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XIV

RESOURCE MANAGEMENT

Introduction

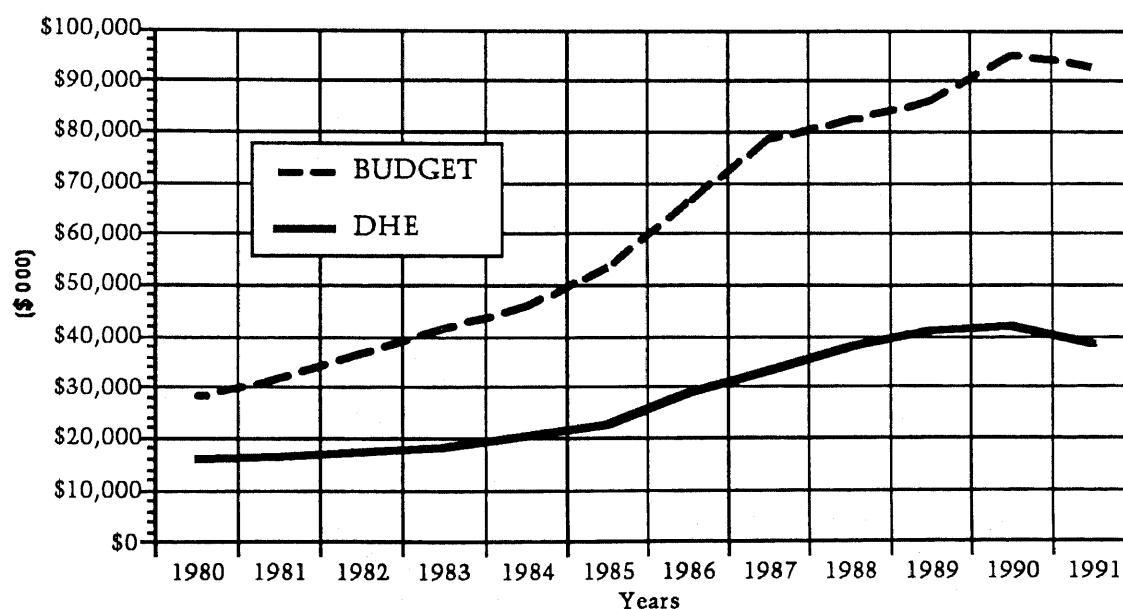
The effective management of fiscal resources is critical if New Jersey Institute of Technology is to fulfill its mission and remain accountable to the State of New Jersey in the use of taxpayer dollars. The management system must consistently insure the development of comprehensive operating plans and budgets to deliver services in the most effective and efficient manner, in the areas of highest priority, consistent with the university's mission.

During the 1980s, the major source of support for direct university operations was the State of New Jersey. In addition, State support for sponsored research and capital construction increased substantially over the previous decade. For new construction, the State appropriated

more than \$13 million for two Advanced Technology Centers. This augmented NJIT's bond issuance to provide funding for construction and renovation. Debt service for NJIT bonds is from user fees and donations; half of the most recent "general bond" comes from private sources and the other half from student fees.

The 1990s have ushered in new challenges to the State of New Jersey and to NJIT's ability to serve. The economic decline has resulted in new constraints upon the State's ability to generate revenues. For FY90, direct State support for university operations was 50% of total income, a decrease of 14 percentage points compared with FY80 when direct State support was 64% of the university's income. (See Figure 14.1) The Governor and Board of

Figure 14.1
Comparison Of Total NJIT Budget and DHE Appropriation
1991



Higher Education have stressed the issue of affordability and effectively capped tuition increases. This, together with market forces, limit the university's ability to offset reduced State funding. Thus, even greater emphasis is being placed upon careful resource allocation and private fund raising.

Financial Status

As demonstrated in Table 14.1, New Jersey Institute of Technology continues to exhibit strong financial health. Significant increases, particularly in recent years, in funded research have nearly tripled the operational budget, from \$35 million in 1982 to \$105 million in 1991. Annual audits by a "big six" accounting firm consistently result in an unqualified opinion. In addition, over the past ten years, there has been more than \$84 million in construction completed. The university enjoys a strong credit rating as evidenced by a recent \$14.5 million revenue bond issue which, with AMBAC insurance, increased the A rating to AAA by Standard & Poor's Corporation and Moody's Investors Service.

Process Overview

Fiscal resources are allocated through the budget process pursuant to university operating goals and objectives, which result from the university's master planning and facilities planning processes. An ongoing assessment by senior management of these goals and objectives occurs, as they form the basis for the annual budget request to the State of New Jersey. The university budgeting system operates on a three year cycle. In the fall of 1991, for example, the university was auditing the last Fiscal Year's operating results (FY91), monitoring and adjusting the current operating budget (FY92) and negotiating with the State of New Jersey the next Fiscal Year's working budget (FY93).

The State-related budgeting process has remained unchanged over the last several years. Based upon NJIT plans, coupled with certain

planning parameters from the New Jersey Department of Higher Education, an annual budget submission is made to the Department of Higher Education. The request focuses upon the level of State support following internal reviews and approval including the university Board of Trustees. Budget hearings are conducted by the Department of Higher Education staff and the Board of Higher Education Budget Committee. The Board of Higher Education subsequently makes a recommendation regarding the level of State support for the entire higher education system. The Governor then submits an Executive Budget to the State Legislature which, after hearings and further reviews, adopts an appropriations measure. The Governor then has final review of the legislation with the power of line item veto. This allows the Governor to reduce legislative appropriations or rescind legislative language.

Internal Budget Process

The process of developing data for budget submissions to the State has become increasingly interactive, with efforts to involve more members of the university community. Beginning in 1986, the Provost/Vice President for Academic Affairs convened open Fall budget hearings for all the units reporting to his office. These hearings evolved from an annual meeting of academic chairpersons, deans and division directors to discuss the budget request to the State. Participants in the process included faculty and administrative support staff. The hearings included the presentation and analysis of data used to construct the operational working budgets and sought to identify five-year departmental goals and priorities. Equipment needs, enrollment projections and research opportunities were also identified. Efforts were then made to incorporate the data and information presented at the hearings into the budget planning deliberations of the President and vice presidents.

The process was not entirely satisfactory, however. The deans and chairpersons did not

Table 14.1
NEW JERSEY INSTITUTE OF TECHNOLOGY
FINANCIAL RESULTS 1982-1991
(\$,000)

Group	EXPENDITURES	FY82:		FY83:		FY84:		FY85:		FY86:		FY87:		FY88:		FY89:		FY90:		FY91:		
		\$	PERCENT	\$	PERCENT	\$	PERCENT	\$	PERCENT	\$	PERCENT	\$	PERCENT	\$	PERCENT	\$	PERCENT	\$	PERCENT	\$	PERCENT	% Change FY 82-91
a	Instruction	\$13,901	39.9%	\$15,983	41.1%	\$18,232	41.9%	\$19,515	37.3%	\$23,218	35.9%	\$25,473	33.5%	\$27,088	33.2%	\$30,213	33.2%	\$32,812	32.0%	\$34,090	32.4%	245.2%
a	Research, NJIT Sponsored	\$563	1.6%	\$671	1.7%	\$808	1.9%	\$677	1.3%	\$664	1.0%	\$863	1.1%	\$1,154	1.4%	\$1,860	2.0%	\$1,526	1.5%	\$1,597	1.5%	283.7%
a	Research, External Sponsored	\$2,850	8.2%	\$2,668	6.9%	\$3,251	7.5%	\$6,706	12.8%	\$12,259	18.9%	\$15,020	19.8%	\$12,181	14.9%	\$14,017	15.4%	\$19,946	19.5%	\$19,633	18.7%	688.9%
a	Academic Support	\$2,456	7.0%	\$3,235	8.3%	\$3,574	8.2%	\$4,260	8.1%	\$6,400	9.9%	\$8,337	11.0%	\$7,966	9.8%	\$9,471	10.4%	\$9,420	9.2%	\$10,213	9.7%	415.8%
a	Extension & Public Service	\$480	1.4%	\$794	2.0%	\$556	1.3%	\$652	1.2%	\$691	1.1%	\$571	0.8%	\$709	0.9%	\$814	0.9%	\$842	0.8%	\$785	0.7%	163.5%
a	Student Service	\$2,450	7.0%	\$2,858	7.3%	\$2,954	6.8%	\$3,246	6.2%	\$3,362	5.2%	\$3,949	5.2%	\$4,397	5.4%	\$4,953	5.5%	\$5,109	5.0%	\$5,741	5.5%	234.3%
a	Student Aid	\$443	1.3%	\$1,788	4.6%	\$1,989	4.6%	\$2,372	4.5%	\$2,823	4.4%	\$2,867	3.8%	\$3,775	4.6%	\$4,203	4.6%	\$4,942	4.8%	\$5,273	5.0%	1190.3%
b	Institutional Support	\$4,925	14.1%	\$4,969	12.8%	\$5,155	11.8%	\$5,969	11.4%	\$6,378	9.9%	\$9,097	12.0%	\$11,346	13.9%	\$11,966	13.2%	\$12,526	12.2%	\$12,736	12.1%	258.6%
b	Physical Plant	\$4,189	12.0%	\$3,999	10.3%	\$4,186	9.6%	\$4,567	8.7%	\$5,195	8.0%	\$5,395	7.1%	\$6,164	7.5%	\$7,411	8.2%	\$8,622	8.4%	\$8,532	8.1%	203.7%
c	Auxiliary Enterprises	\$2,506	7.2%	\$2,393	6.2%	\$2,654	6.1%	\$2,667	5.1%	\$2,734	4.2%	\$3,533	4.6%	\$4,103	5.0%	\$3,192	3.5%	\$2,435	2.4%	\$2,085	2.0%	83.2%
d	Transfers and Additions	\$106	0.3%	(\$451)	-1.2%	\$206	0.5%	\$1,708	3.3%	\$1,004	1.6%	\$880	1.2%	\$2,772	3.4%	\$2,772	3.1%	\$4,269	4.2%	\$4,425	4.2%	4174.5%
Total All Operations		\$34,869		\$38,907		\$43,565		\$52,339		\$64,728		\$75,985		\$81,655		\$90,872		\$102,449		\$105,110		301.4%
RECAP EXPENDITURES BY GROUP																						
Academic (Group a)		\$23,143	66.1%	\$27,997	70.3%	\$31,364	72.0%	\$37,428	71.5%	\$49,417	76.3%	\$57,080	75.1%	\$57,270	70.1%	\$65,531	72.1%	\$74,597	72.8%	\$77,332	73.6%	334.1%
Support (Group b)		\$9,114	26.0%	\$8,968	22.5%	\$9,341	21.4%	\$10,536	20.1%	\$11,573	17.9%	\$14,492	19.1%	\$17,510	21.4%	\$19,377	21.3%	\$21,148	20.6%	\$21,268	20.2%	233.4%
Auxiliary (Group c)		\$2,506	7.2%	\$2,393	6.0%	\$2,654	6.1%	\$2,667	5.1%	\$2,734	4.2%	\$3,533	4.6%	\$4,103	5.0%	\$3,192	3.5%	\$2,435	2.4%	\$2,085	2.0%	83.2%
Transfers and Additions (d)		\$244	0.7%	\$452	1.1%	\$206	0.5%	\$1,708	3.3%	\$1,004	1.6%	\$880	1.2%	\$2,772	3.4%	\$2,772	3.1%	\$4,269	4.2%	\$4,425	4.2%	1813.5%
Total All Operations		\$35,007		\$39,810		\$43,565		\$52,339		\$64,728		\$75,985		\$81,655		\$90,872		\$102,449		\$105,110		300.3%
REVENUES																						
NJIT:																						
General Services		\$9,442	27.0%	\$10,889	27.7%	\$11,731	26.8%	\$13,909	26.4%	\$15,386	23.1%	\$18,021	23.4%	\$21,636	25.9%	\$23,728	25.9%	\$28,768	27.7%	\$29,586	28.6%	313.3%
Auxiliary Enterprise		\$2,633	7.5%	\$2,945	7.5%	\$3,032	6.9%	\$3,566	6.8%	\$3,738	5.6%	\$4,048	5.3%	\$4,344	5.2%	\$4,452	4.9%	\$2,435	2.3%	\$4,584	4.4%	174.1%
Sponsored Research		\$2,850	8.1%	\$2,668	6.8%	\$3,251	7.4%	\$6,706	12.7%	\$12,259	18.4%	\$15,020	19.5%	\$12,181	14.6%	\$14,017	15.3%	\$19,946	19.2%	\$19,633	19.0%	688.9%
Restricted Funds		\$833	2.4%	\$2,445	6.2%	\$2,823	6.4%	\$2,954	5.6%	\$3,527	5.3%	\$3,228	4.2%	\$3,459	4.1%	\$4,099	4.5%	\$5,003	4.8%	\$4,162	4.0%	499.6%
Subtotal NJIT		\$15,758	45.0%	\$18,947	48.3%	\$20,837	47.6%	\$27,135	51.6%	\$34,910	52.4%	\$40,317	52.3%	\$41,620	49.9%	\$46,296	50.5%	\$56,152	54.0%	\$57,965	56.0%	367.8%
State of NJ Support:																						
Base Appropriation		\$16,395	46.8%	\$17,647	45.0%	\$19,774	45.1%	\$20,212	38.4%	\$26,583	39.9%	\$30,614	39.7%	\$35,361	42.4%	\$39,940	43.6%	\$41,274	39.7%	\$38,308	37.0%	233.7%
Salary Program		\$878	2.5%	\$431	1.1%	\$538	1.2%	\$2,275	4.3%	\$2,430	3.6%	\$2,797	3.6%	\$2,619	3.1%	\$1,239	1.4%	\$749	0.7%	\$0	0.0%	0.0%
Fringe Benefits		\$1,971	5.6%	\$2,231	5.7%	\$2,655	6.1%	\$2,991	5.7%	\$2,654	4.0%	\$3,351	4.3%	\$3,825	4.6%	\$4,218	4.6%	\$5,741	5.5%	\$7,301	7.0%	370.4%
Subtotal State of NJ Support		\$19,244	55.0%	\$20,309	51.7%	\$22,967	52.4%	\$25,478	48.4%	\$31,667	47.6%	\$36,762	47.7%	\$41,805	50.1%	\$45,397	49.5%	\$47,764	46.0%	\$45,609	44.0%	237.0%
Total		\$35,002		\$39,256		\$43,804		\$52,613		\$66,577		\$77,079		\$83,425		\$91,693		\$103,916		\$103,574		295.9%
NET INCREASE (DECREASE) IN CURRENT FUND BALANCE		(\$5)		(\$554)		\$239		\$274		\$1,849		\$1,094		\$1,770		\$821		\$1,467		(\$1,536)		

NOTES:

DATA ARE EXCERPTS FROM ANNUAL FINANCIAL AUDIT PREPARED BY EXTERNAL CERTIFIED ACCOUNTING FIRM.
DATA REFLECTS EXPENDITURES AND REVENUES FOR CURRENT (UNRESTRICTED AND RESTRICTED) FUND OF NJIT
AND RESEARCH AND ADMINISTRATION EXPENDITURES AND ASSOCIATED REVENUES OF THE FOUNDATION AT NJIT.

adequately engage in mission-related planning. Thus, while the intent was to tie the presentations and requests to institutional priorities, the hearings too often became requests for competing wish lists by the chairs and program directors. The hearings were replaced in 1989 by the universitywide planning retreat, for which data comparable to those prepared for the budget hearings were compiled. Since then, implementation of an alternative process has been delayed owing in large part to the State fiscal crisis and its attendant uncertainties, as well as to changes in the Department of Higher Education's budgetary process. Various alternatives to the hearings have been under consideration, however, with plans for initiating a revised internal budget request and review process in the next year.

Since 1989, the Provost has convened weekly meetings of the area vice presidents. These meetings are in response to the need for more efficient and effective delivery of services among and between the various university operating units, and include fiscal reviews of total university operations. In addition, the Provost has established an Academic Budget Advisory Committee, comprised equally of faculty and administrators, to review and make recommendations concerning the academic portion of the university budget.

Budget Control

University expenditures are controlled and monitored through a networked computerized system. In 1988, the university installed new software for tracking and processing financial data, purchasing goods and services, payroll and deduction, and student academic information and billing. In 1990, a computerized system for the fund raising area was installed.

Responsibility for the use of budgeted dollars has been set at the lowest feasible organizational level, with appropriate additional approvals required. Initialing purchase requisitions and completing approvals are now possible on-line, as are management reports on

budget, expenditures, encumbrances and purchase order status. The computer system presents the data in real time and prevents placing purchase requisitions when there is insufficient budget.

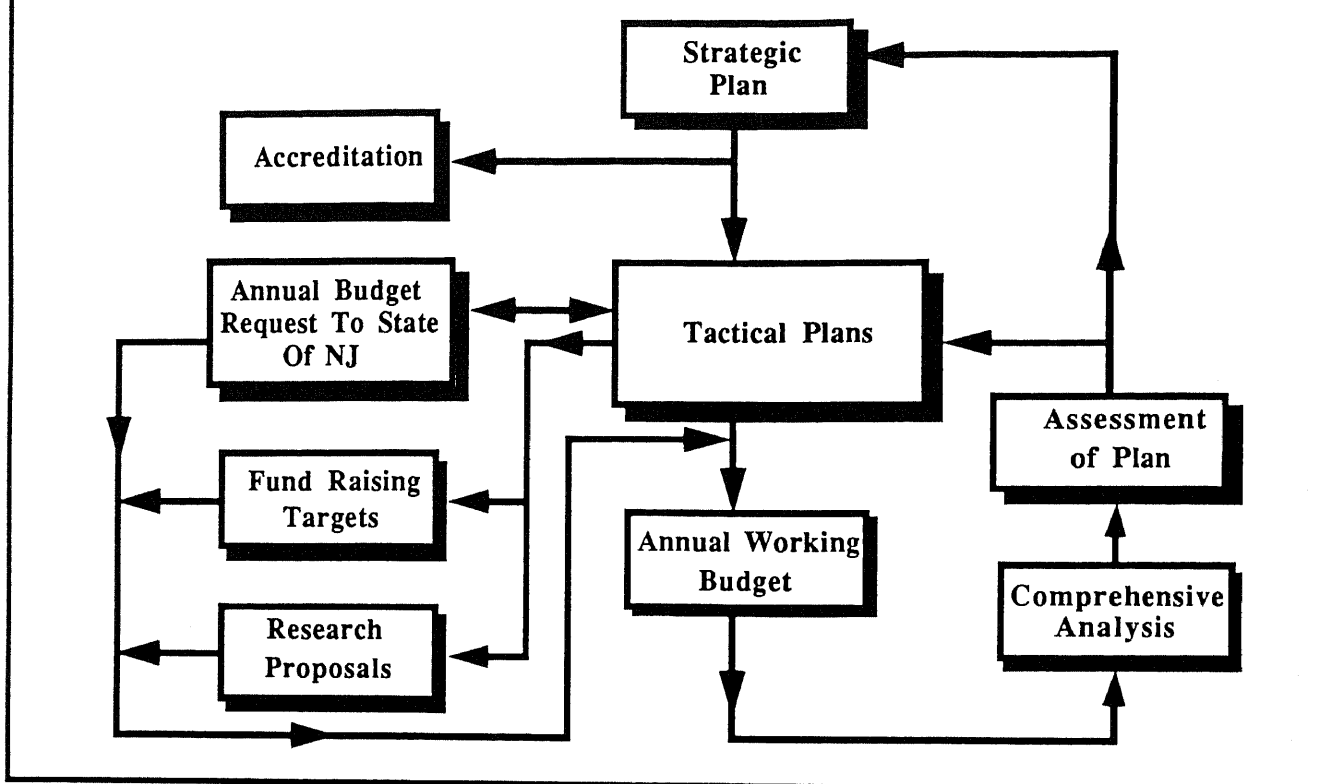
The status of the university budget is formally and extensively reviewed in October, January and April. These reviews, conducted by the Budget Office, with the President and area vice presidents, coincide with an assessment of tuition and fee payments, State of New Jersey support levels and research funding. Adjustments to the NJIT working budget, based upon revised income projections or operational needs, are made in consultation with the President, Provost and vice presidents.

Accountability

Financial reports are presented and discussed at the public session of the NJIT Board of Trustees monthly meetings. At the completion of each fiscal year, complete financial statements are certified by external independent public accountants. The university is also subject to selected periodic programmatic and fiscal audits by the Department of Higher Education and research funding sources.

The President, Provost and Vice President for Administration and Treasurer meet periodically with the student government and in student forums to discuss budgetary matters, among other issues. They also disseminate information at the regularly scheduled meetings of the Committee on Academic Affairs, Faculty Council, Deans Council and Administrative Council. During the development of the FY91 working budget, the President, Provost, Vice President for Administration and Treasurer, and Associate Vice President for Finance and Budget conducted three public meetings with the university community to discuss the budget development process, issues and operational concerns. In addition, the President periodically publishes budget schedules and provides regular updates to the NJIT community on the status of budget negotiations with the State of New Jersey.

Figure 14.2
Planning/Budget Flowchart



Copies of the annual asking budget and budget status reports are maintained in the Van Houten Library for public use.

The university is also accountable to the State of New Jersey during the annual budget process. Accomplishments, unfulfilled expectations and use of prior year State dollars are discussed at the various budget hearings conducted by the Department of Higher Education (DHE) and the State Legislature. Most recently, NJIT has been conducting a comprehensive analysis in response to a DHE request. This process involves a program by program review of the university based upon criteria of effectiveness and efficiency. The relationship of NJIT's programs to its mission, goals and priorities, the costs associated with their operation, and their position relative to comparable universities are being examined. Future levels of programmatic support will be determined in some measure by this review.

New Directions

While NJIT's budget/planning process has become increasingly participatory, integrated, iterative and rational, (See Figure 14.2) departmental and other academic unit budget requests have not been linked to institutional mission and priorities as effectively as they might be. The departmental planning process should set the stage for the allocation of university resources.

A process for better achieving this goal has been proposed. It would begin with consultation of each department chairperson and interdisciplinary program director with the area dean. This would be followed by a presentation to a select group on the current status of the department or program, its future policy objectives and the rationale for each, milestones by which progress toward meeting the objectives might be measured, and the resources and procedures necessary to achieve these objectives. The departmental and program objectives would

be explicitly linked to institutional mission and priorities. The audience would consist of the area dean, the Provost, the Vice President for Research and Graduate Studies, the Associate Vice President for Academic Services, the Assistant Vice President for Enrollment Planning, and the Assistant Vice President for Graduate Studies. Participation should be limited to allow for full and frank discussion. The discussion would be comprehensive, including curriculum, research, faculty hiring and development.

Following this meeting, the Provost, Vice President for Research and Graduate Studies, Associate Vice President for Academic Services and the academic deans would determine priorities and formulate a consistent set of policies for resource allocation for the following year. These would, in turn, be communicated to the chairpersons and program directors for comment before the budgets are finalized, and to the Office of University Advancement to plan for the development of resources from private sources.

Feedback mechanisms would then be designed to insure that the entire university community, most especially the academic and support units to which operating budgets are allocated, understand not only the budget decision-making process, but also the rationale for the decisions. Summarized data would be distributed to the entire community via *NJIT this week*. An annual presentation by senior management on the university working budget to the Faculty Council, Committee on Academic Affairs, Administrative Council and representatives of the university collective bargaining unions is another potential mechanism for communication.

University Advancement

Conventional support from student tuition and fees, the federal government, and legislative appropriations has rarely been fully adequate to provide that margin of excellence for which NJIT strives. Similar to most other universities, NJIT relies heavily on support from alumni, friends,

corporations, and foundations to provide the assistance that makes the difference between adequacy and excellence.

The NJIT Office for University Advancement was established in response to this need. It works with members of the university community to raise funds and secure equipment for colleges, centers and departmental programs. In addition, funding is generated for fellowships and scholarships for students, for pre-college and minority initiatives, and for public service activities. The process often results in collaborative efforts in related areas, such as identification of appropriate advisory board members for centers and departments; identification of potential members of the Board of Overseers; and encouragement of corporate participation in providing mentors for student programs and cooperative education positions.

NJIT's fund raising has grown from \$0.53 million in FY79 to the \$7.2 million in FY91. The university's FY81 centennial celebration marked the beginning of the first fund raising effort in almost eighty years. The Centennial Campaign, concluded in 1985, raised \$12 million to support the modernization and expansion of instructional facilities and the strengthening of vital research areas. Major support for the campaign came from the Board of Overseers of the Foundation at NJIT, who added fund raising to their mission of support for research and graduate studies.

In 1986, in response to the Governor's challenge, NJIT began the largest fund raising effort in its history. The Governor's Challenge Campaign's original goal to raise \$25 million over a five-year period was surpassed in less than four years. More than \$34 million was raised, including a \$500,000 challenge grant from The Kresge Foundation, \$450,000 from Allied-Signal, \$775,000 from The Prudential Insurance Company of America, and more than \$4 million in cash and equipment from AT&T.

The success of the Governor's Challenge Campaign was a result of both the increased number of individuals and organizations making gifts and an increase in the average gift size. For the first time in the university's history, all

alumni were asked to participate in a major campaign effort, as well as in the alumni annual fund. More than 4,000 responded, pledging over \$2 million in new gifts. A comparison between the Centennial Campaign and the Governor's Challenge also shows growth in the numbers of corporations, associations and private foundations participating. The Centennial Campaign received support from seventy-eight corporations and associations and eight private foundations, as compared with 139 corporations and twenty-eight foundations and associations contributing to the Governor's Challenge Campaign.

Additional growth can be seen in the following recent achievements:

- NJIT announced receipt of its first gift of \$1 million in 1990. It was followed by two additional million dollar gifts in 1991.
- The William S. Guttenberg Information Technologies Center was dedicated in 1990. Seventy-seven rooms in the building were supported through gifts of \$10,000 or more.
- During FY91, New Jersey industry provided more than \$900,000 in support of research conducted by the Center for Manufacturing Systems.
- A solicitation campaign among New Jersey businesses has resulted in nearly \$5 million in equipment and research for NJIT's microelectronics effort.
- The School of Industrial Management received a grant of \$180,000 from the Pew Charitable Trusts for a research project to study the impact of defense production and procurement systems on the national economy.
- An alumnus, who recognizes the importance of outstanding graduate students to a university's reputation, has established a trust which is expected to generate income annually to support two or more students through graduate assistantships.
- Another alumnus has made gifts to the Pooled Income Fund to develop a memorial fund that will provide a professorship in environmental engineering and science.
- The Alumni Annual Fund's contributions in 1990-91 benefitted NJIT's four colleges through faculty development and scholarships, among other areas. This campaign exceeded all previous years with annual giving over \$180,000 including matching gifts. An even more ambitious annual goal of \$250,000 is planned for the current year.

The university is planning for an enlarged endowment campaign. Revenues from this fund will bolster NJIT's competitive position in securing distinguished faculty, provide scholarships and fellowships, and support a number of initiatives including the Honors, the Faculty Scholars, and the Minority Engineering Scholars Programs.

Priorities for fund raising are being developed consistent with the university's priorities. The process is guided by communication with faculty, chairpersons, deans, vice presidents and the President. Funding sources are developed based on their anticipated receptivity to funding NJIT's expressed needs.