalizing world, few skills could be more important. The University of Minnesota is uniquely positioned to provide its students with leadership skills for a globalizing world. Students and faculty come to the University from throughout the world, and in turn they can be found working and teaching on every continent. The University offers courses in 35 languages linked to courses in history, literature, culture, and politics about every corner of the globe. It has ongoing relationships of cooperation and exchange with over 250 universities in other countries, and over 1300 University students in any given year pursue their studies abroad. The University also allows students to explore their own society in all its complexity, and to analyze the meaning of their citizenship.

The University also sends out into our state and the world highly trained professionals because it supports graduate and professional programs in an astonishing array of fields including physicians, dentists, nurses, psychologists,

economists, agricultural scientists, veterinarians, lawyers, teachers, public policy specialists, city planners, architects, journalists, actors, musicians, artists, poets, novelists, and scholars in every discipline. In addition, the excellence of the University in all of these areas is a magnet for artists and professionals whose presence deepens the intellectual and cultural vigor of the broader community.

Research at the University of Minnesota also lights our way into an uncertain future. Newspapers are quick to cover the discovery of new drugs and treatments or technologies that generate new industries. Not all of the benefits of basic research, however, can be captured in short-run measures of productivity. The University's research mission is driven by the search for truth and a commitment to make new knowledge available to the public through publication and teaching. Our dedication to the value of independent inquiry and ability to protect research that challenges accepted paradigms opens the possibility of genuinely new knowledge. One professor pointed out that Universities can do research that private industry will not do, offering as an example "orphan drugs" and minor crops. As a result we now have Haralson apples, the Sesquicentennial mum, and Toka plums. Indeed, as we pointed out above, the traditions of academic freedom make it possible to conduct research actively opposed by some industries, such as research on the harmful effects of tobacco. While the University prides itself on bringing in over \$500 million in outside research funding in recent years, it also supports equally important research in the arts and humanities that cannot rely on major grants.

While there are many products of University research that have immediate applications with enormous social and economic implications – for example in Minnesota the development of an industry around medical devices invented at the University – most research cannot be justified on the grounds of economic impact but rather on the importance of free inquiry and the human urge to understand, to explain, and to engage in creative expression. Federal Reserve Bank Vice President Rolnick observed that there are no great cities without great universities. Certainly the cultural vitality of our State, rural and urban areas alike, owes much to the presence of our great university. Faculty in the humanities and social sciences work with K-12 teachers and speak regularly to community groups; artistic productions ranging from theater, music performances and compositions to paintings, photography, pottery, and sculpture all enrich our world.

Rooted in its land grant tradition, the University of Minnesota-reaches across the state bringing the resources of the University to bear on local concerns. For example, the University's Duluth Medical School offers the finest training for rural physicians in the world, becoming a model emulated far and wide. Every day local journalists call upon University experts, ranging from Mark Seeley's explanations of the weather to political scientists commenting on local and international politics. From farmers and gardeners who want scientifically-based advice on horticulture and sustainable agricultural practices, to small communities trying to make appropriate decisions regarding technology for 4-H clubs and camps, the University of Minnesota Extension service not only translates scientific knowledge into useful, practical programs and materials, but also facilitates learning and developmental processes necessary for change in communities across the state. Its mission is to provide "practical information to people who need it, when they need it."

Living in the light of the University, we take much of it for granted. It is incumbent on us, however, to "proclaim it near and far" by publicizing what we do, so that the people of Minnesota understand their University's research efforts and educational opportunities.

### **The Security Of Those Illuminated:**

*"They will guard thy fame" (from Hail! Minnesota)*

Safety and security rank first in any hierarchy of goals. As equal partners, the State and the Individual share the duty and responsibility to ensure the safety and security of all citizens. In our post-9/11 world, our most salient concern is with physical safety. The concern is apparent in the precautions we take to safeguard our skies. Less salient, yet every bit as important, are the precautions we are taking to safeguard our land and the products derived from it. The University of Minnesota plays a central role in this mission, as evidenced by the 2004 Department of Homeland Security award to the University of \$15 million for the National Center for Food Protection and Defense. Of course,

the best defense against threats to our security is prevention. Here too the University of Minnesota has a critical role to play. Effective prevention comes with discovery and appreciation of the fires that fuel threats such as terrorism. Understanding, in turn, is furthered by study and consideration of the arts, histories, literatures, politics, and religions of societies distant from us on the globe and in tradition. The correspondence between (1) the domains in which we must seek knowledge and understanding as a means to prevention, and (2) the disciplines that traditionally have been held in high esteem in the halls of the academe, is no coincidence or accident. These disciplines are a major reason why it is to its universities that the nation looks for the intellectual resources to understand crisis and conflict and to place them in context. The University of Minnesota is among the brightest beacons of understanding in our State.

Security also requires the resources to maintain a home, ensure a steady supply of nutritious food, and provide for the next generation. The State clearly looks to the University of Minnesota to train its citizens to fill the jobs that are the engine of today's economy. Yet in our ever-changing, increasingly globalized economic marketplace, the jobs of today will not be those of tomorrow. Were we privy to the specific demands of the future, "education" would be as simple as training for the tasks yet to come. We could, in effect, "teach the test," and expect our citizens to be able to provide for their economic security not only now, but forever. But teaching the test only works when you know what is on it; knowledge of what the future will bring is not a luxury on which we can count. Security thus requires that the citizenry be equipped not only to find today's answers, but to ask tomorrow's questions. Orientation to the future allows individuals to make the most of the cutting-edge knowledge and technology generated by the University, thereby separating the leaders from the followers.

The educational opportunities provided by the University of Minnesota are the means by which the citizens of the State build the intellectual muscle required to define the horizon and lead us there. Yet security requires more than an ability to see into the future: it also demands that individuals appreciate the lessons of the past. It is only by understanding our history that we can avoid the trap of repeating it. The breadth and depth of educational opportunities provided by the University of Minnesota fosters understanding of the interrelations of the past, the present, and the future. By providing these keys to successful inquiry, the University contributes to the professional as well as the personal development of the citizens of the State and to our continued economic good health and security.

Strong educational institutions provide the State's citizens with the tools to ensure another aspect of security as well: that of good physical and mental health. It is increasingly clear that educated individuals live longer, healthier lives. They are more likely to stay physically fit. They also take better advantage of preventative health care, thereby reducing the need for dramatic and costly medical interventions later on. Higher education is associated with good mental as well as physical health. Indeed, for the less advantaged among us, education is one of the strongest factors protecting against the development of significant mental health problems under circumstances that otherwise would be full of risk. Regardless of advantage, there is increasing evidence that a strong educational base and continued engagement in intellectual pursuits stave off the ravages of time and some of the most devastating diseases of aging, such as Alzheimer's. Thus, just as they ensure our physical and financial security, vibrant institutions of higher education work to provide for the security of physical and mental health for the citizens that support them.

Whereas security--at multiple levels--is a goal that all among us appreciate, it is not security alone for which we strive. Humans do not want simply to survive, but to thrive. We ourselves want to thrive, and we want to secure good fortune for subsequent generations. Whatever else it entails, thriving requires that we feed the spirit as well as the body. Indeed, as evidenced by the work of developmental scientist Harry Harlow, when young are forced to choose between a caregiver who nurtures only the body and a caregiver who nurtures only the spirit, it is in the provider of support for the spirit in whom they invest their attachment. As a State and as a University, we make an enormous investment in our citizen-students. Always on the radar screen is the need to provide them with the tools necessary to survive—to nurture the body. Yet the true measure of success of our educational endeavor is the extent to which we also provide them with the tools they need to thrive--to foster development of the spirit. It is this aspect that instills in our citizen-students the desire to contribute to the community and the State, not just what they must--to survive--but what they can to help us all thrive.

### **Knowing The Light Will Be Ever-Present:**

*“And adore thy name, Thou shalt be their Northern Star” (from Hail! Minnesota)*

From its beginnings 153 years ago, our University has cast its light throughout Minnesota and the world. It is our Polaris or Northstar guiding the ship of State with a noble mission captured in the Northrop inscription:

“The University of Minnesota  
Founded in the Faith that Men [and women] are Ennobled by Understanding  
Dedicated to the Advancement of Learning and the Search for Truth  
Devoted to the Instruction of Youth and the Welfare of the State”

The University is intimately engaged with citizens throughout Minnesota--an interwoven fabric--with a shared vision for a progressive and healthy society. As in the past, the University’s commitment to education, discovery, and service is the linchpin for our future success.

Although the past sets the stage for the future, the only certainty is that there will be change. Change has characterized the 20<sup>th</sup> century with remarkable achievements in science and society--the development of information and digital technologies, therapies to prevent and treat disease, transportation, service industries, global economies, etc. The impact of education and innovation on Minnesota’s economy is illustrated by the development of the pacemaker in 1957 by Earl Bakken, a graduate of our electrical engineering program, and C. Walton Lillehei, a University cardiovascular surgeon. Their efforts led to the formation of Medtronic, the world’s leading medical technology company, and ultimately to the formation of Minnesota’s medical device industry.

Much is at stake. For in this new era, the University’s commitment to education, discovery, and service will have a profound effect on Minnesota families—their health, children, quality of life, and employment. Innovation will lead to new solutions, new industries, and new jobs.

Information technology and distance education have changed and improved communication and the transmission of information. However, the need for human interaction is greater than ever. The role that a mentor plays in conveying the subject matter, the enthusiasm with which it is conveyed, and the perspective and discussions with peers are almost impossible to achieve electronically.

The University of Minnesota helps to set the standard for education in Minnesota. The balance between the University as a site of higher education for the high achievers versus a site for all students needs to be carefully considered in today’s changing environment. The land-grant mission of the University recognizes the unique role of the University. Although a broad mission would be expected, this may not be attainable or even desirable, especially in relation to other institutions of higher learning in the State. A more explicit covenant needs to be reached with the people of the State as to what is appropriate for Minnesota. Financial resources are clearly linked to success. Tuition income will soon surpass the State’s contribution--a consequence of the decrease in the University’s allocation as a percentage of the total State funds from 8.5 percent in 1971 to 4 percent in 2004. This worrisome trend could place significant limitations on the “Lighthouse” vision with potential unraveling of the historic contract between the University and the State.

The path to discovery is not predictable. Modern applications trace back to many basic discoveries, which no person could have predicted would be important in today’s application. Place yourself back to the turn of the last century: you could not have imagined the development of antibiotics, producing human insulin in bacteria, humans living in a space station far from earth, cracking the genetic code, walking on the moon, lasers, transplanting hearts, the personal computer, conceiving a baby in a test tube, the internet, atomic clocks and GPS, transgenic insect-proof food crops, storing an encyclopedia on a credit card, live color TV broadcasts around the world in real time, or remote digital copiers and cell phones. This fast-moving technological innovation creates an absolute need for lifelong education.

A university that can change the course of a field of study generates a huge return on the investment. The atmosphere on campus must be driven by curiosity. Innovation does not occur without creativity. In the end, the pursuit of truth pays off, no matter whether the truth derives from science, humanities, or the arts. It has been said that “ the function

of art is to do more than tell it like it is--it's to imagine what is possible" (bell hooks, 1994). The transfer of information from the University to society occurs in many ways, but packaging the information in the form of a student leads to a highly educated and motivated workforce. The mastery of critical thinking skills is perhaps the most useful outcome of an education. Even a few good ideas – ones that influence lives – can change the course of the world for us and our sons and daughters.

Our success in meeting the challenges of the 21<sup>st</sup> century depends on a vigorous and healthy University. The ideas and creativity of the faculty and staff and those developed in our students will form the basis of our changing society in the future. What will be necessary for the University to continue as a lighthouse and guiding star--certainly a close engagement with Minnesota citizens about a shared vision of our future.

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## **Appendix I**

### **Working Group Members Working Group Meetings Discussants References and Related Meetings Charge Letter**

#### **Instrumentalization Working Group:**

Professor Ron Phillips (Regents' Professor), Chair  
Professor Wilbert Ahern (Academy of Distinguished Teachers)  
Professor Patricia Bauer (Academy of Distinguished Teachers)  
Professor David Bernlohr (McKnight Distinguished Professor)  
Professor Sara Evans (Distinguished McKnight Professor, Regents' Professor)  
Professor Al Michael (Regents' Professor)  
Professor Nelson Rhodus (Academy of Distinguished Teachers).

Dr. Gary Engstrand, staff

#### **Committee Meetings:**

September 26, 2003 Instrumentalization Working Group, 10:30-12:00, 238A Morrill Hall

October 17, 2003 Instrumentalization Working Group, 3:30-5:00, 238A Morrill Hall

December 19, 2003 Instrumentalization Working Group, 3:00-5:00, 238A Morrill Hall

January 23, 2004 Instrumentalization Working Group, 2:00-4:00 p.m., 238A Morrill Hall

February 6, 2004 Instrumentalization Working Group, 2:00-4:00, 238A Morrill Hall

March 5, 2004 Instrumentalization Working Group, 2:00-4:00, 238A Morrill Hall

April 15, 2004 Interim Oral Report/Discussion with the Faculty Consultative Committee, 210 Donhowe

April 16, 2004 Instrumentalization Working Group meeting, 2:00-4:00 p.m., 23A Morrill Hall

June 28, 2004, Instrumentalization Working Group meeting, 8:30 – 10:00, 238A Morrill Hall

July 21, 2004, Instrumentalization Working Group meeting, 9:00 – 11:00, 238A Morrill Hall

August 18, 2004, Instrumentalization Working Group meeting, 9:00 – 11:00, 12 Morrill Hall

### **Discussants at Instrumentalization Working Group Meetings:**

Interim Dean Victor Bloomfield, The Graduate School

Josh Colburn, student

Vice President for Institutional Relations Sandra Gardebring

Interim Vice President for Research David Hamilton

Scott LeBlanc, student

Professor Judith Martin, Chair, Faculty Consultative Committee

Executive Vice President and Provost Christine Maziar

Professor Paula Rabinowitz

Vice President for Research (Federal Reserve Bank of Minneapolis) Art Rolnick

Carrie Zastrow, student

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### **Charge Letter:**

[Individuals whose names are ~~struck out~~ were unable to serve on the task force.]

March 13, 2003

Professor Ron Phillips (Regents' Professors), Chair  
Professor Wilbert Ahern (Academy of Distinguished Teachers)  
~~Professor Dorothy Anderson (Academy of Distinguished Teachers)~~  
Professor Patricia Bauer (Academy of Distinguished Teachers)  
Professor David Bernlohr (McKnight Distinguished Professors)  
Professor Sara Evans (Distinguished McKnight Professors)  
Professor Al Michael (Regents' Professors)  
Professor Nelson Rhodus (Academy of Distinguished Teachers)  
~~Professor L. E. Scriven (Regents' Professors)~~  
~~Professor John Sullivan (Regents' Professors)~~

Dear Colleagues:

We write to ask you to serve as a small task force to consider issues that surround the notion of the “instrumentalization of the University.” We would be grateful if you will be willing to lend your time to this effort. Regents' Professor Ron Phillips has agreed to serve as chair.

What we mean by “instrumentalization” is to ask about the developing understandings of the roles and uses of the University within the various constituencies that make up the University community and its larger public. The

University is seen, variously, as the economic engine of the state, a source of new discoveries (e.g., in the life and physical sciences, engineering, etc.), a provider of health care for both humans and animals, a source of expertise and assistance for agriculture, business and corporations, state agencies, local governments, nonprofits and other private and public sector enterprises, a provider of employees, an entertainer of the public through intercollegiate athletics and arts performances, a developer of human capital and potential, the educator of an informed and engaged citizenry and so on. To what extent are these uses and roles appropriate? How well is their value understood and articulated. To what extent is the value of other roles and purposes of the University poorly understood, articulated and valued?

We would like you to consider, inter alia, the following questions:

-- How prevalent is the notion that THE purpose of the University is to create jobs and promote economic development? What is an appropriate response to this point of view?

-- Some aspects of the University's mission are readily measured and compared against similar measures from other institutions, i.e., volume of research activity, the number of research dollars, the new patents, royalty income, graduation and retention rates, and program rankings. How do we make compelling arguments for that part of our mission that has either "soft" measures or no comparative data?

-- It is said that corporate leaders value liberal education more highly than the general population. How can, or should, the university make use of the insights of these leaders?

-- What are appropriate strategies for educating the general public and legislative leaders about the importance of a broadly constructed undergraduate education program and the importance of the "open dissemination of knowledge" in the service of society. What should be the value statement or argument made for public investment in the University.

-- The U's intellectual future is tied to external factors, such as the increasing accountability measures (how state funds are used, student progress, and outcomes for students and the state). How can these influences be harnessed to improve and not harm the value of the University to society, our students and to future generations.

We would appreciate receiving from you, by the end of the calendar year, a report and recommendations on what the University might do to address these questions. What we hope would come from you is a concise, thoughtful statement (perhaps a small "white paper") that speaks to the "uses of the university."

As you reach what you believe might be the mid-point of your work, we would be interested in joining you for a progress report and to learn if there is any way we can lend further assistance.

Gary Engstrand from the Senate office will provide support to you for your work.

We attach to this letter an excerpt from the minutes of the Faculty Consultative Committee at which some of the points we are concerned about were discussed. Please do not hesitate to contact either of us if you have questions.

Cordially,

Dan Feeney, Chair  
Faculty Consultative Committee

Christine Maziar  
Executive Vice President and Provost

cc: President Robert H. Bruininks  
Senior Vice President Frank B. Cerra  
Interim Vice President David W. Hamilton  
Faculty Consultative Committee

[Go to the Lighthouse Cover Letter](#)