VIRGINIA TECH

BEYOND BOUNDARIES

2024 UPDATED REPORT

EXECUTIVE SUMMARY

In spring 2023, President Sands requested that Drs. Belanger, Johnson, and Ross serve as co-chairs to update the "Beyond Boundaries: A 2047 Vision" in light of recent global developments and related lessons learned, such as those involving remote education and work during the pandemic, heightened societal and political polarizations, the affordability crisis, public loss of confidence in higher education, and increased concerns over mental health and the looming "enrollment cliff." At the same time, it was noted that the vision seemed to remain largely current and that several recent university investments and strategies were aligned with it.

In partnership with the Virginia Tech Office for Strategic Affairs, the co-chairs solicited feedback from a large and diverse group of stakeholders, including students, staff, faculty, senior leadership, shared governance bodies at the university, affiliated groups and alumni, and participants in an open forum and a university community survey, focusing on an updated vision for 2050.

While many new strategies were proposed, other elements of the vision were seen as still relevant. Updates were suggested to reflect the attributes of a university in 2050:

1. Improve the clarity of the concepts presented in the vision, including reducing the redundancy of terms used.

2. Ensure that the concept of agility was reflected in what a university should look like in 2050.

3. Increase the recognition of other important constituents of the university beyond students, faculty, and donors to include staff, partners, and communities.

As a result of this feedback, the following major changes were included in the revised vision, in addition to removing redundancies where possible and clarifying the language used:

1. The concept of "VT-shaped student" was removed, focusing instead on the ideas of depth and breadth of knowledge.

2. Discussions surrounding the land-grant mission of the university were clarified and emphasized where needed.

3. The concept of affordability was extended beyond affordability for students to include cost of living and affordability for all community members.

4. The revised vision focuses on the interrelated elements of Future of Learning, Future of Research and Discovery, and Future of Engagement. 5. The Future Directions section was updated to remove redundancies and to reorder the 10 directions, allowing the addition of a future direction focused on recognizing the importance of all human talent in the university ecosystem (No. 8).

6. Several strategic initiatives, while important, were removed from the main body of the vision, allowing the vision to remain focused on the long-term perspective of what the university can be in 2050.

The vision continues to be guided by the same two goals of advancing as an internationally recognized land-grant university and strategically addressing the challenges and opportunities presented by the changing landscape of higher education. The streamlined revised vision includes the following:

■ The Future of Learning will focus on purpose-driven experiences in line with the *Ut Prosim* (That I May Serve) motto and land-grant mission of the university while ensuring disciplinary depth and interdisciplinary capabilities for students by offering flexible and personalized degree options within the educational experience for students with the potential to address societal needs and become global citizens.

■ The Future of Research and Discovery will ensure continued deep disciplinary expertise and high-impact scholarship while also extending these efforts beyond disciplinary boundaries to form innovation hubs and transdisciplinary teams supported by a diverse pool of highly qualified talents, both internally, and with external partners.

■ The Future of Engagement will support the *Ut Prosim* motto and extend the land-grant mission of outreach by engaging with communities of faculty, staff, students, alumni, and partners to develop problem-based approaches and solutions and offer opportunities for purpose-driven learning, research, and discovery in an interconnected global environment.

The co-chairs appreciate the extensive feedback provided by the Virginia Tech community and believe the revised vision will help the university position itself to further develop its global leadership as a leading education institution. As change accelerates in the world, it will continue to be challenging to envision how learning, research and discovery, and engagement will evolve by 2050. An unwavering commitment to academic freedom and free inquiry will remain essential to nurturing and supporting the human talent needed to address the world's most pressing problems.

OVERVIEW

In 2023, President Tim Sands engaged France Belanger, Sylvester Johnson, and Julie Ross to serve as the Beyond Boundaries co-chairs. The group, in partnership with the Virginia Tech Office for Strategic Affairs, revisited the original "Beyond Boundaries: A 2047 Vision" with the charge of identifying potential opportunities for realignment to both the realities of the world and the current strategic initiatives of Virginia Tech. Over the course of a year, the co-chairs and strategic affairs initiated a three-step process:

- 1. Solicit feedback from Virginia Tech stakeholders.
- 2. Synthesize and analyze the gathered data into key themes.
- 3. Draft and finalize this report.

The goal was to address how the Beyond Boundaries vision might integrate lessons learned from recent history into the context of achieving the long-term vision by 2050.

With the focus on 2050, this updated report incorporates recommendations based on the work and research performed during the 2023-24 academic year to build upon a framework for near-term steps and ongoing strategic planning, while also reflecting the initial work and research performed during the 2015-16 academic year. Belanger, Johnson, and Ross were asked by the president to be bold without being bound by the status quo and to explore ways in which Virginia Tech can apply and adapt the land-grant approach to address constituent needs several decades into the future.

The 2023-24 work included a multi-phase approach that engaged with a variety of stakeholders, including senior leadership, faculty and staff in their respective units, undergraduate students, graduate and professional students, shared governance bodies at the university, and community leaders from the New River Valley region and throughout the commonwealth. A survey also was administered, which led to more than 120 submissions.

COMMUNITIES THAT THE BEYOND BOUNDARIES TEAM ENGAGED FOR FEEDBACK:

- Accounting and Information Systems Advisory Board
- Administrative and Professional Faculty Senate
- Beyond Boundaries Open Forum for faculty, staff, and students
- Blacksburg Partnership
- College of Engineering Advisory Board
- College of Liberal Arts and Human Sciences Alumni Advisory Board
- Commission on Equal Opportunity and Diversity
- Commission on Graduate and Professional Studies and Policies
- Commission on Outreach and International Affairs
- Commission on Research
- Virginia Cooperative Extension administrative team
- Faculty Senate
- Graduate and Professional Student Senate
- Montgomery Museum of Art & History
- Northern Virginia Steering Committee
- Order of the Gavel
- Pamplin Advisory Council
- President's Council Retreat
- Staff Senate
- Undergraduate Student Senate
- Virginia Tech Budgeting and Planning Committee
- Virginia Tech Foundation Inc. Board
- Virginia Tech Global Distinction Steering Committee
- Virginia Tech Office of Local Government and Community Relations



These efforts identified the following proposed attributes of a university in 2050:

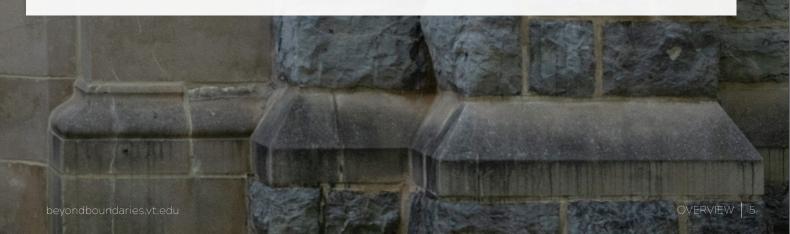
- Globally engaged beyond physical locations through extensive online and on-demand degree programs embedded with experiential learning opportunities
- Quick to appropriately adopt emerging technologies in course delivery and instruction as well as in research and discovery
- Operationally efficient and financially positioned to address student cost barriers and attract exceptionally talented students
- Responsive to economic, social, and environmental shifts through ethical policy development, socially relevant scholarship and discovery, and increasingly diverse faculty, staff, and students
- Internationally recognized for its research portfolio

Feedback also emphasized the need for the university to be agile to respond to technological, legal, or demographic changes. Agility, in this context, refers to how the university operates, how it defines a student, how its curricula evolve, and how it meets the expectations of external constituents who might be significantly different in 2050 than they are now. In this context, Virginia Tech will need to be an innovator, driving change in higher education.

In addition to agility, the co-chairs identified several key areas to consider as part of the update process, including:

- The concepts of "VT-shaped student" and affordability (e.g., faculty and staff housing shartage, student financial aid, and cost of !iving) needed more clarity and definition.
- The importance of recognizing that the world our students are entering will be fundamentally different than the one we are currently experiencing. Artificial intelligence, rapidly shifting career paths, and the quantity and quality of online learning will continue to impact the Virginia Tech classroom and the Virginia Tech experience.
- The vision needed to elevate the work of staff and the role of Virginia Tech as a destination for talent.
- The role and engagement of Virginia Tech in local and regional communities needed to be highlighted.

This document reflects the feedback received, the revised draft seeks to retain the core of the initial vision, much of which remains relevant and is a tribute to the tremendous work of the initial co-chairs and Beyond Boundaries committees. The letter to readers developed by the original Beyond Boundaries committee can be found in Appendix B.



THE LANDSCAPE CONTINUES **TO CHANGE**

THE LAND-GRANT UNIVERSITY FROM YESTERDAY TO THE FUTURE

The Morrill Act of 1862 called for the creation and support of institutions "by each State which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts... in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."1 Land-grant institutions are thus charged with the goal of educating the whole person beyond the traditional confines of teaching and learning and with integrating research and outreach into the undergraduate and graduate student learning environments. The Virginia Tech Corps of Cadets and our network of Extension offices have become integral to fulfilling this land-grant heritage.

The innovative land-grant university model, which has stood the test of time and proved its worth throughout the nation, lies at the heart of the Virginia Tech educational experience. In keeping with its land-grant mission, Virginia Tech's commitment to engagement and service is instilled in the university's motto of *Ut Prosim* (That I May Serve). Time and again, various Beyond Boundaries committees stressed the importance of sustaining a tripartite mission of teaching and learning, research and discovery, and outreach and engagement.

While the tripartite mission has served Virginia Tech well and defines organizational culture, this mission does not permeate all aspects of the enterprise. To some extent, the three parts are siloed. Some of our faculty, senior administrators, staff, and students experience the full range of the mission, but this is not always the case. The university's motto of *Ut Prosim* (That I May Serve) presents an opportunity to further integrate the elements of the tripartite mission. We are inspired by the desire to improve the human condition worldwide, now and into the future, which characterizes and motivates our graduates, faculty, and staff.

The concept of a land-grant university provides an opportunity to envision the university of the future. Land-grant universities are a uniquely American category of institutions that have traditionally been viewed through the lens of their regional, state, and national contributions. While these remain important, it is also imperative that Virginia Tech interpret its land-grant mission on a global scale and within the context of challenges and opportunities that exist transnationally. There are historical precedents for doing so. Universities have for many centuries depended on and benefited from faculty and students from many parts of the world; this trend has grown significantly. Today, our students and employees reflect the diversity of the world. Virginia Tech will help solve complex problems, including crises related to the environment, public health, and sustainability. By elevating a global purview for our land-grant mission, Virginia Tech will positively impact our interconnected world by advancing knowledge and solving complex challenges.

THE GLOBAL ECOSYSTEM

Society has undergone an information revolution in the past 25 years with rapid advancements in both technology and telecommunications. These forces have dramatically changed the environment in which higher education institutions operate and the world in which our students will live and work. The Commonwealth of Virginia has aggressively pursued international investments and sought international business partners for its products. With Washington, D.C., residing at our doorstep, Virginia Tech's home state and our nation are strongly linked to world economic trade.

Technology has improved opportunities for high-quality distance education, which has created a growing number of nontraditional students seeking to develop new skills that will make them more competitive in the knowledge economy. Nearly a decade after the original Beyond Boundaries vision, the use and application of new technologies to facilitate connection and improve learning outcomes is widespread. Historically, while distance learning was considered a characteristic of "nontraditional students," it is now a critical component of higher education institutions. Technological advances allow us to interact with others from across the globe. As we consider the increasingly interconnected lives that our graduates will lead, these advances challenge our university to enhance educational opportunities for students to serve society globally.

Within our digitally enabled, human-centered smart environments, students, faculty, and partners can experiment, prove ideas, and learn from failures using simulation, augmented and virtual realities, and other emergent technologies. Such learning environments should be pervasive across the curriculum and research enterprise, be seeded by big data flowing from the physical and digital world, and be flexible enough to adapt to a variety of applications and evolve over time. Creating these environments will require investing in facilities that support robust, high-quality connectivity, both on and off our campuses.

Many aspects of economic life and societal problems transcend national boundaries. Advances in communication technologies and transportation have effectively "shrunk" the globe, easing constraints of time and distance. We expect these trends to continue. The university of the future will be an educational entity not bounded, physically or programmatically, by the traditional campus. Companies and universities once competed for talent and resources throughout their states or regions and sometimes nationally. Today, many organizations, including universities, compete around the world for the best people. As quality, excellence, and impact are judged on a global scale, it behooves Virginia Tech to extend its reach and demonstrate its global impact.

Escalating challenges such as climate change, economic insecurity, water scarcity, and political conflicts have affected communities and institutions across the globe. As we approach 2050, universities will confront a future with fundamental conditions that may be starkly different from those of recent decades. Institutional agility, in this context, will be essential as Virginia Tech executes its mission while navigating a range of unpredictable conditions that continually produce opportunities for both positive and negative changes. Virginia Tech will remain committed to the vitality of human-centered approaches, sustainability, intellectual and academic freedom, accessibility, and equitable outcomes in our complex global society.

AFFORDABILITY AND COMMUNITY

Virginia Tech's vision must be considered within the context of changes across the commonwealth and the nation. State and local funding for education has fluctuated over the past 30 years, showing both growth and decline. In response to unpredictable financial support and enrollment expectations, universities are pressured to mitigate the cost of attendance while the nation is engaging in a conversation about the expense and relative value of higher education. Student loan debt has contributed to the sense of urgency that surrounds much of this conversation. Generating new net revenue is a vital first step toward enhanced funding for Virginia Tech that will enable the university to remain competitive and achieve its strategic objectives while investing in new initiatives and controlling escalating cost of attendance.

A strong university cannot exist in isolation. The surrounding communities' well-being directly impacts the university experience. Working collaboratively with the local and regional entities in which Virginia Tech is located is critical to developing and maintaining a thriving community with the infrastructure and amenities that attract and retain faculty, staff, and students and do so in a manner that addresses social and economic inequalities. When the community thrives, students feel a stronger sense of belonging and purpose, leading to higher retention rates and improved academic outcomes.

Beyond Boundaries moves Virginia Tech toward holistic affordability and access, not merely an ethical imperative but also as a strategic investment in its own future. By nurturing a supportive environment that addresses the multifaceted challenges faced by community members, Virginia Tech can cultivate a diverse and engaged student body, attract and retain talented employees, and become a catalyst for positive change locally and across the commonwealth. The dividends of such an approach will be reaped not just in the present, but for generations to come.

A FRAMEWORK FOR THE FUTURE

The Beyond Boundaries vision seeks to guide the university toward advancing as a globally recognized land-grant university while strategically addressing the challenges and opportunities presented by the changing landscape of higher education. The framework includes three discovery-themed concepts: the Future of Learning, the Future of Research and Discovery, and the Future of Engagement.

> The Future of Learning will focus on purpose-driven experiences in line with the *Ut Prosim* motto and landgrant mission of the university while ensuring disciplinary depth and interdisciplinary capabilities for students by offering flexible and personalized degree options in the educational experience for students to help address societal needs and become global citizens.



The Future of Research and Discovery will

ensure continued deep disciplinary expertise and highimpact scholarship while also extending these efforts beyond disciplinary boundaries to form innovation hubs supported by a diverse pool of highly qualified talents, both internally, and with external partners.



The Future of Engagement will support the *Ut Prosim* motto by engaging with communities of faculty, staff, students, alumni, and partners to develop problem-based approaches and solutions and offer opportunities for purpose-driven learning, research, and discovery in an interconnected global environment.

PRINCIPLES

The following principles were identified as critical to the university in the future:

Academic excellence, world-class research, and Ut Prosim

Virginia Tech is committed to enhancing and integrating its threefold mission of teaching and learning, research and discovery, and outreach and engagement.

Engaging the whole person

Virginia Tech has a responsibility not only to educate through hands-on, minds-on learning but also to create a diverse and inclusive environment that is person-centered.

Innovation

Through flexibility and continuous improvement, Virginia Tech will foster an environment of creativity and connectivity among all students, faculty, and staff – an environment that is easy to adapt in response to a changing landscape of higher education and societal trends.

Affordability and accessibility

As a land-grant university, Virginia Tech must be within reach financially for everyone who wishes to pursue academic excellence, world-class research, and service to the world.





The Future of Learning will prioritize purpose-driven engagement with a combination of disciplinary depth and interdisciplinary capacities while cultivating global citizens.

In recent decades, public debate has ebbed and flowed concerning the value of a liberal arts education versus a more applied or professional approach to preparing for a career. However, most educators believe that an either/or stance is a false dichotomy and that both bodies of knowledge are important for preparing productive citizens of the world. Beyond Boundaries proposes that Virginia Tech further develop its curriculum across the entire university so that we graduate students with broad, human-centered skills in addition to the deep knowledge required by disciplines or professions.

Providing a unique educational outcome, while essential, is not by itself sufficient in the modern world. The challenges of the future require the capacity to work in interdisciplinary teams, engage in critical and creative thinking, collaborate with people of diverse backgrounds, communicate effectively, and conduct oneself with a deep sense of ethics. Students at all levels will be mentored so that they develop a knowledge base and skills while immersed in a culture that unifies multiple disciplines.

An education from Virginia Tech incorporates elements of *Ut Prosim* and the land-grant mission to create a world-class educational experience. Emerging from this work is the notion of a "purpose-driven and learner-centered" curriculum design. A Virginia Tech education will engage the whole person and through inclusive connections will contribute to the value of individuals and to the groups in which they participate. To this end, Beyond Boundaries envisions significant changes in Virginia Tech curricula to reflect the belief that students at both the graduate and undergraduate levels will want to shape their own courses of study. A flexible and personalized approach enables students and faculty to be purpose-driven in curricular design and research, thus addressing the complex needs of communities and society at large.

The very nature of the land-grant mission revolves around communities and their needs. Defined in multiple ways, communities might include large or small geographic regions, professional groups, societal needs, and/or entire industries. Curricula must be flexible to reflect the demand for student engagement in interdisciplinary and transdisciplinary work. Our graduates will lead the way as they navigate and develop strategies to support the complex dynamics between work, the environment, and the global economy. While many higher education institutions value experiential learning — research, scholarship, internships, work experiences, service-learning, living-learning communities, study abroad, and cooperative education — they are often add-on benefits rather than being integrated into curricular design. As Virginia Tech incorporates curricular flexibility, experiential-learning options wrapped around an issue, problem, or topic of the community will be built into and form the center of the learning environment. Building flexibility into the process may demand a more modular approach to the desired and necessary body of knowledge required for graduation. It then becomes possible for off-campus players, such as employers or alumni mentors, to participate in or help develop a student's educational experiences.

It may take several decades to fully achieve some desired outcomes. Curricular design rests on long-standing principles of course credit and classroom hours. Understanding how to identify and transmit requisite bodies of knowledge outside traditional course-for-credit methods will take time and ample experimentation by our faculty and staff. Our approach will challenge existing financial and education models in ways that will affect real costs. To be successful, we must examine time-to-degree, reconsider traditional "seat" time, reimagine pricing paradigms, and leverage new technologies to manage enrollment domestically and abroad. Additionally, Virginia Tech must manage external constraints levied by the Commonwealth of Virginia and various accrediting bodies. The natural inclination to add time-to-degree must be resisted as we work to increase access to an affordable education. We also need to accelerate the pace of curricular change and review internal processes and procedures that could slow progress.

The task of creating flexible and personalized degree options, while infusing all three parts of the land-grant mission into the educational experience, will be a challenging endeavor. However, if driven forward by a supported faculty and staff, a further evolution of the land-grant university model will be reflected through a deep and finely tuned educational experience, focused and purpose-driven graduates, and the useful application of new knowledge that benefits society. In short, the Virginia Tech student of 2050 learns by doing, creating, and engaging, all in service to humanity, and does so not in isolation or as an academic exercise but with the support of a community.

FUTURE OF RESEARCH AND DISCOVERY

The Future of Research and Discovery will extend these efforts beyond current disciplinary boundaries to form a living laboratory that will project Virginia Tech to the world and bring the world to Virginia Tech.

A land-grant university concentrates on the creation and dissemination of knowledge to benefit the common good. Research and discovery, broadly defined, span the full range of scholarly inquiry and creative expression. Most higher education institutions provide transfer of knowledge organized around disciplines and this is unlikely to change in the next generation. Deep disciplinary expertise and high-impact scholarship, ranging from fundamental to use-inspired, will continue to be the foundation on which world-class research and discovery are built, impacting an institution's reputation and ability to attract talent.

At the same time, to address the world's multidimensional grand challenges, scholars must work together in a way that transcends disciplinary, geographical, social, and cultural boundaries. Situated in a problem-based context and driven by our motto, *Ut Prosim* (That I May Serve), Virginia Tech will continue to better integrate research excellence from across the university to solve complex societal problems, improve the human condition, and meet global sustainable development goals.

Virginia Tech will strategically capitalize on crosscutting strengths to boost its academic renown and reputation on an international scale. Operating among the world's leaders requires international research collaborations and a "brand" of academic excellence that is recognized by the world's best universities. A diverse pool of highly qualified talent — students, faculty, and staff — drawn from all corners of the planet is a requirement to realize this aspirational position.

A tightly coupled network of cross-sector partners will be instrumental to the Future of Research and Discovery. A greater variety of engaged stakeholders will be required to tackle the world's most complex problems through education and useinspired research. Higher education institutions are increasingly turning to the private sector, government agencies, and nonprofit organizations to enrich and fund robust academic and research environments. New funding models will likely emerge from these partnerships and in the future, students and institutions may be funded by a variety of sources. The Future of Research and Discovery will require new resources and strategic investment.

Reimagining the academic environment around innovation hubs and convening transdisciplinary research teams around unifying themes can integrate the full continuum of the university's land-grant mission. Physically compact and built on or around mixed-use facilities that offer retail, offices, housing, and cultural venues, these communities attract entrepreneurs and knowledge workers. Imagine students, faculty, and businesses or community partners intimately engaged: learning, working, and addressing fundamental problems together. Residing at the core of our innovation hubs are common issues, problems, or initiatives that bind these communities together. Innovation hubs will be supported by the depth of traditional and emerging core disciplines, becoming central elements to implementing purpose-driven learning and world-renowned research leadership.

At the graduate and professional levels, innovation hubs may support specialized training and mentoring with public and private agencies. These partnerships would lay the groundwork for meaningful employment opportunities outside academia and potentially fund students in exchange for service upon graduation. The campus of the future should move toward creating spaces that promote "productive collisions" that abound when living, working, learning, and recreation interact freely in shared physical and virtual spaces to promote innovation. Strategic partnerships will help support the "living lab" concept in which students, researchers, and partners come together in a defined problem space. Living-learning facilities can help to foster the development of such spaces. We envision that tomorrow's campus will form a network of innovation hubs around the globe, providing opportunities for in-person and virtual engagement with diverse sectors, organizations, and international economies to solve worldwide complex problems.

As change accelerates in the world, it is challenging to envision how research and discovery will evolve by 2050. However, we know that an unwavering commitment to academic freedom and free inquiry will remain essential to nurturing and supporting the human talent needed to address the world's most pressing problems. To reach our vision for the Future of Research and Discovery and maximize global impact, the research enterprise at Virginia Tech must be forward-thinking, able to imagine and predict emerging issues, and ready to lead transformational change. We also must be agile and ready to pivot and react promptly to changes in global trends and challenges. This ability to respond, adapt to change, and meet challenges as they evolve are essential characteristics of the university of the future.

FUTURE OF ENGAGEMENT

Engagement within and beyond the university extends Virginia Tech's influence in service of its tripartite mission and motto of *Ut Prosim* (That I May Serve) beyond traditional boundaries.

The Future of Engagement integrates with the Future of Learning and the Future of Research and Discovery. As Virginia Tech continues to evolve Beyond Boundaries, we will need to ensure there is permeability across and between the three elements of the tripartite mission for the university to thrive now and in the future.

Inspired by Virginia Tech's land-grant mission, military legacy, history of outreach, and role of Extension offices, engagement builds upon our responsibility to disseminate knowledge and to work to the benefit of communities. Engagement in the future will leverage these strengths to include problem-based approaches and will occur through a variety of structures, systems, and exchanges that will continue to evolve. At the core of engagement are people and communities, who will collaborate to advance the application of knowledge to real-world settings.

The future of engagement requires a strong community of faculty, staff, students, alumni, and partners. Virginia Tech's commitment to engagement and excellence demands dedication to valuing the human talent that spans the entire university. Providing services and resources that allow our communities to thrive and experience well-being is essential for them to fully participate in the university's engagement mission. By valuing its full range of human talent, Virginia Tech demonstrates that it understands its own ecosystem, thrives on the contributions of all its members, and is committed to building a truly inclusive and successful future. Considering the compelling need to nurture intercultural and global outlooks, engagement beyond our physical campuses will be essential. Time away from one campus amplifies learning in ways not possible in traditional classrooms or in a relatively cloistered campus environment. Future technologies will support rich virtual environments, seamlessly connecting people around the globe and allowing virtual faculty, student, mentor, or work relationships. Where a physical presence is necessary, a global engagement hub may be established. These hubs would be integrated with and supported by the local communities.

Global interconnectivity and technological advancements challenge higher education institutions to reconsider their engagement mission. Virginia Tech will place graduates on a path toward becoming global citizens so that they may successfully live and work in an interconnected world. Inclusive communities — which exhibit a lifelong commitment to understanding, empathizing with, and learning from diverse collaborators are central to this trajectory. Developing global competencies and undertaking culturally enriching global experiences will be key to providing students with the tools to work effectively across cultures. Our curricula, organizational structures, and incentives must allow space for new types of international experiences to support the future of engagement.

FUTURE DIRECTIONS

Future directions will inform strategic development of metrics and milestones to define success and measure progress that constitutes a path toward the long-term vision.

Advance academic excellence and our scholarly profile to differentiate the Virginia Tech experience and deepen the university's value to its faculty, staff, and students, as well as the commonwealth, nation, and the world. In an era where knowledge is widely available and resources and talent move freely around the globe, we should aspire to advance Virginia Tech's global distinction.

2 Foster learners who prioritize purpose-driven engagement with a combination of disciplinary depth and interdisciplinary capacities. Future learners include students, faculty, staff, university partners, and friends who are bound together as contributors to their communities and are dedicated to lifelong learning.

3 Offer flexible and personalized degrees to support increasing interest in and demand for interdisciplinary work. Interdisciplinary capacities will be acquired both inside and outside of the traditional classroom and applied toward degree requirements. We recognize that a single trajectory of study may not meet the needs of each unique Virginia Tech student. The curriculum is adaptive, customizable, and inclusive to each learner.

Become a problem-situated, distributed institution that tackles interrelated, local, state, and global problems. Extend beyond current disciplinary boundaries to form innovation hubs and transdisciplinary teams that will project Virginia Tech to the world and bring the world to Virginia Tech.

5 Integrate the tripartite land-grant mission so that graduate and undergraduate students engage in meaningful research, work, and learning experiences. Virginia Tech's engagement mission undergirds this approach. 6 Cultivate global citizens by enhancing international engagement on our existing campuses and viewing the world as our extended campus. Leverage innovative technologies so that students may share international experiences with one another. Understand difference through inclusion, the presence and practice of the arts, and human-centered approaches to learning. Engage with diverse cultures by strategically advancing global engagement hubs.

Value human talent that spans the entire university. A thriving university ecosystem relies on instructional faculty and researchers and the skillful talent and dedicated minds of the staff who work across all the university operations. By valuing its full range of human talent, Virginia Tech will thrive upon the contributions of all its members and build a truly inclusive and successful future.

8 Grow infrastructure with a networked and nimble approach that integrates future physical and technological demands. Physical space requirements will exist on a continuum of temporary to permanent. Human-centered smart technology will change the need for traditional academic spaces and places.

9 Adopt reflexivity and evaluation to become an agile organization that continuously and rigorously innovates, adapts, and improves.

10 Nurture diverse partnerships and develop new and varied funding models to support investment in new initiatives.

THE FUTURE OF **THE UNIVERSITY**

Virginia Tech is poised to confront the changing future. Two resounding themes of the vision are dynamism and agility characteristics not often used to describe higher education institutions in the traditional context. In order to achieve the environment outlined in this work, institutional structures will have to evolve to meet new demands. We challenge the university community to keep the discussion alive through experimentation and testing. The Beyond Boundaries vision will be a mechanism for cultivating the university community's efforts toward strategic action, and addressing important questions, such as, how do we best incentivize, develop, and support faculty with diverse talents? How do we design curricula to be adaptive while still meeting the high standards of accrediting bodies? How do we invest in new initiatives with new funding sources?

Virginia Tech will create an environment that is agile, transparent, and adaptable. A culture of self-evaluation and innovation requires both bold ideas and resources. These two ingredients need to advance hand-in-hand. To be sure, some of the anticipated changes, including new technologies, international experiences, and scaled-up engagement opportunities, will be costly. We welcome the opportunity to examine our current investments — monetary and nonmonetary — and reallocate resources based on impact. Financial giving and collaborative partnerships will be an increasingly important part of Virginia Tech's *Ut Prosim* (That I May Serve) culture — and the culture will result in increased philanthropic revenue. As a result of its scholarly excellence, Virginia Tech will more routinely realize transformational gifts large enough to seed and sustain programs of excellence. Indeed, the vision of the Beyond Boundaries committees presents significant yet worthwhile upheavals in our current system. We will require new metrics to evaluate the success of concepts that have otherwise been routine and embedded in the university culture. This process has just begun — and fortunately, many kernels of these outcomes are already in place.

The university concept, now almost a millennium old, derives some strength from the powerful human urge to understand the world around us — the timeless pursuit of knowledge for knowledge's sake. But American higher education, and particularly land-grant universities, enhance this mission with purpose-driven learning. The land-grant schools afforded the nation a social construct for upward mobility, economic development and competitiveness, critical and scientific inquiry, and improving the human condition. In part, land-grant universities have done so by adhering to the inherent values in this unique model. Virginia Tech's engagement-based mission combined with an emphasis on the future of learning, community, and research and discovery presents an opportunity to differentiate itself.

The academy today is different from that of the 19th or 20th century. We trust that readers of this visioning document will use the ideas presented here as a starting point for building on the land-grant vision to mold the university of the future into a dynamic institution poised to address contemporary needs.



APPENDIX A

ADVANCING BEYOND BOUNDARIES

The Beyond Boundaries vision established a seamless transition into a university wide strategic planning process. Here, the university community had the opportunity to define and implement the complex ideas introduced in this report. As a result, the university strategic plan, "The Virginia Tech Difference: Advancing Beyond Boundaries," was unanimously approved and adopted by the Board of Visitors in 2019. This plan established a framework of four strategic priorities to guide us toward the Beyond Boundaries vision and has a set of publicly available and annually updated metrics at https://udc.vt.edu/spm/.

University strategic priority one, Advance Regional, National, and Global Impact, aligns with long-term aspirations for community collaboration and worldwide prominence measured by achievements in research activity, experiential learning, and innovative approaches to industry.

University strategic priority two, Elevate the *Ut Prosim* (That I May Serve) Difference, recognizes the integral connection with Virginia Tech's land-grant responsibility of access and opportunity and its mission of service to humanity, including advancing InclusiveVT, the institutional and individual commitment to *Ut Prosim* (That I May Serve) in the spirit of community, diversity, and excellence.

University strategic priority three challenges the university to Be a Destination for Talent in which the well-being and quality of life for students, staff, and faculty are supported and empowered by the university.

Finally, university strategic priority four, Ensure Institutional Excellence, addresses optimized efficiency and effectiveness of administrative functions to ensure alignment of personnel, resources, and process throughout the organization.

APPENDIX B

- PREVIOUS LETTER TO READERS FROM 2016 BEYOND BOUNDARIES REPORT

Dear Readers:

Throughout the world, higher education institutions are facing new opportunities and challenges. Leaders, critics, and other constituents are raising questions about the status quo and are working to chart the course for the next generation of learners. Virginia Tech is poised to lead the conversation about the role of public higher education in this changing landscape. How can we prepare students for a much different world than that which exists today? How will we leverage engagement and service on a global scale? And as we advance on these dimensions, how will Virginia Tech excel and simultaneously ensure an accessible and affordable educational experience?

Beyond Boundaries: A 2047 Vision offers a framework for the future as we look ahead to the 175th anniversary of Virginia Tech. In August 2015, President Tim Sands challenged the university community to envision Virginia Tech a generation into the future without the confines of today. In response, more than 90 committee members met during the 2015-16 academic year to imagine what we could and should be. This paper represents the work of thought leaders from across the university and is just the beginning of an ongoing dialogue and new understanding of the university's future in a changing landscape.

It is important to consider this work alongside the many existing initiatives and efforts underway at Virginia Tech. The Beyond Boundaries process has specific ties to InclusiveVT, Destination Areas, and the university strategic plan. These efforts are inextricably linked. The success of this vision is dependent on the university community working together to challenge aspects of our current environment and refine and implement emerging initiatives.

Beyond Boundaries committee members organized around themes of student preparedness, the campus of the future, new funding models, and our global land-grant mission. What began as a process organized around these four themes quickly transformed into overlapping discussions and shared concepts. The theme of improving the human condition through applied service underscores the concepts we introduce in this paper as VT-Shaped Discovery, Communities of Discovery, and Nexus of Discovery. This document details these concepts and future directions for Virginia Tech.

We encourage you to visit the Beyond Boundaries website for a complete set of related documents including committee membership and reports, community input analysis, and related research.

We thank the Beyond Boundaries participants for their service toward envisioning Virginia Tech's future, and we look forward to continuing the dialogue – and the challenge – with you.

Sincerely,

Rosemary Blieszner, Alumni Distinguished Professor, Department of Human Development and Associate Dean, Graduate School Alan Grant, Dean, College of Agriculture and Life Sciences Thanassis Rikakis, Executive Vice President and Provost

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