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Letter from the President

From October 2014 through October 2015, Carnegie Mellon University undertook a comprehensive and rigorous effort to plan for its future. It is always important for an institution to engage in strategic planning. But the need is especially acute at a time when competitive pressures, public expectations, and rapidly changing technology call into question almost every aspect of higher education.

CMU meets these challenges with unshakeable core values, an eminent set of intellectual strengths, and a distinctive culture that aims to put those strengths to practical use for the improvement of the human condition—a culture that is nimble, confident, creative, and collaborative. These traits help remake our challenges as opportunities, and position us for a future of growing excellence and global significance.

The university has also met these challenges with a robust and serious discussion touching almost every part of our Pittsburgh campus, our global locations and our larger community around the world. Faculty, staff, students, alumni, and university leaders have joined together in town hall meetings, strategy retreats, and planning sessions that were at once meticulous and fiercely principled. I want to thank all of you for these intensely committed efforts.

The result is a plan that you would expect of Carnegie Mellon; it does not look like any other university's plan, but it does look like CMU—creative, thoughtful, pragmatic, and ambitious. Even its presentation is distinctive. Rather than trying to fit the complexity of the university into a linear narrative, the web-based plan acknowledges the interwoven and interconnected threads of initiatives that make up the university. It also allows you to follow these goals and strategies in the way that best allows you to consider your place in this future of great promise. You can begin your search here: [link]

A plan, of course, is only a beginning. Each of us must now work to make these aspirations real, to hold ourselves accountable for our part of the plan, and for the future of the university as a whole. As we develop metrics for implementing the plan, we must push toward achievement, measure our progress, and, when necessary, make course corrections. That is not an additional task or extraneous duty; it is a more intentional approach to the way we conduct our work and life every day, one that will help us individually and collectively reach the goals that have brought us together at Carnegie Mellon University.

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Our Vision

Carnegie Mellon University will have a transformative impact on society through continual innovation in education, research, creativity, and entrepreneurship.

Our Mission

To create a transformative educational experience for students focused on deep disciplinary knowledge; problem solving; leadership, communication, and interpersonal skills; and personal health and well-being.

To cultivate a transformative university community committed to (a) attracting and retaining diverse, world-class talent; (b) creating a collaborative environment open to the free exchange of ideas, where research, creativity, innovation, and entrepreneurship can flourish; and (c) ensuring individuals can achieve their full potential.

To impact society in a transformative way—regionally, nationally, and globally—by engaging with partners outside the traditional borders of the university campus.

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Our Values

Dedication, reflected in our distinctive work ethic and in our commitment to excellence

Impact, reflected in our commitment to address critical issues facing society regionally, nationally, and globally

Collaboration, reflected in our interdisciplinary approach, our focus on internal and external partnerships, and our capacity to create new fields of inquiry

Creativity, reflected in our openness to new ideas and forms of expression, intellectual curiosity, willingness to take risks, and entrepreneurial spirit

Empathy and compassion, reflected in our focus on improving the human condition and on the personal development of the members of our community

Inclusion, reflected in a culture and climate that seeks, welcomes, and advances talented minds from diverse backgrounds

Integrity, reflected in our adherence to the highest ethical standards in personal and professional behavior, and in our commitment to transparency and accountability in governance and everything we do

Sustainability, reflected in our shared commitment to lead by example in preserving and protecting our natural resources, and in our approach to responsible financial planning

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Goals for the Individual Experience

As the university experience continues to change and evolve, Carnegie Mellon is more committed than ever to providing a world-class education for students in a productive, nurturing environment where all members of our community can thrive.

The university's primary educational goal remains the cultivation of deep expertise within each student's chosen field. To excel in the 21st century, students must also have the ability to recognize, frame, and address complex problems; the capacity to combine reflection with appropriate action; the ability to communicate effectively; the skill to work productively with diverse collaborators; the motivation to work within and contribute to professional and social networks; an understanding of the importance of physical and emotional wellness, including a balance between professional and personal activities; and the drive to learn continuously throughout their lives and careers as actively engaged alumni.

Technology-enhanced learning—based on CMU's world-leading research into learning science—has the potential to enrich learning for all students and to make university education more personalized, more interconnected, and more efficient. Technology-enhanced learning's potential is opening up discussions across CMU about how to design a university experience that better leverages the expertise of our world-class faculty to interact with students in smaller groups on more complicated, real-world projects and in more interdisciplinary settings.

The education and research roles of faculty members are also changing. The faculty is adapting to new approaches to instruction and advising that engage students more intentionally in active learning, including hands-on making. At the same time, faculty members are taking on urgent research challenges in an era when funding for research is constrained and competition for global talent has never been more intense. Carnegie Mellon has the opportunity to develop innovative ways to support individual faculty members, especially junior faculty, in their teaching and research roles.

Goal: Deep Disciplinary Knowledge

Provide students with what is demonstrably the best education in the world in their disciplines; inspire them to seek knowledge, not just while they are at CMU, but throughout their lifetimes.

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Goal: Leadership, Communication, and Interpersonal Skills

Give students the knowledge and skills that are increasingly important in today's interconnected world, including interpersonal, professional, and visual communications skills; collaboration and teamwork, especially with diverse others; empathy and concern for the welfare of others; and organizational and leadership skills.

Goal: Knowing How to Learn

Cultivate a learning environment in which students are challenged to know when they need to learn more, supported to find appropriate resources with which to learn more, and encouraged to explore how they learn most effectively as individuals throughout their lifetimes.

Goal: Personal Development, Including Physical and Emotional Health and Well- Being

Encourage individuals to pursue a high quality of life, to develop their talents and interests, and to value physical, emotional, and spiritual health throughout their lifetimes.

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Goals for the University Community

The Carnegie Mellon community is made up of highly talented students, faculty, staff, alumni, and parents from all over the world. As individuals, we have many kinds of creative talents and intellectual strengths; as a community, we are widely regarded as a place where people connect and collaborate across disciplines to solve critical societal challenges.

CMU is much more than the simple sum of our seven colleges and schools; it is a place that fosters the integration of deep scholarly expertise with innovation, entrepreneurship, and human creativity. The university has a critical interest in supporting innovation and remaining renowned for entrepreneurial thinking and action. Creating responsive infrastructure to support the university's teaching and research missions is an important step in CMU's continued success as a community of learning and discovery.

Although we appreciate and celebrate the capabilities of social media and virtual connections, we also recognize the educational value of blending technology with face-to-face interaction for all members of our community; this can be manifested in instructional programs, design and use of space and facilities, enhancement of collaborative experiences, and support for wellness and career-life balance.

Attracting and retaining a diverse community remains a significant challenge for Carnegie Mellon, and emerged early on in the strategic plan discussions as a major area of concern for students, faculty, and staff. This will require the creation of a practical process for recruiting and retaining women and under-represented minorities, along with inclusive policies and practices that build a sense of community among people with many backgrounds, skills, and strengths.

Goal: A Diverse and Inclusive Community

Create a diverse and inclusive community and environment where CMU faculty, staff, students, and alumni develop a distinctive ability to work, learn, and live in diverse environments.

Goal: A Concentration of World-Class Talent

Recruit and retain world-class undergraduate students, graduate students, faculty, and staff; foster a culture of support for professional and personal development.

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Goal: A Culture of Interdisciplinary Approaches to Problem Solving

Engage students, faculty, and staff in meaningful interdisciplinary approaches to solving problems; provide students with the tools to integrate perspectives across boundaries, with an emphasis on deep disciplinary knowledge driving new thinking at the edges and intersections of traditional fields.

Goal: An Interconnected Network for Research and Creativity

Grow the research and creativity enterprise as a broad and interconnected network of exploratory activities, including creative endeavors, basic discoveries, and translational innovations.

Goal: A Destination of Choice for Innovation and Entrepreneurship

Make CMU the academic destination for faculty, staff, students, and alumni seeking a culture of innovation and entrepreneurship with opportunities to learn, conceive, collaborate, launch, and lead in new endeavors.

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Goals for Societal Impact

No university is better positioned to improve the human condition on a global scale than Carnegie Mellon. We are known for collaborating across disciplines, both on our own campus and beyond. We facilitate and celebrate the contributions and leadership of our students, faculty, staff, and alumni.

CMU's emphasis on innovation has created an entrepreneurial mindset among students, alumni, staff, and faculty, many of whom are committed to translating their ideas from the laboratory and the studio to the marketplace and the public square. Supporting entrepreneurial activities remains a key priority for the entire university community, and it is especially important in sustaining our commitment to contribute to the economic and cultural life of Pittsburgh and Southwestern Pennsylvania.

Our strengths in critical areas of education, research, and creativity position us to be a world leader in the global community of knowledge creators in the 21st century. And our drive to solve ever-more difficult challenges will ensure that we remain at the forefront. The aspiration to have a positive impact on the world shapes our interest in building a global perspective on teaching and research on all of our campuses and locations, as well as continuing to join with others in research and creative endeavors.

Goal: Leadership in Research and Creativity

Lead and be widely recognized for achieving excellence in research and creativity, advancing the understanding of fundamental questions, and developing solutions to problems of societal significance.

Goal: Regional Impact

Continue to contribute significantly to economic growth and quality of life in Pittsburgh, Southwestern Pennsylvania, and all the regions where CMU operates.

Goal: Engaging and Impacting the Global Community

Build on leadership in world-class education and research outside the borders of a traditional university campus; focus on continued international engagement, and deeper and broader incorporation of the full CMU experience around the world.

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Strategic Recommendations

Strategic Recommendation: Advance CMU's world-leading research in learning science and technology-enhanced learning, and apply it to education at CMU.

- Create an advanced learning science ecosystem of human and technological resources to support all faculty in (a) translating state-of-the-art scientific theories of learning into improved instructional designs; (b) collecting and analyzing high-quality learning data; and (c) iteratively improving educational practice in response to learning data.
- Apply this ecosystem to build out or improve several CMU educational centerpieces, including (but not limited to) writing, statistics, introduction to computer science, calculus,; and introductory science courses. Implement a learning-science ecosystem as an embedded part of the new Mellon College of Science core education.
- Help transform education globally by making tools developed at CMU more usable outside the university, and by building new tools to support others in using the CMU learning-science approach in their own educational contexts.

Strategic Recommendation: Incentivize innovative and scholarly approaches to teaching.

- Develop and use objective measures of learning gain and teaching—in addition to faculty course evaluations—in the promotion and tenure process.
- Reward education research and innovation in the promotion and tenure process, for example, by crediting discipline-based education research and evidence-based innovations.
- Offer and incentivize regular professional development related to teaching and curricular innovation.
- Create more innovative learning spaces, and support their use in improving student outcomes.
- Leverage the expertise and distinctive roles of teaching track faculty to advance the overall educational mission.

Strategic Recommendation: Expand access to apprenticeship and mentorship educational models for undergraduate and Masters students.

- Encourage learning through projects, research, and other models that facilitate more direct student interaction with faculty.
- Ensure all undergraduate students have an opportunity to engage in research or project-based activities during their time at Carnegie Mellon.
- Provide majors and non-majors with opportunities to gain experience solving real-world problems, learn how to pose important questions, deal with uncertainty, and engage deeply with expert faculty mentors and advisors.
- Promote strong faculty-student, peer-to-peer, and alumni-student connections and role modeling.

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Strategic Recommendation: Expand the range of innovative experiences offered for students.

Focus on innovative options beyond the typical classroom experience:

- Create a more flexible academic calendar, to include an interim term (or "I-Term").
- Expand curricular and metacurricular experiential learning programs, including volunteer opportunities in the community and internships.
- Expand interdisciplinary course, minor, and degree options, including fusion learning experiences such as the Integrative Design, Arts and Technology Network (IDeATe) program.
- Utilize and align the CMU unit system to continue to advance and redefine the
 meaning of the term "course" to allow for modularized options, micro and mini
 course formats, and a more flexible and innovative academic calendar. Leverage
 CMU's presence in Washington, D.C.; in Silicon Valley; and across five continents
 to collaborate with more public and private organizations—especially those
 with mentoring opportunities from alumni—to create coursework, internships,
 and other credit-bearing opportunities.

Strategic Recommendation: Engage students in grand societal challenges via an interdisciplinary approach.

- Engage students in interdisciplinary, team-based, educational experiences that focus on societal grand challenges such as sustainability, privacy, providing access to clean water, or mapping the human brain—in stage-appropriate ways.
- Create a learning commons from which students can create their own educational experiences and responses to these challenges.

Strategic Recommendation: Focus on holistic health and wellness for students, faculty, and staff.

- Reinforce an environment that prioritizes physical health, mental health, and overall wellness as a foundation for lifelong success and happiness.
- Continue to develop physical spaces for mindfulness, spirituality, reflective practices, and meaningful social engagement, as well as fitness, recreation, and athletics.
- Develop a destination space for students where wellness is promoted through expert delivery of services, including health services, counseling and psychological services, and other university programs committed to holistic well-being. Continue to develop healthier dining options, while further developing traditional dining areas as social and interactive venues.
- Systematically explore ways to reduce unnecessary stress in the academic environment, and to promote an appropriate work-life balance.

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Strategic Recommendation: Define and deliver an integrated approach to a transformative educational experience for all graduate students.

Although the academic unit and department must remain at the core of the graduate experience, institutional resources and expertise should be leveraged to ensure training, growth, and development of the student in multiple dimensions.

- Commit to a core set of expectations for an integrated graduate student experience across disciplines, programs, and levels that ensure a high-quality education, and the support structures and services necessary for students to thrive.
- Develop a comprehensive graduate strategy to realign resources, policies, and campus culture to best meet the needs of the evolving demographics of our graduate population, with particular focus on international students.
- Facilitate exploration, growth, and boundary crossing in graduate experiences in interdisciplinary and multidisciplinary contexts.
- Integrate curricular requirements with existing and new aspects of the metacurriculum, while balancing the complex demands of the graduate experience. Facilitate and fund rich interdisciplinary experiences, such as research seminars; exchanges, internships, I-term engagement; and conference presentations for graduate students to explore the intersections of their disciplines with other emerging opportunities within and beyond academia.
- Engage graduate students in understanding and addressing the complex needs of a global society, and prepare them for a changing and more diverse workplace.
- Ready students for the work of tomorrow—not just the skills needed for today.
- Engage graduate students in work that anticipates and moves ahead of the cutting edge of their fields.

Strategic Recommendation: Expand scholarship and fellowship resources for undergraduate and graduate students.

- Significantly increase resources available for scholarships and fellowships to improve recruitment and retention of a diverse student population, while bolstering faculty and staff recruitment by ensuring that our students are the best and brightest, regardless of financial means.
- Highlight both the inherent financial support and the honorific designation for recipients.
- Continue efforts to limit student borrowing, to the degree possible, especially for students who require the most support.
- Expand direct financial support to helping students and families manage the cost of attendance in the context of the conspicuous financial return on investment that the Carnegie Mellon University education affords our alumni.

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Strategic Recommendation: Enhance the meaningful engagement of parents and family members within the Carnegie Mellon community.

Parents and family members play an important role in the growth, development, and success of CMU students. The college years are a time of transformation, and developing the life skills necessary to successfully navigate one's personal affairs is an important outcome of a student's university experience. Recognizing the unique nature of each individual relationship and family system, students will direct the engagement with parents and other family members about their university experience.

While parents and family members are most likely to be engaged with the university at key transitional periods and celebratory events, numerous opportunities exist for parents' direct engagement with the Carnegie Mellon community throughout their students' enrollment and beyond. To support meaningful engagement between the university and parents, we will:

- Create a shared vision of parent and family engagement by CMU faculty, staff, and administrators.
- Develop a coherent plan for parent and family engagement and communication that anticipates natural transitions.
- Implement an approach to provide parents and family members with a highquality experience whenever they are engaged with the University.

Strategic Recommendation: Foster a climate for intentional interaction and collaboration between individuals and groups from diverse cultures and backgrounds.

- Create a coordinated infrastructure that supports student success from prospective students' first inquiries through their lives as alumni.
- Focus on under-represented groups, including women in certain fields, underrepresented minorities, first-generation students, students with disabilities, and others.
- Reinforce throughout the community a fundamental personal respect for all individuals, underscored by civility, active engagement, transparency, and support.
- Engage community members in ongoing and meaningful intergroup dialogues to engender global understanding and perspectives; identify opportunities to better integrate U.S. and international students.
- Provide curricular and metacurricular activities to benefit students, faculty, and staff in a multicultural environment.
- Emphasize international exploration for students, including short-term and semester- or yearlong study-abroad programs, internships overseas, and the opportunity to spend time at CMU campuses outside Pittsburgh. Provide professional opportunities for faculty, staff, and alumni to grow in cross-cultural competency.

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Strategic Recommendation: Enhance efforts to recruit and retain world-class faculty.

- Continue to aggressively pursue the highest-caliber talent throughout the world, within disciplines and in interdisciplinary domains.
- Remain vigilant in retaining outstanding faculty, including relevant funding support and salary considerations, capitalizing on the unique attributes of the university environment in comparison to many better-resourced institutions.
- Create a formal network for mentorship to nurture and support junior faculty throughout their tenure at Carnegie Mellon.
- Tightly couple the development of professional and leadership skills with advancement opportunities for all faculty, with an intentional focus on junior faculty, women, and under-represented minorities.
- Promote engagement among faculty, across disciplines, as well as connections with administrators, staff, and alumni, enhancing civility and social engagement while building strong networks of support.
- Address specific career-life issues, including enhanced access to child care and dual career issues, to help faculty facilitate career success in tandem with meaningful family life, address personal health and well-being, and navigate other life events.
- Further advance the current trajectory of more active engagement and collaborations between faculty and administration, including increasing opportunities for shared governance.
- Within a context of transparency, create and welcome opportunities for faculty to leverage their expertise to inform university best practices in matters operational, curricular, and developmental.

Strategic Recommendation: Focus on professional development opportunities for staff.

The university's staff is critical to the advancement of our education, research, and service missions. Staff members have substantive support needs, and require an environment that allows for and encourages professional and personal fulfillment.

- Enhance the status of staff on campus, with a focus on management and leadership training, technical skill development, mentoring, greater inclusion in decision making, collaboration of governing bodies, defined career paths (ladders), and merit-based incentives, including compensation.
- While maintaining high expectations, ensure that staff members have reasonable opportunities to engage in the life of the campus, to enjoy and benefit from the unique learning community that is Carnegie Mellon, and to be celebrated for their role in our collective success.

Strategic Recommendation: Catalyze interdisciplinary encounters among faculty, staff, students, and alumni.

CMU has a long tradition of interdisciplinary innovation resulting from bottom-up collaborations among colleagues, with new ideas often resulting from informal interactions. CMU will:

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- Create conditions on campus that promote more interactions to build such serendipitous connections and strengthen interdisciplinary encounters.
- Invest in programs and events at all levels—including by the Provost, Vice Provost for Research, Deans, and others—that foster meaningful bottom-up collaborations among faculty, staff, students, and alumni.
- Develop communication mechanisms for faculty, staff, and students to share interests, and promote shared research opportunities and creative endeavors.

Strategic Recommendation: Incubate critical mass in emerging areas.

Exploration of new ideas can be stymied by limited resources—human, physical, and financial—particularly at the earliest stages of development when their viability may be uncertain. CMU will provide an environment where new ideas can be born and nourished until they become capable of supporting themselves. CMU will:

- Support the establishment of cluster hires to bring diverse expertise to interdisciplinary initiatives, allowing rapid ramp-up in areas of strategic importance.
- Provide additional top-down support that aids in the growth and development of bottom-up research, creativity, innovation, and entrepreneurial endeavors.

Strategic Recommendation: Nurture and value foundational research and creative forms of academic expression.

To maintain and strengthen the rich intellectual environment that CMU has built over its history, the university must be an institution that not only maintains strength in problem-driven research, but also nurtures and values curiosity-driven research and creative forms of academic expression.

- Because external support of trailblazing or controversial topics can be difficult
 or even impossible to obtain, CMU will establish seed funding programs to
 encourage nascent ideas and creative expressions, and to support other forms of
 early-stage research and creation.
- To encourage faculty, students, and staff to launch initiatives aimed at making progress on societal problems and advancing the human condition, the university will create ACTIVATE, a program modeled on IDeATe, which will create spaces, structures, and resources for interdisciplinary research and teaching that lead to some form of social change and/or raise awareness on topics such as immigration, public health, sustainability, diversity, conflict, privacy and identity, and human rights, among others.
- In recognition of the fact that Carnegie Mellon's faculty engage in a broad range
 of creative work that does not fit within the traditional constraints of the
 promotion and tenure process, the university will reward and acknowledge
 creativity, entrepreneurship, and other impactful activities by expanding the
 range of work eligible for consideration in promotion and tenure decisions.

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Strategic Recommendation: Support diversity and inclusion initiatives with appropriate resources and advance best practices in recruiting from diverse populations.

As CMU strives to recruit outstanding faculty, students, and staff, it must continue to set a tone at all levels of leadership that stresses the critical importance of diversity, and hold university leaders and community members accountable for progress.

- Develop and implement tools and programs to optimize practices in diversity and inclusion throughout the university community.
- Enhance standards for recruiting practices, including mandatory training in implicit bias for search committees, cross-departmental sharing of finalists to fill vacant positions, and a focus on recruiting diverse personnel at all levels of leadership.
- Carefully cultivate and mentor existing talent at the undergraduate and graduate levels to broaden pools of prospective candidates for key positions.
- Identify and institute best practices in student recruitment, admissions decision-making, and enrollment to recruit a strong and diverse student body.

Strategic Recommendation: Create a 21st century library that serves as a cornerstone of world-class research and scholarship.

In a world where digital is becoming the default format for information, the library will remain a vital presence on campus, sustaining serious scholarship and providing opportunities for interactive research and study environments. To support this important work for students, faculty, and staff, and to create $21^{\rm st}$ century library spaces for $21^{\rm st}$ century learners, the library will:

- Develop information specialists as partners in research, teaching, and learning.
- Collaborate with peer institutions to provide coordinated access to a global collection of information resources.
- Steward the evolving scholarly record, and champion new forms of scholarly communication.
- Be recognized globally as a leader in the development of the scholarly information ecosystem.

Strategic Recommendation: Enhance support for entrepreneurial activities on our campus.

CMU will increase its support for entrepreneurial activities on campus by expanding the resources available to faculty and students pursuing entrepreneurial pursuits, including nonprofits and public-sector innovation. Funding for new concepts can be difficult to secure from traditional sources. To enlarge the funding options available to CMU entrepreneurs, the university will explore the development of professionally managed venture funds, fueled by contributions from alumni and friends of Carnegie Mellon. CMU will establish an endowment to yield an annual draw to increase and diversify gap funds for ventures moving through early stages of development.

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The university will also establish an industry-friendly, flexible, and responsive Business Engagement Center to provide an easy way for organizations seeking to work in partnership with CMU to connect with the university. In addition, we want to further cultivate our relationship with the local community of start-ups, as it offers an opportunity to pilot our innovations and entrepreneurial activities related to improving our region's quality of life and economy. Finally, we will purposefully engage the network of talented, entrepreneurial CMU alumni as mentors and resources for these activities.

To equip students seeking to develop their entrepreneurial skills, we will develop curricula that educate our students in problem identification, problem solving, communication, and leadership skills. For those seeking to delve more deeply, we will develop a cross-campus undergraduate minor in innovation and entrepreneurship. These programs will teach topics inherent in entrepreneurship that can broadly benefit students in a broad range of endeavors.

Strategic Recommendation: Catalyze a new innovation corridor on Forbes Avenue.

CMU will grow its world-class research, creativity, innovation, and entrepreneurship ecosystem along Forbes Avenue into the most powerful and impactful innovation corridor between the U.S. coasts. To do so, the university will create an interconnected, sustainable physical environment at Carnegie Mellon to reflect this emphasis on innovation and engage with key regional partners. It will also promote and align programs to encourage the intersection of entrepreneurship and company creation with industry relationships and the arts.

Strategic Recommendation: Develop an "ecology" of infrastructure and support to promote and support excellence in CMU's research, creativity, innovation, and entrepreneurship endeavors.

Physical space and its accompanying infrastructure of equipment and support services, provided at the right time and in the right configuration, can be a powerful enabler of research, creativity, innovation, and entrepreneurship. Our faculty, staff, and students require administrative support and business guidance in pursuing the funding necessary to allow them to develop impactful work, such as center-scale research initiatives. The support must be comprehensive, creative, and effective to enable faculty, staff, and students to maximize their opportunities.

CMU will develop and implement an "ecology" of infrastructure to provide an inventory of flexible and transitory space and services that can be reconfigured to support research and creative endeavors as they develop and mature. This infrastructure will be shared across the University and will include a variety of space and expertise suited for initiatives of various types and at various stages of development. It will include incubation space, wet laboratories, distance studios, and ideation spaces, as well as specialized expertise such as that needed for

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operating particular equipment. Space will be available for industry to interact with our researchers on collaborative projects.

Perhaps our largest aim is to create a variety of flexible space that students and faculty can use to collaborate, that new ventures can use as rentable space to develop and mature before moving on to more permanent space, and that businesses can use to sponsor projects and collaborate with CMU students and faculty.

Strategic Recommendation: Create opportunities for engagement with alumni on a global scale.

Carnegie Mellon alumni represent a diverse group of individuals with incredible talent and expertise. By providing enriching opportunities for alumni to support and remain connected with Carnegie Mellon, they will continue to learn, develop skills, and expand their networks, while also enhancing the campus community and student experience. The university will:

- Foster opportunities for education and networking among alumni to enhance career and professional development.
- Offer alumni meaningful ways to engage with current students, faculty, staff, and each other, including mentoring, career planning, and internship programs.
- Expand access to lifelong learning opportunities for alumni, facilitated by technology-enhanced learning.

Strategic Recommendation: Craft a strategy to identify emerging international opportunities and to nurture ongoing international partnerships.

In partnership with the colleges and schools, the university will develop strategic guidelines to govern the creation of international partnerships and educational programs, and to periodically review existing campus and degree programs and partnerships outside the United States. CMU will iterate those guidelines based on experimentation and experience, with a focus on applying CMU's distinctive approach to education and research, sharing best practices, and coordinating resource sharing.

CMU will proactively pursue locations for expansion, educational opportunities, and research areas with the potential for high local and global impact.

Strategic Recommendation: Shape the regional, national, and international research agenda and priorities.

CMU will take a more proactive role in shaping the national agenda and federal research priorities by developing new ways to discover and define the issues that deserve investigation and debate—and by better communicating the excellence of our research. We will create opportunities for the entire campus to engage in dialogue on emerging big ideas that have the potential to lead to center-scale activities. We will proactively incite discussion on emerging issues of societal

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importance by developing and convening symposia and forums that bring together leading minds representing a broad range of perspectives, experience, and expertise.

The university will commit institutional support for encouraging and engaging faculty to serve in national and international roles, for example, appointments to federal agencies such as the National Science Foundation and the Defense Advanced Research Projects Agency, or roles in national and international advisory groups such as the National Council on the Arts. We will recognize and promote the accomplishments of our faculty, staff, and alumni by increasing the number nominated for prestigious awards and recognitions, both internally and externally.

Strategic Recommendation: Focus on efficient, effective, and nimble business practices to support the needs of an evolving university community.

As CMU continues to diversify the nature of its programs and partnerships, it is essential that departments, schools, and colleges work together to build a strong financial foundation by creating efficiencies, improving policies and processes, and reducing duplication and costs throughout the university. Specifically, CMU will:

- Implement a new policy process to establish a consistent, timely framework for the creation, consideration, socialization, and adoption of new policies, and to set a regular schedule for review of existing policies.
- Encourage focus, prioritization, and a data-driven approach in decision making, and balance the university's ambition to launch new initiatives with the importance of being sure those initiatives remain sustainable in the long term.
- Identify and pursue key management initiatives to improve productivity, and continually align business processes and operations to enable faculty, students, and staff to support the mission of the university. Communicate that connection broadly to the university community.

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The Strategic Planning Process

Overview

The 2015 strategic planning process was an enormous effort—one that sought to meaningfully engage all voices from the CMU community and to thoughtfully consider and synthesize their input. The process spanned the academic year from October 2014 through the summer of 2015, and the campus continues to engage in implementation activities and regular updates to the plan. Key accomplishments include the following:

- Hosting more than a dozen town hall meetings and retreats with unprecedented attendance and interest, in person and via webcast, including open sessions; sessions focused on particular topics such as diversity, international strategy, and teaching and learning; and smaller sessions with university leadership and the Board of Trustees.
- Delivering countless presentations to campus groups, departments, schools, administrative units, and other interested parties to gather feedback on the plan.
- Engaging more than 160 campus community members (faculty, staff, students, and alumni) on strategic planning committees that have shaped key elements of the plan.
- Focusing on key community members outside the Pittsburgh campus to gather the broadest possible input, including CMU locations in Silicon Valley, Australia, Qatar, and Rwanda.

The Strategic Planning Process by the Numbers

•	Total town hall participation:	1200+
•	Comments and suggestions posted to the university's website:	125+
•	Strategic plan-related committee and subcommittee meetings:	100+
•	Committee participation:	160+

Previous Plans

The 2015 Strategic Plan draws heavily on the strong foundation created by past strategic plans at Carnegie Mellon—especially those from 2008 and 1998. Though it differs from past plans in some important ways, the 2015 plan emphasizes consistency in our mission, vision, and values as a University, and draws even greater attention to our focus on the individual experience, the university community, and impact on society. The 1998 and 2008 plans can be found here.

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Acknowledgements

The university community owes enormous thanks to the members of the Carnegie Mellon community who devoted their time, effort, and expertise as members of strategic planning committees. Although the final product is organized differently, the work of these committed individuals was divided into three focus areas and a number of cross-cutting themes, as listed here.

The following abbreviations for schools and colleges are used below:

CFA College of Fine Arts

DC Dietrich College of Humanities and Social Sciences

E College of Engineering

HNZ Heinz College

MCS Mellon College of Science SCS School of Computer Science TPR Tepper School of Business

Focus Area 1: Transformative Teaching and Learning

Leaders:

Richard Scheines, Dean, Dietrich College of Humanities and Social Sciences Nathan Urban, Interim Provost, MCS Amy Burkert (S'90), Vice Provost for Education, MCS

Committee Members:

Norman Bier (DC'99), Provost's Office (Simon Initiative/Open Learning Initiative)

Justine Cassell, Provost's Office, SCS

Howie Choset, SCS

Mary Jo Dively, Vice President and General Counsel

Steve Garoff, MCS

Ken Koedinger (DC'88, '90), SCS

John Kitchin, E

Jelena Kovacevic, E

Kristen Kurland, HNZ, CFA

Erika Linke, Libraries

Marsha Lovett (DC'91, '94), Eberly Center for Teaching Excellence and Educational

Innovation, DC

John O'Brien, Qatar

R. Ravi, TPR

Thanassis Rikakis, Vice Provost for Design, Arts, and Technology, CFA

Nico Slate, DC

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Joel Smith, DC Klaus Sutner, SCS Laura Synott, HNZ Ralph Vituccio (CMU'12), CFA David Yaron, MCS

Focus Area 2: Transformative Research, Creativity, Innovation, and Entrepreneurship

Leaders:

James Garrett (E'82, '83, '86), Dean, College of Engineering Farnam Jahanian, Provost

Research and Creativity Working Group:

Gary Fedder, Vice Provost for Research, E, Co-Chair

Manuela Veloso (CS'89, '92), SCS, Co-Chair

Alesandro Acquisti, HNZ

Jay Aronson, DC

Alison Barth, MCS

Tom Bohman, MCS

Lorrie Cranor, E/SCS

Kevin Fall, Software Engineering Institute

Linda Feuster, Office of Sponsored Programs

Iohn Folan, CFA

Irene Fonseca, MCS

Chris Genovese. DC

Fred Gilman, Dean, MCS

Tim McNulty, Government Relations

Jim Morris (S'63), SCS

Tridas Mukhopadhyay, Qatar

Thanassis Rikakis, Vice Provost for Design, Arts, and Technology, CFA

Michael Trick, TPR

Innovation and Entrepreneurship Working Group:

Peter Boatwright, TPR Co-Chair

Cindy Limauro, CFA, Co-Chair

Lenore Blum, SCS

Marcel Bruchez, MCS

Tom Emerson, Qatar

Jessica Hodgins (CS'89), SCS, Disney

David Quinn, Provost's Office

Rick Stafford (S'68, HNZ'72), HNZ

Lauren Ward, University Advancement

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Jay Whitacre, E

Bob Wooldridge, Center for Technology Transfer and Enterprise Creation

Focus Area 3: The Transformative CMU Experience

Leaders:

Ramayya Krishnan, Dean, Heinz School of Public Policy and Information Systems Michael Murphy (HNZ'86), Vice President for Campus Affairs

Committee Members:

Rebecca Allison (BHA'96, HNZ'01), Alumni Association Board Amy Burkert (S'90), Vice Provost for Education, MCS Gina Casalegno, Dean, Student Affairs Carolyn Commer (DC'08), DC, Graduate Student Assembly Matthew D'Emilio, University Contracts Office Pamela Eager (E'87, TPR'95), University Advancement Denise Fazio (HNZ'01), Faculty Senate Joel Greenhouse, DC Kristen Kurland, HNZ, CFA

Faculty Working Group:*

Dena Haritos Tsamitis, E

Scott A. Sandage, DC, Faculty Senate Todd Przybycien, E, Faculty Senate Joel Greenhouse, DC

Kristen S. Kurland, HNZ, CFA

Elizabeth Monaco, Software Engineering Institute

Ronald Placone (DC'09), TPR

Elizabeth Ann Whiteman, Provost's Office

*The Faculty Working Group coordinated eight focus groups with faculty groups from all colleges and schools, with broad faculty track representation.

Undergraduate Students Working Group:

Konvin Adewumi, MCS 2015

Sean Archie, E 2015

Amy Burkert (S'90), Vice Provost for Education, MCS

Gina Casalegno, Dean, Student Affairs

Kate Groschner, E 2015

John Hannon, Student Affairs

Terry Irwin, CFA

Annette Jacobson (E'79, '88), E

Zehni Khairullah, Qatar 2016

Jordan Kunz, TPR 2015

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Vivek Nair, E 2015 Vaasavi Unnava, DC 2017 Stephanie Wallach, Provost's Office Minnar Xie, SCS 2015

Master's Students Working Group:
Samantha Allen, E 2015
Vijayakumar Bhagavatula (E'80), E
Amy Burkert (S'90), Vice Provost for Education, MCS
Gina Casalegno, Dean, Student Affairs
Joel Greenhouse, DC
Holly Hippensteel, Student Affairs
Sarah Tedrow-Azizi, TPR 2015
Dena Haritos Tsamitis, E
Elizabeth Ann Whiteman, Provost's Office

Doctoral Students Working Group:
Onur Albayrak (S'12), MCS
Amy Burkert (S'90), Vice Provost for Education, MCS
Gina Casalegno, Dean, Student Affairs
Carolyn Commer (DC'08), DC, Graduate Student Assembly
David Danks, DC
Suzanne Laurich-McIntyre, Provost's Office
Kevin Monahan, Student Affairs
Todd Przybycien, E
Courtney Williamson (TPR'12), TPR

Staff Working Group:

Matthew D'Emilio, University Contracts Office, Co-Chair Denise Fazio (HNZ'01), Faculty Senate, Co-Chair John Lanyon, Academic Development Philip Lehman (S'78, '84), SCS Kim Sestili, Libraries M. Shernell Smith, Student Affairs Lara Steiner, Marketing and Communications Pattye Stragar, Athletics; Chair, Staff Council Sarah Tedrow-Azizi, TPR 2015

Alumni Working Group:*
Rebecca Allison (BHA'96, HNZ'01), Alumni Association Board
Pam Eager (E'87, TPR'95), University Advancement
Nancy Merritt, University Advancement

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*The Alumni Working Group included consultation with the Alumni Advisory Board and other key alumni stakeholders.

Parents Working Group:

Kathy Bogacki, University Advancement
Amy Burkert (S'90), Vice Provost for Education, MCS
Gina Casalegno, Dean, Student Affairs
Joshua Centor, Campus Affairs
Sophie Elias, Marketing and Communications
Brian Fernandes, Campus Affairs
John Hannon, Campus Affairs
Annette Jacobson, E
Lisa Krieg, Campus Affairs
Michael Murphy (HNZ'96), Vice President for Campus Affairs
Jason Nevinger, Undergraduate Admissions

Cross-Cutting Theme: Diversity and Inclusion

Leaders:

Amy Burkert (S'90), Vice Provost for Education, MCS Fred Gilman, Dean, Mellon College of Science John Lehoczky, Interim Executive Vice President, DC

Committee Members:

Karen Clay, Heinz College
Holly B. Hippensteel, Student Affairs
Suzanne Laurich-McIntyre, Provost's Office
Bryan Lewis (E'13, '14), Provost's Office
Diana Marculescu, E
M. Shernell Smith, Student Affairs
Everett Tademy, Human Resources
Ty Walton, Provost's Office

Cross-Cutting Theme: International Strategy

Leaders:

K. Jimmy Hsia, Vice Provost, International Programs and Strategy Steve Kloehn, Vice President for Marketing and Communications

Committee Members: Omer Akin (A'79), CFA Wendy Arons, CFA Lenore Blum, SCS

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Emil Bolongaita, Australia

Romayne Botti, E

Amy Burkert (S'90), Vice Provost for Education, MCS

Iliano Cervesato, Qatar

George Darakos, SCS

Subha Das, MCS

Jim Dawson, University Advancement

Janet Feindel (A'02), CFA

Irene Fonseca, MCS

David Garlan (S'83, '87), SCS

Linda Gentile, Student Affairs

Volker Hartkopf, CFA

Peggy Heidish, Intercultural Communication Center

Shirley Ho, MCS

Bruce Krogh, Rwanda

Philip Lehman (S'78, '84), SCS

Pierre Liang, Tepper School of Business

Joseph Mertz (E'95), Heinz College

Jose Moura, E, Portugal

Carrie Nelson, Finance

John O'Brien, Qatar

Kemal Oflazer (S'87), Qatar

Rema Padman, Heinz College

Manfred Paulini, MCS

Susan Polansky, DC

Gordon Rule (S'86), MCS

Mel Siegel, SCS

Nico Slate, DC

Dena Haritos Tsamitis, E

Richard Tucker, DC

Aliya Zhdanov, Student Representative, TPR 2017

Cross-Cutting Theme: Policy

Leaders:

Mary Jo Dively, Vice President and General Counsel Dan Martin, Dean, College of Fine Arts

Committee Members:

Rachel Askey, Finance Division

Greg Billy (TPR'11), Campus Affairs

Mary Ann Blair, Computing Services

Cheri Hays, Office of the President

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Karen Khan, Office of the President Dan McNulty, Human Resources

Strategic Plan Working Group

Rick Siger, Director of Strategic Initiatives and Engagement, Chair Jennifer Berg, Provost's Office
Catherine Davidson, University Advancement
Marilyn Kail, Marketing and Communications
Karen Khan, Office of the President
Kate Lippert, Office of the President
Claire Pro, Marketing and Communications
Trish Spencer, Provost's Office
Janel Sutkus, Institutional Research and Analysis
Lisa Swanson, University Advancement
Michael Yeomans, Marketing and Communications