STANDARD 2: PLANNING, RESOURCE ALLOCATION, AND INSTITUTIONAL RENEWAL

REPORT OF WORKING GROUP 2: NJIT STRATEGIC PLANNING—THE RESOURCE ALLOCATION PROCESS

Chair: Gabrielle Esperdy
Vice Chair: Nancy Jackson
Advisor: Ed Bishof

Committee Members: Lisa Axe, Layek Abdel-Malek, Michael Bieber, Steve Eck, Rose Federici, William Garcia, Margaret Kendrick, Burt Kimmelman, Somenath Mitra, Tom Navin, Tom Ogorzalek, Jacquelyn Rhodes, Norma Rubio, Anthony Schuman, Joseph Tartaglia, David Ullman

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2.0 WORKING GROUP ASSESSMENT CHECKLIST FOR STANDARD 2

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<th>FUNDAMENTAL ELEMENTS OF PLANNING, RESOURCE ALLOCATION, AND INSTITUTIONAL RENEWAL</th>
<th>TEAM EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>(From Characteristics of Excellence in Higher Education: Requirements of Affiliation and Standards of Accreditation (Philadelphia, PA: MSCHE, 2009)</td>
<td>4=EXEMPLARY</td>
</tr>
<tr>
<td>➢ goals and objectives or strategies, both institution-wide and for individual units that are clearly stated, reflect conclusions drawn from assessment results, are linked to mission and goal achievement, and are used for planning and resource allocation at the institutional and unit levels;</td>
<td>2</td>
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<tr>
<td>➢ planning and improvement processes that are clearly communicated, provide for constituent participation, and incorporate the use of assessment results;</td>
<td>3</td>
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<td>➢ well defined decision-making processes and authority that facilitates planning and renewal;</td>
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<td>➢ the assignment of responsibility for improvements and assurance of accountability;</td>
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<tr>
<td>➢ a record of institutional and unit improvement efforts and their results; and</td>
<td>2</td>
</tr>
<tr>
<td>➢ Periodic assessment of the effectiveness of planning, resource allocation, and institutional renewal processes.</td>
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2.1 INTRODUCTION

2.1.1 Précis: Planning, Resource Allocation and Institutional Renewal at NJIT

Strategic planning at NJIT is an ongoing process intended to enable the university to reaffirm its core values of excellence, integrity, student-centeredness, and service-orientation. As well, strategic planning allows the university to align its institutional efforts, especially with respect to resource allocation and renewal, around specific objectives over the course of a five or six year period. The current strategic plan (2010-2015) builds on the plan put in place in 2004, whose objectives were largely met. NJIT’s strategic plan is regarded as a “living document” in which objectives, tactics, and even priorities may evolve over time as necessitated by new developments (internal and external) that are brought to bear on the university community. Connecting NJIT’s strategic plans over time is the university’s commitment to the realization of its vision to become
a preeminent technological research university known for innovation, entrepreneurship, and engagement. (For more on the design and impact of NJIT’s strategic plans [2004-2010 and 2010-2014], see Working Group Report, Standard 1.)

Our study of NJIT’s planning, resource allocation, and institutional renewal examined the process through which university planning occurs and the assessment tools used to determine if the plan’s objectives and tactics are being met in the current strategic plan (and to a degree how they were met by the past strategic plan). Our study also evaluated the university’s methods for determining resource allocation, paying particular attention to synergies that did or did not exist between resource allocation and planning as they occurred in the service of institutional renewal. Throughout, the mandate of Working Group 2 was to consider the relationships and channels of communication between planning at the institutional level and planning at the level of the academic units, especially in terms of stated institutional and academic unit goals. (For more on NJIT’s institutional assessment, see Working Group Report, Standard 7.)

2.1.2 Group 2’s Standard 2 Charge and Questions Addressed

The institutional assessment framework defined in the Characteristics of Excellence in Higher Education (2006) makes it clear that institutions should conduct their ongoing planning and resource allocation based upon clearly articulated mission and goals, developing objectives to achieve those mission and goals and utilizing the results of its assessment of planning for institutional renewal. The Characteristics of Excellence framework also emphasizes the importance of evaluating the success of the strategic plan and the resource allocation process in order to support the development and change that will maintain and improve institutional quality.

Charged with studying the university’s processes of planning, resource allocation, and institutional renewal, our working group—in collaboration with the Steering Committee—conducted research to answer the following questions:

Pre-post 2002 Strategic Planning

2.0 How has the institution’s planning process—as opposed to the elements of the strategic plan—changed since An Emerging Presence: Self Study and Strategic Plan, 2002? What has been the impact of that planning process on strategic planning? (Sections 2.2.1-2.2.2.5)

2.1 What new strategic priorities, objectives, and metrics have been developed since An Emerging Presence: Self Study and Strategic Plan, 2002 regarding the allocation of resources? How do these priorities, objectives, and metrics effectively serve the NJIT mission? (Sections 2.2.1-2.2.2.5)

Current Strategic Planning

2.2 What process does the institution use to develop and prioritize its strategic planning initiatives? (Section 2.2.1.1)
2.3 Who are NJIT’s major constituencies, both internal (e.g., students, faculty, staff, and the NJIT Board of Trustees) and external (e.g., alumni, NJIT Boards of Visitors, the City of Newark, and the state of New Jersey) which inform the planning process? How are these groups identified, how is their input provided, and how is their input subsequently incorporated into the strategic planning process? (Sections 2.2.1.1.1 and 2.2.1.1.3)

2.4 What strategies are used to incorporate differences in perspectives among constituencies included in the strategic planning process? (Section 2.2.1.1.2)

2.5 To what extent are the strategic planning, resource allocation, and assessment processes at NJIT transparent? What strategies might be used to make these processes increasingly transparent? (Section 2.2.1.1.4)

Resource Allocation: Integration and Evaluation

2.6 What methods are used to integrate NJIT’s strategic planning process with the resource allocation planning process? (Section 2.2.2)

2.7 What forms of fiscal accountability (processes, strategies, and controls) are in place to assure that resources are allocated in a manner consistent with the strategic plan? (Section 2.2.2)

2.8 By what process does the institution launch its strategic planning initiatives? What procedures inform the design and implementation of these planning processes, and what is the nature of the resonances among these processes? (Section 2.2.1.1-2.2.1.1.4)

2.9 How are resource allocations balanced with strategic planning given available operating and capital resources? (Section 2.2.2)

2.10 What processes are applied by the institution to assess success in meeting its strategic priorities and objectives? (Section 2.2.1)

2.11 How effective is NJIT in evaluating and assessing post-resource allocation decisions and how does this process influence institutional renewal for NJIT shareholders? (Section 2.5)

2.2 SELF STUDY INQUIRY AND OUTCOMES

2.2.1 Strategic Planning at NJIT

Strategic planning at NJIT is rooted in a process that fosters Shareholder participation, insures transparency, places emphasis on measurable outcomes, and enables assessment to occur for the purpose of institutional renewal. These planning principles, exercised under the direction of current president Robert Altenkirch and approved by the Board of Trustees, formed the basis for the strategic planning initiatives of 2004-2010 and 2010-2015. Prior to 2002, NJIT had in place “a budget resource development and allocation process with a strong emphasis on strategic planning [that required] clear resource identification and assessment of the operational results (Self-Study Committee, 2002).” The planning process was conducted on an on-going basis aligned to the state’s fiscal cycle. The decision to revise strategic planning practices from those in place during the 2002 Middle States self-study was based on the need “to refine and focus our strategic plan with measurable goals and resource allocation” (Altenkirch, 2002).
A key component of NJIT’s current strategic planning process is ViSTA (Vision, Strategy, Tactics), a system for a strategic planning process adapted to the distinct challenges NJIT faces as an institution (Altenkirch, ViSTA Model, 2009). The implementation of the ViSTA framework has clarified and concretized the planning process so that it is possible to identify how each priority and objective in the final strategic plan can be clearly correlated to each step in the planning process, from internal and external analysis to drafting a vision statement of NJIT’s purpose, principles, and mission; from strategizing on the development of priorities to creating tactics and metrics for implementing and assessing the final elements of the plan. (For more on the ViSTA framework, see Working Group Reports, Standards 1 and 7.)

In addition to ViSTA, NJIT utilizes the balanced scorecard approach to establish metrics and assess performance in achieving the specific elements of the strategic plan; communicate to Shareholders the progress the university is making toward achieving its vision; and initiate institutional renewal.

2.2.1.1 ViSTA Framework

Through ViSTA, NJIT has enacted a planning process that enables the institution’s Shareholders to achieve the following: help shape a vision of the school’s desired future and help chart a course of action for achieving that vision; participate in establishing institutional priorities and objectives; and assist in making decisions about the allocation of resources. Perhaps the most important impact of the revised planning process enabled by ViSTA is the implementation of a clear “top down-bottom up” approach that not only ensures that all Shareholders are a part of process but that views consensus building (or participatory planning) around the plan as critical to the university’s shared governance model.

Three organizational groups provide input and revision to the plan (steering committee; department chairs and key shareholders; task forces) and a fourth (Institutional Research and Planning) provides technical and administrative support to the organizational groups. The following protocol is followed to develop the major plan components. In a workshop format, steering committee members develop a statement of the university’s core competencies and value proposition. They also identify a small number of draft strategic priorities and objectives for each priority. Draft strategic priorities and objectives are distributed to department chairs and key shareholders for their review and comment. In a workshop format, steering committee members finalize the value proposition, statement of strategic priorities, and SMART objectives. Steering committee members also discuss and reach agreement on the range of expertise needed on each task force to develop tactics for each SMART (specific, measurable, actionable, realistic, and time-based) objective. These are particularly important in establishing indicators for directing allocation of university resources.
2.2.1.1.1 Shareholder participation

Shareholder involvement is critical to the success of the strategic plan. Individuals engage in the planning process through participation on the steering committee, department chairs and shareholder groups, or strategic initiative task forces. Representatives may serve on the steering committee or on the task forces. Shareholders identified in the ViSTa framework include representatives from the following groups: faculty, researchers, administration, alumni, students, Board of Trustees, Board of Overseers, local and state government agencies. These groups are identified based on their connection to the core mission and goals of the university. The core mission of NJIT as articulated in the Strategic Plan 2004-2010 (Altenkirch, 2004) is to serve as the state’s technological research university, committed to the pursuit of excellence. Goals in pursuit of this mission are to enhance educational programs, enhance and focus research efforts, strengthen sense of community, enhance revenue base, impact the economy, and strengthen efforts in civic engagement.

The Steering Committee, led by the university president and guided by input received from the various shareholder groups and task forces, assumes significant responsibility for determining the content of the university’s strategic plan. Department chairs at NJIT and key Shareholders form an independent organizational group in the strategic planning process. The chair of each department, head of each research and administrative department at NJIT, and one representative from each of the remaining shareholder groups (see the above list of groups) are responsible for representing the interests of their constituent groups and sharing information with these groups during the planning process. Specific responsibilities of the Shareholder group include review and input to form the vision statement, value proposition, and strategies and objectives.

As part of the ViSTa process the draft vision, value propositions and strategies statements undergo shareholder review. Draft documents are disseminated to the NJIT department chairs and key shareholder groups to share with their constituencies and obtain feedback. NJIT department chairs and key shareholders can submit comments based on constituency feedback to
Institutional Research and Planning. Comments across departments are consolidated by Institutional Research and Planning and provided to the steering committee for their review. A finalized product is produced in workshop format in the presence of the department chairs.

Task forces formulate recommendations for each strategic objective. Task force committee composition includes representation from NJIT faculty, NJIT alumna, and NJIT students. For example, the Task force on Campus Appearance included representation by the NJIT Alumni Association, the NJIT Graduate Student Association, and alumna from the College of Architecture and Design.

The success of shareholder participation in strategic planning initiatives at NJIT is a result of strong civic engagement of university administration and faculty at the regional, state, and local levels and the ongoing efforts of Institutional Research and Planning to assess directly student perceptions and needs. (For more on such assessment, see Working Group Report, Standards 7.)

As is clear in the report of Working Group 1, NJIT has a strong collaborative relationship with the City of Newark. The university and city negotiated a Redevelopment Agreement to foster economic and commercial activity in the University Heights area. The Campus Gateway Initiative (JLL, Elkus Manfredi, NJIT, 2010) is the result of close collaborative working relationships to enhance the quality of the environment of both the city and university. At the state level, NJIT plays an important role in educating a workforce grounded in science and technology. The Strategic Plan 2004-2010 resulted in the development of “market-driven” graduate programs to meet the required breadth and depth of scientific and technological expertise required in New Jersey and globally (Altenkirch, 2004). In addition, the university acquired Central High School located adjacent to the NJIT campus to create additional learning space and a showcase for NJIT. Responding to the needs of the NJIT community is also of paramount importance in fulfilling the mission of the university. As an indication of the university’s deep commitment to institutional assessment, we note that respondents to student satisfaction surveys indicated a need to enhance campus appearance and increase public safety and security. These issues became part of the Strategic Plan 2004-2010 and resulted in the development and implementation of the Landscape Master Plan (TBA, NJIT, 2005) and the development of the Public Safety Emergency Response System. Here we see evidence of assessing achievement of key strategic planning elements and engaging in a process of continuous quality improvement.

2.2.1.1.2 Building Consensus

The Strategic Plan 2004-2010 included participation of over 100 individuals from all sectors of the university community. The effort was developed in accordance with a business plan that evolved from discussions with NJIT’s Board of Overseers, Board of Trustees, faculty, community, and bodies of student representatives. NJIT follows an inclusive, iterative approach in mitigating differences, if they exist, among its constituents. Due diligence is expended in the development of the strategic plan through inclusive task force assignments, various iterations, revisions, and
presentations to constituents. There were initially ten task forces in the development of the 2004-2010 Strategic Plan. An additional task force was established to ensure all constituencies were included in the process with emphasis on diversity: faculty, students, staff, and the community at large. A revision to the strategic plan of 2004-2010 was adopted and announced on November 28, 2005 to reflect the adaptation of strategies in attracting a more diverse population of high achieving students and faculty members from Hispanic groups, women, African Americans, and other minorities (Altenkirch, 2005).

2.2.1.1.3 Assessing Progress

The report of the Working Group on Standard 7 examines Institutional Assessment in greater detail; here we examine assessment as it relates specifically to resource allocation and renewal. NJIT uses the ViSTA framework to develop strategic objectives that quantify outcomes, have deadlines and can be assessed. Each objective is written in the SMART format as follows:

| S | Specific | Describes exactly what is expected |
| M | Measurable | Quantifies the result that is expected |
| A | Actionable | Describes the actions the university will take |
| R | Realistic | Is highly challenging yet achievable |
| T | Time-based | Has a completion deadline |

To assess progress, NJIT uses two different tracking systems. The balanced scorecard approach, adapted from the work of Kaplan and Norton (1993), establishes a system for weighing progress and enables communication of progress the university is making toward achieving strategic objectives. The scorecards use a color coded scoring system that allows shareholders to view performance in a user-friendly format.

- Strategic Plan implementation proceeding well, objectives likely to be met (score of 3-green)
- Strategic Plan implementation is proceeding, objectives likely to be met with achievement of one or more objectives (score of 2-yellow)
- Strategic Plan implementation is proceeding, objective to be met with concerted effort to achieve one or more objectives (score of 1-red)

Internal tracking of plan performance is conducted with milestone assessment reports (IRP, 2006-2011). These reports include strategic priorities/objectives, baseline and baseline final target as evaluated by specific metrics. Progress is defined as follows:

- Target met
- Progress made
- Opportunity for additional progress
2.2.1.4 Insuring Transparency

The university-wide strategic planning process and progress toward meeting the goals and objectives of the plan is very transparent. The president maintains a public website documenting the following: the planning process; the plan with its strategic priorities, objectives and tactics; and periodic assessment scorecards. He regularly communicates to the campus community via e-mail on strategic planning matters and solicits feedback.

All academic units have strategic plans but not all have adopted the ViSTA planning process in the formulation of their plans, as noted in the report of Working Group 1. More cohesive integration of academic unit planning with overall strategic goals at the university level is needed. (Note that a call for additional uniformity is called for in the recommendations of Working Group 1, as well as in recommendation 1 of our working group.) For example, the Strategic Plan (2010-2015) sets a strategic priority to be nationally recognized for a number of thematic core areas of integrated research and learning; yet, at the present writing, none of the academic units have identified priorities, objectives, or tactics to participate collaboratively in any of these thematic areas. The university strategic plan (2010-2015) sets an objective to develop a market-driven inventory of a minimum or 12 online MS degree programs and 20 graduate certificate programs, yet online MS degrees and graduate certificate program discussions are not readily apparent in plans of the academic units. Increased transparency to the planning process might be achieved by having all major plans (e.g. institutional, academic, financial, enrollment, technology) follow the same ViSTA planning format, link planning websites to the university site, and where practical, adopt the same 5-year planning cycle. (Working Group 1 had identified the viability of this recommendation as it has been implemented in the College of Science and Liberal Arts.)

The last ten years have seen a significant growth in assessment initiatives. The Office of Institutional Research and Planning (IRP) now conducts nearly a dozen major annual surveys (e.g. entering students, graduating students, alumni, student satisfaction, study abroad) and coordinates participation in national surveys of student engagement and use of technology. Results are analyzed and presentations are made to major campus constituencies and used to inform the planning process. Survey results are published on the IRP website, which provides a record of the expansion of assessment since 2001. The assessment process could be made more transparent and holistic by linking all assessment initiatives from a single website and summarizing, on an annual basis, the change and renewal initiated as a result of these many assessment initiatives. To increase the effectiveness of assessment processes such as these, in the fall of 2011 the reporting structure of IRP was placed under the Office of the Provost to create the desired uniformity of institutional assessment and assessment of student learning.

2.2.2 Resource Allocation and Assessment

The strategic planning process defines resource allocation in a continuous dynamic process that leads to periodic assessment and systematic change. Resource allocation aligns with near-term strategic objectives and long-term goals. Major resource requirements are detailed annually in the
state budget submission document. Major resource allocation is managed centrally and critical decisions are made at the senior staff level. This is understandable as budgets have become very tight with state support decreasing and the university more dependent on student tuition and fees.

The 2004-2010 strategic plan identified strategic priorities to establish NJIT as a student-centered environment for intellectual growth. The elements focused on enhancing campus amenities, increasing sources of private revenue, developing a core of nationally recognized programs, increasing national prominence as an institution of research and innovation, and attracting high quality faculty and students from diverse national and international populations (See Figure 2.1 below). To support the plan initially, $2.1 million of operating funds were reallocated as a Reinvestment Fund. In addition private and public (federal, state) funds were raised as well (Details of this effort are found in the NJIT Digital Data Base).

**Figure 2.1. Allocation of Resources for the Five Strategic Priority Areas, 2004-2014**
A Milestone Strategic Plan Progress Assessment Report tracks success quantitatively and qualitatively of strategic priorities by task force and activity. (The Milestone Strategic Plan Progress Assessment Reports for 2004-2010 are located in the NJIT Digital Data Base). These are organized according to priorities and objectives and indicate the percentage of the target achieved in each area. The 5th Milestone (FY09) Report, for example, shows that we met or exceeded our targeted percentages for 4 out of 4 objectives for the priority to enhance and enrich the quality of life; for 3 out of 5 objectives for the priority to increase revenue from private resources; for 1 out of 2 objectives for the priority to develop a core of nationally recognized programs; for 3 out of 4 objectives for the priority to improve national rankings in research and intellectual property development; and for 1 out of 3 objectives for the priority to become nationally recognized for attracting high achieving students from diverse national and international populations. Comparable impact analysis of strategic priority areas is included in the report of Working Group 1; here the focus is on the relationship to planning resource allocation.

Highlights of accomplishments in support of the 2004-2010 Strategic Plan priorities are highlighted in Table 2.0.

**Table 2.0. Cumulative (FY2004-2010) and Percent of Total Resource Allocation for “Quality of Life” initiative (cumulative budget dollars in $000’s).**

<table>
<thead>
<tr>
<th>Initiative Description</th>
<th>Cumulative Budget</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletics</td>
<td>10,514</td>
<td>58.7%</td>
</tr>
<tr>
<td>Campus Appearance Projects</td>
<td>2,955</td>
<td>16.5%</td>
</tr>
<tr>
<td>Athletics - Scholarships</td>
<td>1,500</td>
<td>8.4%</td>
</tr>
<tr>
<td>Reengineer staff training, development and employment processes</td>
<td>1,145</td>
<td>6.4%</td>
</tr>
<tr>
<td>Improve faculty, staff, and student satisfaction</td>
<td>900</td>
<td>5.0%</td>
</tr>
<tr>
<td>Redesign campus communications</td>
<td>675</td>
<td>3.8%</td>
</tr>
<tr>
<td>Promote on campus activities for students, faculty, staff (e.g., colloquia/performance)</td>
<td>210</td>
<td>1.2%</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>17,899</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Details of some of these accomplishments are detailed below.

2.2.2.1 *Enhance and enrich the quality of life of the university community and ensure a focus on the student.*

As a strategic priority, enhancing the quality of life of the university community had four major components: to develop and implement a landscaping/campus appearance enhancement plan, including improvement of the interior condition of buildings and completion of a facilities and infrastructure master plan; to systematically reengineer administrative and academic processes to
improve customer and student satisfaction over five years; to move the men’s soccer program to NCAA Division I status by spring 2005 as an integral part of planning to move the university’s intercollegiate athletics program from NCAA Division II to Division I; to implement high-profile, intellectually stimulating on-campus events.

Campus Gateway Project

NJIT made it a strategic priority to establish a vibrant campus community for current students and faculty as well as for returning alumni. NJIT’s Campus Gateway project (2010) is a multifaceted plan to revitalize the area around the NJIT campus. The project will provide many amenities essential to creating an exciting urban lifestyle for the area’s thousands of university students, faculty, staff, and Newark residents. The program includes a “Greek Village” at the southern end of the NJIT campus, calls for the reuse of a vacant section of St. Michael’s Hospital, and considers retail opportunities and additional housing.

Master Landscape Plan

In 2005 NJIT, using the construction of the East Building, now Fenster Hall, and the renovation of the Campus Center redefined NJIT’s campus core by developing a five year Master Landscape Plan (TBA, NJIT, 2005). The plan is focused on the open spaces of the NJIT campus and the role of landscape in campus life and proposes the enhancement of such key elements as pedestrian movement, vehicular circulation, edges and gateways, and the development of cohesive greens and special exterior “places.”

Campus Master Plan

In 2008 NJIT developed the Campus Master Plan (Ayers Saint Gross, Fletcher Thompson, NJIT) that is intended to enhance student life through the renovation of aging buildings, through the expansion of the library, through the development of new academic sites. The major components of the plan are buildings, open space, mix-used developments and potential partnerships.

2.2.2.2 Increase revenue from private sources.

Honors College Campaign

The Honors College Campaign (2003-2008) raised $22.8 million, exceeding its $20 million goal and allowing the Honors College to increase enrollment from 500 students to the current level of 611. The campaign will continue in the mass appeal and, in particular, to meet additional ongoing needs of the Dorman Challenge, the fundraising initiative matched by Dr. Albert Dorman. For every dollar contributed by Honors College alumni, faculty, staff, and parents, Dr. Dorman has contributed two dollars to the fund.
Athletics Campaign

NJIT successfully completed the Highlanders Athletics Campaign (2003-2009) at $5.4 million of the $5 million dollar goal. The campaign raised funds necessary to upgrade selected athletic facilities and increase the amount of money available for athletic scholarships. The goal of the Highlanders Athletics Campaign was to raise $5 million: $3 million for athletic facilities, $1.5 million for athletic scholarships and $500,000 for program support.

2.2.2.3 Develop a core of nationally recognized programs.

Between 2004 and 2010, strategic program investment was allocated into three areas.

Mathematical Sciences

Mathematical Sciences has grown from a department offering service courses in support of engineering degree programs to a top-ranked academic department by the end of 2008, offering the BS in Applied Mathematics and Computational Sciences, the MS in Applied Mathematics and Applied Statistics, and the PhD in Mathematical Sciences. Today the department’s further expansion can be noted by its even wider array of degree offerings: the BS in Mathematical Sciences with options in Applied Mathematics, Applied Statistics, Mathematical Biology, and Mathematics of Finance and Actuarial Science; the M.S. degree in Applied Mathematics, Applied Statistics, Computational Biology, Biostatistics, and Computational Finance; and the PhD degree in Mathematical Sciences with tracks in Applied Mathematics and Applied Probability and Statistics. The department today has one of the most active research programs in the country among mathematics departments, with more than $2 million annually in external support from the National Science Foundation (NSF), as well as grants from the Office of Naval Research (ONR), the Air Force Office of Scientific Research, NASA, and private foundations and companies (Altenkirch, 2008).

Architecture

The New Jersey School of Architecture was targeted for strategic program investment with the goal of enhancing its reputation and the quality of its graduate and undergraduate programs. In order to achieve greater national prominence, the school focused on five strategic priorities. The school has maintained and increased national visibility by recalibrating its major foci of Computer Aided Design and the design of communities. The school has instigated curricular changes that reflect the impending transformation of professional services in architecture including the integration of building systems more effectively into design in order to emphasize the fabrication of building components and sustainable design. The school established a Fabrication Laboratory that not only acquaints our students with new methodologies and techniques but also expanded the role of designers and acted as a preamble to the establishment of a new program in industrial design, another strategic priority. The school has hired full-time, tenure-track faculty to meet strategic objectives, particularly in the area of advanced architectural
scholarship and research. These new hires serve as a complement to the professional practice orientation of our adjunct faculty. The active research agendas of these new faculty members are helping the school position itself in the top 10% of architecture schools nationally. Since being identified for strategic program investment the school’s enrollment has grown steadily, especially in undergraduate architecture with a new cohort of academically well-prepared students from the New Jersey suburbs. The school has also grown through the addition of new programs in industrial design, interior design, digital design, and fine art. These enhanced academics are reflected in a nomenclature change: In 2009, the New Jersey School of Architecture was joined by a new School of Art and Design to form the NJIT College of Architecture and Design.

New Graduate Program Initiatives

As Table 2.1 shows, NJIT launched 12 new graduate programs in support of the strategic plan priorities and congruent with its mission. These programs are examined in the report of the Working Group on Standard 11 of this self study.

Table 2.1. Enrollment in new graduate programs Fall 2008-2010.

<table>
<thead>
<tr>
<th>Program</th>
<th>2008F</th>
<th>2009F</th>
<th>2010F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioelectronics</td>
<td>0</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Biostatistics</td>
<td>6</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>Business &amp; Information Systems</td>
<td>15</td>
<td>49</td>
<td>58</td>
</tr>
<tr>
<td>Computing &amp; Business</td>
<td>3</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>Emergency Management &amp; Business</td>
<td>2</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Continuity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthcare Systems Management</td>
<td>3</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>International Business</td>
<td>3</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>IT Administration &amp; Security</td>
<td>N/A</td>
<td>15</td>
<td>67</td>
</tr>
<tr>
<td>Pharmaceutical Chemistry</td>
<td>N/A</td>
<td>7</td>
<td>32</td>
</tr>
<tr>
<td>Pharmaceutical Systems Management</td>
<td>N/A</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>Power &amp; Energy Systems</td>
<td>8</td>
<td>21</td>
<td>25</td>
</tr>
<tr>
<td>Software Engineering</td>
<td>N/A</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
<td><strong>166</strong></td>
<td><strong>271</strong></td>
</tr>
</tbody>
</table>
2.2.2.4 Improve national rankings in research and intellectual property development; Office of Research and Development

Research expenditures reached $94 million by conclusion of the strategic plan 2004-2010, as Table 2.2 illustrates. The largest growth occurred in the area of federal research expenditures. Highlights of some of these awards are discussed below.

Table 2.2. Research and Associated Expenditures by Source. [Data include two years prior to and one year after the strategic plan time period of 2004-2010.] [Figures listed in millions of dollars.]

<table>
<thead>
<tr>
<th>Year</th>
<th>Federal</th>
<th>State</th>
<th>Private</th>
<th>ICR*</th>
<th>External (total)</th>
<th>Internal (total)</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>22.0</td>
<td>8.9</td>
<td>3.1</td>
<td>4.2</td>
<td>38.2</td>
<td>30.9</td>
<td>69.1</td>
</tr>
<tr>
<td>2003</td>
<td>24.9</td>
<td>11.0</td>
<td>3.5</td>
<td>5.1</td>
<td>44.4</td>
<td>29.2</td>
<td>73.7</td>
</tr>
<tr>
<td>2004</td>
<td>24.8</td>
<td>7.3</td>
<td>3.5</td>
<td>5.4</td>
<td>41.1</td>
<td>33.9</td>
<td>75.0</td>
</tr>
<tr>
<td>2005</td>
<td>28.4</td>
<td>4.3</td>
<td>6.6</td>
<td>6.0</td>
<td>45.3</td>
<td>31.6</td>
<td>76.9</td>
</tr>
<tr>
<td>2006</td>
<td>28.1</td>
<td>5.3</td>
<td>6.1</td>
<td>6.5</td>
<td>46.0</td>
<td>31.6</td>
<td>77.6</td>
</tr>
<tr>
<td>2007</td>
<td>34.7</td>
<td>5.0</td>
<td>6.1</td>
<td>7.1</td>
<td>52.9</td>
<td>35.8</td>
<td>88.7</td>
</tr>
<tr>
<td>2008</td>
<td>33.2</td>
<td>4.7</td>
<td>6.1</td>
<td>7.4</td>
<td>51.4</td>
<td>38.1</td>
<td>89.6</td>
</tr>
<tr>
<td>2009</td>
<td>35.4</td>
<td>4.8</td>
<td>6.1</td>
<td>7.8</td>
<td>54.0</td>
<td>38.9</td>
<td>92.9</td>
</tr>
<tr>
<td>2010</td>
<td>34.9</td>
<td>4.7</td>
<td>6.1</td>
<td>7.3</td>
<td>53.0</td>
<td>39.4</td>
<td>92.3</td>
</tr>
<tr>
<td>2011 (est.)</td>
<td>35.8</td>
<td>4.7</td>
<td>6.1</td>
<td>7.4</td>
<td>54.0</td>
<td>40.1</td>
<td>94.2</td>
</tr>
</tbody>
</table>

*Indirect cost return

During the last 5 years research and development has grown to records heights. Overall expenditures topped $80M for the first time, externally sponsored expenditures topped $50M for the first time, and federally supported research expenditures topped $40M.

The strategy to focus on defense funding has delivered results in the form of substantial growth from that agency over the last few years. It has also produced the anticipated halo effect by placing our researchers in a position to present their accomplishments in the same environs as peers from competing universities, which demonstrated through increases in support from sources like the National Science Foundation.

The growth of Research and Development over the last 5 years in key areas includes:

**Defense**

The Advanced Clustered Energetics (ACE) program, with $9M awarded, will lead to two new programs – one to explore nano-particulate applications of the novel manufacturing technology (with applications to DOD and pharmaceutical products) while the other will involve the scale-up to commercialization of a key process element of developed during the ACE program. The latter
will be done jointly with BAE and result in a demonstration system in their Holsten, TN manufacturing plant. Other programs with a federal funding of almost $14M include the Disruptive Technologies Program, which is anticipated to develop specific applications in the weapons designed to defeat deeply buried or wall-protected targets, Terahertz 2-D Imaging System for Stand-off, Active Coatings, Single Wall Carbon Nanotube, Multi Thermal Paint and Homeland Security.

The plight of returning veterans suffering from a range of IED-related injuries has created a new opportunity for our Rehabilitation Engineering group to pursue directed and competitive funding from DOD. Their range is enhanced and extended by strong collaboration with Kessler Research in West Orange, NJ that has complementary skills and access to clinical practice.

**Homeland Security**

NJIT is part of a team led by University of Texas, El Paso that won the US DHS designation as Center of Excellence in Border Security. The key researchers have also formed a strong working partnership with the NJ Business Force in developing and demonstrating emergency response technologies for incident management that will lead to NJIT serving as the core recipient of several million dollars a year of industrial support. Recently, the NJ Office of Homeland Security and Preparedness asked NJIT to lead a new effort to catalogue port-related interdependencies and develop an assessment leading to new programmatic funding to achieve resiliency of the civil infrastructure in the NY-NJ metropolitan area.

Our partnership in the NSF Engineering Research Center for Structured Organic Composites represents our most visible connection to the state’s pharmaceutical industry and a high-profile academic research award. The intersection of the Center’s research program with other pharmaceutical manufacturing technology programs has created the opportunity to deploy a pilot scale production and demonstration center that can be leveraged into other partnerships and funded programs.

**Solar Physics**

Big Bear Solar Observatory completed construction of the world’s largest ground-based solar optical telescope and is beginning to mine the grant potential for the new science expected from this device. Several million dollars in proposals are in preparation for enhancing the core suite of instruments and conducting critical experiments. Also, this year our partnership with Johns Hopkins Advanced Physics Lab on the RB-SPICE satellite program has been in full swing with several million dollars a year in Federal funds.

**Transportation**

The U.S. Department of Transportation has awarded us two major grants for the development of software-based tools to assist transportation planners in understanding the long-term impacts of
new transportation infrastructure. The first is a third renewal of a longstanding program in the Federal Highway Administration and has moved from a research effort to a deployment and field development effort across the nation’s Metropolitan Planning Organizations. The second is a new six-year program from the Federal Transit Administration that will develop new tools to assess regional impact of transit system improvement.

Concurrent with the growth of Research and Development over the last 5 years are gains in intellectual property (patents and licensing). Invention disclosures have more than doubled from under 30 in 2003 to an average of 80 for the past two fiscal years (2009-2010). The ratio of the number of invention disclosures per million dollars of sponsored research has been 90% or better; the average is 45% for US universities who report data. Licensing revenues have steadily increased from only $16,000 in 2003 to more than $500,000 in 2010.

In considering the Office of Research and Development, it is important to report that NJIT has fulfilled Recommendation 2 of the 2007 Middle States review by Katherine Mayberry and Herman Berliner of our period review report. In their review, Mayberry and Berliner wrote, “The team recommends that NJIT examine its plans for the Office of Research and Development and consider increasing its funding and staffing.” As Figure 2.2 illustrates, the Senior Vice President for Research and Development has fifteen direct reports.

Figure 2.2. Office of Research and Development Organizational Chart

![Organizational Chart](chart.png)
Within this “comprehensive and supportive infrastructure” described by Mayberry and Herman Berliner, researchers engage in the forefront of science and engineering to infuse knowledge and enthusiasm in their classroom teaching, involving students in work that takes them outside of the traditional classroom experience. Such research-based instruction for undergraduate students is an emphasis of the Provost Ian Gatley; and, under the leadership of Associate Provost for Graduate Studies Marino Xanthos, students undertake research at the master’s level and in PhD degrees offered in 19 disciplines.

To strengthen the NJIT research mission under the Office of Research and Development, researchers work on problems distilled from the practice of their professions. As a result their accomplishments fuel economic growth, defining new products and services and generating new businesses. Interactions with industry set a context for scholarly research that has both intellectual integrity and utility.

To strengthen the NJIT service mission under the office of research and development, knowledge developed in our faculty and students becomes an invaluable asset guiding state and municipal leaders in policy formation and improved operation of government services and civil infrastructure.

2.2.2.5 Become nationally recognized for attracting high achieving students from diverse national and international populations.

NJIT consistently ranks prominently by Diverse Issues in Higher Education (Altenkirch, Annual Report, 2010). Noted accomplishments in 2010 include:

**Undergraduate rankings:**

- African-American degree recipients — 2nd in engineering.
- Asian-American graduates—14th in business; 28th in engineering.
- Hispanic bachelor’s recipients — 31st in engineering; 34th in business.
- Total minority graduates — 16th in computer science; 23rd in engineering.

**Graduate rankings:**

- African-American master’s recipients — 9th in engineering; 21st in computer science.
- Asian-American masters graduates — 15th in computer science; 15th in engineering.
- Hispanic master’s recipients — 21th in engineering; 10th in computer science.
- Total minority master’s degree recipients—14th in computer science; 16th in engineering.

As Figure 2.3 reveals, the percent of women students at NJIT has not varied significantly in recent years. Analysis for the 2002-2009 time period reveals the female student population is approximately 20% of the total enrollment.
2.2.3 Institutional Renewal: Strategic Plan 2010-2015

NJIT uses the results of strategic planning very effectively to initiate institutional renewal. NJIT utilizes comprehensive reporting on strategic plan progress assessment to recalibrate and refine the university’s vision, strategies, and tactics. While external economic realities constrained the development of some funded initiatives, the strategic plan is still producing outcomes in key areas. Nonetheless, the 2010-2015 strategic plan may not fully reflect the process of institutional renewal that would occur in the absence of current economic realities. (For the details of the Strategic Plan, 2010-2015, see Working Group Report, Standard 1; for a discussion of the present economic situation, see the Working Group Report, Standard 3.) NJIT views these exogenous factors as challenges to be met and developed an ambitious Strategic Plan to further develop income streams through renewal of educational initiatives and increasing enrollment, development of a faculty separation program (PSA, NJIT, 2010) to reinvest in emerging intellectual areas in science and engineering, and development of new comprehensive campaigns to provide student financial support and further strengthen the university community. The Faculty Separation Incentive Program is discussed in Working Group Report, Standard 10.

The university has a well-defined and transparent process for strategic planning and resource allocation to meet strategic priorities. The processes for operational planning and resource allocation to meet on-going operational priorities and capital maintenance needs for human, financial, technological, and facility resources are centralized at the senior staff level. These needs must be met from a small portion of the annual operating budget. Tight budgets have deferred capital maintenance in a number of areas including classrooms and laboratories, library collections, building, and technology infrastructure. The loss of state programs for capital improvement and maintenance projects in facilities, equipment, and technology infrastructure have added additional burdens to operational budgets. In spite of these challenges, the university has shown agility in meeting emerging operational necessities.

One particular noteworthy initiative has been Project ORBIT (Organizational Reengineering using Banner Information Technology), a three-year plan began in 2008 to implement the Banner
suite of ERP software to replace aging student, financial, and human resource information systems. Phase I of the project was successfully completed in January 2011, on schedule and within budget. Although born of an operational necessity, the new Banner systems will provide modern tools for reengineering administrative processes to improve customer and student satisfaction, an on-going strategic objective of the university. These new systems will provide integrated and up-to-date systems required to achieve mission fulfillment for the university.

As a science and technology university, a robust and state-of-the-art technology infrastructure is necessary to meet student outcomes and deliver on the NJIT value proposition. In the 1990s and early 2000s NJIT was nationally recognized as among the "most-wired" and "most connected" campuses for offering cutting-edge technology for educational programs. Constrained budgets and other exogenous factors have hindered technology upgrades and refreshes in the short term. Although the university's current technology infrastructure has been mostly adequate in meeting educational program needs, senior staff recognizes the need for a lifecycle-based technology infrastructure acquisition and replacement process. The FY2012 NJ State Budget submission identified technology infrastructure as one of only three priority funding requests (Altenkirch, Budget, Nov. 2010). The central IT organization continues to implement tactics that extend the useful life of technology and outsource IT services, where appropriate, in order to meet the needs of educational programs and support services.

The maintenance and expansion of the physical infrastructure of the university also faces challenges in this era of tight budgets. Such constraint has meant deferring capital maintenance in a number of areas including classrooms and laboratories, building infrastructure, and technology infrastructure. The university faces a significant budget challenge in balancing the one-time capital costs for new initiatives vs. accumulated deferred maintenance capital costs for existing infrastructure.

2.2.4 Enrollment Initiatives

NJIT is increasingly dependent on student enrollment as a revenue source for human, financial, technological, and facility resources. NJIT has developed an enrollment plan that includes activities to consolidate and streamline recruitment and enrollment procedures as well as enhance visibility of new programs developed during the 2004-2010 Strategic Plan. The university strategic plan calls for an enrollment increase to 11,000 students, with an increasing percentage of graduate students. (For more on the quality of admitted students, see Working Group Report, Standard 8.) A description of enrollment patterns is shown in Figure 2.4.

The tactics used to achieve undergraduate enrollment projections include expanding the use of the new Banner customer relationship management system and increasing undergraduate transfer enrollment from two-year community colleges. Emerging tactics used to achieve graduate enrollment projects include the following: expanding the use of the new Banner customer relationship management system that allows for enhanced coordination of recruiting, admissions, and enrollment processes; our newly formed affiliation with IDP Education (student
placement firm) to generate more applicants from overseas; international recruitment trips (India, China, and Canada); developing the Overseas Partner Initiative to create graduate student education partnerships with universities in India; offering the MS in Civil Engineering online and promoting it through a partnership with Embanet Compass Knowledge Group; expanding the number of Master’s Fellowship awards; and increasing the number of prospective student names purchased through the GRE service.

**Figure 2.4. Student enrollment at NJIT Fall 2002 to Fall 2010.**

2.2.5 Private, Almuni, and Corporate Income Initiatives

Table 2.3 presents giving by donor from 2002-2010. Corporate giving is the largest donor group over the 2002-2009 period. Private foundation support has decreased during this time as well as giving by friends. Alumni support is the second largest donor group and the number and total level of giving increased but leveled off during the 2004-2010 strategic plan. Compared to benchmark institutions endowment assets are significantly lower at NJIT ($57M) compared to benchmark institutions ($145M).
New Comprehensive Campaign

NJIT is undertaking a major comprehensive campaign with the goal of raising at least $150,000,000 between 2007-2014. The initial goals of the campaign include:

Increased Student Financial Support (Scholarships and Fellowships): $50,000,000

Endowed scholarships and fellowships will be sought for all of our colleges and schools to provide affordable education for students seeking to undertake the rigors of programs in science, engineering, design, technology and management.

Outstanding Faculty (Endowed Chairs and Professorships): $25,000,000

Recruitment and retention of outstanding faculty is essential to maintaining the learning environment enjoyed by NJIT students past and present. Endowed Chairs and Professorships will be sought to recruit and retain outstanding faculty and provide funding for teaching and working with students on research projects.

Next-Generation Campus: $75,000

NJIT will continue development of a “next-generation” campus, one that uses highly advanced wireless systems to connect information, computers and people, and to enhance our
surrounding neighborhood to strengthen a sense of community both on and off campus. More than $75,000,000 in capital investments will be allocated for these three areas:

- **Enhanced Engineering and Science Laboratories.** Investments include micro-scale systems technology, electro-mechanical engineering equipment, and new image analysis systems.
- **Center for Science, Technology, Engineering, and Mathematics (STEM) Education.** Continuing NJIT’s sustained commitment to the City of Newark and the university community, President Altenkirch successfully secured ownership of Central High School. The second floor will provide much needed classroom space today. Future plans include development a flagship facility to promote NJIT’s leadership at all levels in STEM education.
- **Recreation, Wellness, and Athletics Center.** A Recreation, Wellness, and Athletics Center will be the next phase in enhancement of campus life. In addition to serving as another venue for intercollegiate competition, the availability of center facilities will encourage recreational sports and personal physical fitness for all members of the NJIT community.

### 2.2.6 New Research Initiatives

Two current research initiatives are important to the NJIT mission of education, research, economic development, and service; each has been included in the resource allocation process.

**New Jersey Healthcare Information Technology Extension Center (NJ-HITEC)**

NJ-HITEC’s mission is to assist New Jersey’s health care providers achieve and document meaningful use of health information technology that drives improved delivery and access to healthcare through its program of outreach, consultation and user support. The Center has an aggressive goal of reaching the state’s 14,000 primary care providers serving at risk populations with the message of improved healthcare quality and reduced cost of operation that begins with the adoption of Electronic Healthcare Record systems (EHR). HITEC promotes the use of health information technology by training New Jersey Primary Care Providers to use certified electronic health record technology in accordance with the Centers for Medicare and Medicaid Services 25 Stage 1 Meaningful Use criteria for eligible providers. NJ-HITEC has been designated by the State of New Jersey and the NJ Director of Medicaid as the only program endorsed to operate this statewide extension effort. (Award amount: $23,813,542.00; Award period: 4/6/2010 – 4/05/2014)

**Big Bear Solar Observatory**

In collaboration with the National Solar Observatory (NSO), a Multi-conjugate Adaptive Optics (MCAO) system for the 1.6 m off-axis New Solar Telescope is under development at Big Bear Solar Observatory that will expand the field of view of diffraction limited observations to cover entire active regions enabling critical spectroscopic and polarimetric observations, which include, for instance, flares that may occur at anytime and anywhere in an active region. (Award amount: 2,375,052.00 Award period: 3/15/2010 – 2/28/2013)
Grant funding also supports instrument development and infrastructure improvements of an existing radio array, the Owens Valley Solar Array (OVSA), to create a major university-based facility serving a broad scientific community, to keep the U.S. competitive in the field of solar radio physics. The project will also provide jobs to small industry and within the local economy, as well as technical training and scientific research experience for students and entry-level scientists and engineers. The project will result in a world-class facility for scientific research at microwave radio frequencies (1-18 GHz) in areas of important national interest, such as understanding the Sun’s influence on the Earth and near-Earth space environment—a subject broadly termed Space Weather. (Award amount: 5,121,584.00; Award period: 10/1/2010 – 9/30/2013)

2.3 CRITICAL ANALYSIS AND CONCLUSIONS

As stipulated in the Characteristics of Excellence, NJIT must possess clearly articulated goals, objectives, and strategies, both institution-wide and for individual academic units and that its goals, objectives, and strategies must reflect conclusions drawn from assessment results and be linked to mission and goal achievement. Those goals, objectives, and strategies must also be used for planning and resource allocation at the institutional and unit levels. Our research has shown that NJIT possesses these fundamental elements. NJIT has also laid the groundwork for increasingly well-defined decision-making processes and authority that facilitates planning and renewal as well as the assignment of responsibility for improvements and assurance of accountability. The university now has an established, well documented record of institutional and academic unit improvement in our commitment to implement periodic assessment of the effectiveness of planning, resource allocation, and institutional renewal processes.

Within the university-wide strategic planning process the interrelationships among institutional, operational, and unit-level goals are not always evident. While clearly evident with the Campus Master Plan, the Landscape Master Plan, and the Gateway Initiative, there could be greater evidence of interrelationships with the plans of academic units. The process could also be made more transparent by publishing the scorecards developed for senior staff and the resulting priorities assigned for the many competing initiatives. Such publication could take the form of posting to websites and sending via email. This would extend the usefulness of the scorecard and scorecard process that are currently published and deployed for strategic planning initiatives.

Currently, while there is consensus among the academic units on the direction of the strategic plan, each of the academic units still maintains its own strategic plan, as discussed in Working Group Report, Standard 1. These are detailed but may not always be in sync with the objectives and strategic priorities of the university’s strategic plan. There needs to be an effort among all shareholders to bring the academic unit plans in line with the objectives and priorities of the university plan. Another way of stating this goal is to suggest the design of a means of coordination between the college plans and the university plan, by establishing a common framework on all levels so that planning can be articulated and deepened across the university community.
Such coordination among shareholders is important: Coordination of planning among the academic units will enable the university as a whole to better meet the challenges of such key strategic themes as ensuring sustainability and fostering new models of collaboration and interdisciplinary research across academic units. In addition, the strategic plans of the academic units nearly all calling for an increase in faculty lines. The Faculty Separation Incentive Program (PSA, NJIT, 2010) will provide resources for new hires, but allocation must be coordinated at the institute level in order to align the instructional support for enrollment expansion with strategic and prioritized research needs. In other words, there is a need for communication of the method used for the hiring of tenure-track lines, as well as lecturer and adjunct lines. (For more on the role of resource allocation in faculty planning, see Working Group Report, Standard 10).

2.4  **COLLABORATION WITH OTHER WORKING GROUPS**

In scheduled meetings hosted by the Rapid Assessment and Steering Committee, our Working Group collaborated with other groups. Collaboration was also strengthened through meetings with the self study consultant (Robert Clark). Asynchronous communication was fostered through the open source content management system (Moodle); in that platform, the Working Groups collaboratively reviewed each stage of the planning and reporting process, from question design to outlines of the Working Group Reports, to edited review, to final copy.

2.5  **RECOMMENDATIONS FOR IMPROVEMENT**

Based our critical analysis of NJIT’s strategic planning, resource allocation, and institutional renewal, Group 2 has concluded that the university as a whole would benefit from the following: establishing a stronger connection between academic unit plans and the university strategic plan, especially with respect to the income streams, enrollment targets, and faculty recruitment; strengthening of the “top-down” and “bottom-up” approach to strategic planning; and enhancing collaborative academic programs that transcend traditional academic unit boundaries. Strategies, tactics, and assessments for implementing these recommendations are summarized in the following worksheet.

2.5.1  **Recommendations Table: Standard 2: Planning, Resource Allocation, and Institutional Renewal**

<table>
<thead>
<tr>
<th>RECOMMENDATION 1</th>
<th>Establish a stronger connection between academic unit plans and the university strategic plan, especially with respect to income streams, enrollment targets, and faculty recruitment.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VISION:</strong> The desired future for the recommendation</td>
<td>Create a shareholder community at NJIT that understands the relationship of institutional and academic planning.</td>
</tr>
</tbody>
</table>

Working Group Report: Standard 2
- **STRATEGY**: The methodology recommended to achieve the vision
  Better articulation of how objectives of academic units support specific goals of the university strategic plan.
- **TACTIC**: The specific action recommended to implement the strategy
  Cross acceptance process of articulation of strategic plan elements by academic units (department/college) and Provost.
- **ASSESSMENT**: The metric recommended to measure achievement of the vision
  Utilization of scorecards and milestone assessment reports to track progress of plan objectives by academic units.

**RECOMMENDATION 2**
**Strengthen “top-down”, “bottom-up” approach to strategic planning**

| VISION: The desired future for the recommendation | Design a management plan that allows enhanced communication across all levels of the university |
| STRATEGY: The methodology recommended to achieve the vision | Sustain participatory action of academic units and shareholders beyond plan creation to include plan implementation and renewal. |
| TACTIC: The specific action recommended to implement the strategy | Streamline data and information delivery system to increase transparency. |
| ASSESSMENT: The metric recommended to measure achievement of the vision | Use and tracking of digital, web-based reporting on strategic planning processes. |

**RECOMMENDATION 3**
**Enhance collaborative academic programs that transcend traditional academic unit boundaries.**

| VISION: The desired future for the recommendation | Design a determined plan of teaching, research, economic development, and service for in the multidisciplinary, thematic core areas of integrated research and learning in sustainable systems, life and healthcare science and engineering, and digital initiatives identified in the Strategic Plan, 2010-2014. |
| STRATEGY: The methodology recommended to achieve the vision | Create models of academic collaboration in order to realize the goals established in strategic plan on such issues as sustainability and digital everywhere, recognizing that these goals have a dramatic impact on faculty hires, teaching loads |
| TACTIC: The specific action recommended to implement the strategy | Establish interdisciplinary academic programs on selected themes generated in 2010-2015 strategic plan; revise policies to enhance team-teaching and cross-college, cross-disciplinary collaborations |
| ASSESSMENT: The metric recommended to measure achievement of the vision | Use the digital reporting system associated with the Faculty Performance Based Salary Increase Distribution System (PBSIDS) to feature and track faculty work in the thematic core areas of integrated research and learning |
References


PSA and NJIT (Professional Staff Association/American Association of University Professors and New Jersey Institute of Technology). *Faculty Separation Incentive Program.* Newark: NJIT, April 2010.
