

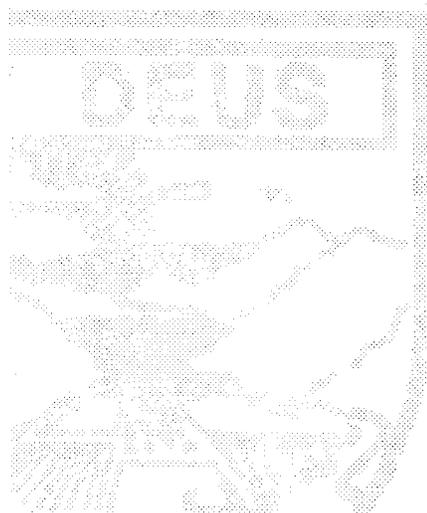
Public Private Partnerships

**External Review Committee
Arizona Board of Regents**

"Providing guidance and direction to the Board for privatization and partnership opportunities that transform and optimize the operations of Arizona's public universities."

Final Report and Recommendations

June 1999





ARIZONA BOARD OF REGENTS

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July 22, 1999

Ms. Tami Stowe
Joint Legislative Audit Committee
Arizona House of Representatives
1700 West Washington
Phoenix, Arizona 85007

Dear Ms. Stowe:

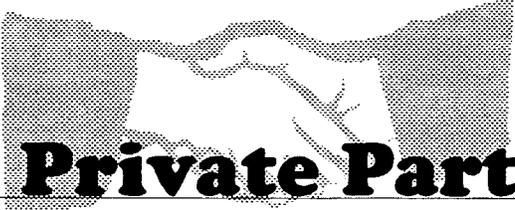
As promised, and in fulfillment of the requirement to follow up to the Auditor General's audit on universities' auxiliary enterprises, the Public Private Partnership External Review Committee has completed its work. The Committee issued a report to the Board at its June 25, 1999 meeting and the report was adopted at that time. It is enclosed for your information.

Please call me at 229-2515 if I can answer any questions.

Sincerely,


Anthony Seese-Bieda
Assistant Executive Director
for Public Affairs

enclosure



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Public Private Partnerships

**External Review Committee
Arizona Board of Regents**

The External Review Committee of
Public Private Partnerships

Final Report and Recommendations

To the Arizona Board of Regents

June 1999

Table of Contents

Introduction	Page 1
Overview of Process	Page 4
Legal & Regulatory Impediments	Page 5
New Opportunities	Page 10
Bench Marking	Page 12
Evaluation & Accountability	Page 15
The New Model	Page 17
Uses of Funds-Arizona Universities	Appendix A
Survey of Outsourcing/Privatization in Universities	Appendix B
Outsourcing in the Private Sector	Appendix C
Sample Partnerships at Arizona Universities	Appendix D
Risk Opportunity Management Process	Appendix E
Committee Charge, Objectives, Agendas and Roster	Appendix F

**FINAL REPORT AND RECOMMENDATIONS OF THE EXTERNAL REVIEW COMMITTEE
FOR PUBLIC PRIVATE PARTNERSHIPS**

The Arizona Board of Regents
June 1999

“Providing guidance and direction to the Board for privatization and partnership opportunities that transform and optimize the operations of Arizona’s public universities.”

Chair of the Committee: Warren Rustand, CEO Rural Metro Corp. (retired). **Members of the Committee:** Dave Areghini, Salt River Project; Wayne Benesch, Byrne, Benesch & Walsma, P.C.; John Bouma, Snell & Wilmer; Pat Cantelme, United Phoenix Firefighters Assn.; Leslie Carpenter, Marriott Residence Inn; Durrell Hillis, Motorola; Bill Hochgraef, Motorola (retired); Olden Lee, Pepsico (retired); Jan Leshner, Leshner Communications; Robin Parke, Robin E. Parke Engineers (retired); Bill Pope, Sunchase Holdings; Jennifer Reichelt, Student Regent.

Advisory Members of the Committee: Tom Browning, Greater Phoenix Leadership; Paul Frost, Student, ASU; Steve Grunig, Joint Legislative Budget Committee; Mernoy Harrison, ASU; Dave Lorenz, NAU; Tony Seese-Bieda, ABOR; Tara Taylor, Student, UA; Joel Valdez, UA; Kim Van Pelt, Office of the Auditor General; and Jeff Young, Office of Strategic Planning and Budgeting.

INTRODUCTION

During more than seven months of examining and evaluating the climate for enhanced partnerships between Arizona’s university system and the private sector, the External Review Committee developed a foundation of understanding for the challenges and risks facing the institutions as they explore new ways to operate and serve their primary missions. Numerous interviews with the leadership and top administrators from all three universities helped to bring into focus the political and resource issues that must factor in to any discussion of privatization, outsourcing and partnerships with private companies.

Based on those interviews and deliberations, the External Review Committee believes a prescribed set of assumptions must be attached to the planning and development of public private partnerships involving Arizona State University, the University of Arizona and Northern Arizona University.

Those general assumptions are:

- That the emerging marketplace for higher education is competitive and will become progressively more competitive. In order for the Arizona public universities to succeed in that environment, they may need to embrace, with urgency, a plan to accomplish full transformation and change.

- That a strong economic climate and population growth will continue driving Arizona's higher education marketplace. That assumption has profound implications in terms of demographic trends, enrollment demand, customer expectations and the conditions with which funding and resources are provided by public and private entities.
- It is in the best interest of the universities to identify and develop tri-university initiatives that fully leverage the critical mass and economies of scale of the entire university system. Whenever possible and appropriate, a tri-university approach will attract different and potentially more capable private sector partners than any single university can attract on its own.
- Overall, the university system must consider and embrace partnership opportunities because of their potential to produce positive outcomes for the institutions, including optimizing operations and transforming the way resources are utilized by the institutions.

In addition to those general assumptions, the ERC on public private partnerships observed **recurring themes and messages** that resonated through various discussions, debates and presentations. Those observations are conveyed in specific and contextual terms in the subcommittee recommendations that follow this section. However, as broad elements of the committee's work, they are offered as follows:

- The University system should consider becoming more pro-active in shaping a legal and regulatory climate that lowers the legal and regulatory barriers inhibiting university system creativity and flexibility, particularly as it relates to the formation of partnerships with private sector entities.
- The Board should consider requiring an incentive system for efficient management of the university system, including individual incentives for leadership and top administrators. Furthermore, the Board should review and seek means to avoid situations that lead to disincentives.
- Notwithstanding the need for the universities to retain autonomy of mission and purpose, they should revisit the notion of developing a common selection, evaluation and decision process for reviewing and deciding public private partnership opportunities.

The ERC on public private partnerships applauds the progressive and capable leadership of the universities and acknowledges the efforts made to date in making outsourcing, privatization and partnerships with the private sector integral to the institutions' operations and planning initiatives. Some of that progress has been encouraged through political pressure. Much has occurred because of a recognition that privatization can be valuable for operational reasons.

In general, the committee believes the university system should continue exploring opportunities to create partnerships with each other and the private sector for the following reasons:

Improving access to capital and other strategic resources. Many private sector partners bring tremendous financial resources to the table, including the ability to invest in capital assets and a capacity to make operating grants, provide gifts and engage in contracts that produce incremental revenue.

Enhancing the ability of the universities to develop new sources of revenue. Partnerships with private sector entities are necessary if the universities are to realize the full potential of marketing some elements of their identity. When appropriate, those partnerships can enable the universities to diversify their base of resources.

Spreading risk over a broader base. Marketing initiatives can be risky and are generally subject to extreme competitive pressures. Partnerships with private entities enables some of that risk to be shared with partners who are adept at managing risk and anticipating competitive obstacles.

Gaining knowledge and information from the private sector. Beyond financial resources, the private sector has significant resources to offer in terms of management expertise, information resources development, organizational science and other disciplines that are common to all large technology-linked institutions.

Facilitating improvement in the transfer of science and technology to the commercial sector. The private sector has an interest in gaining access to innovation and leading-edge technology in order to enhance competitive advantage and to serve customers and clients more effectively. To the degree university research produces commercially applicable innovations, it should be recognized and encouraged as fundamental to effective partnerships.

Creating joint marketing and public relations efforts that enhance the perception of quality. By association in marketing and public relations initiatives, the reputation and profile of the universities can be enhanced when they form effective partnerships with private sector entities that stand for quality, strong performance and competitive operations.

OVERVIEW OF PROCESS

The assumptions, themes and benefits of public private partnerships enumerated above flow through the specific recommendations of the subcommittees, which tackled specific issues and situations in greater detail. The five subcommittees – Legal & Regulatory Impediments, New Opportunities, Bench marking, Evaluation & Accountability, and The New Model for Public Private Partnerships – engaged university officials, technical experts, members of the Board’s Central Office Staff and the Auditor General’s Staff in discussions of how to address the issues facing the universities.

Information and data was collected from the institutions, from national comparative data sources, from institutional documents and reports and from direct observation and dialogue.

The following represents the careful deliberations and evaluation of those subcommittees over a period of several months. The recommendations and observations are intended to be thought-provoking, fresh, and hopefully “outside of the box.” They represent a sincere desire by the ERC on public private partnerships that they provide the Arizona university system with options and rationale to more fully pursue the potential benefits associated with fully developed private sector partnerships.

REPORT ON LEGAL & REGULATORY IMPEDIMENTS

'A number of legal impediments affect the ability of the state's universities to conduct business in an efficient and effective manner. This subcommittee was formed to explore the alleged legal impediments as they may relate to the universities engaging in outsourcing, privatizing and partnering with private enterprise.'

A number of legal impediments affect the ability of the state's universities to conduct business in an efficient and effective manner. This subcommittee was formed to explore the alleged legal impediments as they may relate to the universities engaging in outsourcing, privatizing and partnering with private enterprise.

Four (4) areas of concern were identified and have been addressed by the sub-committee as follows: Prohibition Against Stock Ownership; Inability to Use Design-Build in Construction Projects; Competition with Private Enterprise; and Inability to Grant Indemnity.

Prohibition Against Stock Ownership

The Arizona Constitution, Article 9, Section 7, prohibits state ownership of stock or participation in partnerships. A narrow interpretation of this provision prevents universities from negotiating development arrangements in which promising, although unproven, university technology would be developed and marketed by a non-state party. There may be instances in which a private developer wishes to engage in an equity arrangement for development of the technology. Because the constitutional prohibition is so broad, the universities are generally prohibited from these types of transactions.

This narrow approach in the interpretation of the Constitutional Provision significantly inhibits the ability of the universities to engage in effective partnering, thereby losing the possibility of generating substantial revenue. Many other state university systems are able to engage in this type of revenue generating activity in the absence of such constitutional or statutory proscriptions. For example, the University of California system has adopted policies and guidelines permitting the transfer of technology for equity ownership in start-up companies, thereby generating large amounts of revenue for the universities. California does not have constitutional or statutory provisions such as Arizona.

Recommendation:

1. A carefully drawn statute that would prohibit the use of State general fund dollars for these types of investments but would permit the exchange of the university technology or intellectual property for equity interest in a corporation, would not run afoul of the intent of the constitutional prohibition and would likely be upheld by the courts. The statute could be drafted either describing the types of transactions that are to be permitted, or by describing the types of transactions that are to be prohibited. The latter method would probably be better for the universities, but either method would suffice. Agreements between universities and private equity partners should be structured to best protect the university's technology or intellectual property rights in the event of bankruptcy or financial failure of the partnership.

Inability to Use Design-Build Concept in Construction Projects:

The Board of Regents Procurement Code for the universities, which substantially reflects the Procurement Code, does not make clear whether the universities can engage in design-build construction, a method of construction that is less cumbersome and costly than current methods used for procuring construction projects. A pilot project authorized by the Legislature is under way enabling various departments within the state to engage in design build projects. Most notably the Department of Transportation has successfully completed one or more projects at significant savings to the taxpayers. The universities have not been explicitly included in the list of departments authorized to engage in the pilot program, but the Board of Regents ("ABOR") has authorized a pilot design-build project at the University of Arizona which is currently underway. The design-build concept appears to be beneficial from a financial point of view, and enhances the ability of the universities to engage in partnering to do capital projects.

Recommendations:

2. Suggest to the Legislature that the universities and ABOR be explicitly included in the legislatively authorized pilot project currently under way.
3. Suggest the Board of Regents encourage the universities to explore and where appropriate, engage in design-build projects.
4. Suggest the Board of Regents and the universities explore the appropriate use of the construction manager at risk concept for construction projects.

Competition with private enterprise statute - A.R.S. 41-2753.

This statute limits the ability of universities to engage in business activities which would compete with local businesses in the community. The statute is being interpreted to severely limit the type of items which may be sold in university book stores. The universities believe that this statute does not prohibit them from outsourcing the book store function, presumably on university property. The statute could come to bear on a hypothetical situation that is not anticipated to occur. Specifically, if and when the universities have excess capacity of physical facilities, and wish to lease some of that capacity to private firms, the lease could lead to lawsuits claiming violations of the statute. Both the statute and the manner in which it is interpreted significantly limit the ability of the universities to generate additional revenues.

While the statute creates an impediment to the universities in operating their own businesses, it is not an impediment to outsourcing. In fact, it would appear to serve as a good reason for the universities to outsource through a bidding process enabling all to compete.

Initial review suggests that the universities may be interpreting the statute too narrowly. This narrow interpretation seems to reflect concerns for socio-economic factors which are presently given greater weight than the need for universities to generate additional revenues. Given this concern for socio-economic factors, and the resulting narrow interpretation of the statute, it appears that the statute almost compels outsourcing in order to maximize the ability of the universities to generate revenues. This would result in a bidding process to enable private contractors to operate in on-campus facilities, and those private businesses would not be inhibited by the statute, as are the universities.

Recommendations:

5. The universities should adopt more liberal interpretations of the statute. By broadening the ability to compete somewhat, the universities could generate additional revenues while not seriously impacting the neighboring business community. The universities would then be better able to make individual, informed decisions about whether to retain functions and compete with private enterprise, or to outsource.
6. Contract to outsource the services. This would be the result of a bidding process which would generate the highest revenues for the universities, and the best protection for the students. This would likely have a negative impact on surrounding businesses who were not successful in the bidding process. Perhaps if businesses (and Chambers of Commerce) were more aware of the outsourcing option, and its potential consequences, they might not be so critical of competition by the universities. It may be appropriate to revisit the entire subject in light of changes in circumstances since the statute was originally adopted.

7. Suggest to the Legislature the statute be amended to specifically authorize universities to lease excess and unused capacity of facilities, if and when such excess exists, by the private sector for fair market value, under guidelines to be established by the Board of Regents.

Inability of Universities to Grant Indemnity

A 1967 Attorney General Opinion interpreting A.R.S. 35-154 construes that statute to prohibit indemnity agreements. Additionally, the Arizona Department of Administration Risk Management Division construes the State Risk Management Statute (A.R.S. 41-621) to exclude from potential coverage under the State Risk Management Insurance Statute, any non-state persons or entities.

In private industry, indemnity agreements from one company to another are commonplace. For example, one business may agree to provide equipment or services to another on a favorable basis provided that the recipient agrees to defend and indemnify against any claims that may arise as a result of the use of equipment or services. The State is not able to do this. This results in substantial problems in two areas:

- A. Gifts of Equipment - Both the federal government and private industry occasionally make valuable equipment available to the universities on a gift basis. However, the donor usually wants a promise from the university that if a lawsuit arises as a result of the universities use of the donated equipment, the university will defend both itself and the donor. The universities are currently unable to give this type of assurance.
- B. Collaborative efforts - The university and another institution of higher education (or private corporation) may agree to collaborate in the construction and operation of a highly technical instrument that neither party by itself could afford to own or operate. Each party contributes funds, expertise and specially manufactured equipment. The most economical method of insuring is for the piece of equipment and its operation to be covered by a single insurer, which makes irrelevant who contributed the equipment or who happens to be operating it at the time the loss occurs. However, State Risk Management's position has been that it will only cover State university interests and the collaborator must insure itself at additional expense.

Recommendations:

8. Under no circumstances should the universities agree to indemnify another party for a defect in equipment that is gifted to the university. However, a university should be able to indemnify on an active/passive basis. Even with the current statute in place, revisiting the issue might enable the state to permit indemnification against everything except the gifting or collaborative party's sole negligence. Additionally, State Risk Management could review its interpretation of the statute and take a broader view (although within legally permissible limits) so that activities or property necessary to the "business of the state" can be covered by State Risk Management even though not state owned or performed by state employees.

REPORT ON NEW OPPORTUNITIES

'This subcommittee focused on developing and proposing a list of new opportunities for potential partners for privatization and increased access to capital that the Arizona public universities should consider'

Arizona's universities have explored a variety of auxiliary enterprises and non-core functions as candidates for expanding public private partnerships, outsourcing and privatization. Some of those functions are large in scope and intense in terms of resources; others are small and of little significance in terms of fiscal impact. A review by the ERC indicates that more can be done to explore partnerships to perform functions that entail substantial capital, operating and managerial resources. The universities are encouraged to spend more time and attention "fishing where the fish are" . . . exploring private partnerships for functions that, if successful, may create significant costs savings for the universities, enhanced operational effectiveness, or both.

The "new opportunities" fall into the following categories: physical plants, technology transfer, and university support systems, including information technology, fleet maintenance, student housing and health care.

Recommendations

9. The universities should consider expanding the involvement of the private sector in the management and maintenance of their buildings, grounds, facilities and infrastructure. For example, full consideration should be given to the possibility of contracting with private sector vendors for buildings to be brought to minimum health, safety and operational requirements, and to maintain the structures on an ongoing basis
10. The university system might explore selling existing structures in its portfolio and leasing back the facilities in order to free up capital, operating resources and managerial expertise. The system should explore selling buildings to a pension fund or other yield-oriented entity; the lease back would be negotiated at a reasonable cap rate with a ground lease to building purchaser.
11. The universities should explore "build to suit" for new construction on university-owned land and structure bids so that a "turnkey" outcome is achieved for new buildings, where the equipment, furniture and amenities of the structure are part of the proposal.
12. Regarding the development and transfer of technology, the universities should standardize and monitor royalty driven research and joint development ventures with private organizations in order to maximize the potential for revenue. An initiative that would enable such standardization is the creation of a common system for managing technology transfer, thereby spreading patent development costs, administrative costs and marketing costs over a broader base.

13. The universities may want to explore creating a joint venture capital company with university system participation in order to facilitate the public sale of securities to raise capital. Access to venture capital continues to be a significant inhibitor for the effective transfer of technology to entrepreneurs and spin-off companies in the Southwest.
14. Information technologies are an area of great potential for private partnerships. Private entities bring substantial capital, operational expertise and a bias for innovation to the planning and deployment of computer systems in large organizations. The university system needs to more fully explore how partnerships with information technology companies can help the institutions transcend the incremental way they currently adopt and deploy new technology for delivery of education, management of resources, and as a key component of managerial decision-making processes.

REPORT ON BENCH MARKING

'This subcommittee focused on developing and analyzing data for the purpose of bench marking the Arizona universities' efforts to privatize, outsource and engage in effective partnerships with private sector entities.'

As input into a determination of the status of public/private partnerships and outsourcing at the three public Arizona universities, Arizona State University, Northern Arizona University and the University of Arizona, the Public Private Partnership-External review Committee of the Arizona Board of Regents (PPP-ERC) created a sub-committee to develop and evaluate data available for the purpose of bench marking the Arizona universities' efforts.

Financial Data

Total expenditures by the universities exceed \$1.8 billion. Approximately 70% of those funds are expended on instruction, research and community service activities which are core functions for the universities, and scholarships for students. The University Presidents have concluded, and the PPP-ERC has agreed, that these functions should not be considered for outsourcing. Indeed, after considering the range of university activity and the functions which either should or should not be outsourced, it is the consensus of the subcommittee that the majority of effort should be used to explore public/private partnership opportunities and ways to facilitate them.

Appendix A presents the distribution of financial expenditures.

Outsourcing Data

The results of the Wertz Survey for Higher Education, a quantitative outsourcing bench marking effort among 156 colleges and universities with over 10,000 students, was reviewed by the subcommittee. The report covered 70 functions and services that have created opportunities for outsourcing, from admissions to workers' compensation programs. The outsourcing efforts of ASU, U of A and NAU were compared with the results from this survey. In addition, a survey was conducted of the universities represented by the Rocky Mountain Business Office.¹ It was determined that the three Arizona universities outsource fully or partially over 50 of the 70 functions or services identified in the Wertz survey. Appendix B represents the results of the surveys.

Information on outsourcing by private corporations was obtained from the Outsourcing Institute. The most frequently outsourced areas by corporate executives and the areas being considered are listed in Appendix C.

¹ Rocky Mountain Business Officers membership includes the following universities: ASU, UofA, NAU, University of Colorado-Boulder, University of Utah, Utah State University, Weber State University, University of New Mexico, New Mexico State University, University of Idaho, Idaho State University, University of North Dakota, Washington State University, University of Oregon, Oregon State University, University of Montana, Montana State University, University of Texas-El Paso, Portland State University, Arkansas State University, University of Nevada-Reno, Portland State University and Boise State University.

It was also observed by the subcommittee that the three universities have in place adequate processes and expertise to evaluate outsourcing opportunities. It is the consensus of the subcommittee that, in fact, the universities have made substantial progress in outsourcing.

It should be noted, however, that there is no data that the subcommittee could access that qualitatively bench marks outsourcing efforts.

Public/Private Partnerships

Data was collected from the universities about their current partnerships. These partnerships range from collaborations with other universities in the delivery of degree programs to agreements for the development and use of new technologies. In order to narrow the range of investigation to something manageable, the subcommittee defined a partnership as follows:

A partnership is a relationship between a university and a private sector organization developed and sustained to leverage the resources of one or both to increase the overall impact of one or both organizations.

The subcommittee spent a significant portion of its time brainstorming about forms of partnerships with the potential for greater financial impact. Three of the most significant and unique university public private partnerships and outsourcing activities are described in Appendix D. Also provided is a listing of some representative partnerships between private organizations and the Arizona universities.

A visit was made to a private university similar in many respects to ASU and U of A. This visit was made to investigate approaches that the private university might be using that would benefit the Arizona universities. In summary, the visit revealed that the private university used a formal RFP process to seek out strategic partnerships to accomplish particular institutional goals. One example is the use of a partnership with a major health care provider to build and operate a medical care facility needed by the university to take advantage of faculty expertise and to facilitate research in the area of expertise.

A significant part of the research performed by the Arizona universities is done in partnerships with private corporations. Of the total research expenditures of \$191 million, \$36 million is funded by private corporations.

Developing Public/Private Partnerships

The Risk and Opportunity Management: A Value Based Management Approach, developed by David Gledhill of Motorola's Systems Solutions Group, and Dan Brooks, of Applied Decision Analysis, Inc., is a way of evaluating the universities' partnership alternatives. The process would be a way of identifying the upsides and downsides of collaborations and the results could be the basis of recommendations for legislative and procedural enhancements.

The subcommittee concluded that a key component to a successful partnership is a careful delineation of commitments and expected outcomes, parameters for measuring its success and reporting the performance of the partnerships

The recommendations of the subcommittee on bench marking are as follows:

15. The universities should focus their energies on the development of partnership opportunities, since all university resources can be impacted. A focus on outsourcing will impact at most 30% of university resources.
16. In developing partnerships, the universities should carefully delineate commitments, expected outcomes, parameters for measuring success and then report on the performance of the partnerships.
17. The rationale for outsourcing and partnering should be to leverage the resources of the university to increase the overall impact of one or both organizations.

List of References

In developing the data for bench marking, the subcommittee identified a number of easily accessible information sources to assist in outsourcing and partnering efforts. These include:

- ASU Web Page - www.asu.edu
- Outsourcing Institute Web Page - www.outsourcing.com
- Everest Outsourcing Web Page - <http://www.outsourcing-mgmt.com/>
- Outsourcing Search Web Page - <http://www.outsourcing-search.com/>
- Outsourcing Center Web page - <http://www.outsourcing-center.com/>
- Outsourcing Experts Web Page - <http://www.outsourcing-experts.com/>

REPORT ON EVALUATION AND ACCOUNTABILITY

'Each of the three universities has a documented process for assessing the merits of outsourcing, privatizing and partnering to reduce costs or increase value. The primary focus of this subcommittee has been on outsourcing with some consideration of partnering and privatizing. The efforts to date should be considered work-in-progress as each university is in the early stages of doing things differently.'

It is apparent that the three universities have the ability to research alternatives that can reduce costs and/or improve service. It does not appear that the incentives exist for university officials to pursue alternatives in outsourcing, partnering and privatizing. The fear is that any money saved will be taken away in a subsequent budget. The processes for making the right decisions exist. External concerns and a lack of incentives are obstacles to those decisions being made.

Recommendations

The following recommendations are made regarding the processes the three universities' use for assessing and implementing outsourcing, partnering and privatizing. The recommendations are made regarding an initial process and ongoing process.

18. For purposes of evaluation and accountability, all activities performed by the universities should be identified. This includes auxiliary enterprises and non-core functions, but it includes functions specific to the delivery of education, including instruction, research and public service. Activities that are core competencies should not be considered for outsourcing, privatizing or partnering, although some aspect of an activity may be. For example, instruction may be identified as a core competency, but adjunct faculty could continue to be utilized.
19. A threshold level of savings should be established. If the preliminary economic assessment does not indicate the threshold can be achieved, a change in the method of providing the service or product should not be pursued.
20. The process for pursuing privatization opportunities and accountability should include incentives for the universities to pursue outsourcing, privatizing and partnering.
21. To be effective and productive, only a few items that meet the threshold level should be evaluated by the universities, rather than pursuing numerous alternatives. Those selected should have bench mark data that can serve as a baseline.
22. Although the universities appear to have the capability to implement the processes described here, it may be beneficial to employ consultants from outside the university to more fully develop the options and explore creative implementation alternatives.

23. An evaluation team should be created to administer the process and should include, among others, a financial expert, the manager responsible for providing the product or service, a customer member, a community member and a senior staff university member. This team should be accountable to the president of the university.
24. An evaluation period of at least one year should be established. At the end of this period, performance should be compared to bench mark data. The data should include economical data as well as customer assessment.
25. Before embarking on a change in method of providing a service or product, a detailed economic analysis should be completed. Care must be taken to ensure that all costs are considered. For example, if a contractor is utilized, the cost of monitoring the contractor should be considered.
26. The universities should continue monitoring what other colleges are doing and collect data on the effective privatization of functions and operations.
27. Legal concerns must be considered. Relaxation of legal and regulatory obstacles should be pursued if doing so could result in significant benefits.

REPORT ON “THE NEW MODEL”

‘The subcommittee on the new model for public private partnerships considered the full range of issues and options explored by the institutions and the subcommittees. The result is a foundation from which innovation and creativity may spring.’

Embracing partnerships with the private sector in order to transform the operations of the universities is an important opportunity, one that involves risks and rewards and that exposes the institutions’ strengths and weaknesses. The ultimate challenge is for the universities and the Board to be able to visualize how the transformation of the institutions might look, feel and behave, assuming that such a transformation can be accomplished.

The following is a list of characteristics that the ERC believes represent a “new model” for privatization and outsourcing at Arizona’s universities. They are meant to be preliminary and general, not all-inclusive or ultimate. However, they represent the things the leadership of the system should be looking for as they encourage the universities to transform their operations through the effective use of public private partnerships.

Characteristic of the New Model:

- Pro-active, deliberate and methodical. The universities should demonstrate through their initiative that publicprivate partnerships are top-of-mind options to solve operational issues, rather than obligatory responses to mandates.
- Entrepreneurial, creative, engaging and inclusive. The potential for adding value to university operations through public-private partnerships is best realized by engaging the creativity and imaginations of the institutions best and brightest. These initiatives should be viewed as an occasion for recreating the university, rather than making marginal adjustments.
- Reflects and demonstrates commitment to create a great university system. Outcomes and processes of the new model should be well grounded in a broad commitment to accomplish a quantum leap improvement in the quality and effectiveness of the university system. Champions of specific initiatives should be prepared to defend their initiatives on the basis of how they advance the cause of quality and greatness.
- Accountability measures will become systematic, fully developed and refined and will be triggered according to specific time lines and reporting cycles. The annual report on competitive government activities, for example, will be supplanted by more robust, periodic information that more fully defines the depth and scope of university privatization and partnerships.

- Will contain acute communications component to give the initiative profile and support. The New Model deserves high-profile support and reinforcement, through a variety of internal and external communication vehicles and events. The New Model of public private partnerships should not attain the status of a well-kept secret.
- Will reflect alignment with mission statement and strategic goals of the university system and the tri-university community. The operating processes and goals of the universities' various departments will include reference to privatization and partnerships as ways to achieve success and transform cost structure, operating outcomes and effectiveness.



APPENDIX A

USES OF FUNDS

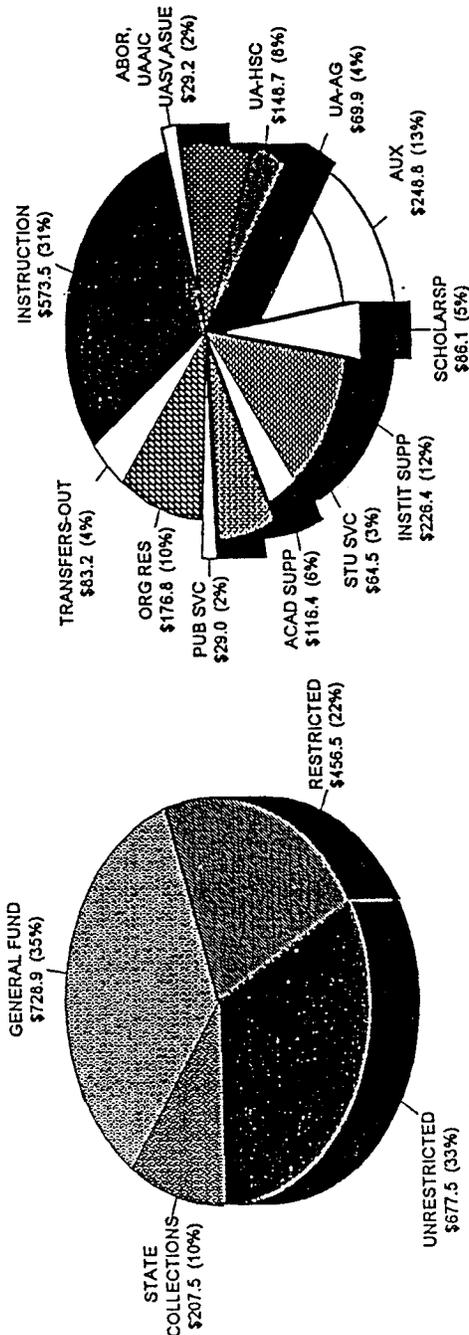
ARIZONA UNIVERSITIES

	A	B	C	D	E	F
1	Arizona University System -- Uses of Funds FY99: Major Campus Entities*					
2						
3	(In Millions)	ASU	NAU	UA	Totals:	% of Total
4						
5	Instruction	\$340.00	\$83.10	\$167.50	\$590.60	37.52%
6	Organized Research	\$24.40	\$12.10	\$154.60	\$191.10	12.14%
7	Public Service	\$9.70	\$11.00	\$10.10	\$30.80	1.96%
8	Academic Support	\$59.10	\$16.00	\$48.80	\$123.90	7.87%
9	Student Services	\$28.80	\$15.40	\$21.50	\$65.70	4.17%
10	Institutional Support	\$93.60	\$36.70	\$102.10	\$232.40	14.76%
11	Scholarships, fellowships	\$40.90	\$14.60	\$38.20	\$93.70	5.95%
12	Auxiliary Enterprises	\$68.30	\$36.10	\$141.70	\$246.10	15.63%
13						
14	Totals:	\$664.80	\$225.00	\$684.50	\$1574.30	100.00%
15						
16						
17	*Excludes Sierra Vista, Agriculture College, Arizona International College, Health Sciences Center					
18						
19						
20						

Board Meeting
June 26, 1998
Item # 9
Page 4 of 51

EXECUTIVE SUMMARY

Arizona University System
All Funds Operating Budget Summary
Initial - FY99
(Dollars in Millions)



Uses
\$1.87 Billion

Sources
\$2.1 Billion



APPENDIX B

SURVEY OF
OUTSOURCING/PRIVATIZATION
IN UNIVERSITIES

Function/ Service	% PRIVATIZED					PRIVATIZED (Identified with "X")			
	Total Respondents	Public Institutions	Over 10,000 Students	Colleges & Universities Over 10,000		ASU	UOFA	NAU	RMBO (11/22)
Admissions	.003		0	156	0%				
Architectural & Engineering	81	75	59	88/149	59%	X (Partial)		X	4
Asbestos Removal Project	92	88	80	119/149	80%	X		X	8
Athletic Concessions	29	36	48	64/134	48%	X (Food)		X (Partial)	4
Auditing & Accounting	35	30	16	24/154	16%	X (Partial)		X (Partial)	3
Banking	74		75	104/138	75%	X	X	X	6
Beauty Salon/Barber	59	46	86	30/35	86%	X		X	6
Benefits Admin/Operations	8		8	13/153	8%				2
Bookstore	36		55	61/110	55%				3
Campus Future Planning	24		21	32/153	21%	X (East) (Partial)			3
Career Services	1		1	2/151	1%				
Cinemas/Theaters	5		8	5/59	8%		X (Partial)		1
Classification/Compensation	6		5	7/154	5%				2
Coliseum/Arena Management	6		7	7/106	7%				
Computer Centers	4		1	2/156	1%				
Conference Centers	5		5	6/109	5%				
Conference Service/Management	7		6	7/116	6%				
Construction Projects	67	86	39	94/155	39%	X (Partial)	X (Partial)		9
Copier Machines	34	30	34	53/155	34%			X	
Counseling Centers	5		.006	1/153	.006%				
Day Care Centers	22		19	23/122	19%	X (Partial)	X	X	4
Employee Assistance Programs	38		36	51/142	36%	X (West)			2
Employee Training Programs	14	10	5	8/152	5%	X (Partial)	X (Partial)		3
Energy Conservation	24		14	21/148	14%	X (Partial)	X		1
Faculty Clubs	15		22	13/60	22%	X (Partial)			1
Games/Amusement Center	38		45	49/110	45%	X (Partial)	X (Partial)		3
Golf Courses	34	32	26	10/38	26%	X			

Function/ Service	% PRIVATIZED					PRIVATIZED (Identified with "X")			
	Total Respondents	Public Institutions	Over 10,000 Students	Colleges & Universities Over 10,000		ASU	UOFA	NAU	RMBO (11/22)
Grounds	12	7	7	11/154	7%	X (East)	X		
Hazardous Waste Removal	81	77	62	95/153	62%	X	X	X	6
Health & Safety Services	12	8	1	3/153	1%	X (Partial)		X (Partial)	2
Housekeeping	23	18	19	29/152	19%	X (Partial)	X (Partial)		2
Housing Facility Building	25		34	36/107	34%	X (East)			
Housing/Operations	3		5	6/112	5%	X (East)			
Identification Cards	4		5	8/150	5%				
Institutional Food Service	71		63	96/151	63%	X	X (Partial)	X	5
Institutional Research	2		2	4/154	2%				
Laundry Machines	62	52	50	55/108	50%	X	X	X	4
Law Enforcement and Safety	16	12	8	12/155	8%	X (East) (Partial)			1
Mail Service/Post Office	5		6	10/154	6%	X (East) (Partial)	X (Partial)	X (Partial)	3
Maintenance	9		6	10/157	6%	X (East)	X (Partial)	X (Partial)	2
Motor Pools	5		6	9/147	6%		X (Partial)	X (Partial)	1
Parking Admin/Enforcement	6		3	5/153	3%				
Parking Garage	10		9	6/69	9%				
Payroll Services	15	4	1	3/155	1%		X (Partial)		
Physical Plant Financing	27	20	17	23/137	17%			X (Partial)	2
Placement Centers	1		.007	1/143	.007%	X			
Press	13		12	15/123	12%				
Printing/Publications	32		23	29/154	23%	X (Partial)	X (Partial)	X (Partial)	5
Real Estate Development/Oper	23		17	16/96	17%	X (Partial)			1
Recycling Programs	23		23	34/149	23%			X (Partial)	3
Research Waste Removal	100		93	68/73	93%	X		X	4
Retail Store/Shopping Area*	46	39	55	29/53	55%			X	5
Retirement Programs	38	28	30	45/152	30%	X (Partial)		X (Partial)	6

* Retail Center Managed by ASU. Tenants from Private Sector.

Function/ Service	% PRIVATIZED					PRIVATIZED (Identified with "X")			
	Total Respondents	Public Institutions	Over 10,000 Students	Colleges & Universities Over 10,000		ASU	UOFA	NAU	RMBO 11/22
Security	16		8	13/155	8%	X (Public Events) (East)			
Student Financial Aid	1		0	157	0%				
Student Health Centers	13	8	4	5/132	4%				2
Student Housing Staff/Programs	2		4	4/110	4%				
Student Loan Collections	46	41	35	52/150	35%	X	X (Partial)	X (Partial)	6
Student Unions/Operations	2		2	3/142	2%				1
Textbook Publishing	83		70	41/59	70%				3
Trademark/Licensing	37		33	39/119	33%	X (Partial)	X (Partial)	X	2
Travel Agencies	93		89	85/95	89%	X		X	8
Tuition Plans	36	25	30	31/103	30%			X (Partial)	1
Unemployment Compensation	36		31	44/141	31%		X (Partial)		3
Vending Operations	81		81	126/156	81%	X		X	7
Video Game Machines	77		72	90/125	72%	X			4
Waste Removal	81		64	99/154	64%	X	X	X (Partial)	2
Worker's Comp Programs	44	35	29	44/154	29%				5

**Colleges and Universities
Privatized Services**

	Over 10,000		5,001 to 10,000		1,000 to 5,000		Under 1,000	
	#	%	#	%	#	%	#	%
Admissions	156	0	139	0	2/414	.005	1/204	.005
* Architectural & Engineering	88/149	59	100/131	76	306/338	90	123/139	88
* Asbestos Removal Projects	119/149	80	116/126	92	335/356	94	139/143	97
* Athletic Concessions	64/134	48	40/95	42	57/273	26	15/103	15
Auditing & Accounting	24/154	16	34/136	25	169/409	41	86/204	42
* Banking	104/138	75	95/117	81	255/338	75	96/149	64
* Beauty Salon/Barber	30/35	86	9/14	64	16/36	44	1/7	14
Benefits Administration/ Operations	13/153	8	9/136	7	34/412	8	14/198	7
* Bookstore	61/110	55	61/135	45	153/411	37	52/196	26
Campus Future Planning	32/153	21	36/134	27	103/405	25	36/186	19
Career Services	2/151	1	133	0	5/398	1	3/177	2
Cinemas/Theaters	5/59	8	2/30	7	1/57	2	1/21	5
Classification/Compensation	7/154	5	11/135	8	23/401	6	9/185	5
Coliseum/Arena Management	7/106	7	2/52	4	8/131	6	2/36	5
Computer Operations	2/156	1	6/139	4	17/414	4	12/202	6
Conference Centers	6/109	5	5/70	7	11/235	5	5/93	5
Conference Service/Mgt.	7/116	6	5/80	6	18/252	3	7/93	8
* Construction Projects	94/155	39	92/137	67	278/406	68	120/175	69
* Copier Machines	53/155	34	50/138	36	134/409	33	77/205	38
Counseling Centers	1/153	.006	2/135	1	16/394	4	22/164	13

	Over 10,000		5,001 to 10,000		1,000 to 5,000		Under 1,000	
	#	%	#	%	#	%	#	%
	23/122	19	22/92	24	48/183	26	6/36	17
* Day Care Centers	23/122	19	22/92	24	48/183	26	6/36	17
* Employee Assistance Programs	51/142	36	46/120	38	120/290	41	36/107	34
Employee Training Programs	8/152	5	11/134	8	57/385	14	47/168	28
Energy Conservation	21/148	14	34/132	26	90/356	25	48/147	37
Faculty Clubs	13/60	22	6/23	26	10/83	12	4/38	11
* Games/Amusement Center	49/110	45	37/95	39	94/244	38	30/97	31
* Golf Courses	10/38	26	2/7	29	15/34	44	4/9	44
Grounds	11/154	7	12/139	9	48/409	12	30/197	15
* Hazardous Waste Removal	95/153	62	112/134	84	334/390	86	142/162	87
Health & Safety Services	3/153	1	15/135	11	47/376	13	35/165	21
Housekeeping	29/152	19	29/135	21	99/405	24	45/199	23
* Housing Facility Building	36/107	34	19/71	27	65/261	25	30/144	21
Housing/Operations	6/112	5	3/81	4	7/299	2	7/175	4
Identification Cards	8/150	5	8/127	6	9/381	2	11/176	6
* Institutional Food Service	96/151	63	100/133	75	295/398	74	120/180	67
Institutional Research	4/154	2	1/137	.007	6/388	1	4/153	3
* Laundry Machines	55/108	50	48/77	62	202/287	70	95/167	57
Law Enforcement and Safety	12/155	8	13/136	10	63/397	16	46/178	26
Mail Service/Post Office	10/154	6	3/135	2	17/398	4	13/182	7
Maintenance	10/157	6	5/139	4	39/415	9	22/204	11
Motor Pools	9/147	6	6/119	5	17/348	5	4/123	3
Parking Administration/ Enforcement	5/153	3	13/133	10	23/389	6	9/166	5
Parking Garage	6/69	9	2/20	10	2/36	6	5/20	25
Payroll Services	3/155	1	13/139	9	60/413	15	58/203	29
Physical Plant Financing	23/137	17	30/121	25	112/349	32	44/167	26
Placement Centers	1/143	.007	2/129	1	4/344	1	1/143	.007
Press	15/123	12	8/85	9	26/359	7	26/121	21
Printing/Publications	29/154	23	23/135	17	124/392	32	101/193	52
Real Estate Development/ Operations	16/96	17	13/53	24	27/120	23	19/57	33

	Over 10,000		5,001 to 10,000		1,000 to 5,000		Under 1,000	
	#	%	#	%	#	%	#	%
Recycling Programs	34/149	23	27/125	22	85/356	24	33/143	23
* Research Waste Removal	68/73	93	51/53	96	130/134	97	48/51	94
* Retail Store/Shopping Area	29/53	55	10/25	40	20/49	41	9/22	41
* Retirement Programs	45/152	30	40/132	30	161/404	40	82/180	46
Security	13/155	8	13/136	10	65/410	16	40/192	21
Student Activities	156	0	135	0	1/409	.002	1/195	.005
Student Financial Aid	157	0	139	0	1/414	.002	5/203	2
Student Health Centers	5/132	4	9/89	10	41/280	15	25/124	20
Student Housing Staff/Programs	4/110	4	79	0	5/292	1	2/165	1
* Student Loan Collections	52/150	35	62/132	47	189/382	49	90/183	49
Student Unions/Operations	3/142	2	2/122	2	7/336	2	4/138	3
* Textbook Publishing	41/59	70	24/28	86	75/84	89	4/41	90
* Trademarks/Licensing	39/119	33	26/75	35	46/122	38	22/39	56
* Travel Agencies	85/95	89	60/68	88	155/161	96	55/58	95
* Tuition Plans	31/103	30	28/99	29	142/318	45	54/175	32
* Unemployment Compensation	44/141	31	46/129	36	147/374	39	52/155	34
* Vending Operations	126/156	81	114/137	83	338/412	82	152/195	78
* Video Game Machines	90/125	72	86/113	76	230/290	79	74/93	80
* Waste Removal	99/154	64	111/135	82	336/400	84	162/189	86
* Workers' Comp Programs	44/154	29	55/139	40	200/403	49	95/194	49



APPENDIX C

OUTSOURCING IN THE
PRIVATE SECTOR

Information Technology

This is the fastest growing area for outsourcing today.

Executives are currently outsourcing:

- maintenance/repair
- training
- applications development
- consulting and reengineering
- mainframe data centers

Executives are considering outsourcing:

- client/server
- networks
- desktop systems
- end-user support
- full I/T outsourcing

Operations

Administration

Executives are currently outsourcing:

- printing and reprographics
- mailroom
- consulting and training

Executives are considering outsourcing:

- records management
- administrative information systems
- supply/inventory
- printing and reprographics

Customer Service

Executives are currently outsourcing:

- field service
- field service dispatch
- telephone customer support

Executives are considering outsourcing:

- customer service information systems
- field service dispatch
- telephone customer support

Finance

Executives are currently outsourcing:

- payroll processing
- purchasing
- transaction processing
- general accounting

Executives are considering outsourcing:

- payroll processing
- taxes

Human Resources

Executives are currently outsourcing:

- relocation
- workers' compensation
- recruiting/staffing

Executives are considering outsourcing:

- consulting and training
- human resource information systems

Real Estate & Physical Plants

Executives are currently outsourcing:

- Food and cafeteria services
- facilities maintenance
- security

Executives are considering outsourcing:

- facilities management
- facilities maintenance
- facilities information systems

Sales and Marketing Executives are currently outsourcing:

- direct mail
- advertising
- telemarketing

Executives are considering outsourcing:

- reservation and sales operations
- field sales



APPENDIX D

SAMPLE PARTNERSHIPS
AT ARIZONA UNIVERSITIES

SIGNIFICANT AND UNIQUE UNIVERSITY PUBLIC-PRIVATE PARTNERSHIPS AND OUTSOURCING ACTIVITIES

ARIZONA STATE UNIVERSITY

Partnership with E & Y Kenneth Leventhal Real Estate Group (EYKL)

On November 1, 1998, ASU entered into a three-year contract with E & Y Kenneth Leventhal Real Estate Services Company for development/management services pertaining to several ASU properties with development potential. EYKL's services include expertise in market and financial analysis, planning, contract negotiations, and other real estate disciplines.

The agreement for services is based upon a reduced up-front fee paid by the University in exchange for an incentive compensation to EYKL, that is, their participation in a percentage of future revenues that they negotiate on behalf of the University as a result of a long-term lease or sale. Projects include ASU properties with a high potential for new development.

For example, ASU owns approximately 40 acres of vacant land located within the City of Tempe's Rio Salado Project along the Tempe Town Lake. Several development projects are likely to be negotiated. Planning, market studies, financial analyses, geo-technical, environmental, and traffic studies, and other complex steps must be completed prior to successfully negotiating terms for development. EYKL handles all tasks associated with the development process, makes recommendations to the University, and negotiates terms with potential developers. A fixed fee is paid to EYKL monthly along with any out-of-pocket reimbursable fees. The discounted fixed fee covers unlimited monthly hours required from the EYKL staff. EYKL will realize a long-term benefit by their future participation in revenues generated from agreements that they successfully negotiate.

EYKL will provide services to ASU East and ASU West at their election. A discounted fixed-fee arrangement with participation in future revenues would apply at these campuses as well.

At this time, in addition to work in progress on Rio Salado, EYKL is assisting ASU with the potential disposition and development of 47 acres at First Street and Price Road, Tempe, and with ASU's potential acquisition of The Mercado, located in downtown Phoenix. The Mercado currently houses ASU's College of Extended Education and the ASU Downtown Center under a lease agreement. The acquisition will be more cost-effective for the University and will provide opportunities for expansion, development, and other partnerships.

Ultimately, the EYKL partnership provides ASU with the opportunity to maximize use of underutilized and/or non-academic properties to the benefit of the University and the community.

NORTHERN ARIZONA UNIVERSITY

Partnership with Sodexho/Marriott Food Service Corporation

In June of 1997, Northern Arizona University entered into a partnership with Sodexho/Marriott Food Service Corporation to provide a full-service dining experience for its student population. For more than a year leading up to the contract Sodexho/Marriott looked, listened and evaluated NAU's existing program. They understood NAU was looking for a partner that was willing to take the necessary risks in making its program a Premier Residential Dining Program.

In the Sodexho/Marriott bid proposal, which was far and above any of their competitors, they offered a total program that dealt with display cooking, the latest in collegiate menus, extended operations and new concepts. In addition, they offered a \$1 million investment to be used to enhance the program. In exchange, NAU agreed to remodel three dining rooms and the Mountain Jacks Starbucks area of the University Union. This investment cost the University (Campus Unions Department) almost \$750,000 dollars in capital and labor. Both the Sodexho/Marriott and NAU investments proved successful in that sales and participation have increased since the partnership was formed.

The partnership has been successful because both parties understood each other's needs. Sodexho/Marriott is a for-profit company that is held accountable by their stockholders, who need to see the potential return of their investment. NAU wanted to be on the cutting edge of college food service programs and was willing to invest its financial resources to get there.

The partnership has an equal amount of risk and rewards. If the partnership continues to be successful, Sodexho/Marriott will gain new business by showcasing the NAU account and NAU will gain the notoriety of being one of the largest all-voluntary food service programs in the nation.

UNIVERSITY OF ARIZONA

Partnership with The University of Arizona Foundation

The University of Arizona Foundation will construct an approximately \$3 million, 15,000 gross square foot (gsf) facility to house the staff and operations of The University of Arizona Police Department (UAPD). The UAPD needs to be relocated from its current location in order to clear the site for a parking structure. The UA will ground lease the site to the Foundation and lease back 100% of the building. At the end of twenty years (2020), title to the building and all improvements will revert to the UA upon expiration of the ground lease. The project will be financed through Certificates of Participation issued by the Foundation.

**ARIZONA STATE UNIVERSITY
PUBLIC PRIVATE PARTNERSHIPS
GENERAL**

AT&T Campus-Wide - Under an agreement initiated in 1997, AT&T is providing hardware, software, card stock, back-up equipment and marketing support for ASU's Suncard program. ASU provides AT&T a site for demonstrations to potential customers and their own employees. The parties will identify and seek to develop new applications.

CIC Corp - Under a Tri-University RFP, ASU has entered into a contract with CIC Corp. to provide Equipment Maintenance Management Services to the university. CIC will establish contracts and agreements with service providers and offer similar services for equipment that was previously under maintenance agreements. They will do that at a significantly lower fee and ASU with a broader range of service options.

Collegiate Stores Company - For an annual service fee of \$3600, the ASU Bookstore gains access to various CSC programs. These programs include cooperatively bid vendor contracts and shipping programs. During FY 1998 CSC participation saved the ASU Bookstore over \$75,000.

E&Y Kenneth Leventhal Real Estate Group (EYKL) - ASU entered into a three year contract with EYKL on November 1, 1998 for development management services. EYKL will provide expertise in planning, analyzing, financing, and negotiating real estate transactions that will bring commercial development to certain ASU-owned properties, most notably Rio Salado. ASU will receive long-term revenue streams from various development projects. EYKL will provide their expertise at a reduced up-front fee to the University in exchange for participation in a percentage of the revenues they negotiate for the University.

IKON - IKON Office Solutions has been a valued partner in providing analog and high-speed copiers to the ASU campus for nearly ten years. Under the current agreements, IKON supplies and supports all copier purchases under the University's standardization agreement including supplying dedicated operators for high-speed copiers in the University Copy Centers.

MBS Textbook Exchange, Inc. - Under a partnership agreement initiated in 1997 between MBS and the ASU Bookstore, MBS, in exchange for having first access to ASU used textbook want lists and for conducting all ASU semester end buybacks, pays ASU a higher commission rate on used textbooks purchased by MBS at ASU. Additionally, MBS provides enhanced operational and system support and discounts on systems hardware and software. This support includes pre-labeled & presorted shipments of merchandise, onsite system reviews, and a designated support liaison.

The partnership enhances our used book procurement acquisition by not only increasing our supply of books to our student customers but by increasing our revenue and reducing our expenses.

Quick International - Mail Services has a contract initiated in 1997 (renewal up to 4 years) to pick up and remail all international letter and flat size mail, postmarking in foreign countries speeding delivery of the mail. The postage savings supports the funding of the mail operations.

People's Choice TV Corp - ASU has an FCC license to operate an eight channel Instructional Television Fixed Service. In July, 1994, ASU leased its excess capacity in these channels to People's Choice TV in return for a significant investment in the broadcast equipment, a doubling of the fixed sites that receive ASU instructional television signals, an increase in the number of residences that can receive our signal, and a small royalty fee. People's Choice TV gained access to the Phoenix entertainment wireless TV market.

Purchase Pro - In 1998, ASU began a pilot project with Purchase Pro. Purchase Pro provides electronic bidding and sourcing software free of charge to three of our buying teams. ASU gains by having access to an electronic bidding system that is fast and that reaches potential suppliers that are not part of our vendor database. Purchase Pro gains by using the University's reputation for progressive purchasing practices to add both buyers and suppliers to their system.

SAP Public Sector and Education, Inc. (SAP) - ASU is in the process of contracting with SAP for the development of a Student Information System. SAP will provide all the technical resources to develop the software. ASU will provide program information and will serve as a beta site for implementation. Cost to ASU is approximately \$70,000 for a software program that will be marketed to higher education for \$2 million to \$3 million.

Subia Corporation - ASU is about to renew for the third and four years of a design services and supplementary printing services contract with Subia Corporation. Subia Corp currently provides personnel and expertise for on-site graphic design and printing services to the ASU Creative Communications Group. Subia has been instrumental in bringing industry practices and processes to CCG to increase responsiveness to the University.

TC21, LLC - ASU entered into a Disposition and Development Agreement (DDA) with TC21, LLC for 5 acres of property located at the southeast corner of Mill and University, Tempe. ASU will provide the land to TC21 under a ground lease and TC21 will develop the property with mixed-use commercial space to include retail, restaurant, and offices. ASU will receive a percentage of gross rents from the project. Additionally, ASU will occupy 15,000 square feet of office space in Phase I of the development and a minimum of 4,000 square feet of space in Phase II. TC21 will build a pedestrian gateway entry at the corner of Mill and University to identify the University and welcome visitors into the campus. ASU and TC21 will jointly participate in developing and managing parking to serve the commercial development and to serve the needs of the University for the west side of the Main Campus.

Valley of the Sun School and Habilitation Center - Under an agreement initiated in 1993, Purchasing and Business Services sponsors a training program in conjunction with Valley of the Sun School and Habilitation Center. We provide in-house training for developmentally disabled persons in areas that are normally unavailable to them. ASU receives the benefit of labor cost subsidies. The State of Arizona benefits by moving some disabled people to self-sufficiency.

Northern Arizona University Industry and Private Funding FY 1999 through 5/13/99

Award Date (OGC	Date (OGCS)	Title	Abstract	Direct Cost	Indirect Cost	Total	Agency Description
July 1998							
7/15/98		Oracle Academic Initiative Development	This project will develop support material for the Oracle Corporation in promoting their academic initiative program to other universities.	\$20,000.00	\$5,000.00	\$25,000.00	Oracle Corporation
Summary for 'Award Date (OGCS)' = 7/15/98 (1 detail record)							
Sum				\$20,000.00	\$5,000.00	\$25,000.00	
August 1998							
8/19/98		The TOEFL 2000 Spoken and Written Academic Language Corpus	This project will construct and grammatically annotate a corpus that is representative of the range of academic language that students must listen to or read. Texts will be collected at five academic sites, and sampled across content areas. (I.e. The academic disciplines) and registers (discourse types).	\$68,407.00	\$0.00	\$68,407.00	Educational Testing Services
8/21/98		Grand Canyon Railroad Visitor Satisfaction Survey	A visitor satisfaction survey will be designed to provide information for marketing. Current customers will be interviewed via an intercept method. Monthly, quarterly and an annual report will be prepared.	\$6,218.00	\$1,532.00	\$7,750.00	Grand Canyon Railway
8/25/98		Ancient Mystic Lake Slough	This research is part of ongoing efforts to characterize the paleoenvironments of the region, particularly with respect to the habitats of early aboriginal inhabitants of southern California.	\$21,776.00	\$5,603.00	\$27,379.00	Applied Earthworks, Inc.

Award Date (OGC) Date (OGCS) Title Abstract Direct Cost Indirect Cost Total Agency Description

Summary for Award Date (OGCS) = 8/25/98 (3 detail records)

Sum

\$96,401.00 \$7,135.00 103,536.00

September 1998

9/15/98 FMC Outpatient Focus Groups

Four focus groups will be conducted of outpatients of FMC and MJL Medical Center, cottonwood, to assess outpatient services.

\$8,277.00 \$0.00 \$8,277.00

Flagstaff Medical Center

9/18/98 Climatic Variations During the Last Glaciation

This study will develop the longest and most continuous record of paleoenvironmental change from SW Alaska, extending back beyond the last deglacial period. The record will provide insights into the impact of climate change on terrestrial and aquatic ecosystems and the surrounding landscape.

\$89,950.00 \$0.00 \$89,950.00

Natural Science Foundation

Summary for Award Date (OGCS) = 9/18/98 (2 detail records)

Sum

\$98,227.00 \$0.00 \$98,227.00

December 1998

12/16/98 Canyon Forest Village Impact Analysis : II

\$5,000.00

\$1,000.00

\$6,000.00 Bureau of Business Research and

Summary for Award Date (OGCS) = 12/16/98 (1 detail record)

Sum

\$5,000.00 \$1,000.00 \$6,000.00

January 1999

Award Date (OGC)	Date (OGCS)	Title	Abstract	Direct Cost	Indirect Cost	Total	Agency Description
1/7/99		Reading to Learn and Integrate	This research is designed assess an expanded construct of reading comprehension. It will assess whether medium of text presentation, technology familiarity,, native language background, and level of education have an effect on students performance on two unique reading tasks.	\$37,035.00	\$11,351.00	\$48,386.00	Educational Testing Services
1/8/99		Climate Station Data Collection		\$13,640.00	\$3,038.07	\$16,678.07	Abitibi Consolidated Sales Corpo
1/8/99		Monitor Soil and Water		\$14,190.00	\$2,024.00	\$16,214.00	Abitibi Consolidated Sales Corpo
1/8/99		Bioavailability of Dioxin from Invertebrate Sampling at Effluent Reuse Project	Project will assess suitability of using honey bees and ground beetles as bioavailability indicated of dioxin.	\$8,165.00	\$1,449.00	\$9,614.00	Abitibi Consolidated Sales Corpo
1/8/99		Biomass Irrigation and Effluent Reuse- Phase II	Project will monitor impact of wastewater reuse project on tree growth and survival, wildlife populations and soil conditions. Project will also monitor climate at waste disposal sites.	\$16,100.00	\$4,830.00	\$20,930.00	Abitibi Consolidated Sales Corpo
Summary for Award Date (OGCS) = 1/8/99 (5 detail records)				\$89,130.00	\$22,692.07	111,822.07	
Sum							
March 1999							
3/8/99		NAU Monitoring of the Flagstaff Solar Energy Project	NAU will monitor and benchmark the performance of the APS 82kw Solar site, located in Flagstaff.	\$8,393.00	\$3,229.00	\$11,622.00	Arizona Public Service Company
Summary for Award Date (OGCS) = 3/8/99 (1 detail record)				\$8,393.00	\$3,229.00	\$11,622.00	
Sum							
Grand Total				\$317,151.00	\$39,056.07	\$356,207.07	

University of Arizona
Active Projects funded by Industry

Sponsor	Title	Inception to Date Budget
Abbott Laboratories		
	AN OPEN-LABEL EXTENSION STUDY OF TIAGABINE HCl IN THE TREATMENT OF PATIENTS WITH	22,905.00
	EVALUATION OF RENAL FUNCTION FOLLOWING LOW-FLOW ANESTHESIA WITH SEVOFLURANE IN H	15,000.00
	..SEVOFLURANE VS. ISOFLURANE WHEN ADMINISTERED IN A LOW-FLOW, ANESTHETIC DELIVER	18,000.00
	CLINICAL EVALUATION OF FENTANYL ORALET PREMEDICATION IN PEDIATRIC OUTPATIENT PRO	5,000.00
	THE SAFETY OF DEPAKOTE IN HEADACHE PROPHYLAXIS: AN OPEN LABEL LONG TERM STUDY (20,192.34
	SEVOFLURANE ANESTHESIA, METABOLISM AND TOXICITY	132,653.00
	KNEE SURGERY: DEXMEDETOMIDINE WHEN USED AS AN ANESTHETIC ADJUNCT	30,000.00
Abgenix, Inc		
	PHASE II...MULTIPLE INTRAVENOUS INFUSIONS OF FOUR DOSES OF ABX-CBL, MONOCLONAL A	13,780.80
Aculight Corporation		
	COLLABORATION ON DESIGN AND CONTROL OF ACONTINUOUS-WAVE, MONOLITHIC, DOUBLY RES	70,000.00
Advanced Cancer Technologies		
	FUNCTIONALITY AND PATIENT ACCEPTANCE OF A MEDICATION COMPLIANCE RECORDING DEVICE	6,437.50
Advanced Ceramics Research Incorporated		
	FREEFOAM FABRICATION OF SILICON NITRIDE BLISKS AND OTHER SILICON NITRIDE PARTS -	56,022.75
	SHAPE DEPOSITION MANUFACTURING OF HIGH PERFORMANCE AND QUALITY CERAMIC MICROMOTO	60,083.00
Advanced Tissue Science, Incorporated		
	A 48 HOUR STUDY EVALUATING THE ADVANCED TISSUE SCIENCES, INC. VASCULAR GRAFT IN	15,244.00
	EX VIVO SHUNT MODEL TO EVALUATE ADVANCEDTISSUE SCIENCE INC MATRIX VASCULAR GRAFT	14,079.00
Agouron Pharmaceuticals, Inc.		
	PHASE III STUDY OF THE MATRIX METALLOPROTEINASE INHIBITOR AG3340 IN COMBINATION	4,000.00
	PHASE III STUDY OF THE MATRIX METALLOPROTEINASE 006	4,000.00
Albemarle Corporation		
	NEW METHODS FOR THIOALKYLATION	49,989.63
Allergan		
	EVALUATION OF REFRESH TEARS ON TEAR FILMBREAK-UP TIME	14,700.00

Sponsor	Title
	EVALUATION OF ALPHAGAN VS TRUSOPT IN THE TREATMENT OF GLAUCOMA OR OCULAR HYPERTEN
	EVALUATION OF ACULAR PRESERVATIVE-FREE FOR THE PREVENTION OF PHOTOPHOBIA
	EVALUATION OF IRRITATION WITH TROPICAL NSAID'S STUDY
	STUDY OF ANTI-PROLIFERATIVE EFFECTS OF DICLOFENAC & KETOROLAC ON HUMAN LENS EPI
	..BOTOX (BOTULINUM TOXIN TYPE A) PURIFIED NEUROTOXIN COMPLEX IN PATIENTS W/CHRON
	MOLECULAR PHARMACOLOGY OF ADRENERGIC AND PROSTAGLANDIN RECEPTOR SUPTYPES
	MOLECULAR PHARMACOLOGY OF ADRENERGIC AND PROSTAGLANDIN RECEPTOR SUBTYPES
	ASSESSMNT OF INCREASED IRIS PIGMENTATION THROUGH VIDO MONITORING
Alliance Pharmaceutical Corporation	
	PERFLUBRON EMULSION TO LIMIT INFLAMMATORY RESPONSE ASSOC'D WITH EXTRACORPOREAL BL
Allied-Signal, Inc.	
	LARGE SCALE ANNULAR CASCADE RADIAL PROFILE AND HOTSTREAK EXPERIMENT
Allos Therapeutics, Inc	
	PHASE II...RSR13 ADMINISTERED TO PATIENTS RECEIVING STANDARD CRANIAL RADIATION T
	PHASE II...REPETTIVE DAILY IV DOSES OF RSR13 ADMINISTERED TO PATIENTS RECEIVING
Alpha-Beta Technology, Incorporated	
	PHASE III...INTRAVENOUS BETAFFECTIN PGG-GLUCAN FOR THE PREVENTION OF SERIOUS INFEC
Alza Corporation	
	AMIFOSTINE PLUS FRACTIONATED RADIOTHERAPY FOR PRIMARY PROSTATE ADENOCARCINOMA TO
AMC Cancer Research Center	
	ARRESTING SMOKING UPTAKE USING INTERACTIVE MULTIMEDIA
American Alpine Club (The)	
	EFFECTS OF CLIMBING ON OUTCOME OF PREGNANCY
American Biosystems, Incorporated	
	COMPARISON OF CONVENTIONAL CHEST PHYSICATHERAPY & HIGH-FREQUENCY CHEST WALL OSCI
American Bureau of Shipping	
	CORROSION RELIABILITY AND MAINTAINABILITY ANALYSIS
	RELIABILITY OF DEGRADING SHIP STRUCTURE: APPLICATION OF THE TIME DEPENDENT FIRS
American College Of Laboratory Animal	

Sponsor	Title	Inception to Date Budget
	DEVELOPMENT AND EVALUATION OF DIAGNOSTIC ASSAYS FOR NEWLY RECOGNIZED RODENT PARV	7,500.00
American College of Obstetricians And		
	USE OF A STATEWIDE ADMIN DISCHARGE DATA FOR EVALUATION OF ECONOMIC & CLINICAL OU	15,000.00
American College of Radiology		
	RADIATION THERAPY ONCOLOGY GROUP	24,154.00
American Cyanamid Company		
	PLANT EXTRACTS	240,000.00
	PLANT CHEMICAL RESOURCES FOR PEST AND DISEASE CONTROL PHARMACEUTICALS	100,000.00
	STUDY ON THE EFFECTS OF INSECTICIDES ON INSECT NERVOUS SYSTEMS USING UNIVERSITY	6,000.00
American Egg Board		
	MAINTENANCE OF A COMPREHENSIVE DATABASE OF STUDIES EVALUATING THE EFFECTS OF DIE	63,000.00
American Industrial Hygiene		
	INDUSTRIAL HYGIENE TECHNICAL SERVICES; SUPPORT FROM AMERICAN INDUSTRIAL HYGIENE	6,800.00
American Ornithologist Union		
	BIRD COLLECTION SUPPORT FROM THE LAWRENCE HUBER MEMORIAL FUND	6,079.87
American Petroleum Institute		
	ANALYSIS OF LOW MELT POINT PARAFFIN WAX IN KUPFFER CELL SUPERNATANTS AND GAS CHR	3,042.00
	PILOT PHARMACOKINETIC STUDIES ON MINERAL HYDROCARBONS	23,934.00
American Pharmaceutical Association		
	PHARMACY STUDENTS HELP OTHERS HELP THEMSELVES THRU INTERCOLLEGIATE PEER COUNSEL	2,000.00
American Protective Services, Incorporated		
	COMPARISON OF ECONOMIC DEVELOPMENT AND FIRM LOCATION CRITERIA	39,711.00
American Society of Civil Engineers		
	CLIMATE CHANGE-CONSEQUENCES AND ADAPTIVE RESPONSES	843.47
American Society of Consultant Pharmacists		
	PHARMACOECONOMIC ANALYSIS OF IMPACT OF CONSULTANT PHARMACISTS ON DRUG RELATED	41,395.00
American Society of Health-system Pharmacists		
	THERAPEUTIC GUIDELINES ON STRESS ULCER PROPHYLAXIS	31,086.00
American Telephone and Telegraph		
	DESIGN & IMPLEMENTATION OF A HIERARCHICAL CONTROL SYSTEMS	58,000.00
Amgen		
	EX VIVO EXPANSION OF UMBILICAL CORD BLOOD PROGENITOR CELLS	18,000.00

Sponsor	Title	Inception to Date Budget
	THE AMGEN POST-DOCTORAL FELLOWSHIP IN OUTCOMES RESEARCH IN RENAL PATIENT CARE	40,000.00
	..STUDY OF IV NOVEL ERYTHROPOIESIS STIMULATING PROTEIN (NESP) COMPARED TO IV REC	30,623.52
	AMGEN/UNIVERSITY OF ARIZONA FELLOWSHIP IP	74,652.00
	PRECURSOR CELLS IN UMBILICAL CORD BLOOD	4,000.00
	RANDOMIZED TRIAL RECOMBINANT METHIONYL HUMAN STEM CELL...	18,500.00
	CONSULTING SERVICES	62,400.00
	ENHANCING THE ROLE OF PHARMACISTS IN THECARE OF CHRONIC DIALYSIS PATIENTS	2,046,658.00
	STUDY OF FILGRASTIM (r-metHuG-CSF) IN THE TREATMENT OF LATE-ONSET NEONATAL	20,650.00
	STUDY OF FILGRASTIM (R METHUG CSF) IN THE TREATMENT OF LATE ONSET NEONATAL	17,700.00
Amoco Chemicals Company		
	CANCER PREVENTION	91,797.61
Amoco Fabrics and Fiber Company		
	SEISMIC STABILITY OF GEOTEXTILE REINFORCED WALLS	20,000.00
Anergen, Incorporated		
	IMMUNOGENICITY OF PRIMARY INTRAMUSCULAR VACCINATION W/ALUM ADJUVANT & UP TO 4	27,696.04
Angiotech Pharmaceuticals, Incorporated		
	A RANDOMIZED, CONTROLLED, DOUBLE-BLIND, SAFETY STUDY USING MICELLAR PACLITAXEL I	24,530.40
Arizona Advisory Council On Environmental		
	V BAR V RANCH	30,000.00
Arizona Crop Improvement Association, Inc.		
	OIL QUALITY IN VERNONIA	9,700.00
	CROP IMPROVEMENT 5020-4156-07 EXPENSES	2,185,345.12
	OPERATIONS	32,571.88
	COTTON SEED QUALITY IMPROVEMENT	12,792.00
	HEAT TOLERANCE MECHANISMS IN COTTON	12,000.00
Arizona Elks		
	NEURAL TRANSPLANTAION OF IMMORTALIZED PRECURSOR CELLS	19,300.00
	HUMAN ENDOTHELIAL CELL MONOLAYER FORMATION ON BIOPROSTHETIC HEART VALVES (VIA UA	20,000.00
	GENETICS OF ANGIOGENSIS (VIA UAF)	20,000.00
Arizona Mexico Commission		
	REGIONAL ECONOMIC DEVELOPMENT INDICATORSSTUDY	10,000.00
	ARIZONA COMPETTIVENESS IN NAFTA MARKETS	15,000.00
	AMC REGIONAL INDICATOR AND SUSTAINABILITY INITIATIVE	15,000.00
	REGIONAL ECONOMIC DEVELOPMENT INDICATORSIN ARIZONA-SONORA REGION PHASE II	15,000.00

Sponsor	Title	Incept
	THE MAQUILA ECONOMIC IMPACT PROJECT	8
	ARIZONA-SONORA ECONOMIC IMPACT STUDIES VISION IMPLEMENTATION: RESEARCH ASSOCIATE	10
	ARIZONA - SONORA HEALTH SERVICES CONFERENCE	10
Arizona Public Service		
	REUSE OF SITE WATER FOR HALOPHYTE LANDSCAPING AT OCOTILLO POWER PLANT: PROPOSAL	34
	REUSE OF SITE WATER FOR HALOPHYTE LANDSCAPING AT OCOTILLO POWER PLANT: PROPOSAL	5
Association of American Colleges and		
	WOMEN AND SCIENTIFIC LITERACY: BUILDING TWO-WAY STREETS	18
	WOMEN AND SCIENTIFIC LITERACY: BUILDING TWO-WAY STREET	
	WOMEN AND SCIENTIFIC LITERACY: BUILDING TWO-WAY STREET	
	LEADERSHIP COLLABORATION ON HIV EDUCATION AT THE UNIVERSITY OF ARIZONA - SUPPLEM	1
Astra Merck Inc		
	REMACEMIDE HYDROCHLORIDE AS MONOTHERAPY IN SUBJECTS WITH PARTIAL- ONSET SEIZURES	118
	EVALUATION OF THE EFFICACY AND SAFETY OF CANDESARTAN CILEXETIL IN THE TREATMENT	52
Astra Pharmaceutical Products, Inc		
	PULMICORT (BUDESONIDE) TURBUHALER, 400 UG ADMINISTERED ONCE DAILY FOR 12 WEEKS,	19
	METOPROLOL CR/XL RANDOMIZED INTERVENTION TRIAL IN CONGESTIVE HEART FAILURE - MER	8
	ASTRA PAIN CONTROL	250
Astra USA Incorporated		
	LIGAND-SELECTIVE STIMULATION OF GLUCOCORTICOID RECEPTOR FUNCTIONS	50
	LIGAND-SELECTIVE STIMULATION OF GLUCOCORTICOID RECEPTOR FUNCTIONS	65
	SCREENING OF THE GLUCOCORTICOSTEROID RECEPTOR GENE FOR POLYMORPHISM	53
Athena Neurosciences, Inc.		
	SAFETY & EFFICACY OF ADMINISTRATION OF INTRAVENOUS ANTEGREN IN PATIENTS W/MS DU	11
	STUDY OF THE EFFICACY & SAFETY OF ZANAFLEX (TIZANIDINE HCL) AS ADJUNCTIVE THERAP	4
Atrium Medical Corporation		
	ATRIUM HYBRID PTFE CLINICAL STUDY	7
Atrix Laboratories, Incorporated		
	DEVELOPMENT OF TREATMENTS FOR SOLID TUMOR CANCER IN HUMANS USING THE ATRIX ATRIG	100
	DEVELOPMENT OF TREATMENTS FOR SOLID TUMOR CANCER IN HUMANS USING THE ATRIX ATRIG	79

Sponsor	Title	Inception to Date Budget
	DEVELOPMENT OF TREATMENTS FOR SOLID TUMOR CANCER IN HUMANS USING THE ATRIX ATRIG	17,982.05
Ayerst Laboratories		
	ETODOLAC STUDY 5020313491	27,772.00
B.W. Jorden and Company		
	FIELD TESTING OF VARIOUS SPRAY DRIFT SENSORS	10,150.00
	FIELD EVALUATION OF A REAL TIME PARTICULATE SENSOR	9,999.00
Barrow Neurological Institute		
	MOLECULAR BASIS FOR NICOTINE DEPENDENCE **SUB AZ DIS CONT RSCH COMM**	56,848.00
Baxter Healthcare Corp		
	IMMUNOMODULATORY ANTIBODIES IN INTRAVENOUS IMMUNOGLOBULINS	410,304.00
Bayer		
	RECOMBINANT EXPRESSION OF NEUTRALIZING-SENSITIVE PROTEINS OF L.INTRACELLULARIS	201,761.00
	LONG-TERM TREATMENT W/METRIFONATE (BAY A9826) FOR PATIENTS 2/PROBABLE ALZHEIMERS	96,446.16
	COMPARASION OF THE SAFETY & EFFICACY OF BUTOCONAZOLE NITRATE 1-DAY REGIMEN 2%	2,500.00
	PURIFICATION OF U AND M-CALPAIN	101,590.00
	BAY 2-9566 AS COMPARED TO PLACEBO, IN THE TREATMENT OF PATIENTS WITH MILD TO MOD	17,954.40
	TOOLS AND PRODUCTS FOR IMMUNOPROPHYLAXISOF CLOSTRIDIUM PERFRINGENS ENTEROTOXEMI	50,000.00
	METRIFONATE (BAY A 9826) IN PATIENTS WITH PROBABLE ALZHEIMER'S DISEASE PROTOCOL	229,317.75
	FIXED DOSE METRIFONATE (BAY A 9826) TABLET IN PATIENTS WITH PROBABLE ALZHEIMER'S	135,657.84
	METRIFONATE IN PATIENTS WITH PROBABLE ALZHEIMER'S DISEASE	63,343.50
	EVALUATE THE SAFETY AND TOLERABILITY OF METRIFONATE (BAY A 9826) IN PATIENTS WIT	138,425.00
Bayer Corporation		
	METRIFONATE STUDY (BAY A 9826)	267,840.00
	METRIFONATE (BAY A 9826) IN PATIENTS WITH PROBABLE ALZHEIMER'S DISEASE	388,185.19
Bechtel Corporation		
	EXTERIOR CLIMATIC AND ENVIRONMENTAL MITIGATION SERVICES AND TECHNICAL ASSISTANCE	60,500.00
	OUTDOOR COMFORT AND BUILDING ENERGY EFFICIENCY TECHNICAL ASSISTANCE MAGIC WORLD	66,000.00
Beiersdorf-Jobst, Incorporated		
	LYMPHODYNAMICS AND EFFECTS OF EXTERNAL CCOMPRESSION IN DISORDERS OF LYMPH FLOW	75,000.00
Bell Communications Research		

Sponsor	Title	Inception to Date Budget
	INTEROFFICE NETWORK PLANNING	126,578.00
Bell Laboratories		
	BELL LABORATORIES COOPERATIVE RESEARCH FELLOWSHIP PROGRAM (ASENETH LOPEZ)	1,500.00
Belmac Corporation		
	BIOLID VERSUS EES IN THE TREATMENT OF GROUP A BETA-HEMOLYTIC STREPTOCOCCAL PHARY	19,621.00
Berlex Laboratories, Inc.		
	MODULATION OF FLUDARA TOXICITY USING AMIFOSTINE	20,000.00
	BETASERON IN PATIENTS WITH SECONDARY - PROGRESSIVE MULTIPLE SCLEROSIS	1,646,094.00
BHP Copper, Incorporated		
	FLORENCE SOLUTION MINING STUDY. SUPPORT FROM BHP COPPER INC.	25,000.00
	(NSF) INDUSTRY/UNIVERSITY COPPERATIVE RESEARCH CENTER ON WATER QUALITY - INDUSTR	62,355.00
BHP-Utah Minerals International		
	TECTONICS, GEOCHEMISTRY, & PETROLOGY OF THE VULCANOGENIC MASSIVE SULFIDES OF NOR	40,000.00
Bio-Pharm Clinical Services, Inc		
	MULTICENTER, DOUBLE-BLIND, RANDOMIZED, PLACEBO-CONTROLLEDSTUDY TO ASSESS THE EFF	65,962.41
Bio-Products, Incorporated		
	TEST BIOCOMPATIBILITY OF PROD	1,320,518.20
Biocyte Corporation		
	STUDY OF PRECURSOR CELLS IN UMBILICAL CORD BLOOD	3,100.00
Biomedical Research Group, Inc.		
	THE EFFICACY AND SAFETY OF APROTININ IN REDUCING BLOOD LOSS AND TRANSFUSION REQU	95,628.00
Biosphere 2 Center, Incorporated		
	BIOSPHERE 2 SMALL GRANTS PROGRAM	262.00
	USING BISPHEE 2'S OCEAN TO TEST	19,738.00
	ISOTOPIC INDICATORS OF CO2 AND H2O FLUXEIN SEMI-ARID ECOSYSTEMS	20,000.00
Blackwell Publishers Ltd.		
	LINGUISTICS ABSTRACTS AND CURRENT LINGUISTICS	57,500.00
Boehringer Ingelheim Ltd.		
	EFFECTS OF A PRECONDITIONING PROGRAM ON MORBIDITY, MORTALITY AND PRODUCTIVITY OF	1,000.00
	...EFFICACY & SAFETY OF MELOXICAM 7.5MG VS. USUAL CARE ADMINISTRATION OF Rx NSAI	5,635.50
	WHEEZING INFANTS ALUPENT STUDY	46,666.00

Sponsor	Title	Inception to Date Budget
	DOUBLE-BLIND, PLACEBO-CONTROLLED, PARALLEL GROUP COMPARISON TO ASSESS THE SAFETY	37,000.00
	PARALLEL GROUP COMPARISON TO ASSESS THE SAFETY, TOLERANCE AND EFFICACY OF PRAMIP	28,068.55
	IPRATROPIUM BROMIDE HFA-134a AND IPRATROPIUM BROMIDE CFC	70,312.50
	A MULTIPLE DOSE COMPARISON OF 18 MCG OF TIOTROPIUM INHALATION CAPSULES AND PLACE	138,997.00
Boehringer Mannheim Pharmaceuticals		
	PLAN OF ACTION TO OPTIMIZE LIBERASE AS APREFERRED ENDOTHELIAL CELL ISOLATION AG	32,618.00
Boeing Aerospace Company		
	EVALUATING COELOSTAT MIRRORS FOR R.T.S. SUPPORT FROM ROCKETDYNE TECHNICAL SERVI	91,659.00
	DISTURBED STATE MODEL FOR COMPUTER CODESTOWARD DURABILITY ANALYSIS	30,000.00
	ATMOSPHERIC SENSING AND CORRECTION STUDY- ENABLING INVERSION OF REMOTELY SENSED	32,110.00
	TESTING AND CONSTITUTIVE MODELING OF JOINING MATERIALS FOR DESIGN AND RELIABILIT	20,000.00
	ALIGN AND TEST 24" CASSEGRAIN TELESCOPE.	29,087.00
	ALIGN AND TEST 24" CASSEGRAIN TELESCOPE.	33,905.53
Boots Pharmaceutical, Inc		
	FLOSEQUINAN ON THE SURVIVAL OF PATIENTS WITH CHRONIC CONGESTIVE HEART FAILURE	16,606.00
Bowater Great Northern Paper, Incorporated		
	HYDROLOGICAL ANALYSIS IN THE REGION OF MAINE	10,043.55
Boyle Engineering Corporation		
	RIO GRANDE CONVEYANCE SYSTEM AND SURFACEWATER TREATMENT PLANT - PHASE I FINAL E	63,000.00
Bristol Laboratories		
	PHASE III STUDY OF GATIFLOXICAN VERSUS LEVOFLOXACIN IN THE TREATMENT OF COMMUNIT	3,500.00
Bristol-Myers Company		
	HEMODYNAMIC EFFECTS AND SAFETY OF THE DUAL METALLOPROTEASE INHIBITOR (DMP-I) BMX	82,451.20
	LONG-TERM TREATMENT WITH THE DMP INHIBITOR BMS-186716 OR LISINOPRIL IN SUBJECTS	5,200.00
	PHASE III STUDY OF GATIFLOXACIN VS. CEFTRIAXONE IN THE TREATMENT OF COMMUNITY-AC	5,725.00
	PHASE VII STUDY OF HIGH-DOSE MELPHALAN IN COMBINATION WITH HIGH-DOSE ETOPOSIDE	5,000.00
	DNA ADDUCT FORMATION AND HPRT MUTAGENESIS TO PREDICT DISEASE RESPONSE IN PREVIOU	71,397.54
	A PHASE I DOSE ESCALATION TRIAL OF TAXOL(PACILITAXEL) AND ETOPOPHOS (ETOPOSIDE)	45,789.76
	BMS DEPR #181101-CL	91,980.00



APPENDIX E

RISK OPPORTUNITY
MANAGEMENT PROCESS

Risk and Opportunity Management:

A Value Based Management Approach

By: David Gledhill & Dan Brooks

ABSTRACT

Most risks and opportunities impact multiple organizational values, effect more than a single stakeholder and often have significant uncertainty associated with them. This complexity makes it difficult for managers to address them in a consistent manner, taking into consideration these multidimensional aspects. This paper points out how to avoid missing dimensions of risk and opportunity impact, and how to use aggregate benefit and cost measures to make pragmatic tradeoffs when deciding which risks or opportunities to address first. By using value-based benefit and cost estimates to prioritize activities that address both risks and opportunities, the project manager and technical staff can reduce the most risk (or capture the most opportunity) for the fewest number of dollars. This prioritization process provides managers with a much more consistent method for selecting risk mitigation and opportunity capture actions with the most benefit for the cost because the decision process is based on a model that quantifies value using a sound methodological foundation rather than ad hoc 'rules of thumb.' Finally, this risk and opportunity management process aids project managers in tracking activities so that after implementation they are subsequently measured for performance and effectiveness.

1. Executive Overview

With corporate emphases being placed simultaneously on delighting customers and, at the same time, improving cycle times and meeting challenging business performance goals, it is more important – and more difficult – than ever to manage risk mitigation and opportunity capture well. Risk management has traditionally been driven by risk assessment. That is, formal and rigorous methods of risk assessment are followed in identifying risks. The risks are typically defined in terms of the technical domain of the project, and the process of risk definition and identification is carried out by technical staff using procedures developed independently of corporate strategies or objectives. Once the risk assessment is completed, the way in which the results are used to manage risks is neither formal nor rigorous. A wide range of ad hoc, informal methods for “ranking” risks are used to identify those risks (or projects) that should be attended to first. These ranking processes are usually developed and conducted by individual project management teams and, as a result, are rarely coordinated across the corporation or serve prioritization purposes much beyond the individual project level.

As a result, the bases upon which priorities are set vary considerably from program to program, and often vary within a single program or large project. The approach to *prioritizing* risk-reducing activities often depends on the source of the risk, rather than the risk itself and the value of averting that risk. These more traditional approaches to risk and opportunity management have been around for a number of years, and the base processes are familiar but vary considerably within corporations. The use of value-based management methodologies and tools, as proposed in this paper, for both risk assessment and risk management are relatively new in their application within most companies. Instead of using ad hoc and qualitative processes ("low," "medium," "high" rankings, for example, where these words are often single-dimension and qualitative guidelines for prioritizing), a more rigorous methodology base for prioritization is employed. This is an aid both to the consistency of the process and to clarity of communication. This can improve the defensibility of decisions in a number of ways. Few major projects, for example, may have similar opinions about what is meant by high versus what is low; as a result, there can be widely varying viewpoints when it comes to evaluating tradeoffs for allocating resources to risk mitigation and opportunity capture strategies. In addition, many risks and opportunities impact more than one company objective. Few organizations today address these multiple dimensions of risk and opportunity adequately, and therefore miss important aspects that should influence decisions.

This paper presents an overview of the use of decision analysis and, in particular, multi-attribute preference theory as a sound methodology for incorporating risk management into routine business planning in a way that is consistent with an organization's overall pursuit of its strategic objectives. The process is defensible, adaptable to a wide range of business activities, and provides an "audit trail" so that management decision makers can document the basis upon which they allocate resources to mitigate risks and what this means to the overall attractiveness of various business operations.

Since opportunities and risks are like two sides of the same coin, the methodology is as appropriate for addressing opportunities as it is risks. While the process is the same, the way we think of them and the tools that we use to assess them have a slightly different focus. The activities associated with new business opportunities, for example, should be focused externally upon the market and customer needs. Managing project risks, on the other hand, is focused internally upon things that will inhibit the project from meeting its goals. In fact, many risk management strategies will need to address both internal and external goals to be successful.

The Risk and Opportunity Management Process (ROMP) can help you develop a risk mitigation plan and set of actions that, if done early enough and is managed well through a set of well understood metrics, will minimize the costs associated with risk, and add profit to the bottom line. Using the process to select opportunities that will generate the most return for capture investment will grow the top line. With your program on track and risks under control, you can enhance profitability and sleep well at night.

For more information contact:

David Gledhill 480-441-0577 or 602-721-3269 or email David.Gledhill@motorola.com

Dan Brooks 480-497-2624 or email dan@adainc.com



APPENDIX F

COMMITTEE CHARGE, OBJECTIVES
AGENDAS AND ROSTER



Public Private Partnerships

**External Review Committee
Arizona Board of Regents**

Warren Rustand
Committee Chairman

Voting Members:

Dave Areghini

Salt River Project

Wayne Benesch

Attorney

John Bouma

Snell & Wilmer

Pat Cantelme

United Phoenix Firefighters
Assoc.

Leslie Carpenter

Marriott

Durrell Hillis

Motorola

Bill Hochgraef

Retired, Motorola

Olden Lee

Retired, Pepsico

Jan Leshner

Leshner Communications

Robin Parke

Retired, Robin E. Parke
Engineers, Inc.

Bill Pope

Sunchase Holdings, Inc.

Jennifer Reichelt

Student Regent

Advisory Members:

Tom Browning

Greater Phoenix Leadership

Paul Frost, Student

Arizona State University

Steve Grunig

Joint Legislative Budget
Committee

Mernoy Harrison

Arizona State University

Dave Lorenz

Northern Arizona University

Tony Seese-Bieda

Board of Regents

Tara Taylor, Student

University of Arizona

Joel Valdez

University of Arizona

Kim Van Pelt

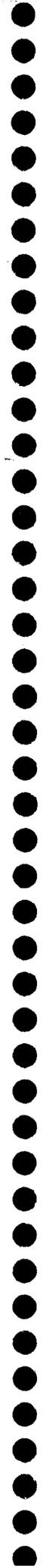
Office of the Auditor General

Jeff Young

Office of Strategic Planning and
Budgeting

Committee Charge

To engage in a comprehensive review and evaluation of existing public private partnerships, privatization, and outsourcing. To develop an assessment of opportunities and challenges for additional initiatives which will result in greater value being generated for all Arizonians.





Public Private Partnerships

**External Review Committee
Arizona Board of Regents**

Warren Rustand
Committee Chairman

Voting Members:

Dave Areghini

Salt River Project

Wayne Benesch

Attorney

John Bouma

Snell & Wilmer

Pat Cantelme

United Phoenix Firefighters
Assoc.

Leslie Carpenter

Marriott

Durrell Hillis

Motorola

Bill Hochgraef

Retired, Motorola

Olden Lee

Retired, Pepsico

Jan Leshar

Leshar Communications

Robin Parke

Retired, Robin E. Parke
Engineers, Inc.

Bill Pope

Sunchase Holdings, Inc.

Jennifer Reichelt

Student Regent

Advisory Members:

Tom Browning

Greater Phoenix Leadership

Paul Frost, Student

Arizona State University

Steve Grunig

Joint Legislative Budget
Committee

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Tony Seese-Bieda

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Committee Objectives

1. Review existing national bench marks or guidelines used by the university in privatization and outsourcing. Assess the applicability of these standards to the Arizona setting and how they might be made more relevant to Arizona.
2. Examine the national experience and outsourcing in higher education - where and why it has been used and where it does not appear to function well.
3. Assess the Arizona universities' efforts against this national backdrop. Do Arizona universities appear to be pursuing privatization consistent with the national experience, recognizing the universities' different missions, management capabilities present in auxiliary enterprise and other local conditions?
4. Review the universities' processes and criteria being used to evaluate and undertake privatization and outsourcing opportunities. Suggest revisions as desirable. Are there activities or functions that should be given priority in evaluating candidates for privatization? What are the opportunities for tri-university outsourcing?
5. Identify any ABOR policies or external mandates that may impede privatization initiatives or impact entities providing services under contracts with the universities. Analyze the financial model presented in the State of Arizona Competitive Government Handbook.
6. Make recommendations on effective partnering with the firms providing the outsourced goods or services.
7. Review the universities' processes being used to evaluate their privatization experience.
8. Make such additional observations or recommendations it wishes for the use of the Board and the universities.

AGENDA

Meeting of the Public Private Partnership External Review Committee

Thursday, October 22nd, 1998

Offices of the Arizona Board of Regents

Phoenix, Arizona

- | | | |
|------------|---|--|
| 9 a.m. | Welcome & Introductions | |
| 9:15 a.m. | Opening Remarks | Regent Don Ulrich |
| 9:30 a.m. | Background Remarks | Frank Besnette |
| 9:45 a.m. | Review of Committee Charge & Objectives | Warren Rustand |
| | B R E A K | |
| 10:30 a.m. | Review of Committee Structure & Roles | Warren Rustand |
| 11 a.m. | President's Perspective | (To occur at subsequent meeting) |
| | University Privatization Experiences | Joel Valdez UA
Mernoy Harrison ASU
Dave Lorenz NAU |
| 11:30 a.m. | What kinds of information for next meeting?
— Statutory considerations
— Other information requests
— Review schedule, locations
— Other action items | Warren Rustand |
| 1 p.m. | Adjourn | |



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Public Private Partnerships - External Review Committee

Agenda

Friday, December 4, 1998

ABOR Plaza Conference Room

9:00 a.m.	Welcome, Introductions*	Warren Rustand
9:15 a.m.	Review of Minutes & Committee Charge	Warren Rustand
9:30 a.m.	UA's Perspective and Insights	Peter Likins
10:15 a.m.	Break	
10:30 a.m.	Budget Development Process	Dick Roberts
11:15 a.m.	Legal and Policy Parameters	Ray Jensen
11:30 a.m.	Discussion and Next Steps Housekeeping: Final Dates for Next Four Meetings (Scheduling Matrix) Lunch Sponsors	Warren Rustand
12:00 Noon	Lunch (served in the conference room)	

* New Members: Wayne Benesch, Leslie Carpenter
First Time Attendees: Jan Lescher



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Public Private Partnerships - External Review Committee

Agenda

Friday, January 8, 1999

ABOR Plaza Conference Room

9:00 a.m.	Welcome	Warren Rustand
9:15 a.m.	Review of 12-4-98 Minutes	Warren Rustand
9:30 a.m.	Review of Auditor General Performance Audit	Kim Van Pelt
9:45 a.m.	Review of Budget Expenditure Categories	ABOR Staff
10:15 a.m.	Break	
10:30 a.m.	Presentations by University Presidents Dr. Lovett, NAU Dr. Coor, ASU Discussion session	
11:30 a.m.	Break	
11:40 p.m.	Facilitated Discussion	Warren Rustand
	<ul style="list-style-type: none"> • Summary of what we know • Major themes • Additional information we need to obtain • What are our deliverables and what process will we use to produce them 	
12:15 p.m.	Box Lunch Provided	



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A G E N D A

Public Private Partnerships - External Review Committee

Friday, February 19, 1999

Room 208, McClelland Hall, University of Arizona

9:00 a.m.	Welcome and Introductions	Warren Rustand
9:15 a.m.	Review of Committees	Warren Rustand
9:30 a.m.	- Scope of Work, Time Line, Reporting Out	Warren Rustand
	- Breaking the Paradigm	
	- The New Process and Outcomes	
Break		
10:15 a.m.	Committee Beakout	
	- Legal & Regulatory Barriers	Wayne Benesch
	- Data for Benchmarking	Cathy McKee
	- The Evaluation Process/Accountability	Dave Areghini
	- Targets of Opportunity	Bill Hochgraef
	- New Models for the Future	Pat Cantelme
11:45 a.m.	Discussion Next Steps March Meeting (Date/Lunch Sponsor)	Warren Rustand
12:30 p.m.	Lunch	



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Agenda

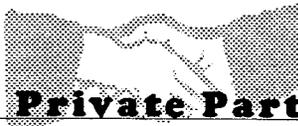
Public Private Partnerships-External Review Committee

April 7, 1999

ABOR Office

2020 North Central, Suite 230

9:00 a.m.	Welcome and Overview	Warren Rustand
9:15 a.m.	Breakout Sessions for Subcommittees	
10:00 a.m.	Break	
10:15 a.m.	Reports from Subcommittees Legal and Regulatory Barriers Benchmarking Evaluation and Accountability Targets of Opportunity New Models for Future	
11:00 a.m.	Roundtable Discussions: Critique and Debate	
11:30 a.m.	Lunch Next Steps: Developing Recommendations Discussion: Next Meeting (to be held in Flagstaff, possibly during week of May 10-14)	
1:00 p.m.	Adjourn	



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Public Private Partnership-External Review Committee

Friday, May 14, 1999

Northern Arizona University, Flagstaff

Administrative Center (Bldg. 51), Room 206

Agenda

9:00 a.m. Introduction Warren Rustand
Welcome Dr. Clara Lovett

9:15 a.m. Breakout by Subcommittee to
Discuss Reports and
Prepare to Present

9:45 a.m. Evaluation & Accountability Team
New Opportunities Team
Bench marking Team
Legal & Regulatory Barriers Team
"New Model" Team

Noon Lunch

- ▶ next steps
- ▶ time line
- ▶ final report: June 24, Flagstaff/ABOR
(Due to ABOR June 9; mailed
To Board Members June 15)

Biographical Profiles

Members of the Public Private Partnership External Review Committee

David G. Areghini — Mr. Areghini is Associate General Manager of Power, Construction and Engineering Services at Salt River Project in Phoenix, a post he has held since 1991. A registered engineer, he is responsible for the engineering, construction, operation and maintenance of SRP's electric system. He has served as a community member on boards at UA and ASU, as well as the Children's Cancer Center, The Phoenix Theater and the Phoenix Children's Hospital. He earned a B.S. in civil engineering from UA, and an MBA from UCLA. He was born in Cottonwood, Arizona.

Wayne C. Benesch — Mr. Benesch is an attorney and shareholder in the law firm of Byrne, Benesch & Walsma, P.C. of Yuma. He has practiced law in Arizona since 1967. He has served on a variety of community organizations, including Arizona Town Hall, Salvation Army Advisory Board, UA Alumni Association, and the State Bar of Arizona. Mr. Benesch attended Mesa High School, and received undergraduate and law degrees from the University of Arizona. He is a native of Mesa.

John J. Bouma — Mr. Bouma is chairman of Snell & Willmer L.L.P., a law firm with offices in Arizona, California and Utah. His practice is concentrated in business litigation, antitrust, financial institutions and professional liability defense. His community service includes board membership on state, regional and national bar associations, as well as the Phoenix Art Museum, Arizona Opera Company and the Phoenix Community Alliance. He has been recognized for his contributions to the community and the legal profession by Community Legal Services, ASU College of Law, the Arizona Bar Foundation and the National Law Journal.

Patrick E. Cantelme — Mr. Cantelme is president of the United Phoenix Firefighters' Association, a post he has served in since 1978. Prior to that he was a firefighter and fire captain for the city of Phoenix since 1968. His community service includes involvement in the Phoenix Aviation Advisory Board, Chamber of Commerce, and Labor's Community Service Agency. He has also served on the Phoenix Planning and Zoning Commission, Greater Phoenix Economic Council and Valley of the Sun United Way. A graduate of St. Mary's High School, Mr. Cantelme is a graduate of Arizona State University and the Harvard Trade Union Program.

Leslie Carpenter — Ms. Carpenter is general manager of the Residence Inn by Marriott in Flagstaff, a position she has held since 1994. Prior to that she managed a property for Marriott in Tucson, and has more than 20 years experience in the hotel industry. She serves on the executive committee of the Flagstaff Chamber of Commerce, as well as the Tourism Commission and the Board of the Flagstaff Innkeepers Association.

Durrell W. Hillis — Mr. Hillis is senior vice president and general manager of Motorola's Systems Solutions Group, responsible for advanced communication and electronic systems for commercial users, NASA, and the Department of Defense. His previous responsibility included the development of the new Iridium(R) global satellite telecommunications system. His community involvement includes Greater Phoenix Leadership, United Way, Boys and Girls Clubs, and the UA and ASU engineering advisory councils. Mr. Hillis earned a B.S.E.E. from UA and an MBA and MSE from ASU. He has been awarded three patents: two in semiconductor memory design and one in cellular communications.

William W. Hochgraef — Mr. Hochgraef is retired from Motorola where he served for 33 years, most recently as Technology Asset Manager for Motorola's System Solution Group in Scottsdale. His community service includes the ASU Engineering & Applied Sciences advisory council, ASU Alumni Association, the Desert Samaritan Medical Center Auxiliary. A graduate of Williams High School in Williams, Arizona, he earned B.S. degrees from NAU and ASU, and a master's degree in engineering from ASU.

Olden C. Lee — Mr. Lee has retired from Pepsico after 28 years of service. Most recently he served as senior vice president for human resources for the Taco Bell Corporation, responsible for recruiting, employee relations, compensation and benefits, management development and public affairs. His service to community has included the advisory board of the UA school of business, UA alumni involvement committee, the Louisville Opera, Texas Christian University's International Board of Advisors, and the 100 Black Men organization. He earned a B.A. from the UA, where he also played varsity football.

Jan Leshner — Ms. Leshner is owner and operator of Leshner Communications Inc., a Tucson based firm offering public relations and public affairs services. She has served in management positions in the fields of economic development, public relations, advertising and cable television. Her community service includes the Community Food Bank, La Frontera Center, the UA Alumni Association, Tucson 30 and Women at the Top. She has won the Governor's Award for the Arizona Women's Partnership. A graduate of Tucson High School, she earned a B.A. from UA.

Robin E. Parke — Mr. Parke has retired as CEO of Parke Associates Structural Engineers, which he founded. As CEO he had responsibility for more than 5,000 projects across the U.S. and several foreign countries, including some of the largest electronics plants in the world. He has served the community through involvement with ASU, John C. Lincoln Hospital, the Arizona Kidney Foundation and the National Bank of Arizona. He also served on the Arizona State Board of Registration for Architects and Engineers. Mr. Parke received degrees from the University of Washington, the University of North Dakota and the University of Southern California.

William A. Pope — Mr. Pope is President and CEO of SunChase Holdings Inc., an international diversified holding company with residential housing, commercial real estate, wood products, fiber optics and software operations. He serves his community through involvement with Phoenix Memorial Hospital, the New Mexico and Arizona Land Company and Boys and Girls Clubs of Metro Phoenix.

Jennifer Reichelt — Ms. Reichelt is a student member of the Arizona Board of Regents, a post to which she was appointed by Gov. Jane Hull in 1998. Prior to that, she served as president of student body at NAU, vice president for academic affairs, and a member of the student senate. Her work experience includes assignments for the City of Yuma Human Resources Department and the Yuma School District. She has served the community through involvement with Adopt-A-Block, Mortar Board, and Delta Delta Delta. Ms. Reichelt earned a B.A. from NAU and is pursuing a masters degree in public administration from NAU.

Warren Rustand — Mr. Rustand is the former chairman and CEO of Rural/Metro Corporation in Scottsdale, a health and safety solutions company. He also served as chairman and CEO of Cambridge Company, Ltd., a merchant and investment banking firm; chairman of Health Partners of Arizona; chairman of 20/20 Laser Centers, and board member of Lucas Varsity Corporation. Mr. Rustand has served as a White House Fellow, special assistant to the Secretary of Commerce, special assistant to the Vice President of the United States, and Appointments Secretary to President Gerald Ford. His community service includes involvement with the World Presidents Organization, Greater Phoenix Leadership, the Arizona Chamber of Commerce and more than 50 community boards and organizations. He earned bachelors and masters degrees from UA, where he was student body president, Academic All-American of the basketball team, and member of the U.S. gold medal-winning basketball team at the World Basketball Championships.