UNIVERSITY OF
CALGARY

energizing
EYES HIGH
Strategy 2017-22

Environmental Scan Working Paper

January 2017

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1. Executive Summary

The University of Calgary invited members of its community to identify plans and reports that provide information about the University of Calgary's operating environment. Plans and reports were reviewed from the perspective of the political, economic, social and technological environment. Trends were then grouped within the three (3) foundational commitment areas of the *Eyes High* Strategy as well as two (2) additional areas – campus culture and student experience. The objective of this investigation was to help the energizing *Eyes High* team better understand the current operating environment to inform necessary changes to the current *Eyes High* strategy.

The environmental scan considered key planning documents produced by the Government of Canada, the Government of Alberta, the City of Calgary, and the federal research granting councils. Also, the strategic plans at other institutions were reviewed, along with many supporting documents.

The environmental scan begins with a review of political, economic, social and technological trends. The political environment is dominated by efforts to diversify the Alberta economy and address climate change along with new PSE funding and grant council funding. The oil shock and the economic downturn are the primary economic factors. A decline in the traditional university age population and other demographic factors that influence enrolment are they key message of the social environment. Technologically, new learning technologies and increased connectedness are important trends. Shown below are highlights of the trends identified within this report grouped within the five commitment areas.

Sharpen Focus on Research and Scholarship
The strategic plans of peer institutions and the granting councils highlight the role universities play in making ground-breaking discovering for complex problems using multi-disciplinary teams. Both a focus on university strengths and high levels of communication is necessary. Research must also respond to the needs of society and be translated into action.

Enrich the Quality and Breadth of Learning
The strategic plans of Government of Alberta's Ministry of Advanced Education and those of our peer institution discuss the promotion of excellence in teaching and learning through innovation in teaching methods and support for co-curricular experiential learning.

Fully Integrate the University with the Community
It is vital for the university to build on its existing partnerships with the community, particularly the Indigenous community, including the First Nations, Métis and Inuit peoples. The university can be a community hub that makes partnerships across the community.

Student Experience
Other university strategic plans feature the importance of a supportive campus focused on student success. The importance of high-impact co-curricular activities is also mentioned in peer strategic plans.

Campus Culture
Many of the strategic plans mention the importance of an engaged campus culture than provides safe and respectful spaces for all students, faculty and staff.

2. Background and Objectives

This section provides the background to the environmental scan, and the reasons it was conducted. It also includes information on how the results are intended to be used.

2.1 BACKGROUND

In 2011, the University of Calgary embarked on a journey to define its future direction. It had experienced significant momentum and growth in a community known for its energy, opportunity and expectation of excellence. There was a shared sense that the 'time was right' to raise the bar on the impact of the University of Calgary locally, nationally and internationally. A broad consultative process was launched in January, 2011 as part of Project Next. The key deliverables were to:

- provide opportunities for the campus community to listen, learn and share;
- build consensus and alignment for the future;
- articulate an inspirational strategic statement and institutional values;
- increase pride through clarity of purpose; and
- establish a framework for decision-making and resource allocation.

Over 4,000 students, faculty members, staff, alumni and community leaders participated in the process through a broad range of engagement tools including workshops, social media and one-on-one conversations. Based on this consultation process, the *Eyes High* strategic planning document was approved in June, 2011.

The *Eyes High* strategy articulates an inspirational strategy statement. The *Eyes High* strategy is supported by three foundational commitments: (1) sharpen focus on research and scholarship, (2) enrich the quality and breadth of learning, and (3) fully integrate the university with the community. The *Eyes High* strategy served as a guide to planning, development activities, priority identification, and resource allocation, as well as measuring and reporting progress over the past five years. It also served as a beacon for change, elevating excellence and building a strong community around a shared future.

Given that 2016 is the University of Calgary's 50th Anniversary, it was both timely and befitting to "energize" the *Eyes High* strategy so it could continue to provide the platform from which the University of Calgary leverages its momentum and aspirations. The process to energize the *Eyes High* strategy was similar to that of Project Next. It provided opportunities for the university and its primary stakeholders to review progress to date. Additionally, members of the community were invited to share in the development of a new future for the University of Calgary. Five background documents were developed to inform the Energizing *Eyes High* consultation process. They describe where we started in 2011 and our path to achieve success by 2016.

2.2 OBJECTIVES

The primary objectives of the environmental scan were to present an overview of the changing political, economic, social, and technological environment in which the University of Calgary operates, and discuss the implication of this changing environment on an energized *Eyes High* Strategy.

3. Methodology

This section discusses the list of materials under review. It has been structured into sub-sections to adequately cover all details.

3.1 ENVIRONMENTAL SCAN SCOPE

As part of its strategic planning exercise, the University of Calgary must understand the priorities of all three levels of government. At the federal level, the government pursues its own technology and innovation policy that relies on the participation of Canada's research intensive University. The Tri-Council (i.e., NSERC, SSHRC and CIHR) provides funding and direction for these policies. At the provincial level, the Ministry of Advanced Education is responsible for the governance and the funding of the post-secondary education (PSE) sector. Understanding the strategic priorities of both the provincial government and the Ministry of Advanced Education is vital in the strategic planning process of the university. At the municipal level, the university is one of the largest employers in the City of Calgary and remains a key engine of economic diversification for the city. Alignment of the strategic priorities of the city and university is important. The University of Calgary is a member of the U-15 group of top research universities in Canada. The environmental scan looked at each of the U-15's strategic plans as well as the plans from other key research intensive universities. The scan also examined plans from other Alberta universities, particularly those in Calgary.

3.2 DATA COLLECTION

The University of Calgary's Office of Institutional Analysis (OIA) was responsible for identifying key documents for the environmental scan. Additionally, focus group participants and survey respondents were invited to identify plans and reports that should be reviewed as part of this investigation.
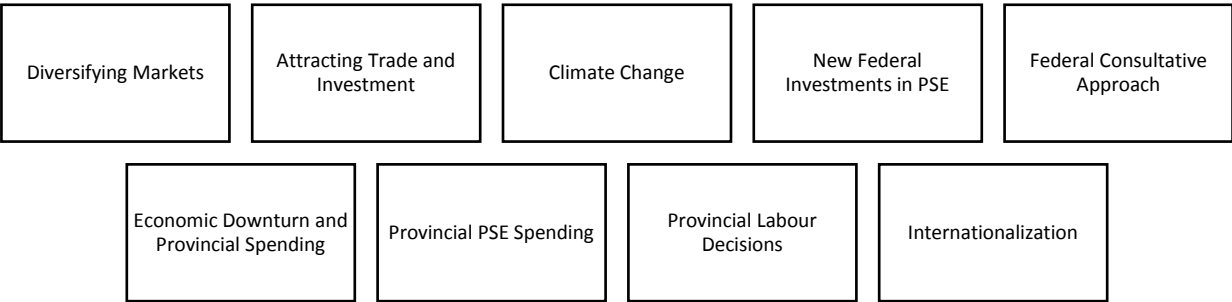
4. Results

To begin, this report will conduct an analysis of the environment focusing on the political, economic, social, and technological and environmental trends affecting the university. The paper will then turn to an analysis structured along foundational commitment areas.

4.1 POLITICAL ENVIRONMENT

As a part of the environmental scan, we reviewed internal and external plans and reports to examine the political and legislative environment at the national, provincial and municipal level. The following trends emerged from the analysis:

Figure 1 – Political Trends

Diversifying Markets	Attracting Trade and Investment	Climate Change	New Federal Investments in PSE	Federal Consultative Approach

Economic Downturn and Provincial Spending	Provincial PSE Spending	Provincial Labour Decisions	Internationalization

- **Diversifying Energy Markets** – The Government of Alberta suggests that the lack of a coherent market access plan has exacerbated the province's economic situation. This will be a major area of focus for the Government of Alberta this year. Premier Notley has argued that inaction on climate change has impeded efforts to move energy products in recent years. Following the release of the Climate Leadership Plan in late 2015, the government believes it is in a better position to work with other governments on pipelines in order to better access energy to markets. Actions this year in this regard include: continued intergovernmental engagement on pipelines, showing leadership on climate change, and working with the federal government towards a permanent energy regulatory regime that is both effective and predictable. Accordingly, the City of Calgary plans to strengthen Calgary's position as a global energy centre;

- **Attracting Trade and Investment** – The Government of Alberta notes that focusing on trade and investment is vital to Alberta's economic stability and success. It will do so by promoting Alberta's goods and services to target markets, by supporting businesses through commercial services, such as market intelligence, and in identifying and introducing Alberta companies to international opportunities. The government also plans to promote opportunities in Alberta to attract and retain foreign direct investment and generate capital in order to strengthen and grow Alberta's industries. It will also actively monitor and assesses major foreign investment proposals in the province. The City of Calgary has developed a plan to strengthen Calgary's position as a destination for international talent, investment and innovation through enhanced business development, marketing and place-making initiatives;

- **Climate Change** – Both the Federal and Provincial governments have identified climate change as a priority, and are putting a price on carbon as a key strategy for dealing with it. Action on climate change is critical to the Alberta Government's efforts to diversify its economy as well as its energy use. The OECD Education Trends 2016 document identifies climate change as a complex problem that will require global interdisciplinary solutions. Universities can play a role in determining how to reduce carbon emissions by improving energy efficiency, and by supporting energy and climate research and innovation.

- **New Federal Investments in PSE** – In the 2016 Federal budget, there were significant investments to support students and Post-Secondary Institutions, including $2.0 billion in the Strategic Investment Fund. The University of Calgary received $78.0 million in federal support for eight infrastructure projects that are a total of $160.0 million investment. The budget also included $95.0 million per year to the three granting councils without direction from the government into specific research areas.

- **Federal Consultative Approach** – The Trudeau Cabinet has been characterized as widely consultative, both with stakeholders and other levels of government. There have been several consultations, including an independent review of fundamental science and a consultation on the Innovation Agenda. Many of the government's consultations will end in late 2016, with budget 2017 set to implement programs as a result of these consultations.

- **Economic Downturn and Provincial Spending** – The economic downturn will have significant negative effects on provincial revenue over the next three years. A $10.4 billion deficit is expected for 2016-17, $10.1 billion for the next year, with an estimated $8.3 billion deficit for 2018-19.

- **Provincial PSE Spending** – The provincial budget confirmed the 2.0 percent increase in Campus Alberta funding (which will partially offset inflation), and anticipated continuation of 2.0 percent increase. Additionally, new infrastructure investments for University of Calgary priority projects.

- **Provincial Labour Decisions** – The Government of Alberta will review the Post-Secondary Learning Act (PSLA) and the Public Service Employee Relations Act (PSERA), which will determine strike/lockout rights. The Government of Alberta also passed the Public Sector Compensation Transparency Act, which requires the university to disclose compensation for employees earning over $125,000.

- **Internationalization** – One of Alberta's Advanced Education's key strategies must be to support international education programs so that Albertans can develop the skills that will allow them to successfully engage in the global economy. The second must take into account that attracting international students is what drives Post-Secondary enrolment growth in Alberta. The Alberta government, however, does not currently have a good way to measure the impact of international students and graduates on economic growth, strength or stability.

4.2 ECONOMIC ENVIRONMENT

As a part of the environmental scan, we reviewed internal and external plans and reports to examine the economic environment at the global, national and provincial level. The following trends emerged from the analysis:

Figure 2 – Economic Trends

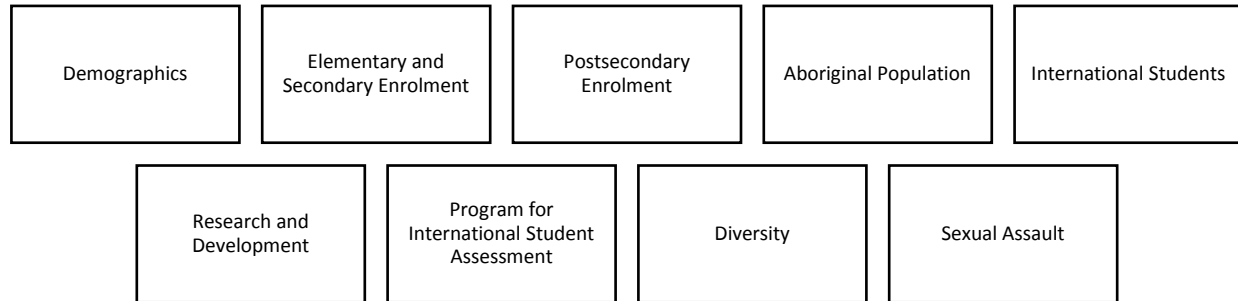| Economic Outlook	Labour Market	Inflation and University Costs	Interest Rates	Exchange Rate	Entrepreneurialism

- **Economic Outlook** – According to the Winter 2016-17 ATB Economic Outlook, the Alberta economy is expected to contract by 2.6 percent this year and grow 2.1 percent next year. Oil prices have rebounded somewhat, which should bring more stability in 2017. The Alberta economy is in downturn due to the severe oil price shock. After GDP contracted in 2015, real GDP is forecast to decline by 1.4 percent in 2016. Nominal GDP is forecast to fall by $57.0 billion between 2014 and 2017 and not to return to pre-recession levels until 2019. For the past three quarters, the province has experienced net interprovincial outmigration. The economy faces weak consumer and business confidence, but retail and housing markets are relatively stable.

- **Labour Market** – Despite deteriorating economic conditions and declining employment, Alberta's labour force has continued to expand. This has resulted in an increasing unemployment rate, which surpassed the national rate for the first time and reached a 20-year high of 7.9 percent early in 2016. Currently, the unemployment rate in Alberta has almost reached 9.0 percent, and is expected to remain elevated over the next two years, averaging 8.0 percent in 2016 and 7.5 percent in 2017. With the current downturn in the Alberta economy, Alberta Advanced Education forecasts heightened enrolment pressure for adult learning at a time when the needs of employers are rapidly changing. In contrast to the economic downturn, there are shortages in areas that demand advanced skills and higher levels of education. Despite Calgary's highly skilled and educated workforce, the City of Calgary strategic plan had identified that employers still face challenges in attracting, developing and retaining employees.

- **Inflation and University Costs** – Low energy prices and weaker economic activity have kept Alberta inflation contained. This has partially offset the impact of the lower Canadian dollar. Inflation is expected to rise to 1.5 percent in 2016 and average about 2.0 percent after. The majority of the University of Calgary's costs are local, and so are mostly heavily impacted by inflation and labour market rates. Library acquisition costs are mainly international, as are specialized equipment and services supporting research, and so inflation for those purchases can exceed the local CPI. On a year-over-year basis, Albertans paid 0.5 percent more in October 2016 than one year ago. Annual grant and tuition increases should be at an inflation rate calculated based on institutional cost drivers (e.g., salaries, benefits, utilities, supplies), such as the Higher Education Price Index (HEPI). Anything less will lead to an erosion of quality as costs increase at a different (generally higher) rate than revenues.

- **Interest Rates** – Long-term interest rates have fallen to historic lows due to slow growth and low inflation expectations. The Bank of Canada is likely to hold off on any rate increases as long as Canada's economic and inflationary outlook remains sluggish.

- **Exchange Rate** – Over the past year, the Canadian dollar has lost roughly 15 cents against the U.S. dollar in 2015-16. A strong U.S. dollar has played a major role in the depreciation of the Canadian dollar.

4.3 SOCIAL ENVIRONMENT

As a part of the environmental scan, we reviewed internal and external plans and reports in order to examine the social environment in the City of Calgary, Alberta and Canada in general. The following trends emerged from the analysis:

Figure 3 – Social Trends

Demographics	Elementary and Secondary Enrolment	Postsecondary Enrolment	Aboriginal Population	International Students

| Research and Development	Program for International Student Assessment	Diversity	Sexual Assault

- **Demographics** – Demographic projections show that the traditional university-age population will decline in the next decades, except for Indigenous Canadians and immigrants. Such diversity in types of learners is increasing. Meeting their needs, which may be different from traditional students, is important to responding to the new economy.

- **Elementary and Secondary Enrolment** – After peaking in fiscal year 2002-03, elementary and secondary school enrolment in Canada declined by an estimated 7.4 percent. However, the declining trend in elementary and secondary enrolment is now at an end with enrolments set to increase by 17.0 percent between 2015-16 and 2034-35.

- **Postsecondary Enrolment** – Postsecondary enrolment surged at the onset of the recession and has remained high since that time due to tough labour market conditions for youth. But the increase in postsecondary enrolment is expected to have peaked in 2013-14, and is expected to fall until 2023-24. The number of applicants to Alberta's PSE system has increased every year for the past five years, driven primarily by applicants from other provinces and from outside Canada. Sixty percent of Alberta high school students transition to PSE within six years of entering grade 10, a rate that has remained stable over the past five years. Nationally, due to the baby-bust period in the 1970s, we observe a relatively large decline in the population of 17 to 29 year-olds from 1991 to 1998. However, increased numbers as a result of the Echo boom cohort can be observed for this age group starting around 2003. The effect peaked in 2012-13, and will shrink by 400,000 by 2028. In contrast, Ontario, Alberta and British Columbia are characterized by a general increase in the 17 to 29-year-old population, and a less acute decline past the peak.

- **Aboriginal Population** – In Alberta, the Aboriginal population is both younger and growing faster than the non-Aboriginal population. For the Aboriginal population, both the high school graduation rate and the PSE attainment rate are lower. The number of Aboriginal learners in PSE and the proportion of students who are Aboriginal has increased. Collaboration with Indigenous partners and adult learning providers is therefore a key strategy in improving the learning outcomes for indigenous Albertans. Indigenous Albertans follow different learner pathways through post-secondary education than others. A larger proportion of Aboriginal students are enrolled in preparatory and basic upgrading as well as non-credential programs.

- **International Students** – Alberta has the fourth highest number of international students (after Ontario, BC and Québec). The number of visa students enrolled in Alberta PSE has doubled over the past ten years.

- **Program for International Student Assessment** – Canada is among the top performers in reading, mathematics and science in PISA 2012 although the performance of 15-year olds has decreased across PISA cycles. The impact of socio-economic status on student performance (9.4 percent) is lower than the OECD average (14.0 percent).
- **Diversity** – Several strategic plans (e.g. Western, UBC, Cornell) highlight the importance of a diverse faculty, staff and student body. Western University, for example, has developed a diversity inclusion plan that holds the university accountable for diversity in the composition of staff and faculty at all levels, and which also highlights the importance of representations of diversity in ads and other materials. The NSERC strategic plan also sets the diversity of researchers as a goal, particularly highlighting the need for women, First Nations, Inuit and Métis to become researchers.
- **Sexual Assault** – Reports from the University of Ottawa and St. Mary's University tackle issues of sexual violence on campus. Creating university communities that are safe and respectful for all appears in many university strategic plans.

4.4 TECHNOLOGICAL ENVIRONMENT

Technological change and development is a key part of the environment. As a part of this scan, we reviewed internal and external plans and reports to examine the technological environment. The following trends emerged from the analysis:

Figure 4 – Technological Trends

Learning Technologies	Connectedness	Research Technologies	Online Learning
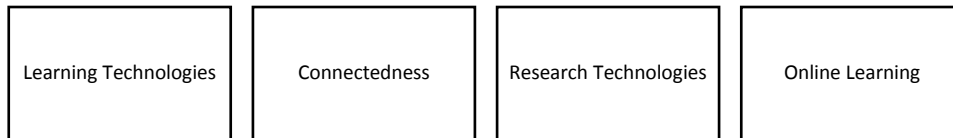
- **Learning Technologies** – Technology plays an increasingly important role in teaching and learning as well as research. Several university strategic plans highlight the importance of digital technology to higher education and outline the ways in which they use digital technology to deliver learning and services to students. New technologies are changing the ways students and professors connect, communicate and collaborate in both online, offline and blended modes of instruction. An important point to remember, however, is that even though these interactions may be mediated through technology, the key to higher education is human interaction.
- **Connectedness** – Across all OECD countries, the share of Internet users increased from 61.0 percent in 2006 to 79.0 percent in 2013. National average range from 50.0 percent in Mexico and Turkey to 95.0 percent in the Nordic countries. Calgary is a highly connected city, with 97.0 percent of the population having access to the internet at home.
- **Research Technologies** – The SSHRC strategic plan describes how technological change has influenced both the nature and scope of research. Digital technologies open up new avenues to research in all disciplines.
- **Online Learning** – With the delivery mode of instruction changing to include more online instruction, it is important that students be included in the plans for high quality instruction.

4.5 SHARPEN FOCUS ON RESEARCH AND SCHOLARSHIP

Within this key area, we reviewed internal and external plans and reports to determine where we should capitalize on the multiple perspectives, data, methodologies and concepts of collaborators across disciplines to increase our research impact in thematic areas where we had strength and interest. We also examined reports: 1) on how we should hire and retain talented individuals to provide the support critical for researchers to be leaders in their fields; 2) on how we should apply solutions to the real world through effective knowledge translation; and 3) on how we should support our faculty and staff members in order to make their research findings available. We also reviewed how we should seek strategic partnerships with industry, governments, agencies and other universities that could be partners in our mission of discovery and realization. The following themes emerged from the analysis:

Figure 5 – Sharpen Focus on Research and Scholarship

Scholarly Collaboration	Strengthening Research Themes	Ground-Breaking Discoveries	Responding to Societal Needs	Translating Knowledge for Societal Needs	Faculty Renewal	Research Support
Measurement	Communication	Partnerships with Industry	Partnerships with Stakeholders	Entrepreneurial and Innovation	Researcher Diversity	Digital Technology

- **Scholarly Collaboration** – Research performed at Campus Alberta institutions generates knowledge to answer complex questions, find solutions, challenge assumptions, validate prior findings, and contribute to a greater knowledge-base of scientific understanding. Alberta researchers engage in scholarly collaboration that allows researchers to participate in leading-edge developments. The student learning experience and quality is enhanced by faculty working at the leading edge of their fields of study, and by the opportunity to train on state-of-the-art infrastructure using advanced research techniques. Interdisciplinary activity is a key theme in many university strategic plans. One key finding that re-occurs in the document is that the challenges that society faces (big and small) do not exist within disciplinary silos, and thus require interdisciplinary cooperation to solve.

- **Strengthening Academic Programs and Research Themes** – A number of peer institutions plan to focus on strong or potentially strong academic programs that are strategically important to the university and which maintain areas of excellence within each of the basic academic groupings— humanities and the arts; life sciences and agricultural sciences; physical sciences and engineering; social sciences; and professional schools. In other words, they plan to create and maintain academic leadership across all of the broad areas, but do so selectively and strategically within each. A number of peer institutions plan to significantly advance research in each of their research theme areas over the next five years, as well as particular opportunities in these areas.

- **Research and Development** – Canadian universities perform more than one-third of Canada's research and development, undertaking $10.0 billion worth of research activity annually.

- **Ground-Breaking Discoveries** – The purpose of research-intensive universities is to make ground-breaking discoveries, and to seek and transmit knowledge and new understanding. They encourage and facilitate knowledge and technology transfer to ensure that society can realize the benefits of intellectual capital arising from research and creative endeavors. Alberta's post-secondary system is also home to extraordinary researchers, innovators and entrepreneurs who play a key role in generating and commercializing new ideas and technologies for the benefit of the province. Universities must support interdisciplinary work and an interdisciplinary culture.

Many strategic plans discuss the creation of interdisciplinary teams or university-level research centers to tackle these problems.

- **Responding to Societal Needs** – Alberta Health Services (AHS) notes that it has a responsibility to inform its academic partners, industry sponsors and funders, including foundations, about the clinical and population health needs that are relevant to Albertans. By matching Alberta's research and innovation talent with demonstrated needs, funders can have greater confidence that their investments will benefit our patients and our health system. AHS plans to ensure that research, innovation and analytical activities remain relevant and bring value – through solutions that support improvements in health care across all six dimensions of quality: acceptability, accessibility, appropriateness, effectiveness, efficiency and safety. The vast majority of health research within AHS is conceived and led by independent investigators who generally define their own research questions, attract independent funding and partners, and assemble appropriate teams of researchers to address their questions over time. Successful investigators build research programs with multiple sources of support, such as grants, contracts and philanthropy.

- **Translating Knowledge for Societal Needs** – According to AHS, there is a need to create new knowledge with academic partners and to translate the knowledge into measurably better health and health system outcomes. The adoption of new knowledge and evidence into care occurs much sooner when those using the knowledge are engaged in all phases of research and innovation: from setting priorities, allocating funding, and implementation through to the translation and adoption of the findings. The early and active involvement of clinicians, physicians, managers, patients and policy makers in research and innovation integrates them into the research team, thereby clarifying: (a) what knowledge is needed; (b) the potential challenges of adoption; and (c) how the research will make a difference to patient outcomes. Another key theme that emerges in the document is the link between the interdisciplinary research and sustainability.

- **Faculty Renewal** – In the various university strategic plans, the importance of building on the strengths of the existing faculty is highlighted. In order to maintain and expand a talented, diverse and highly qualified faculty, the university should both recruit new faculty and support the existing faculty, including offering career paths for contract academic staff that may include continuing appointments based on demonstrated teaching excellence.

- **Research Support** – The Alberta Health Services strategy identifies its key commitment to supporting researchers by strengthening its researcher's competitiveness in seeking funding for research. Additionally, researchers must have the required data infrastructure to complete their research.

- **Measurement** – Today, a wide range of metrics are used to measure the three elements that constitute the core of research-intensive universities: research, education and knowledge exchange/technology transfer. This is mainly done by measuring input flows such as money and the number of students and output flows such as citations, number of publications and graduates.

- **Communication** – In policy, research – no matter how well done – needs to be expressed correctly. It must be framed to have maximum impact on the policy world: presenting clear and relevant policy options in a lively way that strikes a chord with both decision makers and the public, while not ignoring the complexities and uncertainties that characterize the real world of research. That's a special skill. Through the Strategic Partnership to Accelerate Research into Care (SPARC), AHS would like to shorten the timeframe for new discoveries to be adopted into the healthcare system. Alberta universities are a key part of this initiative.

- **Partnerships with Industry** – Partnerships between universities and with private companies can be extremely successful in pushing forward the frontiers of knowledge. Universities can take the
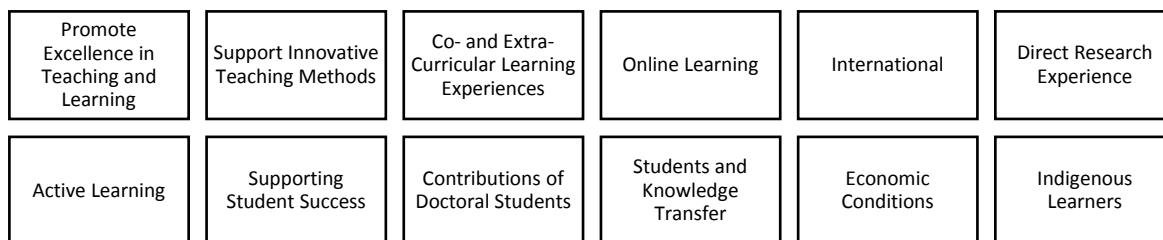
lead to develop long-term partnerships that allow both parties flexibility. Entrepreneurialism is also associated with partnerships with industry in many of the university strategic plans. These partnerships can be a key means of knowledge transfer through commercialization of research.

- **Partnerships with Stakeholders** – A key strategy is to promote stronger partnerships between the university and its stakeholders. These partnerships are a way for the university to bring its research expertise to bear upon policy-related problems.

- **Entrepreneurialism and Innovation** – Both Entrepreneurialism and Innovation are common themes in the documents studied. Universities Canada points to universities as one of the key hubs of entrepreneurship and innovation in the modern world. An entrepreneurial spirit is the acceptance of the risk that activities may not work – which is a key part of innovation and transferring knowledge from the academic world to the public. Faculty are increasingly required to develop entrepreneurial skills in order to succeed.

- **Researcher Diversity** – The NSERC strategic plan also sets the diversity of researchers as a goal, particularly highlighting the need for women, First Nations, Inuit and Métis to become researchers.

- **Digital Technology** – Several university strategic plans highlight the importance of digital technology to higher education. Technology plays an increasingly important role in research.

4.6 ENRICH THE QUALITY AND BREADTH OF LEARNING

Within this key area, we reviewed internal and external plans and reports. These allowed us to determine where over the next five years we should ensure that teaching and learning will be fully recognized and supported as a valued activity; by cultivating teaching excellence, by integrating research evidence and inquiry into how we teach and how students learn, and by promoting the professional development of professors, instructors, graduate students, and teaching assistants in order to create a culture that enables teaching and learning success. We also examined: 1) how we should enhance the quality of student outcomes; 2) how to identify and enhance the learning outcomes for specific programs; 3) how to review programs of study to ensure they led to appropriate outcomes and; 4) how we should provide opportunities for students to learn research skills through authentic learning experiences in their courses, assignments, fieldwork, and as members of research teams. In addition, in order to prepare students to critically examine the world around them, generate new knowledge, and be part of solving societal problems, we should provide more flexible program options – ranging from shorter programs focusing on knowledge and skills development, to longer term programs for students interested in undergraduate and graduate degree programs. The following themes emerged from the analysis:

Figure 6 – Enrich the Quality and Breadth of Learning

Promote Excellence in Teaching and Learning	Support Innovative Teaching Methods	Co- and Extra-Curricular Learning Experiences	Online Learning	International	Direct Research Experience
Active Learning	Supporting Student Success	Contributions of Doctoral Students	Students and Knowledge Transfer	Economic Conditions	Indigenous Learners

- **Promote Excellence in Teaching and Learning** – The Alberta Government has several strategies to support this: encourage innovation in curriculum development, teaching and learning; adopt a set of core graduate skills at the undergraduate and graduate levels; develop and implement ways to assess teaching quality; support the use of digital learning technologies; and support high quality

mentorship/supervision for graduate students. In order to have high quality instruction, teaching and learning must be an integral part of the way faculty excellence is judged. Cornell's strategic plan suggests that research and teaching quality be inextricably bound together. It is important to identify ways to promote a campus culture that supports teaching as well as ways to assess and improve teaching. A HEQCO study (Potter, et al., 2015) describes how North American universities have fallen behind on provision of formal educational development programs.

- **Support Innovative Teaching Methods** – Support and recognition for innovative teaching practices, especially those incorporating new technologies, is mentioned in several strategic plans, including Mount Royal University. We also cannot ignore the explosion of empirical research on teaching and learning in higher education. Faculty tend to be unaware of this research, so the importance of putting these findings into practice is key to improving instruction. Teaching and learning plans at Queen's and the University of Ottawa discuss the number of workshops and training sessions available for professors, teaching assistants and graduate students for them to develop their skills and apply their research into teaching and learning. Queen's Teaching and Learning reports on strategies to support the active learning by students – such as tutorials/seminars, team/group-based learning – all while tying it back into learning outcomes.

- **Co-Curricular and Extracurricular Learning Experiences** – Experiential learning appears in almost all of the strategic plans of other universities. Advanced Education has made it a priority to support internship programs as well as other forms of experiential learning. In the Mount Royal strategic plan, one goal is that every student participates in a high impact or work integrated learning experience. The University of Alberta has identified these experiences as a strategic priority because they enable students' self-discovery, and gives them skills to apply their own talents and creativity in making their contribution(s) to society. Universities Canada points to the fact that experiential learning is valued highly by students and employers, and that graduates with these skills are a key source of talent.

- **Online Learning** – With the delivery mode of instruction changing to include more online instruction, it is important that students be included in the plans for high quality instruction. A key challenge for universities is how to engage with online learning when digital technology can move at a dramatic, ever-changing pace. Moreover, care must be taken to ensure that the university takes the lead in integrating technology into teaching and learning instead of being driven by what the digital technology can do. These new modes of instruction can be helpful in addressing the needs of students, but institutions must also recognize the need to integrate students who are primarily off-campus into the learning community of the university. A key point to remember is that even though these interactions may be mediated through technology, the key to higher education is human interaction.

- **Internationalization** – Several university strategic plans highlight the importance of international students and international student experiences by domestic students.

- **Direct Research Experience** – The University of Alberta's strategic plan includes a priority to increase graduate and undergraduate access to/participation in a broad range of experiential learning activities, including involvement in research. Strategic plans at other Universities (UBC, Queen's, uOttawa, Dalhousie, Grant MacEwan) include including students in research projects and other high-impact academic experiences as priorities in their strategic plans. The COEUR report describes the importance of a campus culture that values and rewards undergraduate research, where faculty and university leaders are committed to providing high-quality undergraduate research experiences for a wide cross-section of students.

- **Supporting Student Success** – Increasing access to higher education is not enough: increased support for diverse types of students must also be put in place by diversifying academic programs and providing support.
- **Contributions of Doctoral Students** – Doctoral students can make key contributions to innovation both within academia and without. They must therefore be integrated into stimulating research environments, and be provided with mentorship and the skills they need in order to make their contributions.
- **Students and Knowledge Transfer** – Involving students in the research activities of their instructors allows them to become agents of technology transfer and knowledge exchange. This is a critical component in the success of the university's mission.
- **Economic Conditions** – With the current downturn in the Alberta economy, Alberta Advanced Education forecasts heightened enrolment pressure for adult learning at a time when the needs of employers are rapidly changing. In contrast to the economic downturn, there are shortages in areas that demand advanced skills and higher levels of education. Demographic projects show that the traditional university-age population will decline in the next decades, except for Indigenous Canadians and immigrants. The diversity in types of learners is increasing and meeting their needs, which may be different from traditional students, is important to responding to the new economy.
- **Indigenous Learners** – Indigenous Albertans follower different learner pathways through post-secondary education than others. A larger proportion of Aboriginal students are enrolled in preparatory and basic upgrading, as well as non-credential programs. Collaboration with Indigenous partners and adult learning providers is therefore a key strategy in improving the learning outcomes for indigenous Albertans.
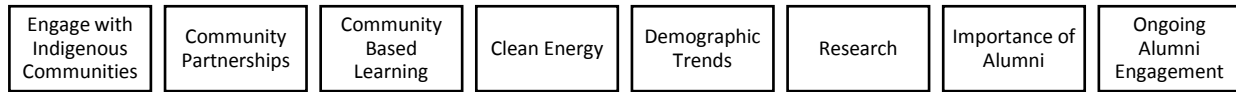
4.7 FULLY INTEGRATE THE UNIVERSITY WITH THE COMMUNITY

Within this key area, we reviewed internal and external plans and reports to determine how over the next five years we should become a global intellectual hub, purposefully engaging with the community by applying our academic and research strengths in order to address the challenges and opportunities facing our society. This means that we will develop next-generation leaders, share new knowledge and discoveries broadly, enhance access to art and cultural events, and increase opportunities for our local and extended communities to engage in sports and recreational activities. We want to be recognized as a campus that provides a two-way connection to the international landscape of ideas, art, science and culture for all life-long learners. We also examined how we should enhance our role in the community through the provision of expertise and infrastructure. This means having our faculty, staff and students play an active role in civic projects and initiatives as well as having our community members make use of campus facilities.

We believe that we all benefit when the University of Calgary collaborates with the surrounding community on solving pressing challenges and realizing new opportunities. That belief would require our students, faculty and staff to provide expertise to help the community address pressing societal challenges.

We also reviewed plans and reports to determine where over the next five years we should leverage our unique advantages with alumni who work and live in Calgary. Over the years, these alumni have moved into positions of leadership and have made contributions on a global scale. We knew that the connection to our alumni needed to be strengthened in order to achieve our *Eyes High* vision. The following themes emerged from the analysis:

Figure 7 – Fully Integrate the University with the Community

Engage with Indigenous Communities	Community Partnerships	Community Based Learning	Clean Energy	Demographic Trends	Research	Importance of Alumni	Ongoing Alumni Engagement

- **Engage with Indigenous Communities** – As part of the Eyes High strategy, the University of Calgary has committed to acknowledging, including and engaging First Nations, Métis and Inuit peoples. Post-secondary participation and completion rates are significantly lower for Indigenous Albertans than for non-Indigenous Albertans, but the Aboriginal population is both younger and growing faster than the non-Aboriginal population and the proportion of students who are Aboriginal has increased. A larger proportion of Aboriginal students enrolled in preparatory and basic upgrading, and in non-credential programs; Aboriginal students have different learner pathways than other students. Several of the U-15 strategic plans (along with the Alberta government) highlight the need to expand educational opportunities for Aboriginal people as well as foster greater understanding of Indigenous knowledge, cultures and traditions among students, faculty and staff.

- **Community Partnerships** – Universities can play a leadership role in communities through their mutually beneficial interactions with others in the city. Through these partnerships, knowledge, expertise and resources are applied to generate new innovations for the marketplace and to tackle societal challenges. The university can engage with government, business and the community to address challenges faced at the local, provincial, national and global levels. Both Entrepreneurialism and Innovation are common themes in the documents studied. Universities Canada points to universities as one of the key hubs of entrepreneurship and innovation in the modern world.

- **Community Based Learning** – The university can serve as a hub of creative, scholarly and cultural activity within the community that not only contributes to the city's economic growth and prosperity, but also to its cultural and social development. The university should maximize the opportunity for students, faculty and staff to contribute to the community both inside and outside the university. A community-engaged campus offers service learning courses and other community-based experiential based learning opportunities. These programs, which can include applied research and training programs, link the campus and community in a common purpose; they "[e]ncourage and support institution-wide initiatives, services, and programs, such as arts and cultural activities, intramurals, student groups, volunteering, clubs, and centres, which bring students from all faculties into community with each other" (University of Alberta strategic plan).

- **Clean Energy** – The Government of Alberta has identified action on climate change as critical to efforts to diversify energy use and the economy. Universities can play a role in determining how to reduce carbon emissions, improve energy efficiency and in supporting energy and climate research and innovation. Interdisciplinary activity is a key theme in many university strategic plans. One key theme that re-occurs is that the challenges society faces (big and small) do not exist within disciplinary silos and require interdisciplinary cooperation to solve.

- **Demographic Trends** – Compared with the rest of Canada, Calgary has a younger and growing population. By 2018, a shift in age distributions is anticipated in response to the combination of aging population, net migration and natural increase. The largest population increases will be experienced by the 60 to 64 age group, as well as the 35 to 39 age group, which is resulting from net migration.

- **Research** – A thriving university research enterprise is a platform for other sectors, including the private sector to launch research efforts.
- **Importance of Alumni –** The Government of Alberta sees Adult Education as playing a key role in creating engaged citizens and to developing a sustainable and diversified economy. Alumni have the critical skills to remain productive in an era of constant change. They also use those skills to reinvest in their communities by starting new business, community organizations or non-profit ventures.
- **Ongoing Alumni Engagement** – Several U-15 strategic plans highlight the importance of maintaining engagement with alumni though the creation of in-person and virtual programs for alumni (and other learners) to engage in continual education. These and other opportunities for lifelong engagement are mentioned among the strategic plans. Engaging alumni all over the world to be active ambassadors for higher education is also included among the strategic plans.

4.8 STUDENT EXPERIENCE

Within this key area, we reviewed internal and external plans and reports to determine where over the next five years we should provide high-quality educational experiences where student learning would be facilitated by highly qualified academic staff, and which would complement the classroom experience with academic supports available to all students. We looked at how we should expand opportunities for students to experience a depth and quality of learning that extended far beyond a test, a textbook, classroom, laboratory or country. Whether students were making face-to-face, telephone, or online inquiries, our goal was to ensure they had prompt access to knowledgeable, friendly staff and other resources. We ensured that they perceived a high level of professionalism in interactions with staff and faculty, and   that our policies and practices were supportive and understandable.

We examined how we should evaluate the physical and social spaces students occupied on campus, which shape their overall experience. We explored how should enrich campus life outside the classroom to encourage personal growth, engagement, professional development, and community connections. Everything, from the classroom to on-campus housing, from Wi-Fi connectivity to safe spaces for social groups contributes to students feeling comfortable, safe, and supported on campus. Finally, we explored how we would provide students with the health and wellness supports necessary to encourage them to achieve their maximum potential. The following themes emerged from the analysis:

Figure 8 – Student Experience
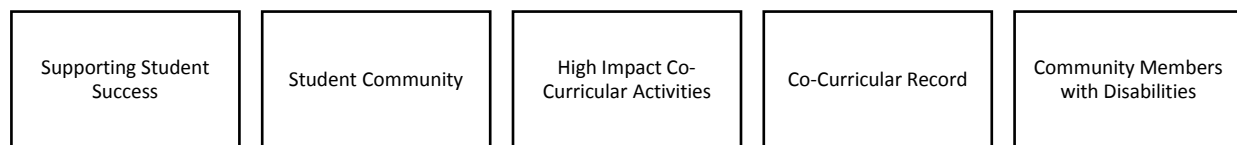
Supporting Student Success	Student Community	High Impact Co-Curricular Activities	Co-Curricular Record	Community Members with Disabilities

- **Supporting Student Success** – Increasing access to higher education is not enough: increased support for diverse types of students must also be put in place by diversifying academic programs and providing support. Several university strategic plans identified student persistence and graduation as dependent on creating a campus climate where students feel they belong.

- **Student Community** – The strategic plans of several universities mention the importance of the student community and the importance of student spaces to building that community. A key highlight is the importance of making the campus a safe and respectful place.

- **High Impact Co-Curricular Activities** – Experiential learning appears in almost all of the strategic plans of other universities. Advanced Education has made it a priority to support internship programs as well as other forms of experiential learning. In the Mount Royal strategic plan, one goal is that every student participates in a high impact or work integrated learning experience. Cornell University's strategic plan talks about a focus on activities that involve international and public engagement, and which promote students' overall health and well-being. Other strategic plans discuss using the advantages of their location, community, faculty and staff to provide co-curricular activities.

- **Co-Curricular Record** – Strategic plans at Grant MacEwan University, the University of Victoria and others mention the creation of co-curricular records that capture the student's learning outcomes outside the classroom. This allows students to demonstrate the skills they have learned and provides a way to evaluate these learning outcomes.

- **Community Members with Disabilities** – Health and Wellness services are critically important to allow students, faculty and staff with disabilities to make contributions to the university. In a study of postdocs, it was found that postdocs are often not able to access services that would have been available to them as graduate students. Many postdocs also lack health benefits.

4.9 CAMPUS CULTURE

Within this key area, we reviewed internal and external plans and reports to determine where over the next five years we should build our understanding of and shape the campus culture of the University of Calgary. The University of Calgary is a large, complex organization comprised of many smaller units, each with their own mission, identity, and learned culture. The ability to collaborate and work across units to achieve our *Eyes High* vision requires a strong, collective commitment to communication that is two-way, frequent and meaningful. That communication needs to be open,   honest and transparent, particularly with respect to our goals, priorities, and plan progress.
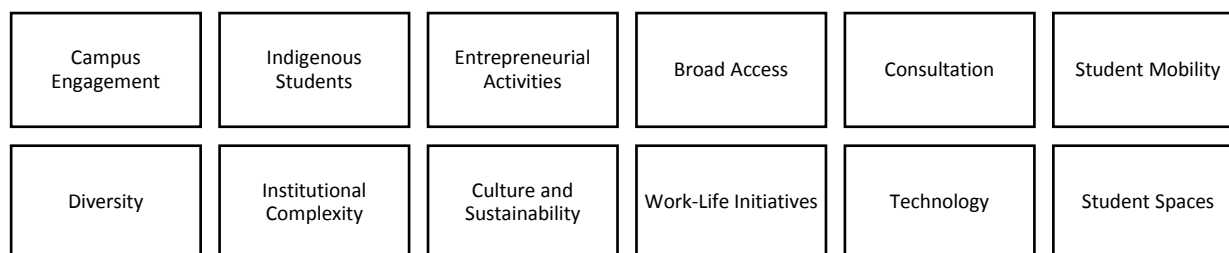
We looked at where over the next five years we need to overcome structural, social, and cultural barriers to the achievement of our *Eyes High* vision by creating a safe, inclusive and respectful environment – one that valued the dignity of every person. This environment would embolden students, faculty members, and staff to disagree, seek common ground, listen to each other, and encourage others to do the same. In this environment, everyone would work and learn to their full capacity, develop new skills, build their careers, create innovative programs, and be recognized for their accomplishments.

We used plans and reports to analyze how our success would rely on community members building healthy lifestyles by balancing the demands of the work environment with those of their personal lives. This would require flexible scheduling where possible, responsiveness to family issues, and access to health and recreational   programs to build resiliency and develop a quality lifestyle.

This analysis provides information to help determine where over the next five years we should evaluate our commitment to leadership in sustainable ways of living, working and learning. This meant that we will meet the needs of the present without compromising the ability of future generations to meet their own needs. This requires us to take steps toward becoming a more sustainable campus – by   reducing our carbon footprint, by improving our health and safety practices, by becoming more efficient   with scarce

resources, by supporting research focused on sustainability initiatives, and by building   sustainability into the academic curriculum. The following themes emerged from the analysis:

Figure 9 – Campus Culture

Campus Engagement	Indigenous Students	Entrepreneurial Activities	Broad Access	Consultation	Student Mobility
Diversity	Institutional Complexity	Culture and Sustainability	Work-Life Initiatives	Technology	Student Spaces

- **Campus Engagement** – The MacEwan University strategic plan makes an engaged university a priority and discusses promoting links between students, faculty and the community. A key part of engagement is programs that inspire dialogue between and within these groups and which provide opportunities for increased engagement.

- **Indigenous Students** – Universities Canada reports on research that finds financial support and role models are critical to the educational access and success of Indigenous students. Collaboration with Indigenous partners and adult learning providers is a key strategy in improving the learning outcomes for indigenous Albertans. Indigenous Albertans follow different learner pathways through post-secondary education than others. A larger proportion of Aboriginal students are enrolled in preparatory and basic upgrading as well as non-credential programs.

- **Entrepreneurial Activities** – Universities Canada highlights the role universities play in producing entrepreneurs. Partnerships with the private sector such as business accelerators and incubators students can become entrepreneurs and use their skills for their own success and to generate jobs for others.

- **Broad Access** – Alberta Advanced Education has made providing affordable and high quality educational opportunities to all Albertans. Expanding opportunities means focusing on access to education as well as student success. A campus culture where students feel they belong and are valued is key to student success.

- **Consultation** – Involving stakeholders in planning processes, such as what has been done with the EEH process, is key to building board support across campus for the plans.

- **Student Mobility** – Universities Canada has identified increasing interprovincial and international mobility of students as a priority.

- **Diversity** – A diverse student body, faculty and staff offers increased creativity, innovation and problem-solving. Unfortunately, if not handled correctly, this diversity can also reduce cohesiveness and communication. This must start with concern for the physical, mental, emotional and social well-being of all members of the university community.

- **Institutional Complexity** – A university is a complex institution and can make creating a movement for sustainability difficult. A commitment to sustainability needs an executive level champion (or champions), as well as the resources and broad concern across campus in order to implement a sustainability strategy.

- **Culture and Sustainability** – Culture has an important role to play in a sustainability strategy. Its role in decision-making and action makes it important to intertwine culture and sustainability on campus.

- **Work-Life Initiatives** – While employee mental health has been an issue in the Canadian workplace for decades, it features very little in the strategic plans of other institutions. In the documents about this area that were reviewed, programs such as allowing more choice about time and location of work does allow students, faculty and staff to balance family commitments and work. This perceived flexibility makes a large difference to successfully managing work-life balance, and can be key determinant of mental health.

- **Technology** – Employees are highly dependent on e-mail to stay connected to work, and the majority check their e-mail after hours or on days off work. Many therefore feel that e-mail has increased stress levels and workloads.

- **Student Spaces** – The strategic plans of several universities mention the importance of the student community and the importance of student spaces to building that community. A key highlight is the importance of making the campus a safe and respectful place.

5. Discussion

5.1 CONCLUSIONS

The documents analyzed as part of the environmental scan contained many of the same themes that surfaced from both consultation processes: the focus groups and the survey. ***Sustainability*** is a key value that informs many of the strategic plans. A successful sustainability strategy will require embedding sustainability in the campus culture, as well as support from the executive level. Because of the complexity of the institution and the problem, an ***interdisciplinary*** approach is needed. Many university strategic plans focus on promoting interdisciplinary research in order to solve the complex problems society faces.

An important theme running through many of these documents is the importance of the ***Indigenous*** strategy for the university. The federal and provincial governments have identified this as a key issue and addressing the recommendations of the Truth and Reconciliation Commission figures in many of the documents.

Many of the university strategic plans address key aspects of campus culture, including the importance of ***student spaces***, both in the physical and social sense. These spaces are vital to building an inclusive community where ***diversity*** among students, faculty and staff is respected. A key aspect of that is the need for First Nations, Inuit, Métis, women and other underrepresented groups to be made a bigger part of the university and research communities. Another important aspect of a positive campus culture is a focus on ***mental health and wellness***, which figures in many of the documents included in the environmental scan, but which is not a large part of the strategic plans of peer institutions.

Many of the plans of our peer institutions have a focus on teaching and learning and the student experience. Alberta Advanced Education has identified ***experiential learning*** as a priority; many of the documents also discuss different forms of this. As a part of those learning experiences, many of the documents focus on providing ***research opportunities for undergraduate*** students. These are experiences that allow students to make their own contributions and provide unique opportunities for learning.

These unique learning experiences as well as the need for new types of research projects is a part of the themes of ***entrepreneurial thinking and innovation*** that feature prominently in the strategic plans of our peer institutions, as well as in the plans of the federal and provincial governments and the granting councils. Universities can be one of the key hubs of this type of activity, particularly given that students and researchers are being called on more and more to develop entrepreneurial skills. Entrepreneurial activity can also be a key part of knowledge transfer and translation.

Finally, in this interconnected world, both ***internationalization and globalization*** are becoming very important. To retain our leadership role, the university must engage in international activities. These involve activities and partnerships across the globe as well as hosting international students.

The environmental scan finds similar themes in the documents for each of the foundational commitments of the *Eyes High* strategic plan.

5.2 RECOMMENDATIONS

The University of Calgary should:

1. maintain strategic areas of excellence across all faculties while conducting research that responds to societal needs and translate that into new understanding;
2. promote excellence and innovation in teaching by continuing to ensure that teaching and learning are fully supported;
3. continue to engage with the City of Calgary and surrounding communities – including Indigenous communities – by continuing and extending partnerships throughout the communities;
4. consider that a strategic focus on the student experience may be one way the university can differentiate itself from other research-intensive institutions; and
5. continue to build a culture of respect, engagement and sustainability on campus.

5.3 LIMITATIONS

This environmental scan is limited to the documents included in the reference list. While every effort has been made to ensure that the list is comprehensive and complete, there are undoubtedly relevant documents that were not included.

6. Appendices

This section contains the list of documents includes as part of the environmental scan.

6.1 DOCUMENTS ANALYZED

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