
**TECHNOLOGY AND RESEARCH INITIATIVE FUND
(TRIF)
ANNUAL REPORT**



ARIZONA UNIVERSITY SYSTEM

**Arizona State University
Northern Arizona University
University of Arizona**



**For the fiscal year ended June 30, 2004,
as required by A.R.S. §15-1648(D).**

September 1, 2004



August 31, 2004

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Joel Sideman

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The Honorable Janet Napolitano
Governor of Arizona
Arizona State Capitol
1700 West Washington Street
Phoenix, AZ 85007

Dear Governor Napolitano:

On behalf of the Arizona Board of Regents, Arizona State University, Northern Arizona University, and the University of Arizona, and in accordance with A.R.S. §15-1648(D), I am pleased to submit the attached annual report for the Arizona Board of Regents' Technology and Research Initiative Fund (TRIF) for the fiscal year ended June 30, 2004. TRIF is continuously appropriated to the Arizona Board of Regents with Education 2000 (Proposition 301, November 2000) sales tax revenues pursuant to A.R.S. §42-5029(E)(2).

As required, ABOR has adopted rules to administer TRIF and has incorporated these rules into Board Policy 3-412.

This annual report provides budget and expenditure information on each TRIF initiative. These initiatives are consistent with statutory language calling for TRIF funds to support university research, development, and technology transfer related to the knowledge-based global economy; to expand access to baccalaureate or post-baccalaureate education for time-bound and place-bound students; to implement recommendations of the Governor's Task Force on Higher Education and the Arizona Partnership for the New Economy; and to develop programs that will prepare students to contribute in high technology industries located in Arizona.

Our FY 2004 TRIF budget supported initiatives in biosciences and biotechnology, information science and technology, and access and workforce development, as well as optical sciences, water sustainability, and environmental research and development. These programs have been designed and implemented to better position Arizona as a major player in the global marketplace. Detailed business plans for each initiative have been developed and are available on the ABOR website.

Arizona State University

Northern Arizona University

University of Arizona

The Honorable Janet Napolitano
August 31, 2004
Page Two

Please contact me at 602-229-2505 or jsideman@asu.edu if I can answer any questions or provide additional information about these important and exciting initiatives.

Sincerely,

Joel Sideman
Executive Director

cc: The Honorable Ken Bennett, President, Arizona State Senate
The Honorable Jake Flake, Speaker, Arizona House of Representatives
The Honorable Jan Brewer, Secretary of State
Ms. GladysAnn Wells, Director, Arizona State Library, Archives and Public Records
Members of the Arizona Board of Regents
Dr. Michael Crow, President, Arizona State University
Dr. John Haeger, President, Northern Arizona University
Dr. Peter Likins, President, University of Arizona

Arizona Board of Regents
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF) ANNUAL REPORT

For the Fiscal Year Ended June 30, 2004

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TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF) ANNUAL REPORT

For the fiscal year ended June 30, 2004

EXECUTIVE SUMMARY

- ▶ Education 2000 (Proposition 301), passed by Arizona voters in November 2000, approved a six-tenths-cent increase in the state sales tax to be dedicated to K-12, the community colleges, and the state's three public universities. Collection of the tax began on June 1, 2001.
- ▶ A.R.S. §15-1648 establishes the Technology and Research Initiative Fund (TRIF) to receive Proposition 301 revenues and gives the Arizona Board of Regents the authority to administer the fund.
- ▶ In March 2001 the Arizona Board of Regents approved a five-year TRIF budget plan for FY 2002-2006 and guidelines for implementation of the budget. The Board annually approves a revised budget and detailed performance measures for each initiative.
- ▶ A.R.S. §15-1648(D) requires the Board to submit to the Governor and the Legislature by September 1 of each year a report to include "a description of the amount and duration of each new award distributed and a description of the purpose and goals for each award. For existing awards, the Arizona Board of Regents shall use a detailed set of performance measures to determine the overall effectiveness of each award."
- ▶ FY 2004 TRIF-funded initiatives, with the exception of Regents Innovation Fund projects which are responsive to emerging issues, were "existing awards," i.e., they were continuing projects included in the five-year (FY 2002-2006) budget plan approved by the Regents in March 2001. Detailed business plans for each initiative have been developed by the universities and central office and are available on the Arizona Board of Regents web site at www.abor.asu.edu.
- ▶ The FY 2004 TRIF revenue budget totaled \$49,825,000. Total actual TRIF revenues received during FY 2004 were \$50,305,754, resulting in excess revenue received of \$480,753 (1.0%). This is the first time in the three-year history of TRIF that actual annual revenues met or exceeded the budgeted amount.
- ▶ For purposes of this annual report, revenues consist of actual receipts into TRIF for August 2003 through June 2004 plus an estimated amount for July 2004 revenue. An estimate was required to record the June 30, 2004, year-end revenue accrual and to prepare this report on a timely basis. Actual TRIF revenues for the 12-month period August 2003 through July 2004 were \$50,625,051, or \$800,051 (1.6%) over

the budgeted amount. This revenue in excess of budget has been allocated to the universities and central office for use on the approved TRIF projects.

- ▶ Total TRIF expenditures in FY 2004 were \$46,009,712, representing 71.2% of total revenue available (including carryforward amounts from the prior year).
- ▶ Recognizing the volatility and unpredictability of the TRIF revenue stream, the universities and central office exercised sound budgetary and financial management in the expenditure of TRIF funds throughout FY 2004.
- ▶ TRIF Budget Guidelines call for full expenditure of FY 2004 funds by December 31, 2004. The universities and central office may then request that any unexpended funds be reallocated for the same or different use.
- ▶ Expenditure detail by university and by initiative is presented in this report.
- ▶ Detailed performance measures for evaluating individual initiatives were approved by the Board, as required by statute. Performance measures and outcomes have been compiled by each university and the central office for each TRIF initiative and are included in this report.
- ▶ This report reflects the statutorily required funding for costs of Certificates of Participation (COPs) issued for the lease-purchase of buildings and associated infrastructure at ASU East and ASU West.
- ▶ This report reflects compliance with the statutory 20% limitation on use of TRIF funds for capital projects expenditures. In FY 2004, 7.8% of TRIF expenditures were used for capital projects.

ARIZONA UNIVERSITY SYSTEM
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL / FY 2005 - FY 2006 BUDGET
SYSTEM SUMMARY

	FY 2004 REV BUDGET	FY 2004 ACTUAL	FY 2005 ORIG BUDGET	FY 2005 REV BUDGET	FY 2006 REV BUDGET
REVENUE					
Carryforward	\$ 14,236,156	\$ 14,236,156	\$ -	\$ 18,984,221	\$ 1,385,182
TRIF Revenue	49,825,000	50,388,177	52,329,100	52,365,000	55,394,800
TOTAL REVENUE	<u>\$ 64,061,156</u>	<u>\$ 64,624,333</u>	<u>\$ 52,329,100</u>	<u>\$ 71,349,221</u>	<u>\$ 56,779,982</u>
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 26,018,613	\$ 19,402,229	\$ 20,792,671	\$ 31,573,959	\$ 22,225,201
ERE	5,355,056	4,231,480	4,280,724	6,962,995	4,751,899
All Other Operating	19,351,535	12,659,331	14,787,205	18,815,484	18,268,782
Grants/Projects	4,869,752	3,014,272	2,664,400	4,592,201	2,751,900
TOTAL OPERATING BUDGET	<u>55,594,956</u>	<u>39,307,312</u>	<u>42,525,000</u>	<u>61,944,639</u>	<u>47,997,782</u>
CAPITAL BUDGET					
Building Renovation	974,200	346,200	-	1,239,500	2,000,000
Debt Service	3,920,000	3,000,000	6,240,000	3,000,000	3,000,000
ASU E/W COPs Lease Purchase Payment	3,356,200	3,356,200	3,779,900	3,779,900	3,782,200
TOTAL CAPITAL BUDGET	<u>8,250,400</u>	<u>6,702,400</u>	<u>10,019,900</u>	<u>8,019,400</u>	<u>8,782,200</u>
EXPENDITURES GRAND TOTAL	<u>\$ 63,845,356</u>	<u>\$ 46,009,712</u>	<u>\$ 52,544,900</u>	<u>\$ 69,964,039</u>	<u>\$ 56,779,982</u>
SUMMARY BY PROGRAM AREA					
Biosciences/Biotechnology		\$ 18,319,889		\$ 34,032,881	
Access/Workforce Development		6,460,161		6,525,484	
Information Technology		6,647,800		8,170,404	
Technology Transfer		558,834		1,064,304	
ERDENE		1,650,660		2,201,229	
Optical Science		4,480,050		4,591,576	
Water Sustainability		1,667,088		2,749,033	
Learner Centered Education		527,189		793,560	
ARU		2,219,428		3,930,559	
ASU East/West COPs		3,356,200		3,779,900	
Capital Projects (NAU)		80,688		1,126,800	
Other		41,725		998,309	
EXPENDITURES GRAND TOTAL		<u>\$ 46,009,712</u>		<u>\$ 69,964,039</u>	

Note: FY 2004 expenditures include encumbrances at 6/30/04.

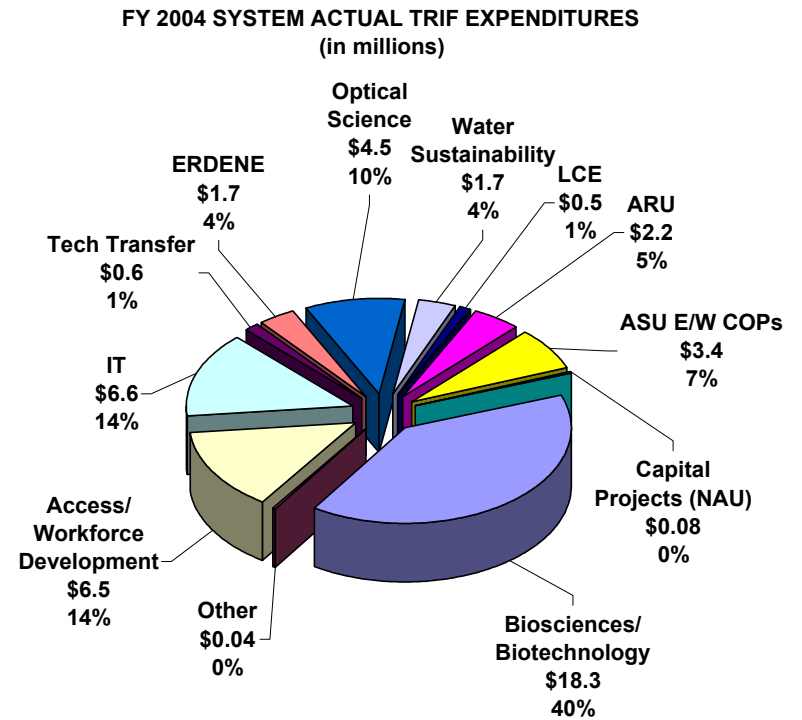
Note: FY 2005 revenues differ from expenditures due to ASU East and West COPs payment schedule and NAU Capital Projects carryforward.

Differences offset by end of FY 2006.

ARIZONA UNIVERSITY SYSTEM
 TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
 FY 2004 BUDGET / ACTUAL
 SYSTEM SUMMARY BY PROGRAM AREA

	<i>FY 2004 REV BUDGET</i>	<i>FY 2004 ACTUAL</i>
GRAND SYSTEM SUMMARY		
ARIZONA STATE UNIVERSITY		
Biodesign Institute at ASU	\$ 21,008,200	\$ 13,073,100
ASU East COPs	1,869,900	1,869,900
ASU West COPs	1,486,300	1,486,300
Subtotal	24,364,400	16,429,300
NORTHERN ARIZONA UNIVERSITY		
Access and Workforce Development	5,999,032	4,395,484
Biosciences/Biotechnology	1,330,270	1,309,360
E-Learning	2,308,833	1,510,536
ERDENE (Environmental)	1,852,267	1,650,660
Capital	1,584,607	80,688
Subtotal	13,075,009	8,946,728
UNIVERSITY OF ARIZONA		
Access and Workforce Development	2,249,160	1,964,711
Institute for Biomedical Science & Biotechnology	5,365,463	3,852,669
Technology Transfer Infrastructure	815,858	558,834
Optical Science	4,824,825	4,480,050
Internet Technology & Commerce Institute	5,726,929	4,859,477
Water Sustainability Program	2,095,320	1,667,088
Subtotal	21,077,555	17,382,829
ABOR CENTRAL OFFICE		
Arizona Regents University	3,805,657	2,219,428
Regents Innovation Fund	1,522,735	1,031,427
Subtotal	5,328,392	3,250,855
EXPENDITURES GRAND TOTAL	\$ 63,845,356	\$ 46,009,712

SUMMARY	
Biosciences/Biotechnology	\$ 18,319,889
Access/Workforce Development	6,460,161
Information Technology	6,647,800
Technology Transfer	558,834
ERDENE	1,650,660
Optical Science	4,480,050
Water Sustainability	1,667,088
Learner Centered Education	527,189
ARU	2,219,428
ASU East/West COPs	3,356,200
Capital Projects (NAU)	80,688
Other	41,725
EXPENDITURES GRAND TOTAL	\$ 46,009,712



**ARIZONA UNIVERSITY SYSTEM
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004-2006 BUDGET/ACTUAL CAPITAL EXPENDITURES
(In Thousands)**

		2004 Revised Budget	2004 Actual Expend	2005 Revised Budget	2006 Revised Budget
ASU	• R&D: <i>BioDesign Institute at ASU</i>	\$974	\$346	\$90	\$0
	• ASU East/West COPs*	n/a	n/a	n/a	n/a
	Total Capital	\$974	\$346	\$90	\$0
	Capital as % of Total ASU Budget	4.6%	2.6%	0.4%	0.0%
NAU	• Access/Workforce	\$0	\$0	\$0	\$0
	• R&D:	\$920	\$0	\$1,000	\$2,000
	<i>Biosciences/Biotechnology</i>	\$0	\$0	\$0	\$0
	<i>Information Technology/E-Learning</i>	\$0	\$0	\$0	\$0
	<i>Environmental (ERDENE)</i>	\$0	\$0	\$0	\$0
	<i>Capital Projects</i>	\$920	\$0	\$1,000	\$2,000
	<i>University Initiatives</i>	\$0	\$0	\$0	\$0
	Total Capital	\$920	\$0	\$1,000	\$2,000
Capital as % of Total NAU Budget	7.0%	0.0%	8.2%	17.9%	
UA	• Access/Workforce	\$0	\$0	\$0	\$0
	• Technology Transfer	\$0	\$0	\$0	\$0
	• R&D:	\$3,000	\$3,000	\$3,150	\$3,000
	<i>Institute for Biomedical Science & Biotech</i>	\$2,000	\$2,000	\$2,150	\$2,000
	<i>Info/Internet Technology & Commerce</i>	\$0	\$0	\$0	\$0
	<i>Optical Science</i>	\$1,000	\$1,000	\$1,000	\$1,000
	<i>Water Sustainability</i>	\$0	\$0	\$0	\$0
	Total Capital	\$3,000	\$3,000	\$3,150	\$3,000
Capital as % of Total UA Budget	14.2%	17.3%	13.6%	14.9%	
ABOR	• ARU	\$0	\$0	\$0	\$0
	• Regents Innovation Fund	\$0	\$0	\$0	\$0
	Total Capital	\$0	\$0	\$0	\$0
	Capital as % of Total ABOR Budget	0.0%	0.0%	0.0%	0.0%
SYSTEM	• Access/Workforce	\$0	\$0	\$0	\$0
	• Technology Transfer	\$0	\$0	\$0	\$0
	• R&D:	\$4,894	\$3,346	\$4,240	\$5,000
	<i>Biotechnology</i>	\$2,974	\$2,346	\$2,240	\$2,000
	<i>Information Technology</i>	\$0	\$0	\$0	\$0
	<i>Environmental (ERDENE)</i>	\$0	\$0	\$0	\$0
	<i>Optical Science</i>	\$1,000	\$1,000	\$1,000	\$1,000
	<i>Water Sustainability</i>	\$0	\$0	\$0	\$0
	<i>Capital Projects (NAU)</i>	\$920	\$0	\$1,000	\$2,000
<i>University Initiatives</i>			\$0	\$0	
Total System Capital	\$4,894	\$3,346	\$4,240	\$5,000	
20% Limit on Capital	\$12,098	\$8,531	\$13,237	\$10,600	
Capital as % of Total System Budget	8.1%	7.8%	6.4%	9.4%	

* Not applicable. TRIF allocations for ASU East and ASU West debt service are allocated by statute. Therefore, these amounts are excluded from calculation of the 20% capital limitation.

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ARIZONA STATE UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL / FY 2005 - FY 2006 BUDGET
SUMMARY

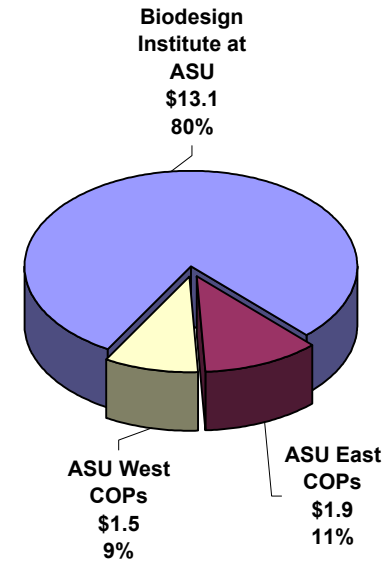
	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>ORIG BUDGET</i>	<i>FY 2005</i> <i>REV BUDGET</i>	<i>FY 2006</i> <i>REV BUDGET</i>
REVENUE					
Carryforward	\$ 5,080,200	\$ 5,080,200	\$ -	\$ 8,733,000	\$ 35,900
TRIF Revenue	19,500,000	19,712,500	20,464,100	20,500,000	21,946,300
TOTAL REVENUE	<u>\$ 24,580,200</u>	<u>\$ 24,792,700</u>	<u>\$ 20,464,100</u>	<u>\$ 29,233,000</u>	<u>\$ 21,982,200</u>
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 8,152,400	\$ 7,120,900	\$ 6,649,800	\$ 12,583,200	\$ 6,528,100
ERE	1,614,700	1,386,700	1,337,800	2,504,900	1,346,000
All Other Operating	10,266,900	4,219,300	7,912,400	10,239,600	10,325,900
TOTAL OPERATING BUDGET	<u>20,034,000</u>	<u>12,726,900</u>	<u>15,900,000</u>	<u>25,327,700</u>	<u>18,200,000</u>
CAPITAL BUDGET					
Building Renovation	974,200	346,200	-	89,500	-
Debt Service	-	-	1,000,000	-	-
COPs Lease Purchase Payment	3,356,200	3,356,200	3,779,900	3,779,900	3,782,200
TOTAL CAPITAL BUDGET	<u>4,330,400</u>	<u>3,702,400</u>	<u>4,779,900</u>	<u>3,869,400</u>	<u>3,782,200</u>
EXPENDITURES GRAND TOTAL	<u>\$ 24,364,400</u>	<u>\$ 16,429,300</u>	<u>\$ 20,679,900</u>	<u>\$ 29,197,100</u>	<u>\$ 21,982,200</u>
Note: FY 2004 expenditures include encumbrances at 6/30/04.					
SUMMARY BY INITIATIVE					
Biodesign Institute at Arizona State University	\$ 21,008,200	\$ 13,073,100	\$ 16,900,000	\$ 25,417,200	\$ 18,200,000
Campus Capital Infrastructure Development (East)	1,869,900	1,869,900	2,116,100	2,116,100	2,116,600
CLCC II Building and Central Plant Expansion (West)	1,486,300	1,486,300	1,663,800	1,663,800	1,665,600
EXPENDITURES GRAND TOTAL	<u>\$ 24,364,400</u>	<u>\$ 16,429,300</u>	<u>\$ 20,679,900</u>	<u>\$ 29,197,100</u>	<u>\$ 21,982,200</u>

Note: The FY 2006 ASU East and ASU West COPs budgeted revenue request is reduced by \$35,900 to bring the appropriation in line with the COPs payments.

ARIZONA STATE UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 BUDGET / ACTUAL
SUMMARY

	<i>FY 2004 REV BUDGET</i>	<i>FY 2004 ACTUAL</i>
REVENUE		
Carryforward	\$ 5,080,200	\$ 5,080,200
TRIF Revenue	19,500,000	19,712,500
TOTAL REVENUE	<u>\$ 24,580,200</u>	<u>\$ 24,792,700</u>
EXPENDITURES		
OPERATING BUDGET		
Personal Services	\$ 8,152,400	\$ 7,120,900
ERE	1,614,700	1,386,700
All Other Operating	10,266,900	4,219,300
TOTAL OPERATING BUDGET	<u>20,034,000</u>	<u>12,726,900</u>
CAPITAL BUDGET		
Building Renovation	974,200	346,200
Debt Service	-	-
COPs Lease Purchase Payment	3,356,200	3,356,200
TOTAL CAPITAL BUDGET	<u>4,330,400</u>	<u>3,702,400</u>
EXPENDITURES GRAND TOTAL	<u>\$ 24,364,400</u>	<u>\$ 16,429,300</u>
SUMMARY BY INITIATIVE		
Biodesign Institute at Arizona State University	\$ 21,008,200	\$ 13,073,100
Campus Capital Infrastructure Development (ASU East)	1,869,900	1,869,900
CLCC II Building and Central Plant Expansion (ASU West)	1,486,300	1,486,300
EXPENDITURES GRAND TOTAL	<u>\$ 24,364,400</u>	<u>\$ 16,429,300</u>

FY 2004 ASU ACTUAL TRIF EXPENDITURES
(in millions)



ARIZONA STATE UNIVERSITY MAIN
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL / FY 2005 - FY 2006 BUDGET
BIODESIGN INSTITUTE AND CAPACITY BUILDING PROJECT INVESTMENTS

	FY 2004 REV BUDGET	FY 2004 ACTUAL	FY 2005 ORIG BUDGET	FY 2005 REV BUDGET	FY 2006 REV BUDGET
REVENUE					
Carryforward - Biodesign Institute	\$ 2,632,700	\$ 2,632,700	\$ -	\$ 5,473,200	\$ -
Carryforward - Capacity Building Project Investments	2,475,500	2,475,500	-	3,044,000	-
TRIF Revenue - Biodesign Institute	9,584,900	9,584,900	11,429,200	10,429,200	12,667,600
TRIF Revenue - Capacity Building Project Investments	6,315,100	6,527,600	5,470,800	6,470,800	5,532,400
TOTAL REVENUE	\$ 21,008,200	\$ 21,220,700	\$ 16,900,000	\$ 25,417,200	\$ 18,200,000
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 8,152,400	\$ 7,120,900	\$ 6,649,800	\$ 12,583,200	\$ 6,528,100
ERE	1,614,700	1,386,700	1,337,800	2,504,900	1,346,000
All Other Operating	10,266,900	4,219,300	7,912,400	10,239,600	10,325,900
TOTAL OPERATING BUDGET	20,034,000	12,726,900	15,900,000	25,327,700	18,200,000
CAPITAL BUDGET					
Building Renovation	974,200	346,200	-	89,500	-
Debt Service	-	-	1,000,000	-	-
COPs Lease Purchase Payment	-	-	-	-	-
TOTAL CAPITAL BUDGET	974,200	346,200	1,000,000	89,500	-
EXPENDITURES GRAND TOTAL	\$ 21,008,200	\$ 13,073,100	\$ 16,900,000	\$ 25,417,200	\$ 18,200,000

Note: FY 2004 expenditures include encumbrances at 6/30/04.

INITIATIVE OVERVIEW

ASU's TRIF funding portfolio is grouped into two main initiatives: (a) the newly-named Biodesign Institute at Arizona State University (formerly known as Az Biodesign Institute) and (b) Capacity Building Project Investments.

The *Biodesign Institute at Arizona State University* is ASU's flagship initiative, and is focused on use-inspired collaborative research targeting the understanding of biological systems. The Biodesign Institute is integrating research in systems biology and neurobiology with advances in computing, optoelectronics, biomimetic materials, and directed molecular assembly at the meso-nanoscale. The central theme linking these diverse fields is the comprehension of the structural and functional architectures in biological systems and how these design rules can inspire new applications in medicine, agriculture, environmental management, and national security. The Institute will also provide a primary vehicle for strengthening regional research capacity, capabilities, and facilities, increasing the total external funding for bioscience/biotech/biomedical research coming to Arizona. It will accelerate the rate of skilled workforce development, regional economic development, and technology transfer opportunities. The Biodesign Institute provides the catalyst for discovery and innovation in a physical and intellectual environment that promotes communication, collaboration, and integration of resources. The Institute will provide a hub for biotechnical and biodesign research in central Arizona, building collaboration networks among scientists and clinical researchers from leading industries and institutions.

Under the leadership of the new Institute Director, George Poste, the Biodesign Institute is organized into a growing number of networked research and design centers that link collaborators within ASU and affiliated institutions. The current centers are:

- Infectious Diseases and Vaccines (IDV) – research focuses on selective pathogens, identifying vaccine antigens, and using transgenic plants as low-cost, efficient production systems for orally active antigens.

ARIZONA STATE UNIVERSITY MAIN
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL / FY 2005 - FY 2006 BUDGET
BIODESIGN INSTITUTE AND CAPACITY BUILDING PROJECT INVESTMENTS

- Protein and Peptide Therapeutics (PPT) -- research focuses on working to identify, characterize, and optimize biologically active protein analogs as pharmaceuticals.
- Bio-Optical Nanotechnologies (BON) -- research focuses on working to integrate biomolecular sciences with materials engineering and solid-state electronics to develop the next generation of biosensors, implants, pharmaceuticals, biomaterials, and nanoscale power sources.
- Single Molecule Biophysics (SMB) -- research focuses on examining the physical processes on which life is based using the simplest model systems at the molecular level to develop new health care tools.
- Applied NanoBioscience (ANB) -- research focuses on applying advances in nanoscience, molecular biology, and genomics to a new generation of biological tools to understand disease at the molecular level.
- Neural Interface Design (NID) -- research focuses on developing novel approaches to evaluate and rehabilitate motor function disorders due to central nervous system disease or injury through neural interface and brain control technologies.
- Rehabilitation Neuroscience & Rehabilitation Engineering (RNRE) -- research focuses on designing and developing technologies to counteract the effects of neurological disorders, enhancing therapeutics and devices for improved health, fitness, and assistance with daily activities.
- Evolutionary Functional Genomics (EFG) -- research focuses on examining how genes, gene families, and genomes of model organisms change over time and elucidate the gene interaction networks responsible for development of a single fertilized egg cell in a complex adult animal.

The Biodesign Institute serves as ASU's formal link to the rapidly expanding Translational Genomics Research Institute (TGen). ASU provides the computational capability for TGen through the acquisition and operation of a new IBM Supercomputer installed on the Main campus. There are a large number of affiliated faculty and formal joint appointments. Two large collaborative research proposals were submitted in FY 2004 with TGen. The Biodesign Institute also provides the formal link with the Arizona Biomedical Collaborative (ABC) and will assist in the programming of this Phoenix facility and in forging the connection between the ABC research activities with the Biodesign research programs.

The *Capacity Building Project Investments* are focused primarily on: a) application of information technology as an enabler for economic growth in all areas, b) development of advanced materials for the new economy, and c) wireless technology needs for the advancement of new technology in areas ranging from biomedical to communications to environmental applications.

Leadership for the *information technology* investments is now being provided by the Institute for Computer Information Science and Engineering (InCISE). The mission of InCISE is to foster computer science and applications of data acquisition, analysis, and management, security, modeling, visualization, and interpretation in interdisciplinary research, education, and entrepreneurship. Synergies have been identified with researchers in cognitive, biosciences, disabilities studies, enterprise computing and linguistics. The goal is to leverage selective investments in collaborative, interdisciplinary projects to build partnerships between researchers, improve visibility with funding agencies, and produce successful larger scale collaborative proposals. There are five core research groups: the Center for Cognitive Ubiquitous Computing (CUbIC); Intelligent Information Integration (ET-I3); Information Assurance (IA); the Partnership for Research in Spatial Modeling (PRISM); and the Software Factory (SF). InCISE also includes three affiliated research groups: the Center for Research in Arts, Media and Engineering; the Center for Advanced Business through Information Technology (CABIT); and, the Consortium for Embedded and Internetworking Technologies (CEINT). InCISE and many of these activities are centrally located in the Brickyard, a new 130,000 square foot academic and research space in downtown Tempe, providing the facilities and environment for ASU to build top-ranked, world-class programs.

The *advanced materials for the new economy* capacity building project initiative (with linkages to the Biodesign Institute and Information Technology initiatives) accelerates ASU's participation in nanotechnology research areas, leading to advances in microscale and nanoscale systems. This initiative builds on substantial existing strengths in nanoelectronics and emerging strengths in nanoscale science and technology such as molecular electronics, and in new materials such as wide bandgap semiconductors. Specifically, ASU is working to integrate research in physical, molecular, materials, and biological sciences with engineering to produce revolutionary nanoengineered devices including, for example, molecular electronics-based sensors and nanomagnetic memory devices. Basic research and engineering in nanotechnology and advanced materials is being integrated into new micro and nanoscale system concepts. Examples include novel microelectronic (low power, high power, high temperature, and/or high frequency), microfluidic, and bio devices integrated into microsystems for high-value-added applications in the information technologies, health care, threat detection, transportation, processing, and manufacturing industries.

ARIZONA STATE UNIVERSITY MAIN
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL / FY 2005 - FY 2006 BUDGET
BIODESIGN INSTITUTE AND CAPACITY BUILDING PROJECT INVESTMENTS

The *wireless technology* capacity building project initiative (WINTech/ConnectionOne) is focused on the nano-scale wireless devices that will play a major role in the next generation of communication, monitoring, security, bio-telemetry, bio-implant, and other wireless systems. The WINTech (wireless-info-nano-technologies) program has been formed to build ASU's capacity to develop fully autonomous wireless systems envisioned by other TRIF initiatives like the Biodesign Institute, CEINT, and the advanced materials initiatives. The wireless initiative derives its uniqueness from its focus on total end-to-end system solutions, and from its existing strong links to industry through ASU's ConnectionOne, a complementary National Science Foundation (NSF) Industry/University Cooperative Research Center (IUCRC) focused on near-term industry research and development needs in the wireless technology area.

To complement the Biodesign and Capacity Building Project Initiatives, and to help bring all ASU discoveries to the new economy, investments continue to support technology venturing. Arizona Technology Enterprises (AzTE), ASU's technology venturing company, was formed in July 2003 to take a more "market-oriented" approach to technology transfer. AzTE is a separate 501(c)(3) company staffed with industry professionals with expertise in technology licensing, product development, and venture capital. The organization focuses on starting new companies and licensing and building technology alliances based on ASU technology. AzTE also facilitates relationships between ASU and industry for new technology development. The key design elements of AzTE include active technology and idea harvesting, innovation screening, portfolio marketing and management, comprehensive commercialization partnership creation, and entrepreneurial training, assistance, and mentorship for faculty engaged in start-up activities.

FY 2004 GOALS/OBJECTIVES

Biodesign Institute at Arizona State University

The following goals were adopted by the Biodesign Institute for FY 2004:

- Increase the governmental and private funding of research connected with the Institute and its associated Research and Design Centers by about 25% annually.
- Double in five years (16% annual increase) the research capacity of ASU faculty and facilities (in terms of numbers, equipment, and investment) in bioscience, biotechnology, and biomedicine and support similar growth and strengthening of the regional research community.
- Build a new, state-of-the-art bioscience/biotech research complex on the ASU campus. Complete Phase I by December 2004.
- Increase the rate of intellectual property development and technology transfer from Institute-associated research programs by 20% annually (doubling every 4 years).

These are to be accomplished through the following:

- Organize the Biodesign Institute into networked Research and Design Centers.
- Identify and pursue major (>\$1 Million) collaborative federal research grant opportunities.
- Establish and strengthen partnerships with industry, institutions, and foundations. Become a proactive partner with the U of A and NAU in the Arizona Biomedical Collaborative. Establish firmer research links with TGen, with at least one collaborative research proposal funded by a federal agency in FY 2004.
- Hire new ASU faculty in strategic areas of targeted opportunity. Hire senior faculty members to ensure early funding success and junior faculty members who will be mentored by a first-class group of successful role models.
- Maintain a close, collaborative connection with Arizona Technology Enterprises (AzTE) and their managers for Health Sciences and Information Technologies to promote Biodesign IP development and marketing.

ARIZONA STATE UNIVERSITY MAIN
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL / FY 2005 - FY 2006 BUDGET
BIODESIGN INSTITUTE AND CAPACITY BUILDING PROJECT INVESTMENTS

Capacity Building Project Initiatives (CBPI's)

Goals for the CBPI's include:

- Solidify the information technology investments under InCISE and identify opportunities where information technology strengths at ASU can be used to enable the successful growth of other non-IT areas through application of novel IT developments.
- Enhance interdisciplinary collaborative research in nanotechnology and advanced materials between departments and across colleges.
- Attract new industry participation in wireless technology initiatives.
- Increase research capacity through hiring research-oriented faculty in strategic areas of targeted opportunity.
- Identify research partnerships and pursue opportunities for large-scale proposals.

Technology Transfer/Technology Venturing

- Establish operational objectives for the organization, as well as processes for IP evaluation and management, a focused communication and marketing strategy, and forms and policies for the organization.
- Begin building relationships with industry (local and national) and with major Arizona research institutions.

ARIZONA STATE UNIVERSITY MAIN
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL / FY 2005 - FY 2006 BUDGET
BIODESIGN INSTITUTE AND CAPACITY BUILDING PROJECT INVESTMENTS

PERFORMANCE MEASURES/DELIVERABLES		FY 2004 REVISED	FY 2004 ACTUAL	FY 2005 ORIGINAL	FY 2005 REVISED	FY 2006 REVISED
Return on Investment						
1.	External funding: new federal awards	\$11.00 M	\$21.34 M	\$14.00 M	\$29.00 M	\$37.05 M
2.	External funding: new industrial contracts and donations	\$2.50 M	\$5.75 M	\$3.00 M	\$5.53 M	\$7.80 M
3.	Value of new startups to ASU (R&D \$'s)	\$240 K	\$1.40 M	\$360 K	\$2.20 M	\$3.00 M
4.	New products in marketplace	4	5	5	8	10
5.	Value of new products to ASU	\$500 K	\$1.40 M	\$750 K	\$2.20 M	\$3.00 M
Work Force/Access Contributions						
1.	Increase in number of teachers who graduate with math/science certification	15	7	25	25	25
2.	New post-doctoral students in pipeline	10	44	10	32	37
3.	New post-doctoral students entering workforce	8	24	10	24	26
4.	New graduate students in pipeline	50	106	55	101	112
5.	Graduate students earning degrees and entering workforce	20	67	25	67	74
6.	Undergraduate students with research experience	60	139	65	139	170
7.	Growth in CS/CSE graduates	60	37	60	40	50
Curriculum Innovations						
1.	Tier 1 Introduction to Information Technology for all students	Completed FY 2002				
2.	Tier 2 package of 3 courses		Partially			
3.	Tier 3 concentration for BIS degree		Partially			
4.	BS Applied Computing (ASU West)					X
5.	High school students completing software design material	75	200	75	75	75
6.	Internships (industry or Software Factory)	90	136	95	128	174
7.	New courses introduced (Bio, Info, Nano)	4	16	4	18	24
Technology Transfer						
1.	New software packages distributed	8	10	10	15	16
2.	Form industry-university nationwide research consortium	X	4		2	2
3.	Create research road map in collaboration with industry		4		4	4
4.	Invention disclosures	109	98	130	120	144
5.	Patent applications	117	128	70	140	154
6.	Patents	20	18	10	20	20
7.	Startup companies	3	4	5	4	4
8.	Fund proof of concept grants to faculty	6	5	8	14	11
9.	Business plans written	3	9	5	10	11
10.	Technology transfer portal inquiries from industry	15	15	20	15	15
11.	Licenses/options signed (technologies adopted by industry)	24	24	30	28	32
Partnerships						
1.	New research collaborations with industry and national laboratories	10	19	14	19	26
Economic Development						
1.	Companies identifying ASU as a factor for relocating or expanding in AZ	1 large 2 small	1 large 3 small	1 large 3 small	1 large 3 small	1 large 4 small

**ARIZONA STATE UNIVERSITY MAIN
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL / FY 2005 - FY 2006 BUDGET
BIODESIGN INSTITUTE AND CAPACITY BUILDING PROJECT INVESTMENTS**

FY 2004 RESULTS AND ACCOMPLISHMENTS

Biodesign Institute at Arizona State University

- Annualized research grants in the biosciences increased by 10% in FY 2004. For researchers connected to established Biodesign Institute Centers, annualized grants increased to \$12.5M, an increase of 31% over FY 2003.
- In FY 2004, there were seven multi-investigator proposals that requested total awards of more than \$3M submitted by Biodesign researchers. Five of the proposals requested >\$1M per year. Of these, three are collaborations between two or more Centers and two involve collaborations with TGen.
- Biodesign played a major role in landing the Army Flexible Panel Display Grant at \$45M over five years.
- National Academy member, Dr. Roy Curtiss, was recruited and will join Biodesign in December 2004. Other Biodesign Institute-related hires include four senior faculty, three junior faculty, and ten research faculty. Over 80 faculty and staff researchers are now affiliated with the Biodesign Institute.
- Dr. Kathleen Matt was appointed to the newly established position of Director of Clinical Partnerships. A new collaborative agreement has been signed with the Mayo Clinic. Broadened research agreements are being explored with Banner Health and Barrow Neurological Institute.
- Construction of Phase I of the Biodesign Institute is on schedule for start of occupancy by October 1, 2004. The Phase II building was started and is on track for occupancy in October 2005. The Research Support Services #5 animal facility will be occupied in January 2005. Capital commitments have been made for the construction of additional ASU buildings to support the biosciences: The Interdisciplinary Science and Technology buildings #1 and #3; the Biodesign Institute Phase II building; the Arizona Biomedical Collaborative building; and the Research Support Services building #5.
- In FY 2004, four new patents were issued in the biosciences. Biodesign Institute researchers filed 17 patent applications and 9 invention disclosures. License agreements were reached with two spin-outs (AzERx and Nanobiomics) involving Biodesign faculty.

Capacity Building Project Initiatives

- To help increase interactions between information technology initiatives, all InCISE affiliates moved into space in the Brickyard complex except CABIT and the Software Factory.
- Over \$30M in large-scale collaborative research proposals were facilitated by InCISE, including a TGen/CSE/InCISE research initiative, enterprise computing initiatives between the Ira A. Fulton School of Engineering and the W. P. Carey School of Business, and multi-disciplinary proposals to NSF.
- PRISM, a core member of InCISE, led the development of the Decision Theater concept, a major information technology-based research resource. Development of prototypes has led to significant external funding including the new NSF-sponsored Decision Center for a Desert City (\$6.9M), and significant external visibility for potential partners in business, government, and funding agencies.
- CEINT was named as one of three finalists for the prestigious Governors Council on Innovation Award. CEINT was chosen from over 80 nominees to be one of three organizations featured in the service provider category at the awards banquet.
- CEINT introduced three new Embedded Systems courses and laboratories into the undergraduate curriculum.
- The advanced materials Initiative helped in successfully attracting the major new \$45M/5-year Army Flexible Display Center grant to ASU. Associated with this new award, a new interdisciplinary faculty member (Ghassan Jabbour) was recruited to bring the new critical skill area of organic light-emitting devices to ASU and the Flexible Display Center.
- Molecular Imaging Inc. donated two key instruments valued at \$0.25M for characterization nanomaterials and nanomolecular surfaces.
- Advanced materials investments attracted a substantial level of grants and gifts (over \$9.1M in new funds for future years).
- The wireless technology area exhibited significant growth, with over \$5M in new awards for future years from sponsors like DARPA, NASA, JPL, NSF, the U.S. Army, and the Air Force Research Labs (more than ten new successful grants), over \$0.8M in industry funding (involving nine corporate participants).
- ConnectionOne added two more universities to their university-industry consortium, the University of Arizona and the University of Hawaii.
- ConnectionOne/WINTech established the AZ Wireless Expo in November 2003. This national event attracted over 300 participants.
- The Software Factory has supported strategically important centers that have significantly increased their external support this past year, including: Applied Nanobioscience Center (ANBC), Center for Research on Education in Science, Mathematics, Engineering, and Technology (CRESMET), and Technology Based Learning and Research (TBLR).

ARIZONA STATE UNIVERSITY MAIN
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL / FY 2005 - FY 2006 BUDGET
BIODESIGN INSTITUTE AND CAPACITY BUILDING PROJECT INVESTMENTS

Technology Transfer/Technology Venturing

- Closed 22 technology deals and started 4 new companies.
- Hired world-class management team and Board of Directors.
- Established operating and IP policies.
- “Clustered” technology portfolio and established deal process.
- Entered into significant collaborations with TGen and Mayo Clinic.
- Established the Technology Venture Clinic.
- Established AzTE Venturing Magazine and the AzTE Lecture Series.
- Increased revenues, invention disclosures, and patent filings.

ARIZONA STATE UNIVERSITY EAST
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL / FY 2005 - FY 2006 BUDGET
Campus Capital Infrastructure Development

	FY 2004 REV BUDGET	FY 2004 ACTUAL	FY 2005 ORIG BUDGET	FY 2005 REV BUDGET	FY 2006 REV BUDGET
REVENUE					
Carryforward	\$ (34,400)	\$ (34,400)		\$ 95,700	\$ (20,400)
TRIF Revenue	2,000,000	2,000,000	\$ 2,020,400	\$ 2,000,000	\$ 2,137,000
TOTAL REVENUE	\$ 1,965,600	\$ 1,965,600	\$ 2,020,400	\$ 2,095,700	\$ 2,116,600
EXPENDITURES					
OPERATING BUDGET					
Personal Services					
ERE					
All Other Operating					
TOTAL OPERATING BUDGET	-	-	-	-	-
CAPITAL BUDGET					
Building Renovation					
Debt Service					
COPs Lease Purchase Payment	1,869,900	1,869,900	2,116,100	2,116,100	2,116,600
TOTAL CAPITAL BUDGET	1,869,900	1,869,900	2,116,100	2,116,100	2,116,600
EXPENDITURES GRAND TOTAL	\$ 1,869,900	\$ 1,869,900	\$ 2,116,100	\$ 2,116,100	\$ 2,116,600

INITIATIVE OVERVIEW

The ASU East Proposition 301 initiative funds \$27.5 million of Certificates of Participation (COPs) for infrastructure development, including multiple building renovations, campus infrastructure improvements, and a new campus student union. The building renovations will prepare academic space, including classrooms, faculty and staff offices, and student support services to meet anticipated growth. The infrastructure improvements continue the transition of the former Williams Air Force Base to an attractive university campus. The major projects include campus street and roadway improvements, new campus malls, lighting and emergency telephones, and campus landscape improvements.

PROGRESS REPORT

The COPs were issued in June 2002. Scheduled payments run through 2021.

Approximately \$26.8 million (98%) of the COPs has been committed to building renovation and campus infrastructure projects at ASU East. Completed projects include the Administration Building, the Simulator Building renovations, the renovation of Wanner and Sutton Halls, as well as the North and South Pedestrian Malls. Both the new Union Building and the Agribusiness Center renovation projects are scheduled for completion in July 2004 and will be fully operational for the fall semester beginning in August 2004. ASUE will complete all TRIF-funded capital improvement projects by June 2005. The FY 2006 budgeted revenue request is increased by \$20,400 to bring the appropriation in line with the COPs payments.

ARIZONA STATE UNIVERSITY WEST
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL / FY 2005 - FY 2006 BUDGET
Classroom Laboratory / Computer Classroom II Building and Central Plant Expansion

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>ORIG BUDGET</i>	<i>FY 2005</i> <i>REV BUDGET</i>	<i>FY 2006</i> <i>REV BUDGET</i>
REVENUE					
Carryforward	\$ 6,400	\$ 6,400		\$ 120,100	\$ 56,300
TRIF Revenue	1,600,000	1,600,000	\$ 1,543,700	1,600,000	\$ 1,609,300
TOTAL REVENUE	\$ 1,606,400	\$ 1,606,400	\$ 1,543,700	\$ 1,720,100	\$ 1,665,600
EXPENDITURES					
OPERATING BUDGET					
Personal Services					
ERE					
All Other Operating					
TOTAL OPERATING BUDGET	-	-	-	-	-
CAPITAL BUDGET					
Building Renovation					
Debt Service					
COPs Lease Purchase Payment	1,486,300	1,486,300	1,663,800	1,663,800	1,665,600
TOTAL CAPITAL BUDGET	1,486,300	1,486,300	1,663,800	1,663,800	1,665,600
EXPENDITURES GRAND TOTAL	\$ 1,486,300	\$ 1,486,300	\$ 1,663,800	\$ 1,663,800	\$ 1,665,600

INITIATIVE OVERVIEW

The ASU West Proposition 301 initiative funds \$21.6 million of Certificates of Participation (COPs) for two projects, a 104,400 gross square foot (GSF) Classroom Laboratory/Computer Classroom Building (CLCC II) and a Central Plant expansion.

The CLCC II building includes approximately 42,000 net assignable square footage (NASF) of instructional space with a 150-seat lecture hall, two 80-seat classrooms, ten 60-seat classrooms, two 40-seat computer classrooms, five science labs, and one computer lab.

The Central Plant expansion adds 4,800 GSF for a new 1,000 ton chiller, a thermal storage tank, and utility line extensions required to service the CLCC II building.

PROGRESS REPORT

The COPs were issued in June 2002. Scheduled payments run through 2021. Construction on the projects was completed for the Spring 2004 semester. The FY 2006 budgeted revenue request is reduced by \$56,300 to bring the appropriation in line with the COPs payments.

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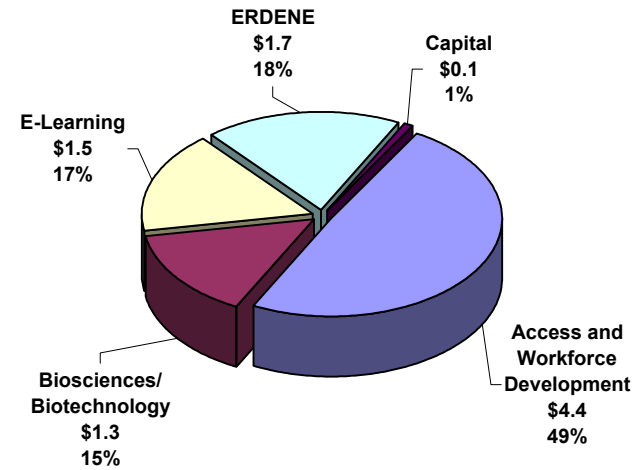
NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
SUMMARY

	FY 2004 REV BUDGET	FY 2004 ACTUAL	FY 2005 ORIG BUDGET	FY 2005 REV BUDGET	FY 2006 REV BUDGET
REVENUE					
Carry Forward	\$ 4,155,009	\$ 4,155,009	\$ -	\$ 4,246,908	\$ 1,349,282
TRIF Revenue	8,920,000	9,038,627	9,350,000	9,350,000	9,817,500
TOTAL REVENUE	<u>\$ 13,075,009</u>	<u>\$ 13,193,636</u>	<u>\$ 9,350,000</u>	<u>\$ 13,596,908</u>	<u>\$ 11,166,782</u>
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 5,795,992	\$ 5,065,234	\$ 4,469,063	\$ 6,675,817	\$ 5,033,866
ERE	1,390,791	1,199,417	949,814	1,627,616	1,073,801
All Other Operating	4,968,226	2,682,077	1,691,123	2,944,193	3,059,115
TOTAL OPERATING BUDGET	<u>12,155,009</u>	<u>8,946,728</u>	<u>7,110,000</u>	<u>11,247,626</u>	<u>9,166,782</u>
CAPITAL BUDGET					
Building Renovation	-	-	-	1,000,000	2,000,000
Debt Service	-	-	2,240,000	-	-
COPs Lease Purchase Payment	920,000	-	-	-	-
TOTAL CAPITAL BUDGET	<u>920,000</u>	<u>-</u>	<u>2,240,000</u>	<u>1,000,000</u>	<u>2,000,000</u>
EXPENDITURES GRAND TOTAL	<u>\$ 13,075,009</u>	<u>\$ 8,946,728</u>	<u>\$ 9,350,000</u>	<u>\$ 12,247,626</u>	<u>\$ 11,166,782</u>
Note: FY 2004 expenditures include encumbrances at 6/30/04.					
SUMMARY BY INITIATIVE					
Access and Workforce Development	\$ 5,999,032	\$ 4,395,484	\$ 2,000,000	\$ 4,422,314	\$ 2,905,637
Biosciences/Biotechnology	1,330,270	1,309,360	800,000	800,885	806,400
E-Learning	2,308,833	1,510,536	2,250,000	2,979,271	2,268,000
ERDENE (Environmental)	1,852,267	1,650,660	2,060,000	2,201,229	2,076,480
Capital	1,584,607	80,688	2,240,000	1,126,800	2,357,282
University Initiatives	-	-	-	717,127	752,983
EXPENDITURES GRAND TOTAL	<u>\$ 13,075,009</u>	<u>\$ 8,946,728</u>	<u>\$ 9,350,000</u>	<u>\$ 12,247,626</u>	<u>\$ 11,166,782</u>

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 BUDGET / ACTUAL
SUMMARY

	<i>FY 2004 REV BUDGET</i>	<i>FY 2004 ACTUAL</i>
REVENUE		
Carry Forward	\$ 4,155,009	\$ 4,155,009
TRIF Revenue	8,920,000	9,038,627
TOTAL REVENUE	<u>\$ 13,075,009</u>	<u>\$ 13,193,636</u>
EXPENDITURES		
OPERATING BUDGET		
Personal Services	\$ 5,795,992	\$ 5,065,234
ERE	1,390,791	1,199,417
All Other Operating	4,968,226	2,682,077
TOTAL OPERATING BUDGET	<u>12,155,009</u>	<u>8,946,728</u>
CAPITAL BUDGET		
Building Renovation	-	-
Debt Service	-	-
COPs Lease Purchase Payment	920,000	-
TOTAL CAPITAL BUDGET	<u>920,000</u>	<u>-</u>
EXPENDITURES GRAND TOTAL	<u>\$ 13,075,009</u>	<u>\$ 8,946,728</u>
SUMMARY BY INITIATIVE		
Access and Workforce Development	\$ 5,999,032	\$ 4,395,484
Biosciences/Biotechnology	1,330,270	1,309,360
E-Learning	2,308,833	1,510,536
ERDENE (Environmental)	1,852,267	1,650,660
Capital	1,584,607	80,688
EXPENDITURES GRAND TOTAL	<u>\$ 13,075,009</u>	<u>\$ 8,946,728</u>

FY 2004 NAU ACTUAL TRIF EXPENDITURES
(in millions)



NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ACCESS/WORKFORCE DEVELOPMENT

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>ORIG BUDGET</i>	<i>FY 2005</i> <i>REV BUDGET</i>	<i>FY 2006</i> <i>REV BUDGET</i>
REVENUE					
Carry Forward	\$ 2,119,032	\$ 2,119,032	\$ -	\$ 1,655,041	\$ -
TRIF Revenue	3,880,000	3,931,493	2,000,000	2,767,273	2,905,637
TOTAL REVENUE	<u>\$ 5,999,032</u>	<u>\$ 6,050,525</u>	<u>\$ 2,000,000</u>	<u>\$ 4,422,314</u>	<u>\$ 2,905,637</u>
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 2,462,280	\$ 2,244,371	\$ 1,254,000	\$ 2,889,754	\$ 1,254,000
ERE	622,152	514,329	260,252	793,254	260,252
All Other Operating	2,914,600	1,636,784	485,748	739,306	1,391,385
TOTAL OPERATING BUDGET	<u>5,999,032</u>	<u>4,395,484</u>	<u>2,000,000</u>	<u>4,422,314</u>	<u>2,905,637</u>
CAPITAL BUDGET					
Building Renovation	-	-	-	-	-
Debt Service	-	-	-	-	-
COPs Lease Purchase Payment	-	-	-	-	-
TOTAL CAPITAL BUDGET	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
EXPENDITURES GRAND TOTAL	<u>\$ 5,999,032</u>	<u>\$ 4,395,484</u>	<u>\$ 2,000,000</u>	<u>\$ 4,422,314</u>	<u>\$ 2,905,637</u>

Note: FY 2004 expenditures include encumbrances at 6/30/04.

INITIATIVE OVERVIEW

This initiative represents a major step forward in Northern Arizona University's ability to provide education services to Arizona citizens who are time- or place-bound.

Additional funding support of NAU's Extended Programs/Distance Learning System is an investment in the New Economy that directly supports the identified needs of the Governor's Task Force on Higher Education, the Arizona Partnership for a New Economy, and the ABOR guidelines. This initiative will:

1. Address the teacher shortage: emphasizes on alternative certification and preparation of mathematics and science teachers
2. Provide engineers with advanced training to support business and industry
3. Increase the number of advance-trained nurses/other health professionals to maintain quality of life
4. Educate information technology professionals to serve the New Economy needs of the state
5. Prepare post-baccalaureate business/non-profit managers to be leaders in existing/new businesses
6. Build the support infrastructure for future development of degrees/certificates responsive to the needs of the New Economy.

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ACCESS/WORKFORCE DEVELOPMENT

FY 2004 GOALS/OBJECTIVES

I. Programs

The program strategy for years three through five (FY 2004 through FY 2006) is to:

1. Evaluate programs, discontinue the unsuccessful programs and continue successful programs, and seek modest increases in enrollment.
2. Use incremental funding to increase student capacity in existing non-TRIF funded programs.

A. Education

1. Alternative Teacher Certification -- Redesign from a certificate program to a Masters. Incremental enrollment sought through additional cohorts.
2. Master of Education in Educational Technology -- Incremental enrollment sought.
3. English as a Second Language Endorsement -- Convert program to the Web. Incremental enrollment sought.
4. Science/Math education -- Complete development of all modules. Develop marketing materials and Web site. Develop Chemistry courses for completion in Spring 2004.
5. Newly hired faculty member to develop and teach required graduate Education Foundations courses for 150 new students.

B. Health Professions

1. Accelerated Bachelor of Science in Nursing; Registered Nurse to Bachelor of Science in Nursing -- Seek incremental student enrollment.
2. Bachelor of Science in Dental Hygiene -- Expand program. Incremental enrollment sought.
3. Bachelor of Applied Science in Health Promotion -- Incremental enrollment sought.
4. Master in Nursing -- Incremental enrollment sought.

C. Business and Public Service

1. Master of Science in Management -- Rename to meet student needs and AACSB accreditation requirements. Incremental enrollment sought.
2. Bachelor of Applied Science in Computer Technology -- Incremental enrollment sought.
3. Post-Baccalaureate Certificate in Entrepreneurship -- Develop this program.
4. Bachelor of Arts in Liberal Studies in Public Agency Service/Bachelor of Applied Science in Public Agency Service, and support courses for all BAILS/BAS -- Develop and teach Web courses. Incremental enrollment sought.
5. Culinary and Sanitation Certificates -- Finish development and offer these certificates.
6. Graphical Information Systems (GIS) post-baccalaureate certificate and workshops -- Finish development and recruit students.

II. Infrastructure

A. Student Services -- Meet increasing needs for toll-free phone and Web access for students. Continue to advise students at a distance, incrementally add staff as needed to meet demand.

B. Technical Infrastructure -- Maintain high-bandwidth Internet connections and modems in rural sites. Complete the conversion of the old analog IITV System to a full digital system with voice (VOIP), video, and Internet over IP by Summer of 2004.

C. Faculty support -- Develop and teach Web courses with a combination of Prop 301 and Distance Learning Services stipends.

D. Develop marketing materials; place print, radio, and cable TV advertising in statewide and local media; and utilize electronic Internet advertising such as e-mail postcards and Web site banners.

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ACCESS/WORKFORCE DEVELOPMENT

	FY 2002	FY 2003	FY 2004	FY 2004	FY 2004	FY 2006
PERFORMANCE MEASURES/DELIVERABLES	ACTUAL	ACTUAL	PROJECTED	ACTUAL	REVISED	REVISED
Leveraged Investment						
1. Grants/contracts proposed		\$3,951,834	\$150,000	\$5,094,132	\$250,000	\$250,000
Technology Transfer						
2. Courses/modules sold/brokered	0	5	2	0	2	2
Economic Development						
3. Companies identifying NAU as reason for relocating or expanding in AZ		0	1	0	1	1
Work Force Contributions						
4. Potential new students served						
-New teachers	250	542	545	807	600	600
-Nurses/health professionals	120	266	200	414	300	300
-Engineers with advanced training	20	Reported in ARU TRIF		Reported in ARU TRIF	30	30
-Business/non-profit managers	44	182	60	303	200	200
Specific Curriculum Innovations						
5. Degree/certificate programs	11	19	15	37	20	20
6. Statewide access (rural and urban)	yes	yes		yes		
7. Regional/national/global access	yes	yes		yes		
8. New/revised courses	75	72	100	105	80	80
Partnerships						
9. Community College partners	14	16	15	17	16	16
10. Tri-University (ASU, NAU, U of A)	3	3	3	3	3	3
11. K-12 partners (schools/districts)	30	51	30	119	60	60
12. Industry or agency partnerships	2	21	5	42	25	25

FY 2004 RESULTS AND ACCOMPLISHMENTS

NAU has maintained and, in some cases, expanded the number of students in programs; added a few new programs; and added new students in existing programs. We have been very pleased with the progress.

I. Programs

A. Education

1. Alternative Teacher Certification - Program was revamped from a certification to a Master in Education and reduced from 22 months to 12 months to get teachers into the classroom more quickly. Year three results included: three elementary education cohorts in Tucson; two elementary and one secondary education cohort in Phoenix; and one elementary education cohort in Yuma (20-25 students each cohort). Over 90% of the graduates stay in Arizona to teach.
2. Master of Education in Educational Technology and Certificate Program -- Both of these Web programs have been completely converted to Web delivery. Student demand continues to grow from 177 to 195.

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ACCESS/WORKFORCE DEVELOPMENT

3. English as a Second Language Endorsement -- All except one required course have been converted to Web delivery. Once the final course is converted in Fall of 2004, the complete program will be accessible to students on the Web. Enrollment dropped from 284 to 235 due to changes in state law requiring that all classes be taught exclusively in English.
4. Science/Math education -- Six Biology, five Chemistry, and nine Physics Web-delivered mini-courses have been designed and delivered. These mini-courses (1 credit hour each) allow current teachers to acquire skills to enhance their teaching or to be certified to teach science. Enrollments have been small (32 in AY 2003/2004). Through assessment we found that teachers taking the courses have found them useful in their teaching. Marketing through brochures and a Web site was completed. New marketing strategies are being developed to reach more teachers in Arizona and throughout the Southwest.
5. Four required graduate Education Foundations courses have been converted to Web delivery with capacity for 150 new students. These courses are required for all NAU Education masters programs.
6. Bachelor of Science in Elementary Education -- A new program for TRIF funding in 2004, cohorts were started in Tucson and will be starting in Phoenix for the Fall 2004 semester.
7. Bachelor of Science and Master of Science in Career and Technical Education -- These are new TRIF programs for 2004, with the master entirely on the Web and the bachelor delivered primarily face-to-face in urban areas such as Phoenix and Tucson.

B. Health Professions

1. Accelerated Bachelor of Science in Nursing -- Twenty new students admitted in FY 2004.
2. Registered Nurse to Bachelor of Science in Nursing -- Entire curriculum except for clinical experiences is delivered on-line. Twenty-two new students admitted in FY 2004.
3. Master of Nursing -- New program for FY 2004. Seventeen new students admitted in FY 2004.
4. Bachelor of Science in Dental Hygiene -- program expanded from 99 to 131 students. Web site, journal ads, and recruitment visits to sites throughout state were used for marketing. This program has national interest and enrollment.
5. Bachelor of Applied Science in Health Promotion and Bachelor of Science in Health Promotion -- 132 students enrolled in this new program. Seven courses developed or revised for Web delivery bringing a total of 21 over the life of the project. Marketing was expanded to reach more students.
6. Health Promotion emphasis in Masters of Management -- Four students are in this emphasis that has a capability to serve 15 students.

C. Business and Public Service

1. Master of Science in Management -- Program increased with 18 new admits in FY 2004 to 69 students. There are six emphasis areas: Educational Leadership; Professional Writing; Project Management; Public Management; Health Promotion; and a Custom Emphasis Option. Allows students to obtain basic grounding in business courses while specializing in non-traditional areas such as Public Service management. This program has been modified to better fit student needs and to comply with AACSB accreditation requirements. The renamed degree, the Master of Administration, admitted 34 new students in FY 2004 with an estimated 50-60 new students expected to be admitted by the start of Fall 2004 classes.
2. Bachelor of Applied Science in Computer Technology -- Program designed as a follow-up to community college degree in Computer Technology. Main focus has been on establishing articulation agreements with community colleges. Enrollment for this program during FY 2004 was 32 students.
3. Post-Baccalaureate Certificate in Entrepreneurship -- Demand for this program was low, and it has been discontinued.
4. Bachelor of Arts in Liberal Studies in Public Agency Service/Bachelor of Applied Science in Public Agency Service, and support courses for all BAILS/BAS and liberal studies students. -- Six Web courses were developed in FY 2004 to support these programs. Cross-degree utilization of the nine course sections offered totaled 293 enrollments.
5. Culinary Arts for Managers Certificate -- After a successful non-credit initial roll-out in early 2004, the Culinary Arts for Managers was renamed as a credit-granting certificate. American Hotel Online, a national Web site, has run a story on the program. The certificate will be underwritten by Kendall Jackson Wineries and will be available to students for the Fall 2004 semester.
6. Graphical Information Systems (GIS) post-baccalaureate certificate and workshops -- Student recruitment efforts have yielded few admissions and enrollments. Faculty member resigned and courses will be taught by part-time faculty in FY 2005 to see if admissions and enrollment is sufficient to justify rehiring a full-time faculty member.

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ACCESS/WORKFORCE DEVELOPMENT

II. Infrastructure

A. Student Services -- toll-free phone and Web access for students provided follow-up for students who had not enrolled and for Web students. Advisors hired to work with students at a distance. On-site assistance available at 29 offices around the state.

B. Technical Infrastructure -- Internet bandwidth met high-bandwidth demands of students. Internet 2 connectivity was maintained to support national exchange of instructional and research data. Modem pools were maintained in rural areas to better serve students. Citrix server maintained to enable complex software to be accessed by students with access to limited computer power. Students using the Citrix server totaled 2,622. New all-digital ITV System consisting of voice (VOIP-Internet telephone), video and Internet services installation completed by June 30, 2004, goal.

C. Faculty support -- 105 Web courses developed with Prop 301/TRIF funding. Over 250 Web courses were taught each semester using a combination of Prop 301 and Distance Learning Services funding. Approximately 25% growth in Web enrollments.

D. Developed marketing materials; placed print, radio, and cable TV advertising in statewide and local media; and utilized electronic Internet advertising such as e-mail postcards and Web site banners. Multi-purpose, multi-media marketing materials were emphasized. Wide variety of materials developed and used in multiple campaigns for each program.

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
BIOSCIENCES/BIOTECHNOLOGY

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>ORIG BUDGET</i>	<i>FY 2005</i> <i>REV BUDGET</i>	<i>FY 2006</i> <i>REV BUDGET</i>
REVENUE					
Carry Forward	\$ 510,270	\$ 510,270	\$ -	\$ 32,885	\$ -
TRIF Revenue	820,000	831,975	800,000	768,000	806,400
TOTAL REVENUE	<u>\$ 1,330,270</u>	<u>\$ 1,342,245</u>	<u>\$ 800,000</u>	<u>\$ 800,885</u>	<u>\$ 806,400</u>
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 560,000	\$ 574,960	\$ 89,000	\$ 250,000	\$ 93,000
ERE	84,000	131,243	17,000	70,000	18,000
All Other Operating	686,270	603,157	694,000	480,885	695,400
TOTAL OPERATING BUDGET	<u>\$ 1,330,270</u>	<u>\$ 1,309,360</u>	<u>\$ 800,000</u>	<u>\$ 800,885</u>	<u>\$ 806,400</u>
CAPITAL BUDGET					
Building Renovation	-	-	-	-	-
Debt Service	-	-	-	-	-
COPs Lease Purchase Payment	-	-	-	-	-
TOTAL CAPITAL BUDGET	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
EXPENDITURES GRAND TOTAL	<u>\$ 1,330,270</u>	<u>\$ 1,309,360</u>	<u>\$ 800,000</u>	<u>\$ 800,885</u>	<u>\$ 806,400</u>

Note: FY 2004 expenditures include encumbrances at 6/30/04.

INITIATIVE OVERVIEW

Consistent with the principles of Arizona at Risk, this initiative focuses on projects in the broad field of biotechnology which can:

1. Enhance the reputation of Flagstaff and Arizona as a center of quality bioscience/biochemistry research
2. Secure additional resources, largely in the form of federal grants, to speed up the processes of basic and applied science related to biotechnology
3. Stimulate technology transfer to better position Arizona in the fields of bioscience and biotechnology
4. Expand and enrich the Arizona workforce trained in state-of-the-art aspects of biotechnology

FY 2004 GOALS/OBJECTIVES

Plans for FY 2004 include:

1. Identify new projects for major focus in TRIF budget years 4 and 5
2. Focus efforts on obtaining new grant funds, primarily from the federal government, using Proposition 301 funds for leverage
3. Establish additional external collaborations with individuals and groups from industry and other academic institutions
4. Continue our nascent efforts with regard to obtaining patents for new discoveries that have been supported, in part, by Proposition 301 funds
5. Provide technical training and education to undergraduate and graduate students through advanced-content classes and individual research experiences
6. Expand the "mini-grant" program that provides support up to \$25,000 to investigators exploring initiatives that might possibly expand into major Bio-Tech TRIF projects

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
BIOSCIENCES/BIOTECHNOLOGY

<u>PERFORMANCE MEASURES/DELIVERABLES</u>		<i>FY 2002</i>	<i>FY 2003</i>	<i>FY 2004</i>	<i>FY 2004</i>	<i>FY 2005</i>	<i>FY 2006</i>
		<i>ACTUAL</i>	<i>ACTUAL</i>	<i>PROJECTED</i>	<i>ACTUAL</i>	<i>REVISED</i>	<i>REVISED</i>
Leveraged Investment							
1.	Increased external funding	\$1,400,000	\$6,286,000	\$3,000,000	\$5,550,000	\$3,000,000	\$1,500,000
Technology Transfer							
2.	Patents applied for	1	2	2	2	1	1
3.	Products generated/disclosed		5	3	discussions	1	1
4.	Business expansions	0				1	1
5.	Industry partnerships	0	2	2	2	2	3
6.	Startup companies created	0	2	2	1	0	0
7.	Presentations at professional meetings				55		
8.	Publications in refereed journals				59		
Economic Development							
9.	Flagstaff/Northern Arizona					1	1
Work Force Contributions							
10.	Graduate/postdoc students in pipeline	60	62	60	60	65	70
11.	Undergraduate students with research experience	80	79	75	43	65	110
12.	Undergrad students in specialized bio-tech courses				133		
13.	M.S./PhD/post-doc graduate increases	11	12	10	5	3	5
Specific Collaborations							
14.	New research collaborations	6	29	10	3	1	2

FY 2004 RESULTS AND ACCOMPLISHMENTS

Leveraged Investment:

We were able to obtain a substantial increase in external dollars through leveraging Prop 301 and other funds during FY 2004. Additional new grants have also been submitted and are under review. Funding was received from the National Science Foundation, Bureau of Land Management, Centers for Disease Control, and National Institutes of Health, among others. 75% of the projects funded through this year's mini-grant proposals were able to obtain external funding at least partially as a result of having TRIF funds available.

Technology Transfer:

Five patents from previous years are in place, and discussions about commercialization of product are occurring with regard to a number of them.

Work Force Contributions:

We now offer specialized training in molecular techniques, immunology, instrumentation, biochemistry, and medical microbiology. Over 130 undergraduate students received this training in FY 2004. Students not only learn how to carry out these activities, but more importantly, they also learn the theory behind the use of these various apparatus and procedures. These efforts have been aided by Proposition 301 funding. We currently have 7 post-doctoral fellows in place and over 40 undergraduates in the labs working on TRIF-funded research projects.

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
BIOSCIENCES/BIOTECHNOLOGY

Specific Collaborations:

One of the most exciting collaborations we have participated in is on our own campus. A new initiative called SABRE (Strategic Alliance for Bioscience Research and Education) has brought together faculty and researchers from disciplines such as Biology, Electrical Engineering, Chemistry, Physics and Astronomy, and Health Professions with representatives from the Northern Arizona Technology Business Incubator and the Greater Flagstaff Economic Council to take advantage of trends toward convergence among disciplines in the life sciences, chemistry, environmental science, physics, and engineering. The SABRE group will be the main force behind TRIF Bio-Tech initiatives in the future. We are excited about the possibilities these collaborations offer.

We have established new collaborations with Utah State University, the Cleveland Clinic Foundation, and a researcher in Minsk, Russia.

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
E-LEARNING

	FY 2004 REV BUDGET	FY 2004 ACTUAL	FY 2005 ORIG BUDGET	FY 2005 REV BUDGET	FY 2006 REV BUDGET
REVENUE					
Carry Forward	\$ 637,033	\$ 637,033	\$ -	\$ 819,271	\$ -
TRIF Revenue	1,671,800	1,692,774	2,250,000	2,160,000	2,268,000
TOTAL REVENUE	\$ 2,308,833	\$ 2,329,807	\$ 2,250,000	\$ 2,979,271	\$ 2,268,000
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 1,450,000	\$ 1,032,356	\$ 1,600,000	\$ 1,600,000	\$ 1,632,000
ERE	325,000	278,221	375,000	375,000	383,000
All Other Operating	533,833	199,959	275,000	1,004,271	253,000
TOTAL OPERATING BUDGET	\$ 2,308,833	\$ 1,510,536	\$ 2,250,000	\$ 2,979,271	\$ 2,268,000
CAPITAL BUDGET					
Building Renovation	-	-	-	-	-
Debt Service	-	-	-	-	-
COPs Lease Purchase Payment	-	-	-	-	-
TOTAL CAPITAL BUDGET	\$ -	\$ -	\$ -	\$ -	\$ -
EXPENDITURES GRAND TOTAL	\$ 2,308,833	\$ 1,510,536	\$ 2,250,000	\$ 2,979,271	\$ 2,268,000

Note: FY 2004 expenditures include encumbrances at 6/30/04.

INITIATIVE OVERVIEW

The Center for Research, Development and Assessment in Electronic Learning Environments has been established in response to APNE and the recommendations of the Governor's Task Force on Higher Education. The Center is dedicated to using information technology to transform teaching and learning and to better prepare graduates for the Arizona workforce. Through the use of Web technologies, place-bound Arizona citizens will have increased access to an education; NAU graduates will be skilled at learning via the Web; and learning will be enhanced using information technology tools. Research in innovative applications of advanced technology into the learning process, coupled with assessment of the actual learning students experience, will assure a high impact of this project on NAU students, and on students across the state.

Some anticipated outcomes are:

1. Use Web technology to transform learning and teaching in both residential and distance education
2. Assess learning effectiveness associated with information technology-mediated learning environments
3. Increase baseline technological literacy skills of all NAU baccalaureate graduates
4. Provide advanced information technology skills to NAU undergraduates through modifications and new academic programs
5. Assess technological literacy skills of all NAU graduates

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
E-LEARNING

FY 2004 GOALS/OBJECTIVES

Continue to refine program and support systems for faculty. Principal goals this year are the support of enhancing traditional courses, development of hybrid courses, and support the pilot use of Web resources to enhance IITV courses. A further goal that has been achieved is the redesign of the support process and structures for development of fully online courses. Work to achieve stated performance measures.

<u>PERFORMANCE MEASURES/DELIVERABLES</u>		<i>FY 2002 ACTUAL</i>	<i>FY 2003 ACTUAL</i>	<i>FY 2004 PROJECTED</i>	<i>FY 2004 ACTUAL</i>	<i>FY 2005 REVISED</i>	<i>FY 2006 REVISED</i>
Workforce Contributions							
1.	Number of new Web courses developed and offered	125	101 new courses, 140 new sections offered	130	121	90	80
			9,476 enrollments, in 408 sections		22 in Winter '04		
2.	Number of new IT-enhanced courses developed		32	30	42	50	60
3.	Increase in enrollments of distance students in Web courses		1,703	600	(136)	500	500
4.	Increase in residential undergraduate enrollments		663	150	793	750	750
5.	Increase in student academic success in Web courses		DFW dropped from 17.7% to 16.8%, a 5% improvement.	15%		5%	5%
6.	Total number of faculty participating in Web development	150	117	200	155	120	120
			82 on Web courses 35 on Web enhanced				
7.	Number of NAU students taking Web courses		12,180	4,500	10,133	11,000	12,000
8.	Number of graduates with technical literacy <i>(to be assessed directly)</i>	1,500	889	2,000	1,633	2,000	2,300
9.	Percentage of students satisfied with Web learning opportunities		84%, an improvement from 75% last year.	85%	89.2%	90%	90%
	<i>Senior survey data</i>		89%, an improvement from 88% last year.				
10.	Number of new certificates in advanced technology for students	2	1	1		1	1
Leveraged Investment							
11.	Grants and donations for research in best practices	\$50,000	\$0	\$100,000	\$0	\$50,000	\$50,000
Specific Collaborations							
12.	Number of private sector partnerships		0	2		1	1

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
E-LEARNING

FY 2004 RESULTS AND ACCOMPLISHMENTS

Work Force Contributions:

Completed the projects for design of exemplary practices in assessment of student learning in degree programs that rely heavily on electronic instructional technologies. These include electronic portfolios in elementary education, assessing foundation courses in the Master of Science in Management, comparing outcomes in hybrid and traditional courses in Introduction to Advertising, comparing outcomes in online and traditional courses in Business and Professional Speaking courses, and building assessment reliability across eight programs in The School of Communications that use hybrid and online courses.

Spring 2004 we initiated ten projects, hybrid course and program development projects (\$105,000), to employ innovative applications of online technology to augment or replace traditional classroom learning practices. These projects are well under way and include the following: ACC 256 – Principles of Accounting (T.S. Amer), ANT 310, 311, 312 – Study (A. Hunter & W. Vannette), CHM151L – General Chemistry Lab (J. Maxka), CJ345 – Human & Cultural Relations (B. Perry & L. Jones), Construction Management BS Degree (T. Rogers), ECO284 – Principles of Economics (J. Pinto & P. Ng), FOR380 – Ecological Restoration Principles (M. Oelschlaeger & P. Fule), Masters in Ed Tech – (M. Blocher & L. Sujo de Montes), SOC101 – Intro to Sociology (J. Reed).

Summer 2004 is the initiation of the Faculty Fellows Research Program. Four fellows have been selected for support to research in the area of technology for communication, verbal and written, Mathematics Education Practices on the Web, and Nursing Education Problems on the Web. The fellows are: Randi Reppen (English), Jeff Shamata-Hovermill (Math), Laura Humphrey (Communication), Sally Dosier (Nursing). These fellows will work with CRADLEE for the next 15 months.

E-learning has hired an assessment specialist who is working with all hybrid projects and the fellows.

Starting Fall 2004 all IITV courses will use WebCT and Web resources for document delivery and further enhancements will be developed during the coming year.

Specific Collaborations:

CTEL supported development of 121 new WebCT courses since July 1, 2003.

E-Learning has supported integration of technology, or Web enhancements, into 42 courses since July 1, 2003.

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ERDENE

	<i>FY 2004 REV BUDGET</i>	<i>FY 2004 ACTUAL</i>	<i>FY 2005 ORIG BUDGET</i>	<i>FY 2005 REV BUDGET</i>	<i>FY 2006 REV BUDGET</i>
REVENUE					
Carry Forward	\$ 224,067	\$ 224,067	\$ -	\$ 223,629	\$ -
TRIF Revenue	1,628,200	1,650,222	2,060,000	1,977,600	2,076,480
TOTAL REVENUE	<u>\$ 1,852,267</u>	<u>\$ 1,874,289</u>	<u>\$ 2,060,000</u>	<u>\$ 2,201,229</u>	<u>\$ 2,076,480</u>
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 1,248,712	\$ 1,160,568	\$ 1,526,063	\$ 1,526,063	\$ 1,644,866
ERE	349,639	265,676	297,562	297,562	320,749
All Other Operating	253,916	224,416	236,375	377,604	110,865
TOTAL OPERATING BUDGET	<u>1,852,267</u>	<u>1,650,660</u>	<u>2,060,000</u>	<u>2,201,229</u>	<u>2,076,480</u>
CAPITAL BUDGET					
Building Renovation	-	-	-	-	-
Debt Service	-	-	-	-	-
COPs Lease Purchase Payment	-	-	-	-	-
TOTAL CAPITAL BUDGET	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
EXPENDITURES GRAND TOTAL	<u>\$ 1,852,267</u>	<u>\$ 1,650,660</u>	<u>\$ 2,060,000</u>	<u>\$ 2,201,229</u>	<u>\$ 2,076,480</u>

Note: FY 2004 expenditures include encumbrances at 6/30/04.

INITIATIVE OVERVIEW

Throughout its history, Arizona's economy has been closely linked to the state's environment and natural resources. Rich mineral resources, a healthful climate, and wondrous landscapes have stimulated economic enterprises in our cities and from Yuma to Page. Development of higher education in Arizona has influenced, and been influenced by, these incredible resources. Leading academic programs in astronomy, forest science, hydrology, materials science, hospitality management, environmental engineering and technology, and others are directly related to the state's resources and economy. Research by The Morrison Institute and others demonstrates the importance of "quality of life" when business leaders choose where to invest, where to locate, and where to expand. Environmental Research, Development and Education for the New Economy (ERDENE), managed by the Center for Sustainable Environments, builds on Northern Arizona University's leadership, expertise, and collaborations in environmental and natural resources science, technology, and management. It is designed to accelerate Arizona's environmental business enterprises, to better understand and manage our critical resources, and to prepare Arizona's workforce for the many opportunities these represent.

Some anticipated benefits to the citizens of Arizona include:

- Ecological restoration projects such as developing solutions to the threat of catastrophic fires at the wildland/urban interface
- Leveraging additional resources from private, state, and federal sources
- New Economy business start-ups
- Assisting existing business and local government through workforce training and development in environmental themes and skills
- An environmental research and development facility
- Development of new courses and certificates in ecological restoration and environmental engineering
- Preparation of baccalaureate, master, and doctoral students in environmental science and engineering

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ERDENE

FY 2004 GOALS/OBJECTIVES

Continue success of program and achieve stated performance outcomes.

PERFORMANCE MEASURES/DELIVERABLES		<i>FY 2002</i>	<i>FY 2003</i>	<i>FY 2004</i>	<i>FY 2004</i>	<i>FY 2005</i>	<i>FY 2006</i>
		<i>ACTUAL</i>	<i>ACTUAL</i>	<i>PROJECTED</i>	<i>ACTUAL</i>	<i>REVISED</i>	<i>REVISED</i>
Leveraged Investment							
1.	Leveraged federal and state funds	\$5,525,000	\$4,338,056	\$4,275,500	\$4,369,274	\$5,663,000	\$6,308,000
2.	Leveraged industrial \$\$	\$366,000	\$413,000	\$100,000	\$53,950	\$133,000	\$152,000
3.	Leveraged other \$\$ (private, etc.)	\$642,000	\$300,873	\$200,000	\$529,749	\$267,000	\$304,000
4.	Other returns (presentations and publications)	121	180	18	138	24	27
5.	Arizona economic losses avoided			\$4,700,000	incalculable		
Technology Transfer							
6.	Products generated and in the marketplace				49		
7.	Business spin-offs	1			1	1	2
8.	Patent applications generated	1		1	0	1	2
9.	Conferences sponsored	14	19	5	21	7	8
10.	Business expansions	2	1	6	5	8	8
Work Force Contributions							
11.	Graduate students in pipeline or graduated	56	87	40	102	53	61
12.	High-end Baccalaureates in specific disciplines	38	27	55	47	73	84
13.	Certificates granted	0		5	3	7	8
14.	Post-Doc students in pipeline or graduated	26	7	3	8	4	5
15.	Cont Ed Prof/sponsored event attendees	85	312	30	2,000	40	46
Specific Curriculum Innovations							
16.	New programs -- full-time students	3	1	6	1	8	9
17.	Revised courses and programs	10	14	10	16	8	9
18.	New courses -- full-time students	2	9	6	29	13	15
Partnerships (Specific Collaborations)							
19.	Community College 2+2 Programs	2	9	3	7	4	5
20.	Tri-University (ASU, NAU, UofA)	4	6	3	7	4	5
21.	Industry/private sector collaborations	17	73	18	58	24	27
22.	Community-based (including tribes)	34	58	30	51	40	46
23.	Regional, nat'l, internat'l research and linkages	20	41	10	54	13	15

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ERDENE

FY 2004 RESULTS AND ACCOMPLISHMENTS

ERDENE is composed of a number of very active sub-projects. ERDENE partially funds activities for the Ecological Restoration Institute, the Merriam-Powell Center for Environmental Research, and the Center for Sustainable Environments, among others. Some of these projects (ERI, Merriam-Powell) are research focused, although that focus typically means involvement with communities, particularly in Arizona. Others (CSE in particular) are very focused on community education and events (expos, lectures, etc.). This blend results in outcomes that show that ERDENE projects affect the lives of many Arizona citizens, as well as the Arizona economy in general.

Leveraged Investment:

ERDENE funds were used to acquire more than \$4,300,000 in external support from corporations, foundations, and governmental grants.

The Center for Sustainable Environments has begun widespread efforts and collaborations to advance the role of small business in the sustainable foods and products industries. This initiative has spawned new courses, agricultural product fairs, and community partnerships throughout the Southwest. Over 45 Arizona-grown products have been "brought to market" through the availability of a Farmer's Market cooperative in Flagstaff.

Technology Transfer:

The Sustainable Energy Solutions program has been involved in planning for the sustainable Applied Research and Development building that will break ground in Fall 2004. Alternative energy sources such as wind power are part of the sustainable aspect of the this building.

The Merriam-Powell Center for Environmental Research has received funding from the National Science Foundation to establish a research station on NAU's Centennial Forest. Partially funded by the university, this facility, when built, will provide an environment for researchers from any locality, national or international, to study the application of the results we have in studies of forest regeneration, drought effects, and weather sensing.

The Ecological Monitoring and Assessment Program (EMAP) is designing, developing, and operating a GIS-based information system for land owners and managers of northern Arizona and southern Colorado Plateau. When fully functional, this system will support requests from ranchers, community planners, transportation planners, and a wide range of land management agencies.

In addition, an environmental genetics lab, working in coordination with Dr. Paul Keim's genetics lab, is facilitating the study of genetic factors in environmental issues.

Work Force Contributions:

Development of Arizona workforce has become a significant and successful endeavor. More than 2000 persons participated in our professional development programs and sponsored conferences and workshops in FY 2004. Many of these programs are community oriented, such as "Ecofarm," which attracted over 100 participants who were mostly professional farmers, and a Native Food and Fiber conference which attracted over 500 participants.

Specific Collaborations:

Partnerships with collaborators as diverse as the Northern Arizona Business Technology Incubator, the well-known La Posada Restaurant in Winslow, the New Jersey Pizza Company, Arcosanti, the Tohono O'odham tribe, and the Sharlot Hall Museum in Prescott, along with more traditional partners such as the Bureau of Land Management, United States Geological Survey, and National Park Service, give some flavor of the diversity of initiatives the ERDENE projects represent.

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
CAPITAL

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>ORIG BUDGET</i>	<i>FY 2005</i> <i>REV BUDGET</i>	<i>FY 2006</i> <i>REV BUDGET</i>
REVENUE					
Carry Forward	\$ 664,607	\$ 664,607	\$ -	\$ 1,516,082	\$ 1,349,282
TRIF Revenue	920,000	932,163	2,240,000	960,000	1,008,000
TOTAL REVENUE	<u>\$ 1,584,607</u>	<u>\$ 1,596,770</u>	<u>\$ 2,240,000</u>	<u>\$ 2,476,082</u>	<u>\$ 2,357,282</u>
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 75,000	\$ 52,979		\$ 60,000	\$ 60,000
ERE	10,000	9,948		16,800	16,800
All Other Operating	579,607	17,761		50,000	280,482
TOTAL OPERATING BUDGET	<u>664,607</u>	<u>80,688</u>	<u>-</u>	<u>126,800</u>	<u>357,282</u>
CAPITAL BUDGET					
Building Renovation	-	-		1,000,000	2,000,000
Debt Service	-	-	2,240,000		
COPs Lease Purchase Payment	920,000				
TOTAL CAPITAL BUDGET	<u>920,000</u>	<u>-</u>	<u>2,240,000</u>	<u>1,000,000</u>	<u>2,000,000</u>
EXPENDITURES GRAND TOTAL	<u>\$ 1,584,607</u>	<u>\$ 80,688</u>	<u>\$ 2,240,000</u>	<u>\$ 1,126,800</u>	<u>\$ 2,357,282</u>

Note: FY 2004 expenditures include encumbrances at 6/30/04.

INITIATIVE OVERVIEW

The major focus of this initiative is planning for capital projects to be constructed or enhanced using Proposition 301 resources. The two major projects originally planned were the Applied Research and Development Building (ARD), which would bring together researchers from a variety of sectors in a facility designed to maximize use of environmentally sensitive materials through building techniques and site location, and a major renovation of the 30+ year-old Biology and Chemistry labs and classrooms. Further analysis of the Biology and Chemistry buildings as part of ABOR's "deferred maintenance" study showed that it would be impractical to renovate the labs. Thus, a decision was made to construct a new lab building.

The passage of the research infrastructure bill gives NAU an alternate source for dollars for these projects. However, the pressures to expand the Nursing Program and equip the ARD and lab buildings makes continuation of this initiative imperative, albeit on a reduced scale. Thus, instead of setting aside enough funds to pay debt service on \$28 million, we are reserving a smaller amount, \$960,000. For FY 2005, \$1,280,000 of the capital budget was transferred to Access and Workforce Development to address the issues enumerated in that section.

We plan to use a significant amount of the carry forward money to purchase "one-time" items for the ARD building, such as a "Living Machine" that will allow us to demonstrate a complete "waste-water" cycle, from "black water" to reclaimed water. This would not only increase the sustainability of the building, but would also increase the teaching/pedagogical aspects of it. Since the ARD building will not be completed until the second quarter of 2006, it will be very helpful for us to have these carry forward funds available to meet needs such as this.

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
CAPITAL

FY 2004 GOALS/OBJECTIVES

1. Evaluate Nursing and Health Professions buildings to determine if renovations are required in order to accommodate Nursing and Health Program expansions.
2. Provide funds to partially renovate the Nursing building in order to accommodate faculty and facilities needed to expand the Nursing Program.
3. Evaluate the ARD and lab building projects to determine where the state receives the most benefit from applying TRIF revenues.

<u>PERFORMANCE MEASURES/DELIVERABLE</u>	<i>FY 2002</i>	<i>FY 2003</i>	<i>FY 2004</i>	<i>FY 2004</i>	<i>FY 2005</i>	<i>FY 2006</i>
	ACTUAL	ACTUAL	PROJECTED	ACTUAL	REVISED	REVISED

<u>PERFORMANCE MEASURES/DELIVERABLE</u>	<i>FY 2002</i>	<i>FY 2003</i>	<i>FY 2004</i>	<i>FY 2004</i>	<i>FY 2005</i>	<i>FY 2006</i>
	ACTUAL	ACTUAL	PROJECTED	ACTUAL	REVISED	REVISED
Leveraged Investment						
1. Site selection	X					
2. Building occupants defined	partial	partial				
3. "Green" consultant hired	X	X				
4. Charette for building needs held	X	X				
5. Identification of matching funds		0	\$300,000	\$17,000		
6. Architect hired		finalist selected		X		
7. Board approvals obtained			X	X		
8. Schematic drawings prepared			X	partial		
9. Preparations made for bond issuance			X			
10. Building construction			Begin	delayed until Fall '04	X	
11. Planning for Biology/Chemistry renovations		partial			X	
12. Board approvals obtained (Bio-Chem)					X	
13. Building renovations (minor)					Nursing	
14. Evaluate Health Professions and Nursing for expansion					X	Planning
15. Identify needs for augmenting TRIF-related projects					X	

FY 2004 RESULTS AND ACCOMPLISHMENTS

Leveraged Investment:

The "Green Team" (steering committee for the Applied Research facility) participated in many activities designed to provide a return on investment in the future. The major effort was having a booth at the U.S. Green Building Conference in Pittsburgh, PA. There, the team made contacts with over 200 vendors, designers, and architects who had an interest in the building. Another significant effort was serious conversations with a number of potential partners for ARD, including APS, Siemens. We expect to know the outcome of these conversations very soon. We also were able to obtain a \$2.5 million grant from the U.S. Economic Development Agency (see specific collaborations, below). In addition, Governor Napolitano is expected to highlight NAU's sustainable building initiatives during her visit to Flagstaff's Energy Exposition on August 6. This sort of endorsement not only helps us see that we are going in the right direction in our focus on sustainable buildings, but also gives the projects additional visibility and makes them more attractive to potential industry partners.

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
CAPITAL

Work Force Contributions:

Several student interns are participating in different aspects of the project, including analyzing human comfort parameters for prospective tenants, and investigating the data requirements for developing an Energy Management System for the building. More student projects are expected.

Specific Collaborations:

NAU's partnership with the Northern Arizona Technology Business Incubator resulted in a \$2.5 million award from the U.S. Economic Development Agency to augment the \$18 million the university is investing in the ARD building.

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
UNIVERSITY INITIATIVES

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>ORIG BUDGET</i>	<i>FY 2005</i> <i>REV BUDGET</i>	<i>FY 2006</i> <i>REV BUDGET</i>
REVENUE					
Carry Forward	\$ -	\$ -	\$ -	\$ -	\$ -
TRIF Revenue	-	-	-	717,127	752,983
TOTAL REVENUE	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 717,127</u>	<u>\$ 752,983</u>
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ -	\$ -	\$ -	\$ 350,000	\$ 350,000
ERE	-	-	-	75,000	75,000
All Other Operating	-	-	-	292,127	327,983
TOTAL OPERATING BUDGET	<u>-</u>	<u>-</u>	<u>-</u>	<u>717,127</u>	<u>752,983</u>
CAPITAL BUDGET					
Building Renovation	\$ -	\$ -	\$ -	\$ -	\$ -
Debt Service	-	-	-	-	-
COPs Lease Purchase Payment	-	-	-	-	-
TOTAL CAPITAL BUDGET	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
EXPENDITURES GRAND TOTAL	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 717,127</u>	<u>\$ 752,983</u>

Note: FY 2004 expenditures include encumbrances at 6/30/04.

INITIATIVE OVERVIEW

As the needs of the state economy change, opportunities often arise for NAU to participate in projects (often Tri-University projects) that arise relatively suddenly. In the past, NAU has been unable to react quickly to identify funds to put toward these initiatives. In addition, it has become obvious through the Auditor General's recent procedural review of NAU's TRIF funds that a centralized expenditure of administrative funds to provide oversight to the entire NAU TRIF program would be beneficial. Therefore, NAU has established a new TRIF project, "University Initiatives," which we will use for both administrative costs and for investment in relevant research initiatives as they arise.

This new project will be funded through a reallocation of funds from existing TRIF projects.

NORTHERN ARIZONA UNIVERSITY
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
UNIVERSITY INITIATIVES

PERFORMANCE MEASURES/DELIVERABLES	<i>FY 2002</i>	<i>FY 2003</i>	<i>FY 2004</i>	<i>FY 2004</i>	<i>FY 2005</i>	<i>FY 2006</i>
	<i>ACTUAL</i>	<i>ACTUAL</i>	<i>PROJECTED</i>	<i>ACTUAL</i>	<i>PROJECTED</i>	<i>PROJECTED</i>
Leveraged Investment	New project in FY 2005.					
1. Leveraged federal and state funds					\$600,000	\$600,000
2. Leveraged industrial \$\$					\$75,000	\$75,000
3. Leveraged other \$\$ (private, etc.)					\$120,000	\$120,000
4. Other Returns (presentations and publications)					15	15
5. Arizona economic losses avoided						
Technology Transfer						
6. Products generated and in the marketplace						
7. Business spin-offs						
8. Patent applications generated					0	0
9. Conferences sponsored					3	3
10. Business expansions					1	1
Work Force Contributions						
11. Graduate students in pipeline or graduated						
12. High-end Baccalaureates in specific disciplines						
13. Certificates granted						
14. Post-Doc students in pipeline or graduated						
15. Continuing Education professionals						
Specific Curriculum Innovations						
16. New programs -- full-time students						
17. Revised courses and programs						
18. New courses -- full-time students						
Partnerships (Specific Collaborations)						
19. Community College 2+2 Programs						
20. Tri-University (ASU, NAU, UofA)					2	2
21. Industry/private sector collaborations					2	2
22. Community-based (including tribes)					4	4
23. Regional, nat'l, internat'l research and linkages					3	3

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UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
SUMMARY

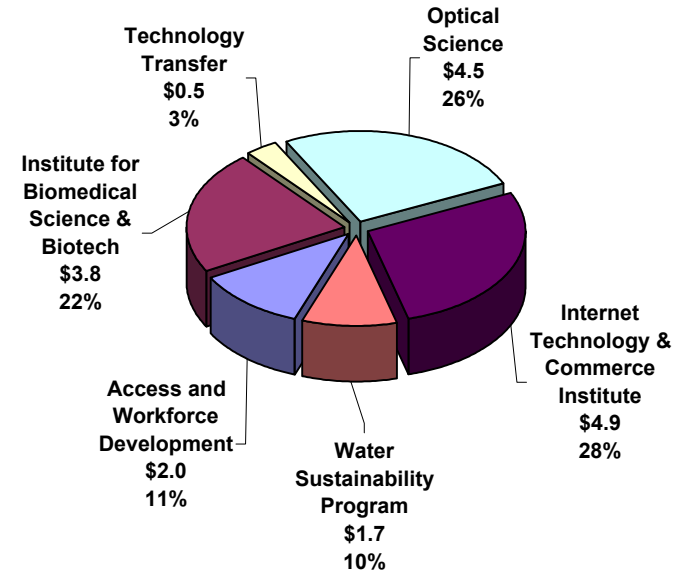
	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>ORIG BUDGET</i>	<i>FY 2005</i> <i>REV BUDGET</i>	<i>FY 2006</i> <i>REV BUDGET</i>
REVENUE					
Carry Forward	\$ 2,877,555	\$ 2,877,555	\$ -	\$ 3,884,012	\$ -
TRIF Revenue	18,200,000	18,389,286	19,200,000	19,200,000	20,200,000
TOTAL REVENUE	<u>\$ 21,077,555</u>	<u>\$ 21,266,841</u>	<u>\$ 19,200,000</u>	<u>\$ 23,084,012</u>	<u>\$ 20,200,000</u>
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 11,814,347	\$ 7,030,437	\$ 9,473,808	\$ 11,993,430	\$ 10,443,235
ERE	2,288,404	1,607,710	1,943,110	2,757,972	2,277,098
All Other Operating	3,974,804	5,744,682	4,783,082	5,182,610	4,479,667
TOTAL OPERATING BUDGET	<u>18,077,555</u>	<u>14,382,829</u>	<u>16,200,000</u>	<u>19,934,012</u>	<u>17,200,000</u>
CAPITAL BUDGET					
Building Renovation	-	-	-	150,000	-
Debt Service	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
COPs Lease Purchase Payment	-	-	-	-	-
TOTAL CAPITAL BUDGET	<u>3,000,000</u>	<u>3,000,000</u>	<u>3,000,000</u>	<u>3,150,000</u>	<u>3,000,000</u>
EXPENDITURES GRAND TOTAL	<u>\$ 21,077,555</u>	<u>\$ 17,382,829</u>	<u>\$ 19,200,000</u>	<u>\$ 23,084,012</u>	<u>\$ 20,200,000</u>
SUMMARY BY INITIATIVE					
Access and Workforce Development	\$ 2,249,160	\$ 1,964,711	\$ 1,800,000	\$ 2,103,170	\$ 1,800,000
Biosciences/Biotechnology	5,365,463	3,852,669	6,000,000	7,564,796	5,500,000
Technology Transfer Infrastructure	815,858	558,834	800,000	1,064,304	800,000
Optical Sciences	4,824,825	4,480,050	4,200,000	4,591,576	4,200,000
Internet Technology & Commerce Institute	5,726,929	4,859,477	4,100,000	5,011,133	4,400,000
Water Sustainability Program	2,095,320	1,667,088	2,300,000	2,749,033	3,500,000
EXPENDITURES GRAND TOTAL	<u>\$ 21,077,555</u>	<u>\$ 17,382,829</u>	<u>\$ 19,200,000</u>	<u>\$ 23,084,012</u>	<u>\$ 20,200,000</u>

Note: FY 2004 Actual includes \$189,286 additional revenue and expenditures include encumbrances at 6/30/04.

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 BUDGET / ACTUAL
SUMMARY

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>
REVENUE		
Carry Forward	\$ 2,877,555	\$ 2,877,555
TRIF Revenue	18,200,000	18,389,286
TOTAL REVENUE	\$ 21,077,555	\$ 21,266,841
EXPENDITURES		
OPERATING BUDGET		
Personal Services	11,814,347	7,030,437
ERE	2,288,404	1,607,710
All Other Operating	3,974,804	5,744,682
TOTAL OPERATING BUDGET	\$ 18,077,555	\$ 14,382,829
CAPITAL BUDGET		
Building Renovation	-	-
Debt Service	3,000,000	3,000,000
COPs Lease Purchase Payment	-	-
TOTAL CAPITAL BUDGET	3,000,000	3,000,000
EXPENDITURES GRAND TOTAL	\$ 21,077,555	\$ 17,382,829
SUMMARY BY INITIATIVE		
Access and Workforce Development	\$ 2,249,160	\$ 1,964,711
Institute for Biomedical Science & Biotech	5,365,463	3,852,669
Technology Transfer Infrastructure	815,858	558,834
Optical Science	4,824,825	4,480,050
Internet Technology & Commerce Institute	5,726,929	4,859,477
Water Sustainability Program	2,095,320	1,667,088
EXPENDITURES GRAND TOTAL	\$ 21,077,555	\$ 17,382,829

FY 2004 UA ACTUAL TRIF EXPENDITURES
(in millions)



UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ACCESS TO HIGHER EDUCATION

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>ORIG BUDGET</i>	<i>FY 2005</i> <i>REV BUDGET</i>	<i>FY 2006</i> <i>REV BUDGET</i>
REVENUE					
Carry Forward	\$ 187,618	\$ 187,618	\$ -	\$ 109,509	\$ -
TRIF Revenue	1,000,000	1,010,401	1,000,000	1,000,000	1,000,000
TOTAL REVENUE	\$ 1,187,618	\$ 1,198,019	\$ 1,000,000	\$ 1,109,509	\$ 1,000,000
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 798,795	\$ 629,579	\$ 767,500	\$ 847,009	\$ 805,900
ERE	200,983	155,892	149,700	179,700	157,200
All Other Operating	187,840	303,039	82,800	82,800	36,900
TOTAL OPERATING BUDGET	1,187,618	1,088,510	1,000,000	1,109,509	1,000,000
CAPITAL BUDGET					
Building Renovation	-	-	-	-	-
Debt Service	-	-	-	-	-
TOTAL CAPITAL BUDGET	-	-	-	-	-
EXPENDITURES GRAND TOTAL	\$ 1,187,618	\$ 1,088,510	\$ 1,000,000	\$ 1,109,509	\$ 1,000,000

*based on estimated overrealized revenue of \$10,401

INITIATIVE OVERVIEW

The goal of this initiative is to increase the overall educational level of the State of Arizona by making higher education more accessible to those facing barriers of time, place, disability, culture, career, family obligation, or other circumstances. Recognizing that access is a complex mix of availability, affordability, and applicability, this initiative funds diverse development activities that divide broadly into content projects (course and program development by academic departments assisted by expert technical staff) and infrastructure projects (improved connectivity, improved capacity for content delivery, etc.). Most of the work funded through this initiative will be structured as projects of fixed duration rather than as ongoing research programs. Four projects have been approved to date:

1. Establishment of a Distance Learning Support Team within the Faculty Center for Instructional Innovation
2. Creation of an online Nursing PhD program, funded temporarily as a supplement to a grant from Arizona Regents University
3. Creation within the University Libraries of advanced document delivery capability to serve students enrolled in online courses
4. Creation of a high-speed Internet connection between UA Main and the UA South/Sierra Vista service area

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ACCESS TO HIGHER EDUCATION

PERFORMANCE MEASURES/DELIVERABLES

	<i>FY 2002</i>	<i>FY 2003</i>	<i>FY 2004</i>	<i>FY 2004</i>	<i>FY 2005</i>	<i>FY 2006</i>
	<i>ACTUAL</i>	<i>ACTUAL</i>	<i>PROJECTED</i>	<i>ACTUAL</i>	<i>REVISED</i>	<i>REVISED</i>
Curriculum Innovations						
1. Increased capacity to deliver courses		DS-3 line installed	Increased usage	Increased usage	Increase usage	Increase usage
2. New programs brought on line	2 new	2 new	2 new	2 new	2 new	2 new
3. New enrollments	na	20	60	60	80	100

FY 2004 RESULTS AND ACCOMPLISHMENTS

Last year's objectives are being met and significant progress is being made in the following areas:

D2L student management system was installed as the platform for College of Nursing (CON) distance learning programs. Training programs have been developed and implemented for instructors and students.

We have proceeded with planned development of CON course offerings from the initial 9 courses to a current total of 35 courses which will be available by June 30, 2004, for the 2004-2005 academic year.

The program has expanded from PhD courses to include undergraduate and masters offerings, especially in the fast track PhD, rural health and nurse practitioner graduate programs.

Numerous multi-media instructional learning objects have been created including audio enhanced PowerPoint presentations, instructional videos, interviews, and interactive instructional lessons. Survey reports and an evaluation of asynchronous discussion groups have been produced.

The Learning Technology Center provided services to the NSF-funded STC-MDITR (<http://stc-mditr.org/>) in support of their educational mission <http://stc-mditr.org/education/index.cfm>. In the original document, STC-MDITR proposed development of Web-based instructional support and curriculum materials related to the science of the Center for audiences spanning all levels, "K through Gray." In the broadest terms, our TRIAD project is to provide support as needed or available to that mission.

TRIAD/LTC in collaboration with STC MDITR staff has produced media and programming products as demonstrated in the weblinks in the first section of this report. Other than routine planning and production documents and correspondence and consultation, TRIAD/LTC's output has been strictly the products developed by its programmer and graphics staff, since responsibility and authority for publicity or publication rests with the STC-MDITR group.

The high-speed communications link to Sierra Vista is operational. This has resulted in decreased network costs, reliable connectivity to Fort Huachuca for KUAT Multimedia, and a reasonable cost for data and voice services for UA academic outreach efforts.

Virtual Reference Desk services are operating within the Library and have become part of standard Library services. The Library's document delivery service has been completed, and Illiad (InterLibrary Loan internet accessible database) software has been implemented. Interlibrary Loan is a service that provides access to materials not owned by the UofA through cooperative agreements; participating libraries share their collections with students and faculty from other institutions. New software for Electronic Reserves was implemented in Spring 2004. The system provides access to course material (articles, audio files, graphics, etc.) via the Web. Using digitization technology, the Library made these course materials available in various electronic forms which can be accessed via a Web browser.

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2003 ACTUAL/FY 2004-06 BUDGET
WORKFORCE: TEACHER PREPARATION

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>ORIG BUDGET</i>	<i>FY 2005</i> <i>REV BUDGET</i>	<i>FY 2006</i> <i>REV BUDGET</i>
REVENUE					
Carry Forward	\$ 261,542	\$ 261,542	\$ -	\$ 193,661	\$ -
TRIF Revenue	800,000	808,320	800,000	800,000	800,000
TOTAL REVENUE	\$ 1,061,542	\$ 1,069,862	\$ 800,000	\$ 993,661	\$ 800,000
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 490,000	\$ 394,516	\$ 420,025	\$ 495,912	\$ 420,025
ERE	114,170	78,951	97,866	117,814	97,866
All Other Operating	457,372	402,734	282,109	379,935	282,109
TOTAL OPERATING BUDGET	1,061,542	876,201	800,000	993,661	800,000
CAPITAL BUDGET					
Building Renovation	-	-	-	-	-
Debt Service	-	-	-	-	-
TOTAL CAPITAL BUDGET	-	-	-	-	-
EXPENDITURES GRAND TOTAL	\$ 1,061,542	\$ 876,201	\$ 800,000	\$ 993,661	\$ 800,000

*based on estimated overrealized revenue of \$8,320

INITIATIVE OVERVIEW

To address critical shortages in the state for math, science, and agricultural science teachers from elementary through secondary education levels. To educate and train over 100 new secondary school math and science teachers. To educate and train 150 new elementary school math and science teachers. To educate and train over 40 new agricultural science teachers.

FY 2004 GOALS/OBJECTIVES

The goals for 2004 were (a) to continue to produce high quality math, science, and agricultural science teachers for Arizona schools and (b) to provide student support to the students to achieve the first goal.

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TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2003 ACTUAL/FY 2004-06 BUDGET
WORKFORCE: TEACHER PREPARATION

PERFORMANCE MEASURES/DELIVERABLES

	<i>FY 2002</i> <i>ACTUAL</i>	<i>FY 2003</i> <i>ACTUAL</i>	<i>FY 2004</i> <i>PROJECTED</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>REVISED</i>	<i>FY 2006</i> <i>REVISED</i>
Workforce Contributions						
1. Completers of Secondary Science Teacher Prep	1	6	15	15 ^a	20	25
2. Completers of Secondary Math Teacher Prep	3	7	10	10 ^a	15	15
3. Completers in Elementary Math/Sci Teacher Prep	29	28	30	27	30	30
4. Completers in Agricultural Teacher	18	15	17	16	16	17
Curriculum Innovations						
5. Science Prep course developed in College of Science. NSF preproposal submitted to develop and offer specialized science and science education courses for middle school teachers						

^a Teach for Tucson secondary prepared 11 science teachers and 4 math teachers during FY 2004, bringing the total number of science teachers to 26 and the total number of math teachers to 14. However, during FY 2004 TRIF funds were not used to support this group of completers in Teach for Tucson secondary.

FY 2004 RESULTS AND ACCOMPLISHMENTS

Secondary Science:

The TRIF monies continue to provide essential support for the College of Science Teacher Preparation Program (CoS TPP). In particular, the salaries money allows the program to include on its staff two highly experienced masters-degree level science teachers as adjunct instructors. In a recent (May 2004) questionnaire of local science teachers who regularly work with the CoS TPP as cooperating teachers and the CoS TPP faculty, 100% of the respondents (n=26) stated in responses to open-ended questions that the work of the adjunct instructors (referred to as teachers-in-residence by the cooperating teachers) was very important for the successful education of the preservice science teachers in the CoS TPP.

The TRIF monies also provide essential support for the mentoring activities of practicing science teachers who partner with our program by allowing preservice teachers into their classrooms in three different capacities: observers assigned specific tasks, interns who assist for 8-week sessions twice during their programs, and student teaching which involves a full day, 15-week teaching commitment.

The enrollment goal of the secondary science teacher education program is to graduate 20 new science teachers a year by 2005. We are working to accomplish that goal through opening a pipeline of students enrolling in preliminary science teacher education courses that will lead to student teaching and eventual recommendation for certification. In this past year, enrollments in these course have indicated that the pipeline is, indeed, filling up. The enrollments this year were:

Course	Enrollment
STCH 250	55
STCH 310	38
STCH 410	18
STCH 420	22
Student Teaching	14

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Another important use of the TRIF monies is for student scholarships. Science majors with GPAs of 3.2 and above are eligible to apply for the \$750 per semester scholarships. Since the TRIF scholarship program began, we have awarded \$36,000 to 28 students (some exceptional students have received scholarship renewals for multiple semesters). During the 2003-2004 academic year (two rounds of scholarships), 21 scholarships were awarded to 16 students. The average student GPA for the 2003-2004 scholarship awards was 3.64. The science majors represented by the 2003-04 scholarship awardees included the following: Astronomy, Chemical Engineering, Chemistry, Chemistry Education, Earth Science Education, Ecology & Evolutionary Biology, Geosciences, Microbiology, Molecular & Cellular Biology, and Physics Education. The Secondary Science program has received \$247,000 in grants and gifts to provide additional support to the College of Science teacher preparation program.

Secondary Mathematics:

The Center of Recruitment and Retention was founded in 2001. Since then, we have made significant progress in both recruitment and retention. This work is in a context in which, in 2000, Arizona ranked 49th among states in percentage of mathematics teachers with majors in mathematics. The Center has received dozens of letters from teachers, tutors, and students testifying to the positive impact that the Center's programs have had on their mathematics education. A comparison of the status of mathematics education in 2000-2001 and the status of mathematics education now, three years later, shows:

Recruiting

- 2000-2001: 3 student teachers, 0 with majors from the Mathematics Department.
- 2004-2005: 15 student teachers, 12 with majors from the Mathematics Department.

- 2000-2001: 40 mathematics students expressed an interest in teaching.
- 2003-2004: 104 mathematics students (30% are Hispanic or African American) expressed an interest in teaching.

Retention

- 2001-2004: 47 teachers have participated in the Induction Program
- 42 of the teachers are still in the profession, a retention rate of 89% against a national retention rate for all teachers of 53%.

- 2001-2002: 9 first-year teachers participated.
- 2003-2004: 28 first-year teachers participated.

Agriculture and Life Sciences:

Since the 1994-95 academic year, the Department has prepared 85 students, 34 males and 51 females, for teaching Agricultural Education. Of those, five are Hispanic, three are Native American, and one is of Asian descent. The current Departmental recruitment efforts are attempting to bring more students of diverse backgrounds into the program. The current status of students in the Department suggests that the number of student teachers during the spring semester of the following years will be as follows:

Year	Students
2005	12
2006	16
2007	10
2008	13

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WORKFORCE: TEACHER PREPARATION

There are 13 freshmen who have been admitted to the program beginning the fall of 2004. While that number may seem low, it is significantly higher than usual. Most of our majors ultimately choose Agricultural Education after arriving at the university, usually as juniors. The higher number of students for student teaching in 2006 is a reflection of that trend. The recruitment efforts with the community colleges have, and will, continue to influence both the 2007 and 2008 numbers in the future.

The TRIF Program has clearly had an impact on the recruitment of students into Agricultural Education. The shortage of teachers persists, and part of the solution is this program. However, the success of this program will only be achieved in the long term, which will require the sustained support of this program. Note the number of freshmen we have in the program this coming year. They are "in the pipeline" and should be supported during the coming years. With additional students will come the need for additional resources. At minimum, we need to be able to maintain the current level of support to keep this effort moving.

Teach for Tucson Elementary:

The Teach for Tucson (T4T) program prepares mathematics and science educators for schools in the metropolitan Tucson area. The program recruits career changers, that is, people with successful careers in other fields who wish to become teachers. The students typically range in age from 25-55 and come from many fields (e.g., military, financial services, engineering).

The elementary teacher education component of T4T, with help from TRIF funding, has been enormously successful. Including the 27 graduates this year, we have provided 84 new teachers for the area's schools. Because of recent changes in federal law (No Child Left Behind Act) that requires increased subject matter requirements for middle school teachers of mathematics and science, we are finding that most of the teachers prepared in the T4T elementary program are actually preparing for careers as middle school teachers.

During FY 2004, we used some TRIF funds to support students in the T4T secondary program, a program that prepares secondary mathematics and science teachers for local area schools. These students will graduate in the spring of 2005, which will serve to increase dramatically the number of mathematics and science teachers prepared with TRIF funds.

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FY 2004 ACTUAL/FY 2005-06 BUDGET
TECHNOLOGY TRANSFER INFRASTRUCTURE

	<i>FY 2004</i>	<i>FY 2004</i>	<i>FY 2005</i>	<i>FY 2005</i>	<i>FY 2006</i>
	<i>REV BUDGET</i>	<i>ACTUAL</i>	<i>ORIG BUDGET</i>	<i>REV BUDGET</i>	<i>REV BUDGET</i>
REVENUE					
Carry Forward	\$ 115,858	\$ 115,858	\$ -	\$ 264,304	\$ -
TRIF Revenue	700,000	707,280	800,000	800,000	800,000
TOTAL REVENUE	\$ 815,858	\$ 823,138	\$ 800,000	\$ 1,064,304	\$ 800,000
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 455,238	\$ 294,797	\$ 301,200	\$ 640,842	\$ 440,000
ERE	146,395	74,609	58,700	150,023	101,280
All Other Operating	214,225	189,428	440,100	273,439	258,720
TOTAL OPERATING BUDGET	815,858	558,834	800,000	1,064,304	800,000
CAPITAL BUDGET					
Building Renovation	-	-	-	-	-
Debt Service	-	-	-	-	-
TOTAL CAPITAL BUDGET	-	-	-	-	-
EXPENDITURES GRAND TOTAL	\$ 815,858	\$ 558,834	\$ 800,000	\$ 1,064,304	\$ 800,000

*based on estimated overrealized revenue of \$7,280

INITIATIVE OVERVIEW

Products and services provided by the Technology Transfer Infrastructure Project (TTIP) fall into two primary categories: (1) improvements in technology transfer infrastructure at UA's Office of Technology Transfer (OTT) and (2) the formal involvement of UA's Office of Economic Development (OED) in creating viable channels for UA technology to be transferred through the proposed TechCluster Program.

Technology Transfer Infrastructure:

- Hiring of a full-time marketing director for the Office of Technology Transfer to build University and industry relationships and thereby create and maximize commercialization outcomes.
- Hiring of a patent/licensing specialist to more effectively and efficiently process UA-developed technologies.
- Launch ongoing partnership and outreach initiatives under TTIP that will serve to coordinate disparate units to achieve common economic development goals.
- Provide a permeable interface between the worlds of academia and industry by organizing a series of forums and events to discuss topics of joint interest, e.g., technical innovations and access to them, workforce needs, and curriculum development.
- Serve a centralized coordinating function by partnering with other UA units, such as BPA and Office of Technology Transfer, Arizona State and Northern Arizona Universities, and other government and economic development organizations, to support the needs of Arizona's cluster organizations.
- Organize annual showcase events to highlight the many relationships and the interdependence between the University and high tech cluster organizations.
- Utilize the extensive network of relationships within Southern Arizona, Metropolitan Phoenix, and throughout the state to provide a wide variety of flexible partnering opportunities.

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TECHNOLOGY TRANSFER INFRASTRUCTURE

- Design and implement several information technology tools to facilitate the interconnection of UA technology transfer, business community, and industry development components. The AZTechCluster High Tech Web Directory and the BusinessLink Program Database (City of Tucson Office of Economic Development) are two such projects underway.
- Leverage the Professional Masters Degree Program of UA. This program melds practical science education in mathematics, physics, chemistry, biochemistry, and others to practical business application.
- Leverage the Associates in Technology Program of UA's Berger Entrepreneurship Program in business plan development for UA technologies. This program allows technical students to pair up with business students for one year of curriculum and application of new business development and technology development.
- Leverage the facilities and expertise of the Arizona Center for Innovation (formerly Tucson Technology Incubator) and the UA Science and Technology Park to mobilize businesses for launch.

TechCluster Program: Core program elements include two targeted industry studies and three industry directories, or equivalent projects, building on a decade of direct and related expertise.

- Utilize targeted industry studies to feature global-to-local industry and market insights coupled with an in-depth examination of cluster-related University assets--human, programmatic, and physical. Similar UAOED studies were catalysts in the creation of Arizona's optics and bioindustry clusters.
- Leverage UAOED expertise in U.S. and international cluster development theory to provide strategic planning and best practice support for the Arizona cluster organizations.
- Use research results to develop and interface multiple industry databases, provide Web access, and collaborate with other sites and organizations.
- Develop an annual "state of the clusters" benchmarking report, the centerpiece of a major all-cluster event showcasing the industries' growth and accomplishments over the prior year.
- Design-in program flexibility to address the research and analytical needs of the cluster organizations and the state's economic development community; has the capacity to increase the number of annual projects, depending on the availability of non-university resources beyond the core budget.
- Provide an otherwise unavailable industry information resource that will support innumerable grant applications and project proposals by companies, cluster and economic development organizations, and university applicants.

FY 2004 GOALS/OBJECTIVES

- Close on formal relationships between OTT and the Desert Angels in support of Tucson-based spinouts from UA.
- Initiate cluster-based program on doing business with the university and increase outreach to industry partners in Arizona.
- Continue refinement of the marketing position funded under the TRIF program to enhance technology transfer communication, outreach, and operations.
- Release two benchmarking studies: (1) Industry Cluster Benchmarking and Supply Chain Analysis Study and (2) Technology Transfer at the University of Arizona Study.
- Initiate two new studies designed to measure and compare Tucson/Pima County's comparative performance as a high technology community and to assess the economic impact on the Pima County economy of companies using UA licensed technology.
- Assist in the establishment and development of the Arizona Center for Innovation (AzCI).
- Organize and host a seminar on contract manufacturing for high technology companies in Southern Arizona.

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TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
TECHNOLOGY TRANSFER INFRASTRUCTURE

PERFORMANCE MEASURES/DELIVERABLES

	<i>FY 2002</i>	<i>FY 2003</i>	<i>FY 2004</i>	<i>FY 2004</i>	<i>FY 2005</i>	<i>FY 2006</i>
	<i>ACTUAL</i>	<i>ACTUAL</i>	<i>PROJECTED</i>	<i>ACTUAL</i>	<i>REVISED</i>	<i>REVISED</i>
Technology Transfer						
1. Patent applications		77		91	100	105
2. Patents issued		12		14	18	22
3. Spin-off companies*		1		4**	6	8
4. Invention disclosures		111		95	125	140
5. Licenses/options*		24		25	30	35
6. Licensing income		\$1,076,870		\$1,008,621	\$1,126,007	\$1,407,509

* Reporting since FY 2003 corresponds to definitions used by the Association of University Technology Managers (AUTM) Survey of technology transfer offices.

** Using AUTM definition of start-up, the actual number is 5; however, early years used a more expansive definition and one was counted prematurely in FY 2002.

FY 2004 RESULTS AND ACCOMPLISHMENTS

The major accomplishments for this year include:

- Investment in OTT through the TTIP continues the increase in IP-based transactions from OTT in comparison to previous years, resulting in 39 Technology Transfer agreements of which 25 are license and option agreements; 91 patents filed (provisional and full); 14 new issued patents in the U.S. and 1 in Australia; and over \$1 Million in gross royalty revenues for the second year in a row. Royalty revenue growth has been on average over 20% per year since 1999.
- TTIP funds have increased the ability of OTT to patent in support of future activities, in particular start-ups or other advanced project initiatives such as supporting the activities of the UAF's UTR subsidiary in relation to a major patent donation from Proctor & Gamble concerning several oncology, HIV, and HCV compounds undergoing further commercialization activities at UA.
- Start-up activity is on the rise as evidenced not only by the start-ups initiated in FY 2004 and those in progress for launch in FY 2005, but also by the increase in the number of Enabling Disclosures facilitated by OTT and approved by ABOR. In FY 2004, 9 Enabling Disclosures were approved by ABOR with another three in process. This is the largest number of such disclosures approved in any year since the mid-1990s.
- OTT continued its expansion of outreach activities including: (1) Hiring of a new person for Outreach and Advanced Projects to replace the previous marketing communications manager. (2) Creation of a plan with SATC for mirror clusters within UA to facilitate contact between cluster companies and UA researchers and research resources. This is part of the implementation of the plan begun in FY 2003 with SATC and the PCC Small Business Center to enhance small business competitiveness through collaboration. (3) Expansion of the successful interactions with the McGuire Entrepreneurship Program to a total of six OTT projects, one of which was invited to compete in a national business plan competition; in FY 2005, entrepreneurship teams have signed up to work on at least 8 OTT projects. (4) OTT was invited by the Dean of Business and the Dean of Science to work as part of the team implementing the AZ-Mexico Bi-National Optics Consortium. (5) Presentations to student, faculty, community, and national groups on technology transfer.
- OTT, through its TTIP-supported outreach manager, is working with ADOC on the design and implementation of the state's technology Web portal.
- OTT continues its strong relationship with the Professional Masters Program enabled by TTIP funds, including sponsoring in conjunction with the Dean of Agriculture an Applied Professional Masters student in OTT to work on UA and CALS involvement in the Public Intellectual Property Resource in Agriculture and to improve technology transfer outreach and opportunities in agricultural and life sciences.

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TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
TECHNOLOGY TRANSFER INFRASTRUCTURE

- UAOED has completed both benchmarking studies: The Industry Cluster Benchmarking and Supply Chain Analysis Study, and Technology Transfer at the University of Arizona: A Comparative Analysis and Benchmarking Study.
- UAOED has initiated an evaluation of Tucson/Pima County's high technology development in comparison to competitive cities.
- UAOED directed the establishment of the Arizona Center for Innovation to assist in the development of new high technology companies. AzCI began formal operations in September of 2003 at the University of Arizona Science and Technology Park. AzCI acquired and furnished offices, laboratory, and meeting space for its client companies and staff. Staff was hired, including a full-time executive assistant and three part-time business consultants. Thirty-seven potential client companies applied for admission and were interviewed. Five companies were admitted to the Center, including a UA student company. AzCI organized and hosted a monthly seminar series on business development for its clients and Tucson high tech companies. An advisory board of experienced entrepreneurs, venture capitalists, and economic development professionals was organized and held two meetings. A student incubator and intern program was designed and implemented.
- UAOED has conducted the preliminary research on contract manufacturing in Mexico and the services available to Tucson/Pima County high technology companies.

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	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>ORIG BUDGET</i>	<i>FY 2005</i> <i>REV BUDGET</i>	<i>FY 2006</i> <i>REV BUDGET</i>
REVENUE					
Carry Forward	\$ 365,463	\$ 365,463	\$ -	\$ 1,564,796	\$ -
TRIF Revenue	5,000,000	5,052,002	6,000,000	6,000,000	5,500,000
TOTAL REVENUE	<u>\$ 5,365,463</u>	<u>\$ 5,417,465</u>	<u>\$ 6,000,000</u>	<u>\$ 7,564,796</u>	<u>\$ 5,500,000</u>
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 1,861,225	\$ 219,326	\$ 1,950,483	\$ 2,747,486	\$ 1,890,010
ERE	362,939	89,007	380,344	648,137	368,552
All Other Operating	1,141,299	1,544,336	1,669,173	2,019,173	1,241,438
TOTAL OPERATING BUDGET	<u>3,365,463</u>	<u>1,852,669</u>	<u>4,000,000</u>	<u>5,414,796</u>	<u>3,500,000</u>
CAPITAL BUDGET					
Building Renovation	-	-	-	150,000	-
Debt Service	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
TOTAL CAPITAL BUDGET	<u>2,000,000</u>	<u>2,000,000</u>	<u>2,000,000</u>	<u>2,150,000</u>	<u>2,000,000</u>
EXPENDITURES GRAND TOTAL	<u>\$ 5,365,463</u>	<u>\$ 3,852,669</u>	<u>\$ 6,000,000</u>	<u>\$ 7,564,796</u>	<u>\$ 5,500,000</u>

*based on estimated overrealized revenue of \$52,002

INITIATIVE OVERVIEW

The goals of the Institute for Biomedical Science and Biotechnology (IBSB) are to improve human health, nutrition, and agriculture, and to fuel economic development. In pursuit of its goals, IBSB is empowering researchers to do cutting-edge 21st century Biology, defined as multidisciplinary, integrative, quantitative, translational, and data-driven. The Institute is supporting research and education initiatives that address some of the most important, yet most complex, biological problems facing our society, including asthma, diabetes, cancer, the diminishing world food supplies, and degradation of our environment. New research initiatives in the molecular life sciences are being catalyzed, building on current strengths at the University of Arizona. Researchers applying state-of-the-art technologies uncover new knowledge. By promoting the transfer of this new knowledge to specific problems, the Institute is encouraging the development of significant new applications in medicine and agriculture, benefiting society and fueling economic development. Additional impacts on economic development include initiatives promoting entrepreneurship, training and educating the biotechnology workforce, and enhancing science literacy.

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FY 2004 GOALS/OBJECTIVES (•)/2004 RESULTS AND ACCOMPLISHMENTS (o)

IBSB met or exceeded its 2004 Goals/Objectives:

- Increase the number of nationally recognized UA faculty. Five strategic hires are planned for the coming year: a chemoinformatics position in partnership with the College of Pharmacy and TGen; three positions in molecular immunology in partnership with the College of Medicine; one bioinformatics/computational biology hire in partnership with the College of Science and the computer science department.
 - o In partnership with five colleges and eight departments, IBSB hired eight (and retained one) tenured or tenure-track faculty members; one was hired in partnership with TGen.
- Increase federal grant funding at UA.
 - o IBSB-supported faculty significantly exceeded performance measures, bringing \$22,518,442 to campus in FY 2004. The Institute faculty successfully garnered several major interdisciplinary, multi-investigator awards including a program project grant of \$4.5M (over 5 years) from NIH, and \$9.7M (over 5 years) and \$3.6M (over 3 years) from the NSF Plant Genome program; these three projects represent \$6,160,253 in FY 2004 grants.
- Continue development of campus proteomics technologies.
 - o The newly hired Director of Proteomics implemented equipment purchases and the hiring of personnel to establish a state-of-the-art proteomics facility, which has enabled multiple new research projects and new grant applications. This facility is collaborating and interfacing with 34 research groups in 15 units at UA and with faculty at TGen, ASU, and 10 other national and international institutions.
- Develop a strategic plan for building bioinformatics and biostatistics capabilities on campus.
 - o Strategic plans for increasing bioinformatics and biostatistics faculty and graduate training programs were developed and implementation begun. These two enabling technology areas were identified as crucial in the Battelle AZ Biosciences Roadmap.
- Create a program to award seed money for pilot interdisciplinary research to facilitate applications for new federal program project grants and center funding.
 - o A funding mechanism to support pilot interdisciplinary research projects was established. Thirty-two proposals were reviewed and 7 grants awarded (to be funded in FY 2005).
- Create a fellowship program to enable faculty release time to pursue interdisciplinary research. Establish a visiting scholar and symposia program.
 - o The first IBSB symposium was held in May 2004, and plans have been finalized to sponsor two additional symposia in FY 2005. On the advice of the IBSB Faculty Advisory Committee, the establishment of programs for faculty release time and visiting scholars was postponed. This program will be initiated once the new building is completed, enabling these faculty to interact more directly with IBSB faculty and state-of-the-art technologies in the new building.
- Foster direct faculty participation in IBSB through the creation of panels to review and rate applications for the interdisciplinary program, faculty release program, and visiting scholar and symposia program. Rebuild and refocus a faculty advisory committee to energize collaborative and interdisciplinary research and graduate recruitment programs.
 - o All of these panels and committees were formed and are performing their assigned tasks.
- Promote biotechnology workforce development.
 - Build connections with Arizona bioindustry to enhance job opportunities for life science graduates.
 - Increase the number and quality of graduate training programs.
 - Partner with industry to establish internships.

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- Create and fund a program for IBSB graduate research awards.
 - o Performance goals have been exceeded. 1) New connections with Arizona bioindustry have been established and prior interactions strengthened, resulting in new internship programs for life sciences graduate students. 2) Through IBSB campus-wide recruitment efforts, the number and quality of graduate students coming to the UA has increased. 3) Direct support to the professional masters program that trains biotechnology workers was provided, and a program for interdisciplinary graduate fellowship awards to PhD candidates was established. Six fellowships were awarded in FY 2004. 4) A website was launched that serves as a portal for accessing information on all life sciences graduate programs; IBSB sponsored multiple initiatives that enhanced recruitment of graduate students, including organizing a recruitment weekend.
- Participate in industrial recruiting, outreach, and other economic development activities.
 - o IBSB continues to be an active participant in local and statewide economic development and bioindustry cluster-building activities. Involvement included planning and execution of the state's participation in the BIO2004 international convention, Arizona's state bio expo, and board membership with the BioIndustry Organization of Southern Arizona (BIO-SA). IBSB maintained close ties with economic development partners: the UA Science and Technology Park, the Greater Tucson Economic Council, and the Arizona Department of Commerce.
- Continue media and government relations activities to increase awareness of UA life science capabilities and Arizona bioindustrial development strategies.
 - o A substantial amount of time was devoted to publicity and outreach efforts to media, industrial, and economic development partners. These include events such as BIO2004, a groundbreaking ceremony, media interactions and briefings, and participation in industry and academic events. An electronic newsletter, IBSB E-News, distributed quarterly to approximately 400 individuals statewide, was successfully launched. Of special mention: IBSB and BIO-SA produced four half-hour television programs showcasing local bio companies.

PERFORMANCE MEASURES/DELIVERABLES

	<i>FY 2002</i> <i>ACTUAL</i>	<i>FY 2003</i> <i>ACTUAL</i>	<i>FY 2004</i> <i>PROJECTED</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>PROJECTED</i>	<i>FY 2006</i> <i>PROJECTED</i>
Return on Investment						
1. Federal grants received ⁽¹⁾	\$1,447,470	\$12,641,087	\$15,000,000	\$22,518,442	\$24,000,000	\$25,000,000
2. Research grants pending	\$19,106,683	\$21,490,312	\$25,000,000	\$43,322,036	\$40,000,000	\$40,000,000
3. New faculty hired	7	8	5	8	5	6
4. Research infrastructure support		\$2,964,600	\$2,683,498	\$2,611,498	\$725,000	\$0
5. SBIR/STTR grants				2	2	2
Economic Development						
6. Corporate contracts		\$105,090	\$150,000	\$240,000	\$240,000	\$240,000
7. Industrial interactions	2	64	60	96	90	90
8. Industrial collaborations	2	6	10	12	12	12
Technology Transfer⁽²⁾						
9. Invention disclosures		57	55	46	50	50
10. Licenses		75	70	17	20	20
11. Patent applications	1	37	35	63	60	60
12. Patents issued		7	5	11	10	10

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FY 2004 ACTUAL/FY 2005-06 BUDGET
INSTITUTE FOR BIOMEDICAL SCIENCE & BIOTECHNOLOGY

	FY 2002 ACTUAL	FY 2003 ACTUAL	FY 2004 PROJECTED	FY 2004 ACTUAL	FY 2005 PROJECTED	FY 2006 PROJECTED
Workforce Contributions⁽³⁾						
13. Training grants		3	2	2	2	2
14. Undergraduate degrees awarded		658	660	705	700	700
15. Undergrads w/research experience ⁽⁴⁾		229	235	234	235	235
16. Graduate degrees awarded		266	260	280	270	270
17. Graduate students enrolled		1,183	1,190	1,299	1,300	1,300
Promoting Life Science Potential						
18. Media coverage ⁽⁵⁾		79/12	70/15	70/44	70/15	70/15
19. Web enhancements ⁽⁶⁾		2	1	1	1	1
20. Presentations/exhibits		19	15	26	25	25
21. Political outreach ⁽⁷⁾		21	20	7	10	10

⁽¹⁾ dollars received from research grants in indicated fiscal year from NIH, USDA, NSF, DOE, etc.

⁽²⁾ data represent activity of all UA life science departments

⁽³⁾ data represent all UA life science departments

⁽⁴⁾ number of undergrads participating in formal research experience programs (UBRP, MARC, etc.)

⁽⁵⁾ newspaper, radio, TV stories/background briefings and presentations

⁽⁶⁾ IBSB website redesign and upgrade, design of life science graduate website

⁽⁷⁾ includes formal events and individual briefings, presentations

FY 2004 NEW INITIATIVES AND ACCOMPLISHMENTS

- The University conducted a nationwide search and hired a new Institute director, Vicki Chandler, beginning July 1, 2004. Dr. Chandler served as an interim Co-Director with Dr. Fernando Martinez from May 15, 2003, through June 30, 2004.
- The Thomas W. Keating BioResearch Building, which will house IBSB administration, campus and statewide research support facilities, and approximately 30 research programs, is under construction. After a successful groundbreaking event in November 2003, construction on the 177,000 square-foot structure began in December and is on schedule for completion in December 2005.
- A Business Advisory Board was established, which is composed of prominent bioindustry scientists, business, finance, and marketing experts. The Board has met twice and is advising the Director on a number of IBSB initiatives.
- New initiatives to increase K-12 outreach were implemented. 1) Support was provided to help science teachers (statewide) implement biotechnology into their curricula and to expose science teachers to current research areas. 2) Financial support to the 2004 Arizona Regional Middle School Science Bowl was provided. The winner (Tucson Doolen Middle School) went on to win the national competition. 3) A Task Force was formed to assist with IBSB efforts to coordinate and enhance science and math outreach programs offered by UA life scientists.
- A Life Sciences Faculty Database was implemented to facilitate communication between academic and bioindustry scientists regarding UA life sciences research and to enhance graduate student recruitment through the Graduate Studies in the Life Sciences website (also launched this year). A campus-wide committee was formed to assess the needs for enhancing bioscience education and research opportunities for undergraduate and graduate students at the UA; interactions and intern programs with Pima Community College were established.
- Relationships were established with faculty and students within the Eller Business College, which will enable new initiatives to improve entrepreneurship efforts by life sciences faculty.

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
INSTITUTE FOR BIOMEDICAL SCIENCE & BIOTECHNOLOGY

FY 2005 GOALS/OBJECTIVES

IBSB will continue to work to accomplish its goals through its current initiatives and to establish new initiatives:

- Efforts to increase the number of nationally recognized UA faculty will continue with five strategic hires planned for the coming year.
- Efforts to increase federal grant funding at the UA will continue. IBSB will continue current programs and initiate new programs to enhance interactions across the UA campus and statewide to leverage competitiveness at the national level. IBSB will continue the funding program for pilot interdisciplinary research to facilitate applications for new federal program project grants and center funding.
- Two new research initiatives will be launched to complement the current initiatives in Asthma and Agricultural Biotechnology, and implementation of the strategic plan for building bioinformatics and biostatistics will continue. Additional new initiatives will be launched to expand "enabling technologies" in support of campus and statewide research efforts; specifically, IBSB will work to establish a high throughput chemical screening facility and a mammalian functional genomics facility. These research and enabling technology initiatives will have significant potential to impact all of the key areas emphasized in the Battelle AZ Biosciences Roadmap including Cancer, Neurobiology, and Diabetes. To help oversee development of these initiatives, a Scientific Advisory Board, composed of scientists external to the UA, will be established.
- Construction of the Thomas W. Keating BioResearch Building will be monitored, and assignments of the research programs and enabling technologies to the new building will be completed.
- Interactions will continue to be enhanced among scientists on campus and statewide (academic and industrial) by sponsoring two cutting-edge research symposia and several workshops.
- Continue to promote biotechnology workforce development. 1) Increase the number and quality of graduate training programs and expand interactions with Pima Community College. 2) Develop a campus-wide graduate student records database for the life sciences to facilitate training grant applications. 3) Expand industry partnerships to establish more student internships. 4) Continue funding IBSB interdisciplinary graduate fellowship program. 5) Partner with Eller Business School, the Office of Technology Transfer, and the Professional Masters program to develop new curriculum to meet bioindustry's workforce needs.
- Continue to interface with Arizona Bioindustry. 1) A program will be launched to enable IBSB to be a one-stop resource for connecting the statewide Arizona bioindustry with research interactions and training opportunities in the life sciences at the UA. 2) IBSB will continue support of and interactions with the BioIndustry Organization of Southern Arizona.
- Continue to enhance and expand life science outreach activities. 1) Initiate the development of a Web-accessible database to enhance accessibility to the science and math outreach resources at the UA. 2) Partner with Flandrau Science Center to initiate planning of the life sciences and biotechnology aspects of the Rio Nuevo Science Center.
- Continue media and government relations activities to increase awareness of UA life science capabilities and achievements and Arizona Bioindustry development strategies.
- Develop programs in partnership with Eller College of Management and the Office of Technology Transfer to increase faculty interest and involvement in tech transfer, licensing, and protecting intellectual property.
- Develop additional collaborations with sister universities, TGen, and other research institutions within the state.

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
INTERNET TECHNOLOGY & COMMERCE INSTITUTE

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>ORIG BUDGET</i>	<i>FY 2005</i> <i>REV BUDGET</i>	<i>FY 2006</i> <i>REV BUDGET</i>
REVENUE					
Carry Forward	\$ 1,526,929	\$ 1,526,929	\$ -	\$ 911,133	\$ -
TRIF Revenue	4,200,000	4,243,681	4,100,000	4,100,000	4,400,000
TOTAL REVENUE	<u>\$ 5,726,929</u>	<u>\$ 5,770,610</u>	<u>\$ 4,100,000</u>	<u>\$ 5,011,133</u>	<u>\$ 4,400,000</u>
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 4,002,128	\$ 2,342,309	\$ 2,318,700	\$ 3,079,833	\$ 2,167,300
ERE	567,720	535,383	452,100	602,100	422,600
All Other Operating	1,157,081	1,981,785	1,329,200	1,329,200	1,810,100
TOTAL OPERATING BUDGET	<u>5,726,929</u>	<u>4,859,477</u>	<u>4,100,000</u>	<u>5,011,133</u>	<u>4,400,000</u>
CAPITAL BUDGET					
Building Renovation	-	-	-	-	-
Debt Service	-	-	-	-	-
TOTAL CAPITAL BUDGET	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
EXPENDITURES GRAND TOTAL	<u>\$ 5,726,929</u>	<u>\$ 4,859,477</u>	<u>\$ 4,100,000</u>	<u>\$ 5,011,133</u>	<u>\$ 4,400,000</u>

*based on estimated overrealized revenue of \$43,681

INITIATIVE OVERVIEW

The Internet Technology, Commerce and Design Institute is a virtual resource center for assembling ideas and planning for the information technology needs of the future. The primary goal of ITCDI is to create a unique multidisciplinary culture to (a) train Internet Technology and commerce leaders; (b) establish theoretical foundations for the practical understanding of Internet Technology and commerce; and (c) develop Internet-enabling technologies (software and hardware) to design, optimize, and manage Internet systems and their services. The ITCDI is a stimulus for the growth of Internet-related businesses, educational initiatives, workforce development, and university research opportunities.

FY 2004 GOALS/OBJECTIVES

Integrate skills and strengths of different colleges to fulfill the goals of the initiative
 Increase the number of Internet technology leaders trained
 Increase the number of classes offered in support of Internet technology
 Foster research working with external partners
 Develop more Internet-enabling hardware and software
 Stimulate growth of more Internet-related business through the further development of classes and programs

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
INTERNET TECHNOLOGY & COMMERCE INSTITUTE

PERFORMANCE MEASURES/DELIVERABLES

	FY 2002 ACTUAL	FY 2003 ACTUAL	FY 2004 PROJECTED	FY 2004 ACTUAL	FY 2005 REVISED	FY 2006 REVISED
Technology Transfer						
1. Licensing revenues attributable to ITCDI	*	*	*	*	*	*
2. Number of ITCDI start-up companies	1	1	1	1	1	1
3. Numbers of patents filed attributable to ITCDI	0	2	2	2	2	4
4. Arizona-sponsored research	*	*	*	*	*	*
Companies Relocating						
5. Number of relocated and retained companies	0	2	1	0	1	1
Workforce Contributions						
6. Jobs attributable to relocation	*	*	*	*	*	*
7. Jobs attributable to start-ups	10	10	10	10	10	10
8. Jobs attributable to expansion	*	*	*	*	*	*
9. Number of new faculty experts attracted	*	2	*	*	*	*
10. New graduates from ITCDI-related programs	0	69	30	236	250	300
11. ITCDI graduates benefiting from minors in related areas	25	50	100	100	100	100
12. Undergraduates taking non-technical minor	50	100	150	150	200	300
13. Growth in ITCDI-related graduate enrollment	5	5	5	5	5	20
14. New graduates from Information Sciences Program	0	0	0	0	50	75
Curriculum Innovations						
15. Curriculum innovations program implemented	P1	39	40	40	40	40
Partnerships/Collaborations						
16. Government project grants obtained	*	*	*	*	*	*
17. SBIR/SBTT grants obtained	*	*	*	*	*	*
18. Grants/contracts from industry	\$120K	\$234K	\$500K	\$1.3M	\$2M	\$2M
19. Value of sponsorships obtained	\$1.0M	\$4.8M	\$2.0M	\$2.1M	\$3.0M	\$4.0M
Other						
20. Network infrastructure upgrades**	P1	P2	P3	P3	P4	P5

* Indicates metrics not yet estimable. These will be added in coordination with the Office of Economic Development's development of the system by which growth will be tracked and attributed in the University/Community Proposition 301 Technology Report.

** P1=design and development of expanded network infrastructure; P2=testing and launch; P3-5=maintenance.

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
INTERNET TECHNOLOGY & COMMERCE INSTITUTE

FY 2004 RESULTS AND ACCOMPLISHMENTS

The Institute is pleased with the results of the collaboration of the five colleges that are principals in the effort (Engineering, Business, Science, Fine Arts, and Social/Behavioral Sciences). Some of the results for this year include:

Research:

Research activities during FY 2004 include:

- The Intelligent Large Scale Sensing Systems Initiative
- Full Spectrum, an audio workshop for blind musicians
- Dual width instruction set processors
- Aerial robotics
- Center for applied spatial analysis
- Sensor network test bed
- Nanotechnology initiative
- Task Specific Knowledge Sources for Intelligence Analysts
- Rapid prototyping and 3D printing
- Nano-Biomolecular computing
- Computational linguistics
- Southwest land, culture, and society information gateway
- Natural language processing and speech recognition
- Remote sensing and spatial analysis
- Virtual reality
- Autonomic computing
- Using multiscale collaboration to support cross-scale scientific research
- Processing data in an imperfect data bases
- Motion capture
- XML topologies for genomic applications

Conferences:

- Managing IT in networked environment
- Human factors and IT
- Digital Libraries conference
- DHS/NSF/NIJ Intelligence and Security Informatics

Programs and Classes:

- Master's Degree in Library and Information Science
- Interdisciplinary undergraduate minor in Information Technology & Society
- Professional master's degree in Human Language Technology
- Developing new certificate in Geographic Information Systems
- CoS classes in embedded systems and mobile technology

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
INTERNET TECHNOLOGY & COMMERCE INSTITUTE

Infrastructure:

Significant network communications upgrades have been performed or are in progress in the College of Engineering, College of Science, and the College of Fine Arts. Much of this was an upgrade from 10mgb to 100mgb.

Symposiums:

Two collaboration symposiums were sponsored by the Institute this year. More than 30 participants who have projects funded by TRIF gave brief presentations to their colleagues and generated more cross-college collaboration.

Advisory Board:

The Institute's advisory board is in place.

Interns:

The Institute provided 15 student interns to local businesses for a summer program. The interns were given assignments with seven local companies.

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
OPTICAL SCIENCE & TECHNOLOGY

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>ORIG BUDGET</i>	<i>FY 2005</i> <i>REV BUDGET</i>	<i>FY 2006</i> <i>REV BUDGET</i>
REVENUE					
Carry Forward	\$ 324,825	\$ 324,825	\$ -	\$ 391,576	\$ -
TRIF Revenue	4,500,000	4,546,801	4,200,000	4,200,000	4,200,000
TOTAL REVENUE	<u>\$ 4,824,825</u>	<u>\$ 4,871,626</u>	<u>\$ 4,200,000</u>	<u>\$ 4,591,576</u>	<u>\$ 4,200,000</u>
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 2,801,302	\$ 2,195,760	\$ 2,100,000	\$ 2,203,640	\$ 2,200,000
ERE	612,057	492,654	489,300	605,906	589,600
All Other Operating	411,466	791,636	610,700	782,030	410,400
TOTAL OPERATING BUDGET	<u>3,824,825</u>	<u>3,480,050</u>	<u>3,200,000</u>	<u>3,591,576</u>	<u>3,200,000</u>
CAPITAL BUDGET					
Building Renovation	-	-	-	-	-
Debt Service	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
TOTAL CAPITAL BUDGET	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>
EXPENDITURES GRAND TOTAL	<u>\$ 4,824,825</u>	<u>\$ 4,480,050</u>	<u>\$ 4,200,000</u>	<u>\$ 4,591,576</u>	<u>\$ 4,200,000</u>

*based on estimated overrealized revenue of \$46,801

INITIATIVE OVERVIEW

This initiative is designed to support funding for a broad multidisciplinary effort in optical sciences in Southern Arizona that will be designated as the Optical Science and Technology Plan (OSTP). OSTP has profound implications for the New Economy of the state of Arizona. The three key elements of OSTP are:

Research and Technology Development:

- The funding of research projects and/or gap funding to provide for prototyping and proof of concept regarding the following:
 - o Photonics – novel nanocomposite materials, photonic components, optical communications devices, and systems sensing devices for chemical and biological hazardous elements
 - o Imaging and Sensors – wide array of practical applications including ultraviolet and infrared sensors
 - o Astronomical Instruments – new enterprises that define the next generation of optics for large telescopes in space as well as operation of new generation ground-based telescopes
- Increase number of world-class faculty in Optics
- Increase major Optics research projects

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
OPTICAL SCIENCE & TECHNOLOGY

Workforce Development:

- Partnership with Pima Community College and the University of Arizona to develop a new two-year certificate program for optical technicians to work in the optoelectronic and optomechanical areas
- Expansion of graduate and undergraduate optics programs
- UA educational programs to upgrade K-12 science education. Arizona high school teachers and students will be engaged in statewide continuing education seminars that will prepare teachers to teach optical science and conduct optics experiments in the classroom and will introduce students to various career opportunities with optical science education.
- The Professional Masters Degree Program of UA melds practical science education in mathematics, physics, chemistry, biochemistry, and others to practical business application.
- The Associates in Technology Program of UA's Berger Entrepreneurship Program allows technical students to pair up with business students for one year of curriculum and application of new business development and technology development.
- New short courses in optical science and technology will be developed at the UA specifically for industrial training purposes in the area of optical science and technology. These may be offered on a distance learning platform and can be delivered anywhere in Arizona. A novel approach using a Web-based text is currently under development on the campus and will be incorporated into the proposed courses.

Technology Transfer and Outreach:

- Faculty and staff will work closely with the University of Arizona's Office of Technology Transfer and the Arizona Optics Industry Association to identify research products that have potential for technology transfer. Periodic meetings will be held between University of Arizona faculty and staff and industrial partners to identify venture capital opportunities and to keep the enterprise solidly on track in its developmental New Economy goals.
- Increase licenses and spin-off companies in optics through the Office of Technology Transfer
- Establish technology outreach programs
- The Office of Technology Transfer and Berger Entrepreneurship Program offer a business plan development team to work with optics disclosed technologies.

FY 2004 GOALS/OBJECTIVES

The goal of this initiative is to support the development of optics and photonics in the New Economy in Arizona through enhanced research and development, workforce development, technology transfer, and outreach. Specific objectives include:

- Increasing the understanding and visibility of optics throughout the university, community, and state;
- Developing new programs for involving underrepresented students in science;
- Developing new programs for university-industry collaborations in both research and workforce development;
- Developing new research and development programs in important areas of optical technology;
- Leveraging TRIF funding to generate additional funding from government and industry sources;
- Enhancing the number of patents and start-up companies related to optics.

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
OPTICAL SCIENCE & TECHNOLOGY

PERFORMANCE MEASURES/DELIVERABLES

	<i>FY 2002</i>	<i>FY 2003</i>	<i>FY 2004</i>	<i>FY 2004</i>	<i>FY 2005</i>	<i>FY 2006</i>
	<i>ACTUAL</i>	<i>ACTUAL</i>	<i>PROJECTED</i>	<i>ACTUAL</i>	<i>REVISED</i>	<i>REVISED</i>
Workforce Contributions						
1. Recruit world-class faculty experts	3	6	0	0	2	2
Technology Transfer						
2. New spin-off companies in optics	2	1	0	0	0	1
Curriculum Innovations						
3. Number of additional graduate students in areas related to optics	30	15	0	21	0**	0**
4. Number of additional undergraduate majors in areas related to optics	12	25	10	44	0**	0**
Partnerships/Collaborations						
5. Increase number of industrial affiliate optics companies	11	3	2	14*	2	2
6. New federally funded major optics projects	2	2	1	11	1	1

* Photonics Affiliates

** The numbers of undergraduate and graduate students have grown so rapidly in the first three years of this program that we are at the limit for number of faculty and space available. We surpassed our goals for the five-year program.

FY 2004 RESULTS AND ACCOMPLISHMENTS

1. Six patents were submitted with industrial partners.
2. Eleven new multi-year grants and contracts were funded.
3. A Photonics Workshop was held for local companies.
4. Photonics was taught at Dine Community College on Navajo Reservation; NSF REU proposal was funded for Dine College.
5. Significant increase in optics graduate students.
6. Significant increase in optics undergraduate students.
7. Increased size of optics industrial affiliates program.

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
WATER SUSTAINABILITY PROGRAM

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>ORIG BUDGET</i>	<i>FY 2005</i> <i>REV BUDGET</i>	<i>FY 2006</i> <i>REV BUDGET</i>
REVENUE					
Carry Forward	\$ 95,320	\$ 95,320	\$ -	\$ 449,033	\$ -
TRIF Revenue	2,000,000	2,020,801	2,300,000	2,300,000	3,500,000
TOTAL REVENUE	<u>\$ 2,095,320</u>	<u>\$ 2,116,121</u>	<u>\$ 2,300,000</u>	<u>\$ 2,749,033</u>	<u>\$ 3,500,000</u>
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 1,405,659	\$ 954,150	\$ 1,615,900	\$ 1,978,708	\$ 2,520,000
ERE	284,140	181,214	315,100	454,292	540,000
All Other Operating	405,521	531,724	369,000	316,033	440,000
TOTAL OPERATING BUDGET	<u>2,095,320</u>	<u>1,667,088</u>	<u>2,300,000</u>	<u>2,749,033</u>	<u>3,500,000</u>
CAPITAL BUDGET					
Building Renovation	-	-	-	-	-
Debt Service	-	-	-	-	-
TOTAL CAPITAL BUDGET	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
EXPENDITURES GRAND TOTAL	<u>\$ 2,095,320</u>	<u>\$ 1,667,088</u>	<u>\$ 2,300,000</u>	<u>\$ 2,749,033</u>	<u>\$ 3,500,000</u>

*based on estimated overrealized revenue of \$20,801

INITIATIVE OVERVIEW

The mission of the Water Sustainability Program (WSP) is to provide science-based technical, economic, legal, and policy expertise necessary for water development, use, and conservation in an increasingly urban state with sustained population growth. It is a university-wide collaboration of researchers and educators that is coordinated by four University of Arizona water centers. Stronger relationships across disciplines result in research innovations and interdisciplinary solutions to real-world problems in the state. Enhancing the sustainability and safety of Arizona's water supply is critical to the state's economic development and quality of life.

The University of Arizona is internationally recognized for its expertise in water-related sustainability planning, research, and technology development. The WSP builds on these strengths to provide services within the state that enhance educational opportunities, sustain economic growth, and provide state-of-the-art scientific information in support of water management activities. Key WSP initiatives include an internally competitive grants program focused on resolving Arizona-specific water issues; a joint water education and outreach program targeted at K-12 students, the general public, public policy-makers, and professionals; a student fellowship program; and the water centers' directed research, outreach, and education programs. Collaboration with government agencies and the private sector to provide direct dollar matches and in-kind contributions to support these initiatives is an important strategy to supplement TRIF funds and broaden program reach.

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
WATER SUSTAINABILITY PROGRAM

FY 2004 GOALS/OBJECTIVES

The fundamental goals of the WSP are to strengthen research, outreach, and education efforts in the water resource area at the University of Arizona to help ensure a sustainable, high-quality water supply for economic development and enhanced quality of life for all of Arizona. WSP is leveraging its strengths in academia, research, and local environmental technology industries to create several outcomes, including: practical education for grades K-12 to create general awareness of issues, problems, and career-related training; internationally recognized research and technology transfer initiatives; a thriving industry cluster, which includes both private sector and public center entities, supported by a skilled workforce that is educated at the University of Arizona; and stronger relationships across disciplines within the University of Arizona, which will result in research innovations to create new business initiatives. Water is essential to the health and well-being of local industries and its citizenry, and WSP activities can assist in ensuring the long-term availability of water in the state for industrial, municipal, and other uses. The connection of academia and industry through this initiative will result in the following outcomes:

- hydrology and other academic programs will provide a high-quality workforce for water resources companies and agencies;
- industry can provide the University of Arizona funding for future research projects and internships to give students real-world science experience; and
- sponsored research projects and initiatives produce new technologies, which fuel growth and in some cases provide for new companies and therefore new jobs.

PERFORMANCE MEASURES/DELIVERABLES

	<i>FY 2002 ACTUAL</i>	<i>FY 2003 ACTUAL</i>	<i>FY 2004 PROJECTED</i>	<i>FY 2004 ACTUAL</i>	<i>FY 2005 REVISED</i>	<i>FY 2006 REVISED</i>
Return on Investment						
1. Government project grants obtained	0	\$244,700	*	\$450,000	\$500,000	\$500,000
2. Additional funding obtained	\$400,000	\$88,000	*	\$250,000	\$250,000	\$250,000
Technology Transfer						
3. State-wide water conference	1	1	1	1	1	1
4. Patent applications**	*	*		*	3	
Companies Relocating/Economic Development						
5. Number of relocated research offices			*			
6. Jobs attributable to relocation			*			
7. Jobs attributable to expansion			*		2	
8. Number of new faculty recruited	1		*	2	1	2
Workforce Contributions						
9. Number of undergraduate employment/research opportunities	0	9	12	22	22	30
10. Number of graduate employment/research opportunities	1	16	12	54	50	60
11. Number of post-graduate employment/research opportunities	2	2	4	3	3	4

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
WATER SUSTAINABILITY PROGRAM

	<i>FY 2002</i>	<i>FY 2003</i>	<i>FY 2004</i>	<i>FY 2004</i>	<i>FY 2005</i>	<i>FY 2006</i>
	<i>ACTUAL</i>	<i>ACTUAL</i>	<i>PROJECTED</i>	<i>ACTUAL</i>	<i>REVISED</i>	<i>REVISED</i>
Curriculum Innovations/Education						
12. Expanded delivery of K-12 water education programs						
- number of facilitators trained	0	40	*	44	40	40
contacts	0	475/26,500	*	735/26,340	700/26,000	700/26,000
13. Interdisciplinary curriculum modules developed	0	7	*	5	3	
contacts	0	9/390	*	105/1,490	200/1,500	200/1,500
14. New rural water resources centers established	2	2	*	0	2	2
Partnerships						
15. New collaborations with institutions/industry	*	*		75	30	30

* Indicates metrics not available

** New measure added

FY 2004 RESULTS AND ACCOMPLISHMENTS

In FY 2004, \$2,000,000 in new TRIF funds were budgeted for the WSP. Of that, \$1M was awarded to top UA researchers and staff across campus to conduct 20 Arizona-specific projects in water research, education, and outreach, selected through a competitive expert review process. The grants program drew considerable interest from state and federal agencies and the private sector, attracting over \$300,000 in matching funds and in-kind contributions from 70 new partnerships. Funds supported 50 student positions. The WSP Student Fellowship Program awarded a total of \$100,000 to outstanding graduate (4) and undergraduate (5) students to encourage and support their studies on Arizona-specific water issues. Implementation of the second round of the grants program to award \$1.2M to 16 continuing, multi-year projects and 12 new projects, and selection of 9 outstanding students to receive fellowship awards totaling \$100,000 in FY 2005 was accomplished. Planning for major water initiatives beyond FY 2005 was initiated.

Joint Education and Outreach Program:

- Establishment of a cohesive UA Water Information System by the development of the UA WaterWeb and associated targeted information products. A comprehensive WSP website is in place at www.uawater.arizona.edu, with links to all the water center activities.
- Strengthened industry outreach through development of student-designed mobile technology displays, demonstrating key applications of cleanroom technology and industrial water reuse, and a major assessment of industry education/training/continuing education needs by direct contact, questionnaires, and focus groups.
- Built hydrologic literacy through Project WET (Water Education for Teachers) that now has major training programs in Pima and Maricopa counties, with a trained facilitation network throughout the state. The facilitators train teachers to use hydrologic and water policy curricula and provide support materials. A highly successful Water Festivals Program is being significantly expanded within Arizona schools. In 2003-2004, new curricula for high schools and a summer camp for middle school students were developed.
- Conducted a briefing specifically targeted at Arizona Legislators on water management in the state and overview of the Water Sustainability Program.

UNIVERSITY OF ARIZONA
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
WATER SUSTAINABILITY PROGRAM

Water Center Activities:

Each Water Center receives direct funding to pursue interdisciplinary research, education, and outreach programs. Accomplishment highlights are listed.

Center for the Sustainability of Arid and Semi-Arid Hydrology and Riparian Areas (SAHRA)- water sustainability

- Development and submission of patent applications for 2 devices and application software used for precise water sensing in research and industry, derived from ongoing research to disaggregate water demand patterns.
- Measurement of the impacts of the proximity to and quality of riparian habitat on home values.
- Determination of opportunities and obstacles of domestic water reuse.

Engineering Research Center for Environmentally Benign Semiconductor Manufacturing (ERC) - water use and reuse for the semi-conductor industry

- Collaboration with microelectronics firms on water use optimization and low-water rinse technologies.
- Joint project work with ASU on the development of low-water wafer cleaning that uses 85% of the water in IC industry.
- Development of a new low-energy water purification method for removing organics and hardness-causing species.

Water Quality Center (WQC) - water security and human pathogen detection

- Developed a data set showing pathogen inactivation in household water lines via point-of-use devices.
- Developed a data set showing limited transport of human pathogens via bioaerosol.

Water Resources Research Center (WRRC) - outreach and education on critical water issues; expertise on state and regional water management and policy

- Annual statewide water conference, Spring 2004, entitled, "The Future of Agricultural Water Use in Arizona," attracting 250 participants (elected officials, water professionals, university and government agency personnel, citizens).
- Study and presentation on the role of the public sector and private enterprise in providing water to Arizona's communities.
- Initiated a study on environmental restoration projects in Arizona.
- Delivery of numerous briefings, presentations, workshops, articles, columns, interviews, with media coverage, on water management and policy, to diverse audiences.

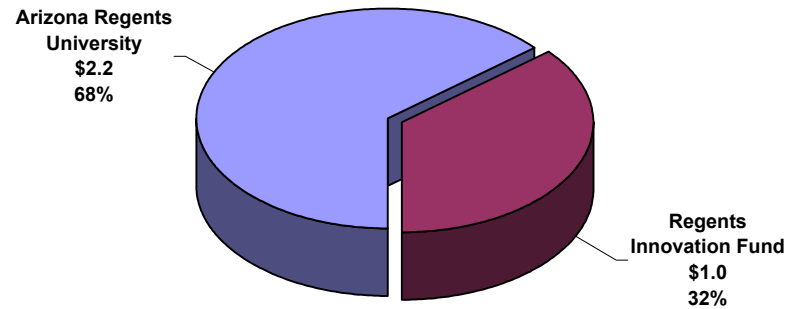
ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-2006 BUDGET
SUMMARY

	<i>FY 2004 REV BUDGET</i>	<i>FY 2004 ACTUAL</i>	<i>FY 2005 ORIG BUDGET</i>	<i>FY 2005 REV BUDGET</i>	<i>FY 2006 REV BUDGET</i>
REVENUE					
Carry Forward	\$ 2,123,392	\$ 2,123,392	\$ -	\$ 2,120,301	\$ -
TRIF Revenue	3,205,000	3,247,764	3,315,000	3,315,000	3,431,000
TOTAL REVENUE	\$ 5,328,392	\$ 5,371,156	\$ 3,315,000	\$ 5,435,301	\$ 3,431,000
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 255,874	\$ 185,658	\$ 200,000	\$ 326,512	\$ 220,000
ERE	61,161	37,652	50,000	72,507	55,000
All Other Operating	141,605	13,272	400,600	449,081	404,100
Subtotal Operating Budget	458,640	236,582	650,600	848,100	679,100
GRANTS/PROJECTS:					
Arizona Regents University	3,420,552	2,043,178	1,664,400	3,279,959	1,751,900
Regents Innovation Fund	1,449,200	971,095	1,000,000	1,307,242	1,000,000
Subtotal Grants/Projects	4,869,752	3,014,273	2,664,400	4,587,201	2,751,900
TOTAL OPERATING BUDGET	5,328,392	3,250,855	3,315,000	5,435,301	3,431,000
CAPITAL BUDGET					
Building Renovation	-	-	-	-	-
Debt Service	-	-	-	-	-
TOTAL CAPITAL BUDGET	-	-	-	-	-
EXPENDITURES GRAND TOTAL	\$ 5,328,392	\$ 3,250,855	\$ 3,315,000	\$ 5,435,301	\$ 3,431,000
SUMMARY BY INITIATIVE					
Arizona Regents University	\$ 3,805,657	\$ 2,219,428	\$ 2,315,000	\$ 3,930,559	\$ 2,431,000
Regents Innovation Fund	1,522,735	1,031,427	1,000,000	1,504,742	1,000,000
EXPENDITURES GRAND TOTAL	\$ 5,328,392	\$ 3,250,855	\$ 3,315,000	\$ 5,435,301	\$ 3,431,000

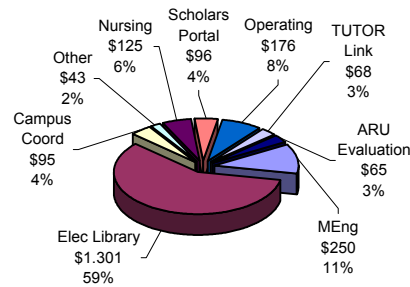
ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 BUDGET / ACTUAL
SUMMARY

	<i>FY 2004 REV BUDGET</i>	<i>FY 2004 ACTUAL</i>
REVENUE		
Carry Forward	\$ 2,123,392	\$ 2,123,392
TRIF Revenue	3,205,000	3,247,764
TOTAL REVENUE	<u>\$ 5,328,392</u>	<u>\$ 5,371,156</u>
EXPENDITURES		
OPERATING BUDGET		
Personal Services	\$ 255,874	\$ 185,658
ERE	61,161	37,652
All Other Operating	141,605	13,272
Subtotal Operating Budget	<u>458,640</u>	<u>236,582</u>
GRANTS/PROJECTS		
Arizona Regents University	3,420,552	2,043,178
Regents Innovation Fund	1,449,200	971,095
Subtotal Grants/Projects	<u>4,869,752</u>	<u>3,014,273</u>
TOTAL OPERATING BUDGET	<u>5,328,392</u>	<u>3,250,855</u>
CAPITAL BUDGET		
Building Renovation	-	-
Debt Service	-	-
TOTAL CAPITAL BUDGET	<u>-</u>	<u>-</u>
EXPENDITURES GRAND TOTAL	<u>\$ 5,328,392</u>	<u>\$ 3,250,855</u>
SUMMARY BY INITIATIVE		
Arizona Regents University	\$ 3,805,657	\$ 2,219,428
Regents Innovation Fund	1,522,735	1,031,427
EXPENDITURES GRAND TOTAL	<u>\$ 5,328,392</u>	<u>\$ 3,250,855</u>

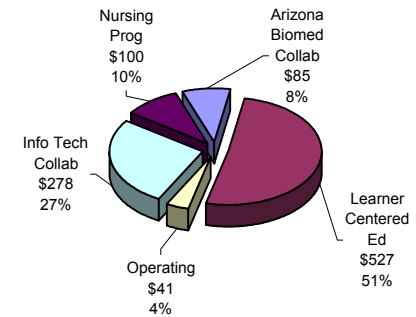
FY 2004 CENTRAL OFFICE ACTUAL TRIF EXPENDITURES
(in millions)



ARU
(in thousands)



REGENTS INNOVATION FUND
(in thousands)



ARIZONA BOARD OF REGENTS
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ARIZONA REGENTS UNIVERSITY

	<i>FY 2004 BUDGET</i>	<i>FY 2004 ACTUAL</i>	<i>FY 2005 ORIG BUDGET</i>	<i>FY 2005 REV BUDGET</i>	<i>FY 2006 REV BUDGET</i>
REVENUE					
Carry Forward	\$ 1,600,657	\$ 1,600,657	\$ -	\$ 1,615,559	\$ -
TRIF Revenue	2,205,000	2,234,330	2,315,000	2,315,000	2,431,000
TOTAL REVENUE	\$ 3,805,657	\$ 3,834,987	\$ 2,315,000	\$ 3,930,559	\$ 2,431,000
EXPENDITURES					
OPERATING BUDGET					
Personal Services	\$ 200,000	\$ 138,213	\$ 200,000	\$ 200,000	\$ 220,000
ERE	50,000	27,580	50,000	50,000	55,000
All Other Operating	135,105	10,457	400,600	400,600	404,100
Subtotal Operating Budget	385,105	176,250	650,600	650,600	679,100
GRANTS/AID TO OTHERS:					
Tri-University Master of Engineering	250,000	250,000 ³	-	-	-
Tri-University Electronic Library	-	1,301,456	-	-	-
ARU Campus Coordinators Salary, ERE	147,400	94,564	151,106	151,106	151,106
UA Nursing PhD	100,000	-	-	100,000 ³	-
ASU & NAU RN to BSN	200,000	125,000 ²	200,000 ³	200,000 ³	-
Scholars Portal	95,500	95,500 ²	195,800 ³	195,800 ³	-
Math & Science Teacher Preparation	delayed	delayed	250,224 ²	250,224 ²	250,224 ³
APASC/ATASS Partnership	75,497	-	-	-	-
Tri-University Online Tutoring Resource (TUTOR) Link	67,800	67,800 ²	68,600 ³	68,600 ³	-
Web Development	115,000	1,450	-	115,000	-
Research Survey Focus Groups	49,000	42,000	-	-	-
ARU Consultants	-	65,408	-	161,981	-
New Programs	2,320,355	-	798,670	2,037,248	1,350,570
Subtotal Grants/Aid to Others	3,420,552	2,043,178	1,664,400	3,279,959	1,751,900
TOTAL OPERATING BUDGET	3,805,657	2,219,428	2,315,000	3,930,559	2,431,000
CAPITAL BUDGET					
Building Renovation	-	-	-	-	-
Debt Service	-	-	-	-	-
TOTAL CAPITAL BUDGET	-	-	-	-	-
EXPENDITURES GRAND TOTAL	\$ 3,805,657	\$ 2,219,428	\$ 2,315,000	\$ 3,930,559	\$ 2,431,000

1, 2, 3 notations reflect year of grant funding

ARIZONA BOARD OF REGENTS
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ARIZONA REGENTS UNIVERSITY

INITIATIVE OVERVIEW

Arizona Regents University (ARU), from its statewide perspective, can combine areas of strength within each of the state universities to make available unique programs that represent multi-university efforts and capabilities.

- Create educational opportunities that can be delivered to new populations of potential students, including those in rural areas or who are place-bound and/or time-bound; and those with physical disabilities that prevent residence on campus;
- Minimize the price of education by reducing the need for a student residence near a campus and by reducing interruption of an individual's paid employment; and
- Emphasize areas of study that support lifelong career advancement.

FY 2004 GOALS/OBJECTIVES

1. To expand access to postsecondary education to Arizona citizens by overcoming barriers to time and place at an affordable cost.
2. To support anytime, anyplace academic degree programs, articulation, and seamless student services.
3. To implement two consultant studies to provide guidance in the development of online student services and identification of the path for the long-term growth and structure of Arizona Regents University.

PERFORMANCE MEASURES/DELIVERABLES

	<i>FY 2002</i> ACTUAL	<i>FY 2003</i> ACTUAL	<i>FY 2004</i> PROJECTED	<i>FY 2004</i> ACTUAL	<i>FY 2005</i> PROJECTED	<i>FY 2006</i> PROJECTED
Return on Investment						
Funds leveraged	0	\$89,070				
Workforce Contributions						
Number of courses provided	520	1,471	573	1,531	1,715	1,852
Number of certificate and degree programs provided	9 / 14	13 / 24	13 / 16	20 / 23	20 / 24	21 / 25
Number of enrollments	12,353	35,616	16,330	40,761	42,799	44,939
Grant funds distributed to universities	\$1,378,394	\$1,760,328	\$1,500,000	\$1,169,162	\$1,500,000	\$1,500,000
Curriculum Innovations						
Number of coordinated student services provided	not available	6	6	9	10	11
Number of faculty offering distance learning courses	not available	400	412	437	450	475

ARIZONA BOARD OF REGENTS
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ARIZONA REGENTS UNIVERSITY

FY 2004 RESULTS AND ACCOMPLISHMENTS

Arizona Regents University continues to develop student services and academic programs that address Arizona's workforce development needs. Since June 2001, ARU grant commitments, university memberships, and consulting services exceed \$4.25M. During FY 2003-04, ARU distributed over \$2M in grant funds to develop projects in academic program development and student services for the distance learner. The number of student registrations in distance learning programs has grown to over 40,000; and the number of individual distance learning courses offered has increased to 1,531. Much of this growth is the result of rapidly increasing interest in flexible and accessible web-based learning. Both on-campus and distance students are taking advantage of the web-based courses being offered.

Two consulting firms were engaged in 2004:

- WCET to evaluate university online student services
- Hezel Associates to develop a roadmap for ARU for the next 5 and 10 years

The results of these studies are expected by October 2004.

The Tri-University Master of Engineering (MEng) program expanded the number of focused study areas in response to corporate needs. MEng also launched a brand marketing and enrollment campaign in June 2004. The brand marketing campaign included the development of a new brand image, the development of positioning lines, and a program name change to Master of Engineering Partnership (Partnership). To further promote brand identity, a new logo was designed, the Partnership website was redesigned, promotional materials were developed, and an enrollment campaign was launched at the start of FY 2005.

A collaborative plan to positively influence the state's critical shortage of nurses includes an expanded RN to BSN program and a nursing PhD program to increase the number of qualified university nursing faculty. The PhD program has developed 19 online courses, which are incorporated into a new learning management system, Desire2Learn. A web portal was designed and built to accommodate the PhD program (courses, research activities, support systems, etc.) and give students a "sense of place." The ASU and NAU RN/BSN programs are discussing courses that can be shared between institutions. NAU staff met with students from the five community colleges who are members of the Healing Community and attended career fairs at Maricopa, Yavapai, and Pima Community Colleges. Over 200 potential students expressed an interest in the program and requested additional information. This information was sent and transcripts requested. At ASU, four remaining online courses will be completed during the Fall 2004 and Spring 2005 semesters.

Teacher education has also been identified as a critical workforce development area. ARU funded a Tri-University online secondary math and science teacher certification program, which begins in Fall 2004. A comprehensive website has been developed for the program, hosted by NAU. Recruitment efforts are underway.

The university libraries purchased nearly 3,000 digital books and online professional journals and monographs, expanding the digital accessibility of library resources to distance learning students, as well as enhancing library resources for campus-based students.

Supporting the programs identified above are a number of online student services that make distance learning a viable alternative to the traditional educational process. These services include online registration for MEng courses, an online library program called Scholar's Portal, and a separate ARU website that now provides information about registration and lists the available programs and courses. An ARU Campus Coordinator is physically located at each of the universities to assist the distance students and address their individual needs.

ARIZONA BOARD OF REGENTS
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005-06 BUDGET
ARIZONA REGENTS UNIVERSITY

Research has been conducted, through the use of focus groups, to identify strengths and weaknesses in the student services being provided to the distance student. Research is ongoing to identify new areas of workforce development needs and provide the data to help identify future funding priorities.

ARU now consists of two full-time people to support, coordinate, and monitor the progress of programs and services being offered. ARU operating and personnel expenses represent only 7% of the total ARU funding with the rest being dedicated to projects and programs that support the universities and the distance learner.

Projects currently under consideration for ARU funding during FY 2004-05 include the following:

ASU College of Nursing proposes an online Nurse Educator (NED) Certificate program that will address a severe shortage of nurse educators prepared to teach nursing in practice settings, community college, baccalaureate and master's programs. The courses in the certificate program provide a foundation for nursing PhD students and can apply to the Master of Nursing degree. Two of the courses were taught over the past two summers. Students are enthusiastic and look forward to the new courses focused on technology and web-based instruction. Once the program is online, it should be self-sustaining through student enrollments and adjustment of faculty teaching loads.

Phase II of the web design project will include interactive applications and additional resources to support distance learning. Specific areas for development will be identified by the WCET consulting report.

A Tri-University proposal by the libraries to offer learning objects to online programs in nursing, engineering, and teacher preparation is being developed.

A continuation of the research project to identify future areas of learning need, focusing on business and healthcare, and to survey current students to specify needed student services.

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005 BUDGET
REGENTS INNOVATION FUND SUMMARY

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>BUDGET</i>
REVENUE			
Carry Forward	\$ 522,735	\$ 522,735	\$ 504,742
TRIF Revenue	1,000,000	1,013,434	1,000,000
TOTAL REVENUE	<u>\$ 1,522,735</u>	<u>\$ 1,536,169</u>	<u>\$ 1,504,742</u>
EXPENDITURES			
OPERATING BUDGET			
Personal Services	\$ 55,874	\$ 47,445	\$ 126,512
ERE	11,161	10,072	22,507
All Other Operating	6,500	2,815	48,481
Subtotal Operating Budget	<u>73,535</u>	<u>60,332</u>	<u>197,500</u>
GRANTS/PROJECTS:			
Learner Centered Education	807,772	514,212	777,060
Arizona Biomedical Collaborative for Education and Research	76,109	79,130	250,000
Information Technology Collaborative	280,000	277,787	154,000
Expansion of Nursing Programs	100,000	99,966	
Changing Directions	60,319	-	
TRIF Program Evaluation	125,000	-	
Arizona University System Redesign Study			-
Academic Program Management System			15,000
To be determined			111,182
Subtotal Grants/Projects	<u>1,449,200</u>	<u>971,095</u>	<u>1,307,242</u>
TOTAL OPERATING BUDGET	<u>1,522,735</u>	<u>1,031,427</u>	<u>1,504,742</u>
EXPENDITURES GRAND TOTAL	<u>\$ 1,522,735</u>	<u>\$ 1,031,427</u>	<u>\$ 1,504,742</u>
SUMMARY BY INITIATIVE			
Learner Centered Education	\$ 824,272	\$ 527,189	\$ 793,560
Arizona Biomedical Collaborative for Education and Research	100,000	84,760	250,000
Information Technology Collaborative	280,000	277,787	180,000
Expansion of Nursing Programs	100,000	99,966	
Changing Directions	60,319	694	
TRIF Program Evaluation	125,000	-	
Arizona University System Redesign Study			110,000
Academic Program Management System			20,000
Operating	33,144	41,031	40,000
To be determined			111,182
EXPENDITURES GRAND TOTAL	<u>\$ 1,522,735</u>	<u>\$ 1,031,427</u>	<u>\$ 1,504,742</u>

Note: The Regents Innovation Fund was established to address emerging opportunities and contingencies. Consistent with this intent, a detailed budget has not yet been developed for FY 2006. The total amount of the Innovation Fund budgeted for FY 2006 is \$1 million.

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005 BUDGET
REGENTS INNOVATION FUND
Learner Centered Education

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>	<i>FY 2005</i> <i>REV BUDGET</i>
REVENUE			
Carry Forward	\$ 307,772	\$ 307,772	\$ 293,560
TRIF Revenue	516,500	516,500	500,000
TOTAL REVENUE	\$ 824,272	\$ 824,272	\$ 793,560
EXPENDITURES			
OPERATING BUDGET			
Personal Services	\$ 9,400	\$ 9,365	\$ 9,400
ERE	1,600	1,491	1,600
All Other Operating	5,500	2,121	5,500
Subtotal Operating Budget	16,500	12,977	16,500
GRANTS:			
FY 2005 LCE Grants	-	-	483,500
FY 2004 LCE Grants	500,000	247,367	252,634
FY 2003 LCE Grants	282,198	282,199	(1)
FY 2002 LCE Grants	25,574	(15,354)	40,927
Subtotal Grants	807,772	514,212	777,060
TOTAL OPERATING BUDGET	824,272	527,189	793,560
CAPITAL BUDGET			
Building Renovation	-	-	-
Debt Service	-	-	-
TOTAL CAPITAL BUDGET	-	-	-
EXPENDITURES GRAND TOTAL	\$ 824,272	\$ 527,189	\$ 793,560

FY 2004 INITIATIVE OVERVIEW

The purpose of the LCE grants is to support the Regents' goal of institutionalizing learner-centered education throughout the university system. The grants provide a source of support for new, innovative academic projects and unforeseen, short-term needs that fall within the framework of learner-centered education. The grant cycle runs for 18 months, from January 1 through June 30 of the following year. Final reports for the grants awarded in January 2003 are due by July 31, 2004, and by July 31, 2005, for grants awarded in January 2004. The deadline for submitting proposals from the 2005 cycle is October 12, 2004.

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005 BUDGET
REGENTS INNOVATION FUND
Learner Centered Education

FY 2004 GOALS/OBJECTIVES

Grants are solicited in four categories considered critical to the full implementation of learner-centered education throughout the university system:

- Faculty professional development
- Course/program modification or development
- Research on learner-centered education
- Improved assessment of learner-centered education at the course or program level

Priority is given to proposals that are collaborative across campuses and among the universities.

FY 2004 PERFORMANCE MEASURES/DELIVERABLES		<i>FY 2002 Cycle</i> ACTUAL	<i>FY 2003 Cycle*</i> PROJECTED	<i>FY 2004 Cycle **</i> PROJECTED	<i>FY 2005 Cycle</i> PROJECTED
Curriculum Innovations					
1.	Number of courses modified to LCE focus	95	114	107	80
2.	Faculty addressing curriculum through LCE grants	188	53	100	70
Workforce Contributions					
3.	Students affected by LCE grant projects	14,000	6,000	6,000	5,000

* Final reports due July 31, 2004.

**Final reports due July 31, 2005.

FY 2004 RESULTS AND ACCOMPLISHMENTS

71 proposals were submitted for the 2004 grant cycle, 15% more than the previous year. 16 were approved for funding.

Generally, the requests for funding fell in the lower funding range, compared to the previous year. As a result, awards for \$25,000 or less make up 75% of the awards, compared to 40% in 2003. There was one tri-university award for the maximum amount of \$100,000.

Projects are funded from January 2004 through June 30, 2005. Approximately half of the funds were released during FY 2004. The remainder will be released during FY 2005 upon receipt of the progress reports required of each grantee on or before December 14, 2004.

To date, it is estimated that with the 2002 cycle complete and the 2003 cycle just finishing, more than 200 faculty have developed or redesigned nearly 200 courses using LCE methods and approaches, involving approximately 20,000 students during the life of these grants. As these courses continue, more students will be impacted each semester.

**Regents Innovation Fund
2004 LCE Grant Awards**

University	LCE Project Title	Project Summary	Grant Award
ASU	Indigenous Geology: Development and Assessment of a Culturally-Resonant, Place-Based Model of Geology Education for American Indian Pre-Service Teachers	Design, development, implementation, assessment, and dissemination of an introductory undergraduate geology course that integrates culturally-responsive and place-based content and pedagogy, to enhance its relevance and interest to American Indian students in Arizona, principally pre-service teachers.	\$25,000
ASU	Assessing and Evaluating Learning Outcomes in Traditional, Hybrid, and Online First-Year Composition Course	Assess and evaluate student success rates in traditional, hybrid, and online English 101 (First-Year Composition) courses at ASU. The study will use several assessment instruments to collect data that will be used to compare the effectiveness of face-to-face courses (traditional), hybrid courses, and online courses in meeting student-centered outcomes.	\$24,999
ASU	Developing and Promoting Learner-Centered Instruction Through Science and Engineering Based Projects in Precalculus and Introductory Calculus	Mathematics, Engineering, and Science faculty will collaborate to develop learner-centered modules for use in precalculus and beginning calculus, two large enrollment undergraduate courses. The modules will provide instructional support materials for teachers, problem-based activities for in-class group work, and take-home team design projects to promote students' further exploration and mathematical analysis of a problematic situation.	\$49,691
NAU	The Virtual Environmental Learning Space: Phase II	Build a Virtual Electronic Learning Space (VELS) that will move ecological science education at NAU into the 21st century by greatly enhancing learning experiences, exploring a novel integration of the research and learning communities, and promoting the development of interdisciplinary course content.	\$25,000
NAU	Video-Based Learning Modules	Create video-based learning modules. By enhancing curriculum with interactive video streaming, we will build a learner-centered environment that allows the pre-service teacher to experience some of the pressures, constraints, and systems of support that can influence curriculum construction and delivery. Students will become more actively engaged in the culture of the classroom where decisions are made quickly with immediate consequences, linking practice to theory as students interact in the virtual classroom.	\$19,738
NAU	WebWork in the Calculus Curriculum	Improve student mathematical learning in the Calculus sequence by using the WebWork online homework system. WebWork will be piloted in the Spring 2004 semester in some sections of Calculus and more extensively implemented during the 2004-2005 academic year.	\$18,675
NAU	Developing Scholar-Teachers in Doctoral Education: A Learner-Centered Approach	Develop a one-credit professional development course whose goal is to incorporate structured apprenticeship into the role of scholar-teacher in the regular course of doctoral studies in the Applied Linguistics PhD Program at NAU.	\$17,000

**Regents Innovation Fund
2004 LCE Grant Awards**

University	LCE Project Title	Project Summary	Grant Award
NAU	Discovering Genetics: A Learner-Centered Undergraduate Laboratory Course	Modify, implement, and institutionalize a discovery-based undergraduate laboratory course in genetics. Students design, conduct, and report (written and oral) original genetic research using a simple microorganism. Funds are requested for production of a formal laboratory manual and associated website, and for development of tools for assessing student performance as well as the achievement of broader course objectives. Discuss ways in which comparable learner-centered discovery-based laboratory courses could be developed in a variety of disciplines.	\$24,572
UA	A Digital Self-Tutorial for Piano and Music Study	Develop an interactive instructional CD-ROM that will facilitate a learner-centered approach to study of the piano and music through studied linking of the performance of a musical composition with a graphic representation of the musical score. The project is defined in three stages, all enhanced by user assessment and feedback: design of a prototype with one piano piece, which will then be field tested and assessed; using assessment data, develop remaining eleven compositions; revise, based on evaluation and assessment results.	\$24,999
UA	Learner-Centered Mathematics Education for Pre-Service Teachers	Develop three strategies to educate prospective teachers to create an effective teaching force: focus on the mathematics of children's thinking; incorporate technology into the course which will encourage discussion and promote discovery learning in geometry; and conduct a professional development workshop for new instructors of the courses to help them foster learner-centered environments.	\$19,430
UA	A Web-Based Simulation Environment for a Learner-Centered Surface Science Course	Development of a web-based simulation environment for a course on the chemistry and physics of solid surfaces. The centerpiece of this project is to build simulations that contain components, which are reversible in conceptual understanding. The simulation components can be run in the forward direction to build new knowledge as well as run in reverse to review or relearn the basic science concepts that provide the underpinning for the simulation.	\$22,000
UA	Improving Communication and Information Access within the Community Environmental Leadership Program	Enhance the experiences of the student and faculty participants in the interdisciplinary Community Environmental Leadership Program (CELP) by developing a common base from which students from various campus departments can continue to work together through ongoing community-based environmental projects and can build successfully on the work of students who came before them.	\$25,000
UA	A Shared Advisor Model for Undergraduate Pharmacy Students Conducting Research	Develop a shared advisor model of coaching undergraduate students doing research projects that is more effective and efficient than the graduate student model so that the research experience can be offered to classes that are 100 to 125% larger than current classes. The strategies include the development of an instructional website, offering just-in-time workshops, recruiting additional community-based advisors, and offering support to advisors.	\$24,722

**Regents Innovation Fund
2004 LCE Grant Awards**

University	LCE Project Title	Project Summary	Grant Award
UA	Improving Student Centered Learning: Mentoring and Language Support Labs	Proposed project is to build upon the initiatives funded in last year's proposal to improve assessment of learning outcomes at the course and program level within the Business Communication Program. The sustainability of this project rests on the final development of support labs that will provide the program with the necessary support to continue delivering the cycle of diagnostics now in place, as well as to respond to the data gathered in preliminary research indicating the need for earlier intervention to offset deficient student skill base.	\$24,991
ASUW/NAU	A Collaborative, Portable, Learning-Centered, 34-credit hour Master of Social Work Degree Program	Continuation of a collaborative, portable, learner-centered, 34-credit hour Master of Social Work (MSW) degree program. This proposal seeks funding to help continue the program through graduation of the current 27 student cohort.	\$49,517
Tri-U	Tri-University Collaboration on Learner-Centered Practice: Creating Learning Communities Among Faculty and Students	The intent of the project is two-fold: (1) To develop a critical mass of faculty who will engage collaboratively in the study of learner-centered instructional practice, apply what they learn, assess the impact of what they learn, and share their learning with other faculty; and (2) for those faculty to develop and implement an LCE advocacy plan for each of their campuses that will ultimately bring faculty and institutional culture to actively embrace more learner-centered approaches to college education.	\$99,997
TOTAL GRANTS FUNDED			\$495,331
ALTERNATES			
UA	Development of Learner-Centered Education (LCE) Tutorials for Large-Enrollment Astrobiology Courses	Develop and test a "tutorial" approach to instruction that requires students in large enrollment astronomy course to work in small collaborative learning groups and complete carefully designed tasks that focus on fundamental and notoriously challenging scientific concepts, according to the principles of learner-centered education such that faculty can easily and effectively implement these materials.	\$24,996
UA	Project ProPEL: Promoting Pre-Education Learners at the University of Arizona	Begin professional development of Pre-Education students in their freshman and sophomore years, as they complete General Education courses. Through cohort groups of Pre-Education students and faculty, the project will provide academic support, mentoring, and school-based teaching experiences that allow individuals to maximize communication skills, subject area knowledge, and talents for teaching.	\$30,000
NAU	Profiles for Success: Providing Individual Self-Regulated Learning Feedback	Support the continuation of a research agenda that has been investigating Self-Regulated Learning (SRL) concepts of students enrolled in online MEd in Educational Technology (MEd in Ed Tech) degree program in NAU's COE. The proposed study investigates how individualized feedback on motivation, cognitive, and metacognitive learning strategies aspects, which are foundational to LCE, affect student learning.	\$17,000
TOTAL ALTERNATE FUNDS			\$71,996

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005 BUDGET
REGENTS INNOVATION FUND
Arizona Biomedical Collaborative for Education and Research

	<i>FY 2004 REV BUDGET</i>	<i>FY 2004 ACTUAL</i>	<i>FY 2005 BUDGET</i>
REVENUE			
Carry Forward	\$ 100,000	\$ 100,000	\$ -
TRIF Revenue	-	-	250,000
TOTAL REVENUE	\$ 100,000	\$ 100,000	\$ 250,000
EXPENDITURES			
OPERATING BUDGET			
Personal Services	\$ 19,909	\$ 4,540	\$ -
ERE	3,982	1,090	-
All Other Operating	-	-	-
Subtotal Operating Budget	<u>23,891</u>	<u>5,630</u>	<u>-</u>
GRANTS/PROJECTS:			
Ayers/Saint/Gross, Inc.	23,000	14,030	-
Ryden Architects, Inc.	53,109	65,100	-
To be determined	-	-	250,000
Subtotal Grants/Projects	<u>76,109</u>	<u>79,130</u>	<u>250,000</u>
TOTAL OPERATING BUDGET	<u>100,000</u>	<u>84,760</u>	<u>250,000</u>
CAPITAL BUDGET			
Building Renovation	-	-	-
Debt Service	-	-	-
TOTAL CAPITAL BUDGET	<u>-</u>	<u>-</u>	<u>-</u>
EXPENDITURES GRAND TOTAL	<u>\$ 100,000</u>	<u>\$ 84,760</u>	<u>\$ 250,000</u>

FY 2004 INITIATIVE OVERVIEW

Funding was provided for completion of General Site Assessment Studies on three historic buildings owned and offered by the City of Phoenix, adjacent to the Translational Genomics Research Institute (TGen) site, for use by the Arizona Biomedical Collaborative for Education and Research (UA, ASU, and NAU).

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005 BUDGET
REGENTS INNOVATION FUND
Arizona Biomedical Collaborative for Education and Research

FY 2004 GOALS/OBJECTIVES

Phase II will provide funding for additional planning for renovation of the three buildings, including:

1. Finalize Renovation Feasibility Study
2. Finalize Tri-University Utilization of Site Study
3. Identify funding sources for renovation and new construction
4. Complete Master Plan for site

FY 2004 PERFORMANCE MEASURES/DELIVERABLES	<i>FY 2004 REVISED</i>	<i>FY 2004 ACTUAL</i>
Return on Investment		
1. Site analysis and cost estimate	Completed	Completed
2. Building utilization and occupants defined	Completed	Completed
3. Master Plan for site	Completed	Completed
Curriculum Innovations		
4. Potential for tri-university medical classes and research	TBD	Ongoing
Partnerships/Collaborations		
5. Collaborative effort with three universities	Completed	Ongoing
6. Collaborative effort with City of Phoenix	Execute IGA	Completed

FY 2004 RESULTS AND ACCOMPLISHMENTS

An Intergovernmental Agreement (IGA) between ABOR and the City of Phoenix was signed in February 2004. The IGA established the terms under which the universities would renovate, lease, and occupy the historic buildings on the former Phoenix Union High School site.

Development/Finance proposals for the renovation of historic buildings #1 and #3 are currently being reviewed, with a final decision expected by September 1, 2004. The selection of the design team and construction manager at risk will follow soon thereafter to establish a guaranteed maximum price that can be translated into a contract with a specific lease cost for Board approval in November 2004. Construction is expected to begin in January 2005, with occupancy scheduled for January 2006.

The design team and construction manager at risk for the new ABC Building One are developing the documents necessary for a guaranteed maximum price prior to the Project Implementation Approval request to the Board anticipated for January 2005.

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005 BUDGET
REGENTS INNOVATION FUND
Arizona Biomedical Collaborative for Education and Research

FY 2005 INITIATIVE OVERVIEW

Funding will be provided to support preliminary design concepts for ABC facilities at the former Phoenix Union High School site in downtown Phoenix.

FY 2005 GOALS/OBJECTIVES

Specific goals and objectives for this project will be developed as proposals are brought forward by ABC.

FY 2005 PERFORMANCE MEASURES/DELIVERABLES		<i>FY 2005 PROJECTED</i>
Return on Investment		
1.	Specific measures to be determined.	TBD
Curriculum Innovations		
2.	Planning for tri-university research	Completed
Partnerships/Collaborations		
3.	Collaborative effort with universities	Ongoing
4.	Collaborative effort with City of Phoenix	Ongoing

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005 BUDGET
REGENTS INNOVATION FUND
Information Technology Collaborative

	<i>FY 2004 REV BUDGET</i>	<i>FY 2004 ACTUAL</i>	<i>FY 2005 BUDGET</i>
REVENUE			
Carry Forward	\$ 114,963	\$ 114,963	\$ -
TRIF Revenue	165,037	165,037	180,000
TOTAL REVENUE	\$ 280,000	\$ 280,000	\$ 180,000
EXPENDITURES			
OPERATING BUDGET			
Personal Services	\$ -	\$ -	\$ 25,000
ERE	-	-	-
All Other Operating	-	-	1,000
Subtotal Operating Budget	<u>-</u>	<u>-</u>	<u>26,000</u>
GRANTS/PROJECTS:			
Security Assessment of Tri-University Network and Server Environment	-	9,787	-
Tri-University Access Management System Recovery Software Application	-	268,000	-
To be designated	280,000	-	154,000
Subtotal Grants/Projects	<u>280,000</u>	<u>277,787</u>	<u>154,000</u>
TOTAL OPERATING BUDGET	<u>280,000</u>	<u>277,787</u>	<u>180,000</u>
CAPITAL BUDGET			
Building Renovation	-	-	-
Debt Service	-	-	-
TOTAL CAPITAL BUDGET	<u>-</u>	<u>-</u>	<u>-</u>
EXPENDITURES GRAND TOTAL	<u>\$ 280,000</u>	<u>\$ 277,787</u>	<u>\$ 180,000</u>

FY 2004 INITIATIVE OVERVIEW

The Arizona Auditor General has recommended that the Board of Regents exercise more oversight of university information technology. An IT project approval process and extensive reporting requirements for IT expenditures are now in place. Collaborative IT projects that can improve service and/or result in cost savings hold ongoing particular interest to the Regents. Numerous possibilities exist for the efficient and effective use of seed money, including the continued use of consultants to develop an architecture for planning future IT development. Other examples include research into joining National LambdaRail and various other IT projects at the three universities.

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005 BUDGET
REGENTS INNOVATION FUND
Information Technology Collaborative

FY 2004 GOALS/OBJECTIVES

1. Acquisition of Network Access Management application which safeguards computers against viruses and malicious internet damage, ensuring that all computers requesting access to a network have all necessary anti-virus software and current operating system security patches loaded.
2. Development of an Information Technology Architecture facilitates the application of IT to university initiatives and projects. Its goal is to aid in the efficient and effective implementation of technology on our campuses by describing a direction for current and future IT activities, supported by underlying principles, standards, and best practices.

<u>FY 2004 PERFORMANCE MEASURES/DELIVERABLES</u>		<i>FY 2004 PROJECTED</i>	<i>FY 2004 ACTUAL</i>
	Return on Investment		
1.	Network Access Management Acquisition	Completed	Completed
2.	Information Technology Architecture Development	Completed	Completed
3.	Partnerships/Collaborations among the three universities	Completed	Completed

FY 2004 RESULTS AND ACCOMPLISHMENTS

1. Acquisition of Network Access Management application to safeguard computers and university networks was completed. Board approval was obtained in April 2004.
2. The Tri-University Architecture document will remain highly flexible to accommodate the ever-changing nature of IT. Its goal is to aid in the efficient and effective implementation of technology on our campuses, supported by underlying principles, standards, and best practices. It will further facilitate tri-university collaboration efforts by establishing a common vision for the future of IT on our campuses. The use of technology is a large and growing element of the universities' environment and overall expenditures. Arizona's universities collectively are interested in increasing service quality and saving money through the best possible use of IT.

FY 2005 INITIATIVE OVERVIEW

An IT project approval process and extensive reporting requirements for IT expenditures are now in place to facilitate Board oversight of university IT projects. Collaborative IT projects that can improve service and/or result in cost savings continue to be of particular interest to the Regents. Numerous possibilities exist for the efficient and effective use of seed money, such as the continued use of a consultant to develop an architecture for planning future IT development at the three universities. \$26,000 has been set aside for this purpose in FY 2005.

FY 2005 GOALS/OBJECTIVES

Goals and objectives will be provided when final IT projects are selected.

<u>FY 2005 PERFORMANCE MEASURES/DELIVERABLES</u>		<i>FY 2005 PROJECTED</i>
	Return on Investment	
1.	Performance measures will be provided when final IT projects are selected.	TBD
	Partnerships/Collaborations	
2.	Performance measures will be provided when final IT projects are selected.	TBD

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL
REGENTS INNOVATION FUND
Expansion of Nursing Programs

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>
REVENUE		
Carry Forward	\$ -	\$ -
TRIF Revenue	100,000	100,000
TOTAL REVENUE	\$ 100,000	\$ 100,000
EXPENDITURES		
OPERATING BUDGET		
Personal Services	\$ -	\$ -
ERE	-	-
All Other Operating	-	-
Subtotal Operating Budget	-	-
GRANTS/PROJECTS:		
ASU	33,333	33,333
NAU	33,334	33,333
UA	33,333	33,300
Subtotal Grants/Projects	100,000	99,966
TOTAL OPERATING BUDGET	100,000	99,966
CAPITAL BUDGET		
Building Renovation	-	-
Debt Service	-	-
TOTAL CAPITAL BUDGET	-	-
EXPENDITURES GRAND TOTAL	\$ 100,000	\$ 99,966

FY 2004 INITIATIVE OVERVIEW

Arizona's universities and community colleges were directed by SB 1260 to double the number of students in Registered Nursing (RN) programs by 2007. This will take a combination of funds from private, public, and university sources. These Regents Innovation Funds will support this collaborative effort.

The Legislature provided no funding in FY 2004 for expansion of nursing programs. The universities are making internal reallocations to the extent possible under existing budget constraints. In addition, a number of private sector partnerships have been established, most notably the University of Arizona's partnerships with University Medical Center and Carondelet Health Network to implement a 14-month accelerated BSN program. The Governor's Council on Workforce Policy will award a \$505,623 grant to the universities to expand RN programs. This grant will require matching funds.

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL
REGENTS INNOVATION FUND
Expansion of Nursing Programs

FY 2004 GOALS/OBJECTIVES

Expand registered nursing programs at Arizona's public universities. Provide \$1.00 of matching money for every \$5.00 of grant funds available to a university.

FY 2004 PERFORMANCE MEASURES/DELIVERABLES	FY 2004 PROJECTED	FY 2004 ACTUAL
Leveraging of Investment		
1. External funds leveraged (university portion only).	\$500,000	\$250,000
Curriculum Innovations		
2. Develop accelerated BSN curricula.	100% complete	100% complete
Workforce Development		
3. Expand RN programs by 8 percent.	8% program expansion	Enrollment counts available 11/04
Partnerships/Collaborations		
4. Collaborate with universities, community colleges, hospitals, and Arizona Hospital and Healthcare Association to develop comprehensive plan responsive to SB1260.	100% complete	100% complete

FY 2004 RESULTS AND ACCOMPLISHMENTS

1. The availability of \$100,000 in TRIF funds helped to secure \$500,000 of Governor's WIA discretionary funds. Notification was received from the Department of Economic Security in a letter dated July 2, 2004, that \$500,000 would be made available to expand RN programs at the universities and community colleges in Arizona. WIA funds were awarded to the following institutions: Arizona State University (\$83,333), Northern Arizona University (\$83,333), the University of Arizona (\$83,333), Mesa Community College (\$144,500), and Northland Pioneer College (\$105,500).
2. All Arizona public universities have developed and set in place accelerated BSN programs.
3. Enrollment in RN programs at the universities and community colleges will be measured and reported following the 21-day enrollment reports that usually become available in November 2004.
4. A letter of transmittal and an accompanying report was sent to the Governor and other interested parties in January 2004 that outlined the costs and enrollment projections needed to double the number of RN students enrolled in Arizona institutions. The letter was signed by both the Arizona Board of Regents and the Arizona Community College Association.

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL
REGENTS INNOVATION FUND
Changing Directions

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>
REVENUE		
Carry Forward	\$ -	\$ -
TRIF Revenue	60,319	60,319
TOTAL REVENUE	\$ 60,319	\$ 60,319
EXPENDITURES		
OPERATING BUDGET		
Personal Services	\$ -	\$ -
ERE	-	-
All Other Operating	-	694
Subtotal Operating Budget	<u>-</u>	<u>694</u>
GRANTS/PROJECTS:		
To be designated	60,319	-
Subtotal Grants/Projects	<u>60,319</u>	<u>-</u>
TOTAL OPERATING BUDGET	<u>60,319</u>	<u>694</u>
CAPITAL BUDGET		
Building Renovation	-	-
Debt Service	-	-
TOTAL CAPITAL BUDGET	<u>-</u>	<u>-</u>
EXPENDITURES GRAND TOTAL	\$ <u>60,319</u>	\$ <u>694</u>

FY 2004 INITIATIVE OVERVIEW

The Board's Changing Directions initiative will likely result in the need for the central office and the universities to retool admission, tuition, financial aid, and reporting systems to implement recommendations. Grants could be made available to support these efforts.

A growing need exists for more and better data to support decision-making and accountability:

1. Academic program reviews are now expected to provide outcomes and assessments.
2. ABOR needs to improve its ability to track students in regard to the workforce and accountability.
3. Changing Directions intends to allow greater differentiation among universities while ensuring that students have adequate access to programs. Tracking programs will need to be improved.
4. As more ARU programs go online, students and programs will need to be tracked and managed.

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL
REGENTS INNOVATION FUND
Changing Directions

FY 2004 GOALS/OBJECTIVES

1. Continue the comprehensive review and development of a plan to improve the reporting mechanisms of the central office.
2. Depending on the needs of the universities, provide resources to the universities to retool admission, tuition, financial aid, and other reporting systems to meet the needs of Regents and the public as identified through Changing Directions.
3. Implement the Academic Program Inventory system for tracking and reporting purposes.
4. Receive, review, and implement recommendations in Battelle Institute work.

<u>FY 2004 PERFORMANCE MEASURES/DELIVERABLES</u>		<i>FY 2004 PROJECTED</i>	<i>FY 2004 ACTUAL</i>
Leveraging of Investment			
1.	Use funds to leverage investments made by the universities.	Completed	Canceled
Partnerships/Collaborations			
2.	Build partnerships with other system developers.	Completed	Completed

FY 2004 RESULTS AND ACCOMPLISHMENTS

1. No work was undertaken on this initiative during FY 2004. Lack of staff and competing priorities in FY 2004 prohibited progress on this project in the central office.
2. No specific requests were received from the universities to provide them resources to the universities to retool admission, tuition, financial aid, and other reporting systems to meet the needs of Regents and the public as identified through Changing Directions.
3. Implementation of the Academic Program Management System was deferred. Costs were greater than expected, and there was concern expressed by the vendor that this was work that they did not wish to undertake. A smaller, incremental approach is proposed for FY 2005. Refer to the Academic Program Management System (APMS) project description. APMS will receive \$20,000 of Regents Innovation Fund support in FY 2005 to accomplish its goals.
4. Recommendations by the Battelle Institute were shared with the Board at its March 2004 meeting. Areas in which they recommended efforts be concentrated were Biosciences, Advanced Communications, Information Technology, and Sustainable Systems. These recommendations could be used by the Board and the universities as one of the elements for proposing future budget requests for the Technology and Research Initiative Fund.
5. The expenditure of \$693.56 paid for meeting expenses of the Health Science Input Group (HSIG) composed of Regents, Presidents, and CEOs of major healthcare organizations within Arizona to address healthcare professions education issues within the Changing Directions initiative.

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL
REGENTS INNOVATION FUND
TRIF Program Evaluation

	<i>FY 2004</i> <i>REV BUDGET</i>	<i>FY 2004</i> <i>ACTUAL</i>
REVENUE		
Carry Forward	\$ -	\$ -
TRIF Revenue	125,000	125,000
TOTAL REVENUE	\$ 125,000	\$ 125,000
EXPENDITURES		
OPERATING BUDGET		
Personal Services	\$ -	\$ -
ERE	-	-
All Other Operating	-	-
Subtotal Operating Budget	-	-
GRANTS/PROJECTS:		
External Consultant	125,000	-
Subtotal Grants/Projects	125,000	-
TOTAL OPERATING BUDGET	125,000	-
CAPITAL BUDGET		
Building Renovation	-	-
Debt Service	-	-
TOTAL CAPITAL BUDGET	-	-
EXPENDITURES GRAND TOTAL	\$ 125,000	\$ -

FY 2004 INITIATIVE OVERVIEW

It is the intent of the Regents that the TRIF initiatives be evaluated during FY 2004, the third year of the TRIF program, to provide direction for possible reallocation of funds in years four (FY 2005) and five (FY 2006) of the five-year budget cycle and to help inform development of the next five-year cycle. This funding will provide for engaging the services of an external, independent consultant to perform this work. Relevant work performed by the Morrison Institute at ASU, the Office of Economic Development at UA, and the Battelle Institute will help shape the evaluation.

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL
REGENTS INNOVATION FUND
TRIF Program Evaluation

FY 2004 GOALS/OBJECTIVES

1. Form steering committee to oversee evaluation.
2. Issue request for proposals (RFP).
3. Select and engage external consultant.
4. Receive and review final report.
5. Implement any needed modifications to budgeted FY 2005 and FY 2006 TRIF programs.
6. Use final report to aid in development of proposed FY 2007-FY 2011 TRIF budget.

FY 2004 PERFORMANCE MEASURES/DELIVERABLES		FY 2004 PROJECTED	FY 2004 ACTUAL
	Return on Investment		
1.	Evaluation report from external consultant.	Completed	Universities and central office will conduct evaluations during FY 2005.
	Curriculum Innovations		
2.	To be determined on review of final report.	TBD	
	Partnerships/Collaborations		
3.	Collaborative effort with three universities.	Completed	

FY 2004 RESULTS AND ACCOMPLISHMENTS

The decision was made during FY 2004 not to engage an external consultant to evaluate the TRIF program. Therefore, these funds were not expended. Plans are currently being developed by the universities to conduct evaluations of the first three years of their TRIF projects, with the results tentatively scheduled to be presented to the Regents in March 2005. The results of these evaluations, along with the recommendations of the Battelle Institute, will inform the development of the second five-year TRIF budget cycle, FY 2007-2011. A draft FY 2007-2011 budget is scheduled to be presented to the Board at its April 2005 meeting, with final approval scheduled for June 2005. This will allow the universities a one-year lead time to prepare for the implementation of this second five-year plan on July 1, 2006.

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2005 BUDGET
REGENTS INNOVATION FUND
Arizona University System Redesign Study

	<i>FY 2005 BUDGET</i>
REVENUE	
Carry Forward	\$ 60,000
TRIF Revenue	50,000
TOTAL REVENUE	\$ 110,000
EXPENDITURES	
OPERATING BUDGET	
Personal Services	\$ 56,250
ERE	13,500
All Other Operating	40,250
Subtotal Operating Budget	110,000
GRANTS/PROJECTS:	
Subtotal Grants/Projects	-
TOTAL OPERATING BUDGET	110,000
CAPITAL BUDGET	
Building Renovation	-
Debt Service	-
TOTAL CAPITAL BUDGET	-
EXPENDITURES GRAND TOTAL	\$ 110,000

FY 2005 INITIATIVE OVERVIEW

A feasibility and planning study of the redesign of the Arizona University System will be conducted during FY 2005. The purpose of this study is to develop a plan to meet the projected demand for undergraduate education in the system over the next 20 years. Regents Innovation Funds will be used to support the staff director for this study, along with associated meeting, travel, and printing costs.

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2005 BUDGET
REGENTS INNOVATION FUND
Arizona University System Redesign Study

FY 2005 GOALS/OBJECTIVES

1. Identify and convene ABOR Feasibility and Planning Study Workgroup.
2. Workgroup will analyze Arizona's future higher education needs; study other state's university designs and strategies to address growth; develop criteria to evaluate various redesign proposals; and recommend final redesign plan to Review Team of Regents and university Presidents.
3. Identify, convene, and receive input from stakeholder groups.
4. Review Team will recommend final plan to full Board.
5. Full Board will approve a redesign plan.

FY 2005 PERFORMANCE MEASURES/DELIVERABLES

PROJECTED

<u>FY 2005 PERFORMANCE MEASURES/DELIVERABLES</u>		<i>PROJECTED</i>
	Return on Investment	
1.	Final redesign plan approved by Board.	Completed
	Leveraging of Investment	
2.	Obtain Lumina Foundation and Ford Foundation funds.	\$ TBD
	Workforce Contributions	
3.	System redesign to meet Arizona's workforce needs.	Completed
	Partnerships/Collaborations	
4.	Collaborative process among universities and with stakeholder groups	Completed

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2005 BUDGET
REGENTS INNOVATION FUND
Academic Program Management System

	<i>FY 2005 BUDGET</i>
REVENUE	
Carry Forward	\$ -
TRIF Revenue	20,000
TOTAL REVENUE	\$ 20,000
EXPENDITURES	
OPERATING BUDGET	
Personal Services	\$ 5,000
ERE	-
All Other Operating	-
Subtotal Operating Budget	<u>5,000</u>
GRANTS/PROJECTS:	
External Consultant/Web Based Design	15,000
Subtotal Grants/Projects	<u>15,000</u>
TOTAL OPERATING BUDGET	<u>20,000</u>
CAPITAL BUDGET	
Building Renovation	-
Debt Service	-
TOTAL CAPITAL BUDGET	<u>-</u>
EXPENDITURES GRAND TOTAL	\$ 20,000

FY 2005 INITIATIVE OVERVIEW

The Board of Regents is responsible for the approval of all new academic programs that may be offered at the three universities. In addition, Board Policy 2-202.A requires a comprehensive Academic Degree Program Inventory (API) that includes all academic degree programs that have been approved for planning or for implementation at the respective universities. The Inventory indicates the institution, college, and Classification of Instructional Program (CIP) code. The CIP code is a national classification used for federal reporting and for identifying duplicate programs within the university system. The funds being requested will be used to develop a data base that is accessed from the Web. This data base would insure an up-to-date API for prospective students and for use by the universities and would provide a history of changes. Currently, there is not a reliable system to record the approval of new programs or to track changes to existing programs.

The API is the first component of a proposed comprehensive Academic Program Management System for the university system.

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2005 BUDGET
REGENTS INNOVATION FUND
Academic Program Management System

FY 2005 GOALS/OBJECTIVES

Develop the Academic Program Inventory component of a proposed Academic Program Management System.

<u>FY 2005 PERFORMANCE MEASURES/DELIVERABLES</u>		<i>FY 2005 PROJECTED</i>
1.	Identify Vendor	
	Announcement RFP	November 2004
2.	Develop Data Base and Reporting Mechanism	
	Test functionality	January 2005
3.	Data Entry	
	Hire hourly personnel to enter historical data	March 2005
4	Academic Program Inventory	
	Available on Web	May 2005

ABOR CENTRAL OFFICE
TECHNOLOGY AND RESEARCH INITIATIVE FUND (TRIF)
FY 2004 ACTUAL/FY 2005 BUDGET
REGENTS INNOVATION FUND
Operating

	<i>FY 2004 REV BUDGET</i>	<i>FY 2004 ACTUAL</i>	<i>FY 2005 BUDGET</i>
REVENUE			
Carry Forward	\$ -	\$ -	\$ 40,000
TRIF Revenue	33,144	41,031	-
TOTAL REVENUE	\$ 33,144	\$ 41,031	\$ 40,000
EXPENDITURES			
OPERATING BUDGET			
Personal Services	\$ 26,565	\$ 33,540	\$ 30,862
ERE	5,579	7,491	7,407
All Other Operating	1,000	-	1,731
Subtotal Operating Budget	33,144	41,031	40,000
GRANTS/PROJECTS:			
To be designated	-	-	-
Subtotal Grants/Projects	-	-	-
TOTAL OPERATING BUDGET	33,144	41,031	40,000
CAPITAL BUDGET			
Building Renovation	-	-	-
Debt Service	-	-	-
TOTAL CAPITAL BUDGET	-	-	-
EXPENDITURES GRAND TOTAL	\$ 33,144	\$ 41,031	\$ 40,000

FY 2005 OVERVIEW

The Operating budget supports implementation of Regents Innovation Fund projects, as well as administration of the system's TRIF fund, including budget preparation, accounting, and reporting functions.

APPENDIX

Arizona Board of Regents Policy 3-412

Policy Number: 3-412	Policy Name: Administration of Technology and Research Initiative Fund
Policy Revision Dates: 3/01	Page 1

3-412 Administration of Technology and Research Initiative Fund

A. Authority

As authorized by Proposition 301 approved by the voters in November 2000, the Board shall establish and administer a technology and research initiative fund (TRIF), beginning July 1, 2001. The TRIF will consist of sales tax revenues generated through Proposition 301 and other private or public sources of funding which are received by the Board for purposes which are consistent with the proposed uses described herein.

B. Funding Criteria

The TRIF will be used to support projects and initiatives that meet one or more of the following criteria:

1. Promote university research, development and technology transfer related to the knowledge based global economy;
2. Expand access to baccalaureate or post-baccalaureate education for time-bound and place-bound students;
3. Implement final recommendations from the Governor's Task Force on Higher Education and/or the Arizona Partnership for the New Economy.
4. Develop programs that will prepare students to contribute in high technology industries located in Arizona.

C. Calendar and Guidelines

The Board shall establish an annual calendar for the allocation of Proposition 301 funding, including guidelines for the submission and evaluation of proposals, and final decisions by the Board. The calendar will incorporate a process to receive and consider input from the Arizona Partnership for the New Economy (APNE) or a successor agency as may be designated by the Governor.

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D. Formats for Submission of Proposals

Funding requests shall be submitted by the university Presidents, or prepared by the Central Office on behalf of the Board, in a format to be approved by the Executive Director, to include the following elements: A description of the proposed need, purpose and goals for each proposed project or activity, an explanation as to the ways in which the project promotes the purposes of the legislation, and/or an explanation of the relationship of the proposed project or activity to the foundation or clusters which are part of the state's overall economic development program;

1. The requested duration of the proposed project or activity;
2. Proposed detailed performance measures, desired outcomes, and proposed methodology for evaluating progress in attaining the desired outcomes; and
3. A detailed budget for each proposed project or activity, including the identification of funds which are intended to be either continuing, multi-year, or one time only.

E. Special Factors

The Board shall take into account several additional factors in determining its allocations from this fund:

1. Priority shall be given to proposals that involve collaboration between and among the universities and/or collaboration with private industry or public sector agencies.
2. The Board may authorize awards for an annual or multi-year basis, but in no event will the Board make an award on a multi-year basis without incorporating specific requirements regarding periodic review and assessment or progress in implementing the proposed project or activity and in attaining the desired outcomes.
3. Funding may be used to pay salaries only for persons directly involved in projects or activities funded under this program that would otherwise not be funded through general fund appropriations.

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4. The Board may allocate up to 20% of annual funding for capital projects relating to new economy initiatives, including the payment of debt service; capital projects must be clearly identified with each university's submission of proposals.

5. The Board will honor the legislative intent as described in Proposition 301 that a portion of the revenues in the fund shall be allocated on an annual basis to pay Certificates of Participation costs for lease-purchase of buildings and associated infrastructure at ASU East and West campuses.

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