Chapter 2 — Meeting Criterion 2 with Purpose: Preparing for the Future

Statement of Criterion: The organization's allocation of resources and its processes for evaluation and planning demonstrate its capacity to fulfill its mission, improve the quality of its education, and respond to future challenges and opportunities.

Introduction

To assure that it fulfills its mission and retains its position as a pace-setting institution of higher learning, Purdue University recognizes it must anticipate and be responsive to a rapidly changing world. The University actively engages in strategic planning to identify emerging trends and opportunities. These plans serve as the basis for developing strategic initiatives that focus the University’s energy and resources for five- to seven-year periods.

In November 2001, the Board of Trustees approved the Purdue strategic plan, The Next Level: Preeminence [1], which provided a common vision and direction for all units on campus. This plan created the framework for expansion of the campus research infrastructure, substantial growth in graduate student enrollment, faculty hiring, extramural support, and capital projects. Throughout this plan, all University units undertook an annual reallocation process to realign at least two percent of their budgets toward the strategic initiatives outlined in the plan. In addition, a capital campaign, The Campaign for Purdue, focused on providing new resources to support the strategic initiatives. The campaign, which successfully raised over $1.7 billion, enabled the expansion and renovation of facilities, supported the recruitment and retention of high-quality students and faculty, and enhanced the University’s scholarship endowments. This plan successfully concluded in June 2007.

Upon the arrival of President France A. Córdova in July 2007, the University began the process of formulating a new strategic plan. To form the basis of the new plan, white papers on selected topics were developed, with extensive participation of faculty, staff, and students. Town hall meetings were also held on campus and throughout Indiana, which provided input from a wide variety of stakeholders. Through this process, several key areas emerged as priorities for the next strategic plan. Each priority was further developed by working groups and a steering committee that included members of the University and the Lafayette-West Lafayette community. The strategic plan that emerged, New Synergies [2], was approved by the Board of Trustees in June 2008. This plan charts the strategic direction ahead, builds upon the University’s achievements in the recently completed strategic plan, and calls for resource allocation processes to accomplish the associated initiatives and goals.

As the core components of this criterion are addressed, the planning and resource allocation processes utilized during the 2001–2007 plan will be drawn upon heavily as illustrative examples because this plan was completed in its entirety during the accreditation review period. Although the planning and resource allocation processes for the 2008–2014 plan will also be cited, as appropriate, these are just getting underway as the campus embarks on the New Synergies plan.
Core Component 2a. The organization realistically prepares for a future shaped by multiple societal and economic trends.

Through its plans and actions, the University has demonstrated that it prepares for the future. Indeed, in many instances, Purdue is helping to create its own future. Several key initiatives provide evidence of this undertaking:

- The development of Discovery Park [3] was a milestone in Purdue’s endeavor to become an important contributor to the future of large-scale research. In the context of creating its 2001–2007 strategic plan, an assessment of emerging trends in science and engineering indicated that future innovations would arise largely from interdisciplinary approaches to the major problems facing society. The concept of Discovery Park was developed to address the need for an environment that encourages and supports interdisciplinary research. Centered in the southwest region of the West Lafayette campus, Discovery Park is composed of new centers and buildings fostering interdisciplinary research, wherein faculty and students focus on today’s greatest challenges. This interdisciplinary initiative was extremely important in achieving the strategic plan’s goal of doubling extramural funding for the University.

- Recognizing that resources from the state to address the increasing needs of the University were limited, the 2001–2007 strategic plan identified a substantial increase in extramural funding — from $150 to 300 million annually — as a key goal. In addition, tuition and fee increases were instituted to provide the revenue necessary to achieve the strategic plan’s learning goals.

- An environmental scan also indicated a growing concern among Purdue’s constituents that large class sizes and increasing use of graduate assistants to teach was not providing optimal education for its undergraduates. Hence, a key learning goal in the 2001–2007 strategic plan was the addition of 300 new faculty positions to reduce the student to faculty ratio and the percent of upper-level undergraduate courses taught by teaching assistants. The increase in faculty, coupled with a relatively stable student enrollment (38,208 in fall 2001 versus 39,102 in fall 2007) [4], resulted in a reduction in the student to faculty ratio, from 15.7 to 1 in 2001, to 13.8 to 1 in 2007 [5]. It also enabled an increase of primary instruction by faculty in upper-level undergraduate classes, from 85 percent (fall 2001) to 91 percent (fall 2006) [6]. This aggressive increase in faculty also enhanced the number of scholars on campus contributing to the acquisition of extramural funds through sponsored research.

- Institutional surveys and assessment of the success in recruiting faculty, staff, and students from underrepresented groups revealed that significant attention was needed in the area of campus diversity. Under the guidance of Provost Sally Mason, an action plan,向一个 mosaic for educational Equity [7], was developed to chart the course for new initiatives. In 2009, under the leadership of President Córdova, a cabinet level position, vice president for equity and chief diversity officer, was created to serve as a focal point for the University’s efforts to foster an environment of inclusiveness.
• In many of the University’s professional programs (e.g., veterinary medicine, pharmacy, and nursing), the fraction of the curriculum devoted to experiential learning has increased. The growing demand for this training within the curriculum has increased the need for instruction by qualified clinicians. In response to these changes in professional curricula, the University Senate and Board of Trustees approved an increase in the percent of total faculty on the clinical/professional track that may be appointed within select academic units [8].

• Purdue has developed a new high-performance supercomputing cluster, made up of more than 700 HP dual quad-core computers with AMD processors, which is available to researchers on the TeraGrid. The community cluster, named Coates, is paid for by a cooperative of Purdue faculty members and campus departments and is operated by Information Technology at Purdue. Coates is available for high-demand computer resource projects, from imaging the structure of viruses at an atomic level to simulating the formation of the solar system.

• The University’s commitment to campus emergency management includes a full-time emergency preparedness and planning director, and an emergency preparedness and planning office (established in 2006) [9]; a fully sworn police agency with patrol and investigative divisions; a University fire department comprised of firefighters and emergency medical technicians; mutual aid agreements with more than 850 fire departments and over 250 law enforcement agencies; and partnership with the Indiana Intelligence Fusion Center, a homeland security initiative for disseminating intelligence information on criminal and terrorist activity in the state. To ensure that the University community is well-prepared to react to emergencies, Purdue has developed an Integrated Emergency Operations Plan [10] to minimize the impacts of natural and human-caused disasters. The plan includes the Emergency Procedures Handbook of basic response guidelines, an emergency operations center handbook, a building emergency plan template, and the Purdue ALERT emergency warning notification procedures. In 2008, Purdue was awarded $435,000 from one of the first Department of Education Emergency Management in Higher Education grants to fund improvements in the University’s Integrated Emergency Operations Plan.

• The University has also demonstrated its responsiveness to the competitive environment in which it operates, both in the region and nationwide. In response to this competition, the University initiated a new scholarship program for the fall 2008 admissions cycle. It focuses on the recruitment of high-achieving students from Indiana and around the nation. The Trustees Scholarship and Presidential Scholarship provide four years of funding (ranging from $5,000 to $10,000 per year) to students based upon SAT/ACT scores and high school grade point average (GPA). This program has increased the number of high-achieving students offered admission who have matriculated to Purdue (see Table 2-1). The University has also expanded and enhanced recruitment events and communications to the highest ability prospective and admitted students, focusing on honors programs, learning communities, undergraduate research, and other engaging intellectual opportunities. The new Marquis Scholarship for Indiana residents awards up to $2,000
per year to middle-income Indiana residents whose high school credentials are in the top half of Purdue’s entering class, but who do not earn Trustee or Presidential scholarships. To substantially expand its scholarship programs and support similar initiatives, the University has launched the Access and Success campaign [10] to raise over $300 million. The University will reward student leaders from urban areas in Illinois and Indiana with a new endowed Emerging Urban Leaders Scholarship, announced in fall 2009.

Table 2-1. Number of Matriculating Students per Admission Cycle

<table>
<thead>
<tr>
<th>Academic Performance Criteria</th>
<th>Fall 2007</th>
<th>Fall 2008</th>
<th>Fall 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT &gt;1340, or ACT &gt; 30, GPA &gt;3.8</td>
<td>642</td>
<td>762</td>
<td>699</td>
</tr>
<tr>
<td>1240&lt;SAT&lt;1340 or ACT &gt;27, GPA &gt;3.8 or top 5 percent</td>
<td>538</td>
<td>610</td>
<td>300</td>
</tr>
</tbody>
</table>

Source: Office of Enrollment Management

These examples demonstrate how the University scans, analyzes, and responds to new trends that meet its mission and scope. New initiatives are then supported with resources, and those responsible are empowered to act and held accountable for appropriate outcomes.

The University’s responsiveness to the changing environment is apparent in numerous initiatives that relate directly to the New Synergies strategic plan. Recently, the Indiana Commission for Higher Education released a report recommending an increase in academic requirements for Indiana high school students and an additional elevation of academic requirements for admission to Purdue, Indiana University, and Ball State University. Working with Purdue’s academic deans and school superintendents across the state, the Office of the Provost is bringing the University’s admission standards into conformity with these recommendations, allowing time for high school counselors to properly advise college-bound students on course selection. Purdue is the first public institution in the state to require four years of high school mathematics for 2011 admissions. The synergistic effects of the highly-focused development campaign — along with the state’s move to increase high school academic requirements and the University’s desire to attract additional students with advanced academic preparation, as expressed in the current strategic plan — helps ensure that the University remains focused on societal and economic trends.
Core Component 2b. The organization’s resource base supports its educational programs and its plans for maintaining and strengthening their quality in the future.

Financial Resources

Purdue University’s first strategic plan stated as a key strategy, “to vigorously pursue financial resource development that acknowledges the importance of partnership and the interdependence of multiple funding sources” [1]. The University has successfully implemented this strategy since the strategic plan was undertaken. From FY00 through FY07:

- the endowment increased by 37 percent [12],
- extramural awards (in dollars) increased by 82 percent [13], and
- gift activity increased by 182 percent [14].

Another important goal of this strategic plan was to increase interdisciplinary research initiatives as a means of achieving preeminence in discovery. Whereas in 2000 there were seven interdisciplinary research centers on campus, in 2007 there were 49, with an increase in external funding from $7.3 million to $61.9 million [6].

What is particularly remarkable about these achievements is that they have all occurred during a period in which the share of state appropriations diminished from providing 29 percent of the University’s total budget in 1999 to only 19 percent in 2007. Looking at the two major revenue streams — tuition and fees, and state appropriations — Figure 2-1 shows that, over time, the percentage of revenue from state appropriations for the University’s general fund has been declining compared to the percentage of tuition. Also, other costs, such as healthcare expenditures, increased considerably, from $45 million to $109 million [15].

Figure 2-1. History of State Appropriations and Tuition and Fees

![Figure 2-1. History of State Appropriations and Tuition and Fees](image.png)

Source: Integrated Postsecondary Education Data System
Purdue worked aggressively to increase its resource base. While targeting fundraising and external research awards as significant sources for increased funding, the University has also generated additional money through tuition increases. An Indiana resident paid $3,724 in tuition and fees in 2000–2001; this figure grew to $7,416 in 2007–2008 [16]. This large increase in tuition and fees was necessary for the University to stay the course on its strategic goals, but, as anticipated, it has been politically controversial.

While the West Lafayette campus operating budget and resource bases are currently sufficient to support the educational programs, it is critical for the campus to continue to work toward increasing its resource base so that programs can continue to be strengthened and improved. Figure 2-2 shows the distribution of the $836 million general education revenue budget for the West Lafayette campus for fiscal year 2009. While the campus has maintained a budget that supports its strategic initiatives and program growth, Purdue is still lagging behind its peers in the Big Ten. Figure 2-3 shows that Purdue is almost 20 percent lower in state appropriation per full-time equivalent (FTE) student than the average of its public Big Ten peers and over 24 percent behind its public aspirational peers.

The Indiana Innovation Alliance was established in 2008 by Purdue University and Indiana University to strengthen the state’s assets in the biosciences and life sciences. Through this joint venture, the two universities requested the development of a new line item in the state budget at a level of $35 million per year. These funds were requested to increase core research capabilities for academic and corporate researchers; provide matching funds for large-scale research; expand bioengineering, biotechnology, medical, and pharmaceutical education in the state; and grow Purdue’s Healthcare Technical Assistance Program. In summer 2009, the Indiana General Assembly funded the Alliance at a reduced level of $5 million in the first year of the biennium budget. This allocation is designed to launch the Alliance by providing $3 million and $2 million, respectively, to Indiana University and Purdue University.
In the *New Synergies* strategic plan, Purdue again aims to increase its sponsored research funding, with the ambitious goal of doubling the amount received annually to approximately $600 million. In addition, the University will continue to present its needs to the state legislature to sustain and maintain existing programs and to support unique initiatives such as the Indiana Innovation Alliance.

Development fundraising has continued at Purdue since the successful capital campaign was completed in 2007 and the level of annual giving remains substantially higher than when the campaign began in 2001. Access and Success, the current fundraising campaign focuses primarily on student scholarships. The declining economic environment beginning in late 2008, however, may necessitate careful review of goals and strategies.

Purdue has used an innovative approach to contain healthcare expenditures. In 2006, Healthy Purdue [17] was launched, offering expanded health resources and financial incentives for faculty and staff to engage in preventive healthcare behaviors. In February 2008, 4,274 employees were participating in the Healthy Purdue initiative. Participants and non-participants are being tracked to determine whether healthcare expenditures are impacted by this widely used employee wellness program.

**Physical Resources**

In 1999 Purdue completed a major initiative to transform its appearance, making it a more pedestrian friendly, landscaped campus. Along with this significant beautification effort, space was planned to permit major building construction projects and continued University expansion. As a result of the 2000–2007 Campaign for Purdue, the University launched more than 50 capital projects, including construction of 43 new buildings. A major portion of this physical investment occurred in Discovery Park, creating outstanding facilities for the advancement of interdisciplinary research. To help maintain the University’s park-like setting, and guide future growth, in 2009, the Board of Trustees approved a master plan for the West Lafayette campus that emphasizes large green spaces throughout the campus and more pedestrian-friendly bordering streets.

Purdue has a long history of efficient use of classroom space and other instructional resources. The average scheduled classroom use in the fall semester of 2008, for example, was 37 hours, with an average station occupancy rate of 70 percent. Classrooms are also used heavily during the evening hours for examinations, student group meetings, and study sessions. Among teaching laboratories, the averages were 21.1 hours and 72 percent station occupancy.

From fall 1999 to 2007, classroom space increased from 237,025 square feet to 278,962 square feet (a 17.6 percent increase), and teaching laboratory space increased from 508,198 square feet to 565,074 square feet (an 11.2 percent increase) [18]. While these increases are meaningful, limitations in classroom capacity continue to present significant challenges for scheduling in the academic units. In addition, some of the current classroom space is in need of renovation or replacement to provide facilities that optimize the learning experience. The development of additional classroom space is viewed as an

**Earning Apples**

Purdue is experiencing the same rising healthcare costs that are being seen in the public and private sectors throughout the nation. In an effort to take a leadership role in helping employees lead healthier lives, in 2006 the University launched the Healthy Purdue program.

This program included two incentive levels and was open to both employees and spouses or same-sex domestic partners. The first level offered a financial incentive for having a health screening. The second level rewarded those who took action to improve or maintain good health with a second financial incentive. In 2009, the first incentive level was eliminated, requiring all participants to take action in order to receive the incentive.

Colored apples were assigned to six types of health behaviors and participants were required to earn or complete four colored apples to earn the second incentive. Stress reduction classes, nutrition counseling, training for a 5K, and more all helped participants earn their apples.
area of high importance across the campus and is a primary concern for the future related to this core component.

Research space has experienced the most significant growth, increasing from 1,094,786 square feet to 1,302,295 square feet (a 19 percent increase) [18]. Much of this growth in space occurred in Discovery Park and in the College of Engineering. The overall growth in space, however, has not kept pace with faculty growth and there is a pressing need for substantial renovations or space expansion, especially in the life sciences. Indeed, the primary capital construction request at present is the development of a life sciences research facility to replace a significant portion of the Lilly Hall of Life Sciences.

Learning spaces, including computer laboratories and information resources provided by University Libraries, had significant growth during the strategic plan period. In 2002 there were 226 computer laboratories on campus; by 2007 the number had grown to 335 (a 48.2 percent increase). This number reflects a greater dispersion of computer resources around campus, because the overall number of computers did not increase proportionately, from 5,236 in 2002 to 5,954 in 2007 (a 13.7 percent increase). The widespread availability of wireless Internet access on campus and student ownership of laptop computers has reduced the need for dedicated computer laboratories. A major agreement among Purdue, Cisco Systems, Verizon Business, and Verizon Wireless will give the University’s West Lafayette campus a nation-leading network. The wireless network within campus buildings will be expanded four-fold with updated, faster technology. Surrounding areas outside the buildings will be among the first in the nation to have Verizon’s fourth-generation LTE cellular network. The faster, more reliable network allows Purdue to deploy innovative technologies such as the Signals student success software, the HotSeat classroom discussion tool, and Echo360, which allows students to review faculty lectures outside of the classroom.

Expenditures for information resources within University Libraries increased significantly from 1999 to 2007 [19]. In 1999 the expenditure per FTE student was $155.53 and in 2007 it had grown to $283.79. The total library expenditures increased from $14,265,362 in 1999 to $24,904,421 in 2007. Purdue Libraries are challenged each year to meet an inflation rate of nearly eight percent in the cost of information resources.

During the past ten years, the state of Indiana has been unable to allocate the necessary funds to renovate and maintain campus facilities. It was estimated that Purdue in 2007 had about $437.9 million in deferred maintenance, up from $358.1 million in 2001 [6]. To help address this, in 2006 the University implemented a student fee to supplement state repair and rehabilitation support. A challenge facing the University is sustaining both the new buildings constructed during the recently completed strategic plan and the older physical facilities whose maintenance costs continue to escalate. Insufficient funding for repair and rehabilitation continues to be a major concern in the recent economic downturn and remains a high priority in the New Synergies strategic plan.
**Human Resources**

Recruiting and retaining a world-class faculty is a key strategy for strengthening Purdue’s educational programs. Between 2000 and 2008:

- Three hundred new tenured/tenure track and clinical/professional faculty positions were created.
- The number of faculty receiving prestigious awards or memberships in national academies increased by 37 percent.
- The number of named and distinguished professorships more than doubled (from 69 to 149) [20].

As the bulleted items indicate, the University has made excellent progress in recruiting talented faculty. The expansion of named chairs and professorships has enhanced the ability to recruit and retain these faculty members. Between 2000 and 2008, the Office of the Provost invested almost $5 million in faculty development. Funds have been expended to recognize and reward outstanding classroom teaching, efforts in service-learning, and instructional innovation. Funds are also available to encourage and help prepare outstanding faculty for administrative leadership appointments. In addition, to retain mid-career faculty who are highly marketable, Purdue’s Faculty Scholars Program (funded jointly by the Office of the Provost and the academic colleges) provides five years of support ($10,000/year) for faculty who are outstanding in their academic areas [21].

An innovative program, Faculty Fellowships for Study in a Second Discipline, supports multitalented faculty members who wish to extend their scholarship to an area of study that complements their current area of expertise [22]. Support is provided by the Office of the Provost for a semester or an academic year, and the home department is compensated for the loss of instruction.

Professional development programs are significant assets in retaining an excellent faculty. Compensation is another important factor. In 2000, Purdue established a goal of achieving faculty salary parity with a selected peer group at comparable institutions. While salaries were increased each year until 2009–2010, the gap between Purdue salaries and those at its peer institutions has not yet been bridged. For example, as shown in Figure 2-4, in FY01, Purdue’s average faculty salary was eight percent below the peer institutions’ mean. By FY08, although Purdue faculty salaries had increased, on average, by nearly $19,000, the peer average increased by almost $22,000. Increasing faculty compensation remains an important goal for the University that will be addressed in the new planning efforts.
During the 2001–2007 strategic plan, the number of faculty overall increased by 17.7 percent, tenure track faculty increased by 10.6 percent, administrative and professional staff increased by 18.7 percent, and the clerical/service staff declined slightly (-3.5 percent) [23], as shown in Figure 2-5. The number of graduate assistants increased by 14.7 percent [23]. In 2005 a new classification, research faculty, was created to address the changing research environment and to meet the need to increase and expand research initiatives [24]. By spring 2009, there were 32 research faculty [25]. To ensure that staffing levels are appropriate going forward, President Córdova authorized a University-wide assessment to identify both duplication of services between units and areas of efficiency. Identification of these efficiencies will be an important component in the process of aligning resources for the new strategic plan.

Purdue will continue to improve the quality of its faculty and staff and their work environment. The University has restructured its human resources activities, in part by elevating oversight through the creation of a vice president for human resources position. Purdue’s strategic plan for 2008–2014, New Synergies, identifies faculty and staff development as a key investment area. As a part of the strategic plan, the University will continue to aggres-
sively recruit talented faculty and staff, and retain them through professional development programs and career advancement opportunities. Purdue plans to increase the number of endowed professorships; nominate faculty for significant national awards and honors; offer more competitive compensation to faculty, staff, and graduate student employees; and implement a campus-wide system for staff promotions. The University will continue to provide flexible benefits and will expand current offerings, such as the recently implemented parental leave policy [26].

In retrospect, it is apparent that while the University was very successful in achieving the goals of its 2001–2007 strategic plan, other issues arose that were not addressed by the specific plan initiatives. The University is exercising sound principles of continuous quality improvement as it now looks at facets of its operation that may have been affected by the success of the previous decade of growth and enhancement. These processes are explained in greater detail in the following section. For example, the new strategic plan's focus on student success, creating a more global outlook on campus, and providing synergies are all results of assessment, analysis, and targeted action.

Core Component 2c. The organization’s ongoing evaluation and assessment processes provide reliable evidence of institutional effectiveness that clearly informs strategies for continuous improvement.

Purdue’s strategic plan ensures its continuous improvement through planning, execution, and assessment, which is used as a tool for improving the educational experience. At Purdue, this process begins with individual student assessment and extends to the University’s institutional self-study and external review by the Higher Learning Commission.

Assessing Purdue’s Progress through its First Strategic Planning Process

At the onset of the strategic planning process in 2000, a task force was convened to outline goals the University wanted to achieve, how those goals would be achieved, and what assessment tools would be used to measure success. The Board of Trustees was an active partner in developing and assessing the strategic plan. A formal annual report was initiated in which the president of the University presented the trustees with the status of the strategic plan. Each report was organized into three parts: “The President’s Report,” which provided a summary of progress to date; an executive summary, “Progress on the Strategic Plan;” and a detailed status report, “Benchmarks and Metrics Report.” This annual report was also communicated and disseminated across the campus and made available to the public [6]. This scorecard of benchmarks and metrics allowed for continual tracking and monitoring of progress towards strategic plan goals and mission objectives. After three years, a mid-course adjustment modified the goals of the strategic plan. (This adjustment will be discussed further in Core Component 2d.) Purdue’s planning and budgeting processes also evolved during the strategic plan period to continually assess and benchmark against a set of peer institutions, chosen to be aspirational in nature, to push the University to strive for preeminence in its academic and research endeavors.
Publicly presented governance reports to the Board of Trustees, given throughout the year, focus on highlights and progress regarding specific University goals and initiatives. The governance/progress reports are discussed as a regular part of the board agenda and within appropriate board committees. Governance/progress reports include the following data and activities:

- faculty and staff compensation
- tuition and fees
- campus master planning and physical facilities
- student enrollment, retention, and graduation
- conceptual and final operating budgets
- private giving
- athletics
- diversity
- sponsored programs
- engagement activities
- academic program review and accreditation, and
- student financial aid

Copies of sample governance/progress reports are included in the resource room.

The executive director of strategic planning and assessment and the Office of Institutional Research take the lead role in collecting and analyzing information. The metrics data are collected annually by a formal process with participation of all the colleges/schools.

In addition to an annual report to the Board of Trustees, the president and other University leaders also share the progress on the strategic plan with the University, the community, and the state through a multitude of venues. A Web site is dedicated to the strategic plan, with links to the University’s homepage, the president’s homepage, and the page for the Office of Institutional Research. Several newspapers periodically report on the progress of the University’s strategic plan. The president also travels around the state of Indiana to seek feedback on how the strategic plan has been received by the communities and counties, and to gather input on future goals to pursue.

Other opportunities to provide data and elicit feedback occur at leadership retreats, held by the president and the provost; President’s Forums, held at the University for faculty and staff; and the provost’s Academic Leadership Forums for deans, department heads, and other campus leaders. Incoming freshmen and graduating seniors are surveyed to determine whether or not the University is achieving specific objectives. Faculty are also periodically surveyed. In addition, the Office of the Provost, in collaboration with the Office of the Vice President of
Ethics and Compliance, conducts an annual analysis of faculty demographics, including racial and gender diversity and tenure rates. The surveys conducted include the following:

- Higher Education Research Institute (HERI) Faculty Survey, HERI College Student Survey, HERI Cooperative Institutional Research Program Freshman Survey, and HERI Your First College Year Survey;
- Campus Climate Survey;
- University Senate Faculty Survey;
- Graduating Students Learning Outcomes Survey;
- National Survey of Student Engagement; and
- Student Importance and Satisfaction Survey.

Creating Change at the College Level

In conjunction with University-level strategic planning, individual colleges and other major campus units were asked to develop their own strategic plans that integrate with, and help accomplish the University’s plan. One example of gathering feedback and creating a plan to implement change is the initiative for restructuring the curriculum in the College of Science. In 2004 the college created a task force to evaluate its curriculum and develop a plan, seeking input from its faculty, department heads, students, employers of the students, alumni, corporate partners, and the Dean’s Leadership Council. The objectives for the task force were:

- reassessment of the goals of undergraduate education in the College of Science, with a focus on the core elements important for all majors in the college (desired outcomes);
- recruitment and retention of qualified undergraduate students in the college, with attention to providing access to a science education in a climate that is diverse and accepting; and
- development of strategies to address these issues and desired outcomes.

As a result, the task force identified six important learning outcomes for College of Science undergraduates, proposed new curricular and co-curricular models to meet those outcomes, and developed strategies for assessment. In 2007 the new curriculum was officially adopted by a faculty vote and went into effect. Assessment of the new curriculum is ongoing, and evaluation of the changes can be accomplished as the first student cohort nears completion.

Each college regularly maintains data and undertakes analyses for self-assessment and professional accreditation, and reports to the provost regarding the quality of undergraduate, graduate, and professional program admissions. External reviewers evaluate academic programs approximately every six years. Each review begins as a self-study, which is reviewed prior to and during the site visit. The reviews normally describe the intellectual coherence and quality of the curricula, achievement of student outcomes, and the relevance and quality of faculty research. Executive summaries of all external reviews are compiled annually in the form of a governance report to the Board of Trustees.
In addition to the formal accreditation reviews, some colleges undertake a comprehensive self-assessment of their college and the academic units within it. For example, in spring 2003, as part of a comprehensive self-assessment project, the College of Engineering commissioned Lipman Hearne, Inc. [27] to survey key constituents. The objectives were to:

- identify features and attributes associated with premier engineering schools,
- assess the performance of Purdue and the benchmark universities on these features and attributes,
- determine the image and reputation of Purdue and the benchmark universities relative to expectations of a preeminent college of engineering, and
- identify strategies to influence opinions of and attitudes toward Purdue’s schools of engineering.

Also in 2003, the College of Engineering implemented a program of self-analysis and assessment within each of its 14 schools. Each school conducted a comprehensive self-study and submitted it to an external review committee comprised of faculty from other peer research institutions. The review committee conducted a site visit in the College of Engineering, met with its stakeholders, and compiled a report. The report was shared with the faculty, students, and alumni, and was ultimately used to develop a roadmap addressing challenges and improving each school.

Further evidence of ongoing programmatic evaluation is the 2003 commissioning of The Washington Advisory Group, a science and technology consulting company, to assess the University’s state of research and the issues affecting it. This group made a number of assessments and recommendations to help Purdue raise the level of its science and engineering research. Many of their recommendations were implemented, resulting in a significant increase in federal research funding (from $190.3 million in 2001–2002 to $292.2 million in 2006–2007) [13], an increase in the number of named and distinguished professors (from 69 in 2001 to 149 in 2007) [20], and the major increase in research space through the creation of Discovery Park, described earlier.

Purdue’s 2001–2007 strategic plan was used as a tool to identify its strengths and weaknesses and then develop a roadmap to achieve new objectives. To facilitate the process of strategic planning, evaluation, and assessment, the University created the position of the director of strategic planning and assessment and the Office of Institutional Research. The Office of the Provost augmented its staff with a director for learning assessment. Additionally, some of the colleges have appointed assistant or associate deans to oversee learning outcome and assessment activities. A Student Learning Outcomes Assessment Workgroup (SLOAW) was formed with the goal of creating an ongoing process for improving student learning at both graduate and undergraduate levels, while engaging faculty from every program and major in the process. Additionally, Purdue joined the Higher Learning Commission’s Academy for Assessment of Student Learning in 2007. These initiatives are outlined further in Chapter 3.
Recently, a new tool was developed to identify progress and highlight areas in need of focused attention in the *New Synergies* strategic plan. The Strategic Plan Dashboard assigns each identified benchmark with a green, red, or yellow light to assess progress:

- **Red** – areas needing focused attention to move toward the goal
- **Green** – on target for achieving the metric goal
- **Yellow** – the area needs measured attention to assure continued progress [28].

To assure appropriate, focused attention on all elements of the strategic plan, President Córdova created a new, senior advisor position. This position was filled in 2008 by former U.S. ambassador Carolyn Curiel, who serves as the president's chief of staff and oversees implementation of the strategic plan and identification of parties responsible for various components of the plan.

The University's *New Synergies* strategic plan is another example of the value Purdue places, at the institutional level, on continuous improvement processes. A detailed metrics document will be created in conjunction with the strategic plan's implementation effort. This document, in and of itself, is an example of continuous improvement in that the University has identified areas of responsibility, sources of data and other information, and areas responsible for collecting data in more than 70 strategy areas that will be used in fulfilling the overall plan. In addition, there are benchmarking definitions, so that the University can readily identify direct comparisons and targets, and measure its progress.

Purdue has a history of comparison, not only with the Big Ten public institutions, but also with its aspirational peers [2]. Using benchmarking to guide the University's future keeps it focused on its goals, while allowing the creativity to distinguish itself from its peers.

Finally, a new Provost Fellow’s Program [29] has been launched in conjunction with the *New Synergies* plan. Faculty can apply for a half-time position within the Office of the Provost to focus on one of the key areas of the strategic plan, such as student success, faculty development, or research integrity. In addition to leadership training and mentoring afforded to faculty fellows, this program provides opportunities for the Purdue community to benefit from faculty expertise in many of these strategic areas related to the new plan. The first class of four fellows was appointed in spring 2009.

**Core Component 2d. All levels of planning align with the organization’s mission, thereby enhancing its capacity to fulfill that mission.**

The University’s strategic planning has allowed Purdue to take major steps forward in integrating planning and budgeting with the institution's mission and vision. From the beginning, strategic plans have defined funding targets for the major operational and program areas. The annual planning and budgeting process established from 2001 forward required all the president's direct reports to provide recommendations for elements of at least a two percent reallocation. This mandatory process required areas to identify, by source/purpose and destination/purpose, budget line items to be reallocated. The minimum target was to achieve at least two percent reallocation of each unit's general fund base budget. In addition, this annual process allowed units to request allocations of new monies for their respective areas, commensurate with the priorities of the overall University strategic plan. Each area was asked to delineate the relationship of requested items with the strategic plan and the extent of existing or real-
located funds that the units would target to these needs. This process established a very clear link between funding and the goals of the strategic plan.

Evidence of this linkage can be found in the annual budget governance report that summarizes the resulting programmatic allocations and reallocations by strategic plan goals. Outside of mandatory costs to fund repair and rehabilitation, fuels and utilities, plant expansion, insurance, and other expenses, all allocations were tied to specific strategic plan goals, as illustrated in Table 2-2. Specific initiatives were identified under each goal for funding allocation and tracking progress.

**Table 2-2. Budget Allocations by Category, 2001–2008**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Mandatory/Unavoidable Costs</td>
<td>1,952,049</td>
<td>1,690,955</td>
<td>4,045,214</td>
<td>3,114,768</td>
<td>6,277,794</td>
<td>7,216,414</td>
<td>6,309,443</td>
<td>30,606,637</td>
</tr>
<tr>
<td>Debt Service</td>
<td>3,411,970</td>
<td>36,948</td>
<td>(3,117,677)</td>
<td>(3,639,422)</td>
<td>(25,518)</td>
<td>3,313,997</td>
<td>3,007,556</td>
<td>2,987,854</td>
</tr>
<tr>
<td>Strategic Plan Initiatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Compensation Increases and Benefits</td>
<td>16,577,104</td>
<td>16,204,685</td>
<td>16,466,483</td>
<td>15,608,195</td>
<td>17,039,413</td>
<td>14,238,589</td>
<td>23,385,603</td>
<td>119,520,072</td>
</tr>
<tr>
<td>Overarching Initiatives</td>
<td>7,488,186</td>
<td>10,466,500</td>
<td>7,093,925</td>
<td>14,675,290</td>
<td>8,953,715</td>
<td>13,445,377</td>
<td>11,648,201</td>
<td>73,791,194</td>
</tr>
<tr>
<td>Goal 1 - Discovery</td>
<td>2,794,335</td>
<td>2,765,502</td>
<td>9,709,405</td>
<td>9,582,965</td>
<td>4,327,111</td>
<td>6,208,117</td>
<td>8,595,489</td>
<td>43,978,724</td>
</tr>
<tr>
<td>Goal 2 - Learning</td>
<td>3,724,335</td>
<td>6,032,222</td>
<td>13,053,510</td>
<td>10,364,823</td>
<td>8,351,456</td>
<td>7,578,366</td>
<td>6,310,729</td>
<td>55,415,441</td>
</tr>
<tr>
<td>Goal 3 - Engagement</td>
<td>17,500</td>
<td>200,000</td>
<td>250,000</td>
<td>1,973,158</td>
<td>1,006,259</td>
<td>2,350,214</td>
<td>1,433,556</td>
<td>7,230,687</td>
</tr>
<tr>
<td>Total Strategic Plan Initiatives</td>
<td>30,601,460</td>
<td>35,688,909</td>
<td>46,573,323</td>
<td>52,204,431</td>
<td>39,673,754</td>
<td>43,820,663</td>
<td>51,373,578</td>
<td>299,936,118</td>
</tr>
<tr>
<td>GRAND TOTAL ALLOCATIONS</td>
<td>35,965,679</td>
<td>37,416,812</td>
<td>47,500,860</td>
<td>51,679,777</td>
<td>45,926,030</td>
<td>54,351,074</td>
<td>60,690,577</td>
<td>333,530,609</td>
</tr>
</tbody>
</table>

Source: Office of Budget and Fiscal Planning

While the 2001–2007 strategic plan was established with clearly defined goals and financial targets, it was flexible to changing environments and allowed for the reprioritization of goals and resources. While the plan held fast to the goals of learning, discovery, and engagement, including overarching aspects, it also provided for a mid-course correction for the following reasons:

- administrative computing applications needed system-wide modernization,
- repair and rehabilitation (R&R) of existing buildings needed accelerated attention (a challenge exacerbated by reductions in state funding), and
- the early success of The Campaign for Purdue allowed for an increase in the campaign goal and corresponding expansion of the strategic plan initiatives.

Evidence of these new target areas can be found in the annual governance reports that summarize the resulting programmatic allocations and reallocations into these new strategic plan goals. To address the R&R needs, allocations were made to increase the recurring annual support starting in 2004–2005. In 2006–2007 an R&R fee was implemented for all new University students. To address administrative computing applications, the OnePurdue enterprise resource planning project [30] was initiated in February 2005 to reengineer the various operational processes and systems used throughout the University.

The annual reallocation process within colleges also provided a means to realign resources within a unit to support opportunities not envisioned when the University and unit strategic plans were initially developed. For example, in December 2006, the School of Pharmacy and Pharmaceutical Sciences received a $25 million grant from the Lilly Endowment to support
several new initiatives. To leverage this opportunity, during the annual reallocation process, several strategic plan faculty positions allocated to the College of Pharmacy, Nursing, and Health Sciences were internally realigned to support these initiatives. This enabled a late-stream adjustment of priorities in response to the changing environment and to capitalize on this unanticipated opportunity.

As the University completed development of its second major strategic plan in 2008, individual colleges and other units were expected to complete their own strategic plans, with each unit identifying appropriate benchmarks and peer institutions for comparison. (Copies of previous and current plans are available in the resource room.)

**Summary of Evidence**

Over the past decade, Purdue has embraced two major strategic planning efforts which have resulted in closely tying resources to mission areas, improving the quality of education, and positioning the University for the future. Major initiatives that provide evidence of Purdue’s anticipating future societal and economic trends include the creation of Discovery Park, increasing the proportion of undergraduate courses taught by permanent faculty, improving campus diversity, and creating new scholarships to attract and support high-achieving students. Purdue is the first institution in the state to require four years of high school mathematics in support of Indiana’s initiative to increase high school academic requirements.

Aggressively increasing the resource base has been vital to the University’s planning goals. This has been done through extraordinarily successful fundraising activities, significantly increasing sponsored research funding, raising tuition and fees, and working with the state to fully support its goals for higher education. Annual internal budget reallocations ensured that funds were available for the strategic plan initiatives designed to meet the goals of discovery, learning, and engagement. These resources have been used to make investments which resulted in the addition of new faculty, construction of a number of new buildings, upgrading of campus infrastructure, continued student support through improved programming, and increased student financial aid. Throughout the implementation of both plans, it has been important to evaluate progress the University has made and to identify additional needs. Evidence of the use of assessment during the first strategic plan demonstrates how Purdue improved institutional effectiveness to address a changing environment. Mid-course adjustments were made to modernize system-wide administrative computing applications, to address the repair and rehabilitation of existing buildings, and to increase the fundraising goal for The Campaign for Purdue. Organizational changes and restructuring were undertaken to improve efficiencies and to exercise continuous quality improvement. This has been a particularly important emphasis during the implementation of the current strategic plan.

These planning efforts have allowed the University to build capacity to fulfill its mission by improving human, financial, and physical resources. The University has made significant progress toward effectively using resources, building capacity, and improving the quality of education for current and future students.
Challenges and Opportunities

While Purdue believes itself to be in full compliance with the provisions outlined in the four core components of Criterion 2, its analysis has brought into clearer focus several areas of concern for future attention:

• meeting multiple demands on financial resources in an era of reduced state appropriations and strong external resistance to significant increases in tuition and fees;
• reducing the salary gap between faculty members at Purdue and those at peer institutions;
• addressing challenges facing the University in sustaining new buildings, maintaining older buildings, and expanding classroom space; and
• developing new life science research space and enhancing existing space, due in part to the significant aging and associated deterioration of one of Purdue’s historic facilities, Lilly Hall.
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