

STANDARD TWO: PLANNING AND EVALUATION

Planning and evaluation at WPI are conducted at three interrelated levels: strategic (multiyear), annual and short-range (monthly).

Strategic Planning (Multiyear and Campus-wide)

When Professor Edward Alton Parrish became WPI's 14th president in 1995, one of his major objectives was to involve the WPI community extensively in the framing of a new strategic vision and plan for the next decade. He envisioned a multiyear process in which faculty, students and staff would take a 360-degree view of WPI's current position and potential future positions relative to other technological universities. The goal was to determine how the University's current strengths could lead to sustained advantages, and which new strengths should be developed. Since then, new resources, from the annual operating budget and from a new \$150 million capital campaign, have been committed to support the objectives that resulted from this planning effort. To measure progress toward the strategic goals, President Parrish established an annual review process involving the five vice presidential offices. The results of this review are available to the WPI community at <http://www.wpi.edu/Stratplan/>.

Professor John F. Carney III joined WPI as provost and vice president of academic affairs in summer 1996. In the fall of the 1996-97 academic year, the Strategic Plan Steering Committee (SPSC) was formed to oversee the process by which WPI would formulate a plan for the next decade. SPSC was comprised of faculty, senior administration, professional staff and students. In this effort, 13 task forces (involving more than 60 people) were formed to study the University's strengths and weaknesses, to identify opportunities and threats, and to recommend appropriate activities. In April 1997, SPSC produced a report, "Realizing our Ambitions" (*), which summarized its findings, which were derived from the various documents produced by the task forces. On May 1, 1997, SPSC made a presentation to the faculty that was endorsed by a three-to-one majority. Staff members and students endorsed the presentation at other open meetings.

In the fall of the 1997-98 academic year, the Planning and Implementation Committee (PIC) was formed to continue this effort. Also comprised of faculty, administration, staff and students, PIC was charged with completing the planning process by framing goals that the WPI community could commit to pursuing. On Sept. 17, 1998, PIC distributed a report titled, "Proposed Strategic Plan Implementation," for consideration by the WPI community. PIC subsequently modified the report in response to recommendations received from various faculty governance committees. The revised report was presented to the WPI community on Nov. 2, 1998. The community was given the opportunity to help prioritize the proposed goals and strategic initiatives by taking part

in a Web-based preference-polling process. Using the resulting information, PIC again revised the document; on Dec. 3, 1998, it presented its final recommendations to the faculty, which endorsed them by a five-to-one majority.

During the 1998-99 academic year, President Parrish, who had closely followed the developing community consensus on future directions, synthesized, with the help of the President's Cabinet, the two years of planning work into an action plan titled "New Vision, New Ideas, New Resources: An Ambitious Plan to Raise the University to New Levels of Quality and Prestige, FY2000 to FY 2010 [September 1999]." (The text of this document is included as Appendix 2; other materials may be found at <http://www.wpi.edu/Stratplan/>.) (*) (@) The WPI Board of Trustees endorsed the planning process, generally, and "New Vision, New Ideas, New Resources," specifically, as the action plan at February 1999 meeting. The executive summary of this crucial planning document reads as follows:

WPI was founded in 1865 on the principle of integrating theory and practice, an idea that has contributed to the institution's success and to that of its graduates. This philosophy is embodied in a revolutionary approach to technological education that the faculty developed three decades ago. The underlying curriculum, along with a pioneering global projects program, has helped WPI achieve recognition as a national university. This national university status is also a result of the addition and continual growth of our graduate research programs, which have moved the University into the Doctoral Universities II classification as defined by the Carnegie Foundation for the Advancement of Teaching.

WPI's growing reputation has opened a timely window of opportunity. By building on our strengths and our heritage of innovation, we can achieve even greater levels of quality and prestige. Toward that end, WPI, in 1996, launched a comprehensive strategic planning process that involved the dedicated work of many members of the WPI family. The products of that effort are this strategic plan and, more important, the strategic thinking behind it.

Our overarching goal is to prepare technological humanists in the engineering, science, and management of technology fields for success in life and in their lifework. Reaching this goal depends upon the definition and attainment of specific educational outcomes in each of our programs, including three principal outcomes: a thorough knowledge of fundamentals with the necessary disciplinary depth; the leadership and communication skills needed to contribute to and benefit from society; and an ability for sustainable lifelong learning. We will realize these outcomes by building on our legacy of individualized programs of study employing project-based education in a global, societal context. Where appropriate, this pedagogy also will be applied in our graduate programs.

The achievement of this overarching goal is linked to the realization of our vision of WPI in 2010 as a world leader among technological universities. In this vision, a WPI education, with the collaboration it fosters between all students and faculty, will serve as the model for a new "liberal education" well into the new millennium. This vision requires the entire WPI community to commit itself to the highest standards in academics and scholarship. Just as important, we must recognize and embrace the need for doing things

differently as most credible evidence suggests that the rate of change in our external and internal environments will only accelerate in the years ahead. Recognizing the strategic importance of this requirement, we have incorporated critical transformational changes into the performance measures.

Our strategic initiatives and increased attention to marketing efforts are intended to achieve long-overdue recognition for WPI's position as a national university. Foremost among our initiatives are the following:

We will raise **the faculty-student ratio** by adding at least 20 new faculty positions to enhance our academic and research programs.

We will **nurture research and scholarship** by selecting future faculty members whose expertise lies within specific interdisciplinary thrust [research] areas as well as management of technology and the humanities and arts. Endowed chairs will be a major focal point for future activities. Further, we will increase support for undergraduate and graduate student participation in research programs. Finally, we will aggressively seek exceptional undergraduate and graduate students, and substantially increase our endowment for merit and need-based financial aid.

We will **enhance WPI's undergraduate and graduate academic programs**, developing them around an "honors college" metaphor at all levels, exposing all students to the rare community that is supportive of tutorial interactions between students and faculty in a global setting. This will require that the first-year experience be improved and made an integral part of the project-based curriculum and that the Interactive Qualifying Project become a defining experience for all undergraduate students. In addition, we will increase the presence of our humanities and arts programs in keeping with our commitment to prepare graduates for fulfilling lives. Finally, we will expand opportunities for all students and faculty in our global program and increase our distance learning and adult education activities, with special outreach to our alumni.

We will **increase financial support to the library** so that resources, services, and facilities may be improved to a level consistent with our academic and research aspirations.

We will obtain and provide funding necessary to **support contemporary information technology** resources, management, and services consistent with full exploitation of our Internet2 capabilities.

We will construct a **campus center** to open during the 2000-01 academic year. In addition, we will develop plans and seek funding for a new academic building and associated parking garage, culminating in additional green space on the Quad. As entities move into new facilities, we will renovate vacated space to meet other academic and research needs.

We will increase our commitment to provide **exceptional educational programs for practicing professionals and corporations**. New facilities will be constructed on campus to augment offerings at our satellite locations to meet the strong demand for seminars and graduate courses created by the pace of technological change.

We will **enhance our diversity and expand our community**. In particular, we will actively recruit minorities and women to our faculty, staff, and student body. Furthermore, we will enhance our efforts to contribute to the local community through the opening of a Worcester Community Project Center.

To achieve our goals and objectives, will seek to raise \$150 million by June 30, 2003, through a **major capital campaign**. The *Campaign for WPI* is directed at obtaining support for people, programs, partnerships, and the physical plant. These new resources will be the foundation for achieving our vision as a world leader in technological higher education.

WPI's commitment going forward is to monitor the numerous outcome objectives associated with the goals of the strategic plan according to a clear and well-defined set of metrics and timelines. We will review progress toward the plan annually and, as necessary, modify the action items in light of real-world changes. We also acknowledge that the University does not have the resources to undertake all of the actions set forth in the plan at once. We will review our progress against the plan on an annual basis to adjust priorities and to develop means to obtain needed resources or reallocate existing resources.

In spring 2000 President Parrish made available a Web site he designed that, as indicated above, "monitor[s] the numerous outcome objectives associated with the goals of the strategic plan according to a clear and well-defined set of metrics and timelines." The most recent version of that tracking document is presented as Appendix 3; updated versions appear regularly on the Strategic Planning Web site. In addition, reports of progress on fulfilling strategic plan goals are presented regularly to the Board of Trustees (*); the most recent presentation was at the Annual Meeting of the Corporation in May 2001.

Annual and Short-range Planning

University Level

The president oversees annual budgetary planning and program implementation, meeting regularly for these purposes with his Cabinet (the vice presidents for academic affairs, administration, development and university relations, information technology, and student affairs, and their senior associates.) This current budget becomes the first year in the updated five-year budget model, which provides useful trends.

Annual planning is, in part, structured by the process of preparing the annual budget, which the president submits to the Board of Trustees each spring for the following fiscal year (beginning July 1). Vice presidents are responsible for preparing and updating a five-year budget model and for presenting a detailed annual budget for the following year. Work begins early in each academic year on next year's budget, with budget managers reviewing their current budgets and framing requests for new resources. Highest priorities for volume changes are assigned to initiatives supporting the strategic plan. During the winter, each vice president consolidates and reviews continuing and new budget requests and determines which will be considered at the Cabinet level. Requests may be submitted for action the following year or during years two

through five. The Cabinet negotiates the final budget, which is submitted to the Board of Trustees for approval in aggregate in February and in detail in May.

The controller and the budget director scrutinize budget commitments, revenues and expenditures. They are reported quarterly to the Cabinet and the faculty Committee on Administrative and Financial Policy, with adjustments taken to control expenses as needed to ensure that the University finishes each fiscal year with a balanced budget. The budgeting process has been effective, as can be seen in the following table, which presents operating results (balances in the black) for the last five years:

Fiscal year	Operating Results
2000	\$ 5,847
1999	\$25,078
1998	\$16,714
1997	\$14,781
1996	\$14,213

Audited annual reports (*) for the last five years are also available to illustrate WPI's discipline of balanced budgeting. Further, as indicated in the strategic plan, the audited reports are used to summarize operating ratio trends; this information is distributed by the president to the Cabinet, academic department heads, and the Committee on Administrative and Financial Policy (most recently in May 2001).

Working within the constraints of the annual budget, vice presidents and senior managers oversee their programs and periodically discuss progress at Cabinet meetings. Virtually every issue that confronts a university community is, sooner or later, dealt with at a Cabinet meeting. Meetings, held at the pleasure of the president, typically occur at least every other week, except during the summer. Longer sessions on specific strategic issues are called occasionally, and an annual multi-day retreat is scheduled each summer. Other members of the community are invited to provide input or share concerns, as needed.

Divisional Level

Academic Affairs

ANNUAL

Planning for curriculum and pedagogy originates with the faculty of the relevant department or program. Planning usually begins with considering how the academic mission and associated learning objectives derive from the University's overall mission and goal statements. (For most WPI departments, statements of mission, objectives and outcomes appear at the beginning of their program description in the *Undergraduate Catalog*.)

Faculty proposes to create, modify or delete programs, degree requirements or courses according to their professional judgment, as teachers and scholars, as to what curricular changes are desirable. Proposals are discussed first within the originating department, and then are sent to the campus-wide undergraduate Committee on Academic Operations (CAO) or Committee on Graduate Studies and Research (CGSR). The relevant committee reviews such issues as to required resources, adequacy of course description, adherence to university-wide policy, impact on other departments, and issues in the Projects and Registrar's Office. Once a proposed curricular change is voted out of the appropriate committee, that committee presents it to the faculty as a whole for a vote at a monthly faculty meeting.

The provost coordinates the yearlong planning cycle within and among departments. Essential tools in the process are the annual departmental reports (*). Prepared by each department, the reports discuss achievements and progress towards departmental goals. Retreats are scheduled as needed for longer discussions among the relevant academic leaders.

WPI is committed to measuring learning outcomes and using those results for programmatic improvement. Standard 4 describes WPI's ongoing assessment of how well departments and programs create learning environments that enable students to achieve academic goals and associated learning objectives. The faculty evaluates administrators on a regular cycle, using a faculty-approved process and a standard form, "Faculty Evaluation of Administrative Offices by Function." (*)

MONTHLY

The provost meets monthly (except during the summer) with all academic department and program heads and with senior staff from various divisions to discuss appropriate issues. The meetings are structured to allow for considerable discussion and cross-functional interactions, permitting the resolution of many operational and managerial issues. Detailed minutes of these meetings (*) are distributed electronically to the WPI community. The provost also schedules meetings regularly with just the academic program heads for more in-depth discussions of academic issues. Academic departments meet regularly to discuss and resolve issues important to their faculties. The provost also meets regularly with his immediate staff: the associate and assistant provosts and the director of academic operations.

Administration

ANNUAL

The Administration Division holds an annual retreat for the vice president of administration, director of physical plant, budget director, controller, associate treasurer, director of human resources, events coordinator, Campus Police chief and director of administrative services. Long-range goals are discussed and prioritized. Each of these senior managers, in turn, holds a separate retreat for his or her department to set, review and update departmental goals.

Long-range planning for Physical Plant takes place within a five-year planning window to mirror the strategic budget process of the University. A capital plan encompasses all the major construction projects envisioned into the future, as well as planning for annual expenditures on repair, replacement and renewal of existing facilities. Annual expenditures are planned on a year-

to-year basis through the input of various University departments. Plant Services maintains a five-year deferred maintenance plan to identify and address infrastructure needing immediate attention. The current plan has 24 categories, including roofs, floors, walls, HVAC and electrical. Identified projects are prioritized over the five-year planning period and reviewed annually.

Oversight for facilities is provided by the board's Physical Facilities Committee, which meets at least six times each year—frequently meeting more often, as needs require. The trustees actively participate in the planning of major capital projects and the review of the five-year deferred maintenance plan, and act as the recommending body to the full board for all facility issues.

MONTHLY

The vice president of administration holds weekly meetings with his senior staff members to review current areas of concern and to monitor the implementation of the long-range plans. Each senior staff member then disseminates this information to his or her staff members through weekly or monthly staff meetings.

With respect to WPI finances, the Administration Division is closely involved in quarterly meetings with the Board of Trustees. The board's Budget and Finance Committee is fully informed on all budgetary and fiscal affairs of the University. This committee reviews the proposed operating and capital budgets to ensure that they properly implement the approved strategic plan and priorities of WPI. The Investment Committee monitors the nature and risk of WPI investments. The Audit Committee approves the engagement of external auditors to examine the accounts, fiscal controls and management practices of WPI.

The Business Office also prepares quarterly reports for review by the Cabinet and the faculty Finance and Administrative Policy Committee, summarizing activity and budget variances.

Day-to-day maintenance of the campus is controlled through a work management system, which became active on January 1, 2000. The Maximo system replaces several independent systems. The new system has the capacity to integrate all of the earlier stand-alone data systems. It integrates and allows for the exchange of data from inventory control, project management, work-order control and preventive maintenance. In addition, it supports a user feedback loop concerning quality and timeliness of service.

Development and University Relations

ANNUAL

The senior staff of the Development and University Relations Division develops longer-term plans and strategies during annual retreats. Under the direction of the vice president, the staff sets critical objectives and timetables for the year. At recent retreats, the staff developed strategies to successfully meet the \$150 million goal of the current capital campaign by June 30, 2003, and discussed new strategies for the marketing the University. Typically, the following staff members attend the annual senior staff retreats: the vice president for development and university relations, the executive directors of corporate and foundation relations and of development operations and research, and the directors of advancement services, alumni affairs, annual giving, the campaign, communications, corporate relations, development, development

research, government relations and external affairs, media relations, and planned giving. The art director, assistant planned giving officer, and two major gift officers attend, as needed.

The directors of alumni affairs, communications and development also hold annual retreats with their staffs to set and review long-range goals pertaining to the three overall areas of responsibility within the Development and University Relations Division. In addition, a number of individual functional areas hold annual planning sessions.

MONTHLY

A regular schedule of meetings within the Development and University Relations Division facilitates short-term planning and enables the vice president and individual managers to stay abreast of progress toward long- and short-term goals and objectives. Meetings of the entire office staff are held monthly and the division heads meet with the vice president weekly. Many directors hold regularly scheduled or informal meetings with their staffs to exchange information, set short-term objectives, and monitor progress toward long- and short-term goals.

At biweekly major gifts meetings, senior development staff review and update fundraising strategies for the capital campaign. A monthly meeting of the Corporate Interface Committee brings together representatives of a number of University offices that have regular contact with corporations to develop and coordinate strategies. The University Marketing Council meets periodically to coordinate strategies for institutional marketing and image building. Volunteer representatives of the WPI Alumni Association meet periodically to develop plans and strategies related to alumni services, programs and fund-raising.

This division also serves as the administrative resource for two committees of the WPI Board of Trustees, both of which meet on a quarterly basis. The Development and University Relations Committee reviews and approves long- and short-range fundraising and marketing plans for the University, while the Trusteeship Committee reviews candidates and nominates individuals for membership on the Board of Trustees and nominates recipients for honorary degrees.

Information Technology

ANNUAL

IT planning is closely aligned with WPI's strategic plan; Goal 5 of the plan is directly related to strategic IT initiatives. The five-year budget model is used extensively to ensure adequate funding in the future for major programs such as a replacement cycle for computers, annual increases in costs of library resources, upgrading the campus network, creating state-of-the-art electronic classrooms, and providing quality support staffing. Since access to and utilization of information technology resources are integral parts of every aspect of the University, continuous communication and collaboration with all of our stakeholders is of great importance in the IT Division's planning processes. Input into the planning process is gained from regular meetings with such groups as the academic department heads, academic and administrative departments, faculty governance committees, student organizations, and the Cabinet, as well as surveys, presentations, e-mail and one-on-one interactions with individuals.

MONTHLY

The vice president for information technology meets biweekly with his Information Technology Managers Group. This group is comprised of the director for internetworking and telecommunications, the director of administrative systems, the director of the library, the associate director of the library, the director of the Instructional Media Center and advanced distance learning, and the manager of academic computing and departmental technology support. These senior managers, in turn, meet on a regular basis with their staffs to plan specific outcomes for the individual departments within the IT Division. The library's annual report includes goals to be achieved in the coming year as well as measurement of goal achievement for the previous year.

Short-range planning often evolves from long-range plans. Staff in individual areas are involved in plans for implementation of the results of long range planning. For example, such details as the order in which areas and people receive replacement computers during the summer must be organized by the group of staff responsible for this program. Early in the academic year library staff work closely with the faculty, in general, and the Periodical Advisory Committee, in particular, to determine which periodicals can be purchased out of the additional funds built into the five-year plan. A specific plan has to be created to determine the timing for upgrades of classrooms over the summer. Short-range planning is accomplished in a variety of ways, from formal meetings to e-mail discussions, to evaluation of the program and its impact. The biweekly and other staff meetings are forums for short-term planning of solutions to various other issues.

Student Affairs

ANNUAL

The vice president for student affairs meets semiannually, on a formal basis, with department heads to review the strategic planning process, to develop input for the University's five-year budget planning process, and to identify yearly goals, initiatives and outcomes for each department. Long-range goals are discussed as well as the associated staffing, technology and

programmatic resources that are needed to meet the identified goals and integrate them into the five-year budget model as volume changes.

MONTHLY

The vice president meets on a monthly basis with all department heads to discuss strategic initiatives and current operational issues of the division, as well as those impacting the campus community.

The vice president meets quarterly with all professional staff that comprise the division to reinforce communication and information sharing across the division. This past year the vice president has implemented twice-a-year meetings of all support staff in the division to better enhance interdepartmental communication.

Individual Student Affairs departments meet on varying schedules, some weekly, some bi-weekly, and some on an as-needed basis. Short- and long-term planning and assessment occur at the department level.

Appraisal

Campus wide

The 1999-2000 academic year was the first year of tracking implementation of the new strategic plan and presenting measurable results through the Web site and in discussion with the Board of Trustees. The objective is to construct a feedback system involving the president's Cabinet (where policy is discussed and set), the direct managers (who oversee implementation and gather data) and the budget office (which monitors resource allocation). The desired result of this feedback system is to gather data to drive behavior and resources in the direction of implementing the strategic plan.

WPI does not have yet enough experience to assess how effective these reviews are in determining success and suggesting continuing resource allocation. The Cabinet-based long-term planning appears effective in providing each major office (academic and non-academic) with the opportunity to state its needs and successes, and to negotiate for ongoing resources.

An employee survey, conducted in 1998-99, disclosed that staff members believed that their expertise in specialized areas was not always called upon in decision making at the Cabinet level. Nor did they believe they were well informed about issues under consideration by the Cabinet. Consequently, WPI began publishing brief synopses of issues discussed during Cabinet meetings in the WPI community newsletter, *@WPI* (*). In the spring of 1999, the president initiated ongoing open meetings to discuss ways of increasing communications between the Cabinet and the professional staff. These meetings are reviewed in the Cabinet to assess how effectively the Cabinet is responding to concerns within the community.

In summer 2001, as part of the strategic planning process, President Parrish began work on an "operational plan" to respond to current concerns and to address those strategic issues of greatest importance in each division. As background, each member of the Cabinet identified an issue of

particular importance and presented a case for dealing with that issue as part of the president's operational plan.

Academic Affairs/Provost's Office

So many operational issues arise at the monthly heads' meeting that time is not always available for a thorough or conclusive discussion of all issues.

Department heads need to be more involved in the details of the five-year budget model.

Administration

The Administration Division has recently been involved in major software system conversions. In July 1998, WPI migrated from Financial Records System (FRS) to Banner Finance. In July 1999, the University converted from Human Resource System (HRS) to Banner HR. Two implementation committees were formed to handle planning, system implementation, future upgrades and training, and to address departmental process improvements. Though Banner Finance and HR have had successful implementations for many regular users, the two committees continue to meet weekly to discuss system defects and deficiencies, assess product improvements, and improve current procedures.

Over the past several years, staff training and development have increasingly been emphasized. This training takes the form of enhancement of the technical and management skills of supervisors. Hourly staff training focuses on safety training, cleaning methods and technical issues. Through pay incentives, hourly staff are encouraged to participate in college-level courses, certificate programs and advanced licensing. Efforts are also being made to involve the hourly technical staff in the planning of new construction and major renovations.

Feedback on performance has taken place on a number of levels. In addition to the day-to-day interchange between the department and the campus community, a survey of WPI's non-faculty staff was conducted in 1998-99. The survey results have stimulated action within the department to improve the level of contact and communication with the campus community.

As a component of the Administration Division, Plant Services is called upon to establish an annual goals plan. Its goals, which can cover the entire spectrum of department activity, are specific and measurable, and are to be achieved over the coming year.

Development and University Relations

The two major challenges facing the Development and University Relations Division are broadening the base of support by increasing the percentage of alumni who make annual gifts to WPI and earning national name recognition and a reputation consistent with the quality of WPI's academic program.

Information Technology

The IT Division's individual departmental planning processes have benefited considerably under the new IT Division structure. Regular planning meetings among the directors of the IT

departments have resulted in greater awareness of issues and a more comprehensive planning process. Additionally, the new focus on IT needs and the existence of WPI's five-year planning model have channeled significant new funding into IT and enabled planning based on realistic dollar availability. More work needs to be done in moving annual expenditures into the operating budget and out of the capital budget in order for a longer term planning process to be fully functional. A major step in this direction occurred with the development of the FY 2002 budget.

Student Affairs

The Student Affairs staff has in place a tested student crisis management plan. Under the plan, a cross-functional team that crosses divisional lines is assembled to manage the crisis, respond to collateral issues caused by the crisis, learn from the crisis, and attempt to eliminate or minimize future crises. Case studies drawn from past crises are used as educational opportunities.

This successful model has resulted in the expansion of our emergency crisis model to include incidents occurring in any of our global centers around the world or in our Continuing and Professional Education Program.

Projection

Academic Affairs/Provost's Office

The provost began holding evening executive sessions with just the department heads in which several issues are discussed at length. This format appears to be working well.

Development and University Relations

Recently, a survey and study of young alumni was completed, providing guidance for new tactics to broaden WPI's base of support among this group in the annual giving campaign.

Following the completion of an 18-month marketing research and positioning project by an outside marketing consulting firm, the University is in the process of launching a major "name brand" awareness marketing effort. Part of this initiative is a new graphic identity, which is in development with an expected launch in the fall of 2001.

Information Technology

Future planning will continue to be based around the strategic plan, input from the various stakeholders on campus and the five-year budget model. As new technologies become available, they will be evaluated and implemented, where appropriate, to meet the needs of the WPI community. User support in all departments will continue to be a prime focus.

Student Affairs

Although formal meeting structures among Student Affairs departments have been developed, communication among the department heads and their staffs vary as to each department head's

communication style. Efforts to assist department heads in improving their communications with the staff will continue to be part of each manager's appraisal and performance review cycle.

Student Affairs cross-functional teams addressing quality of life issues for the various student constituencies will be required as communication is enhanced among departments and student culture issues are addressed.

Strategic plan initiatives must continually be reviewed and prioritized in terms of the University's finite resources.