Six Action Items Designed to Implement Shared Leadership for a Stronger Montana Economy

July 2004 Update

Prepared for the Postsecondary Education Policy and Budget Committee and the Board of Regents

July 7, 2004 DRAFT

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Preface

With edits being added for the July 7 edition of this document, it became clear that we needed to include a guide to the changes being made in each edition. This document started as a means to communicate to all involved all of the initiatives originally prepared for the Project Team at its May 4 meeting. It was revised after that meeting for the PEPB / Board of Regents May 19 meeting. Now having been further reviewed by the Board of Regents, Leadership Group, Project Team, and others, we (Sheila Stearns, Dave Gibson, and Bob Person) have incorporated further changes to prepare the document for the transition of the project to the beginning of the implementation steps.

The major changes in the July 7 edition are the addition of specific suggestions to begin implementing suggested solutions. Specifically:

- The heading of each of the six initiative areas includes new introductory material for the section.
- In the Workforce Training and Education section, beginning on page 1, the overall proposal in the previous edition is slightly reworked and more specifically characterized to recognize its overall strategic character; three other two-page initiatives are then included for the value of the detail they offer. The revised section runs through page 9.
- The Distance Learning section includes a description of an organizational structure proposed for implementation beginning in the second paragraph of the “Proposed Solution” section on page 12.
- Beginning on page 20, several new options for implementing the MUS and Governmental Collaboration piece are included to stimulate thought and discussion of just how this initiative might me implemented.
- The “Next Steps” piece in the introduction is revised to reflect the current status of the project.

Introduction

Background: In September 2003, the Montana Board of Regents began to work in earnest to find ways for the Montana University System to take a more direct leadership role in the state's economic development. At the request of the Regents and the Office of Commissioner of Higher Education (OCHE) a number of people from various state agencies/organizations met between September 2003 and January 2004 as an *ad hoc* working group to distill broad goals into practical and actionable initiatives.

Over these months, the composition of this *ad hoc* working group varied but included staff of the Legislative Services Division, the Legislative Fiscal Division, OCHE, the Governor's Office, members of the Board of Regents and others interested in working on this important issue.

The initial work of the *ad hoc* working group culminated in January 2004 when the Board of Regents unanimously approved a process to identify, by May 2004, initiatives they could implement to establish a new role for the Montana University System in strengthening the state's economy. This process involved getting broad-based agreement on those areas that provide the best opportunity for change but still leverage the Montana University System's, and Montana's, unique strengths. Additionally, the Legislative Council – a council of Montana's key legislative leaders from both chambers and both parties – resolved that the Postsecondary Education Policy and Budget (PEPB) Subcommittee be the legislative body to represent the legislature in this process and, during its January meeting, the PEPB Subcommittee approved the process[1].

In late February, the *ad hoc* working group achieved consensus that formally established the project organization. Included in the organization were groups that provided broad policy oversight and the teams that actually did the groundwork.

Leadership Group: The *Leadership Group* is composed of key leaders from the public and private sectors in Montana and provides broad policy oversight to the program primarily through fulfilling the main responsibilities as individuals rather than in attending meetings. The main responsibilities of the group members to the program are to:

- Provide advice and direction
- Be engaged with the project as it moves forward
- Have "ownership" in the project and its outcomes
- Designate a personal representative to work as a member of the Project Team

Project Team: The *Project Team* is the groundwork team whose members are designated by a member of the Leadership Group. The main responsibilities of Team members to the program are to:

- Conduct required policy research
- Develop recommendations and action plans

[1] The Economic Affairs Interim Committee is also interested in, and being kept informed of, this evolving process.

Project Initiative Teams: There were six *Project Initiative Teams* each led by a Principal Coordinator assisted by at least one liaison from one of the university system campuses. They were composed of members appointed by the Leadership Group, Project Team Members, or from among volunteers, stakeholders, or staff. Each Initiative Team was assigned a specific initiative area in March 2004. The teams were responsible in April and May 2004 to:

- Meet (or at least consult in writing) not less than weekly to develop recommendations and continually review membership to assure the goal of shared leadership was fulfilled by complete and appropriate representation.
- Prepare team recommendations and complete a 1 to 2 page summary of its four most important recommendations in a standard format by the end of April 2004.
- Present the recommendations included in this report to the *Project Team* on May 4th 2004.

The Project Team met May 4th to review recommendations prepared by members of the six initiative teams. Based on that review, project staff streamlined, combined, and eliminated items to present six proposals to the joint meeting of the Board of Regents and the Postsecondary Policy and Budget Subcommittee (PEPB) held May 19th in Great Falls.

Regents / PEPB Consideration: At the May 19th joint meeting of the PEPB Subcommittee and the Board of Regents all six initiatives were tentatively approved with amendments. The proposals were further refined to reflect these amendments. The product is the six proposals presented in this document.

Next Step: We would like feedback from the PEPB Subcommittee and the Board of Regents on these six initiatives. Specifically we would like to know the following:

- Which of these proposals (or portions thereof) would you support?
- Which of these proposals do you not support?
- What changes could we make to earn your support or make these proposals stronger?
- **What are the top two priority initiatives for immediate implementation?**

We have also begun to hold a number of public forums around the state during the summer months to communicate information about, and get public input on, the proposals.

Acknowledgements: The project owes a great debt of gratitude to people from the private sector, the Montana University System, and State Executive and Legislative Offices who have contributed to the meaning of shared leadership by their active efforts. Let us hope their reward is a Stronger Montana Economy.

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Workforce Training and Education

Workforce training and education encompasses a wide array of programs and policies. This initiative focuses on four priority actions:

- Strategic direction and overall system coordination
- Standardizing two-year college programs in high demand occupational areas
- Creating a career pathways system
- Developing better workforce system data management

Each of these action items is described in this section in more detail.

Proposed Action Item: Establish workforce training partnerships that bring business, industry, government, and components of the university system together to develop and implement a comprehensive strategic plan for workforce development. An important part of this must be specific recommendations for changes in operations, resources, and curricula especially within the two-year system to meet the state's future needs. The plan will consider options for campus specialization, standardizing programs in high-demand occupational areas, creating career pathways systems for occupational training, and better integration into the state's myriad workforce programs.

State Need: Montana's success in diversifying and growing its economy will largely depend on the presence of a highly motivated, strategically educated workforce with a highly developed capacity for critical and innovative thinking. The availability of a skilled workforce has become one of the most important issues for attracting and retaining businesses and producing higher paying jobs. Workforce skill level is a key driver of innovation and productivity improvement across all industries. The ability to grow Montana's economy and wage levels depends entirely on our ability to continuously raise the skill levels of our workers and be responsive to the needs of Montana's businesses and industries.

Over the past several decades, the role of the two-year college has changed dramatically. Once the primary provider of moderately skilled vocational training, it has emerged as the critical provider of higher technical skills training for the regional economy. The mid-tier skill level worker, whose training comes from periodic skills upgrades, technical certifications, and associates degrees that are generally provided by a quality two-year college system, is highly likely to apply those skills within the region. These two factors – higher skill level needs and likely regional skill application among mid-skilled workers – makes a well-organized and effective two-year college system a critical, positive factor in a successful regional economy.

Current Problem: The Shared Leadership teams have identified a number of options to consider in our two-year system to better prepare Montana workers for higher skilled and better paying jobs. Among these areas are needs for: more customized training programs, a career pathway system for occupational training, better integration of university and non-university workforce training programs, and greater standardization of programs. While it is important to begin work now on addressing these needs, it is also important to simultaneously a fundamental issue: the need for a two-year education system with better system-wide strategic direction and coordination.

In Montana we have seven tribal colleges, three community colleges, two stand-alone Colleges of Technology (COTs) – one each under UM and MSU administration, one COT reporting through a main campus (UM) and two reporting through branch campuses (one each in UM and MSU). Additionally, MSU-Northern offers both two- and four-year programming in Havre as does UM-Western in Dillon. This complex organizational and reporting structure creates difficulties in coordinating two-year specific policies and coordinating system-wide improvements. The increasing need for specialized and expensive two-year training programs will only exacerbate issues associated with a lack of strategic direction and focused system-wide leadership.

Proposed Solution: Create a Shared Leadership Team to recommend and implement statewide improvements to the current operations, resources, and curricula of our two-year colleges. The membership of this team should consist of key leaders in our business community, the current two-year and four-year system, Legislature, Dept. of Labor, K-12 system and Governor's Office. Among other endeavors, the team should:

- Make recommendations on the principal strategic role of the two-year system in Montana over the next two decades;
- Recommend means to invest additional money into workforce development and coordinate MUS resources that more effectively leverage the effect of that investment;
- Develop means to improve communication and coordination within the two-year system;
- Recommend statewide policies or programs to support customized training for Montana businesses; and
- Provide coordination of other Shared Leadership workforce training and education actions.

State Investment: The obvious initial costs of this proposal are funding the administrative costs of the team. This is probably less than $100,000 for travel, meetings, research, etc. over the course of the year and it may be possible to share this cost among various groups committed to this process. The costs of implementing the recommendations, once developed, will be part of the team's specific task.

Return on Investment: The returns on investment for a stronger two-year system are many. There may be some immediate opportunities to increase revenues for the system such as capturing apprenticeship training, and associated revenue, in Montana that is currently being sourced in the North Dakota University System. Furthermore, an optimally structured two-year system with clear strategic direction will increase the total number of Montanans in the higher education system, lower the attrition rates in our higher cost four-year system, and produce a more highly skilled workforce with the training needed for employment in the state. A cohesive and well-positioned two-year education system is not part of a zero-sum game – it is a vital part of growing the higher education system as a whole.

By increasing the number of Montanans with education beyond the high school graduation level we will also have a profound impact on the ability of our citizens to command higher wages and better jobs. Nationally, the wages earned by individuals with at least some postsecondary education were 62% above those with only a high school diploma. Applied to Montana's average wage this amounts to a differential of more than $15,000 per worker.[2] This wage premium has been increasing steadily for the past three decades and will continue to climb.

[2] The Economic Roots of K-16 Reform, Anthony Carnevale, 2003

Proposed Action Item: Bring business, industry, government, and two-year colleges together to standardize two-year college programs in high-demand occupational areas critical to the state's economic vitality—e.g., computer technology, healthcare, and entrepreneurship.

State Need:

- Workforce preparation programming in Montana must be reflective of and responsive to the needs of the business and industry, especially those businesses and industries most critical to the future economic well-being of the state.
- Whether Montanans are preparing for work, adding value to their current work, or changing their line of work, they need access to higher education programs that efficiently and consistently develop the proficiencies required to do the work well.
- As a state with a relatively small population, Montana needs to ensure existing and potential Montana industries that Montana has a statewide workforce commonly prepared and consistently credentialed to meet business and industry demands.
- Montana needs to identify, credential, and add value to the specialized endorsements, certificates, and degrees of two-year colleges that support a high-tech, high-wage economy so that students complete full programs of study and employers have confidence in the proficiencies represented by the AAS degree.

Current Problem:

- Although industry demands in similar fields are relatively constant from region to region in Montana, two-year college programs addressing these demands vary significantly, eroding employer confidence in the skill set associated with a particular degree or certificate and complicating students' transfer experiences.
- Because employers in Montana often attach little value in hiring or salary decisions to two-year credentials, incentives for students to complete specialized endorsements, certificates, and AAS degrees are weak.
- In business and computer technology programs in particular, students often craft their own "skill-set package" from the courses offered within a two-year college program and, as a result, end up with no credential to present to an employer upon completion and no degree as a foundation for higher educational attainment levels in the future.
- Montanans and Montana are wasting time and money because the state has not used two-year programs to streamline progress into or through a career—e.g., career ladders beginning in high school, career transitions expedited by crediting applicable experience for coursework, or career enhancements through specialized endorsements in such areas as web-page design, business plans, bookkeeping, or marketing.

Proposed Solution:

- Create Shared Leadership Action Teams for computer technology, entrepreneurship, and healthcare, asking representatives from leading state and/or national companies/industries, as well as Department of Commerce and Office of Public Instruction, to assist two-year colleges in identifying proficiencies to be acquired, learning experiences to instill them, and assessments that measure them, credentials that document them, and hiring and salary incentives to reward the acquisition of these proficiencies and credentials.
- Provide incentives for participating two-year colleges to create a common curriculum and delivery system for AAS degrees, as well as specialized endorsements, certificates, and one-year programs in computer technology, entrepreneurship, and healthcare.

- Focus and expand Tech Prep, Med Prep, and Running Start programs in Montana high schools to encourage students to acquire proficiencies and credentials that apply to every career area – e.g., computer technologies and entrepreneurship.
- Provide evening, weekend, mobile, and on-line course delivery to improve access to proficiency training and credentialing for place-bound and/or geographically isolated Montana workers and workplaces.
- Create a cadre of master faculty in Montana's two-year colleges who will deliver proficiency training to workers and workplaces throughout the state.
- Create a virtual workforce of computer technologists and business entrepreneurs capable of providing support services and innovation to employers throughout the state, nation, and world.

State Investment:

- $3,000 for faculty from each two-year college for developing common curricula and credentialing in computer technology, entrepreneurship, one healthcare program. = 3K x 12 programs (avg.) x 3 careers **= $108,000** one time only
- **$75,000** salary and benefits for person coordinating this effort – writing curricula, arranging meetings with industry, communications, coordinating meetings and **$50,000** operational expenses (admin asst, travel, phone, etc.) Both expenses would continue at about 2/3 level to ensure compressed learning, articulation, marketing, are coordinated.
- Compressed learning delivery systems and master faculty -- $7K stipend for each master teacher/year (10) $**70,000**; $3K for development of compressed delivery (one-time) $**30,000, first-biennium only**;
- **$20,000** for marketing to workforces

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Total:	First Biennium:	$333,000
	Succeeding Biennia:	$180,000

Return on Investment:

- A commonly prepared workforce of 400 highly proficient computer technologists certified for proficiencies in web design, office support, network support, office administrative skills by 2008; an additional 300 workers with specialized endorsements in specific proficiencies (e.g., database management) by 2008. At least the same number every year thereafter.
- 100 small businesses, artists/artisans, entrepreneurs, and non-profit organizations with training in business planning, promoting, and accounting by 2008. At least the same number every year thereafter.
- 10% higher wages for workers with these credentials by 2008; 15% higher by 2010.
- An 18% salary increase for ten two-year college faculty by FY 2006.
- A 20% increase in certificate and degree completion rates in participating programs and colleges by 2010.
- A 20% increase in the number of specialized endorsements awarded in participating colleges by 2010.
- Time-to-degree and cost-of-degree for 500 high school graduates reduced through dual enrollment opportunities by 2008.
- A 25% increase in the number of graduates from two-year programs in computer technology and entrepreneurship placed in related work by 2010.

Proposed Action Item: Create a Career Pathways System for Delivering Occupational Education and Training

State Need: Montana needs a coordinated workforce development system that strengthens connections between community/technical colleges, local workforce investment boards (community management teams), social service agencies, secondary schools, adult education, community-based organizations and employers. Developing a Career Pathways model in occupational areas that are high-wage, high-skill would expand the system's capacity to be responsive to local, regional and state economic needs while providing workers with paths to career enhancing opportunities.

Current Problem: Workforce Development in Montana occurs through a variety of venues that function in competition with and in isolation from one another. These venues include public and private education, non-profit organizations, social service agencies, associations, and others. Current practice does not encourage smooth transition from one level of training/education to another. It does not provide the connection with the employer so that curricula can be developed to ensure workers have the knowledge and skills needed for the industry. It also does not provide a sequence of instruction that allows the individual to move from basic skills preparation into entry and advanced training within a career cluster. Current practice often does not provide the individual with an understanding of the opportunities within a career and full knowledge of the skills that are required to be successful.

Proposed Solution: Worker training would be improved and expanded through the development of Career Pathways Models in occupational areas that are high-wage, high-skill and reflect the needs of state and/or regional labor markets. Career Cluster areas include 16 clusters identified through the U.S. Department of Education, Office of Vocational and Adult Education and promoted through the Carl D. Perkins Vocational Technical Education Act of 1998. A Career Pathways Initiative (CPI) would require two priorities: 1) strategic partnership agreements with workforce development entities and business and industry and, 2) cluster-based career pathways that incorporate basic skills, entry-level training and advanced training and education.

Career Pathways Models have been successful in many two-year colleges. City College of San Francisco implemented an Information Technology Career Ladder program targeting disadvantaged populations. The program partnered with community-based organizations for case management and job retention while the college developed curricula and provided instruction in coordination with business and industry. Maricopa County Community Colleges in Phoenix developed the Bridges to Biomedical Careers program. The Governor of the Commonwealth of Virginia implemented the Pathways to Industry program to provide scholarships for students who enter Career and Technical Education programs. North Carolina legislatively enacted the Pathways Program that allocates TANF funds to 12 community colleges for short-term career training in targeted cluster areas. Edmonds Community College in Washington State established a Healthcare Partnership that provides employer cash supports and on-site credit and/or contract training for incumbent workers.

State Investment: Currently, Perkins State Leadership and Workforce Investment Act Incentive funds are dedicated to the development of career pathways in two-year institutions. Four $100,000 grants have been announced for FY 05. These funds will support the development of the Career Pathways Initiative to be completed by June 30, 2005. Implementation of the Career Pathways Model is expected to begin September, 2005. Costs for implementation are dependent upon need for new program development and/or distance

learning curricula. Courses needing to be converted to a distance learning format are expected to be $3,000 per course for development and costs for delivery would be assumed through tuition and state funds. Estimated costs per program area (4) for implementation:

Personal costs:	$75,000 for instructional delivery
Operation costs:	$25,000
Marketing:	$10,000
Total: Per Program Area for Implementation:	$110,000*
Grand Total: Four (4) program areas:	$440,000*

*These costs do not reflect partnerships contributions.

Return on Investment:

- The Monetary Benefits—Career Pathways Approach to Workforce Development:
- Enhances resource sharing for equipment, internship sites and job-based training, clinical supervision, support, recruitment, and marketing.
- Reduces costs to the institution related to remediation and student attrition
- Decreases instructional costs when industry and education share faculty
- Enhances long-term earnings
- Retrains and finds employment for dislocated workers
- Shows effective use of public education and workforce development funds

Visionary Elements—Career Pathways Model:

- Strategically links education and workforce development policy
- Better addresses workforce needs, especially in high-skill clusters
- Improves student recruitment and increases enrollment
- Builds new relationships with employers
- Improves quality of education by connecting programs and faculty to occupational, remedial, and academic divisions

Relationship to Economic Change—A Career Pathway:

- Requires strategic understanding of state, regional and local labor market needs
- Requires strong partnership with business and industry to develop curricula based on current and emerging skills and competencies
- Provides access to populations disconnected from the postsecondary system
- Defines technical skills needed at all levels of a high-growth career cluster to increase upward mobility and availability of a quality workforce within the industry

Other Montana Initiatives—Career Pathways supports:

- Industry Clusters Study, Stuart Rosenfeld, Regional Technology Strategies
- P-20 Committee of the Board of Education – Dual Credit Task Force
- Career Pathways Initiative in Two-Year Institutions
- Workforce Investment Act Incentive Grant
- National Governors' Association Policy Academy—Workforce Development

Proposed Action Item: Creation of Data Management System for Workforce Development

State Need: To effectively manage workforce development resources and maximize federal and state dollars, it is vital that Montana design and implement a data management system that will give the state the ability to collect, evaluate and analyze data across multiple workforce development programs. Implementation of such a system will allow Montana to identify the indicators of achievement for workforce development that are unique to the state but beyond those required by the federal government and can serve as a vehicle for system change.

Current Problem:

Even though Montana is rich with data, it is difficult to access the information due to the non-integration of multiple systems. There are several problems associated with sharing of data. For example, federal programs do not always have access to state data. Business partners may utilize completely different data from everyone else. There is limited consensus on what should be measured and what are common definitions. Finally, funding to support a shared system is currently not provided through federal and/or state resources.

Proposed Solution:

Creation of a data management system that consolidates data already collected and utilizes the information in new ways will provide a framework for reports to the legislature, governor, boards and other decision-makers that will demonstrate success and/or need for change through hard data.

The State of Washington established non-federal workforce system performance measures in 1996 titled Performance Management for Continuous Improvement (PMCI). This accountability system was adopted by secondary career and technical education, community and technical colleges, adult basic skills education, employment services, private career schools and the one-stop career center system. This system identified seven desired outcomes (competencies, employment, earnings, productivity, reduced poverty, customer satisfaction and return on investment. Washington has learned that introducing a statewide accountability system across programs and agencies requires teamwork. Strategic planning and evaluation processes have played a key role enhancing a systemic mindset, and it did so largely because there was a concerted effort to bring all stakeholders to the table.

Texas has pioneered systemic approaches to workforce service delivery and performance measurement for more than a decade. It is currently moving beyond common measures towards more comprehensive system measures. Support for state and system performance measures has come from state agencies, legislature, local boards and researchers. These system measures are inextricable ingredients of the strategic planning process that are used to assess system accomplishment and improvements in capacity. The annual reports and scorecard are used to inform the Governor, legislature, agencies and interested public. Outcomes are reported for the state as a whole and are selectively broken out by agency, program and, at time, target populations. The main impetus is to push for workforce system growth and development.

State Investment:
Identifying the start-up costs for establishing a State Data Management System may be determined by: where the system would be housed, what systems are currently in place, and

what federal and/or state funds currently support data collection. Ongoing costs may potentially be supported through a proportionate cost-sharing formula based on the number of agency administrative records processed and staffing provided by the system partners.

Return on Investment:

A State Data Management System will improve Montana's Workforce Development efforts by:

- Enhancing system building across agencies an programs serving diverse populations that reside across a large and regionally varied state
- Bypassing most barriers to sharing data and accountability for workforce efforts
- Improving strategic planning and evaluation through use of common, cross-program measures
- Reducing traditional program silos towards comprehensive system measures
- Engaging in a trust-building exercise between agencies with somewhat divergent missions
- Establishing standardized data and universal language
- Disaggregating data in new and innovative ways for use by decision-makers

Distance Learning

The distance learning initiative involves coordinating on-line delivery of education across the entire MUS system. This initiative is described in more detail in this section.

Proposed Action Item: Centralize and coordinate distance learning throughout the university system.

State Need: Distances and lack of economies-of-scale are major barriers to providing accessible on-campus higher education to Montana's rural population. The increasing need for continuous skills upgrades and life-long learning in the rapidly changing global economy further compounds this historical impediment to wage growth and economic development. Availability of flexible and readily accessible higher education for all Montanans will become increasingly critical to higher wages and economic growth. It is simply not possible to expand the physical infrastructure in such a vast state to achieve this goal.

A specific problem currently exists with Montana's registered apprenticeship programs, which require organized, related and supplemental instruction in technical subjects related to the trade. A minimum of 144 hours for each year of apprenticeship is recommended. This instruction may be provided through classroom instruction, correspondence courses, home study, Internet delivery, or other forms of approved study. As apprenticeship opportunities expand from the traditional – carpentry, plumbing, and electrical – to the nontraditional—healthcare and information technology – there is an even greater need to develop the related instruction modules to meet these new options. Currently, related instruction modules for apprenticeship programs, both traditional and nontraditional, are developed through North Dakota State College of Science. While Montana does have some apprenticeship programs available, a more comprehensive on-line delivery program would allow us to capture more of these revenues in the state.

Current Problem: The current method of providing distance and distributed courses and programs is decentralized. The MUS provides an electronic catalog of distance education courses offered by system campuses and each campus handles admission, registration, tuition, financial aid, advising, and other services in its own way. Disparities are confusing and costly for students, especially students who use the offerings of more than one campus in their progress toward a degree or maintenance of credentials. There is no common approach among distance education providers to address the crucial issues affecting affordability and quality—tuition, duplication, articulation, transfer, and best practices in teaching, assessment, and support services. There are no clear links with K-12 education or other providers. There is no consistency in student services and support. There is little incentive to focus on learner populations that are different from, and not in direct competition with, traditional 'bricks and mortar' instructional providers. There is no coordinated body focusing on increasing the efficiency of distance education, developing online course and program pilots, and examining new business models for delivering and evaluating distance and distributed education.

Proposed Solution: Create a coordinating body within the MUS to develop and implement policy recommendations regarding the delivery of distributed and distance education including on-line education. Effective on-line education is a new paradigm and we cannot treat it as a simple adjunct of traditional on-campus learning.

To move forward toward implementation of this initiative, we envision two implementation teams working with on another on different aspects of the problem: a "vision team" and a "technical team". The vision team's role will be to develop and maintain a big picture view of what a centralized and coordinated distance learning undertaking that tells us where we are and where we want to go in some detail. The technical team would define ways and means to bring the vision to fruition.

The vital first step in nearly all cases will be for the vision team and technical teams to work together to perform a “gap analysis.” That is, the group must define in some detail both the broad outlines of the “vision” that pictures what we will have up and running when the initiative’s goals have been fulfilled and compare that in important details to what it is that exists now. The difference between the two is the “gap” that must be filled if the vision is to become reality. The technical team will then have the principal role in designing the technologies and organizations aimed at filling those gaps.

A key step in this effort must be filling out details in the overall vision and identifying short-, medium-, and long-term implementation goals for the technical team. Elements of this initiative that can effectively be implemented in the short-term should be identified as priority items.

The two teams will, collectively, be responsible for:

- Collaborating and building partnerships with the K-12 community and other education providers including developing or identifying an appropriate statewide model for distance-delivered academic offerings;
- Strategic planning, including cost analysis, organizational design, and programs (high school ‘bridge’, general education core, occupational programs that are high-cost/low enrollment, etc), technology selection, faculty development and training, evaluation, and implementation;
- Converting and/or developing new courses for online delivery that support the related instruction requirements of apprenticeship programs, especially in nontraditional apprenticeship areas—healthcare and information technology;
- Building partnerships with telephone carriers, cable television, electric utilities, local internet service providers, and others to assure the availability of broadband technology and education services (e.g. initiatives in Oregon and Alaska);
- Reducing duplication of development costs through standardization and increasing institutional capacity through the development of scalable course models;
- Statewide and national marketing of distance learning opportunities through the entire MUS;
- Linking accredited academic institutions online and ensuring centralized and/or seamlessly coordinated services to students; and
- Developing common definitions for distance learning enrollment and a statewide data collection system.

State Investment: On-going funding dramatically affects the role and effectiveness of virtual consortiums. $500,000 to $1 million has been identified in a WICHE study as the average initial capitalization for these kinds of projects. Beyond the initial funding, similar projects used other (in-direct) allocations, reassignments of personnel and resources (in-kind support), and levied membership and service fees to support their start-up phase. FTE funding from the state, tuition, partial tuition and customer services fees and donations/partnerships are also important funding sources. Beyond the initial capitalization to initiate change, eliminating the existing duplication of efforts and lack of coordination should yield net operating cost savings even with expanded MUS distance learning programs.

Return on Investment: First, distance learning increases access to postsecondary education. As discussed previously, by increasing the number of Montanans with education beyond the high school graduation level we will also have a significant impact on the ability of our citizens to command higher wages and better jobs. Nationally, the wages earned by individuals with at least some postsecondary education were 62% above those with only a high school diploma. Applied to Montana's average wage this amounts to a differential of more than $15,000 per worker.

Second, there should be strong economies of scale by coordinating distance learning system-wide. Marketing and some physical infrastructure costs can be shared which will lead to significant cost savings over time. A more coordinated effort will also lead to greater purchasing power to both lower costs and affect needed telecommunications infrastructure changes in Montana.

Third, there should be a significant increase in enrollment. There is a great opportunity to increase revenues to the system with lower cost capacity. The potential to reduce time to degree for Montana students who combine on-campus and distance learning also adds system-wide efficiencies and frees capacity for additional students.

MUS – Business Partnerships

The MUS – business partnership initiative involves forging stronger partnerships between the university system and the Montana private sector. This initiative is described in more detail in this section.

Proposed Action Item: Expand partnerships between the university system and Montana businesses.

State Need: The state ranks 50th (lowest) in average wages and is generally in the bottom five states in terms of per capita income, household income and other measures of wealth per person. Montana needs more good paying jobs. The primary factors in improving productivity (and wages) are higher worker skills and use of more advanced technology, both of which can be enormously influenced by the vast resources of our university system.

The state's economy is also heavily dependent on our small businesses. Nationally, a vast majority of the jobs that will be created during the next decade will arise in small businesses. In Montana this will occur to an even greater extent due to the almost complete absence of any large (by national standards) companies. Without a vibrant entrepreneurial culture and strong support for our small businesses the state's economy will never reach its potential. Again, the resources of the Montana University System can play an integral part in supporting entrepreneurship and small business growth.

Current Problem: The Montana University System will do almost $150 million in research this year and has tremendous resources to support technology-based companies in Montana. In addition, the MUS generates considerable intellectual property that is suitable for development within the state. With very limited resources the university system has already established a number of quite successful partnerships with Montana businesses. What the state does not have is adequate resources to comprehensively identify and coordinate new, or currently unidentified, opportunities – particularly with businesses that are not physically located near one of the major research campuses. There are also very few resources available to coordinate state-wide efforts between the various MUS technology transfer offices – so businesses located near one campus who might benefit from technology resident at a different campus also have a difficult time finding the needed resources.

The MUS resources available to businesses in other areas such as marketing, management and finance advice are similarly disconnected. While most campuses have strong business-oriented programs, most of them are not well integrated with the state's business community beyond the immediate campus region. This makes it difficult for businesses to know how to tap available resources and for our many campuses to coordinate assistance and share learnings and best practices.

Proposed Solution: Create an office at the state level, independent of politics and individual campuses, to coordinate statewide resources, which can identify existing businesses that could benefit from university technology partnerships or other business support resources. The resources to be coordinated would include Small Business Development Offices, Regional and Local Development Offices, Small Business Innovative Research program, Montana Manufacturing Extension Center (MMEC), RAVE Technical Development Center, tribal economic development offices, etc. (These resources are EXAMPLES and not meant to be an exhaustive list of relevant programs or offices that will need to be engaged).

Using these resources, the office would identify Montana businesses that could benefit from university partnerships. The office would be responsible (with MUS support) for coordinating initial activities with university technology transfer offices or other needed MUS resources. This state office would establish a measurement and accountability system to evaluate the effectiveness of these partnerships. As a minimum this office would, in the next 18 months:

- Identify and contact all technology companies in the state that could benefit from Montana University System research or research facilities (probably about 300 businesses);
- Facilitate "cooperative agreements" between each of the state's small business development centers and the university system identifying specific opportunities for collaborative work;
- Develop a vehicle by which the university system's various technology transfer offices, business incubators and business support centers meet periodically to share learning and discuss best practices;
- Provide recommendations on the most successful methods to engage the state's business community in identifying opportunities for university-business collaboration; and
- Provide recommendations to the MUS, based on input from Montana's businesses, on ways to improve the efficiency and effectiveness of the university system.

State Investment: This Office would be created within the Office of the Commissioner of Higher Education and could function initially with two FTE plus travel and communication expenses; the total cost would be about $200,000 per year.

Return on Investment: Creating a system to identify and foster potentially fruitful business-university system relationships would enhance economic growth through better utilization of existing resources. It would function as a "clearing house" for university system partnership inquires from businesses considering a move to Montana and could help our university technology transfer offices find "homes" for MUS-generated intellectual properties or better utilize available technical resources.

Using the enormous resources of the Montana University System to grow our technology companies and other small businesses will create new jobs in the state. This not only builds the tax base and local economy but also helps build critical mass in university research related companies. We know from a significant amount of research in cluster development that this is probably the most effective way to build sustainable high-wage sectors of the economy.

MUS and Government Collaboration

The MUS and government collaboration initiative is designed to provide a means for the university system to become more engaged in helping our state's leadership solve some of the major problems they are facing. This initiative is described in more detail in this section.

Proposed Action Item: Develop a method of outreach to determine the need of state, local, and tribal government leaders in Montana for resources available within the MUS. The university system will also develop a systematic process for prioritizing those needs and focusing available resources to solve them.

State Need: Every year Montana's state, local and tribal leaders face complicated, and sometimes daunting, policy decisions. Often, decisions are required in a short time period (e.g. our 90-day state legislative session) by people with varying degrees of expertise. A characteristic of Montana politics is that very few of our leaders (at the local, tribal, or state level) have large staffs capable of specializing in the many and varied policy areas in which decisions must be made. Thus, many decisions are made on incomplete information or are delayed due to a lack of credible information.

Current Problem: At the same time our political leaders struggle with large and complicated policy decisions, the Montana University System maintains an immense reservoir of specialized and focused talent with highly developed research capabilities. With its many economists, computer modeling professionals and other experts, the University system is in a unique position to provide new and innovative recommendations to all levels of government in many areas including: budgeting, revenue forecasting, fiscal note preparation, natural resource issues and, myriad other policy decisions facing our political leaders. While it is not reasonable to presume the entire university system will become a solely dedicated research arm of government there is nevertheless a tremendous opportunity to match the needs of government to the capabilities of the MUS to tackle some of the state's biggest problems. We need a clear path for our elected leaders to follow in order to gain access to university resources. And, the MUS needs a systematic way to coordinate and prioritize requests for policy research or other resources coming from our elected leaders.

Proposed Solution: There are a number of ways to facilitate better coordination between the state's leaders and the university system to start addressing our most significant issues. Below are several of these options (for discussion).

1. Establish a periodic Shared Leadership government council that meets periodically to discusses ideas for mutual problem solving. This council would be expected to prioritize these issues. For these, which would frequently be controversial, the council could consider a format similar to conference committees or faculty review committees: The University System appoints an "expert;" the Governor appoints an expert, the legislature appoints an expert, and perhaps the private sector appoints an expert on the subject. They work on it and present their findings to the group that has requested it.

2. Hire one person (0.5-1.0 FTE) to regularly meet with state and local government leaders (e.g. before the legislative session or once/twice per year) to get ideas of where MUS resources could be used effectively. This person would periodically present the list (maybe at BOR meetings) and engage some leadership team from MUS/BOR in prioritizing the requests. This person would then help coordinate and track allocation of resources from MUS directed toward the priority issues (project management role). This is the simplest solution, but the most costly since it requires hiring a person and still requires time from MUS leadership.

3. Hold meetings periodically between the senior MUS leadership and political leaders to discuss and prioritize issues where MUS resources could be of assistance. This will work better for state leadership but could work if League of Cities and Towns, MACO, etc. could be surrogate for myriad local/tribal governments. Actual project management could be decentralized to the individual campuses based on what work is agreed to be conducted. This has the advantage of facilitating better communication between education and state/local leaders but would not be as flexible since the principals would likely only be able to meet once/twice per year and would not have the staff to work "year around" on problem identification.

This solution is also static in that you could probably not respond to new issues, say during a legislative session.

4. Simply request ideas from the various political leaders in the state, both state and local, and have them present to the BOR at regularly scheduled meetings. Handle resource allocation in the normal course of BOR duties. This has the advantage of simplicity, but obviously restricts issues to the very few that could be "squeezed" into the normal course of business. Prioritization would be done the same as other agenda items for BOR.

State Investment: While there may be a significant cost associated with the specific policy support efforts on which the university system could chose to focus its resources, the principle cost of implementing this process is time. In order for this effort to be successful and long lasting, leaders in both government and the university system must dedicate the time to communicate and work through a prioritization process. This is not a job that can be accomplished entirely by lower level staff persons. University presidents and vice presidents along with the Commissioner of Higher Education and the Board of Regents must be personally involved at the outset in order to coordinate resources, communicate with political leaders around the state, develop a systematic process and establish credibility for the endeavor.

Some small level of staff dedicated to supporting and coordinating this effort will be needed: probably one FTE at a cost of less than $100,000 per year.

Return on Investment: There is no way to specifically identify the financial benefits to the state from this collaborative effort. That will be determined by the specific policy issues on which the MUS provides support. The state general fund, however, is $1.3 billion per year and this does not include local and tribal government spending. Directing even a small portion of this spending toward more effective ends is worth a least tens of millions of dollars each year for Montana.

Furthermore, building better relationships between the university system and the rest of government will clearly lead to some less easily quantifiable, but certainly no less significant, benefits:

- A better understanding of the resources and contributions of the MUS to Montana, which should lead to stronger support over the long-term for our education system.
- Less emotional discussion of some of the most contentious policy debates (e.g. environmental issues, social services policies) in the state which should allow the state to move forward in a more consistent and less politically divisive manner.
- The potential to set long-term economic goals which allow us to focus our limited resources on the most critical factors for success.

Promote and Enhance Access to Postsecondary Education

This initiative is designed to lower barriers to postsecondary education in Montana. This initiative is described in more detail in this section

Proposed Action Item: Implement programs which promote the value of and remove barriers to postsecondary education for Montana's citizens.

State Need: Although rich in natural resources, Montana's greatest treasure and the wellspring of its economy is its people. While we know we must get our people educated, Montana's educational attainment rates are instead slipping compared to other states. To successfully compete in the new 'knowledge' economy and offer its citizens the opportunity to contribute to the economy and increase their own incomes in return, Montana must reverse this trend.

Current Problem: The history of civilization amply demonstrates the value of high educational attainment to both the individual and society. Many Montanans, however, do not avail themselves of higher education for any of several reasons: distance, time, family demands, failure to value an education, or inability to afford the cost. The problem manifests itself in many ways:

- Slipping high school graduation rates: Even commitment to high school is weak. Montana's public high school graduation rates peaked at 86.7% in 1993 and had dropped to 77% in 2001, the lowest at any time in the past two decades. 7.6% of teenagers between the ages of 16 and 19 are considered 'dropouts' – neither a high school graduate nor enrolled in school nor looking for work.
- Low college matriculation rates: For every 100 Montana students who enter 9th grade only 42 are likely to graduate high school four years later and enroll in college within a year.
- High college costs relative to income levels: In 2000-01 the college participation rate for Montana students from low-income families was 27.9% compared to 42% for the general population. Montana low-income families pay 58% of their income at community colleges, compared with 48% nationally.
- Virtually every other state in the US has a substantial need-based aid program. Perhaps the most visible is the Georgia Hope Scholarship program, which has been credited with reversing the 'brain drain' occurring in that state. Montana is far behind every other state in the region in the amount of need-based aid provided our students.
- Low state support for education: Two-year education at community and technical colleges should be a low-cost point of access for all students. However the average Montana family pays 25% of its income at two-year colleges compared to 16% nationally. According to Measuring Up 2000, the state of Montana receives a grade of "D-" when it comes to affordability. In 2002, the affordability grade sank to F.

Proposed Solution: Both the perceived low value of education and the perception of educational affordability must be addressed:

- Develop and implement a 'social contract' for middle school students to directly stimulate student preparation, participation, persistence, and graduation rates. The 'contract' would guarantee a college education to *at least* a two-year degree to targeted students who agree to meet specific academic and social performance standards including completion of a rigorous high school core curriculum. Similar programs have been successful in Florida, Oklahoma, and Rhode Island.
- Emphasize outreach to tribal and community leaders. Develop and enhance partnerships, leverage resources and encourage community involvement in networks, counseling and support programs that help students develop and achieve positive personal habits and value education in their lives. Also, develop recommendations to increase enrollment for both tribal members and non-tribal members at the state's seven tribal colleges.

- Improve individual affordability of two-year education by covering 70% of the cost through state appropriations, 20% through local property taxes, and 10% through student tuition. Two-year education and lower division undergraduate course work should be the 'gateway' to higher education and must be priced to provide the broadest access to the greatest number of academically prepared students regardless of financial resources.
- Develop recommendations to generate private sector support for financial assistance programs designed to increase postsecondary education access and worker skills improvements.
- Develop a new state aid program for Montana residents only that fills the funding gaps for targeted students after all other available sources of financial aid are applied. It is crucial that the investment be large enough to offer real help to the state's most needy students.

State Investment: The State's potential investment will depend on the target established for increasing postsecondary enrollment. It is crucial that the investment be large enough to have a real and significant impact on the State's most needy students -- likely at least $5 million a biennium.

Return on Investment:

- Better life choices for students and families, who thus gain personally and contribute more to their respective communities.
- A decrease in the number of students age 16-24 who require academic recovery or postsecondary remediation, saving student and taxpayer dollars.
- Completion rates for traditional age post-secondary students would improve and the gap in completion rates between minority and non-minority students would decrease.
- Greater sustainability of existing efforts to improve access to higher education for Montanans. This proposal complements other Montana initiatives such as GEAR UP, and Montana Higher Education Grants (Baker Grants), but it does not duplicate them.
- Enhanced partnerships between K-12 and higher education.
- An enhanced reputation for Montana as a state that invests in its workforce. We compete with other states to attract and retain desirable business and industry.
- A more educated workforce that enables companies to start up, relocate, or open a branch facility in Montana.
- Higher employment rates and higher wages for Montana's people.

MUS – Montana Promotion Partnership

The MUS – Montana Promotion initiative is designed to increase revenues to both the university system and the rest of the state's economy through better collaboration of Montana's marketing resources. This initiative is described in more detail in this section

Proposed Action Item: Establish a partnership between the Department of Commerce, Montana Travel Promotion Division (MTP) and Montana University System to increase Montana promotion to out-of-state prospective students and alumni.

State Need: Out-of-state students who enroll at our campuses contribute to the economy through payment of tuition and living expenses. Alumni who return support the tourism economy while staying connected to their schools. Alumni who remain connected are more likely to contribute to a stronger Montana economy through investment of their talents and their resources in Montana.

Current Problem: MTP and the MUS both have well-developed promotional programs to encourage potential prospective out-of-state students, alumni, and visitors to visit Montana. However, coordination of these efforts can be considerably improved. In some cases, there is overlap in the intended target markets. By coordinating marketing efforts, both organizations will be more effective and efficient.

Proposed Solution: Form a partnership between MTP and the MUS that will:

- Provide MUS with data regarding state media purchases to help identify areas to focus out-of-state student recruiting efforts;
- Provide information outlining the profile of alumni who live outside Montana to help MTP identify productive locations for media buys;
- Utilize MTP produced Montana information and images when contacting out-of-state prospective students and alumni including reunion group promotions, etc.;
- Establish mutually valuable web links;
- Promote MUS events to attract more tourists and visitors; and
- Develop a plan to market and recruit non-resident students using targeted tuition wavers and assistance.

State Investment: The MTP/MUS partnership can be accomplished within current expenditure levels with the exception of targeted tuition wavers or assistance programs. A $1,000,000 annual state investment would support an additional marketing/recruiting campaign that could significantly increase out-of-state student enrollment.

Return on Investment: Recruiting 250 additional non-resident students each year with increased promotion and appropriate pricing could be an initial target. In that case, an annual investment of $1,000,000 over the next two years would return approximately $50,000,000 to the state economy over the next five years as students matriculating each of those years complete their studies.

Furthering state tourism and travel programs through increased exposure and penetration to the target market increases tourism spending in the economy and creates potential opportunities for new business locations in the state.

List of Project Participants

The following individuals participated in this Shared Leadership endeavor in some way.

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