

1998 Academic Interdisciplinary Initiatives

Summary Report
December 2004

Background

The 1998 Minnesota Legislature appropriated \$18,575,000 to the University of Minnesota to strengthen its research, teaching, and outreach programs and to advance the University's reputation in areas that are critically important to the economic development of the state. The University supplemented the initial investment with internally reallocated resources, externally leveraged funds, and related capital investments to establish and develop five Academic Interdisciplinary Initiatives: Agricultural Research and Outreach, Design, Digital Technology, Molecular and Cellular Biology, and New Media.

The table below summarizes the systemwide financial impact of the initial appropriation.

| | 1998 State Appropriation |
|------------------------------------|-----------------------------|
| Digital Technology | \$4,500,000 |
| Molecular and Cellular Biology | \$7,375,000 |
| Design | \$1,150,000 |
| New Media | \$1,700,000 |
| Agricultural Research/Outreach | \$2,200,000 |
| UMC (Agriculture, Digital) | \$600,000 |
| UMD (Biology, Design, Agriculture) | \$1,000,000 |
| UMM (Agriculture) | \$50,000 |
| TOTAL | \$18,575,000 |

A major consequence of the investment was the ability to strengthen academic departments through the creation of 87.5 new faculty positions:

- 20 in Digital Technology
- 41 in Molecular and Cellular Biology
- 2.5 in Design
- 8 in New Media
- 8 in Agriculture
- 8 on the coordinate campuses.

In 2004, under the direction of the Office of Planning and Academic Affairs, a self study report was prepared for each initiative and teams of external reviewers were formed to evaluate the initiatives and offer recommendations for the future. In particular, reviewers were asked:

- to consider whether the initiative had achieved its stated objectives
- to compare the initiative to similar programs across the country
- to assess the initiative's impact on the University and the fostering of interdisciplinary activities
- to evaluate the return on investment
- to identify theoretical and empirical advancements that occurred as a result of the initiative.

This report summarizes the findings of the external review teams.

Agricultural Research and Outreach

The investment in Agricultural Research and Outreach enables the University to respond to important challenges in food production, food quality, and the marketing of agricultural products – all areas of critical importance to the state’s rural economy. In these areas, agricultural research is strongly linked to the University’s initiatives in genomics.

External Review Team

Douglas Buhler, Michigan State University

Kevin D. Kephart, South Dakota State University

Wendy Wintersteen, Iowa State University

Report Summary

Objectives Achieved

The team noted that six years is not enough time to fairly determine that objectives have been achieved, but identified the following:

- Minnesota Agricultural Educational Leadership Council (MAELC) and Division of Agricultural, Food and Environmental Education (DAFEE) have made “dramatic progress” toward revitalizing agricultural education, producing graduates with technical understanding of education and training in leadership skills.
- The Small Grain Initiative hastened development of a hard red spring wheat cultivar with improved resistance to scab.
- The Center for Rural Design provides communication, GIS services, and fact-based planning for entities such as UMore Park.

- The Rapid Response Fund is the “hallmark of the Initiative,” involving stakeholders and enabling the University to immediately address urgent issues in the state’s agricultural and natural resource based industries.
- The University has increased its outreach and research capacity, built teams of investigators, and strengthened partnerships within and outside the institution.

Positioning as a National Leader

- MAELC and DAFEE are “excellent and unique in the region.”
- The Small Grain Initiative was used as a model for the National Scab Initiative and positions University scientists to assume leadership on the national level. The breeding, agronomy, and plant pathology program is nationally recognized, and its research program ranks as first or second in the nation.
- The University has one of strongest viticulture (grape cultivation) programs in the region.
- “Defining national leadership in this area is very difficult” because there are no established criteria for ranking programs and each state is unique. Similar programs include the University of Illinois’ Coalition for Agricultural Research and Michigan State University’s Project GREEN.

Interdisciplinary Activities

- Initiative activities have involved: College of Agriculture, Food, and Environmental Sciences, College of Education and Human Development, College of Architecture and Landscape Architecture, College of Natural Resources, College of Veterinary Medicine, and Minnesota Extension Service.

- Four colleges worked on the Rosemount Program Restoration.
- The College of Architecture and Landscape Architecture and the College of Agricultural, Food, and Environmental Sciences have shared leadership in the Center for Rural Design.
- Cargill Center for Microbial and Plant Genomics provides opportunities for university-wide collaboration.

Return on Investment

- The Small Grain Initiative led to funding and partnerships with private industry.
- The University was able to strategically hire new faculty in key areas, such as alternative swine production and forestry.
- Rapid Response Fund awardees have had outstanding success in national grant programs in production agriculture.
- There has been significant external support for projects such as Biocontainment Facilities.
- MAELC provided \$90,000 in scholarships since 2000 to students in agricultural education.
- Enrollment in the Division of Agricultural, Food, and Environmental Education increased from 35 in 1993 to 112 in 2003.
- The Minnesota Association of Wheat Growers provides \$50,000 annually for an associate professor in wheat breeding.
- The Rosemount Program Restoration includes renovations and development of Lone Rock Trail at UMore Park.
- Commodity groups provided salary bridge funding for four faculty hires, an estimated value of \$900,000.

Theoretical and Empirical Research Advancements

- Advancements include molecular approaches to genetic resistance of Fusarium head blight in wheat.
- The objectives define programs that are applied in nature; substantial generation of theoretical and empirical research advancement is not expected.

Recommendations

- Despite expanded awareness of canola production, the state's canola acreage has declined. Canola research funds should be redirected.
- The MnSCU/University of Minnesota shared degree program hasn't resulted in adequate enrollment increases at MnSCU locations. Resources should be redirected.
- Market initiative accomplishments to elected officials and stakeholders.
- Develop a mechanism to assess the impact of initiative-funded faculty hires, rapid response funds, and special agricultural programs.
- Maintain visibility and stature of Rapid Response Funds, Center for Rural Design, MAELC, and Small Grain Initiative.
- Establishing a wine industry in Minnesota depends on continued initiative support.
- "The level of collaboration is impressive, but seems to be along traditional lines...an important new collaboration...would be with human medicine on the interaction between animal and human diseases."
- Of 15 faculty hired under the Initiative, seven have resigned, raising concerns among the review team about levels of attrition.

For additional information, see:
<http://www.rapidresponse.umn.edu>.

Design

The Design Institute develops advanced research, educational programs, and interdisciplinary partnerships to improve design in the public realm. The Institute addresses the design of products, services, and environments, as well as the social processes that bring the everyday material landscape into being. Looking beyond issues of styling, the Institute sees design as a strategic mode of thinking, a form of conflict resolution whose tangible outcomes express successful negotiation of diverse values and interests. Through its program of fellowships, events, and communications, the Institute fosters new models for collaboration and connection among many fields of inquiry, such as genetics, computer science, anthropology, public art, engineering, civic governance, and graphic design. By supporting the development of new design tools and prototypes, the Design Institute champions expanded design choices to enhance the lives of citizens, in Minnesota and nationwide.

External Review Team

Julie Lasky, I.D. Magazine

John Maeda, Massachusetts Institute of Technology

Mark Robbins, Syracuse University

Report Summary

Objectives Achieved

The objectives “have been achieved, and in a remarkably short period of time.”

- The Institute’s mapping initiative and standards for design curricula are examples of exemplary achievement in design research.

- Collaborations with the biology and art departments, among others, offer new, productive ways of understanding disparate subjects.
- The *Design Camp* and *B.U.G.* projects engaged the wider Twin Cities, as evidenced by the extensive media attention both received.

National and International Comparisons

The Design Institute is a unique entity in the U.S., thus is positioned to be a national voice in design research and education.

- Parallels exist with European institutions, such as the Interaction Design Institute in Ivrea, Italy, the Domus Academy in Milan, and the Fabrica Workshop sponsored by Benetton.
- The Design Institute has gained wide visibility through international media attention, due in large part to the high profile of the Institute’s director.

Future Vision as a National Leader

The Design Institute is well practiced in cross-disciplinary collaborations because by its very nature it sits at the intersection of science, industry, and art. This gives design research the unique potential to exemplify hybrid programming and reinforces the Design Institute’s important role as an intellectual catalyst at the University and beyond.

Impact on the University

The Design Institute is seen as a willing and accessible partner. The team noted that others “particularly appreciated the presence of design scholars and practitioners whom they ordinarily would not have access to.” This has made for a productive exchange of ideas among faculty, students, and visitors. “It is clear that the University of Minnesota will be

increasingly seen as a center of design expertise and innovation.”

Theoretical and Empirical Research Advancements

The Design Institute has remarkable breadth. It is able to work effectively at the highest level of research, as in the forthcoming book *Else/Where*, and in an extraordinarily accessible mode, such as the *Twin Cities Design Celebration* and *Midtown Crossing Project*. Because of its dual capabilities, the Institute has the possibility of reaching both specialized and non-specialized audiences.

Recommendations

- To showcase the Institute’s innovative and unique intellectual practices, there is a need to explore the creation of a physical identity for the Design Institute on campus (i.e., gallery space or a series of small subsidiary spaces).
- Target Corporation has been a visible donor and may have depressed the Institute’s ability to raise additional external funds. There is a need to cast a wider net for potential funding both within the corporate community and private foundations.
- The Design Institute should identify strategies and financial support networks for long-term support and growth.
- Expanding opportunities for longer-term faculty exchange, perhaps through a residency program, will be another way to develop ongoing stability and vitality of the academic, outreach, and research activities of the Design Institute.

(For additional information, see: <http://design.umn.edu/>)

Digital Technology

The Digital Technology Center’s goal is to become a center of excellence at the University of Minnesota and to form partnerships with the community to reestablish Minnesota’s commanding position in digital technology as we move ahead in the information era. The Center focuses on leading edge research and business areas: data storage, analysis and visualization, scientific computation, telecommunications, and software engineering.

The Digital Technology Center (DTC) also includes the Supercomputing Institute for Digital Simulation and Advance Computation and the Laboratory for Computational Science and Engineering, two research units which predate the establishment of the Academic Interdisciplinary Initiatives.

External Review Team

James Flanagan, Rutgers University
James Gray, Microsoft Bay Area Research Center
Albert Wagner, Argonne National Laboratory

Report Summary

Achievements

One objective of the Digital Technology Initiative is to promote communication and development partnerships between the University of Minnesota and industry, other institutions, and government.

- There are 12 companies in the affiliates program, vs. a goal of 24.
- Two consortia (DISC and DDC) were established. Prospects for growth in

consortia revenues are positive but limited.

- Usability Lab is a growing opportunity for industry collaboration.
- The DTC presents “an approachable, unified face with which industry can deal with the University.”
- The initiative presents an opportunity to work with the medical instrumentation industry and cultivate medical/bio collaborations.

Another objective is to generate new ideas/learning and produce outstanding graduates who are prepared for the high technology industries of the 21st century

- 220 students are using DTC facilities, and an ADC gift has provided eight graduate student fellowships.
- Education programs include summer bio-informatics schools, after-hours professional courses for master degrees in software engineering, and other courses.

Impact on University and Interdisciplinary Activities

Another objective of the initiative is to create, promote, and coordinate interdisciplinary advanced technology initiatives between various University colleges and programs. The team notes:

- Faculty are energized by the DTC’s facilities and research environment.
- Many departments outside the DTC’s founding departments are involved.
- The DTC attracted more than 20 existing faculty members as affiliates.
- Minnesota Supercomputing Institute and the Laboratory for Computational Science and Engineering were successfully incorporated into the Initiative.

The initiative also was instrumental in the renovation of Walter Library.

National Comparisons

The Center for Advanced Information Processing at Rutgers is comparable in scale. Larger programs such as CITRIS at UC Berkeley and smaller programs such as CI at the University of Chicago/Argonne have vaguely similar functions. Evidence of national leadership is hampered by the relative immaturity of the DTC.

Return on Investment

- 30 faculty generated \$5.4 million in awarded grants 2003-2004.
- A director and associate director were hired and nine of twelve faculty positions were filled.
- The DTC positions the University to be attractive to funding agencies in the growth area of digital technology. The government is increasingly investing in multi-disciplinary research.
- Interactions with industry give students an educational experience that is attractive to industry.
- Corporate gifts and equipment loans are substantial and will continue as long as DTC makes industrial outreach a prime concern

Theoretical and Empirical Research Advancements

“...the major contribution the DTC has made to research advancement is to create an enthused faculty now eagerly engaged in a broad variety of multidisciplinary research that will soon lead to well recognized accomplishments.”

Recommendations

- DTC should produce an annual report, industry-directed newsletter, and public relations reports.
- Joint industry/DTC proposals to funding agencies should be pursued.

- Pursuing dramatic growth in industrial involvement will require recruitment of faculty of the highest national leadership.
- Involvement of the Carlson School is desirable.
- Seed funding of the DTC is successful and will result in future proposal growth. However, the DTC will not benefit from awarded grants outside DTC founding departments without broader cost recovery agreements, which administration must address.
- A review process of internal interdisciplinary projects and evaluation of their success need to be more openly and broadly established.
- The external team recommends that MSI reconvene the National Advisory Board to help set its strategy.
- A major challenge is to develop appropriate recurring discretionary support. “During the course of the start-up, financial and political pressures have drained away resources, resulting in less than the originally committed 18 faculty hires and a substantial reduction in the originally promised recurring funds. The discretionary money available to the DTC head is a significant initial start up investment, but one too small to maintain steady state.”

(For additional information, see: <http://www.dtc.umn.edu/>.)

Molecular and Cellular Biology

The University aspires to be at the leading edge of the revolution occurring in the biological sciences. The Molecular and Cellular Biology Initiative is founded on reorganization of the biological sciences into four new departments – Biochemistry, Molecular Biology, and Biophysics; Neuroscience; Genetics, Cell Biology, and Development; and Plant Biology. The initiative is strengthening the University’s capacity to connect science to industrial applications across plant, animal, and medical fields. The initiative focuses on functional genomics, a branch of science that determines the mechanisms by which thousands of genes are orchestrated to develop and maintain an organism.

External Review Team

Susan Berget, Baylor College of Medicine

Robert M. Goodman, University of Wisconsin-Madison

Min Han, University of Colorado

William Snider, University of North Carolina

Report Summary

Together with reorganization of the basic biological sciences between the College of Biological Sciences and the Medical School, the Initiative has fortified basic cellular and molecular biology. The addition of junior faculty brought, as one department head commented, “a breath of fresh air” into a faculty that had not seen significant hiring at any level for some years. The effect on national standings in cellular and molecular biology is less clear because the hiring was done at the junior level and too little time has passed for measures to be meaningful.

Objectives Achieved

Consolidation of two biochemistry departments into the *Biochemistry, Molecular Biology and Biophysics Department* and the cell and developmental biology departments into the *Department of Genetics, Cell Biology, and Development* were cornerstones of an effort to unify the basic sciences.

- *Biochemistry, Biophysics, and Molecular Biology* “is a real success story that permitted consolidation of research interests and a more-or-less uniform experience for the affected faculty.”
- *Genetics, Cell Biology, and Development* brought investigators with similar research interests together under one department and physically located them in the same buildings.
- *Neuroscience* previously was strong in traditional electrophysiological approaches. New faculty bring expertise in molecular and cell biological approaches and neural development.
- *Plant Biology* has “undergone a remarkable, even breathtaking, transformation” and is “poised to become one of the leading basic departments of plant biology in the nation.”

Faculty Hiring

New department chairs work well together and with the faculty. “These changes in leadership have had a remarkably positive impact on the internal perceptions of the biological sciences and should lead to better perceptions externally as well.”

Faculty whose hiring was supported by the initiative, as a cohort, have not risen yet to national or international visibility. Their visibility will increase as they grow their careers and establish themselves in their disciplines through publications.

Departments are maintaining and articulating high expectations.

Positioning as a National Leader

The future for biomedical research in molecular and cellular biology is in translational/clinical research and research that crosses the boundaries between physical and biomedical sciences. Systems biology is emerging as an approach to asking fundamental questions and linking knowledge to uses in public health, medicine, agriculture, and industry.

- An opportunity exists to create an interdisciplinary graduate program in structural and computational biology that could provide graduate students trained in the physical and computer sciences and serve as a nexus for collaborations between the medical school and undergraduate campuses.
- Anything done to strengthen collaborations between the physical and mathematical sciences will help basic biology at Minnesota become among the leaders nationwide. This will call for new mechanisms, including seed funding and forums mobilized by visionary leadership.
- The University needs to leverage its current investment to create collaborative efforts between basic and clinical departments and between the biological sciences and the physical and computer sciences.

Initiative's Contributions

“The Initiative contributed to a major infusion of talented people and an investment in modern research space that was critically needed for the basic life sciences at the University.”

- The Initiative has led to noticeable increases in funding in the four departments receiving the largesse of the investment.

- There is more collaboration throughout the Department of Neuroscience, from formal research to informal projects that include information sharing and joint journal clubs. An extensive mentoring program was established to assist junior faculty in career development.
- “Impressive features of the results of the Initiative are the morale and level of satisfaction expressed by both senior and junior faculty.”
- Involve faculty from Initiative departments on search committees for research-oriented clinical positions as a mechanism for collaboration.
- Tenure decisions should be rigorous and the mentoring and annual review of faculty should be seen as an organic process rather than bureaucratic paperwork disconnected from an isolated “endpoint.”
- Consider a peer mentoring process organized among the junior faculty.
- Ensure the desired impact on future standings of departments by effective mentoring and promotion of junior faculty through professional meeting invitations, career development awards, nominations to grant panels and editorial boards, etc.

Recommendations

- Now that the Cargill Building effort has been realized, future investment can be made in faculty seed packages to create the interdisciplinary programs required to respond to new initiatives from the funding agencies.
 - Leverage new faculty and funding into multi-investigator grants and create the synergy and excitement that accompanies such efforts. A strategic planning effort that brings together new faculty, clinician researchers, physical scientists, and informaticians interested in the biological sciences could be very effective.
 - Have a competitive pot of seed funding for interdepartmental search committees intent on hiring faculty who will complete or initiate a collaborative effort.
 - New faculty need encouragement to participate more fully in their own destiny and not rely on senior faculty and the administration to create collaborations. High expectations need to be maintained and fostered.
 - Continue to hire at the junior faculty level. With further initiatives and replacement hiring for attrition and retirements there should be a steady stream of hiring into the future.
 - Strengthen graduate programs. Populate the labs of young faculty with energetic, demanding, talented graduate students and enhance the roles of young faculty in recruiting. Establish recruiting linkages with regional institutions. Address tuition costs by reconsidering the charges to faculty grants for fringe benefits and tuition costs; limiting tuition charges; and putting more energy into training grant applications and seeking funding from non-traditional sources.
 - A strategic review of this Initiative’s impact on the economic development and direct benefits for Minnesota may be considered. Engaging in technology transfer, strengthening entrepreneurial activities, and showcasing University research with commercial applications may strengthen the economic benefits to Minnesota.
- (For additional information see: [http://biosci.cbs.umn.edu/admin/bioinit/.](http://biosci.cbs.umn.edu/admin/bioinit/))

New Media

The New Media Initiative is strengthening the School of Journalism and Mass Communication (SJMC) by building a nationally preeminent program which provides students with the best possible academic and professional education for entry into diverse careers in this rapidly changing industry. The Institute for New Media Studies (INMS), housed in SJMC, is a center for interdisciplinary research, industry outreach, and collaboration on emerging issues in the new media arena.

External Review Team

Gerald Baldasty, University of Washington

Rusty Coats, Market Opinion Research Inc.

Dianne Lynch, Ithaca College

Report Summary

Objectives Achieved

- The New Media Initiative has been transformative within SJMC. “The institution’s responsiveness and foresight has allowed it to reclaim its place among the elite schools of journalism in the country.”
- Murphy Hall is a showcase of state-of-the-art learning environments that reflect the new media landscape and meet the expectations of a generation that has come of age in a digital world. “Perhaps less prominent but just as valuable is the integration of faculty offices with the building’s classroom spaces, an important signal to students that the school truly values faculty-student interaction.”
- SJMC has strong, positive relationships with local and state

media, collaborations that benefit students and the broader university.

- Contributions to community partnerships have been significant. Local leaders in media and digital arts credit INMS for acting as a conduit for collaborative thought, experiment, and discussion. Community leaders cite the Emerging Digerati and New Media Research breakfasts and its Games Research and Virtual Environment Laboratory as important sites of community networking.
- INMS can be expected to generate external funding as it narrows its research agenda and focuses on issues of contemporary importance.

New Positions

- The new faculty are well grounded in the theoretical traditions of the field and are doing innovative and creative research that pertains to new media. These scholars can be expected to produce at a sophisticated theoretical and empirical level as they mature.
- The new director brings “energy, creativity, and a deep understanding of the dynamics and possibilities of collaboration to her work.”

Impact on the University

“Perhaps the most consistent thread in all of the conversations we had during our time on campus was the unanimous enthusiasm about the Institute for New Media Studies’ role in encouraging and nurturing multi-disciplinarity across the institution.”

- “Institute for New Media Studies has facilitated collaborations and the cross-pollination of ideas and projects where that kind of interaction was unprecedented...across campuses, across research interests, and across diverse fields like journalism,

engineering, design, computer science and educational psychology.”

- “The Institute for New Media Studies has surpassed early expectations and its stakeholders across disciplines believe that it has earned the right to be considered a permanent part of the institution’s intellectual landscape.”
- “Perhaps unexpectedly, the INMS has emerged as one of the university’s core sites of innovation and exploration, an incubator for multi-disciplinarity and collaboration that draws together disparate disciplines and theoreticians to address new problems in unanticipated ways.”

Positioning as a National Leader

“There is no question that the New Media Initiative at the University of Minnesota has achieved its stated goal of establishing the University as among the premier institutions in the country in the generation of intellectual discourse around new media technologies.” The University is a leader in new media locally, nationally, and internationally. Its competitors are Florida State University, University of South Carolina, University of Texas-Austin, University of Southern California, Northwestern University, and University of California-Berkeley.

Options and Recommendations

The external review team identified three distinct options for INMS:

Option 1: Abolish INMS. “We think it would be foolish to abandon a highly successful program, just as it is poised to deliver a substantial return on investment.”

Option 2: Shift to a more traditional research and development model. “This option would reduce Institute for New Media Studies’ impact and outreach;

would establish it as one of several similar programs around the country; and would, we believe, represent a lost opportunity to the university and to the community at large.”

Option 3: Develop a long-term sustainable strategy that recognizes the university-wide value of INMS as a high-profile initiative that positions the university as a unique incubator of innovation and research. The committee recommends:

- Reassert administrative support for INMS as a university-wide initiative.
- Build on recent developments in the Institute’s research agenda that focus on simulation and learning tools as new platforms for complex information and on the power of interdisciplinary collaboration.
- Build on existing networks to transform those relationships into realized support.

Other Recommendations

- Maintaining the Murphy Hall facility at the cutting edge in a rapidly changing technological environment is critical. Upgrades are absolutely necessary to keep the University current in terms of technology and student needs and expectations.
- The challenge moving forward is to leverage the work that has been done during this start-up phase while refining the INMS vision.
- SJMC may want to hire a more senior faculty member to assume graduate advising responsibilities, freeing the director to concentrate on the development of external funding sources and other Institute goals.

(For additional information, see: http://www.inms.umn.edu/html_index.html.)

University of Minnesota Crookston

Investments at University of Minnesota, Crookston have been made through the Agricultural Research and Outreach Initiative and the Digital Technology Initiative, funding two new faculty positions.

Impact of Initiatives

Funds from the Initiatives have been used to:

- establish a degree program in golf facilities and turfgrass management, with a goal of enrolling 42-48 full time students. Fall 2004 enrollment was 28 students.
- establish a degree program in agricultural systems management, with a goal of enrolling 25-35 full time students. Fall 2004 enrollment was 31 students.
- provide onsite classes for employees of Marvin Windows in Warroad, leading to a Bachelors in Manufacturing degree from UMC. The program is a partnership with Northwest Technical College.
- offer classes in precision agriculture for 30+ students each year and work with farmers and agricultural groups in the northwestern region.
- develop a degree program in information technology management. Fall 2004 enrollment was 80 students.
- develop a joint program in Agricultural Education with the Twin Cities' College of Agricultural, Food, and Environmental Sciences and the College of Education and Human Development. Minnesota. Fall 2004 enrollment was 19 students.

University of Minnesota Duluth

Investments at University of Minnesota, Duluth have been made through three of the Academic Interdisciplinary Initiatives – Molecular and Cellular Biology, Design, and Agricultural Research and Outreach – funding six new faculty positions.

Impact of Initiatives

Funds from the Initiatives have been used to:

- establish, equip, and staff the Visualization and Digital Imaging Laboratory. Faculty and graduate students from across the campus utilize the facility to enhance visual examination and presentation of data and analysis.
- establish the Center for Cell and Molecular Biology, supported by the College of Science and Engineering and the UMD School of Medicine.
- redesign the entire graphic design curriculum. New faculty hired under the initiative have expertise in video and digital animation as well as computer software applications used for commercial print production. Funds were reallocated to create an additional undergraduate graphic design teaching laboratory.
- continue to focus on freshwater research with a goal of positioning the campus as a nationally and internationally recognized center in freshwater research.

University of Minnesota Morris

Funds from the Agricultural Research and Outreach Initiative were used at the University of Minnesota, Morris to support the Center for Small Towns, a community outreach program that assists small towns with locally identified issues by creating applied learning opportunities for faculty and students.

Impact of Initiative

Since 1998, the Center for Small Towns has worked with 47 communities in west central Minnesota.

- The Center facilitated the Blandin Community Investment Partnership, a nine-step visioning and planning process. Communities applied for and received funding directly from Blandin Foundation and the Center helped identify/acquire other resources, especially University sources for completing projects.
- In 2002, the Center launched its data analysis and research component. The UMM statistics department has developed a curriculum using localized data sets and projects. Applied research, led by UMM faculty or the Center, has addressed health care, housing, and other issues.
- The Center convened an on-going Conversation Series on important issues in the region.
- The Annual Symposium on Small Towns was launched and attracted statewide interest.
- A Rural Community Field Project interdisciplinary course was created.

(For additional information, see:
[http://www.mrs.umn.edu/services/cst/.](http://www.mrs.umn.edu/services/cst/))