2013 COMPREHENSIVE INSTITUTIONAL PLAN

PREPARED FOR THE GOVERNMENT OF ALBERTA
MAY 2013
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1. Executive Summary

The University of Calgary is a young institution on the rise, located in Canada’s energy capital, the country’s most dynamic and enterprising city. The University is ranked number one in Canada among universities younger than 50 years according to the Quacquarelli Symonds Limited (QS) ranking. Energized by a new vision and strong Academic and Research Plans, the University is set to increase its stature and contributions to society in the coming years. Our goal, articulated in our “Eyes High” Vision is to be among Canada’s top 5 research universities by the 50th anniversary of the University in 2016 and to have established ourselves as a global intellectual hub—a university with global presence befitting the rising prominence of our city.

The University of Calgary is on the cusp of transformational change guided by a bold vision and ambitious plans. We are committed to partnering with the province of Alberta to meet the needs for highly qualified personnel and create the knowledge that will drive economic and social change in the province. We are responsible with our financial resources and accountable for the investments that are made to improve our institution. The University of Calgary contributes $7.92B to the Alberta economy on an annual basis and, therefore, multiplies many times over the direct investment made by Alberta taxpayers. Through partnering with the province and other key stakeholders and through realizing the goals of the Eyes High Vision, the University of Calgary will continue to increase our role as a significant contributor to shaping the future of our province.

1.1 ENVIRONMENTAL SCAN

Our environmental scan focuses on the context most relevant to achievement of the outcomes of our institutional priorities. This perspective, informed by a risk management approach, enables us to assess and manage or mitigate the effects of factors that may enable or prevent achievement of our Eyes High Vision and strategic plans.

Our focus on talent attraction, development and retention maps closely to the Alberta Government priority to attract and retain high quality personnel in the Province.\(^1\) The Alberta economy faces a significant shortage of workers. By Government estimates, the Province will face a shortage of 114,000 workers by 2021 and the majority of those unfilled positions will require post-secondary education.\(^2\) Economic diversification is critical to the Alberta economy to ensure the prosperity of future generations and continued improvement in quality of life for Albertans.

The integration of teaching and research is also a priority that aligns to provincial outcomes. A flexible workforce that adapts to change through life-long learning is a key theme because this is essential to future economic development and diversification.\(^3\) Engagement of students in

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\(^1\) Campus Alberta Planning Resource, 2012
\(^2\) Campus Alberta Planning Resource, 2012
\(^3\) Campus Alberta Planning Resource, 2012
research and building educational programs on a foundation of inquiry is the best way to achieve this important goal.

Similarly, bridging across traditional boundaries through interdisciplinarity is important for Alberta’s future. The problems we face are complex and require solutions that draw on different disciplines and perspectives. This is implicit in the clear solutions-focused structure of Alberta Innovates and also in the increasing emphasis on interdisciplinarity within the federal Tri-Council Agencies. By increasing our internal emphasis on interdisciplinarity and fostering interdisciplinary units within our organizational structure, we build on this trend and contribute towards solutions to the complex environmental, social and economic issues faced by Alberta.

As an ambitious and entrepreneurial university located in Canada’s most enterprising city, a focus on leadership resonates clearly with our environment. Our city and province need graduates with the leadership skills required to propel our economy and society forward. This focus on leadership is one of several priorities that help us contribute to securing Alberta’s economic future.

Internationalization is a clear trend in post-secondary education and it is a key priority of our strategic plan. Graduates with a global perspective and cross-cultural competencies are clearly needed in today’s economy and are essential for Alberta’s future. Further, Canadian immigration will not meet Alberta’s need for skilled labour in the coming years. We will contribute to key outcomes at the provincial level by attracting more international students and improving the global and cross-cultural competencies of our graduates.

The University of Calgary is incredibly fortunate to be located in Canada’s most vibrant and dynamic city. It is also fortunate to be located within Alberta. Within Canada, economic and political power has shifted from Central Canada to the West and our city and province are at the epicenter of this ongoing trend. These are crucial aspects of our environment that must be seized both to propel the University of Calgary forward and to contribute maximally to the future of our community and province. From environmental, social, and economic perspectives, sustainability is a key priority that resonates with our current situation. The current model of post-secondary education is not sustainable, and we must work with numerous partners to develop a new model. Solutions may require significant changes to how Universities are funded, organized and function.

The research and educational enterprises are not separate at the University of Calgary but rather tightly interwoven within the fabric of the University. As a research-intensive university, we are fundamentally dedicated to the pursuit of truth and knowledge and to engaging our students in that process. Several long-term trends, however, specifically inform our three priorities in research. The largest of these is the increasing degree to which University-based research has become the major source of new knowledge that is applied towards commercial and industrial innovation and societal change. Basic research is nearly exclusively done now in universities as large corporations have shut down research parks or re-directed their efforts towards more

4 Campus Alberta Planning Resource, 2012
5 Campus Alberta Planning Resource, 2012
directly applied research that builds on fundamental work done in universities. Economic innovation thus relies crucially on university-based research even though knowledge is predominantly commercialized through private corporations. At the University of Calgary, Innovate Calgary will play a crucial role in energizing the technology-transfer chain in Alberta by bringing together researchers, entrepreneurs, and investors around innovation projects that will lead to increased economic growth, job creation and improvement in the social good for Albertans.

The second major trend in research is the increasing focus on knowledge translation relative to fundamental research. This trend is strong at the Federal level but particularly so at the Provincial level where virtually all research funds are now directed to projects that have practical application or commercial potential. This trend is a threat to the long-term sustainability of our innovation system as it starves the creation of knowledge relative to its application. On the other hand, the University of Calgary’s research strategy aligns strongly with this approach as we direct our creative energies towards solutions to the challenges faced by our province and societies at large. To do this in a meaningful way, we must focus our efforts and match our strengths to opportunities. This priority is reflected in the identification of the six research themes for which the University of Calgary will be known.

As recognized in the Alberta Research and Innovation Plan,\(^7\) the future of Alberta’s economy depends on increasing our collective capacity for research. Universities have become central contributors to the innovation chain that fuels the knowledge-based economy to a much greater extent than in the past.\(^8\) The University of Calgary accounts for roughly a third of the research funding and productivity of the Province of Alberta. Increasing our research capacity is a central priority of our Research Plan that will therefore make a meaningful contribution to this key outcome at the provincial level.

### 1.2 EYES HIGH CHAPTER

Energized by the Eyes High Vision, the University of Calgary has embarked on period of transformational change. The Eyes High Vision to become a global intellectual hub and one of Canada’s top 5 research universities is underpinned by three foundational commitments. These are:

1. Sharpen our Focus on Research and Scholarship
2. Enrich the Quality and Breadth of Learning
3. Integrate the University with the Community

The roadmap for this transformation is contained within the Academic and Research Plans that were developed during the 2011-2012 academic year. Ten priorities, seven in the Academic Plan and three in the Research Plan will guide our actions as we strive to achieve our Eyes High Vision. In this year’s Comprehensive Institutional Plan we present a single Academic Chapter that integrates the Academic and Research Plans. This integration reflects our deeper view that the

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\(^7\) Alberta Research and Innovation Plan, 2011
research and educational enterprises at the University of Calgary are not separate spheres of activity. Instead, education and research mutually reinforce each other in multiple ways that transform our students from passive learners to active participants in the creation of knowledge and our faculty members from researchers and teachers to increasingly engaged agents for economic innovation and societal change.

The University of Calgary is increasingly engaged with the community and strongly partnered within the province of Alberta. Through its partnership with Alberta Health Services, the University is intimately engaged with health care delivery and the development and translation of innovation in health care. We partner with the City of Calgary in areas like innovation in wastewater management and public health. Our partnerships with the oil industry and the province are integral to provincial priorities in energy innovation. We also partner within the Campus Alberta system to enhance choice and flexibility for students in Alberta.

The University of Calgary in 2012-13 had 27,722 Full Load Equivalent (FLEs) students. This translates into a headcount of 32,021 students (25,051 undergraduates; 6097 graduates; and 873 post graduate medical education students in Medicine) registered in 13 faculties and 262 programs. This is the largest enrolment in the history of the University. Over the past decade the University has expanded enrolment by 29.9% to help address strong student demand, which is 9.4% above physical capacity. Demand for programs at the University of Calgary has been growing significantly as evidenced by the ratios of applicants to offers of admission. This application pressure is only expected to increase given the rapid rate of population growth in Calgary. In order to manage growth effectively and within available resources, we have moved to a sustainable growth model – one that increases our accountability to the government and staff and students of the university.

The achievement of the Eyes High Vision is underpinned by a commitment to performance measurement and benchmarking. To assess progress towards the Eyes High goals, we selected a set of performance metrics that best capture quality and productivity in education, service and community engagement. These metrics are benchmarked against the top 5 research institutions in Canada and are compared directly to our peer institutions within the U15 in Canada. We believe this set of metrics affords the best available proxy for the value and impact of the University of Calgary to the province of Alberta.

Our emphasis on performance measurement relates to a broader change towards a focus on achieving results. This orientation complements the outcomes focus of the Ministry. Our metrics relate to specific outcomes, achievement of which will drive towards the larger goals embodied in the Eyes High Vision. In the Eyes High Chapter (Chapter 6), we outline the specific outcomes that will be achieved over the next three years. Not all priorities can be pursued with equal vigour at all times. Over the next three years, we will focus most on those that have the greatest impact for the student experience on the one hand and the staff experience on the other. Together, these are mutually reinforcing and will drive achievement of both educational outcomes such as employability or graduate satisfaction as well as research outcomes such as publication impact or research funding. Implementation of our new international plan will be a key objective, as will the development of the Taylor Institute for Teaching and Learning (TITL). The TITL, through the
College of Discovery, Creativity, and Innovation, will play a major role in integrating our teaching and research enterprises. With the recent budget announcement, it is anticipated that the pace of progress on some of our goals will be slower than expected, but we will continue to strive towards these goals.

1.3 THE CAPITAL PLAN

Physical infrastructure at the University of Calgary is aging and also insufficient to support both the current student population and the institution’s academic aspirations. According to the 2012 Campus Alberta Planning Resource, the University of Calgary has capacity for 25,335 FLEs while enrolling 27,722 FLEs in 2012-13. The capital plan details the steps required to address this infrastructure deficit and support the Academic and Research Plans. Our capital priorities are driven by a master planning process in which unit space plans inform the overall campus master plan. Our current capital priorities (> $1M) are as follows:

1. **Engineering complex renewal and expansion ($142.5M)**. This project is essential to support the planned 10% increase in enrolment within the Schulich School of Engineering.

2. **Faculty of Nursing ($1M)**. The Faculty of Nursing has achieved tremendous growth in recent years, but has insufficient space for current operations and cannot accommodate future expected expansions.

3. **MacKimmie Tower and Block planning ($4.2M)**. To prepare the complex to meet the goals of the MT/B Master Plan and to prepare the project for a major capital funding request in the coming year.

4. **Science A redevelopment ($2M)**. To advance the project to the end of the Design Development phase. Renewal of space for teaching and research in the Faculty of Science is critical to sustaining academic programs in this area.

5. **Faculty of Kinesiology ($1M)**. To advance from preliminary concept planning to detailed comprehensive programming, and to support the development of capital funding strategies. The Kinesiology facilities are a vital and engaging presence in the Calgary community, and make Calgary a full-service destination for international sporting excellence.

6. **Capital Maintenance and Renewal envelope ($79.2M)**. The preservation projects below require funding in 2014-15 as follows:
   - $16.0M for Infrastructure Maintenance Program
   - $3.3M for Research Facility Code Compliance requirements
   - $3.0M for Instructional Spaces Upgrades;
   - $10.0M for Energy Performance Initiative;
   - $2.5M for Deep Utilities Upgrades;
   - $25.4M for Building Envelope repair and replacement;
   - $10.0M IT infrastructure upgrades
   - $9.0M for Foothills Campus Critical Maintenance – Phase 2.

7. **Taylor Institute for Teaching and Learning ($40M donation)**. The proposed Taylor Institute for Teaching and Learning (TITL) is a unique concept that will create synergies
between teaching and learning, students and teachers, and diverse ways of knowing about teaching and learning in order to benefit all students and teachers at the University of Calgary. The TITL will facilitate transformative learning for both faculty and students: the kinds of learning that influence not only what we think, but also how we think, who we collaborate with, and how we translate the knowledge we generate into practice. Transformative learning changes our world views about the world and about teaching and learning itself. An innovative renewed building on the site of the previous Nickle Arts Museum will house the TITL, enabling the multiple collaborations that will transform how the University of Calgary engages in creating, experimenting with, and assessing the impact of learning experiences that represent not only “best” practices, but also leading-edge “next” practices. The TITL will position our academic community as a leader in building teaching and learning capacity at the university level.

In addition to this list, we are also we are embarking on an ambitious plan to transform the University from a commuter campus to one integrated with a vibrant university-neighborhood. The West Campus development and Residence master plans are based on this vision which is an important ingredient to becoming a global intellectual hub.

1.4 INFORMATION TECHNOLOGY

Information Technology (IT) is a vital underpinning to both academic and administrative functions at the University of Calgary. It provides technological solutions, frameworks and support and service to teaching, learning, research and administration. Correctly applied, IT supports research, enhances the student experience, facilitates collaboration and simplifies administration. The University of Calgary is actively engaged in province-wide IT initiatives such as Westgrid, CANARIE and Cybera.

Significant investment in IT by the university began in the 2011-12 and continued in 2012-13 with the university investing $18M in the initial phase of a multi-year project to renew the core IT infrastructure at the university. The University of Calgary is planning to invest an additional $11M in 2013-14 in priority areas as follows:

- Classroom Technology Upgrades and LMS upgrade
- Ongoing upgrading of the network to meet the needs of a modern research-intensive university.
- To pilot and then take to production a research data storage and archiving service
- To expand the current secure research data environment
- To create a pilot environment for cloud-based analytics
- To pilot an informatics support program for research
- Continued evolution of key administrative systems
- To purchase and implement mobile device management software, Security Incident Management software, and Database Security Testing tools
These investments will enhance the student experience, enable application of technology-intensive approaches that improve the quality of teaching and enhance the research productivity of our faculty.

1.5 FINANCIAL CHAPTER

The University of Calgary has undergone a dramatic financial turnaround over the past few years. In 2008/2009, the University had a negative unrestricted net asset balance of $57.6M. Thanks to tremendous discipline and hard work within the institution, we improved our financial situation and by 2011 the University was in a positive unrestricted net asset position. This work positioned the University to embark on the bold vision for the future laid out in the Eyes High Vision. To support attainment of this vision, a new budget model was developed and implemented within the University this year. This new model incents the achievement of the outcomes of the Academic and Research Plans and aligns closely with the increased focus on results-based budgeting within the Government of Alberta.

The attainment of the Eyes High Vision and fulfillment of the associated value proposition for the province of Alberta was predicated on a stable funding environment. The 7.3% cut announced on March 7th to the post-secondary sector is a departure from the stable funding environment that the provincial government committed to in 2012. At the University of Calgary, we are receiving $41M less than expected in our Campus Alberta Grant and $6M less than expected in our Infrastructure Maintenance Program funding. While our new budget model places us in a strong position to adjust to new financial realities, this substantial cut will produce a decreased economic impact of $210M to the local economy, and result in significant impacts to people, programs, enrolment, number of classes offered, operations, and research productivity. On the other hand, a budget cut of this magnitude produces opportunity. We are currently exploring options of re-imagining the university, and over the next six months will conduct in-depth analyses of over 200 ideas that have been submitted by our academic community. Despite the cut to our Campus Alberta Grant, we will spend $1,178M in strategic ways to advance the University of Calgary – and the Province of Alberta.

1.5 IMPACTS OF NEW PROVINCIAL BUDGET

The Provincial Budget announced on March 7 will have significant repercussions for the University of Calgary. It will produce varied and significant impacts on the academy. In addition to the economic impact cited above, other impacts include:

- **People.** While we are still analyzing impacts, budget cuts will result in the loss of just over 50 academic staff to retirement and attrition. We will continue hiring our 50 stimulus hires that were announced in the fall of 2012 – and thus some modicum of academic renewal will occur. However, our overall complement will be smaller than anticipated, and thus the overall productivity will be less than expected with a smaller cohort of staff. It will be difficult to attract top scholars to the uncertain fiscal environment in Alberta – we have lost some of our top recruits since the budget announcement. Finally, we have
also lost some of our top scholars to other jurisdictions because of the fiscal uncertainty. We will lose some administrative and support staff due to closing of positions and restructuring.

- **Enrolment:** At the University of Calgary, our enrolment is at a historical high point with increasing student demand for our programs occurring at a time when no new funding has been made available to expand our enrolment. Our efforts to address this issue within existing resources in years past have resulted in an enrolment in 2012-13 that is 9.4% above existing physical capacity, and thus space is constrained on our campus. In order to manage growth effectively and within available resources, we will maintain a sustainable growth model at our institution – one that is clearly in line with accountability and ensuring a positive student and staff experience for all on campus.

- **Strategic Initiatives:** Many strategic initiatives designed to help move us towards our Eyes High goals that were directly related to improving student experience will be delayed or stopped altogether.

- **Equipment and Infrastructure:** Units will have less money to replace aging equipment, and most units will eliminate their discretionary renovation budget, putting increased strain on aging facilities.

- **Research productivity:** Loss of academic staff will impact research power, disciplinary depth, capacity for graduate student supervision, and in some cases professional scope. The overall loss of research productivity represents future loss of economic impact.

- **Reputational Impacts:** The budget cuts have a reputational consequence as potential recruits to Alberta question the government’s commitment to the sector and, in particular, the ability of the University of Calgary to build on its recent momentum to become one of Canada’s top research intensive universities.

- **Overall delay in reaching goals:** Generally, the impact will be an overall delay in reaching our strategic goals.

While the above impacts will be very difficult to handle, we also see opportunity. We see the possibility of re-imagining the university and over the next six months will conduct in-depth analyses of 210 ideas that have been submitted by our institutional community. The government has sent a message with the 2013-14 budget that the current model of post-secondary education is not sustainable. We are willing to partner consultatively with the government on a new model of post-secondary education.

It is important to note that despite the difficult budget news the University of Calgary will be spending $1.178B in fiscal 2013-14 in operational and strategic initiatives that advance provincial government priorities and our Eyes High strategic vision. We will continue to work in partnership with the provincial government to achieve key goals – and as we manage the budget news we received in March 2013, we will emerge a different and stronger institution.
2. Accountability Statement

May 23, 2013

Minister

This Comprehensive Institutional Plan was prepared under the Board’s direction in accordance with legislation and ministerial guidelines, and in consideration of all policy decisions and material, economic, or fiscal implications of which the Board is aware.

Original Signed By
Chair
Board of Governors
3. Institutional Context

3.1 INTRODUCTION

The University of Calgary is a Comprehensive Academic and Research Institution (CARI) as defined by the Six-Sector Model within the Post-Secondary Learning Act. This classification determines its role within the Campus Alberta system. As a CARI, the University of Calgary grants diplomas and degrees, including graduate degrees, and maintains a strong and diverse basic and applied research enterprise that contributes to the advancement and application of knowledge for Alberta and beyond. With a major focus on the creation of knowledge, instructional excellence and graduate programming, CARI institutions have as their primary objectives the development of the province’s capacity for research and innovation and the education and training of a workforce that will support a rapidly evolving and increasingly knowledge-based and globalized economy. The University of Calgary provides the breadth of educational and research programming that is necessary for a major research-intensive university to function as well as the depth in particular areas of research and education that mesh with both the needs of our community and the priorities of the Alberta Research and Innovation Plan.

3.2 CURRENT CONTEXT

The University of Calgary is a dynamic institution on the rise. It is located in Calgary, a vibrant and rapidly growing city that is increasing in prominence at both the national and international levels and has emerged as Canada’s energy capital. Among universities younger than 50 years, we rank first in Canada and 17th worldwide according to the Quacquarelli Symonds Limited (QS) ranking. We rank 7th in research productivity among all universities in Canada and have climbed significantly in those metrics in the last decade. Our Eyes High Vision, backed by the Academic and Research Plans, builds on this current position to propel our University forward through sharpening our focus on research, enriching the quality and breadth of learning, and fully integrating the University with the community. Our vision is to be a global intellectual hub located in Canada’s most enterprising city. In this spirited, high-quality learning environment, students will thrive in programs made rich by research and hands-on experiences. By our 50th anniversary in 2016, we will be one of Canada’s top five research universities, fully engaging the communities we both serve and lead.

Our current position has been achieved against the backdrop of significant financial and organizational challenges. In 2008-2009, the University faced a serious budget shortfall that had accumulated over time as the result of the compounding effects of both external and internal factors. As the result of hard work and difficult decisions within the institution including cost

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9 QS ranking of top 50 under 50 for 2012
10 Citation and publication data from Incites database, 2012
11 University of Calgary Eyes High Strategy
cutting, constraining cost growth, achieving administrative efficiencies and targeted revenue growth, the University is now on solid financial footing, assuming that the university funding environment remains stable. In addition, we have over the past year developed a new budget model that will focus the University on the outcomes specified in the Academic and Research Plans. This work has positioned the University to deliver on its Eyes High Vision. The University has laid the foundation for a transformation that will greatly enhance the impact of the University on our city, our province and society at large. Guided by the Eyes High Vision and the Academic and Research Plans, this transformation will involve all aspects of our educational and research enterprises as well as how we engage with our communities. We believe that these changes have positioned the University of Calgary as a crucial partner for the Government of Alberta in achieving its goals for the post-secondary education system in Alberta.

As a Comprehensive Academic and Research Institution, the University of Calgary operates a research enterprise that is integral to Alberta’s engine of innovation. Like other comprehensive research-intensive universities, the University of Calgary contributes to the advancement of knowledge and ideas as a common social good, primarily through the academic literature. The academic literature is used not just by academics, but also by companies, governments and individuals across the globe. A pharmaceutical company developing a new drug builds on the basic literature on the biology related to that drug just as an energy company developing new extraction techniques draws widely on the literature in geophysics, chemistry and geology. The University also engages in the commercialization and application of research directly and through collaboration with industry as well as governmental and non-governmental organizations. The University produces graduates, both at the undergraduate and graduate level, who continue the innovation cycle as productive citizens.

Our research enterprise has been energized in the last year through the development of a new Research Plan. This plan sharpens our focus on priorities that will 1) match our strengths with opportunities, 2) increase research capacity through people and platforms and 3) create a dynamic research environment to promote research excellence. These priorities revolve around six strategic research themes in which the University of Calgary is positioned to assume national and international leadership. By sharpening our focus on these six themes, we will unleash synergies that will energize our researchers around issues of global relevance and of great importance to our stakeholder communities. Implementation of this plan over the coming years is crucial to realizing our Eyes High Vision of becoming a global intellectual hub.

Equally importantly, guided by the Academic Plan, we are energizing our educational enterprise in a way that integrates closely with the transformation of our research activities. Through innovative educational programs, such as the Bachelor of Health Sciences or the Bachelor of Neuroscience, students learn within a culture of inquiry and overtly interdisciplinary contexts that prepare them to be creators rather than passive consumers of knowledge in their future careers. The exposure to interdisciplinarity prepares such students to innovate through integration across disciplinary boundaries. We will build on our experience in such programs to revitalize the undergraduate experience across our University through the College of Discovery, Creativity and Innovation in the Taylor Institute for Teaching and Learning. Similarly, we are improving graduate programs in order to prepare the graduates from our research-based
graduate programs to drive innovation from within both the public and private sector. Our goal is to meet the Province’s need for a dynamic, flexible and innovative workforce that is so essential to improve prosperity and quality of life for future generations of Albertans.

Also guided by the Academic and Research Plans, we have developed and begun implementation of an institutional international strategy. Increasing the internationalization of our campus is key to achieving the vision of becoming a global intellectual hub. Implementation of this strategy will increase the diversity of our campus, enhance the global and cross-cultural competencies of our students and faculty, increase our international research partnerships and leverage our expertise for international development. Increasing our international enrolment is key to creating the internationalized campus which will prepare our graduates to propel Alberta’s economy forward in an increasingly globalized world.

Integral to achieving our goals in research, education and service to society is renewal of our academy and retention of our talent. Several activities support this goal, but chief among them in the coming year is the recruitment of 50 new faculty members and 60 post-doctoral fellows. This initiative will energize the academy and accelerate the process of academic renewal which will lay the foundation for the future of the University. When we started our recruitment process for 50 new faculty members, we had intended to increase our academic staff complement by 50. As a result of the budget cuts, this will not be possible, as we will lose close to 50 people to retirement and attrition, which we normally would have replaced. However, because we have continued to hire 50 new academic staff, we will have achieved in part our goal of academic renewal.

The University of Calgary is tightly integrated with the community that it serves and nurtures an interconnected web of partnerships among other institutions and organizations. One measure of this is our economic impact on Alberta, which is $7.92B annually. This makes the University a very substantial contributor to the Calgary and broader Alberta economy, representing almost 3% of the provincial economy. This also indicates the high multiplier effect of investment in the University for the broader economy. The University maintains diverse and multifaceted partnerships throughout the province. These partnerships involve governmental organizations, other post-secondary institutions, the corporate community and non-governmental organizations. Please see the Eyes High Chapter for more complete descriptions of illustrative partnerships.

In sum, the University of Calgary is a vital contributor to economic and social innovation in Alberta, a key contributor to the education and renewal of Alberta’s workforce, an integral and multi-faceted partner within the Province, and a valued contributor to the advancement of knowledge internationally. We are a university with ambitious plans, great energy and tremendous potential. We are poised to become one of the top five research universities in Canada, and in realizing this vision we will significantly increase the contributions our graduates,

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12 This number was calculated using the same methodology as the University of Alberta, originally developed at UBC (Briggs and Jennings, 2012)
13 Government of Alberta Quick facts 2012
faculty and other members of the University make to the economic prosperity, social resilience and cultural richness of the City of Calgary, the Province of Alberta and beyond.

3.3 CORE VALUES

Curiosity
We are stimulated by the unknown and unexpected, and rely on it to provoke exploration and innovation.

Support
We value people who interact with others in an inclusive and respectful manner. We will offer high quality programs and services to promote health and safety, foster community morale and meet the diverse needs of all we serve.

Collaboration
We structure our organization and allocate resources to foster effective environments. Our relationships are defined by a culture of collaboration and a shared commitment to achieving common goals.

Communication
We build bridges through proactive communications between individuals, between teams, between departments and faculties, and with other organizations in the community, with integrity and transparency.

Sustainability
We commit to leadership in sustainable ways of living, working and learning. We take care of the physical, natural and social environment. We uphold balanced budgets, positive social relationships and the health of the planet that we all call home.

Globalization
We think and act with a global mind-set, acknowledging the pervasiveness of worldwide connectivity, aware of global developments and acting on opportunities to benefit the world we serve.

Balance
We complement the research, learning and work environment with social, cultural, sports and recreational spaces, services and programs to promote a healthy community.

Excellence
We expect the best of everyone who works and learns at the University of Calgary. We will support and recognize the achievements of all community members and help each other achieve our highest ambitions.

3.4 MANDATE

Founded in 1966, the University of Calgary is governed by a Board of Governors, and operates as a public Comprehensive Academic and Research Institution under the authority of Alberta’s Post-secondary Learning Act. Education and research at the University of Calgary serve the needs of local, provincial, national and international communities. Through its inquiry-based teaching and research programs and strategic and entrepreneurial partnerships, the University’s faculty, staff and students pursue knowledge, contribute to the development and critique of societal goals, and engage in creativity and innovation in many fields. The University’s goal is to be recognized internationally for the success of its students and for excellence in research, scholarly and creative activity.

The University offers a broad selection of programs of study including baccalaureate, graduate professional, and research-based master’s and doctoral degrees. It also offers a wide assortment of credit and non-credit diplomas and certificates, as well as non-credit programs of professional development, executive development, and artistic and scholarly activities aligned with the academic expertise of the University. Building on strengths in disciplines in the areas of fine arts, humanities, sciences and social sciences as well as in the professions, including architecture, business, education, engineering, environmental design, kinesiology, law, medicine, nursing, social work and veterinary medicine, the University is committed to offering an experience that provides both disciplinary and interdisciplinary education to its students. A number of the programs it has developed are unique within Alberta.

As an autonomous institution working within Campus Alberta, the University collaborates with other post-secondary institutions in the delivery of collaborative degrees, the use of transfer and articulation agreements, the sharing of facilities and faculty members, and the offering of degree-completion opportunities to students from both rural and urban communities. Working with the private sector and all three levels of government, the University of Calgary takes a leadership role within Alberta for the further development of educational and research programs in areas designated as strategic academic priorities.

At the University of Calgary, research, teaching and scholarship are interdependent and steeped in the principle of academic freedom. The University encourages, supports and disseminates research, scholarship, innovation, and creative activity in many forms and integrates these activities into both the graduate and undergraduate curriculum. Students and faculty at the University of Calgary conduct basic and applied research at the frontiers of knowledge and transfer knowledge to society, locally, regionally, nationally and internationally. The University stimulates and supports the commercialization of research and innovation for the common good and for the prosperity of the province, the nation and the world. Students and other scholars, including post-doctoral fellows, are attracted to the University of Calgary for the opportunity to refine their research, teaching and mentoring skills.
The development of programs of study and of research partnerships across Alberta, nationally and internationally, extends the University’s engagement with the broader community and enlarges the vision of its students, faculty and staff. International partnerships, alliances, and development projects, together with study abroad initiatives, allow the University to contribute to and benefit from a network of world-wide interactions that enrich the student experience.

The University of Calgary offers a comprehensive set of programs, facilities, and services to provide students with an excellent experience both inside and outside the classroom. The University supports the student experience with a range of services including academic and career advising, student life programming, health and wellness services, and academic success programs. Community service learning, cooperative and internship placements, and international exchanges all provide experiential learning opportunities to complement students’ classroom experiences. The University supplements and enriches its face-to-face instruction with communication and digital technologies, library and cultural resources, and both distance education and blended learning techniques.

The University of Calgary is responsive to the expectations of the communities it serves in the delivery of its educational and research programs. The University contributes in diverse ways to the cultural, social and economic life of the province, through striving for high quality in its graduates, its research, and its service to the community. The University of Calgary is committed to the goals of environmental and financial sustainability, and to making a positive impact on individuals and communities.

* Approved by the Minister of Enterprise and Advanced Education on August 12, 2010.
4. Plan Development

4.1 INTRODUCTION

This Comprehensive Institutional Plan (CIP) is a three-year, integrated planning document that satisfies legislated requirements outlined under Section 78(1) of the Post-Secondary Learning Act and Section 14 (2) of the Fiscal Management Act. The Chair of the Board of Governors is required to submit this multi-year plan to the Minister of Enterprise and Advanced Education (EAE) by March 15 each year. Due to the financial news received in March, 2013, an extension to the deadline was granted to May 31, 2013.

4.2 CONTENTS

Responsibility for plan development is delegated to the Provost and Vice-President (Academic) who coordinates the work of content experts to develop each of the ten required sections (Figure 1). The executive summary provides the reader with a high-level overview of plan contents and the accountability statement section confirms the Board of Governor’s commitment to the plan. Next, the institutional context describes our role in relation to the Campus Alberta and Alberta Innovates systems. Plan development describes the process we undertook to develop the document. The environmental scan provides an overview of our operating environment, organized around our academic priorities. The reason for this choice is that the environmental factors that impinge on our academic priorities are the most critical to assessing our risks and opportunities.

Figure 1 – Plan Contents

|---------------------|-----------------------------|--------------------------|---------------------|-----------------------|---------------------|

The academic chapter highlights the academic priorities of the University of Calgary and provides the roadmap that guides the allocation of all human, financial and capital resources. Highlighted within the capital plan chapter are necessary upgrades and expansions to our formal and informal learning spaces. The financial and budget information chapter includes the official, board-approved budget, a subsequent two-year forecast statement of expected revenues and expenses, and a budgeted cash flow statement for the current budget year. Summarized within the resource implications section are areas where existing resources are available and where
incremental resources are required. The performance measures section identifies those measures that we will use to benchmark our progress.

The launch of the planning process begins in July when we start to review the previous year in light of trends for the upcoming year. In the fall we meet with Enterprise and Advanced Education (EAE) officials to receive feedback on our performance over the previous year and on our early plans for the upcoming year. This feedback is informed by their knowledge of provincial trends expected to influence planning and priority setting. Helping to inform these discussions are regional profiles and institutional factsheets. Our current CIP reflects the outcome of these discussions.

4.3 PROCESS

To describe the process we followed to develop this CIP, we begin with a brief overview of the ‘Eyes High’ strategic planning process that occurred early in 2011, the steps we took to develop the academic and research plans in 2012, and a description of CIP review and approval process in early 2012 (Figure 2). Integral to the process were extensive consultations with the Students’ Union (SU), Graduate Students’ Association (GSA), Faculties and support units, internal governance committees, and consultation with Campus Alberta post-secondary institutions, research organizations and members of the broader community.

Figure 2 – Planning Process

Eyes High

During the spring of 2011, we listened to thousands of faculty, staff, students and members of our community who provided valuable advice and guidance about the vision for the University of Calgary. They helped us to identify our strengths and challenges and describe what makes us unique, and they shared their hopes and dreams for our future. During the summer we transformed this advice and guidance into a clearly articulated vision, Eyes High, to guide the University of Calgary toward its potential by its 50th anniversary in 2016. That vision resulted in a single, unifying call to action – one that celebrates our strengths and now serves to align our activity and resources. Our response to that call will position the University of Calgary as a global intellectual hub located in Canada’s most enterprising city. In this spirited, high-quality learning environment, students will thrive in programs made rich by research and hands-on experiences.
Academic Plan

During the fall of 2011, the Provost and Vice-President (Academic) and the Vice-President (Research) co-led the development of the academic plan, which describes the 7 academic priorities that will guide our financial, capital and human resource allocations. This is a concrete and ambitious plan, containing goals, strategies and tactics in each academic priority. The process to develop the academic plan was highly consultative, and was also informed by an analysis of our current enrolment in relation to our level of funding, our current complement of faculty and staff, our Eyes High vision, and by an environmental scan of current trends and issues facing post-secondary education. The Academic Plan was approved in February, 2012.

Research Plan

The process to construct our Research Plan was similar to that of our Academic Plan. During the spring of 2012, the Vice-President (Research) and Provost and Vice-President (Academic) co-led a process to produce the Research Plan, which synthesized feedback from all Faculties and student groups. The feedback identified 3 research priorities and crosscutting research strengths and prominent research themes, as well as strategies and tactics for advancing our research mission. The process was highly consultative, and it was informed by an analysis of our strengths, our Eyes High vision, and a scan of environmental trends and issues facing research and innovation in the province. The Research Plan was approved in June, 2012.

Plan Integration

The next phase in our strategic planning is to integrate the Academic and Research Plans. We have started this process in the Eyes High chapter in this document. This will, however, be an iterative process over the next year.

Comprehensive Institutional Plan

The CIP has been constructed as a series of chapters overseen by a senior team at the university. The academic and research priorities outlined in the Eyes High chapter served as a foundation for planning in the capital, budget and resource allocation chapters.

The CIP has gone through an extensive, iterative consultative process appropriate to the information in the document. Those chapters that are the purview of GFC (i.e., the Eyes High chapter) have gone through extensive consultation with committees of GFC, including the Academic Priorities and Planning Committee (APPC) and the GFC Executive Committee. Those chapters that are the purview of the Board (i.e., the more business related chapters) have had extensive, iterative consultation through sub-committees of the Board, including the Budget Committee (BC) and the Finance and Property Committee (FPC) along with various administrative committees (Executive Leadership Team, Executive Leadership Team Operations Group, and the Campus Strategic Initiatives Group). In addition, the CIP has been discussed numerous times at Provost’s Team Meetings, Research Development and Policy Committee, and Dean’s Council.
Undergraduate and graduate students were highly engaged in the academic and research planning processes, and were members of many of the committees that provided iterative input into the CIP. In its final form, the CIP was recommended for approval by the Finance and Property Committee, and approved by the Board of Governors.
5. Environmental Scan

5.1 INTRODUCTION

This environmental scan provides a summary of the trends we expect to influence plan direction and progress over the period 2012-15. Information about our environment was gathered from reviews of our internal and external operating environments, relevant literature related to best practices and an assessment of large-scale trends affecting post-secondary education. We organize our findings below under the seven priorities of our Academic Plan and the three priorities of the Research Plan. In addition, we consider the broader financial and economic environment.

We examine trends in the context of our priorities because these trends will influence the successful achievement of the outcomes of our Academic and Research Plans. Some trends are relevant to multiple priorities and the discussion reflects that and avoids repetition. This chapter focuses, therefore, on the environmental context most relevant to our priorities. This helps define that “sweet spot” where our institution can best position itself to contribute to the post-secondary landscape. To reinforce this approach, we have also implemented an organizational approach that overtly considers the risks that stem from the environmental contexts for our priorities. Failures to achieve on our goals are fundamental institutional risks. Over the past year, we have implemented an enterprise risk management approach that complements the Academic and Research Plans by directly addressing the risks that may influence successful attainment of our goals.

5.2 CONTEXT RELATED TO THE PRIORITIES OF THE ACADEMIC PLAN

Talent Attraction, Development, and Retention

The future of our economy, culture and civil society depends critically on the attraction, development and retention of talent.\(^{14}\) The Alberta economy faces a significant shortage of workers. By Government estimates, the Province will face a shortage of 114,000 workers by 2021 and the majority of those unfilled positions will require post-secondary education.\(^{15}\) Looking further out, this trend is likely to continue for the foreseeable future. This trend will produce a growing gap between the demand for university education in the province and the capacity of our universities in the absence of a sustained plan that matches growth in the sector to the growth in demand. Economic diversification is critical to the Alberta economy to ensure the prosperity of future generations and continued improvement in quality of life for Albertans. Diversification depends on the attraction, development and retention of talent because people

\(^{14}\) Campus Alberta Planning Resource, 2012

\(^{15}\) Campus Alberta Planning Resource, 2012
with ideas, aspirations and energy will drive economic diversification through innovation. Universities play critical roles in this process, addressing all three of the factors.

Alberta’s population is growing, but population growth is very unequally distributed across the province. Calgary, in particular, is a rapidly growing city in which demand for post-secondary education is expected to increase significantly in coming years. Calgary is consistently the region with the highest number of “turnaways” among qualified applicants for spots in post-secondary programs and enrolment at the University of Calgary is currently 9.4% above existing physical capacity. This trend is reflected also in the ratio of applicants to admissions to the University of Calgary which has risen from 2.04 to 2.38 for undergraduates and 2.97 to 3.47 for graduate students since 2007, a period that has also seen total enrolment grow. The metropolitan population of Calgary is projected to reach 1.5M by 2019. Planning for this growth is an essential element of sustainable management of the post-secondary sector.

Alberta’s demographic structure is also changing in ways that significantly influence post-secondary education. While Alberta’s population is young within Canada, the proportion of younger Albertan’s is still declining relative to the overall population. Given the Province’s increasing need for highly qualified personnel, this trend suggests that migration into Alberta from within Canada and immigration from outside of Canada will continue to be critical for attraction of talent to the province. Alberta continues to be a top destination for immigrants to Canada and interprovincial migrants. For the University of Calgary, this trend will create an increasingly diverse student body, both in terms of cultural background as Alberta’s immigrant population increases and age as non-traditional students return to university to acquire the knowledge needed for desirable positions in the workforce. The increasing need for highly qualified personnel is one of the reasons that diversification of our student body is a key goal of our international strategy.

Alberta’s population is also aging. Growth in the number of people outside the labour market (e.g., seniors) requiring social services is outpacing growth in the working-age population. This will place increasing demands for the training of health professionals who care for older Albertans.

Alberta’s increasing need for highly qualified personnel and aging demographic structure occur against the background of an increasingly globalized and competitive marketplace for talent. Students and their parents increasingly judge the value proposition offered by a post-secondary education and consider factors such as reputation and ranking, return on investment and quality indicators when making the decision to apply to a particular university. For the University of

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16 Campus Alberta Planning Resource, 2012
17 City of Calgary Land Use and Planning, 2012
18 Campus Alberta Planning Resource, 2012
19 Campus Alberta Planning Resource, 2012
20 Campus Alberta Planning Resource, 2012
Calgary, this means that a focus on quality, outcomes and a continued increase in reputation and ranking is critical to deliver on the promise to contribute to the attraction, development and retention of talent to Alberta.

A countervailing trend that may be emerging, however, is that as education is increasingly seen as the key to individual prosperity, students and their parents compete with each other for limited opportunities and thus drive down the relative value of human capital.\textsuperscript{23} As the quality of post-secondary education improves in countries with lower incomes than Canada and the number of graduates from such institutions increases, a reverse-auction dynamic may drive down the relative value of a credential or degree in the job market.\textsuperscript{24} How this trend plays out will depend on the balance of demand for talent, the geographic distribution of this demand and the rate at which universities world-wide produce graduates. Although there is much uncertainty here, this trend further highlights the need for the University of Calgary to ensure high quality teaching and learning experiences and to continually evaluate our program offerings to seek opportunities for current, relevant and meaningful educational experiences that will maximize the economic and social return on investment for students, the Province and society at large.

The development of talent through education is a core business of the University. Universities are fundamentally dedicated to the pursuit of truth and knowledge, to disseminating this knowledge to students and the broader public and to involving students in the development of knowledge. One outcome of this broader goal is that students are of value to society, often in ways that are difficult to predict by either governments or universities themselves. As a narrow measure of this, over 96% of our graduates are employed upon graduation with nearly 80% of the total being employed in the specific area of their choice within two years of graduation. This development of talent by universities in Alberta clearly meets societal and economic demand. However, the reality is more complex because our graduates use their knowledge and training to engage in innovation that, in turn, creates further demand for employment. In this way, universities have become central drivers in economic development as well as in the pursuit of greater social good through the creation and dissemination of knowledge.

Finally, the attraction and retention of faculty members and staff are influenced by many of the same large-scale trends as those that affect students. Attracting the best professors pays dividends in multiple ways. Professors attract funding that, in turns, attracts and develops graduate students, post-doctoral fellows and highly skilled technical staff. The best professors are at the cutting edge of innovation in their fields and this drives educational program innovation that is so crucial to mitigating the trend towards commodification of knowledge. Canadian universities have been at a disadvantage over the last three decades compared to counterparts in the US due to declining funding per student.\textsuperscript{25} We now have an opportunity,

\textsuperscript{25} Steele, K (2010). Trends 2010: The Changing Canadian PSE Landscape
however, to overcome this long-term trend as the high value of the Canadian dollar and increasing funding uncertainty at public institutions in both the United States and Europe makes Canada, and particularly Alberta, attractive to high performing academics. This window of opportunity may only last a few years and seizing it now is critical to productive renewal of our academy in ways that will pay dividends for the next generation. Unfortunately, the budget news in March, 2013 was not helpful in this regard, increasing uncertainty in the Alberta post-secondary landscape. We have already seen some effect of this during recruitment processes in the past 2 months. Funding stability and development of a sustainable PSE sector will help to mitigate the current uncertainty.

Renewal and expansion of the academy represents a tremendous opportunity to invest in the future of the province. Beyond the direct economic impacts, the University of Calgary can serve as a cultural anchor institution in Southern Alberta. We can foster the maintenance of civil society and the advancement of social good through both our graduates and our research and scholarship in ways that go beyond the narrow measures of economic impact.

The Alberta Government looks to universities as key partners in its overall strategy to attract and retain high quality personnel in the Province. With an increasing focus on results-based budgeting, there will increasing accountability for the role that universities can play in this regard. The University must, therefore, be increasingly cognizant of its important role, monitor its progress and contributions to the provincial outcomes and evaluate its strategies, programs and policies in light of the trends discussed here.

**Teaching and Research Integration**

The rapid pace of technological change is both driven by and produces the demand for highly qualified personnel. It requires workers who adapt to innovation through life-long learning and who are able to contribute to innovation through critical assessment of knowledge and, most importantly, the generation of new ideas. Producing graduates who possess these attributes is key for the University of Calgary.

As society adapts to economies that increasingly require advanced skills, there has been a large-scale trend towards the commodification of knowledge and the “massification” of higher education. This trend challenges universities to maintain their advantage in quality over alternatives such as massive open online courses (MOOCs) or private colleges. The key advantage of a university is the knowledge, experience and skills of faculty members who are also deeply engaged in the advancement of a scholarly field. To realize this advantage, students must be exposed to and interact with such faculty members to the extent possible. The development of

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26 Campus Alberta Planning Resource, 2012
27 Campus Alberta Planning Resource, 2012
infrastructure and technology for different approaches such as MOOCs, however, also offers opportunities for increased use of blended learning solutions that may both increase educational quality and, potentially, productivity. Universities ignore these types of technological advances at their peril – and the best institutions will determine how best to incorporate advances into their pedagogical approaches. We are currently developing an educational technologies strategy at the University of Calgary.

Interaction and the exposure of students at multiple levels to research and formalization of research skill training across University programs pays multiple dividends for both graduates and the industries that employ them. Immersing students in a culture of inquiry and providing them with the toolkits of modern research is critical to creating workers who actively contribute to innovation. Integrating teaching and research within programs and the University culture as a whole is central for the University to deliver on its mandate to produce graduates with the skills and attitudes required by the current and future economy of Alberta.

Integration of teaching and research benefits both the research and educational enterprises of the University. Broader exposure of undergraduates to research helps build communities of scholars around research themes within the University. This increases the talent pool on which graduate programs can draw as undergrads engaged in research are more likely to pursue graduate studies.\(^{30}\) Such integration has also been shown to improve learning outcomes from cognitive attributes to retention and satisfaction measures.\(^{31,32}\)

Since the publication of the Boyer report in 1998, research-intensive universities have struggled with successful implementation of inquiry-based and research-integrated undergraduate education. At the University of Calgary, successful models such as the Bachelor of Health Sciences and Bachelor of Neuroscience programs have been created. The challenge for the University of Calgary, as for other research-intensive Universities is to scale up such models. This is why the recently announced Taylor Institute for Teaching and Learning and the College of Discovery, Creativity and Innovation are so integral to our Eyes High vision. In this initiative as in others, the University of Calgary aligns with and supports the priority articulated within the Alberta Research and Innovation Plan\(^ {33}\) to “develop a dynamic and integrated learning and research and innovation system”.


\(^{33}\) Alberta Research and Innovation Plan, 2011
Interdisciplinarity

Most of the important problems faced by the world are very complex. It is increasingly recognized, therefore, that teams, often large and involving many different disciplines and perspectives, must work together cohesively to develop and implement solutions. This is true for many settings in research, governments, and non-governmental agencies and in the private sector. Innovation also often arises from the integration of perspectives from different disciplines (Moran, 2010). For these reasons, it is critical for universities to produce graduates who understand the value of interdisciplinarity, who understand the language of more than one discipline and who are able to move across disciplines through active learning in their careers. For our faculty members, it is critical to facilitate and encourage interdisciplinary activities and thought in both their research and educational activities. Changes to faculty evaluation that place increased value on interdisciplinarity and changes to organizational structure that remove barriers between disciplines is another.

Research is increasingly performed in large interdisciplinary teams. In Canada, this has been reflected at both the national and provincial levels in the movement of research funds to team-based projects and the increase in collaborative industry grants relative to those available for individual-investigator based projects.34 Promoting interdisciplinarity is a stated goal of several key funding agencies such as the Federal Tri-Council agencies (NSERC, CIHR, and SSHRC) and has placed an increased emphasis on industry partnerships.35 This movement is guided by evidence that interdisciplinary and partnership-based research leads to greater scholarly and societal impact and thus greater return on investment for funders. For the University of Calgary, this trend challenges us to better recognize and reward interdisciplinary research and contributions by our faculty members to the progress made by large interdisciplinary teams.

The trend towards interdisciplinarity plays out for the educational enterprise in ways that parallel that of research and has implications both for existing discipline-based programs and programs that are overtly inter- or multi-disciplinary. This means that at the University of Calgary we must increase opportunities for students to engage with issues in ways that cross disciplinary boundaries. This must occur within both the curricular and the co-curricular content of existing programs. We must provide students with a myriad of opportunities, and processes that support those opportunities.

Leadership

Leadership is an essential ingredient in conceiving of and implementing change at all levels of society. Despite this obvious fact, universities have been slow to pay overt attention to the development of leadership skills and attributes within most academic programs. The City of Calgary demands the development of leaders – and the University of Calgary aims to meet those

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34 Alberta Research and Innovation Plan, 2011
demands. Thus, developing the leadership potential of our graduate and undergraduate students is one of the seven priorities of the University of Calgary Academic Plan.

The rapid development of Calgary as an energy center and hub of financial activity creates the impetus to strengthen leadership development within the University. Many graduates from the University of Calgary go on to leadership positions in the private sector in Calgary where their decisions will have national and often international ramifications. Ensuring that these leaders have the right values, attributes and skills to most effectively serve the needs and interests of society is therefore critical.

Similarly, the province’s need for economic innovation and diversification creates an urgent need for graduates with the skills to lead transformative change. The establishment of new businesses and the pioneering of fields that are not currently established in the province requires leadership in addition to other attributes. For these reasons, leadership development is a key priority of the University of Calgary.

**Internationalization**

Top research-universities are international in orientation with well-developed and strategically positioned global webs of interactions that reinforce their goals in the creation, dissemination and application of knowledge. The University of Calgary, through the Eyes High vision, aims to become a global intellectual hub and one of Canada’s top 5 research-intensive universities. Internationalization of the University is critical to achieving this goal.

The impetus for internationalization of the University of Calgary also derives from the city in which we are located. Calgary is a global energy and corporate business center. The growing prominence of our city and the corporations headquartered within it creates both an opportunity and an imperative to project the University of Calgary’s sphere of influence in a manner that more appropriately reflects Calgary’s rising prominence. Calgary has the second highest concentration of head offices in Canada and has the highest head office employment per capita in the country. As a global city, Calgary demands graduates with a global perspective and cross-cultural competencies.

Canada and, in particular, Alberta, have increasing need for highly skilled personnel. Sixty-five percent of all jobs created in 2012 will demand post-secondary degrees and Alberta will exhibit strong job growth for the foreseeable future. Population growth cannot meet the job demands into the future and this leaves in-migration as a critical source of high quality personnel. However, it is clear that Canadian in-migration is not going to meet the demand. Alberta attracted 12.4% of Canada’s new immigrants in 2011, a substantial increase from 6.5% in 2001. Net international migration to Alberta is expected to be about 24,700 people annually in 2050.

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38 Campus Alberta Planning Resource, 2011
39 Campus Alberta Planning Resource, 2011
with the vast majority (90%) of those people moving to Calgary and Edmonton (Education, 2012). Recruitment of international students is a role that universities can play as part of a broader provincial strategy to address the projected skilled labour shortage in our country, as research has shown that many international students stay in the cities or regions in which they are trained.\textsuperscript{40} The international recruitment of graduate students is particularly important in this regard. Twenty-five percent of our graduate students are international and many of these students stay in the province and contribute to the supply of highly qualified personnel needed by knowledge-intensive industries and organizations.

Recruitment of international students is increasingly competitive. Internationalization is a growing priority among post-secondary institutions world-wide which places Universities in competition for international students and strategic international partnerships. Reputation and ranking are increasingly considered both by potential international recruits and potential partner universities. This is why achieving the Eyes High Vision, with its emphasis on increasing the quality and impact of our educational and research programs is essential for us to effectively seize the opportunities presented by the internationalization of our University.

Internationalization is also critical to our research enterprise. Consortia among universities, government, and non-governmental agencies are increasingly recognized as key elements in developing solutions to large-scale global challenges (energy, water and food). The world faces urgent and complex problems that transcend the ability of individual governments and disciplines to address effectively. Global consortia involving inter-disciplinary teams from multiple universities, philanthropic organizations, corporate partners and governments with mandates targeted at our urgent environmental, sustainability and economic problems are likely to become increasingly important. This trend is one of reasons that energizing our faculty through confederations of scholars around our six research themes and the associated grand challenges is so critical for the future of the University of Calgary.

\textbf{Connection with Community}

The University of Calgary is incredibly fortunate to be located in Canada’s most vibrant and dynamic city. It is also fortunate to be located within Alberta. Within Canada, economic and political power has shifted dramatically from Central Canada to the West and our city and province are at the epicenter of this ongoing trend. Our city is increasingly connected globally and is rapidly emerging as one of the world’s energy capitals. Alberta contains the world’s third largest proven reserves of oil and the largest that are not nationally controlled.\textsuperscript{41} The corporate activity and the associated financial activity related to this resource is primarily based in Calgary. A city of such prominence and promise demands a university that is truly a global intellectual hub. This is a major motivation for the Eyes High Vision.

\textsuperscript{40} Campus Alberta Planning Resource, 2012
\textsuperscript{41} Alberta Energy (http://www.energy.alberta.ca/oilsands/791.asp)
Great cities have great institutions that enhance the fabric of city life and are anchors of both economic and cultural activity. The University of Calgary strives to become an anchor institution within the city. Successful anchor institutions transform the city around them. In addition to generating economic activity, such institutions become foci for the community and are closely connected to the self-image of the city. For the University of Calgary, this means that the University must not only graduate students and employ people but also engage with the community in more diverse ways. The University needs to become a center of public intellectual, artistic and social activity within the city. Classical music concerts and other performing arts events represent one aspect of this. Speakers and public events of broad interest, represent another. Bringing the community on to campus and projecting the campus into the community are key goals that form part of the vision to become a global intellectual hub.

The physical integration of a university and its surrounding city is increasingly recognized to be a key ingredient in how universities engage with the community. University neighborhoods are often magnets for artistic and cultural activity that develop because of the pull of the intellectual or scholarly environment created around a university. Such neighborhoods are attractive both to students and to city residents and their vibrancy and atmosphere creates a virtuous synergy with the university around which they emerge. The physical location of the University of Calgary within the city has not been conducive to the emergence of such a “university neighborhood.” Other universities have successfully transformed their surroundings to create attractive university neighborhoods. In Chicago, for example, The University of Chicago led the urban renewal (“Fight Against Blight”) that transformed Hyde Park from inner city wasteland into a neighborhood that is now recognized as one of cultural centers of the United States. Our vision to become a global intellectual hub also requires a transformation of our campus and surroundings from commuter campus to a vibrant university neighborhood. This is the vision behind the West Campus development and also strongly informs our planning for the residence master plan.

Harnessing the intellectual power of the university to improve the working of our city represents another form of community engagement. The City of Calgary government presents the University of Calgary with tremendous opportunities for engagement and partnership that benefit both our students and faculty as well as the city itself. Often such partnerships focus on areas of mutual interest and benefit to our community. A good example of this is the ACWA (Advancing Canadian Wastewater Assets) program which, involving a partnership between the University and the City, aims to develop ways to remove existing and emerging contaminants from the wastewater generated by the City. Similar opportunities exist and are being explored in public health and urban planning. Our University Senate is a key resource that we are using to expand the ways in which we connect the strengths of academic programs to community needs and opportunities.

Service, along with education and research, is one of the three fundamental activities of a research university such as the University of Calgary. In our case, a great deal of this service directly impacts the community within which we are located. The largest example of this is

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42 Anchor Institutions and their Role in Metropolitan Change. Penn State Institute for Urban Research, 2010
engagement of our academic physicians within the health care system. The University of Calgary is a magnet for highly qualified physicians as an academic home and is critical to recruiting physicians who deliver world-class health care in Southern Alberta. Our Faculties of Nursing and Social Work are similarly engaged in the direct care of our community and many other examples of service to the community are found throughout the University including Law, Engineering, Environmental Design and Business.

**Sustainability**

Increased emphasis on sustainability is an emerging trend in post-secondary education. This is in part driven by the increased profile of sustainability issues within society at large. It is also driven by the fact that universities, as important foci in which such issues are taught and discussed, have an ethical obligation to lead innovation in sustainability by example. For this reason, the University of Calgary embraced this trend in its strategic planning.

Sustainability is an increasingly important issue for students. Students enrolling in universities today are reported to feel personally responsible for making a difference in the world, believe companies have a responsibility to join them in this effort, and expect universities to prepare them with sustainability skills for use in graduate employment. The sustainability position of a university is reported to be a consideration by Millennials and their parents when selecting an institution.

Sustainability reporting has increasingly become an expectation for large companies and organizations. Ninety-five percent of the 250 largest companies in the world (G250) now report on their corporate responsibility (CR) activities. The top three reporting sectors are financial services, energy, and energy utilities. The post-secondary sector is 34th, indicating that universities lag significantly behind the private sector in this regard. Sustainability reporting regulations exist in over 30 countries, 65% of which are mandatory. More than 200 North American higher education institutions have participated in the new Sustainability Tracking and Rating System (STARS) and more than 200 ratings are in progress. Significant growth is apparent

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in North American and global regulations and standards pertaining to sustainability and to greenhouse gas accounting and reporting.\textsuperscript{47}

Sustainability indicators encompassing social, environmental, and economic dimensions continue to decline worldwide.\textsuperscript{48} This highlights the societal need for research and education in sustainability. The pursuit of sustainability presents complex and interdependent social and technological challenges. Further, the development and applications of solutions to sustainability issues will create new opportunities for public/private sector partnerships, technology development and transfer, public policy development, as well as inter and intra-institutional collaboration. Situated in the energy capital of Canada, the University of Calgary is well positioned to lead in research, education and operational innovation related to sustainability. For this reason, sustainability is an important priority within the Academic Plan.

The major sustainability trend that affects the University of Calgary is that the current post-secondary education model is not financially sustainable. Internal costs have long risen at a faster rate than government operating grants, creating a growing gap that threatens to slowly erode the quality of education and research programs. Solutions to this long-standing problem will require fundamental changes to how Universities are funded, organized or function. This ongoing trend is greatly exacerbated by the large and unexpected cut to post-secondary funding in the Alberta 2013-14 budget. The rapid adjustment required as the result of this budget cut is a significant challenge to making constructive changes that are required to solve the long-term economic sustainability of post-secondary education. The next 6 months will be critical as we work to re-imagine a new model of a university in partnership with the provincial government.

5.3 CONTEXT RELATED TO THE PRIORITIES OF THE RESEARCH PLAN

The research and educational enterprises are not separate at the University of Calgary but rather tightly interwoven within the fabric of the University. For this reason, research as well as education are discussed under most of the headings above. This section deals with the larger-scale environmental context for research and the trends that relate specifically to the priorities of the Research Plan of the University of Calgary.

Since the beginning of the Second World War, University-based research has increasingly become the major source of new knowledge that is applied towards commercial and industrial innovation and societal change (Steele, 2010). Basic research is nearly exclusively done now in universities as large corporations have shut down research parks or re-directed their efforts towards more directly applied research that builds on fundamental work done in universities. Increasingly, companies collaborate with universities on fundamental research.\textsuperscript{49} For this reason, government agencies that fund university research are increasingly focused on return on investment and on shaping the broad strokes of university based research to align with

\textsuperscript{47} Association for Advancement of Sustainability in Higher Education. N.d. STARS Dashboard: \textit{Rated STARS Institutions, Current Participants}.


\textsuperscript{49} Perkmann and Salter, Financial Post, Jan. 13, 2013
government priorities for economic development. Intellectual freedom and the primacy of curiosity-driven research, however, remain core values in the modern university. The tension that results is a creative one for society. Most innovation has its roots in curiosity-driven research. Modern electronics from cell phones to computers would be inconceivable without quantum mechanics, which developed within pure theoretical physics. Similarly, the foundation for the personalized medicine revolution was laid by the discovery of DNA by Watson and Crick in 1953. For this reason, universities must remain places where the advancement of knowledge is fundamentally premised on curiosity and the desire to advance knowledge. On the other hand, university-based research has become integral to innovation in the broader economy and it represents a substantial investment of public funds. It is equally important, therefore, that university-based research responds to economic and societal needs as well as government priorities. As with other research-intensive universities, research at the University of Calgary is thus founded in curiosity but guided by societal need. Harnessing this creative tension is the key to maximizing the impact of research at the University of Calgary to drive innovation within Alberta for the benefit of our stakeholders and society at large.

The integral role of the research university for innovation in society must be considered in the context of the great challenges faced by the world today. The increasing rate of energy consumption, the growth of the world’s population, environmental degradation, climate change, and increasing reliance on a narrow range of food crops, combine to foreshadow an age of increasing food insecurity and, potentially, conflict over resources. The movement of peoples and changes in agricultural practice are changing the nature of infectious disease at a time when antibiotic resistance is an increasing problem. Finally, the financial crisis and the ongoing sovereign debt crises in Europe and the United States highlight structural problems in our economic and political systems that pose significant threats to our future prosperity and quality of life. The knowledge created and disseminated by research universities is critical to developing solutions to large-scale challenges such as these. At the University of Calgary we are increasingly aware of our responsibility to leverage our expertise to contribute to solutions to issues where we have research strength and that most directly affect our community. This ethos is a theme that runs through our Eyes High Vision and the Research and Academic Plans that support it.

Government funding agencies continue to support fundamental, curiosity-driven research, but are increasingly focused on knowledge translation. At NSERC and CIHR, programs such as the Collaborative Health Research program and Strategic Partnership Program focus on partnerships with industry and commercialization outcomes. Similarly, the provincial research funding landscape within Alberta has been reorganized with the formation of Alberta Innovates to focus research capacity on the discovery of solutions to problems of importance to Alberta. This solutions orientation is reflected, for example, in the mandate of Alberta Innovates – Health Solutions:

“Support, for the economic and social well-being of Albertans, health research and innovation activities aligned to meet Government of Alberta priorities, including, without limitation,
activities at the development and growth of the health sectors, the discovery of new knowledge and the application of that knowledge.”50

The University of Calgary is a willing and resourceful partner to the province in this endeavor. The Research Plan is a deliberate effort to energize the intellectual capacity of our scholars at all levels around the grand challenges faced by our society, in areas that both build on our strengths and align to our communities needs as articulated by the priorities of the Alberta Government.

Match our Strengths to Opportunities

One of the three priorities in the Alberta Research and Innovation Plan is “focusing on Targeted Areas: Strategically building on a strong base of research.”51 The focus on targeted areas is increasingly recognized as a key element to success in building a successful research enterprise.52 The reason to focus on priorities is by building focused capacity, we increase the extent to which our research will have meaningful impact on the challenges faced by society. The six research themes identified in our Research Plan reflect both our existing areas of strength and potential impact and the needs of our community and stakeholders. Through focusing our academic community on the central issues within areas such as “energy innovation” or “brain and mental health”, both of which align strongly with provincial priorities, we will build world-class research capacity that will enhance the profile of the University and province’s research and innovation system. More importantly, the work done under these themes will produce knowledge and translate knowledge to application that is of critical importance to the future of our province.

Increase our Research Capacity

The fundamental role of the research university in contributing to innovation and greater societal good is recognized in the Alberta Research and Innovation Plan.53 One of the three core strategies of that plan is to build research capacity and to recruit and retain highly skilled people who are engaged in cutting-edge research.54 Within Alberta, the vast majority of the research capacity is within the CARI institutions. Research activity is concentrated within these institutions as specified in the six-sector model within the Post-Secondary Learning Act.55 This model produces tremendous advantages for the Alberta post-secondary system in that it prevents the dilution of impact that occurs when too many institutions compete for finite research support. The four CARI institutions attract $840M per year in competitive research funding from a variety of federal, provincial, international and industrial sources compared to $15M for non-CARI Institutions. Of the total, $273.5M is obtained by the University of Calgary alone. The complex relationship between university-based research and societal impact implies that measures of

50 Alberta Innovates, Health Solutions, Roles and Mandates, 2010
51 Alberta Research and Innovation Plan, 2011
53 Alberta Research and Innovation Plan, 2011
54 Alberta Research and Innovation Plan, 2011
55 Alberta Postsecondary Learning Act, Statutes of Alberta, 2003
direct research commercialization represent only the tip of the iceberg in the ways in which the knowledge created at universities is translated and applied and that new ways of measuring research impact are needed.\textsuperscript{56}

The creation, dissemination and translation of knowledge happens through the work of highly qualified people (HQP). In Canada, according to most recently available data, 234,660 research staff were employed in 2009, of which roughly 8% were based in Alberta.\textsuperscript{57} Recent changes in the funding landscape have made the support for HQP within Alberta more challenging. In particular, the shift away from funding the salaries of academic researchers towards research programs has created challenges in maintaining research capacity while also creating opportunities to advance research programs. The University of Calgary has responded to this challenge through the implementation of a transition plan for investigators formerly funded through the Alberta Heritage Fund for Medical Research. While we originally thought the 50 stimulus hires and 60 post-doctoral fellows we planned to hire this year would add additional research capacity, with the recent budget news it is clear that they will not add capacity, but rather will help in critical academic renewal. Increasing capacity is also required – and should be considered in the next budget. The CAIP chairs and Canadian Excellence Research Chairs (CERC) programs will produce tremendous benefits through the recruitment of senior, high profile investigators who will quickly become foci of intense research activity. The CERC in Materials Engineering for Unconventional Oil Reservoirs, for example, will significantly enhance the energy innovation research theme. By working to develop new methods for in situ extraction that are more efficient and have less environmental impact, this research will produce knowledge that is of direct relevance to an issue that is of central importance to Albertans.

Research infrastructure and platforms are also critical to building research capacity. Access to state of the art core facilities is critical to supporting cutting-edge research, particularly in technology-intensive fields. In the Research Plan, the research platforms identified are specifically chosen to support the six research themes. The Canadian Foundation for Innovation has had a tremendous stimulating effect on research in Canada, as has the provincial support for this program, largely through support for research platforms that have benefitted large numbers of research programs, including at the University of Calgary. Partnering with the province to maintain the competitiveness of universities for such programs nationally is essential for maintaining the currency and impact of our core facilities for research.

One area in which such a partnership promises to pay great dividends is the formation of Alberta Health Services and the creation of a medical record database that encompasses all Albertans. This creates an unparalleled resource of 4M records that can support population health, public health, genomics, and health services research. Partners must work together so that the promise of the creation of AHS is realized, allowing us all to deliver on the goal of research excellence and return to the community through knowledge translation.

\textsuperscript{56} Campus Alberta Planning Resource, 2012
\textsuperscript{57} Statistics Canada
Create a Dynamic Research Environment to Promote Research Excellence.

The increased regulatory burden on researchers is a long-term trend. This trend is inescapable because of the need for accountability, both in terms of ethics and management of the funds invested by governments in research. To counter the productivity cost of this trend, universities must invest in systems that help researchers manage the regulatory burden and avoid the painful repercussions of non-compliance. At the University of Calgary, we are well into a multi-year process in which our processes are being overhauled to increase accountability, mitigate risk and ensure compliance. In the past year, a major focus has been to ease the burden of these changes on researchers by increasing the usability and efficiency of our systems for research accounting, HR management, and purchasing and ethics clearance. This is a crucial initiative to maintain a culture of research productivity at the University of Calgary.

Creating a dynamic research environment also involves creating a culture that is supportive of the research aspirations of our scholars. This is achieved through reward and recognition of success in research, in mentoring and faculty development to ensure success with grant applications and high impact publications. Multiple factors contribute to faculty research productivity, but effective mentorship, sufficient time and infrastructure for scholarly activities and effective academic leadership stand out as key determinants. Improvement in all of these areas is implicit in the strategies of the University of Calgary Research Plan.

Finally, the full integration of the educational and research enterprises can also contribute to a dynamic research environment. Involvement of undergraduates and maximal engagement of graduate students will contribute to a dynamic environment by engaging young minds with fresh perspectives and encouraging our scholars to re-examine their ideas through teaching. The integration of teaching and research is a key priority within the Academic Plan that is echoed within the Research Plan as doing this effectively will transform our academy in ways that benefit all aspects of our mission.

5.4 FINANCIAL AND ECONOMIC ENVIRONMENT

As a publicly funded institution, the University of Calgary derives 35.4% of its budget from the Government of Alberta’s Campus Alberta grant and an additional 11.6% from other government grants. The University operating budget, therefore, is very sensitive to economic and political factors that influence government funding for post-secondary education and research. The Alberta economy was less affected by the financial crisis of 2008 than many others and appears to have recovered more strongly than others within Canada, having lead economic growth in the country for the past three years, with a growth rate of 5.2% in 2011. Although the long-term economic picture for Alberta remains very positive, the current price differential for crude oil produced in Alberta has reduced resource revenues for the government more than forecast in the previous budget, although this has improved somewhat recently. Natural gas prices have also been low in recent years due to increased supply, although this has also improved recently. These factors, and the continuing sensitivity of government revenues to energy prices and, to a lesser

extent, the value of the Canadian dollar is creating uncertainty within the public sector at large about the stability of government funding. The three-year funding commitment for 2% increases in base budget per year had created a stable planning horizon which would have enhanced our ability to increase the impact and productivity of the University as well as the value to our stakeholders through full implementation of our strategic plans. However, the unexpected, dramatic and disproportionate cut to the post-secondary education budget implemented in the 2013-14 budget is now forcing a re-evaluation of goals and will force changes that are likely to diminish the impact of the University to our various stakeholders. The fact that this occurred in the second year of what appeared to be a firm three-year funding commitment adds to long-term planning uncertainty in ways that will have ramifications for many years to come.

One of the three priority directions for the Campus Alberta system is a focus on outcomes.59 This focus aligns closely with the new budget model at the University of Calgary. This new budget model is performance and results-based and will align resource allocation decisions to the outcomes that the University of Calgary undertakes to deliver. The new budget model will help drive achievement of our academic goals. The alignment of this model with the Government of Alberta focus on outcomes will also help us contribute in meaningful and measurable ways to the government outcomes at the Campus Alberta level.

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59 Campus Alberta Planning Resource, 2012
6. Eyes High – Academic and Research Outcomes

6.1 INTRODUCTION

The University of Calgary, established in 1966, is highly regarded in relation to its peer institutions of a similar age. In the most recent world university rankings of universities established in the last 50 years, the University of Calgary was ranked number 1 in Canada, 5th in North America, and 28th in the world by the *Times Higher Education 2012-13 World University’s Rankings* (Times Higher Education, 2012).

Given that one of the three key policy directions of the current provincial government is the **support of Alberta’s economic and social progress**, it is important to note that the University of Calgary, beyond its reputational achievements, contributes an annual economic impact of $7.92B to the economy of the Calgary region. Using the same methodology, institutions of similar age, such as the University of Victoria and Simon Fraser University in British Columbia, have impacts to their local economies of $3.2B and $3.6B, respectively. The **University of Calgary is a young academic institution on the rise making significant contributions to the local and provincial economies.**

2011-12 was a milestone year in the history of the University of Calgary. *Eyes High*, a bold vision for the University was unveiled in October, 2011, and this was rapidly followed by the development of detailed roadmaps to lead us to that vision – a new institutional **Academic Plan** (January, 2012) and **Research Plan** (June, 2012). Collectively, these three documents establish the overarching vision and high level priorities that will guide human, financial, and capital resource allocations for the foreseeable future as the University of Calgary continues to enhance student, faculty and staff experiences and outcomes. These documents were produced through broad consultative processes with our university communities. This chapter will summarize the plans going forward, and highlight the major academic and research **priorities** and **deliverables** over the next 3 years. The focus on deliverables will be in line with the Alberta Government’s **policy focus and priority on outcomes**.

The *Eyes High* document outlined the following vision for the University of Calgary:

“The University of Calgary will be a global intellectual hub located in Canada’s most enterprising city. In this spirited high quality learning environment students will thrive in programs made rich by research and hands on experiences. By our 50th anniversary in 2016, we will be one of Canada’s top 5 research universities, fully engaging the communities we both serve and lead.” (*Eyes High Strategy, 2011*).
We will realize our *Eyes High* vision by focusing on three foundational commitments: 1) Sharpening the Focus on Research and Scholarship; 2) Enriching the Quality and Breadth of Learning, and 3) Fully Integrating the University with the Community.

The development of our institutional Academic and Research Plans was co-led by the Provost and Vice President Academic and the Vice President Research. It was determined that establishing the academic priorities of the institution was key – these priorities then informed the development of the *Research Plan*. The vision and priorities established at the University of Calgary are designed to show our community the benefits and rewards of teaching, learning and research in an environment where discovery, creativity, and innovation are central to the mission.

At the University of Calgary we believe one of our greatest assets is our city, and the entrepreneurial and can-do spirit that is associated with Calgary. We live in a vibrant and creative city that was recently named one of the top 5 most livable cities in the world. Calgary is known as the “energy capital” of Canada, which provides unparalleled access to corporations, decision-makers and technology; Calgary comprises most of the country’s $80B energy sector. Calgary is diverse and is one of the fastest growing metropolitan centers in Canada. It was recently ranked as one of the top 3 “emerging powerhouses and best urban prospects in North America,” by Forbes Magazine (2010) in its analysis of the world’s fastest growing cities. Calgary is not only a cultural capital, we also rank ahead of Toronto, Vancouver and Montreal in a new study ranking the top 12 information and communications technology clusters in North America. Calgary also ranked as the top eco-city in the world by the Mercer 2010 Quality of Living Survey.

In addition to the benefits of being in Calgary, the University also benefits from being in the province of Alberta. Alberta is a province with an enterprising spirit, a wealth of natural resources, and a history of strong economic growth over the last several decades. The province has benefitted from visionary political leaders like Peter Lougheed, who furthered the development of the oil and gas sector in Alberta and who started the Alberta Heritage Savings Trust Fund to ensure that the development of our non-renewable energy sources produce long term benefits for Albertans. As a consequence of this visionary leadership, we have an internationally recognized research and innovation system, one that affords opportunities for research throughout the post-secondary sector in a way that is unique to Alberta. We also have a unified provincial health care system that provides unprecedented collaborative research opportunities and access to facilities and data for approximately 4M patients, all of this with the goal of improving health and health care services. Alberta is a Canadian leader not just in natural resources but also in agriculture (grain and animals), food-related industries, and technology and bio industries.

The University of Calgary has aspirations to be a great university, an institution with global reach located in a dynamic city in an innovative province. We have already achieved excellence in many key areas of teaching and research, and we will continue to develop our culture of discovery, creativity, and innovation. Our students will be enriched by new ideas and will become actively engaged in creating and discovering, benefitting from leading edge research woven into their
curricula. Graduating students who are critical thinkers is the hallmark of a great university, and our faculty who are prominent in their respective disciplines will facilitate engaging learning opportunities for our students. By addressing important societal issues in their curriculum, our students will develop new solutions and applications that will open avenues for innovation that will benefit our many communities (University of Calgary Academic Plan, 2012).

Enterprise is fostered where discovery, creativity and innovation are not hampered by traditional boundaries. As a member of the Comprehensive Academic and Research Institutions (CARI) sector under the Campus Alberta Framework of the Ministry of Enterprise and Advanced Education, the University of Calgary supports a tremendous range of expertise and has a distinctive identity. We tackle problems of high societal and global relevance for which solutions often emerge from intersecting fields of inquiry. We also know the best solutions emerge often from strong and fundamental disciplinary contributions combined with productive working partnerships; these often include industry, government, and community groups most affected by the problem. It is in this way that the University of Calgary will become a global intellectual hub - by identifying critical problems of local, national, and international relevance, bringing disciplinary strengths together, along with community and industry partners where required from around the world to create new knowledge, and translating this knowledge into real world solutions. The spirit of discovery and innovation will permeate into our classrooms, where students engage and collaborate with experts who are addressing critical issues.

6.2 PARTNERSHIPS

The Alberta Government has emphasized the enhancement of system collaboration and partnerships, and we think it is important to describe the interconnectivity that is associated with the University of Calgary. Below, we highlight current illustrative examples of system partnerships and partnerships with the local, provincial, national and international communities. Our vision of collaboration and partnership is one in which we believe we have expertise to offer and a willingness to learn from our partner institutions, and we acknowledge that unexpected synergies often arise from working together. We also acknowledge our senate, a group of community representatives who help facilitate partnership development in the community.

Campus Alberta: We have a number of connections with Calgary post-secondary institutions.

- We have academic program partnerships with Calgary institutions - such as the Athletic Therapy (AT) program, the social work program, and our engineering partnership with Mount Royal University (MRU). In the case of the AT program (n=20 students), MRU takes a lead role, while in the case of social work (n=160 students at MRU and University of Calgary), we have a transfer agreement that allows MRU diploma holders to enter year three of the BSW degree at the University of Calgary. In our engineering partnership with MRU, students complete their first year at MRU, and then transfer to the program at the University of Calgary. This latter partnership is at risk due to the recent budget cut.
The Southern Alberta Integrated Libraries (SAIL) Consortium was formed in 2005 between the University of Calgary and St. Mary’s University College, Bow Valley College, and Ambrose University College. The University of Calgary hosts shared library services using its integrated software system (Sirsi) and hardware on a cost recovery basis. In addition, other library services can be negotiated (e.g., the set-up and maintenance of non-Sirsi software currently licensed by the University of Calgary).

From a project perspective, we are currently leading the Solar Decathlon initiative with MRU, a student led project that results in a solar house being built as part of the US National Department of Energy competition that will be held in Irvine, California in September, 2013. This partnership spans the entire spectrum at the two institutions – from the level of the provosts, to administrators, professors, fund development experts, facilities and management personnel, and most importantly, students. There are approximately 100 students from both institutions involved in the project.

Outside of Campus Alberta: We have strong connections with a number of key organizations.

- We partner with School Boards to lead teaching innovation and practice and to expand educational outreach.
  - The Faculty of Education is finalizing a Partner Research School agreement with school authorities in Calgary and surrounding areas. This partnership includes dynamic collaborations among schools, communities, and universities leading innovation through research-active inquiry and practice.
  - The Rothney Astrophysical Observatory (RAO) is the university’s principal scientific education and public outreach (EPO) facility in the Calgary area, offering community experience and learning in astronomy and astrophysics from its location south of Calgary near the town of Priddis. Through partnerships (in the form of Board-recognized field trip lists) with the Calgary, Calgary Separate, Foothills, and Rocky View School Boards, 2634 students visited the RAO from area Board, Charter, and Private schools during 2012. Beyond school groups, RAO’s EPO activities are enhanced through our memberships in and partnerships with Museums Alberta, the Society of Education Resource Groups and the Calgary Chapter of the Royal Astronomical Society. In all, the broad range of events and activities at the RAO were attended by 6769 visitors from Calgary and across Alberta in 2012.

- We partner with groups to preserve language and culture.
  - The Faculty of Education, Tsuut’ina Gunaha Institute, and the University’s Galileo Educational Network formed a partnership to preserve the Tsuut’ina language and culture. The first graduates completed the Teaching and Learning for Tsuut’ina Language and Culture program in 2012.

- We partner with Alberta Health Services (AHS) to improve health care and patient outcomes across the province by:
  - Providing credit-based education and continuing education programs for physicians and other health care workers.
• Providing non-credit executive education for AHS leadership in partnership with the University of Alberta.
• Accessing preceptors and clinical placements, particularly for medical and nursing students.
• Sharing academic/clinical leaders in almost all of our departments in the Faculty of Medicine.
• Creating the Health Information Network Calgary (HINC) that manages access and use of electronic information sources and other library services and training for all AHS health and wellness professionals in the Calgary zone. The HINC has been highly successful, and extensive planning is underway regarding the expansion of the partnership province wide.

- To improve the quality of life for Calgarians, we partner with the City of Calgary and agencies.

• At the request of the Mayor, the Institute of Public Health (IPH) in the Faculty of Medicine has a health policy advisory role with the City of Calgary. For example, IPH members provided advice on the 2012-13 Imagine Parks policy document and others are supporting innovation and evaluation in provision of services to Aboriginal families suffering the impact of intergenerational trauma.
• The University of Calgary works closely with Calgary Economic Development (CED) and is a partner of Action Calgary’s “Be Part of the Energy” Campaign to help build relationships to stimulate employment growth and diversification in Calgary.
• We support agencies like the United Way that provide individuals and families the opportunity to reach their potential and improve their quality of life.
• The University of Calgary was the only university in Alberta to support Terry’s CAUSE on Campus, a national event to honour Terry Fox and his Marathon of Hope. The University was proud to work with the Terry Fox Foundation in support of this inaugural event.
• The Nickle Arts Museum re-opened to the public in October, 2012 as the Nickle Galleries, in its new location in the Taylor Family Digital Library (TFDL). The Calgary Arts Development Authority provided $3.234M in funding to help in the relocation.
• makeCalgary is a community based research platform in the Faculty of Environmental Design that engages the disciplines of architecture, planning and ecological design in an interdisciplinary fashion to make Calgary what we all imagine.
• As an intellectual hub, the University is committed to stimulate sustained community support of arts and culture both on our campus and in the community. We collaborate with Calgary Arts Development and were a proud Program Partner of Calgary 2012.
• The University sponsors a number of cultural programs and events in Calgary. We are a long time sponsor of WordFest and we hosted ArtsSmarts at our Downtown Campus in 2012. ArtsSmarts is Canada’s leading arts education organization promoting arts-infused creative inquiry.
We are a proud community partner of the Calgary Stampede, playing many roles in the Stampede story. Our celebration of the Calgary Stampede’s Centennial Anniversary in 2012 and our on-going partnership supports the university’s Eyes High strategic direction of fully integrating with the community of Calgary.

The University is also pleased to sponsor the Calgary Youth Science Fair (CYSF), Canada’s largest science fair. For the second year, approximately 800 students from grades five to 12 from schools in and around Calgary will participate in the science fair held at the University of Calgary’s Olympic Oval.

Advancing Canadian Wastewater Assets (ACWA) is a partnership between the University of Calgary and the City of Calgary. ACWA’s main goal is development of innovative wastewater treatment technologies to improve ecosystem and human health. ACWA includes major installations at the City’s Pine Creek Waste Water Treatment Plant, and is funded by the Canadian Foundation for Innovation (CFI), the City of Calgary, the Province, and the University.

- To encourage technology transfer we partner with the City of Calgary, Calgary Chamber of Commerce, and the provincial and federal governments in Innovate Calgary.
- Innovate Calgary brings together researchers, entrepreneurs, and investors to create innovations that drive economic growth, job creation, and social well-being. Innovate Calgary has an aspirational vision to become one of the leading innovation eco-systems in Canada.

Campus Alberta (Province Wide)

We work with other Campus Alberta institutions to provide programming and special initiatives throughout the province.

- Our social work program is a model for Campus Alberta, given that it is the only degree-granting social work program in the province. We offer BSW programming to over 500 undergraduates annually across the province, much of it offered directly to students in their home locations through strong educational partnerships. In Edmonton, we host our program in a professional building and have 2 + 2 transfer agreements with Grant McEwan University and Norquest College to directly accept social work diploma holders into Year 3 of a BSW degree. Our Edmonton-based students also receive library and other student supports from the University of Alberta. In Lethbridge, our program has long been hosted on the University of Lethbridge campus, and we work closely with academics from that institution. In Calgary we work closely with MRU to deliver on a similar 2 + 2 transfer agreement that offers degree completion for their social work diploma graduates. We have long-standing outreach sites where the BSW is delivered onsite at local colleges such as Grande Prairie Regional College, Keyano College, Red Deer College, Medicine Hat College, and Portage College. We have key transfer agreements with all of these colleges, and other schools such as Maskwacis Cultural College, Blue Quills First Nations College and Northern Lakes College. Finally, we also offer an online BSW program to students in every other part of the province through our Virtual Learning Circles.
program. This provincial delivery model provides connections with dozens of community organizations throughout the province, including Southwest Child and Family Services in Lethbridge, Canadian Mental Health Association in northern Alberta, Glenrose Rehabilitation Hospital in Edmonton, and the Calgary Immigrant Women’s Association.

- We have developed a long list of partnerships for our Veterinary Medicine program. We have designed admission procedures for the DVM degree so that students from all Alberta universities and the majority of colleges (11) can complete the prerequisites for entry to the program at their home institutions. As another example, the Faculty of Veterinary Medicine (FVM) sends DVM students to Olds College for learning experiences, and hosts students from Olds College for learning experiences in Calgary. Our FVM has a unique distributed veterinary learning community, and thus we are connected to about 60 veterinary clinics throughout the province where students go for clinical placements. Our FVM is about to launch a unique collaborative graduate course with the University of Alberta in One Health that will be taught through videoconferencing and will include students from both universities.

- We have a long-standing partnership with Medicine Hat College that was recently renewed in 2012 to provide our Bachelor of Nursing degree at the College (n=122 students). The majority of students in this program reside in Medicine Hat or the surrounding rural area, thus the program enables nursing students to study and subsequently seek employment within or close to their home communities, a critical factor in ensuring we have sufficient qualified nurses working in rural Southern Alberta.

- We have had a partnership with Red Deer College (RDC) since 1996, which now provides Bachelor of Arts degrees (n=126 students) through a transfer program in the major fields of English, Psychology, and Sociology. Students may also minor in English, History, Philosophy, Political Science, Psychology, or Sociology, and in rare circumstances we have had students complete a minor in Visual Studies and Art History. Students complete their program at RDC, with professors from RDC teaching the first and second year of the program, and a mix of RDC and University of Calgary faculty teaching the third and fourth years. Faculty from the University of Calgary travel to the RDC campus to teach. We are discussing expanding our partnership with RDC to other programs.

- We have been involved in the Campus Alberta Neuroscience group from the beginning, and the first network and inter-provincial course is set to run in 2013.

- Our Faculty of Law is involved with the University of Alberta, Faculty of Law in a joint venture with the Solicitor General of Alberta to run the Alberta Law Reform Institute.

- Our Downtown Campus serves as the home for academic programs from the University of Alberta and Athabasca University, as well as our own academic programs (Continuing Education, School of Public Policy, and Executive Education from the Haskayne School of Business).

- We partner with the University of Alberta and Alberta Health Services in the Alberta Health Network, the only provincial academic health network in the country.

- The Native Ambassador Post-Secondary Initiative (NAPI) is an Aboriginal youth outreach and leadership training program managed by the Native Centre at the University of Calgary. The program is designed to provide comprehensive and culturally appropriate
leadership training certificates as well as information on post-secondary education. The program is targeted towards Aboriginal youth enrolled in junior and senior high school and other youth programs. The primary objective of the program is to provide youth with leadership training that focuses, in a cultural context, on self-development, interpersonal relations, and community engagement. In addition, the program offers motivational presentations that encourage youth to pursue post-secondary education. Ambassadors from MRU, SAIT, Bow Valley College and the University of Calgary serve as role models in junior and high schools, provide campus tours for visiting groups, and travel to regional Aboriginal career fairs.

- The Alberta Centre of Excellence for Building Information Modelling (aceBIM) is a not-for-profit partnership between government, industry and higher education dedicated to making Alberta a global leader in Building Information Modelling (BIM) as a tool for integrated project delivery. The founding members in the education sector include the Universities of Calgary and Alberta, SAIT, and NAIT.

- Cybera is a not-for-profit organization that operates Alberta’s high speed research network and pilots emerging technologies such as data portals and internet buying collectives in conjunction with public and private sector partners. Members include all of Alberta’s research universities and many post-secondary institutions and school districts and several Alberta-based technology companies.

Multiple provincial/National Partnerships

We have partnerships that involve the prairie provinces to help improve health and wellness.

- The Health Knowledge Network (HKN) is a collaborative venture, established in 1994, between the University of Calgary and the University of Alberta providing electronic information resources and services to health and wellness organizations in the prairie provinces. This service currently serves 28 member organizations and is presently headquartered in the Health Sciences Library at the University of Calgary.

- The Prairie Child Welfare Consortium is a tri-provincial and northern multi-sector network engaging university educators and researchers from the Faculties of Social Work in Alberta, Saskatchewan and Manitoba, government and Aboriginal administrators, policymakers, and service delivery agents dedicated to advancing and strengthening child welfare education and training, research, policy development, practice, and service delivery in the Prairie provinces and the Northwest Territories. The Consortium is unique in Canada with its accomplishments across organizational, geographical, political, and cultural boundaries.

We have partnerships with other prairie universities that allow us to examine immigration and integration.

- The Prairie Centre of Excellence for Research on Immigration and Integration is a research consortium representing six prairie universities including the Universities of Alberta, Calgary, Manitoba, Regina, Saskatchewan and Winnipeg. The Centre is based at the University of Alberta with research nodes at each of the other five universities. The
The overall goal of the centre is to better understand the processes by which immigrants become Canadians. The work of this centre is particularly important in Calgary, as the fourth largest city in Canada with the highest immigrant population next to Toronto, Vancouver, and Montreal. It is estimated that by 2020, the total number of immigrants in Calgary will reach almost half a million (Diversity in Calgary, 2012).

We provide employment information for Aboriginal students in western Canada.

- The University of Calgary Native Centre manages the LYNX: Aboriginal and Student Employment Program, which provides an opportunity for Aboriginal students and recent graduates from Canadian post-secondary institutions to connect directly with potential employers who are seeking to recruit qualified Aboriginal employees for internships, co-op placements, summer employment and full time positions. Since 2008, the LYNX Program has established partnerships with 14 post-secondary institutions across western Canada (Universities of Winnipeg, Manitoba, Regina, Saskatchewan, Calgary, MRU, Alberta, British Columbia, Northern British Columbia, Vancouver Island, Victoria, and Lakehead University as well as technical institutes such as the Saskatchewan Institute of Applied Science and Technology and the SAIT Polytechnic).

We partner with multiple universities to access high performance computing.

- WestGrid is a government-funded technology infrastructure program in British Columbia, Alberta, Saskatchewan and Manitoba that provides research faculty and students access to high performance computing and distributed data storage. Members include 13 research intensive Western Canadian Universities and the Banff Centre.

We have partnerships with national organizations to preserve our heritage.

- The Military Museums Library and Archives, now complemented by the Founders’ Gallery, is managed by Libraries and Cultural Resources (LCR) at the University of Calgary and provides support for both academic and community programs, through a partnership established in 2000. This is a joint project involving the Department of National Defence, The Military Museums Foundation, Regimental and Naval and Air Force museums located at The Military Museums, the University’s Centre for Military and Strategic Studies located in the Faculty of Arts, LCR and Valour Canada.

We participate in numerous partnerships with national and multi-national corporations to advance innovations.

- Alberta Sulphur Research Limited, one of the longest-lived and most successful research enterprises in Alberta, continues to serve as a contact point between industry and academia, striving to provide expert understanding of the chemistry of sulfur and its compounds.
- The new Microseismic Industry Consortium, a novel, applied-research geophysical initiative dedicated to the advancement of research, education and technological innovations in microseismic methods and their practical applications for resource development.
- The Schlumberger iCentre, a state of the art immersive 3D visualization facility.
- MathMinds: A new partnership between the Faculty of Education, Canadian Oil Sands Limited (COS) and other organizations will take an innovative approach to math education, making it more accessible, interesting, and enjoyable to students from kindergarten to grade six.

**International Partnerships:**

In our role as a global intellectual hub, we have key international partners to help solve global problems.

- We partner with the State of Qatar to provide nursing education to the Middle East region through the University of Calgary Qatar, Faculty of Nursing. We work closely with the State of Qatar, Qatar Foundation, and Hamad Medical Corporation to help transform the quality of health care and health outcomes. It is expected that by September, 2013, we will have close to 400 students enrolled in a range of nursing programs in Qatar, including foundation year programming, diploma, undergraduate and graduate program at the master’s level with a focus on cancer.
- The Faculty of Medicine is teaching a Masters of Public Health in Mwanza, Tanzania in partnership with the Catholic University of Health and Allied Sciences (CUHAS) that will see some graduates take on doctoral education in an innovative joint program and then become the local faculty of the CUHAS School of Public Health. As part of their education many students take on community health promotion projects in the region supported by the University of Calgary and CUHAS faculty.
- We offer the International Energy Lawyers Program, a unique and exciting joint degree program with the University of Houston. This program allows law students at the University of Calgary and the University of Houston Law Center to earn both Canadian and American law degrees in four years. Students spend two years at each school and take courses that enable them to be eligible to be called to the bar in various jurisdictions in the United States and Canada.
- Our School of Public Policy connects with research partners at the University of Dundee (Scotland), University des los Andes (Colombia), Sergio Arboleda University (Colombia), Haifa (Israel), and the Van Horne Institute (Canada). As one particular example, all of our policy papers produced on extractive resources/industries appear in the Source Books, a website managed at the University of Dundee in Scotland. This website is funded by the World Bank, and is set up to provide access to Less Developing Countries.
- Our recently approved International Strategy will result in numerous partnerships in 6 countries/regions of emphasis: the United States, Mexico, Germany, the Middle East, Tanzania, and China. Each country/region will have a regional council led by a senior executive at the University of Calgary that will include key leaders from industry and the community, in addition to academic staff members. We will work closely with the new Assistant Deputy Minister, International Partnerships in the Ministry of Enterprise and Advanced Education, the Ministry of International and Intergovernmental Affairs, and Calgary Economic Development to realize our international strategy. We currently have
over 180 active international partnerships – we expect that our International Strategy will broaden, deepen, and potentially expand key partnerships, particularly those in countries/regions of emphasis.

6.3 THE ACADEMIC PLAN

Through our consultation process to develop the Academic Plan we identified seven major academic priorities, along with key areas of foundational support that must be addressed for the University of Calgary to achieve the Eyes High vision (Figure 3). These priorities are helping to both guide our actions and define the nature of our discoveries, creative endeavours, and innovations. These priorities are:

Figure 3 – Academic Priorities

In the Academic Plan, each priority was described, with key goals, strategies and tactics identified for each priority. We will highlight key efforts towards achieving many of these key goals over the next 3 years in this chapter.

As a result of a focus on these academic priorities, graduates from the University of Calgary will have experienced high quality, engaging academic programs and will be thoughtful, communicative citizens and leaders of their respective communities, with abilities to think
critically and creatively to solve issues of the day. They will understand the value of collaboration and partnerships, and will be used to working with others who are considered traditionally outside of their fields of expertise. They will also appreciate different cultures and see value in diversity – of opinion, thought, gender, race, and culture. They will appreciate the diversity of life and limited resources available on Earth, and work and live to create a sustainable future. Importantly, they will recognize that the knowledge they have gained during their time at the University of Calgary will change with new discoveries, and as a result they will be life-long learners (University of Calgary Academic Plan, 2012)
6.4 THE RESEARCH PLAN

In developing the Research Plan we considered the academic priorities identified in the Academic Plan, along with provincial, national, and global demands for new discoveries.

We recognize that our talented people are our greatest resources, and that contributions from individual scholars are paramount for our success. We will support excellence in scholarship across the academy, and champion research priorities established by Faculties. However, through the vision established in Eyes High in 2011 and the lens of our Academic Plan, we have committed to increase our research impact in priority areas where we have recognized strength and leadership, where we can highly integrate teaching and research, where research outcomes and translation promote sustainability, where interdisciplinary contributions can lead to major advances, and where we can have the biggest impact on the communities we serve. Our objective is not only to compete with the best universities ‘scholar-by-scholar’ or ‘program-by-program’, but also to differentiate our institution in the upper echelon of universities. Therefore, while putting together our institutional Research Plan we sought the “strategic sweet spot” that aligns our areas of strength with areas of need locally, provincially, nationally and internationally where the University of Calgary can make a unique contribution. We did not simply look internally to make decisions regarding our priorities. We paid attention to the needs of society and signals from governments in defining our priorities for discovery, creativity, and innovation, which will help position us for success by “fully engaging the communities we both serve and lead” (University of Calgary Research Plan, 2012, p. 3)

Based on our consultations, our Research Plan identified three major priorities (Figure 4).

Figure 4 – Research Priorities

Within the priority of “matching strengths with opportunities, we identified research themes – areas where we matched our areas of strength (“push”) with areas of unmet need in society for new knowledge, creative expression, and innovation (“pull”). Our research themes (Figure 5) are characterized by several important features: 1) We are leaders in the area, as demonstrated by a local critical mass of expertise, and we have attained national or international prominence, as measured by relevant output metrics, 2) We are an essential hub in provincial, national, or global
research networks for the area, 3) We have built strong industrial or community (philanthropic) partnerships in the area, and 4) Our advances benefit from enabling research platforms and improving these platforms (Research Plan, p. 9).

Figure 5 – Research Themes and Platforms Interaction

Over the next three years we will develop thought leaders and define an academy of scholars in each of our research themes. We will also conduct an interdisciplinary review in each area, beginning with energy innovations.

Research Platforms represent organized scholarly activities, sometimes linked via infrastructure or critical mass of expertise, that are truly crosscutting and are catalysts in the creation or application of new knowledge, thereby increasing our research capacity. We have identified 7 major research platforms (Figure 6). Please refer to our Research Plan for more descriptive information on each platform.

Figure 6 – Research Platforms
Our Research Platforms are typically created, or supported, by highly accomplished interdisciplinary teams, involving cutting-edge facilities or networks in which the University of Calgary is providing provincial, national, or international leadership. They are platforms that enable great accomplishments for many of our strategic areas of research, and also contribute to other emerging areas of strength across our University. They also contribute strategically to and/or provide unique components of Campus Alberta initiatives. By identifying our research platforms of international prominence, we avoid unnecessary duplication in core facilities across the province and provide cutting-edge contributions to provincial initiatives (Research Plan, 2012).

6.5 KEY OUTCOMES

Our goal is to create a new brand of academy in which teaching and research interact in new ways to promote discovery, creativity and innovation. Our academy will create graduates who will be global citizens and leaders of their respective communities, with abilities to think critically and creatively to solve issues of the day. The previous two sections outlined the key priorities for both the Academic and Research Plans – in developing our expected outcomes for each year we knit the priorities of both plans together. The Academic and Research Plans outline specific annual objectives that we will continue to deliver – the intent of this section is to outline major deliverables under each of our priorities for each year. Thus, it is not all inclusive of outcomes we expect in any given year. When we achieve a key outcome in 2012-13, we plan that those outcomes will have implications for work and outcomes in the following years and, for the sake of brevity and clarity, we do not present every subsequent outcome in years 2013-14 and 2014-15. We are in a position to plan and undertake many of these initiatives because of the significant work that has been done at the University of Calgary over the past four years to create a sound financial foundation from which to advance our Eyes High vision. The provincial budget will have impact on progress on some of these initiatives – and we have outlined specific impact of budget cuts in Chapter 11.

Priority: Talent attraction, development, and retention

Key Outcomes for 2012-13

We have:

- Hired a new dean for our University of Calgary Qatar (UCQ) campus (Dr. Kim Critchley started January 1, 2013).
- Hired a new dean for the Haskayne School of Business (Dr. Jim Dewald started April 1, 2013).

We will:

- Through a stimulus program, hire 50 additional new assistant professors, and 60 additional post-doctoral fellows (PDFs). These hires are being done in strategic areas – and include interdisciplinary cluster hires in energy, child and youth mental health, biomedical engineering, biostatistics, and indigenous education, as well as key strategic
hires in individual disciplines. Most new positions will start July 1, 2013 and all PDFs are expected to be in place by December, 2013. Note: while we originally intended that these be 50 new hires, it is apparent now that roughly 50 academic staff will be lost through retirement (with no replacement hires) or attrition. Thus, while we will not be increasing the size of our academic staff complement, we will achieve some form of academic renewal.

- Recruit Chairs in strategic priority research areas – where we are matching our strengths with societal need or opportunities:
  - Complete the recruitment of two Chairs and two Professorships that will contribute to the Campus Alberta Innovates Program (CAIP). These Chairs and Professors will bring new teaching and research capacity to the province in the priority areas of Neuroscience and Energy. We aim for people to be in place by July 1, 2013.
  - Complete the recruitment of three Chairs and two Professorships in the Campus Alberta Innovates Translational Health Chairs Program. These positions will improve patient outcomes via direct knowledge translation (e.g. Oncology, Brain and Mental Health) as well as new knowledge creation that takes advantage of our single health care system in Alberta (e.g. Personalized Medicine, Metabolomics, and Bioinformatics). We aim for people to be in place by July 1, 2013.
  - Start the recruitment of the University of Calgary’s first CERC Chair in New Materials Engineering for Oil Sands Extraction. This $25M “ecosystem” of energy research will vault our University onto the world stage of novel in situ extraction approaches that will immediately apply to the oil sands but will be exportable to other areas around the world (e.g. China).

- Retain current staff by continuing to foster a respectful environment on our campus that values and encourages input and rewards and recognizes achievement. We will continue to build leadership commitment and trust by operating in a transparent and consultative fashion. In order to ensure we are on track, we have conducted a second round of the Employee Engagement Survey in February, 2013, and are currently analyzing and disseminating the results. There has been notable improvements in almost every area of the survey – and we remain committed to working on key areas. We will adjust our approaches as needed after consultation with our community on the latest round of results.

- Retain current staff by ensuring governance processes are transparent and inclusive and policies and procedures are current and relevant. We will evaluate the new governance model instituted for General Faculties Council (GFC) to ensure that it is working effectively. We will continue to update policies and procedures.

- Continue to evaluate and adjust our recruitment strategies in order to attract excellent students to the University of Calgary. We will continue to diversify our student body by working towards a target for international students of 10% at the undergraduate level, and 25% at the graduate level.
Continue to improve retention rates of our students by designing curricular and program reviews that ensure our course and program offerings are contemporary, relevant, and meet the needs of students.

Complete a review of academic advising services by June 2013 to provide an evidentiary base for strategic planning of future services to students.

Continue to support current students through retention services and programs, most notably the ASSERT Program (Aboriginal Student Success, Empowerment, and Retention Track) for First Nations, Métis, and Inuit students and the PASS program (Peer Assisted Study Sessions) that provides students in designated courses with student-led study groups.

Continue to celebrate First Nations, Métis, and Inuit cultures through special community events, such as our Annual Graduation Banquet and Pow-wow as well as other special ceremonial events.

Continue to improve the physical campus to support learning and research with updated and innovative spaces that promote healthy sustainable lifestyles.

**Key Outcomes for 2013-14:**

We will:

- Complete the recruitment of the University of Calgary’s first CERC Chair in New Materials Engineering for Oil Sands Extraction.
- Hire the first Academic Director/University Teaching and Learning Chair for the Taylor Institute for Teaching and Learning. We aim to have the individual start July 1, 2014.
- Start recruitment for the University of Calgary’s first Chair in Aboriginal Health. The research program will build upon the interdisciplinary collaborative group of researchers from across our campuses who are engaged with Aboriginal communities. The Chair will also work with the AHS Aboriginal Health Program and engage in recruitment and retention of Aboriginal students.
- Continue to develop on-boarding and orientation programs for academic staff. Develop specific orientation sessions for those staff hired in stimulus cluster areas (i.e., energy, child and youth mental health, biomedical engineering, biostatistics, and indigenous education) so that an interdisciplinary focus is encouraged with these hires.
- Use the outcomes of the second Employee Engagement Survey to develop key initiatives to engage all staff, thereby creating a positive environment that encourages retention.
- Continue to create a positive environment for staff by updating policies and procedures.
- Begin the construction of additional student resident capacity in order to attract more students from beyond our typical catchment, including accommodations for graduate students.
- In conjunction with the University of Calgary Native Centre, consult with leaders in the Aboriginal community about their interest in partnering with the University of Calgary to develop an overall Aboriginal strategy that will support current and future teaching, learning, and research involving and related to Aboriginal populations.
Consult with other universities in the prairie region about their experiences in developing Aboriginal strategies.

Open admission to the Scholars Academy Program to first year students to ensure that students at all level of undergraduate study can benefit from this unique program which further develops the potential of our top students.

**Key Outcomes for 2014-15:**

We will:

- Continue to explore opportunities for research chairs in our research theme areas through a variety of organizations, including the Alberta Innovates Corporations.
- Create a series of named chairs and professorships through philanthropic donations.
- Continue to create a positive environment for staff by updating policies and procedures.
- Develop an Aboriginal Strategy in conjunction with the University of Calgary Native Centre and the Aboriginal leaders in our community that supports teaching, learning and research related to Aboriginal populations.
- Increase First Nations, Métis, and Inuit learner populations through the development of a special recruitment strategy, our Aboriginal Student Access program and Aboriginal Admissions policy.
- Re-examine our international targets at the undergraduate and graduate levels to ensure we are progressing. If warranted, increase the undergraduate international target from 10 to 15% of our undergraduate student population. Ensure we have a diversity of international students.
- Develop focused recruitment strategies for international, Aboriginal and sponsored graduate students (by June, 2014).

**Priority: Teaching and Research Integration**

**Key Outcomes for 2012-13**

We have:

- Finalized our plans for the Taylor Institute for Teaching and Learning (TITL). We approved the proposal for the TITL at GFC and the Board of Governors in February and March, 2013, respectively, and announced a major donation of $40M from the Taylor family for the Institute in March, 2013. In the winter term (January- April, 2013), we created and piloted the first course for the College of Discovery, Creativity, and Innovation, a key initiative of the TITL.

We will:

- Develop a set of major teaching awards for the University by May, 2013.
- Host a campus-wide teaching and learning event by May, 2013.
Focus on quality assurance of our programs. We will pass a new set of quality assurance documents relating to unit reviews, subject area reviews, curricular reviews, and graduate program reviews by June, 2013.

Improve graduate program administration and quality by examining graduate funding practices and developing a simplified funding model for graduate education, a partnership framework for collaborative graduate programs, and a set of quality-related metrics to be reported annually to graduate programs as one component of the broader quality assurance process by June, 2013.

Develop a set of teaching metrics by December, 2013 that allow us to fully capture outstanding teaching and pedagogies and assist professors in improving teaching competence. We will work with the Faculty Association to incorporate these teaching metrics into the annual evaluation process for academic staff.

Begin development of an Educational Technology Strategy that builds on current research on learning and will plan for the selection, design, and/or development of different types of learning environments and experiences using contemporary technology that allows us to integrate research and teaching at the University (e.g., mobile learning, blended learning, online learning, massive online open courses [MOOCs], simulations, robotics, augmented reality, digital game based learning, social networking, use of open educational resources [OER]).

Host the 2013 TedX Calgary Talks.

Key Outcomes for 2013-14

We will:

- Make the Taylor Institute for Teaching and Learning a functional reality for the campus:
  - Begin phased construction on the remodeling/redevelopment of the Nickel Arts Museum into the TITL in the fall of 2013.
  - Transition the Teaching and Learning Centre into parts of the Educational Development Group and Technology Integration Group of the TITL.
  - Expand the Technology Integration Group.
  - Using lessons from the pilot course (winter team of 2013), develop and pilot the second course for the College of Discovery, Creativity, and Innovation.

- Host the first University Teaching Awards Celebration by March, 2014.
- Implement and evaluate the set of teaching metrics in the annual assessment of academic staff.
- Complete a review of policies governing supervision, examination and program standards in PhD and thesis-based Masters programs (December, 2013).
- In February, 2014, co-host with Bow Valley College the 2014 Educational Developers Caucus Conference, the preeminent conference of educational specialists. The Educational Developer’s Caucus of the Society for Teaching and Learning in Higher Education is a national organization representing educational development specialists from across the country.
Implement the first year of the metrics-based Quality Assurance process for graduate programs (by June, 2014).

Develop additional professional development programming for graduate students, supplementing existing offerings with focus on commercialization, knowledge mobilization and research management.

Develop a comprehensive mentorship program for graduate supervisors, to be implemented through the 2013-14 academic year.

Develop a comprehensive scholarship application platform to support submission, adjudication and delivery of undergraduate and graduate scholarships.

Host the 2014 TedX Calgary Talks.

Approve our Educational Technology Strategy by December, 2014.

Run quality assessment reviews in the Faculties of Nursing, Science, Law, and UCQ.

Continue to strategically collaborate with local, national and international communities to enhance the learning experiences of students. In particular, focus on the development of internships, mentoring programs, co-operative programs, and practicum placements within the community (2013-14 and ongoing).

Determine the feasibility of partnering with the University of Saskatchewan to adopt their course and curriculum tool to improve course and curricular planning on our campus (to be completed by March, 2014).

Key Outcomes for 2014-15

We will:

Prepare for the opening of the TITL in November, 2015. In order for this to occur, we will:

- Complete the remodeling/redevelopment of the Nickel Arts Museum into the Taylor Institute for Teaching and Learning. Projected completion for the building is October, 2015.
- Enhance the Scholarship of Teaching and Learning Group and develop key goals and objectives for this group during the 2014-15 year.
- Ensure programming pieces of the 3 groups (Scholarship of Teaching and Learning, Educational Development, and Technology Integration) for the TITL are fully operational and integrated for the opening of the Institute in November, 2015.
- Ensure that the College of Discovery, Creativity, and Innovation is fully functional by September, 2015, with grand challenges courses available at different levels of undergraduate programming.
- Ensure that the experiential learning office is fully operational by September, 2015.
- Host the first integrated University Teaching and Research Awards Celebration by March, 2014.
- If deemed appropriate, implement the course and curriculum tool from the University of Saskatchewan.
• Create a task force to examine the graduate student experience, analyzing 2013 CGPSS data, and develop an implementation plan for the recommendations (December, 2014).
• Begin development of a graduate specialization in Aboriginal Health in Community Health Sciences, an Indigenous studies program for the BHSc, and an annual workshop on the Tri-Council and Ownership, Control, Access, Possession (OCAP) principles of research ethics with Aboriginal peoples. Establish an annual Aboriginal Research Symposium with an international guest speaker (by June, 2015).

Priority: Internationalization

Key Outcomes for 2012-13

We have:

▪ Developed an International Strategy (approved December, 2012) that focuses our plans and priorities for partnerships, education and research.
▪ Hired a new Vice Provost International (Dr. Janaka Ruwanpura started February 1, 2013).

We will:

▪ Develop a new strategy for recruitment of international students by June, 2013 that will ensure top talent and success among recruits.
▪ Explore two types of foundation year programs (home grown or third party provided) for international students. Foundation year programs are for academically qualified students that may need language skills upgrading or specific course upgrading. To be completed by June, 2013.
▪ Populate country/region councils and identify meeting schedules for each council by June, 2013 (council membership to include senior administration, academic staff, and industry and community partners).

Key Outcomes for 2013-14

We will:

▪ Report goals and objectives for each priority country/region identified in the International Strategy by December, 2013.
▪ Confirm the supporting organizational structure required to operate the International Strategy by December, 2013.
▪ Begin implementation of the international recruitment strategy to meet international recruitment targets of 10% and 25% of the undergraduate and graduate student populations, respectively.
▪ Confirm the type of foundation year program that we will provide at our institution, and begin development so that it is fully operational for September, 2015, including creating identifiable spaces to support this new program. Create a recruitment and foundation year program that has the potential to serve all of southern Alberta.
- Continue to identify meaningful international opportunities for student and staff exchanges to further build intercultural competencies (ongoing).
- Develop strategies to ensure a welcoming and culturally sensitive environment for international visitors as well as providing opportunities to celebrate and share the rich diversity of our community.

Key Outcomes for 2014-15

We will:

- Continue implementation of the international recruitment strategy to meet international recruitment targets of 10% and 25% of the undergraduate and graduate student populations, respectively. If warranted, explore the idea of increasing the international undergraduate target to 15%.
- Fully implement the foundation year program in September, 2015. Regardless of the model selected, involve faculties in academic oversight of foundation year courses.
- Continue to identify international opportunities for student and staff exchanges (ongoing).
- Ensure institutional frameworks/policies facilitate establishment of complex linkages. For example, we will ensure organizational excellence in this area by ensuring policies and procedures (e.g. International Travel & Security Policy, International Linkage Policy) and risk management procedures are in place.

Priority: Interdisciplinarity

Key Outcomes for 2012-13

We will:

- See “confederation of scholars” under Matching our Strengths with Opportunities.
- Host three symposia that link interdisciplinary research on Energy Innovations.
- Begin the recruitment of scholars in stimulus cluster hires.
- See “College of Discovery, Creativity and Innovation” under Integration of Teaching and Research.

Key Outcomes for 2013-14

We will:

- Develop models for interdisciplinary units that work in the undefined spaces between faculties. We will begin with developing models for major institutes by December, 2014.
- Increase support for high quality interdisciplinary programs and research by working with TUCFA and GFC to recognize and reward work to create interdisciplinary academic programs and research (2013-14 and beyond).
- Assess how university policies and procedures promote or impede interdisciplinary educational programs in light of best practice models for advancing interdisciplinarity by December, 2013.
- Identify, implement and evaluate strategies to remove and/or reduce barriers to collaborative work and/or study between Faculties and Units by June, 2014.
- Promote interdisciplinary academic programs and research through the activities of the College of Discovery, Creativity and Innovation (ongoing).
- Ensure the physical design of the TITL encourages interdisciplinary collaboration (Fall, 2013).
- Complete the development of an academic sustainability plan by December, 2013. This plan will be developed by the Academic Committee on Sustainability, and will inform the overall Institutional Sustainability Plan, which will be updated by June, 2014.
- Begin development of an interdisciplinary Northern/Circumpolar Strategy.

**Key Outcomes for 2014-15**

We will:

- Complete the development of an interdisciplinary Northern/Circumpolar Strategy.
- Begin the development of an Aboriginal Strategy (see Talent Attraction, Development and Retention).
- See “confederation of scholars” under Matching Strengths with Opportunities.
- See “Taylor Institute for Teaching and Learning” under Teaching and Research Integration.

**Priority: Leadership**

**Key Outcomes for 2012-13**

We have:

- Built upon the Deans’ orientation/leadership development sessions that were launched in 2011-12 in response to feedback.
- Launched a Leadership Academy for Heads, Associate Deans, and Vice Deans in October, 2012.

We will:

- Launch UFundamentals, a leadership program for Management and Professional Staff (MAPS) that will provide an overview of their administrative role and the supports available to them to ensure success. The program was piloted between November, 2012 and February, 2013, and a spring session will be conducted in 2013.
- Launch U Lead in the spring of 2013, a one year experiential leadership pilot program for MAPS staff, developed in partnership with Continuing Education. The program content is based on the needs expressed in the July 2012 leadership survey of MAPS staff. This is an essential step toward building the leadership capacity necessary for achieving Eyes High.
Develop, implement and evaluate a new budget model that supports optimal management of funds at the University of Calgary (New model was implemented April, 2013).

Launch a new professional development program for Post-doctoral scholars.

Launch a professional development and transferable skills program for graduate students in 2012-13.

Invest in further developing the leadership skills of an exceptional group of graduate students (Vanier Scholarship winners and Killam Scholars) through the Graduate Leaders’ Circle.

Refine, develop, and expand leadership activities for undergraduate students through the Leadership and Student Engagement Program.

Organize and implement a campus wide student leadership conference to introduce any interested student to key concepts of leadership development and inspire further participation in student leadership initiatives on our campus and in the community.

Key Outcomes for 2013-14

We will:

- Provide targeted professional development activities that develop the leadership potential of academic staff who are mid-career and have potential to take on leadership roles (on-going).
- Extend current leadership offerings (e.g., Faculty of Education and Haskayne School of Business) to other faculties and units (2013-14 and ongoing)
- Evaluate and refine the Budget Model of the University of Calgary to ensure optimal use of funds (2013-14 and ongoing).

Key Outcomes for 2014-15

We will:

- Ensure all leadership programs for staff are run from the staff development office of HR in conjunction with the Provost’s Office to ensure consistency in programs.
- Explore the opening of a graduate leadership college in the new graduate student residence that is scheduled to be open in 2015-16.

Priority: Connection with Community
Key Outcomes for 2012-13

We have:

- Continued to explore partnerships with Campus Alberta partners (2012-13 and ongoing).
- Continued to strengthen and develop strategic partnerships/alliances with key organizations (e.g., Alberta Health Services, United Way) within Calgary and the surrounding communities (ongoing).

We will:

- Develop a Downtown Campus (DTC) Strategy (to be complete by June, 2013).
- Continue to explore connections to the community through community engaged scholarship and community service learning opportunities. Begin the process of transferring coordination of these activities to the TITL (2012-13 and ongoing).
- Develop an overall alumni strategy for the University of Calgary (to be completed by June, 2013).
- Continue to partner with Industry to offer specialized certificate programs to students, alumni, and young professionals in programs like the newly developed Aboriginal Relations Leadership Certificate Program, which is offered by Career Services and The Native Centre.
- Develop connections with rural and remote partners, such as the Alberta Rural Development Network (ARDN) and the Assembly of Treaty Chiefs of Alberta Chiefs and the Alberta First Nations Information Governance Centre (2012-13 and ongoing).
- Promote partnerships with local and provincial agencies, and industry to accelerate research applications. In particular, we will focus engagement with Innovate Calgary and other commercialization centres (2012-13 and ongoing).
- Continue participation in the West Campus development strategies with deep consultation with our surrounding neighbours.
- Create and begin the implementation of a Landscape Master Plan which includes community participation.
- Begin implementation of a new way-finding program on our campus.

Key Outcomes for 2013-14

We will:

- Implement the DTC strategy (2013-14 and on-going).
- Develop a plan to build new Alumni Chapters over time across Canada and internationally as part of the Alumni strategy (2013-14 and ongoing).
- Review the success of the programs that engage alumni in the life of the university as ambassadors, supporters, mentors, and lifelong learners (2013-14 and ongoing).
- Review institutional policies and practices for assessing research, promotion, tenure and identify needed changes as part of a national project to promote community engaged scholarship in the academy (2013-14 and ongoing).
- Report on the institutional assessment and change strategies identified in the national community engaged scholarship project (June, 2014).
- Engage faculty and staff emeriti in the life of the university as ambassadors, supporters and mentors (2013-14 and ongoing).

**Key Outcomes for 2014-15**

We will:

- Host preview events for our 50th birthday celebration.
- Host Alumni Chapter events in select national and international locations.
- Host public intellectual events in advance of the opening of the Taylor Institute for Teaching and Learning in November, 2015.

**Priority: Sustainability**

**Key Outcomes for 2012-13**

We have:

- Identified academic sustainability champions and student representatives to sit on the Academic Committee on Sustainability. Meetings began in January, 2013.

We will:

- Hire an academic coordinator for sustainability by June, 2013.
- Begin working on an academic sustainability plan.

**Key Outcomes for 2013-14**

We will:

- Complete the development of an academic sustainability plan by December, 2013.
- Update the Institutional Sustainability Plan by June, 2014.
- Collaborate with ImagineCALGARY partners and others to establish a new Regional Sustainability Network by June, 2014.
- Develop an innovative co-curricular sustainability strategy that includes in part a forum to highlight existing student leadership and to identify student priorities by June, 2014.

**Key Outcomes for 2014-15**

We will:

- Implement the academic sustainability plan, beginning in January, 2014. This may include components such as the potential development of interdisciplinary certificates in sustainability, hosting of sustainability awareness week, and a student outreach program that connects the campus community with the City and surrounding areas.
- Begin implementation of strategies developed through the Regional Sustainability Network in collaboration with partners from ImagineCALGARY.
As part of the Institutional Sustainability Plan, implement the co-curricular sustainability strategy by hosting a forum to highlight existing student leadership and to identify student priorities in the sustainability area.

Priority: Matching our Strengths with Opportunities

Key Outcomes for 2012-13

We have:

- Built a “confederation of scholars” from across campus to tackle major problems of societal need (i.e., grand challenges) for the Energy Innovations research theme.
- Appointed thought leaders in Energy Innovations and Brain and Mental Health to lead the development of research strategies in each area.

We will:

- Build a “confederation of scholars” from across campus in the research theme Brain and Mental Health.

Key Outcomes for 2013-14

We will:

- Obtain funding from national organizations to support the implementation of the Energy Research Strategy in the area of policy research by September, 2013.
- Complete a subject area review of energy research and education by October, 2013.
- Develop the “confederation of scholars” from across campus for the remaining strategic research themes (Engineering Solutions for Health; Human Dynamics in a Changing World; Infections, Inflammation and Chronic Diseases; New Earth Space Technologies) by December, 2013.
- Test our strengths and our research directions by hosting international symposia in three areas during 2013-14 (Brain and Mental Health, Energy Innovations, and Engineering Solutions for Health). Invited speakers will provide critical feedback on our accomplishments and grand challenges identified by each group.
- Complete a subject area review of Brain and Mental Health and Engineering Solutions for Health on our campus by December, 2013.
- Research Catalysts will be hired for all strategic research themes and platforms by March, 2014.

Key Outcomes for 2014-15

We will:
Complete subject area reviews in remaining strategic research themes (Human Dynamics in a Changing World; Infections, Inflammation and Chronic Diseases; and New Earth-Space Technologies) by December, 2014.

Test our strengths and our research directions by hosting international symposia in three areas during 2014-15 (Human Dynamics in a Changing World; Infections, Inflammation and Chronic Diseases; and New Earth-Space Technologies). Invited speakers will provide critical feedback on our accomplishments and grand challenges identified by each group.

**Priority: Increase our Research Capacity**

*Key Outcomes for 2012-13*

We will:

- Increase our capacity in strategic priority areas via the recruitment of the new faculty, post-doctoral scholars, and chairs described in the previous section of “Talent attraction, development, and retention”.
- Provide new training opportunities for undergraduate and graduate students and postdoctoral fellows in areas of commercialization and knowledge translation. We will help our students to develop the breadth of their abilities to discover, create, and innovate.
- Assess the infrastructure of our existing research stations, and expand their role to support strategic research.
- Advance our research platforms via partnership with other CARI Universities to expand complementary applications while minimizing functional overlap.
- Advance industrial collaborations to support our Research Platforms in Synthesis and Visualization and Data Analytics.

*Key Outcomes for 2013-14*

We will:

- Establish at least two Applied Research Institutes in priority areas that couple research expertise with major societal demands around knowledge generation and knowledge application.
- Institute a professional development program for scholars interested in commercializing knowledge.
- Review and improve our intellectual property (IP) policy and related procedures to support faculty and graduate students engaged in commercialization efforts.
- Collaborate with industries working in our priority research areas to secure crucial equipment needed to test or licence new protocols, products or techniques that would expand access to markets (ongoing).
- Enhance research infrastructure, through our research platforms, that can be used in a collaborative fashion. We will continue to plan and execute the re-development of animal care facilities for research purposes.
Create training opportunities for students from Campus Alberta and provide access to specialized research facilities for student projects (2013-14 and ongoing).

**Key Outcomes for 2014-15**

We will:

- Complete evaluation and recruitment of post-doctoral scholars through the new Alberta Innovates Post-Doctoral Program.
- Recruit ten new post-doctoral fellows through the MITACS program.

**Priority: Create a dynamic environment to promote research excellence**

**Key Outcomes for 2012-13**

We have:

- Streamlined hiring, procurement, and research travel processes while maintaining the strictest audit control mechanisms as recommended by the USER Task Force.

We will:

- Expand the SUPPORT review mechanisms to include individual grants and nominations via peer review by interdisciplinary teams.
- Support all facets of the research endeavour, including fundamental research.
- Complete the national requirements surrounding education and accountability for responsible conduct of research.

**Key Outcomes for 2013-14**

We will:

- Complete the electronic Research Portal for grant management, compliance, application, and reporting by December 2013.
- Complete the University of Calgary’s contribution to the provincial harmonization of ethics protocols and evaluation procedures by December 2013.
- Continue to establish UCARE, a harmonized system for Animal Care at the University of Calgary.
- Host two international symposia in the priority research themes, including public outreach components.

**Key Outcomes for 2014-15**

We will:

- Complete the work on UCARE (i.e. personnel hired) and ensure new harmonized facilities are completely functional.
- Review the operations of Research Stations and implement new funding models that support sustainable operations.
Host two international symposia in the priority research themes, including public outreach components.

6.6 ENROLMENT PROJECTIONS

In 2012-13 the University of Calgary enrolled 27,722 Full Load Equivalent (FLE) students registered in 13 faculties and 262 programs. This translates into a headcount of 32,021 students (25,051 undergraduates; 6097 graduates; 873 post graduate medical education students in Medicine). We also had 291 students registered at our Qatar campus. This is the largest enrolment in the history of the University of Calgary. Over the past decade the university has expanded to address strong student demand, resulting in an enrolment that has increased 29.9% - 9.4% above the existing capacity of 25,335 FLEs. Space is thus constrained on our campus. This space constraint will worsen in the coming decade due to the growth expected in Calgary. The Ministry of Enterprise and Advanced Education has estimated that by 2020-2021, the University of Calgary will have the largest increase in the rate of projected enrolment, and, as a result the largest projected shortage in space (Campus Alberta Planning Resource, 2012). The Capital Plan includes a number of priorities, both new and renewal projects, to address the shortage in space we are currently experiencing. The faculty space master planning initiative that is currently ongoing will report in detail in the fall of 2013, but it is already apparent this shortage is most acute in Engineering, Nursing, Social Work, the Haskayne School of Business, Kinesiology, Science, and academic support services. Other units will be challenged as well to accommodate new faculty hires and additional graduate students.

Demand for programs at the University of Calgary has been growing significantly as evidenced by the ratios of applicants to offers of admission (see below). This application pressure is only expected to increase given the rapid rate of population growth in Calgary. In order to manage growth effectively and within available resources, we have moved to a sustainable growth model – one that increases our accountability to the government and staff and students of the university. Thus, as highlighted last year in our CIP, at this time we plan to slightly decrease enrolment over the next three years (Figure 7) and focus on providing students with an exceptional learning experience while supporting them to graduate in a timely fashion. The one thing that may change our overall enrolment is the development of our Learning Technologies Strategy that will include a focus in part on a variety of on-line learning initiatives, with potential to enter the MOOC (massive online open courses) marketplace, or other alternatives that allow for a larger on-line presence and admissions. This strategy will be developed by December, 2013. Table 1 includes our current overall institutional projected enrolment, not accounting for the Learning Technologies Strategy that is in development.

Further, as outlined in our 2012 CIP, we will shift our undergraduate to graduate student ratio by slightly increasing the number of graduate students and decreasing our undergraduate enrolment. Further, we will also diversify our student population, increasing international students at the undergraduate and graduate levels over time to 10% and 25%, respectively. Diversification will enhance the student experience and lead to a greater cultural and geographic
understanding that lends itself to global citizenship, in line with our Academic and Research Plans, and our International Strategy.

### 6.7 STUDENT DEMAND

As evidenced by our increased enrolment, over the past several years we have seen an increase in student demand for our programs. In particular, our professional programs are in high demand, with only 1 of 13 applicants being admitted in our Medical Doctor program, 1 of 15 in our JD program in Law, and 1 in 7 in Veterinary Medicine. We have also seen an 8.8% increase in applications from all categories of students in 2013-14, with an 11.2% increase in self-identified Aboriginal students, 21% increase in non-Albertan applications, and a 16.8% increase in international applications. It is important to highlight interest in three programs in particular – we have seen a 29%, 16%, and 12% increase in applications for engineering, nursing, and our commerce programs, respectively. Our ability to admit more students is constrained by funding and space.

### 6.8 SUMMARY

As a result of a focus on our priorities, graduates from the University of Calgary will be thoughtful, communicative citizens and leaders of their respective communities, with abilities to think critically and creatively to solve issues of the day. They will understand the value of collaboration and partnerships, and will be used to working with others that are considered traditionally outside of their fields of expertise. They will also appreciate different cultures and see value in diversity – of opinion, thought, gender, race, and culture. They will appreciate the limited resources available on earth, and work and live to create a sustainable future.

Through a focus on our academic priorities, we will work with the City of Calgary and surrounding communities to enhance the strategic advantage already in place. We will work with community leaders, corporate partners, non-profit organizations, alumni and the public to inspire and ensure a positive future.

### 6.9 PERFORMANCE MEASURES

Excellence is a word that is widely used in strategic plans. Instead of merely talking about excellence, we will demonstrate it through our actions. We will continuously evaluate our performance using rigorous metrics (see chapter 12). We will initially benchmark ourselves against the top 5 in Canada, and then move on to the world stage to achieve our goal of becoming a global intellectual hub. We will be an innovative and excellent University based on our merits and our performance. We will transform our culture to one that embraces and celebrates excellence and rises to the challenge with achievement. In doing so, we will develop a shared sense that the University of Calgary is a community of optimism, pride and opportunity.
Table 1 – 2013-14 Enrolment Target by Faculty (Headcount)

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Undergraduate</th>
<th>Master's</th>
<th>PhD/EdD</th>
<th>2013-14</th>
<th>2012-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>7,200</td>
<td>400</td>
<td>400</td>
<td>8,000</td>
<td>8,307</td>
</tr>
<tr>
<td>Education</td>
<td>750</td>
<td>1,200</td>
<td>290</td>
<td>2,240</td>
<td>2,107</td>
</tr>
<tr>
<td>Environmental Design</td>
<td>-</td>
<td>270</td>
<td>35</td>
<td>305</td>
<td>303</td>
</tr>
<tr>
<td>Interdisciplinary Grad</td>
<td>-</td>
<td>4</td>
<td>28</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Haskayne Business</td>
<td>2,700</td>
<td>575</td>
<td>39</td>
<td>3,314</td>
<td>3,420</td>
</tr>
<tr>
<td>Kinesiology</td>
<td>760</td>
<td>35</td>
<td>20</td>
<td>815</td>
<td>828</td>
</tr>
<tr>
<td>Law</td>
<td>305</td>
<td>60</td>
<td>3</td>
<td>368</td>
<td>369</td>
</tr>
<tr>
<td>Medicine</td>
<td>1,030</td>
<td>280</td>
<td>225</td>
<td>1,535</td>
<td>1,554</td>
</tr>
<tr>
<td>Medicine - PGME</td>
<td>875</td>
<td>-</td>
<td>-</td>
<td>875</td>
<td>873</td>
</tr>
<tr>
<td>Nursing</td>
<td>1,013</td>
<td>90</td>
<td>25</td>
<td>1,128</td>
<td>1,187</td>
</tr>
<tr>
<td>Public Policy</td>
<td>-</td>
<td>50</td>
<td>-</td>
<td>50</td>
<td>51</td>
</tr>
<tr>
<td>Schulich Engineering</td>
<td>3,100</td>
<td>735</td>
<td>410</td>
<td>4,245</td>
<td>4,362</td>
</tr>
<tr>
<td>Science</td>
<td>4,900</td>
<td>425</td>
<td>390</td>
<td>5,715</td>
<td>5,895</td>
</tr>
<tr>
<td>Social Work</td>
<td>432</td>
<td>320</td>
<td>30</td>
<td>782</td>
<td>778</td>
</tr>
<tr>
<td>Veterinary Medicine</td>
<td>120</td>
<td>40</td>
<td>35</td>
<td>195</td>
<td>194</td>
</tr>
<tr>
<td>Open Studies</td>
<td>1,764</td>
<td>-</td>
<td>-</td>
<td>1,764</td>
<td>1,764</td>
</tr>
<tr>
<td>Subtotal</td>
<td>24,949</td>
<td>4,484</td>
<td>1,930</td>
<td>31,363</td>
<td>32,021</td>
</tr>
<tr>
<td>Qatar</td>
<td>350</td>
<td>9</td>
<td>-</td>
<td>359</td>
<td>291</td>
</tr>
<tr>
<td>TOTAL</td>
<td>25,299</td>
<td>4,493</td>
<td>1,930</td>
<td>31,722</td>
<td>32,312</td>
</tr>
</tbody>
</table>

Note: Headcount enrolments at the end of the Fall semester second week of classes, except for Nursing, which has a Winter intake as well.
6.10 APPENDIX: EMERGING IDEAS FOR ACADEMIC PROGRAMS

Faculty of Arts

1. Graduate Programs

Approximate time frame 2013-14

- Department of French Italian and Spanish – Proposed Program: PhD in Romance Studies
- Department of Germanic, Slavic and East Asian Studies – Proposed Programs: MA and PhD, Modern Languages and Cultures
- Department of Music – Proposed Programs: Master of Music and PhD, Sonic Arts

Approximate time frame: 2014-15

- Department of Art – Proposed Program: MA in Visual Studies
- Department of Art – Proposed Program: PhD in Art
- Department of Communication and Culture – Proposed Program: MA in Film Studies, Master of Film/Video Industry
- Department of Drama – Proposed Program: PhD in Theatre Studies

2. Undergraduate Programs

Approximate time frame 2013-14

- Department of Art – Proposed Program: BFA Honours in Visual Studies
- Department of Art – Proposed Program: BA in Visual Studies
- Department of Dance – Proposed Program: BFA in Dance
- Department of Germanic, Slavic and East Asian Studies– Proposed Programs: BA and BA Honours, Modern Languages and Cultures
- Department of Greek and Roman Studies and Department of Religious Studies – Proposed Program: BA, Classical and Early Christian Studies

Approximate time frame 2014-15

- Department of Germanic, Slavic and East Asian Studies – Proposed Programs: BA; BA Honours; and Minor in Arabic Languages and Islamic Societies

Faculty of Education

Approximate time frame: 2014-15

- Fully On-line BEd degree, with practicums done in person

Faculty of Environmental Design

Approximate time frame: 2014-15 or later

- One-year course-based post professional graduate degree for specialization in the study of Architecture, Planning or Landscape Architecture
- A course-based research degree at a doctoral level that would be called a Doctorate of Design
- An accredited graduate degree in Landscape Architecture connected with our Master of Planning degree so there will be potential for a dual degree

**Faculty of Medicine**

Approximate time frame: 2014-15
- Combined/joint BSW/BHSc program in Social Work
- Pathologist Assistants (Course Based MSc)

**Faculty of Social Work**

Approximate time frame: 2014-15
- Certificate in Marriage and Family Therapy
- Expanding the delivery of existing undergraduate and graduate programs via distance delivery

**Schulich School of Engineering**

Approximate time frame: 2014-15
- BSc in Integrated Engineering Proposal (Designed to provide graduates of technology diploma programs with a seamless transition to a university engineering program. The program is 5-years in duration -2 years at the Polytechnic institution plus 3 years at the Schulich School of Engineering - with an optional internship year).
7. Collaborative Opportunities

Given the recent budget cuts to the post-secondary sector, we recognize that we need to think differently about how we function within the PSE sector in Alberta. We have determined three potential categories for collaborations: back of house operations; research management options; and academic opportunities. We would need to examine the details of each collaborative opportunity listed below with interested institutions, but we are definitely willing to partner in these areas, and have begun to have conversations with other institutions.

7.1 BACK OF HOUSE OPERATIONS

We have identified the following area where we think we could provide services and/or advice:

- IT collaboration
- Common platforms (We will be signing a contract with Desire2Learn [D2L] for our learning environment; BVC has also recently signed with D2L, while SAIT had already engaged D2L; MRU is currently considering their options. The K-12 sector in Calgary is also using D2L. Thus, there are opportunities within Calgary related to the learning environment that did not exist before – the D2L platform creates further opportunities for collaborations).
- Bundled purchasing (We have begun conversations with Calgary institutions, and with our CARI partners)
- Joint server support
- Finance
- Specialty services including environmental health and safety, risk management, audit, payroll
- Common enterprise platforms (see note on D2L above)
- Consolidate purchasing
- Academic Leadership Development (We have had preliminary conversations with MRU and UBC on academic leadership development programs).
- Facilities Development
- Project management

7.2 RESEARCH MANAGEMENT OPTIONS

- Research management
- Ethics processes
- Contract management
- Innovation/Commercialization - Use of Innovate Calgary partnership to help in research translation efforts on way to commercialization
- Research Platforms - In particular, synthesis and visualization, where we are already a southern hub
7.3 ACADEMIC OPTIONS

- We have unique program offerings in social work, architecture, and veterinary medicine. We have extensive partnerships for our social work program. We could expand these unique programs under the right conditions. As a starting point, we would be willing to increase the size of our Veterinary Medicine program by enrolling those Albertan students who currently go to the University of Saskatchewan (in order to do this, we would also need the transfer of money that is currently going to the University of Saskatchewan from the Ministry of Enterprise and Advanced Education).

- In addition, we could offer the first fully online BEd degree that would provide province-wide access and help to service rural, remote, and aboriginal populations. This degree would have face-to-face interaction for the practicum components associated with the degree.

- Libraries – We have had considerable discussions on further collaborations related to our Library, particularly with BVC and Athabasca University (related to expertise, licensing, and staffing models) and with University of Alberta and Athabasca University on a potential amalgamation (in part) of our respective University presses. These discussions are on-going. We will continue to build on the SAIL partnership model, purchasing consolidation, and digital library services to other partners. We have also offered to the southern institutions the opportunity for long-term storage in our High Density Library facility, with a potential to develop a Southern Alberta Collection.

- International recruitment – we have had preliminary discussions with University of Lethbridge and Olds College on an international recruitment model that would serve the needs of all three institutions. More discussion is warranted before any decisions are made.

In sum, we are willing to work to create efficiencies and optimal opportunities for students, where possible, with other PSE institutions in the province.
8. Capital Plan

8.1 INTRODUCTION

The capital plan directs the development of the University of Calgary’s physical resources necessary to support the goals and objectives of the Comprehensive Institutional Plan. It outlines the principles behind our planning, and describes the strategies guiding our priorities and the resources required to meet our needs for the next decade. Focused on “Eyes High” and driven by priorities articulated within the Academic and Research Plans, the capital plan forms the basis for the institution’s capital funding request to the Province, highlighting the priority projects required to address our current and projected program, space, renewal and sustainability needs. The capital program has been developed over time with broad consultation within the institution, surrounding communities and ministry personnel. While comprehensive in scope, the plan remains flexible to respond to funding opportunities.

Nine principal strategies guide our capital-planning program:

1. Campus Master Plans
2. Faculty and Unit Space Master Plans
3. Repurposing as an option to new construction
4. Alternative Funding Models and Sources
5. Energy Performance Initiatives (EPI)
6. Partnership Development
7. Positioning the University of Calgary to Respond to Opportunity Funding
8. Sustainability Initiatives
9. Additional Planning Considerations

While we are a relatively young institution, the University of Calgary continues to create campus environments that enhance and promote teaching, learning and living. Guided by the Campus Master Plan of 2010, initiatives are now well underway to improve the landscape, enhance wayfinding, improve environmental management techniques, and generally increase the quality of urban design on campus. Our capital plan seeks to advance these initiatives within all projects proposed.

During the last 12 months, the University of Calgary:

- was awarded a Silver designation by the Association for Advancing Sustainability in Higher Education, one of only four Canadian medical/doctoral universities to achieve this designation. Following construction of the first Leadership in Energy and Environmental Design (LEED) Platinum building within the Canadian university system (the Child Development Centre), the Veterinary Medicine Clinical Skills Building was awarded LEED Gold. Notably, the EEEL building has achieved a LEED Platinum rating, a significant achievement for a laboratory-intensive facility. The University of Calgary now has three of only 29 new construction LEED Platinum buildings in Canada.
• has completed three phases of a campus energy reduction program, and brought online a new natural gas-fired cogeneration unit. Combined, these initiatives significantly reduce costs and Greenhouse Gas (GHG) emissions. The next phase of the energy savings program, currently in planning and design, is in support of the 2015 target of a 45% reduction in GHG emissions.
• has continued a mandate of building connections with our community. Several major programs continue to see success. The Downtown Campus continues to serve a vibrant downtown constituency.
• has continued an innovative project related to research advancements in waste-water treatment through a partnership with the City of Calgary. The project has now proceeded into advanced stages of construction.
• has continued regular participation in a community planning organization comprising all of our surrounding neighbourhoods.

These programs will be enhanced in the coming years, and new community initiatives are currently in the planning stages.

As we continue to grow and evolve, so does our need to renew, alter and expand our facilities to meet contemporary requirements. In addressing these requirements the University of Calgary has identified the need for immediate capital funding support for the following projects.

1. **Engineering complex renewal and expansion** – This project is essential to support the planned 10% increase in enrolment within the Schulich School of Engineering. The second phase of this project has been approved by the Government of Alberta in the amount of $142.5M, and the University is working closely with the Province to develop a funding model. An additional $23.5M is needed to complete Phase 3 in future, which will complete renewal of the existing buildings. This project is the University of Calgary’s highest priority for major capital funding and is “shovel ready”.

2. **Faculties of Nursing and Social Work** - The Faculty of Nursing has achieved tremendous growth in recent years, but has insufficient space for current operations and cannot accommodate future expected expansions. A space master plan was completed in 2012-13, identifying both critical gaps for immediate attention and required spatial needs if the Faculty is to successfully deliver approved programs. Urgent needs for clinical learning spaces will be partially addressed in summer 2013 with existing university funding, however a comprehensive facilities solution is required. To meet Nursing’s facilities needs in a contiguous space, and to make best use of its existing advanced learning facilities, it is likely that a “shuffle” of other units will be required. At this time, funding in the amount of $1.0M is requested to advance Nursing’s long-term needs, and to plan in detail the expected associated relocations. Funding in the order of $24M will be required for construction of both projects.

3. **Animal Care** – Current animal care facilities on the University of Calgary’s Main Campus are insufficient to meet growing education and research needs. A programming exercise to guide future planning is required, and to that end planning funding in the amount of $0.6M is requested. Future funding in the order of $42M will be required for construction.
4. **MacKimmie Tower and Block redevelopment** - Interim occupancies (also described below) have been established on the lower floors of the Tower and throughout the Block. These support the centralization strategy for administrative support. To prepare the complex to meet the goals of the MT/B Master Plan, planning funding in the amount of **$4.2M** is required. This will prepare the project for a major capital funding request in the coming year. Future funding in the order of $122.6M will be required for construction.

5. **Science A redevelopment** – The first phase of renewal of the Science A building has been completed as described in more detail below. Work to date, however, represents only a portion of the required redevelopment. Completion of the project is critical to undergraduate teaching activities (and in particular those of the Faculty of Science). To prepare the next Phase of redevelopment and expansion, planning funding in the amount of **$2.0M** is required to advance the project to the end of the Design Development phase. Future funding in the order of $144M will be required for construction.

6. **Faculty of Kinesiology** - With the completion of a master plan for the Kinesiology complex in winter 2013, the University will be positioned to begin more detailed planning of the instructional, research, athletics and recreational space requirements at the University of Calgary. Funding in the amount of **$1.0M** is requested to advance from preliminary concept planning to detail comprehensive programming, and to support the development of capital funding strategies (including investigating many likely sources in addition to government support). The University of Calgary’s Kinesiology facilities are a vital and engaging presence in the Calgary community, and make Calgary a full-service destination for international sporting excellence. Future funding in the order of $200M will be required for construction.

7. **MacEwan complex loading dock Relocation** – The proximity of the MacEwan loading dock to the Taylor Family Quadrangle is an issue. An effective long-term solution has been determined in schematic form, and the university wishes to proceed through Design Development to prepare the project for funding submissions. A planning grant of **$0.3M** is requested to fund the completion of the Design Development phase, in the 2013-14 fiscal year. Given other planned construction in the immediate area (Schulich School of Engineering and the Taylor Institute for Teaching and Learning), proceeding with this project immediately would achieve considerable efficiencies. Future funding in the order of $29M will be required for construction.

8. **Education Classroom Block** - The Education Classroom Block is an 11,380 square meter facility constructed in 1967. A comprehensive space utilization and programming study is required to optimize the use of this important physical resource. Planning funding is requested in the 2013-14 fiscal year to facilitate the first high-level review needed. Subsequent planning funds will be requested in future years as the recommendations of the study take shape and the direction of a re-purposing plan is determined. Planning funding of **$0.5M** is requested.

9. **Industrial Precinct** - The University needs to relocate its aging grounds service buildings for improved efficiency, and expand operations and maintenance support space to serve an expanding building portfolio. Planning funding in the amount of **$0.5M** is requested.

10. **Capital Maintenance and Renewal envelope** – The preservation projects below require
funding in 2013-14 as follows:

- $9.9M for Infrastructure Maintenance Program
- $3.3M for Research Facility Code Compliance requirements
- $3.0M for Instructional Spaces Upgrades;
- $10.0M for Energy Performance Initiative;
- $2.5M for Deep Utilities Upgrades;
- $25.4M for Building Envelope repair and replacement;
- $10.0M IT infrastructure upgrades
- $9.0M for Foothills Campus Critical Maintenance – Phase 2.

The following project will proceed in Spring 2013 fully funded by a single private donation:

- **Taylor Institute for Teaching and Learning** - The University intends will establish the TITL that will inform and guide the University of Calgary’s actions and investments in scholarship related to teaching and learning, and deepen the commitment to student experiential learning and faculty professional development. The institute is a partnership with the Taylor family, and work is underway to advance further community and philanthropic involvement in this initiative. The Institute will be built in redeveloped Nickle Arts Museum. That space will be transformed to accommodate:

  - Simulation centre for teaching research and professional development. Simulation will allow our educators the opportunity to practice individual knowledge and skills, work in teams, and develop competencies and proficiencies with the latest technology;
  - Dedicated space for professional development opportunities;
  - Multi-purpose facilities to promote collaboration and sharing of best practices;
  - Inclusion of current technologies that promote teaching and learning excellence; and
  - Administrative offices for related research and administrative teams.

The consulting team, the project manager and the construction have been selected and design work is underway. Project completion is targeted for late 2015. Capital funding for this project is in place through a private donation, however, ongoing operating funds are required.
8.2 STRATEGIES GUIDING CAPITAL DEVELOPMENT

Campus Master Plans

The Board-approved 2010 Campus Master Plan will continue to guide all future decisions regarding major projects on the Main Campus site. The Master Plan Review and the Design Review committees have been actively reviewing proposals to ensure alignment with the Master Plan. Consultation with General Faculties Council (GFC) will ensure coordination and alignment with academic initiatives. The new Facilities and Information Technology Committee (a GFC standing committee) has begun working as noted above. The update to the 2010 Campus Master Plan will be undertaken as scheduled, and will address major needs identified in the Faculty and Unit Space Master Planning outcomes.

A number of related and interconnected plans have been prepared and/or will be further developed during 2013-14 and onwards. These include the West Campus and Downtown Campus programs, as well as a master plan for residences described in detail below. Municipal services capacity (i.e. water, power and waste) will also be a factor when contemplating further development. City of Calgary planning initiatives, particularly changes to circulation around and access to the University, are of interest to the University. For example, major planning efforts are underway to prepare long-range upgrades to both Shaganappi and Crowchild Trails. Both will have impacts on University lands and activities. Dialogue with City planners and officials will continue and the University will make formal comment on any proposals.

A Main Campus Landscape Master Plan, coordinated with the review of deep services will be completed in 2013. Fundamental to the study will be a sustainable storm water management plan, and a long-term plan to renew decaying over-aged trees. The first phase to review current conditions and determine the outline of a comprehensive plan is complete. The second phase, now underway, will develop the actual Master Plan Document and identify priority projects for implementation as funding allows.

Faculty and Unit Space Master Plans

Given the growing density of the Main Campus and the myriad of issues that must be addressed prior to and as part of new capital projects, general and targeted master planning was initiated in 2012 and will continue through 2013. Our current enrolment numbers confirm that we have a significant shortage of academic spaces. Planning of future buildings or the further redevelopment of existing inventory will be firstly driven by academic requirements, and secondly by academic support requirements. The new work will vary in scale from unit space reports and plans up to site master plans for the Foothills and Spy Hill campuses. The Foothills Campus has run out of base land and coordination with Alberta Health Services has been limited in the past 18 months. The Spy Hill Campus is now equally challenged. Faculty space master plans will be completed for the late spring of 2013, and from them a consolidated space master plan will be created. New to the overall process will be the preparation of master plans for all the non-faculty academic support units reporting to the Vice-President (Academic), including the libraries and student services offices. All of these documents will be reviewed by the Facilities and
Information Technology Committee of the GFC, and will inform a more comprehensive Capital Plan for 2014-15.

Master plans will be used to:

- Provide leadership with information to make objective decisions concerning current and future space allocations;
- Allow cross-unit analysis, roll-up and reporting by space type, category and utilization;
- Streamline internal approvals for renovation and fit-out projects;
- Ensure spatial allocations can support complement (workforce) and activity planning;
- Allow for comprehensive institutional review, priority setting and population of the Capital Plan for government and other funding agencies;
- Provide tools for supporting program changes, hiring processes, strategic workforce (re)alignments etc., as does the annual budget;
- Assign a contextual priority for all requests for renovations;
- Assign priorities to funding; and
- Provide continuity through administrative evolution(s).

Repurposing as an option to new construction

Repurposing our existing facilities offers a significant opportunity to increase effective net assignable area, as well as reducing operating costs through the upgrade to more energy-efficient building systems. Equally important, carefully planned alterations improve the functionality of space critical to satisfying the needs of today’s learners and researchers. To meet future space requirements, the university plans to explore all options associated with repurposing existing buildings prior to proposing new square footage be added. Priority redevelopment projects are the MacKimmie complex, Science A, the former Nickle Arts Museum building, Kinesiology and MacEwan Student Centre complex.

An anticipated outcome of the Faculty and Unit Space Master Planning is an identified shortage of certain space types, especially for core academic purposes such as small classrooms, office and workstation suites, and simple research support spaces. While repurposing of existing buildings as outlined above is the first strategy, the significant challenge of decanting/swing/temporary spaces over the past 18 months suggests strongly that a limited amount of new construction may be essential. For work to proceed on redevelopment of Science A in particular, additional space will be required to fully vacate this facility.

Alternative Funding Models and Sources

The majority of our capital project funding comes from the Province of Alberta via annual funding requests (submitted through the BLIMS system). Other public and private entities have had success on certain project types with alternative project funding scenarios. These include Private/Public Partnerships (P3s), Design / Build / Finance models, and other permutations of these models. The University of Calgary is currently studying how these options might be utilized,
to which project types they may be applicable in this institution, and how to proceed. The new
residence building projects will proceed with a Design-Build process.

Capital funding targeted toward research support comes from a wide range of sources, including
the Federal government, private industry, philanthropy, and myriad other public and private
agencies and entities. The University will continue to focus on how its facilities and infrastructure
can best support research grant applications and awards, and consider this facility research
support in the context of other renewal and development strategies. Increasingly, the funding of
projects in our capital plan will include funds from multiple sources as noted above. Donations,
as well as partner contributions, will be sought and used to complete needed facilities. Leasing
options will also be considered to lessen the demand for capital funding. The University will
continue to look at ways to involve the private sector in the repair, development, and operation
of new and existing housing inventory.

**Energy Performance Initiatives (EPI)**

The University of Calgary has made a strong commitment to institutional sustainability, including
Board endorsement of aggressive greenhouse gas reduction targets. The EPI is a well-established
program on campus that has a verifiable record of implementing cost effective infrastructure
upgrades. In addition to the resulting energy and greenhouse gas savings, the work undertaken
through this program results in increased comfort in the buildings addressed and pre-empts
future infrastructure upgrading (IMP) requirements. The completed EPI Phases 1, 2 & 3 and
cogeneration projects have resulted in accumulated annual energy savings of $7.4M.

Additional phases have been developed to further our objectives of energy reduction and
greenhouse gas reductions. EPI Phases 4 and 5 seek to improve the energy performance of
eleven major buildings identified as having substantive energy reduction potential. In addition,
a program to “re-commission” or fine-tune the existing mechanical systems in all buildings will
be established. The total funding requirement for Phases 4 & 5 is estimated to be $40M over the
next seven-year period. The estimated annual savings resulting from this investment will exceed
$4.0M, for a program payback of less than 10 years.

The 2013-14 package ($4.2M internally funded) comprises a combination of shovel-ready
projects in the Professional Faculties Building, the first activities of the building re-commissioning
program and the detailed planning/design of the remaining Phase 4 projects.

**Partnership Development**

Developing partnerships with outside agencies will allow the university to leverage funding and
improve its physical resources in a cost-effective manner. It also presents significant challenges
to both the institution and government. First, the institution, along with government as its
primary funding partner, must work within current public policy. Second, the university must
carefully weigh the advantages apparent in a partnership arrangement against the potential loss
of control over the future of its resources. The University looks to explore partnership
opportunities with all internal and external communities.
Positioning the University of Calgary to Respond to Opportunity Funding

Today’s capital projects are typically very large and complex, requiring significant preconstruction time and related costs prior to a construction start. The preconstruction costs for most projects are in the range of 10%, and have historically been incorporated into the request for total project funding. Whenever possible, the University of Calgary is advancing our projects to the “shovel-ready” stage by advancing preconstruction activities in advance of full funding. For many of our projects, this approach will put those projects 18–24 months closer to an actual construction start. The University will continue to work with applicable project funding agencies to advance the necessary dollars for preconstruction services.

Sustainability Initiatives

The University of Calgary’s Sustainability Policy commits the institution to “excellence and leadership in advancing the pursuit of sustainability in teaching, research, campus operations and community service.” The Institutional Sustainability Plan (ISP) is a framework for developing and acting upon institutional commitments. It establishes a holistic approach to campus sustainability including academic, administrative and operational sectors. The plan includes goals, targets and actions for academic, administrative and operational portfolios. On campus these commitments provide the inspiration for action and guide many aspects of our capital planning.

The 2012 Academic Plan has identified sustainability as one of seven academic priorities. This will further enhance institutional collaboration and action on sustainability. Some of our 2013-14 priorities include implementation of the first year of the Energy Performance Initiative phase 4 with a focus on deeper energy retrofits in the Professional Faculties Building, implementation of year one recommendations to improve transit arrival nodes and cycling infrastructure as confirmed by a Transportation Demand Management plan currently under development, completion of a pilot program for existing building re-commissioning and optimization of green building practices, completion of programming and infrastructure to complete the introduction of food waste composting which comprises the largest percent of daily waste, and ongoing student and staff engagement initiatives.

In 2013 the university hopes to receive private donor support to establish a new Centre for Emerging Leaders in Sustainability. The Centre is aimed at providing enhanced student leadership skill development in sustainability to meet the growing expectations of millennial generation students for universities to prepare them for sustainability knowledge and leadership capacities in their selected disciplines.
Additional Planning Considerations

Policy Development – The development of additional policies as described in the 2012-13 CIP has not proceeded while the process for new policy development was itself developed and approved. The Instructional Scheduling and Space Utilization Policy (December 2011) is in full implementation and allowing better service to student and more effective use of instructional space. There will be a concerted effort in 2013-14 to complete the following:

- Signage and Wayfinding;
- Building hours of operation;
- Public Art Acquisition and Installation;
- Public spaces; and
- Storage.

These policies are currently being reviewed in draft.

Associated with policy development is the extension of broad communication strategies intended to inform the campus community of projects and to reduce the follow-through requirements resulting from project activity.

Continued Development and Review of Standards - Standards development continued during 2012-13, including significant revisions to those guiding space occupancy, technology and design. These have or will be taken to various administrative and academic committees for review, comment and approval. Consultation with external experts will inform best-practices standards and their application.

The University will also continue refining its standards for the upgrade and use of space, as key stewardship activities. Among those priority items to be addressed are:

- Space utilization
- Design standards
- Construction and re-development standards, in particular for offices and laboratories;
- Records of use and utilization targets; and
- Maximization of space utilization.

Within all initiatives are imbedded a series of general planning standards to ensure we create the best possible learning and working environments, balanced against capital and operating cost conditions. These are consistent with typical standards and expectations for the majority of comparable public sector institutions and embody ‘highest and best use principles’, following best practices as embodied by external agencies such as the Council of Ontario Universities (COU), the Educational Advisory Board (EAB) and the Society for College and University Planning (SCUP).

The University of Calgary has worked and will continue to work closely with Provincial authorities to report on space and space use, and to develop made-in-Alberta standards appropriate to our environment through a proposed provincial Space Utilization Steering Committee. The University continues to execute recommendations and best-practices for making the most of its space inventory.
8.3 FACILITIES OVERVIEW

Our Built Environment

The University of Calgary is a relatively young academic institution that is on the rise. Our built-environment exceeds 900,000 gross square metres on multiple campuses. The first buildings were built in the 1960s, and approximately half of the university’s space is more than 40 years old. Within this older component of the portfolio are a range of spaces including offices, classrooms, major theatres, performance spaces, laboratories and service facilities. All remain essential to accommodate or directly support core academic activities, however, our total space inventory falls short of what is required to meet the needs of an expanding academy. The University of Calgary maintains an inventory of its facilities in a system called Archibus, with space classified according to Alberta Infrastructure categories.

Base Building Capital Maintenance/Capital Renewal

While we are a young institution, we have grown rapidly with significant infrastructure that requires constant and ongoing stewardship through our capital renewal program. The foundation of an effective capital renewal program is a robust and credible database of facility condition information. The University of Calgary was a pioneer in the development of the Real Estate Capital Asset Priority Planning (ReCAPP) assessment and information management program, now adopted throughout the province. Staff continuously monitors the condition of university facilities, and regularly updates condition information to support the planning process.

The University’s assessed deferred maintenance liability currently exceeds $400M, an increase of over 30% in the past five years. Provincial funding – primarily through Preservation grants and annual Infrastructure Maintenance Program (IMP) funding - has had a measurable impact in slowing the rate of growth of deferred maintenance. However, the current rate of funding is insufficient to draw down this deficit and the deterioration of physical resources on campus remains a significant concern. The 2012-13 IMP grant was approximately $16.0M, and was directed in four primary streams: Code and regulatory compliance work, maintaining facilities’ operational integrity, programs of similar work across multiple structures (“horizontal” approach) and comprehensive building renewal (“vertical” approach). Continued support for IMP funding is essential for the university to stay abreast of deferred maintenance.

Ongoing issues impacting Capital Renewal

As we develop and renew our infrastructure, we continue to address ongoing issues which include:

- Increased enrolment presents daily challenges related to space availability. This compounded with space optimization, changing academic needs and complexities will be addressed in our faculty and unit master plans.
- Building code and other regulatory changes since original construction are a major consideration for any redevelopment, no matter the scale. Base-building deficiencies are
common when programmatic upgrades are undertaken. Insufficient services of all types are not unusual. As densities increase (more people/activity in the same space), these difficulties intensify. These issues increase the complexity and often the cost for even small programmatic upgrades, and on occasion are cost-prohibitive (to the detriment of core teaching and research requirements).

- Renovation or major redevelopment of facilities requires decanting spaces. While space to accommodate basic office-type activities is relatively straightforward (the university has been able to accommodate the decanting of small groups), specialty spaces are not easily found. These include laboratories for all purposes and major instructional spaces (over 100 seats). Surplus inventory in the centre of campus is an unsatisfied need.

- The aging of the underground utility infrastructure and above-ground landscaping, both installed/planted in the mid-to-late sixties, is becoming an increasing concern. The extensive storm water management system is outdated and inappropriate by today’s sustainability standards. Any future expansion of Main, West or Foothills campus space inventory will require a review of City of Calgary water and sewer services to ensure capacity exists. We have a significant requirement to develop an ongoing program related to Deep Utility Upgrades.

- Information technology infrastructure, from distributed server rooms to the actual wires running through buildings, requires ongoing funding to maintain and expand the capacity required in a modern post-secondary educational environment.

- As research program growth continues, aging laboratories on campus fall further behind contemporary health, safety and environmental standards. A renewed effort is underway to assess all safe-work requirements and to identify any deficiencies in eyewash stations, emergency showers, general safety stations, fume hoods and hazardous material storage systems.

- As the density of the Main and Foothills campuses increase, the growing number of people is in ever increasing conflict with vehicles. The crosswalk condition at the LRT station is the most problematic situation, but others exist all along Campus Drive and to a lesser extent most other roadways. The need for passive and active traffic management systems is detailed with the Landscape Master Plan, currently in final approval. Creative solutions are a priority, such as that at the Earth Science/ICT/EEEL plaza which follows current models of integration. Of urgency is the proposed relocation of loading access for the MacEwan complex. The number of heavy delivery vehicles in the Taylor Quad is unsafe.

- Funding for such changes remains a significant challenge outside of major projects. Current discussions to determine sources of funding for such changes are ongoing.

**Evolving Programmatic Requirements**

While built according to contemporary needs, older facilities are typically less capable of supporting current pedagogy and research needs. Offering particular challenges are highly-serviced science, engineering and medical spaces, and almost all modern Information
Technology (IT) requirements. The University remains deficient in certain types of space including:

- fully serviced research laboratories and associated laboratory support spaces
- individual and group study spaces (both within libraries and elsewhere);
- other student service spaces to support accommodated examinations, student mentoring and leadership initiatives;
- offices and open work spaces for administrative support offices;
- adequate, low service storage and staging capacity especially for seasonally-required equipment and specialized vehicles; and
- storage space for academic collections not part of the central library system.

Also lacking is residence capacity for undergraduate and graduate students and their families, as detailed in the Residence Section.

It remains the assumption that the university will continue to focus highly-serviced spaces in newer facilities, releasing older and less-serviced spaces for less demanding programmatic requirements. While the need for facilities to host academic requirements is unquestioned, there must also be effective spaces for support units indispensable to the successful operation of the university. Of growing need is temporary capacity for units displaced by renovations.

**General Planning**

Within the faculty and unit space master planning effort was a comprehensive update to the spatial data. Captured in a central core system, these data are now able to support reporting, occupancy and utilization analysis, and planning of future construction. Metrics, benchmarks, and comparative data will be essential to support decision-making. Accurate and timely data on space use and utilization is required, and must be synthesized and presented in a meaningful fashion. The newly-implemented Archibus facility management tools will assist this process. Accurate spatial data will highlight deficiencies or excesses in any specific space types, which will in turn inform capital planning. Consistent application of policies and recognized spatial standards and spatial management practices will improve the utilization of existing capacity and inform the planning of new space requirements.

**8.4 REVIEW OF 2012-13 CAPITAL PROJECTS**

Following the completion and opening many new facilities in 2011-12 (TFDL, EEEL, Co-gen plant and Yamnuska Hall), the activity of 2012-13 focused on redevelopment and renovation projects, including Science A, the MacKimmie complex and numerous instructional facility upgrades. Planning and design work also advanced on a number of significant projects in preparation for the imminent start-up of a major new-building program beginning in spring 2013.

The University of Calgary notes with gratitude Government of Alberta active funding grants supporting several major projects as shown in Table 2.
Table 2 – Government of Alberta Capital Grant Awards

<table>
<thead>
<tr>
<th>(S thousands)</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Energy Environment Experiential Learning (EEEL)</td>
<td>234,900</td>
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<tr>
<td>Foothills Campus Critical Renovations</td>
<td>42,500</td>
</tr>
<tr>
<td>Building Envelope Renewal Program</td>
<td>9,000</td>
</tr>
<tr>
<td>Roofing Replacement and Tie Back Safety Anchor Program</td>
<td>17,100</td>
</tr>
<tr>
<td>Engineering complex renewal and expansion - Phase 2 planning</td>
<td>2,300</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>305,800</strong></td>
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**Construction Activities in 2012-13**

***Energy Environment Experiential Learning (EEEL) Program***

The main EEEL building opened for its second academic year of use in 2012-13. It has also hosted a number of major events including the Governor General’s honourary degree reception – a significant show piece for the University. The building received two more major design awards in 2012, with the CGBC LEED platinum rating received in April, 2013.

Programmatic fit-out of the fifth floor has continued through 2012-13, with completion targeted for early 2014. An office suite for chemistry researchers was opened in early 2013, and construction of laboratory and offices spaces for two Campus Alberta Innovates Program appointees continues. The balance of EEEL capacity is being reserved to support the Canada Excellence Research Chair (CERC) Chair in New Materials Engineering Unconventional Oil and Gas Reservoirs. Recruiting for this position is expected to be completed in late 2013.

***Science A – Phase 1 Redevelopment***

Completed in April 2013 the first phase of work to upgrade Science A (originally opened 1960) included circulation and base-building improvements, 11 new classrooms, a new administrative office for the chemistry department and safety upgrades to Science Theatres. This work prepares the building for Phase 2 but is independent of the later phase. Until major redevelopment funding is awarded, portions of this building will remain out of service.

***Infrastructure Maintenance Program (IMP) Grant – Significant Initiatives***

The following comprise the major programs of work accomplished in 2012-13, funded through the Government of Alberta IMP grant:

- **Life and health safety program**: Earth Sciences fire alarm; Engineering complex fire alarm; Earth Science sprinkler system; Engineering complex sprinkler system; and Campus-wide halon (fire suppression) systems.
- **Asbestos abatement program**: abatement associated with operational and minor renovations was completed in 121 locations.
- **Education renewal**: In keeping with the university’s preferred approach to comprehensively renewing our oldest buildings, a major program started up that includes replacement and extension of the elevators, installation of emergency power and numerous upgrades to the HVAC systems.
- **Washroom renewal and upgrade program:** This multi-year program to renew the university’s 877 washroom facilities continues, with a 2012-13 contribution of $5.2M bringing the number of locations addressed to a total of 93. Considered in this program are revisions to accommodate changed gender demographics, as well as improvements to accessibility conditions and water conservation.

- **Roof replacement program:** Supported by a preservation grant, this program continued, completing a total investment of nearly $17.2M. More than 55,450 Gross Square Meters (GSM) of roof area has been renewed, reducing water infiltration and ongoing maintenance costs. Buildings addressed were Kinesiology Complex; Reeve Theatre; Art Building; Mechanical Engineering Building; and Science B.

*Advancing Canadian Wastewater Assets (ACWA)*

ACWA is a partnership between the University of Calgary and The City of Calgary, with funding provided by the University of Calgary, Canada Foundation for Innovation (CFI), the Government of Alberta and the City of Calgary. ACWA's main goal is to develop wastewater treatment technologies that will remove existing and emerging contaminants to improve ecosystem and human health. ACWA's primary infrastructure is imbedded within the City's Pine Creek Wastewater Treatment Plant in south-most Calgary. It includes advanced, large-scale wastewater treatment processes and 12 replicate, experimental streams that can be dosed with various constituents of municipal effluents.

Construction at the Pine Creek Site commenced in 2012. The Bow River intake structure was completed and the coffer dam removed September 15, 2012 in compliance with permits from the Departments of Fisheries and Oceans, and Navigable Waters and Alberta Sustainable Resources. The pumping station structural slab was poured in late 2012, along with waterproofing of the exterior walls and the foundation backfill and along with Header Buildings A & B was completed in early 2013. Six of the twelve test streams were formed in late 2012 within the clay bed and the balance of the streams work was completed in early 2013. The construction of the analytical laboratory within the existing Pine Creek facility was projected to be complete and ready for use in late spring 2013. Construction for the experimental treatment infrastructure within the Research Waste Water Treatment Plant proper began in late November 2012. All construction of the ACWA Pine Creek facilities is scheduled for completion in mid-September 2013. The medical microbiology (Foothills) and aquatic and stable isotope laboratories (main campus) were completed May 2013.

*Accommodation Plan – Phase 1*

A number of orphaned academic units from the MacKimmie complex moved to new locations last year, including the Arctic Institute of North America (AINA), Centre for Military and Strategic Studies (CMSS) and Department of Anthropology (due to work in Science A). In addition to facilitating better adjacencies for academic units, this has allowed the orderly ramp down of the upper floors of the MacKimmie Tower) and the development of Science A. This phase of the Accommodation Plan is complete.
Accommodation Plan – Phase 2

To support the university’s Integrated Services Delivery implementation, major support offices have been moved to a central, integrated location on the lower floors of the MacKimmie Tower. The co-located offices include Human Resources, Finance and Services, and Research Services. Operationally, faculty and staff seeking assistance from these offices will be supported by a single point of service on the main floor. These occupancies are expected to continue until major redevelopment of the MacKimmie complex can be undertaken.

Also now in the MacKimmie Tower are the central offices of the Faculty of Graduate Studies, the Graduate Student Association and (for Summer 2013) the Post-Doctoral Fellow Program office. The upper floors of the Tower, due to building code restrictions, (lack of cross-over floors and the significant new occupancy counts on the lower floors) must remain vacant.

The Administration Building at the University of Calgary is a significant part of our heritage. As one of the first two buildings to be constructed on our campus (1960), along with Science A, we have decided that the Administration Building be preserved and renovated to meet the current and future needs of the institution. While not formally designated as historical, the building forms a meaningful part of the university’s history, and it continues to be seen as the administrative hub of the university. A project is underway to bring all areas up to current building codes, standards, and contemporary functional layouts. While there is a desire to modernize, there are significant architectural elements that warrant preservation and careful consideration as we undertake future planning.

The Administration Building will become the administrative heart of the university, housing the Chair’s, Chancellor’s and President’s teams. The executive leadership team, their respective senior-staff and support-staff are currently in multiple locations across campus.

Downtown Campus (DTC)

The Downtown Campus is fully operational and has had significant impact on internal programming, Continuing Education activities and support to the community for meetings, conferences and events. Retail spaces on the main floor have been leased to a coffee and beverage supplier. Other storefront spaces will be occupied by the University of Calgary University Relations Alumni Relations offices. Work will continue through 2013-14.

Foothills Campus

Health Research Innovation Centre (HRIC)/Teaching Research and Wellness Building (TRW) fit-up, and Heritage Medical Research Building (HMRB) and Health Sciences Centre (HSC) improvements continued, guided by program requirements for the Faculty of Medicine and the Faculty of Veterinary Medicine. Of note are a new graduate medical student study area, the Experimental Imaging Centre and the Clara Christie Centre for Mouse Genomics. The HSC Critical Deferred Maintenance program, a $42.5M package of preservation work, has been completed.

All the programmatic work approved through to the end of fiscal year 2013 at Foothills is now fully operational.
Smaller, but still significant, projects underway at the Foothills Campus include:

- Prion Virology Lab;
- Teaching Lab and Research Overflow Lab;
- Advanced Teaching Skills Simulation Lab;
- Healthy Brain Ageing Research Centre;
- Live Cell Imaging Centre;
- Special Procedures Lab upgrade.

Medical Clinics

Central Family Medicine Teaching Centre - This project involved the tenant-fit out of expanded (a fifth module was added) medical clinical and education space in the Alberta Health Services Sheldon M. Chumir Health Centre, funded by a Family Medicine expansion grant from Alberta Health and Wellness. The clinic supports teaching and research activities, as well as the clinical needs of the community. This concludes the replacement of the former North Hill clinic location.

Sunridge Family Medicine Teaching Centre - Family Medicine expanded their clinic at the Sunridge Professional Building in northeast Calgary from 830 m² to about 1670 m². This project was also funded by the expansion grant from Alberta Health and Wellness. The project was completed in July 2012 and Family Medicine took occupancy the same month, just in time for accepting the new class of residents.

South Health Campus – In addition to the newly opened satellite clinics at the Sheldon Chumir Centre and Sunridge locations, the Faculty of Medicine is now operating from the new AHS South Health Campus. Long range planning for a new, standalone facility at this distant location will be progressed through the space master planning process for the Faculty of Medicine. Other SHC opportunities may be available for the faculties of Nursing and Social Work.

Classroom Alteration Request (CAR) program.

Through 2012-13 work proceeded on improvements to central or unit-managed instructional spaces supported directly by the Office of the Provost. A total of eight approved projects were completed, making notable headway on improving the instructional environment for students and faculty. These upgrades were further supported by a technology upgrades to 62 classrooms as described below and in the IT section of the CIP.
Facilities Alteration Request (FAR) program

Similar to the Classroom Alteration Request program (Table 3), an opportunity was presented to Deans to request centrally-funded upgrades to non-instructional spaces (Table 4). A total of 22 requests were received, of which 10 were approved for funding. This program has also been extended for 2013-14, with the continuing support of the Office of the Provost.

Table 3 – Classroom Alteration Request (FAR) Projects completed in 2012-13

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Project</th>
<th>($ Thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>Drama classroom upgrade, CH</td>
<td>719</td>
</tr>
<tr>
<td>EVDS</td>
<td>PFB computer graphics classroom upgrade, PFB</td>
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<tr>
<td>Kinesiology</td>
<td>Human Physiology Experiential Learning Space, KNA</td>
<td>145</td>
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<tr>
<td>Medicine</td>
<td>ATSSL wet lab teaching equipment, HSC</td>
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<tr>
<td>Nursing</td>
<td>Clinical teaching labs upgrade, PFB</td>
<td>34</td>
</tr>
<tr>
<td>Science</td>
<td>Major theatre renovation, SB103</td>
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<tr>
<td>Social Work</td>
<td>Clinical communications room upgrade, PFB</td>
<td>58</td>
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<tr>
<td>SSE</td>
<td>Major theatre renovation, ENA103</td>
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<td><strong>TOTAL</strong></td>
<td><strong>2,854</strong></td>
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Table 4 – Facility Alteration Request (FAR) Projects completed in 2012-13

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Project</th>
<th>($ Thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>Psychology Research Lab upgrade, Admin</td>
<td>888</td>
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<tr>
<td></td>
<td>Program Information Centre development (advising), SS</td>
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<td></td>
<td>Archeology Lab Filtration Upgrade, ES</td>
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<td>EVDS</td>
<td>Serviced laboratory renovations , PFB</td>
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<td>Medicine</td>
<td>Live Cell Imaging Facility (partial) upgrade, HSC</td>
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<td>Science</td>
<td>Chemistry research laboratory renovation, SB</td>
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<td>SSE</td>
<td>Research laboratory renovation, END</td>
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<tr>
<td>Veterinary Medicine</td>
<td>Research laboratory redevelopment, HSC</td>
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<td>Research laboratory redevelopment, HMRB</td>
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<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>4,518</strong></td>
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</tbody>
</table>

Classroom Technology Upgrade

Technology advancement has outpaced our classroom inventory, thus a program to renew and/or install required teaching technologies got underway. Such upgrades are anticipated to require continuous attention and regular investment.

University Network Upgrade Planning

Network traffic is increasing exponentially, and the IT backbone infrastructure capacity requires almost continual upgrade and expansion to support core academic and research programs.
Yamnuska Hall Tenant fit-up
Leasing retail spaces in Yamnuska Hall has occurred in 2012-13. New occupants include Starbucks, Subway, youth physiotherapy and orthotics tenants, and West Campus Development Corporation. Only one unit remains available.

Spo’pi Solar House
The Solar Decathlon structure built for the 2011 U.S. Department of Energy Solar Decathlon has been erected on the main campus just south of the CCIT building. Supported by industry and First Nations communities, it will be used to support learning and research for sustainable residential buildings. The anticipated life of the structure is approximately 10 years, at which time renewal; relocation or dismantling will be required, as the original construction assumed a temporary demonstration facility only.

Family Housing – program of renewals
A major $8M program is underway to renovate all 240 units of the Family Housing Complex. The first phase involved approximately 20 units that were vacant. Residents will then be rotated into completed units, allowing a second phase to be initiated. Completion is expected in a two to three year cycle.

Miscellaneous Faculty Research and Other Small Projects
As part of ongoing operations, university units undertake numerous small reconfigurations to better serve evolving teaching and research needs. In our capital planning process and documentation, these are referenced as Faculty initiatives.

Foothills Campus – The Advanced Technical Skills Simulation Lab (ATSSL)
ATSSL is a technical skills training facility housed within the Faculty of Medicine utilizing and integrating three simulation modalities: electronic, cadaveric and animal with a focus on developing and enhancing the clinical skills (particularly technical skills) of medical and other health care professional students, medical residents, and practitioners.

Once complete, the facility will be able to house groups of 2 to 200 learners in a state of the art facility that includes the following four components:

1. Wet Lab for dissection and demonstration;
2. Dry Lab for medical simulators;
3. Surgical training/exercise suites;
4. Surgical Simulation Training Rooms.

The facility will operate as a partnership between the University of Calgary and Alberta Health Services with joint funding of operations and fund raising. Work is underway to develop the Wet Lab component in the basement of Health Research Innovation Centre (HRIC). Renovation and development of the other components is dependent on funding.
Building Envelope Renewal – Kinesiology Gymnasia

A comprehensive study of the major buildings on campus has been completed, highlighting priority buildings requiring attention. The Kinesiology A Red and Gold gymnasia envelopes must be addressed to correct leakage, air infiltration and energy loss. Design work is underway for a planned construction start in Spring 2013.

Sustainability Activities

The University of Calgary continued to demonstrate leadership in campus sustainability in a number of academic, administrative and operational areas. The 2011 Institutional Sustainability Report provides a snapshot of institutional progress in these areas. Key examples in the facilities area are as follows:

- **Energy Performance Initiative (EPI) 4**: The EPI 4 is a holistic operating model that supports the reduction of operating costs and GHG emissions through a continuous approach to energy optimization. The program acknowledges the continuous cycle of managing energy in the built environment through addressing issues with energy supply, new and existing buildings, systems operations and maintenance, user demand management and engagement. Planning and design work continued on a $40M dollar next-phase program;

- **Energy Management**: Building level energy metering was completed. An enterprise energy management system is currently being configured to enable efficient and accurate ongoing building level energy use analysis to optimize building performance and to enable more effective reporting capacities on Main Campus and Foothill Campus; and

- **User Demand Reduction**: Efforts to address plug and process loads through user engagement is supported by the Energy Efficiency Fund, a revolving fund that uses energy savings to support future projects that reduce campus energy consumption and GHG emissions.

8.5 PLANNING AND DESIGN INITIATIVES IN 2012-13

**Engineering complex renewal and expansion – Phase 2 construction documents**

The Engineering complex project renews and repurposes the existing complex constructed in the 1960s, and adds new space in support of the planned 10% increase in enrolment within the Schulich School of Engineering. Phase 1 of this project focussed on system upgrades and classroom renewal within the existing blocks. Partially funded through the Knowledge Infrastructure Program, this phase was fully completed in 2011. Phase 2, now approved to proceed will add approximately 18,200 GSM of new space in support of teaching, research and program expansion. A $2.3M planning grant announced in 2011 and a University investment of $5.0M has allowed the project to proceed into contract documents. The project is ready to advance into construction.
Taylor Institute for Teaching and Learning

Our new TITL is our most recent example of a successful partnership between the University of Calgary and a strong donor community. Through this partnership the university intends to establish the TITL that will inform and guide the University of Calgary’s actions and investments in scholarship related to teaching and learning and deepen the commitment to student experiential learning and faculty professional development. The institute is envisioned as a partnership opportunity, and work is underway to advance community and philanthropic involvement in this initiative. Currently planned for accommodation in a redeveloped Nickle Arts building, space will be transformed to accommodate a teaching and learning environment comprising:

- A simulation centre for teaching research and professional development. Simulation will allow our educators the opportunity to practice individual knowledge and skills, work in teams, and develop competencies and proficiencies with the latest technology;
- Dedicated space for professional development opportunities;
- Multi-purpose facilities to promote collaboration and sharing of best practices;
- Inclusion of most current technologies that promote teaching and learning excellence; and
- Collaborative spaces for related research and institute support teams.

The consulting team, the project manager and the construction have been selected and design work is underway. Project completion is targeted for late 2015. Capital funding is provided by a private donor.

Education Tower Renewal

Running concurrent with planning for the major Infrastructure Maintenance Program projects in the Education tower, planning and design work was initiated on a number of full floor renovations. Floors 2, 4, 5 and 11 will be renewed and altered once design work is finished and a funding plan is confirmed. These projects are guided by an Education Tower space master plan that was completed and approved in 2012.

Residence Master Plan

The University of Calgary Residence Master Plan (RMP) proposes to increase on-campus student accommodation to 15% of undergraduate full load enrolment by 2022. An initial component of the plan is the development of a new graduate residential housing building and a new facility aimed at upper year students. Both are targeted for completion by summer 2015.

The Plan also proposes demolition of the five short-life buildings constructed for the 1988 Olympic Winter Games (removing 456 beds). This is offset by the construction of approximately 1,570 new beds in five buildings and the periodic update and renovation of the remaining student housing facilities.
Some of the RMP goals are:

- Enhance academic success and engagement through alignment with the 2012 Academic Plan and Research Plan
- Accelerate new student recruitment to promote the formation of strong student communities
- Increase aboriginal, local, rural, and mature student recruitment, enrolment, and success
- Enhance vitality of the residential community by increasing the diversity of students living on campus
- Enhance the physical environment, to fix or replace worn-out buildings
- Increase students on campus to increase student engagement and enhance campus pride.

The RMP outlines a strategy to accommodate this growth increasing on campus accommodations from 2,523 beds to 3,677 beds, in four phases:

- Phase 1 (2013-15): a new 268 bed undergraduate facility and a 390 graduate student complex, both to open by 2015. Demolition of the Norquay and Brewster buildings would follow in 2015, leading to a stability and assessment year in 2016-17;
- Phase 2 (2017-21): construction of an additional 550 beds for graduate students, to open 2019. This would be followed by demolition of Glacier and Olympus (226 beds) in 2019;
- Phase 4 (2025-28): renewal of Cascade (381 beds) in 2026

Assumptions about student demographics and preferences have been made in the plan. These assumptions have been tested with focus groups of students, faculty and staff but as new student housing options are brought on-line student perceptions of living on-campus will be changed. Phase 1 projects are on an aggressive schedule and delivery model to ensure their completion for fall 2015 occupancy, prior to the 2016 50th Anniversary Celebrations. With Board of Governors approval, programming and concept design began in fall 2012 and the design bridging documents were completed in April, 2013.

Prior to Phases 2 and 3, a market survey and demand analysis should be completed to inform programming and design, and to confirm adequate student demand. This market survey will be used to test assumptions about unit types, single versus double occupancy choice, total current demand, and the market sensitivity of rental rates. Given the current housing and economic trends for Calgary and Alberta, the assumptions for both residence expansion and renewal are considered very valid but due diligence requires review after Phase 1.

*Faculty of Nursing Master Plan*

The Faculty of Nursing has seen tremendous growth in recent years, and has now completed a master plan outlining its spatial requirements for the next 15-20 years. The plan, which is based on academic objectives, prepares a full spatial program, identifies needs and prepares concepts for major revision of the existing floor plates. It also provides short-term recommendations for immediate requirements.
The Faculty of Nursing Master Plan will significantly impact the Faculty of Social Work. Accordingly a second study is now underway to determine an appropriate location for the relocation of Social Work. A solution has been confirmed and funding is requested to move ahead major redevelopment planning, and in time, construction for these two important units.

**Kinesiology Complex Master Planning**

Based on standard planning metrics, the total space available for kinesiology instruction, research and recreation is low at the University of Calgary. The University also supports a number of internationally competitive performance athletics programs as well as its own highly-successful DINOS intercollegiate teams from the same facilities. This redevelopment and likely expansion proposes to improve the learning and research functions of the Kinesiology complex, as well as increase the level of health and wellness facilities provided to all university and community users of the space. A master plan to guide the future development is underway and scheduled for completion in winter 2013.

**Deep Utilities Upgrade Study**

The University of Calgary initiated a comprehensive review of existing Main Campus deep utilities (water, sanitary sewer and storm water), to inform the development of an Integrated Resource Management (IRM) Plan. Data collected as a part of this review will inform future planning exercises (including any updates to the Campus Master Plan), and will result in a clear identification of immediate and long-term maintenance and expansion requirements to be acted upon in accordance with such plans.

**Main Campus Landscape Master Plan**

Consultants were selected to undertake a Main Campus Landscape Master Plan, coordinated with the review of deep services. Fundamental to the study will be a sustainable storm water management plan, and a long-term plan to renew decaying over-aged trees. The first phase to review current conditions and determine the outline of a comprehensive plan was completed. The second phase, now underway, will develop the actual Master Plan Document and identify priority projects for implementation as funding allows.

**Wayfinding Initiative**

Wayfinding and associated signage has not kept pace with campus growth and reconfiguration, and the university seeks to remedy this to better serve its primary users and the community in general. The focus to date has been on exterior wayfinding and the next phase will address interior signage needs. The design and installation of interior signage is underway in the university’s newest buildings, funded through project budgets.

**Archibus Upgrade**

Archibus is a flexible, web-based, integrated, facilities management software tool, which supports maintenance and operations activities as well as project management, leasing and real estate, space management and capital planning. The University has been using Archibus for many
years, and is in the process of an extensive and comprehensive upgrade to the latest version of the software. The upgrade will support improved business processes and controls. Upgrades and enhancements will continue through the 2013-14 year.

_South Shaganappi Area Strategic Planning Group_

This community consultation group comprises representatives from all neighbouring communities, Alberta Health Services, the City of Calgary, and significant local landowners. Established approximately 10 years ago, this group has served as an invaluable communication and information-sharing tool to connect the university with the larger community. Cooperation is ongoing and will continue.

_West Campus_

In April 2011 the West Campus Development Corporation (WCDC) was formed, a wholly-owned subsidiary of the university, established to act as a trustee of the university’s West Campus property. WCDC reporting is now published independently to University of Calgary planning and reporting submissions and publications.

Several significant university activities occur on lands now allocated to the West Campus Development Trust (WCDT). These include the Grounds complex, the Weather Research Station and several playing fields. Planning through early 2013 has supplied re-location strategies and actions for each of these. They include a new ‘industrial precinct’ next to the Physical Plant building (described in detail below), a new location for the weather station and upgrades to a smaller number of playing fields to allow more intense use.
The University of Calgary’s highest priorities in the categories of (1) New Construction, (2) Major Renewal and (3) Capital Maintenance for which it is requesting Provincial approval and funding support are shown in Table 5. In several instances, there is potential overlap of activities due to scheduling of funding. These projects will be carried forward into the May, 2013 Buildings and Lands Information Management System (BLIMS) submission.

Table 5 – Capital Projects Funding Requests ($M)

<table>
<thead>
<tr>
<th>Project Name</th>
<th>14-15</th>
<th>15-16</th>
<th>16-17</th>
<th>17-18</th>
<th>18-19</th>
<th>19-20</th>
<th>20-21</th>
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<tr>
<td>*<em>New Construction - Approved</em></td>
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<td>Engineering Complex Renewal &amp; Expansion - Phase 2</td>
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<td><strong>Major Renewal</strong></td>
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<td>Faculties of Nursing and Social Work Planning Construction</td>
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<td>Foothills Campus Critical Maintenance – Phase 2</td>
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<td><strong>Sub-total - Capital Maintenance</strong></td>
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<td><strong>TOTAL</strong></td>
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<td>64.5</td>
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<td>919.5</td>
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</table>

*Cash flow to be determined


8.7 NEW CONSTRUCTION

Engineering Complex renewal and expansion – Phase 2 - Approved

The Engineering complex project renews and repurposes the existing complex constructed in the 1960s, and adds new space in support of the planned 10% increase in enrolment within the Schulich School of Engineering.

Phase 1 of this project focussed on system upgrades and classroom renewal within the existing blocks. Partially funded through the federal Knowledge Infrastructure Program, this phase was fully completed in 2011.

Phase 2 will add approximately 18,200 GSM of new space in support of teaching, research and program expansion. A $2.3M planning grant announced in 2011 and a University investment of $5.0M has allowed the project to proceed into contract documents. The project is ready to advance into construction in May 2013. This phase has been approved to proceed, with funding in the amount of $142.5M.

Major Renewal

With the Engineering Complex Phase 2 now approved for construction, the University may now focus on major renewal of existing buildings to update them for current academic needs as well as base-building renewal and sustainability-driven improvements. With internal investments, the first such project will be ready for construction funding in 2014-15:

Faculties of Nursing and Social Work (Current funding request $25M)

The Faculty of Nursing has achieved tremendous growth in recent years, but has insufficient space for current operations and cannot accommodate future expected expansions. A space master plan was completed in 2012-13, identifying both critical gaps for immediate attention and required spatial needs if the Faculty is to successfully deliver approved programs. Urgent needs for clinical learning spaces will be partially addressed in summer 2013 with existing university funding, however a comprehensive facilities solution is required. To meet Nursing’s facilities needs in a contiguous space, and to make best use of its existing advanced learning facilities, it is likely that a “shuffle” of other units will be required, notably the Faculty of Social Work. At this time, internal University funding has been committed to advance design work for Nursing’s long-term needs within the Professional Faculties Building. This relocation will displace the Faculty of Social Work to a neighbouring building, space being made available by consolidation of other activities into more efficient allocations. This strategy will allow for Nursing’s expansion with no increase of footprint and therefore no increase of building operating costs. Significant renovations are required for both units, and capital funding totaling in the order of $25M is requested. Early, partial funding will be required for pre-construction work to relocate the Faculty of Social Work.

As the University refines its long-range academic program, it is critical that other priority projects advance into planning and design as soon as teaching and research requirements are identified. Large projects require several years of preparation before construction can begin. Adequate
funding in the early stages allows for thorough investigation of alternative solutions, optimizes opportunities for re-purposing of existing space, encourages sustainable design and allows for investigation of alternative funding sources. Further, as detailed plans are developed, accurate cost estimates can be produced prior to finalization of the total capital grant.

**Animal Care (Current funding request: $0.6M)**

Current core support facilities on the University of Calgary’s Main Campus are insufficient to meet growing education and research needs. It is proposed that the Main Campus’ primary animal care centre be renovated, and that new space connected to this area be constructed. This new space will provide for research activities currently housed in the Administration building (which should no longer house animals and research laboratories), and will accommodate an increased demand for such facilities resulting from the intensification of existing programs (e.g. the Kinesiology Graduate Program and the Bachelor of Neurosciences Program) and faculty teaching and research activities. This upgraded and consolidated space will allow university animal care programs to achieve efficiencies through the better use of equipment and personnel resources, and ensure the quality of facilities allowing for continued certification by the Canadian Council on Animal Care. It will also better prepare the university to meet pending regulatory requirements for the management of genetically-modified organisms, a critical requirement if the university is to meet its research and educational mandates. The University, with internal resources, has undertaken functional programming and concept work in 2013. The total funding expected to be required to execute a solution for main campus animal care facilities is in the order of $42M.

**MacKimmie Tower and Block (Current funding request: $4.2M)**

Phase 1 of this project - funded and completed in 2010 - comprised an extensive pre-design review and schematic design exercise. The study revealed the opportunity for the MacKimmie Tower (MT) to be converted to open plan offices for administrative units, both those that directly support students such as the Faculty of Graduate Studies and for critical back-of-house functions such as Financial Services and Human Resources. Relocation will improve efficiencies and free space in academic buildings for use by Faculties and Institutes.

This same study established a redevelopment concept for the MacKimmie Block (MB) that calls for this building to become a classroom and minor theatre cluster serving the entire campus. The scheduled instructional space will be supplemented by student study space, a priority articulated clearly by our student body.

Given that core academic support functions remain in the MB, the project will be phased to repurpose the Tower first. Current Block occupants will then be moved to the Tower location, allowing the full Block repurposing to proceed.

Phase 2 will comprise the Design Development phase of the project, establishing the full extent of the renewal/repurposing opportunity and preparing the project for the construction document phase. Immediate progress on this project is required to determine the long term opportunities for the re-stacking of numerous academic buildings across campus.
A planning grant of $4.2M is requested to fund the completion of the Design Development phase in the 2013-14 fiscal year. The total funding expected to be required to execute a solution for these buildings is estimated to exceed $126M.

Science A – Phase 2 (Current funding request: $2.0M)

The Science A project renews one of the first two buildings on campus – a 50 year old structure, providing capacity for upper year chemistry instruction, chemistry research and support activities (workshops) for the entire Faculty of Science, as well as general academic spaces for the university as a whole.

Phases 0 and 1 of this project – a planned extension of the EEEL project - established a schematic design and laid out a path of critical renewal requirements that are essential to position the building for Phase 2. Work is funded and is progressing through to completion in May 2013.

Phase 2 will comprise the expansion Design Development phase, establishing the full extent of the renewal/repurposing opportunity and preparing the project for the construction document phase.

A planning grant of $2M is requested in the 2013-14 fiscal year to fund the completion of the Design Development phase. The total funding expected to be required to execute a solution for Science A is in the order of $146.1M.

Should new design work not proceed in the 2013-14 and 2014-15 fiscal years, the following critical impacts will be experienced:

- The estimated date of completion will be extended with significant impact on the Faculty of Science academic activity.
- Continuity of the design team may be lost to the project. Loss of continuity will have impact on the quality and cost of future phases.

Faculty of Kinesiology (Current funding request $1M)

With the completion of a master plan for the Kinesiology complex in winter 2013, the university will be positioned to begin more detailed planning of the instructional, research, athletics and recreational space requirements at the University of Calgary. Funding is requested to advance from preliminary concept planning to detail comprehensive programming, and to support the development of capital funding strategies (including investigating many likely sources in addition to government support). The University of Calgary’s Kinesiology facilities are a vital and engaging presence in the Calgary community, and make Calgary a full-service destination for international sporting excellence. The total funding expected to be required to execute a solution for the kinesiology complex is in the order of $200M)
MacEwan Complex Loading Dock Relocation – (Current funding request: $0.3M)

Phase 1 of this project, funded and completed in 2011, involved an extensive pre-design review and schematic design exercise within the MacEwan Student Centre (constructed 1987). While the full scope of the study involved facilities that are unsupported by definition, a key element of the supported work involved solving an egregious safety issue that exists as a result of the adjacency of the Centre’s loading docks to the Taylor Family Quadrangle. An effective long-term solution has been determined in schematic form, and the university wishes to proceed through Design Development to prepare the project for funding submissions.

The proposed location for the new loading dock facility exists below-grade, immediately west of the vacated Nickle Arts building. Repurposing of the Nickle building (through philanthropic funding) is planned, and a coordinated planning effort between projects will be required to optimize the design and to avoid conflicts.

A planning grant of $0.3M is requested to fund the completion of the Design Development phase in the 2013-14 fiscal year. The total funding expected to be required to execute a solution for this reconfiguration is in the order of $29.2M.

Education Block Space Utilization Plan (Current funding request: $0.5M)

The Education Classroom Block is an 11,380 square meter facility constructed in 1967. A comprehensive space utilization and programming study is required to optimize the use of this important physical resource. Planning funding is requested in the 2013-14 fiscal year to facilitate the first high-level review needed. Subsequent planning funds will be requested in future years as the recommendations of the study take shape and the direction of a re-purposing plan is determined.

Industrial Precinct (Current funding request: $0.5M)

Current core grounds and maintenance & operations support facilities on the University of Calgary’s Main Campus are insufficient to meet growing needs. The grounds maintenance building is now over 45 years old and located in an inappropriate location on the main campus. It must be replaced with modern facilities that support the current inventory of maintenance equipment. In addition, maintenance and operations space with the Physical Plant building (now 43 years old) is insufficient to house current staff and O&M equipment. An expansion of space is required to facilitate efficient maintenance activities. The total funding expected to be required to execute a solution for these essential support functions is in the order of $5M.

Engineering Renewal and Expansion – Phase 3 (Future Years: $23.5M)

Following completion of Phase 2, a third phase is required to complete renovations within the existing Engineering Complex. Construction funds are not required before 2016-17.
8.8 CAPITAL MAINTENANCE AND RENEWAL

Our capital maintenance renewal priorities are:

*Infrastructure Maintenance Program (IMP) (Annual request: $16M)*

The annual Infrastructure Maintenance Program (IMP) funding forms the backbone of the university’s capital renewal initiatives. Supported by a robust facility condition assessment database, and a new project implementation process, capital renewal plans are being developed in detail for the next three-to-five year period. Continuation of the annual IMP allocation at previous levels ($16M annually) is imperative to maintain the appropriate environments for teaching, research and the student experience across our campuses.

*Research Facility Code Compliance (Total request $10.0M)*

There are currently over 1,000 laboratory type spaces on the Main and Foothills campuses. Those constructed prior to 2005 and/or those which have experienced an increase in intensity of use do not have current code complaint health and safety fixtures such as fume hoods, eye wash stations, emergency showers and proper back-flow prevention on the water supply. This 3-year program will fund the upgrading of all deficient laboratories.

*Instructional Spaces Upgrade Program (Annual request: $3.0M)*

There are currently over 150 seminar and classrooms and 42 theatres in the university central inventory. The periodic upgrade of instructional spaces at the University of Calgary is funded primarily through operating grant dollars and Infrastructure Maintenance Program (IMP) funding, at a rate of about four (large) rooms upgraded per year. We have accelerated this rate with the Classroom Alteration Request (CAR) process, with additional classrooms scheduled for upgrading. However, there is a significant backlog of work required to be done in university instructional spaces, and this request seeks to both address that backlog and allow for more flexible, technology-capable classroom upgrades than are currently possible.

*Energy Performance Initiative (EPI) (Total request: $40.0M)*

The University of Calgary has made a strong commitment to institutional sustainability, including Board endorsement of aggressive greenhouse gas reduction targets. The Energy Performance Initiative, or EPI, is a well-established program on campus that has a verifiable record of implementing cost effective infrastructure upgrades. In addition to the resulting energy and greenhouse gas savings, the work undertaken through this program results in increased comfort in the buildings addressed and pre-empts future infrastructure upgrading (IMP) requirements. The completed EPI Phases 1, 2 & 3 and cogeneration projects have resulted in accumulated annual energy savings of $7.5M.

Funding in the amount of $40M is currently being requested to implement a Phase 4 of the EPI program. Annual operating budget savings in excess of $4M are projected to be realized by this program.
Deep Utilities Upgrade (Total request: $10.0M)

The University of Calgary is currently undertaking a comprehensive review of existing Main Campus deep utilities (water, sanitary sewer and storm water), to inform the development of an Integrated Resource Management Plan (IRM). Data collected as a part of this review will inform future planning exercises (including an Integrated Resource Management Plan and any updates to the Campus Master Plan), and would result in a clear identification of immediate and long-term maintenance and expansion requirements to be acted upon in accordance with such plans. Funding in the amount of $2.5M for each of four years (to a total of $10.0M) is requested to support this program.

Building Envelope Repair and Replacement (Total request: $115.1M)

Phase 1 of this project ($9.0M preservation grant 2008) involved a comprehensive study of our major buildings to determine the energy efficiency of the envelope. Major renewal projects have been identified at the Health Sciences Centre and Kinesiology A that will consume the balance of the current preservation grant budget. Review of next buildings requiring major envelope renewal recommends an eight-year program with one building per year to be addressed, to a total cost of $115.1M. Key buildings to be addressed by this program include Science B, Biological Sciences, Social Sciences, Math Sciences, Craigie Hall G block, the Professional Faculties building, and Earth Sciences.

1. IT Infrastructure Renewal (Total request: $31.0M)

It is estimated that approximately $42.0M in investment over the next three years is required to address concerns with outdated IT infrastructure and applications. To date the university allocated approximately $11.0M of this from existing funding. However, the balance of $31.0M remains necessary to support the university in the following priority areas:

- Approximately $18.0M is needed to complete the upgrade of the network infrastructure, such that it will be sufficiently robust to support the academic needs of a research intensive university;
- $3.0M is needed to complete the classroom technology upgrades (required to supplement other instructional space upgrade requirements detailed elsewhere in this document); and
- Approximately $10.0M is needed to create IT systems to support the core research activities of the university, including systems for the secure archiving of research data, and a second phase to the Institutional Research Information Services System (IRISS), a single-point of entry portal for researchers.

Foothills Campus Critical Maintenance Phase 2 (Total request: $32.5M)

While the newest additions to the Foothills Campus represent state of the art medical teaching and research facilities, the older sections of the Health Sciences and Heritage Medical Research buildings are plagued with serious functional, utility and life safety deficiencies. Significant
investment in renewal is required to update mechanical, electrical, research support and life safety systems. A multi-year program has been mapped out to address these issues.

Other Capital Projects

Taylor Institute for Teaching and Learning

The University intends to begin construction of the Taylor Institute for Teaching and Learning in early 2013 as described above. Capital funding is provided by a private donor however continued operating funding is required, noting the current facility is a supported building.
8.9 CAPITAL BUDGET

Capital Budget (2013-14)

Our total expected investment in books and collections, systems, furnishings and equipment and infrastructure for 2013-14 is $162.7M (Table 6). Approximately $94.98M of the funding required to support these capital projects comes from external sources.

Table 6 – Capital Budget (2013-14)

<table>
<thead>
<tr>
<th>Project ($ thousands)</th>
<th>Board &amp; carry-over reserves</th>
<th>Other internally funded</th>
<th>Total internal funds</th>
<th>External financing</th>
<th>Funded from external sources</th>
<th>Total external</th>
<th>2013-14 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books and collections</td>
<td>-</td>
<td>8,200</td>
<td>8,200</td>
<td>-</td>
<td>204</td>
<td>204</td>
<td>8,404</td>
</tr>
<tr>
<td>Systems (IT)</td>
<td>-</td>
<td>495</td>
<td>495</td>
<td>-</td>
<td>870</td>
<td>870</td>
<td>1,365</td>
</tr>
<tr>
<td>Furnishings and Equipment</td>
<td>-</td>
<td>3,424</td>
<td>3,424</td>
<td>-</td>
<td>31,261</td>
<td>31,261</td>
<td>34,685</td>
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<tr>
<td>Infrastructure</td>
<td>9,324</td>
<td>46,236</td>
<td>55,560</td>
<td>1,531</td>
<td>61,115</td>
<td>62,646</td>
<td>118,206</td>
</tr>
</tbody>
</table>

Books and Collections

Books and collections refer to library assets with permanent value, museum specimens, archival materials, maps, and works of art held for education, research and public exhibition purposes.

Systems (IT)

Systems Information Technology (IT) refers to applications and infrastructure necessary to enhance the student experience, support research excellence, and ensure business continuity. It includes network cabling and devices, telephone systems, data centers, support for teaching, learning and research, administrative systems.

Furnishings and Equipment

Furnishings and equipment refers to movable items not attached to buildings that have estimated useful lives of 3-to-10 years. Furnishings and equipment includes items such as desks, chairs, shelving, classroom technology, lab equipment, computers, etc.

Infrastructure

Infrastructure refers to the construction of capital assets and site improvements. It includes costs directly attributable to architectural, engineering and legal fees, as well as construction materials and labour. Infrastructure typically has an estimate useful life of 20-40 years (Table 7).
# 8.10 Infrastructure Budget

Table 7 – Infrastructure Budget (2013-14)

<table>
<thead>
<tr>
<th>Prior Years to March</th>
<th>Budget 2013-14</th>
<th>Estimate 2014-15</th>
<th>Estimate 2015-16</th>
<th>Estimate Future Years</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>($ thousands)</td>
<td>2013 Forecast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projects in Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Research Innovation Centre</td>
<td>120,439</td>
<td>1,118</td>
<td>141,557</td>
<td></td>
<td></td>
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<tr>
<td>Undergraduate Medical Education Expansion</td>
<td>14,685</td>
<td>163</td>
<td>14,848</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foothills Campus Critical Maintenance (HSC)</td>
<td>41,211</td>
<td>40</td>
<td>41,251</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veterinary Medicine Facilities - Foothills Campus</td>
<td>16,613</td>
<td>32</td>
<td>16,645</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total - Foothills Campus Redevelopment</td>
<td>192,948</td>
<td>1,353</td>
<td>-</td>
<td>194,301</td>
<td></td>
</tr>
<tr>
<td>IMP (CAR/FAR)</td>
<td>2,250</td>
<td>-</td>
<td>2,500</td>
<td>7,250</td>
<td></td>
</tr>
<tr>
<td>Internally (CAR/FAR) - 2012-13 Carryover</td>
<td>2,290</td>
<td>967</td>
<td>-</td>
<td>3,257</td>
<td></td>
</tr>
<tr>
<td>Internally funded (CAR/FAR)</td>
<td>1,243</td>
<td>4,944</td>
<td>2,500</td>
<td>11,187</td>
<td></td>
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<tr>
<td>Faculty/Unit and other funding</td>
<td>2,047</td>
<td>-</td>
<td>-</td>
<td>2,047</td>
<td></td>
</tr>
<tr>
<td>Total - Classrooms &amp; Facilities Alteration Requests (CAR/FAR)</td>
<td>7,830</td>
<td>5,911</td>
<td>5,000</td>
<td>23,741</td>
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<tr>
<td>Infrastructure Maintenance Program (IMP)</td>
<td>13,617</td>
<td>19,937</td>
<td>13,500</td>
<td>60,554</td>
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<tr>
<td>The Taylor Institute for Teaching and Learning</td>
<td>400</td>
<td>6,800</td>
<td>15,000</td>
<td>40,000</td>
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</tr>
<tr>
<td>ACWA Pine Creek Project Phase 1</td>
<td>20,846</td>
<td>14,184</td>
<td>-</td>
<td>35,030</td>
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<tr>
<td>Small EEL funded Projects</td>
<td>25,991</td>
<td>2,167</td>
<td>-</td>
<td>28,158</td>
<td></td>
</tr>
<tr>
<td>Resolve Bay Incoherent Scatter Radar (RISR)</td>
<td>22,490</td>
<td>1,868</td>
<td>-</td>
<td>24,358</td>
<td></td>
</tr>
<tr>
<td>University Network Upgrade</td>
<td>12,315</td>
<td>5,685</td>
<td>-</td>
<td>18,000</td>
<td></td>
</tr>
<tr>
<td>Accommodation Plan Phase 2</td>
<td>6,006</td>
<td>8,034</td>
<td>-</td>
<td>14,040</td>
<td></td>
</tr>
<tr>
<td>Wayfinding</td>
<td>200</td>
<td>200</td>
<td>2,800</td>
<td>12,000</td>
<td></td>
</tr>
<tr>
<td>Research Facility Code Compliance</td>
<td>100</td>
<td>3,200</td>
<td>3,300</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>Building Envelope Renewal Program</td>
<td>5,114</td>
<td>4,673</td>
<td>-</td>
<td>9,787</td>
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<tr>
<td>Family Housing Renewal</td>
<td>560</td>
<td>6,240</td>
<td>-</td>
<td>6,800</td>
<td></td>
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<tr>
<td>Information Technology (IT) Backbone</td>
<td>-</td>
<td>6,000</td>
<td>-</td>
<td>6,000</td>
<td></td>
</tr>
<tr>
<td>Campus Alberta Innovates Program (CAIP)</td>
<td>340</td>
<td>5,439</td>
<td>-</td>
<td>5,779</td>
<td></td>
</tr>
<tr>
<td>Advanced Technical Skills Simulation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Laboratory (ATSSL)</td>
<td>1,504</td>
<td>3,629</td>
<td>97</td>
<td>5,230</td>
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<tr>
<td>Healthy Brain Aging Facility (HBI)</td>
<td>421</td>
<td>4,379</td>
<td>-</td>
<td>4,800</td>
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</tr>
<tr>
<td>Classroom Technology Upgrades</td>
<td>2,200</td>
<td>1,200</td>
<td>-</td>
<td>3,400</td>
<td></td>
</tr>
<tr>
<td>Live Cell Imaging Facility</td>
<td>315</td>
<td>2,885</td>
<td>-</td>
<td>3,200</td>
<td></td>
</tr>
<tr>
<td>MacEwan Student Centre 4th Floor</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
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<tr>
<td>Redevelopment</td>
<td>350</td>
<td>2,250</td>
<td>-</td>
<td>2,600</td>
<td></td>
</tr>
<tr>
<td>Small TFDL funded projects</td>
<td>1,961</td>
<td>250</td>
<td>-</td>
<td>2,211</td>
<td></td>
</tr>
<tr>
<td>Yamnuska Hall - Tenant Fit-out</td>
<td>603</td>
<td>1,156</td>
<td>-</td>
<td>1,759</td>
<td></td>
</tr>
<tr>
<td>Faculty/Units Initiatives</td>
<td>2,407</td>
<td>5,777</td>
<td>1,300</td>
<td>9,984</td>
<td></td>
</tr>
<tr>
<td>Total - Other</td>
<td>117,740</td>
<td>105,953</td>
<td>35,997</td>
<td>38,450</td>
<td>5,550</td>
</tr>
<tr>
<td>Sub-total Projects in Construction</td>
<td>318,518</td>
<td>113,217</td>
<td>40,997</td>
<td>43,450</td>
<td>5,550</td>
</tr>
<tr>
<td>Projects in Planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Performance Initiatives - Revolving Fund</td>
<td>388</td>
<td>612</td>
<td>-</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Energy Performance Initiatives</td>
<td>-</td>
<td>-</td>
<td>4,200</td>
<td>4,200</td>
<td></td>
</tr>
<tr>
<td>Total - Energy Performance Initiatives Program</td>
<td>388</td>
<td>612</td>
<td>4,200</td>
<td>5,200</td>
<td></td>
</tr>
<tr>
<td>Graduate Residence</td>
<td>187</td>
<td>188</td>
<td>-</td>
<td>375</td>
<td></td>
</tr>
<tr>
<td>Undergraduate Residence</td>
<td>188</td>
<td>187</td>
<td>-</td>
<td>375</td>
<td></td>
</tr>
<tr>
<td>Total - Graduate and Undergraduate Residence</td>
<td>375</td>
<td>375</td>
<td>-</td>
<td>750</td>
<td></td>
</tr>
<tr>
<td>Engineering Renovation &amp; Expansion (Phase 2)</td>
<td>6,543</td>
<td>2,757</td>
<td>-</td>
<td>9,300</td>
<td></td>
</tr>
<tr>
<td>Faculty Master Plans</td>
<td>255</td>
<td>1,245</td>
<td>-</td>
<td>1,500</td>
<td></td>
</tr>
<tr>
<td>Sub-total Projects in Planning</td>
<td>7,561</td>
<td>4,989</td>
<td>4,200</td>
<td>16,750</td>
<td></td>
</tr>
<tr>
<td>INFRASTRUCTURE BUDGET TOTAL</td>
<td>326,079</td>
<td>118,206</td>
<td>45,197</td>
<td>43,450</td>
<td>5,550</td>
</tr>
</tbody>
</table>

1 Not reflect in Infrastructure Maintenance Program total
2 Of the total project budget, $30M is allocated for construction; $10M is for information technology that is planning to take place in 2015-16
9. Information Technology

9.1 INTRODUCTION

Information Technology (IT) is a vital business component of the University of Calgary. It provides technological solutions, frameworks and support and service to teaching, learning, research and administration. Correctly applied, IT supports research, enhances the student experience, facilitates collaboration and simplifies administration. Technology is not an end in itself. Rather, it is a tool that can enable the University of Calgary to achieve its vision and goals. Driven by priorities articulated within the academic and strategic research plans, the IT plan and funding requests described within this chapter lay out a program of necessary work for the next several years that forms the basis for the institution’s IT funding request to the Province.

The University of Calgary is well integrated into the provincial information technology landscape. We host 3 large compute clusters for WestGrid (which forms part of Compute Canada) consisting of 1130 servers, with 2292 CPUs and 180 GPUs with 120 TB of storage. In addition, we host and operate a large cluster for the University of Lethbridge. Similarly, Cybera hosts equipment at the University of Calgary for connectivity to CANARIE and BCNet. We also use the Cybera network for connectivity to the commercial internet. Finally, the University of Calgary is an active member of AAHEIT with several senior staff participating in the ITM Control Framework initiative. We participate in the AAHEIT licensing for Microsoft Core CALs and Microsoft Office and were the lead institution in committing to the provincial Adobe licensing negotiated via AAHEIT. This enabled smaller institutions in the province to get lower rates by leveraging our purchasing power.

Although considerable progress has been made, the existing IT infrastructure at the University of Calgary requires additional investment to better support the goals set forth in the strategic vision and associated academic and research plans. Technology is rapidly evolving and becoming increasingly central to 21st century research and teaching. Investment over the next few years in a pro-active manner, with long-term vision and a plan to revitalize IT infrastructure, operational efficiency and effectiveness in a sustainable manner is essential if the university is to remain current.

9.2 INFORMATION TECHNOLOGY PLAN

Significant investment in IT began in the 2011-12 and continued in 2012-13 with the university investing $18M in the initial phase of a multi-year project to renew the core IT infrastructure at the university. In 2011-12, $8M was allocated to begin to upgrade the network and telephone infrastructure, and in 2012-13, $10M was allocated to continue to upgrade the core network infrastructure, to consolidate directory and identity management systems, to install systems to support electronic collaboration, protect data, upgrade technology in 72 classrooms and lecture theatres at the university and to begin to centrally license some new software required by
instructors and students. The University of Calgary is planning to invest an additional $11.7M in 2013-14 in priority areas as follows (Table 8).

Table 8 – Information Technology Plan (2013-14)

<table>
<thead>
<tr>
<th>Priority Areas</th>
<th>(SM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Technology and Learning Management System</td>
<td>1.2</td>
</tr>
<tr>
<td>Research</td>
<td>2.0</td>
</tr>
<tr>
<td>Continued Evolution of Key Administrative Systems</td>
<td>3.5</td>
</tr>
<tr>
<td>Ongoing Network and Backbone Upgrade</td>
<td>4.0</td>
</tr>
<tr>
<td>IT Risk and Security</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>11.7</td>
</tr>
</tbody>
</table>

**Classroom Technology**

- To upgrade ~50 classrooms over the summer of 2013
- Pilot a lecture capture service
- Continue the planned upgrading of computer labs on campus
- Implement additional hard- and software to support macs on campus

**Research**

- To pilot and then take to production a research data storage and archiving service
- To expand the current secure research data environment
- To create a pilot environment for cloud-based analytics
- To pilot an informatics support program for research

**Continued Evolution of Key Administrative Systems**

- To implement a new Learning Management System (LMS) and migrate courses and content from the current LMS
- Continue to evolve key administrative systems to move from a “big bang” approach to system implementation to one of continuous evolution to enable ongoing organizational efficiency gains
- Complete the implementation of Governance, Risk and Control software to better monitor and ensure compliance

**Ongoing Network and IT backbone Upgrade**

- Ongoing upgrading of the network. For 2013-14 funds will be used to extend wireless density to high-demand areas on campus
- Upgrade in-building networks as per the CAR/FAR and faculty priorities
- Purchase and implement an “edge” router which will enable flexibility of routing traffic via multiple ISPs for greater redundancy and segregation of research and “big” data traffic.
IT Risk and Security

- To purchase and implement mobile device management software
- To purchase and implement Security Incident Management software and Database Security Testing tools

9.3 INFORMATION TECHNOLOGY REQUESTS

Government funding is required over the next 3 years to assist the university in the following priority areas. Please see remaining sections for a rationale on each request (Table 9).

Table 9 – Information Technology Funding Requests

<table>
<thead>
<tr>
<th>Priority Areas (SM)</th>
<th>One-Time</th>
<th>Ongoing</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Infrastructure Support and Maintenance</td>
<td>20.0</td>
<td>7.5</td>
</tr>
<tr>
<td>Support for Teaching and Learning</td>
<td>0</td>
<td>2.5</td>
</tr>
<tr>
<td>Support for Research</td>
<td>10.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Administrative IT</td>
<td>6.0</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36.0</strong></td>
<td><strong>13.3</strong></td>
</tr>
</tbody>
</table>

IT Infrastructure Support and Maintenance

The overall IT infrastructure of the university requires attention if it is to adequately enable and support increasingly digital modes of teaching, learning and research. Of particular concern are the core network backbone and in-building wired and wireless networks.

The University is highly dependent on communications infrastructure for day-to-day operations. Organic network growth over 20 years with minimal evergreen investment has resulted in technical infrastructure that is outdated and increasingly incapable of supporting current, and future, research and teaching requirements. Investment in a pro-active manner, with a long-term vision and a plan to revitalize IT infrastructure, operational efficiency and effectiveness in a sustainable manner is essential. Investment in the core campus network, specific-building wired and wireless networks, and management and automation tools is required to address this problem.

The University made one-time funds available to begin to address the most critical problems in 2011-12 and 2012-13. However ongoing investment in this area by the university and support and funding from the government for inclusion of core IT networking infrastructure is required, as the full program of work will take several years and requires significant further investment.

Over the last few years the provincial government, the university and private donors have made significant investments in buildings such as the Downtown campus, ETEL and the TFDL. These buildings have state of the art technology helping to attract researchers and enable learning in a technologically and environmentally sustainable fashion. However, in many of the older buildings at the University the core IT infrastructure is at end-of-life and requires urgent upgrading to meet current and future research, teaching and operational needs.
Currently there is no provincial program to renew, replace or upgrade core technology in older facilities at the University of Calgary (or other provincial post-secondary institutions). Such a funding program to maintain and upgrade technology is critical in the increasingly digital learning and research environment of the 21st century. The areas outlined below are important to the ongoing operation and evolution of the institution, are currently unfunded and would greatly benefit from such a provincial program.

- **Network Cabling:** The physical cabling upgrade is required to enhance data and video services for research, teaching and learning, provide an acceptable managed lab and classroom computing environment, support adoption of Cloud Computing, facilitate internal connectivity to high performance computing clusters such as WestGrid and other Compute Canada resources and to enable VoIP telephone service to all our buildings.

- **Network devices (Routers and Switches):** The University funded the initial replacement of antiquated network devices in 2011-12 and 2012-13. There is, however, an on-going funding requirement to achieve a sustainable 7 year rolling upgrade cycle.

- **Storage:** Ongoing investment is required to address significant, ongoing, capacity growth in central storage to support both research and administrative data retention needs, including student records and research data archiving.

- **Data Center Changes:** Significant progress is currently being made in mitigating the deferred maintenance problem that existed in the main data center. An investment of $8.0M has been made by the university in two data center facilities. While the data centers themselves have been upgraded the on-going maintenance costs for the equipment still needs to be addressed

- **Ongoing Maintenance and Support agreements:** Evergreen funds are required to support and maintain current systems. The University currently invests $1.6M in hardware maintenance and $3.4M in software licensing and maintenance per annum. These investments only address support for current systems and are minimal in comparison with the annual demand for emerging academic requirements that have an IT component.

**Support for Teaching and Learning**

Technology continually advances and, as it does, places increasing demands on the teaching and learning environment—as educators incorporate new digital technologies into classrooms, labs and the overall learning environment, and as learners expect educators to deliver content in an increasingly digital, virtual, social and collaborative fashion.

The University of Calgary spent $2.2M in 2012 to upgrade 72 classrooms on campus to meet the institutionally established “smart classroom” standard. For 2013 and beyond a Classroom Technology Upgrade Request process was initiated and run in alignment with the institutional Classroom and Facilities Alteration Requests processes (CAR and FAR). Aligning classroom technology upgrade requests with classroom alteration requests ensures that scarce funds are allocated in the most efficient manner possible.
The 2012 funding addressed the technology needs of only 25% of the learning spaces on campus and an ongoing upgrade program is required to bring the remaining learning spaces to standard and then to keep all the learning spaces current.

The investment in classroom technology upgrades combined with the core campus network (outlined in 3.1 and 3.2 above) and higher density Wi-Fi coverage for large classrooms and lecture theatres will enable access to collaborative learning tools, support for increasing use of mobile devices by both faculty and students and use of new tools, such as lecture capture, in the classroom.

**Support for Research**

Providing the appropriate technology-based tools, services and support to faculty has become as important as giving them appropriate office and laboratory space. Technology is becoming an essential enabler of scholarship, learning and research. The core IT infrastructure upgrade outlined above will begin to provide a base technology layer to support research activities including data intensive research, e-Research and multi-site research collaboration. Specific investments in support for research include:

- **Research Data Library**: Investment in tools and systems to support multi-site research collaboration will be required in 2013 and beyond. A small scale proof of concept is currently in development and a larger pilot project is planned.
- **Secure Archiving of Research Data**: As research data becomes increasingly digital, securing and archiving this digital data becomes critical. Over the next several years, investment is needed in a secure digital archive for research data.
- **Research Support and Enablement Systems**: Systems such as the research portal that is currently in development and IRISS (Institutional Research Information Support Solution – software developed at the University of Calgary to support ethics review workflow) reduce the administrative burden on researchers, enabling them to focus more time on discovery, creativity and innovation. Phases 2 and 3 of the portal and IRISS will run through 2015.

**Administrative IT**

The efficient use of IT resources is vital given that the university operates in an environment of limited funding. All IT functions should operate in the best interests of all the University of Calgary constituents. Limited IT resources must be focused on the core functions of the university and in service of the strategic vision for the institution.

The continued implementation of IT shared services will allow us to efficiently and effectively support faculty and staff research and teaching, student learning, and the administration of the university. By centralizing and standardizing base-level technology and IT services we will support the university in a consistent, nimble and cost-efficient manner without losing sight of:

- Teaching and learning outcomes
Providing tools to facilitate collaboration with external agencies (e.g., other universities, research agencies, government, etc.),
- High performance computing resources, and
- Individual faculty technology requirements for teaching, research and innovation.

**ERP Systems**

As follow-on to the recent upgrade of the Finance and Human Resources systems, there are additional modules and functionality which are required to evolve and streamline University administrative processes. These include: Governance Risk and Control software, Student System Improvements, Improved Research, Financial and Student Reporting and an improved University Directory. These projects will form the basis of a long range roadmap for our core systems which will ensure we realize the benefits of our already substantial investments.

**Faculty Projects**

Although a significant portion of our application landscape is managed within the People Soft system, there are other substantial application investments required to support the core academic function of the university. These include applications such as Research Pre-Award Processing, Space Planning, and Academic Performance Review. These projects have been requested by our Faculties and Units as part of our annual planning process and will directly benefit our research and student communities as well as our operational business units.

**Standardization and Rationalization of Faculty Applications**

Investment is required to transition and rationalize the multiple, duplicate point solutions which are being transitioned from our Faculties and Units into central IT as part of the Shared Services (Integrated Services) model.
10. Financial and Budget Information

10.1 INTRODUCTION

The University of Calgary has a strong strategic vision in Eyes High, and excellent roadmaps in the Academic and Research Plans that provide 10 strategic priorities that guide the overall allocation of financial, human and/or capital resources. Over the past 4 years we have made significant progress on our budget situation. In 2008-09, we were in financial difficulty, with a structural deficit and negative $57.6M in unrestricted net assets. As a result of much work on the part of many people at the University of Calgary, we have created a sound financial foundation from which to advance our Eyes High strategic vision. Error! Reference source not found. demonstrates the move towards financial sustainability we have achieved through a number of initiatives, including cost cutting, constraining cost growth, achieving administrative efficiencies and targeted revenue growth.

With the introduction of the new Public Sector Accounting Standards, the University of Calgary, along with all of the other member organizations in the Universities Academic Pension Plan (UAPP) proceeded with the recommended approach and elected to recognize the full employee future benefit liability in 2011 that resulted in a reduction in Unrestricted Net Assets. Figure 8 represents the impact of this election, along with a line showing what the Unrestricted Net Asset balances would have been without the election. The University’s target for unrestricted net assets (UNA) is in line with sector best practice to hold 5% of annual budget. Holding positive net assets provides the university with a buffer for strategic investments and to manage unfavourable variances and general uncertainty.

Figure 8 – Unrestricted Net Assets – Year Ended March 31

We have managed this return to a solid financial foundation with a partial responsibility-based budget model. Through a series of meetings with colleagues across the country, and discussions with the Educational Advisory Board in Washington, we recognized that in order to move to our next phase of strategic planning, we needed to revamp our budget model to one that is more results-based. We carefully considered a zero based budgeting exercise, but after much
consultation with both our internal community and external peer institutions across the country, we decided against this approach. We did carefully examine current spending and decided that we would reallocate $6M of current resources to advance key initiatives under our Eyes High Strategy.

Using a very aggressive timeline and with broad community consultation, we accomplished a significant amount of work between April-November, 2012 in developing a new performance and results-based budget model that came into effect April 1, 2013. At a high level, this involved identifying issues with the previous budget model, critical pieces and incentives we wanted included in a new model, a set of principles that would guide our budgeting process, consulting with other administrators across the country and our internal university community, and ensuring that our allocation process is tied to our strategic vision and academic and research plans.

University unit budgets have a foundational component (e.g., government grant) and variable components including research funding, development dollars, ancillary services, and other creative entrepreneurial options that units may devise. One of our main objectives was to increase the amount of our overall investment in our priorities. In keeping with the entrepreneurial spirit of Calgary, we ensured we provided an incentive structure within our budget model to encourage resource growth.

As a community we agreed that the following principles will guide our budgeting decision making in both good times and bad:

- **One university family**: We will support and encourage cooperation so that decisions made at all levels reinforce the concept of “one university family” guided by overall university priorities.
- **Alignment with vision and priorities**: We recognize that with finite resources we cannot be all things to all people. Our academic and research priorities, which form the roadmap to our Eyes High vision, drive our financial, human and capital resource allocations. We will place university priorities over unit priorities. We will deliver on our priorities while meeting government requirements.
- **Mindfulness**: We will deliberately contemplate and consider the human impact of any budgetary decisions.
- **Accountability**: We will respect the authority of local decision makers to allocate their resources in order to achieve aligned, desired outcomes. With this authority comes accountability.
- **Transparency**: We commit to transparency in our budget process and decision making. Processes will be consistent and clearly communicated. Our budget model will be clearly understood, implemented, administered, and reported on, and it will be consistently applied.
- **Financial sustainability**: We will make decisions that lead us to long term financial sustainability.
- **Flexibility and entrepreneurism**: We will respond to opportunities that align with our priorities, that unleash innovation and creativity, and that have the potential to leverage resources.
- **Incentives**: We will incent behavior that drives us to our Eyes High goals

This work proved to be prescient and extremely valuable given the provincial budget announcement on March 7, 2013. Over the past 3 months we have used these principles to guide our decisions as we prepared our budgets for the future.

Provincial governments are forecasting deficits, and in Alberta the news on March 7th for postsecondary education was not good. The University of Calgary was expecting a 2% or approximate $9M increase to our base Campus Alberta grant. Instead we received a 7.3% cut, equal to $32M, which corresponds to, in total, $41M less than expected. In addition, we received $6M less in IMP, and more recently, a tuition freeze was implemented, resulting in another revenue loss. While the ministry has agreed to backfill this money on a one-time basis in 2013-14, the longer-term impact remains uncertain.

Managing the gap between the costs of and funding for program delivery continues to be a challenge. However, as previously described steps taken to close the gap in recent years (i.e., constraining cost growth, achieving administrative efficiencies, and targeted revenue growth) have allowed the university to become more financially sustainable. As pleased as we are with our progress, we remain concerned about our ability to remain financially sustainable in the longer term. In particular, we are concerned that without increased operating funding and new learning spaces, we cannot meet the needs of an increasing number of Albertan learners wanting to obtain a post-secondary education. This concern has only been heightened with the recent budget cuts. While we are reporting a balanced budget for this year, we have had to make a number of decisions that have resulted in impacts to our institution. In order to balance the budget in 2013-14, we needed to eliminate $40.7M from the budget. We did this by cutting $11.85M from our contingencies, reducing expenses by $27.75M, and growing revenue by $1.1M (this number is likely to rise as other strategies at the unit level become evident) (Figure 9). Chapter 11 highlights the resulting impacts to the university from the reduction in the Campus Alberta Grant and IMP funding.

![Figure 9 – Strategies to Balance 2013-14 Budget](image)

Increasing student demand, driven in part by changes in the labour market, is occurring at a time when no new funding is available to expand access across the Campus Alberta system. Our efforts to address this issue within existing resources in the past decade has resulted in a 29.9%
increase in enrolment, one which is 9.4% above current existing physical capacity, and thus space is constrained on our campus. This space crunch will only get worse in the coming decade due to the population growth expected in Calgary. The Ministry of Enterprise and Advanced Education has estimated that by 2020-2021, the University of Calgary will have the largest increase in the rate of projected enrolment, and, as a result the largest projected shortage in space (Campus Alberta Planning Resource, 2012). Improvements in our financial situation and changes to our budget model in recent years have enabled us to meet some of the increased student demand. We have consciously agreed to a sustainable growth model for our institution, and thus increases in enrolment will only occur if we have an infusion of new money (e.g., through cost recovery programs or provincial grants), develop different educational models that allow us to enrol students at lower cost, and expand learning spaces at our institution. We are currently exploring alternate models of program delivery (e.g., online and blended delivery, MOOCs), but it is likely than any new model involving technology will result in increased costs, some of which are outlined in Chapter 9.

It is important to note that despite the difficult budget news the University of Calgary will be spending $1.178B in fiscal 2013-14 in operational and strategic initiatives that advance provincial government priorities and our Eyes High strategic vision. Thus, we are leveraging our Campus Alberta grant at a rate of about 2:1 (i.e., we generate 2 dollars for each dollar provided through the Campus Alberta grant). In turn, this investment returns $7.92B in economic impact to Calgary and the surrounding areas. We will continue to work in partnership with the provincial government to achieve key goals – and as we manage the budget news we received in March, 2013 we will emerge as a different and stronger institution.
10.2 CONSOLIDATED BUDGET

We are presenting a balanced budget in fiscal year 2013-14 with expenditures of $1,178M (Table 10). After much work, the University of Calgary is forecasting a balanced budget in 2014-15, and in 2015-16. With salary and benefit costs rising faster than projected revenue growth in 2015-16 and beyond, a return to modest growth in the Campus Alberta Grant is required as one component of the overall solution to balance the budget. The majority of the forecast Revenue growth over the planning horizon is driven by increased Research revenue as we strive to meet our Eye’s High goal of becoming a top 5 research university in Canada.

Table 10 – Consolidated Budget and Two-year Forecast for 2013-14

<table>
<thead>
<tr>
<th>($ thousands)</th>
<th>Prior Year Budget</th>
<th>Budget</th>
<th>Forecast</th>
<th>Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government of Alberta Grants</td>
<td>597,084</td>
<td>598,794</td>
<td>603,820</td>
<td>623,551</td>
</tr>
<tr>
<td>Federal and Other Grants</td>
<td>143,478</td>
<td>136,458</td>
<td>146,199</td>
<td>159,614</td>
</tr>
<tr>
<td>Donations and Other Grants</td>
<td>86,631</td>
<td>96,140</td>
<td>103,807</td>
<td>114,546</td>
</tr>
<tr>
<td>Student Tuition and Fees</td>
<td>193,160</td>
<td>202,846</td>
<td>206,903</td>
<td>211,041</td>
</tr>
<tr>
<td>Sales of Services and Products</td>
<td>101,627</td>
<td>103,745</td>
<td>105,780</td>
<td>108,345</td>
</tr>
<tr>
<td>Investment Income</td>
<td>32,155</td>
<td>40,083</td>
<td>40,925</td>
<td>42,045</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>1,154,135</td>
<td>1,178,066</td>
<td>1,207,434</td>
<td>1,259,142</td>
</tr>
<tr>
<td><strong>Expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries</td>
<td>551,121</td>
<td>569,140</td>
<td>580,805</td>
<td>610,294</td>
</tr>
<tr>
<td>Benefits</td>
<td>105,728</td>
<td>109,719</td>
<td>111,599</td>
<td>115,865</td>
</tr>
<tr>
<td>Materials, Supplies and Services</td>
<td>222,933</td>
<td>216,411</td>
<td>224,130</td>
<td>230,530</td>
</tr>
<tr>
<td>Amortization of Capital</td>
<td>96,535</td>
<td>106,066</td>
<td>108,026</td>
<td>110,796</td>
</tr>
<tr>
<td>Utilities</td>
<td>33,410</td>
<td>28,622</td>
<td>28,624</td>
<td>28,626</td>
</tr>
<tr>
<td>Scholarships - grants and awards</td>
<td>76,065</td>
<td>77,171</td>
<td>81,237</td>
<td>86,918</td>
</tr>
<tr>
<td>Travel</td>
<td>27,239</td>
<td>27,570</td>
<td>29,067</td>
<td>31,345</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>17,592</td>
<td>17,735</td>
<td>18,059</td>
<td>18,419</td>
</tr>
<tr>
<td>Maintenance and repairs</td>
<td>15,775</td>
<td>18,134</td>
<td>18,251</td>
<td>18,560</td>
</tr>
<tr>
<td>Interest</td>
<td>7,737</td>
<td>7,498</td>
<td>7,969</td>
<td>7,789</td>
</tr>
<tr>
<td>Total Expenses</td>
<td>1,154,135</td>
<td>1,178,066</td>
<td>1,207,434</td>
<td>1,259,142</td>
</tr>
<tr>
<td><strong>Net Revenue over Expenses</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
The 2013-14 consolidated revenue and expenditures budget is presented by segments (Table 11). The operating segment expenditure budget, consisting of the Academic and Institutional support budget and the Facilities Operations and Maintenance budget, totals $777.6M or 66.0% of the total consolidated expenditure budget. The next largest segment is Research, which includes all of the externally funded research grant operations, at $272M or 23.1% of the total consolidated expenditure budget.

Table 11 – Statement of Revenue and Expenditures by Segment for 2013-14

<table>
<thead>
<tr>
<th>($ thousands)</th>
<th>Budget 2012-13 Academic Costs Institutional Support</th>
<th>Facilities Operation and Maintenance</th>
<th>Total Operating</th>
<th>Ancillary Services</th>
<th>Research</th>
<th>Special Purpose &amp; Trust</th>
<th>Budget 2013-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>REVENUE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government of Alberta Grants</td>
<td>597,084</td>
<td>471,125</td>
<td>-</td>
<td>471,125</td>
<td>-</td>
<td>90,922</td>
<td>36,747</td>
</tr>
<tr>
<td>Federal and Other Grants</td>
<td>143,478</td>
<td>29,085</td>
<td>-</td>
<td>29,085</td>
<td>-</td>
<td>101,593</td>
<td>5,780</td>
</tr>
<tr>
<td>Donations and Other Grants</td>
<td>86,631</td>
<td>9,570</td>
<td>-</td>
<td>9,570</td>
<td>-</td>
<td>63,282</td>
<td>23,288</td>
</tr>
<tr>
<td>Student Tuition and Fees</td>
<td>193,160</td>
<td>202,846</td>
<td>-</td>
<td>202,846</td>
<td>-</td>
<td>-</td>
<td>202,846</td>
</tr>
<tr>
<td>Sales of Services and Products</td>
<td>101,627</td>
<td>40,753</td>
<td>2,549</td>
<td>43,302</td>
<td>56,686</td>
<td>1,198</td>
<td>103,745</td>
</tr>
<tr>
<td>Investment Income (Loss)</td>
<td>32,155</td>
<td>15,814</td>
<td>-</td>
<td>15,814</td>
<td>-</td>
<td>6,161</td>
<td>18,108</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>1,154,135</td>
<td>769,193</td>
<td>2,549</td>
<td>771,742</td>
<td>56,686</td>
<td>263,156</td>
<td>1,178,066</td>
</tr>
<tr>
<td>EXPENSES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries</td>
<td>551,121</td>
<td>408,464</td>
<td>22,908</td>
<td>431,372</td>
<td>10,631</td>
<td>109,976</td>
<td>17,161</td>
</tr>
<tr>
<td>Benefits</td>
<td>105,728</td>
<td>81,022</td>
<td>6,209</td>
<td>87,231</td>
<td>2,125</td>
<td>17,135</td>
<td>3,228</td>
</tr>
<tr>
<td>Materials, Supplies &amp; Services</td>
<td>222,933</td>
<td>113,529</td>
<td>2,873</td>
<td>116,402</td>
<td>3,448</td>
<td>72,501</td>
<td>24,060</td>
</tr>
<tr>
<td>Amortization of Capital</td>
<td>96,535</td>
<td>62,028</td>
<td>-</td>
<td>62,028</td>
<td>6,521</td>
<td>30,366</td>
<td>7,151</td>
</tr>
<tr>
<td>Utilities</td>
<td>33,410</td>
<td>-</td>
<td>28,530</td>
<td>28,530</td>
<td>92</td>
<td>-</td>
<td>28,622</td>
</tr>
<tr>
<td>Scholarships, Grants, Awards</td>
<td>76,065</td>
<td>24,267</td>
<td>-</td>
<td>24,267</td>
<td>-</td>
<td>28,636</td>
<td>24,268</td>
</tr>
<tr>
<td>Travel</td>
<td>27,239</td>
<td>10,376</td>
<td>148</td>
<td>10,524</td>
<td>109</td>
<td>12,839</td>
<td>4,098</td>
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<tr>
<td>Cost of goods sold</td>
<td>17,592</td>
<td>1,708</td>
<td>-</td>
<td>1,708</td>
<td>16,027</td>
<td>-</td>
<td>17,735</td>
</tr>
<tr>
<td>Maintenance and Repairs</td>
<td>15,775</td>
<td>8,418</td>
<td>6,541</td>
<td>14,959</td>
<td>1,529</td>
<td>589</td>
<td>1,057</td>
</tr>
<tr>
<td>Interest</td>
<td>7,737</td>
<td>619</td>
<td>-</td>
<td>619</td>
<td>6,879</td>
<td>-</td>
<td>7,498</td>
</tr>
<tr>
<td>Total Expenses</td>
<td>1,154,135</td>
<td>710,431</td>
<td>67,209</td>
<td>777,640</td>
<td>47,361</td>
<td>272,042</td>
<td>81,023</td>
</tr>
<tr>
<td>Subtotal</td>
<td>-</td>
<td>58,762</td>
<td>(64,660)</td>
<td>(5,898)</td>
<td>9,325</td>
<td>(8,886)</td>
<td>5,459</td>
</tr>
<tr>
<td>Less Inter-fund Transfers</td>
<td>-</td>
<td>8,138</td>
<td>(7,967)</td>
<td>171</td>
<td>3,256</td>
<td>(8,886)</td>
<td>5,459</td>
</tr>
<tr>
<td>Net Revenue over Expenses</td>
<td>-</td>
<td>50,624</td>
<td>(56,693)</td>
<td>(6,069)</td>
<td>6,069</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
In 2012 the University of Calgary adopted the Public Sector Accounting standards as its financial statement reporting standards. These reporting standards require that expenses are reported by segment and not by expense type (e.g., salary, material and supplies). The University has participated in a working group with other Post-secondary Institutions (PSI), Enterprise and Advanced Education (EAE) and the Office of the Auditor General (OAG) to establish the expense segments.

While it was not possible to standardize the segment grouping across the PSI sector the expense segments are intended to reflect the operations of the university in broad categories. Please refer to Table 12 to see how we have categorized expenses segments. The Academic Cost and Institutional Support segment includes all of the expenses for faculties and the academic, research administration, finance and services, university relations, development support expenses, and amortization on the externally funded capital. Facilities and Operations and Maintenance include all of the costs for operations and maintenance including salaries and benefits, utility, and repairs and maintenance costs. The Research segment includes all of the expense related to research funded by external funding agencies.

Table 12 – Consolidated budget and two year Forecast – New Public Sector Accounting Format

<table>
<thead>
<tr>
<th>(S thousands)</th>
<th>Prior Year Budget</th>
<th>Budget</th>
<th>Forecast</th>
<th>Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REVENUE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government of Alberta Grants</td>
<td>597,084</td>
<td>598,794</td>
<td>603,820</td>
<td>623,551</td>
</tr>
<tr>
<td>Federal and Other Grants</td>
<td>143,478</td>
<td>136,458</td>
<td>146,199</td>
<td>159,614</td>
</tr>
<tr>
<td>Donations and Other Grants</td>
<td>86,631</td>
<td>96,140</td>
<td>103,807</td>
<td>114,546</td>
</tr>
<tr>
<td>Student Tuition and Fees</td>
<td>193,160</td>
<td>202,846</td>
<td>206,903</td>
<td>211,041</td>
</tr>
<tr>
<td>Sales of Services and Products</td>
<td>101,627</td>
<td>103,745</td>
<td>105,780</td>
<td>108,345</td>
</tr>
<tr>
<td>Investment Income</td>
<td>32,155</td>
<td>40,083</td>
<td>40,925</td>
<td>42,045</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td>1,154,135</td>
<td>1,178,066</td>
<td>1,207,434</td>
<td>1,259,142</td>
</tr>
<tr>
<td><strong>EXPENSES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Costs &amp; Institutional Support</td>
<td>730,570</td>
<td>710,431</td>
<td>711,817</td>
<td>722,365</td>
</tr>
<tr>
<td>Facilities Operations &amp; Maintenance</td>
<td>66,358</td>
<td>67,209</td>
<td>65,653</td>
<td>65,653</td>
</tr>
<tr>
<td>Ancillary Service</td>
<td>38,869</td>
<td>47,361</td>
<td>47,924</td>
<td>48,601</td>
</tr>
<tr>
<td>Research</td>
<td>247,408</td>
<td>272,042</td>
<td>299,562</td>
<td>338,382</td>
</tr>
<tr>
<td>Special Purpose &amp; Trust</td>
<td>70,930</td>
<td>81,023</td>
<td>82,478</td>
<td>84,141</td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td>1,154,135</td>
<td>1,178,066</td>
<td>1,207,434</td>
<td>1,259,142</td>
</tr>
<tr>
<td>Net Revenue over Expenses</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
**Government of Alberta Grants**

Grants from the Government of Alberta (Enterprise and Advanced Education) are budgeted to account for 50.8% of total revenue for 2013-14 (Figure 10). The Campus Alberta grant portion of the total Government of Alberta grant has decreased by 7.3% in 2013-14, and is anticipated to remain flat for 2014-15 with a 1% growth in 2015-16. We are forecasting sponsored research revenue to increase in all categories, including Government of Alberta research-related grants.

**Student Tuition and Fees**

Student tuition and fees for 2013-14 are budgeted to be $202.8M, with no increases in tuition rates implemented for the 2013-14 year based on guidance from Enterprise and Advanced Education. The tuition budget includes the previously approved $150 dollar increase to the non-instructional student services fee, market adjustments and related fees previously approved for select professional programs. The elimination of the planned 2.15% tuition increase for inflation is estimated to reduce revenue by approximately $3.4M annually. While this is expected to be offset with additional funding from Enterprise and Advanced Education in the 2013-14 year, the multi-year impact of the tuition freeze remains uncertain.

**Federal and Other Grants**

Federal and other grants will make up 11.6% of our total revenue for 2013-14. Research revenue makes up 74.5% of Federal and Other Government Grants. Research revenue is forecast to increase significantly as the university strives to reach its goal of becoming one of the top five research institutions by 2015-16. It should be noted that accurately budgeting research revenue is complicated by the fact that it is only recognized as expenditures are incurred.
Sales of Services and Products

Sales of services and products continue to grow as the university develops alternative revenue sources to support the activities of the university. Donations and Other Grants

Donations and Other Grants

Donations and Other Grants are budgeted to account for 8.2% of total revenues for 2013-14 as the university continues to establish aggressive targets for fundraising. Accurately budgeting for donations is difficult due to the nature of fundraising. Donation revenue is affected by several external and economic factors that are hard to predict accurately.

Investment Income

Investment income is comprised of income from the university’s working capital pool as well as endowment related income. Investment income for the University of Calgary’s working capital will continue to be influenced by interest rates, prevailing market conditions and the research commercialization of the university’s subsidiaries. The University of Calgary’s endowment income will be influenced by interest rates for the fixed income portion of the fund and by the volatility of the equity markets for the equity portion. For a long-term fund to maintain real value and generate sufficient income to support endowment programs evidence dictates that a diversified portfolio must be structured to include asset classes that have some risk and volatility.
Salaries and Benefits

Salaries and benefits represent the largest investment at the University of Calgary. For 2013-14, salary and benefits are budgeted to be $678.9M or 57.6% of the total university budget (Figure 11). This is an increase of $22M from the prior year that is primarily related to strategic initiatives to add new assistant professors and post-doctoral fellows, increased activity from Sponsored Research and Other Restricted Funds, and negotiated salary settlements.

Materials, supplies and services

This is the second largest university expense behind salaries and benefits. For 2013-14, the materials budget is projected to be $216.4M, or 18.4% of the total budget. The research component of this budget is $72.5M for 2013-14.

Amortization of capital assets

Amortization represents the gradual reduction in the useful life of the university's asset pools, a portion of which is expensed each year. One noteworthy change in accounting under Public Sector Accounting Standards is the portion of amortization expense relating to externally-restricted grants is no longer equally offset by revenue in Amortization of Earned Capital Contributions (ECC), but is equally offset by the recognition of revenue in the line items of the areas that provided the capital funding (e.g. Government of Alberta Grants). Given the large number of capital grants received to fund the university's capital program, a greater proportion of amortization expense will be offset by revenue in future years. Amortization costs are budgeted to increase by $9.5M primarily as a result of the addition of a number of renovation projects being completed, an upgrade to the university's core network infrastructure, along with new equipment and facilities supporting the research enterprise, somewhat offset by several older assets becoming fully depreciated.
Scholarships – grants and awards

The Scholarships – grants and awards budget for 2013-14 is $77.2M, $52.9M of which is in the areas of Sponsored Research and Other Restricted.

Utilities

The utilities budget is $28.6M for 2013-14. The University’s hedging strategy, combined with lower natural gas prices, and recent and ongoing energy savings initiatives like the cogeneration plant that allows the university to produce utilities internally at a lower rate, have led to a reduction in the overall utilities budget.

Travel

The travel budget for 2013-14 is $27.6M, of which $16.9M is related to sponsored research which comprises the major growth in travel costs.

Maintenance and repairs

With the magnitude of outstanding deferred maintenance and an aging physical plant the maintenance and repair budget has been increasing over the past few years. Although the university should be spending more per year to address its deferred maintenance liability, it does not have sufficient funds to spend at a higher level without impacting academic programs.

Cost of goods sold

This expenditure item represents the cost of sales of services and products by the university.

Financing

Interest expenses consist of financing to service long-term debt as well as the interest component of capital leases. Financing charges are budgeted to be relatively stable over the planning period.
10.6 BUDGETED CASH FLOW STATEMENT

The Budgeted Cash Flow Statement records the amount of cash and cash equivalents projected to enter and leave the University of Calgary in 2013-14 (Table 13). It provides an understanding of how the institution is operating, where its resources are coming from, and how they will be spent in the following three areas: 1) operating activities, 2) investing activities, and 3) financing activities.

Table 13 – Budgeted Cash Flow Statement for 2013-14

<table>
<thead>
<tr>
<th>(in thousands)</th>
<th>2012-13</th>
<th>2013-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Cash Provided by (Used in) Operating Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excess / (Deficiency) of Revenue over Expenses</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Amortization of Earned Capital Contribution</td>
<td>(68,094)</td>
<td>(76,110)</td>
</tr>
<tr>
<td>Amortization of Capital Assets</td>
<td>96,535</td>
<td>106,066</td>
</tr>
<tr>
<td>Sub-total</td>
<td>28,441</td>
<td>29,956</td>
</tr>
<tr>
<td>2) Cash Provided by (Used in) Investing Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Asset Additions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internally Funded</td>
<td>(45,065)</td>
<td>(67,679)</td>
</tr>
<tr>
<td>Externally Funded</td>
<td>(142,377)</td>
<td>(93,450)</td>
</tr>
<tr>
<td>Externally Financed</td>
<td>(2,355)</td>
<td>(1,531)</td>
</tr>
<tr>
<td>Sub-total</td>
<td>(189,797)</td>
<td>(162,660)</td>
</tr>
<tr>
<td>3) Cash Provided by (Used in) Financing Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Contributions Received</td>
<td>142,377</td>
<td>93,450</td>
</tr>
<tr>
<td>Long Term Debt</td>
<td>2,355</td>
<td>1,531</td>
</tr>
<tr>
<td>Sub-total</td>
<td>144,732</td>
<td>94,981</td>
</tr>
<tr>
<td>Net Increase (Decrease) in Cash before changes in working capital</td>
<td>(16,624)</td>
<td>(37,723)</td>
</tr>
</tbody>
</table>

10.7 BUDGET RISKS AND SENSITIVITY ANALYSIS

Revenue Assumptions and Risks

The following revenue assumptions and risks have been identified:

- We have incorporated the lower 2013-14 Campus Alberta grant numbers for 2013-14, and assumed that the Campus Alberta operating grant will be flat in 2014-15, and increase by 1% in 2015-16.
- Risk in future year Campus Alberta operating grant figures remains, as the Government of Alberta’s budget remains unbalanced and continues to contain significant risk in revenues.
- All other sources of Government funding, including other agencies or business entities that are not Enterprise and Advanced Education (EAE) related, will increase modestly with inflation over the remaining two years of the plan.
- We expect to generate positive returns in the investment market sufficient to sustain endowment expenditure levels.
We also anticipate receiving a similar level of support from the Federal Indirect Costs of Research program.

Our budget is also based on the assumption that we will achieve the established enrolment targets.

Tuition increases in 2014-15 and 2015-16 are based upon forecast changes to the Alberta CPI as defined in the tuition fee regulation. The weighted average of tuition increases over the forecast period is assumed to grow at the expected rate of inflation of 2.0% annually.

Expense Assumptions and Risks

The following expense assumptions and risks have been identified:

- The forecast contains a reasonable estimate for salary and benefit cost increases; the results of future collective bargaining negotiations are unknown.
- The University will be negotiating a new collective agreement with the academic staff, with the current agreement expiring on June 30, 2013.
- As salary and benefits account for 58% of our total expenditures any variance in salary and benefit assumptions will have a significant impact on the university’s operating budget.
- With a significant deferred maintenance liability and an aging physical plant, expensive emergency repairs will become unavoidable.
- A number of faculty positions are supported through external funding. While this is beneficial, there are risks that the funding will be discontinued and the university will be required either to assume responsibility or discontinue positions.
- Costs for pension benefits are based on the current parameters of the pension plan. The Public Sector Pension Plan includes a contribution rate increase of approximately 18% effective January 1, 2013. Significant further changes to the pension plans, including the expense associated with the unfunded portion of the University Academic Pension Plan, could significantly increase the pension costs.
- While the university’s efforts on energy performance initiatives and overall hedging strategy are designed to reduce utilities costs and provide certainty in costs, future increases in Natural Gas, water, and electricity prices or unusually high/low seasonal temperatures are a constant expenditure risk for the university.
Budget Sensitivity Analysis

Table 14 illustrates the effect of a 1% change in our current year budget assumptions for a few key revenue and expenditure categories and the potential outcome. For example, a 1% increase in our Campus Alberta grant would increase total revenue by $4.1M whereas a 1% increase in salaries would increase total expenditures by $5.7M.

Table 14 – Budget Sensitivity

<table>
<thead>
<tr>
<th>Category</th>
<th>1% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Campus Alberta Grant</td>
<td>4.1</td>
</tr>
<tr>
<td>Credit Tuition and Related Fees</td>
<td>2.0</td>
</tr>
<tr>
<td>Salaries</td>
<td>5.7</td>
</tr>
<tr>
<td>Benefits</td>
<td>1.1</td>
</tr>
</tbody>
</table>
10.8 TUITION AND FEES

The Government of Alberta’s Public Post-secondary Institutions’ Tuition Fees Regulation provides a framework for setting tuition fees at the University of Calgary. Through our Tuition Fee Policy response to the Regulation, we commit to setting fees at levels that support student access and affordability, encourage quality in teaching, provide for learning in a scholarly environment, are justified by the financial needs of the institution, and ensure no student is denied access for lack of institutional, governmental or personal resources:

1. **Looking to Other Sources of Revenue First**: The focus of several strategies within this plan is the generation of revenue from sources other than tuition. These include government funding, research revenue, and fundraising. We ensure that fees remain reasonable and predictable in a manner that enables students and the institution to plan their finances.

2. **Being Cost Effective**: Central to the success of this plan is the reallocation of internal resources and the reduction of costs wherever possible. Through the strategies described within this plan, we remain committed to providing quality programs and services in a cost-effective manner.

3. **Carefully Considering the Impact of Tuition Increases**: Decisions to increase tuition fees are made only after carefully considering the impacts they will have on students, program costs, market demand, and fee levels at peer institutions. Other factors include information about the student assistance environment, accessibility to and participation in university education, graduate debt loads and repayment experience, graduate employment rates, and the return on investment in university education.

4. **Positioning Increases within the Context of the Total Revenue Profile**: Proposals to change tuition levels are made in the context of the total operating revenue available to the University of Calgary, the need to produce balanced budgets, and the need to maintain and enhance the quality, accessibility, and affordability of the student experience.

Consistent with Section 3 of the Public Post-Secondary Institutions’ Tuition Fees Regulation, the University of Calgary established a process for holding consultations with students to discuss annual increases in tuition fees. That process is led by a Tuition and Mandatory Non-instructional Fees Advisory Committee (TMAC). TMAC is chaired by the Provost and Vice President Academic, and includes representatives of student organizations and administration to ensure open two-way communication on matters related to tuition and general fees is included in the annual budget process. TMAC typically meets bi-weekly between September and December, but has continued to meet between January and June in 2013 to examine other course fees at our institution. Thus, through TMAC in the past year, we have examined all fees for students related to instructional and non-instructional purposes, and we have streamlined the approval process for both types of fees.

The Public Post-secondary Institutions’ Tuition Fees Regulation sets the maximum tuition fee increase at the level of the year over year (June to June) increase in the Alberta Consumer Price Index (CPI). For June 2011 to June 2012 this increase was 2.15%. This 2.15% increase to tuition was initially approved at our December Board meeting, but has subsequently been removed to keep tuition fees flat from the prior year based on instruction from Enterprise and Advanced
Education. Tuition rates in the future years at this time are planned to increase at an estimated rate of inflation. Shown in the following tables are approved and projected tuition fees.

**Tuition (Domestic Students)**

Table 15 – Tuition (Canadians and Permanent Residents)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNDERGRADUATE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 courses (30 units)</td>
<td>5,333</td>
<td>5,333</td>
<td>5,447</td>
<td>5,565</td>
<td>5,684</td>
</tr>
<tr>
<td>5 half courses (15 units)</td>
<td>2,666</td>
<td>2,666</td>
<td>2,724</td>
<td>2,782</td>
<td>2,842</td>
</tr>
<tr>
<td>4 half courses (12 units)</td>
<td>2,133</td>
<td>2,133</td>
<td>2,179</td>
<td>2,226</td>
<td>2,274</td>
</tr>
<tr>
<td>3 half courses (9 units)</td>
<td>1,600</td>
<td>1,600</td>
<td>1,634</td>
<td>1,669</td>
<td>1,705</td>
</tr>
<tr>
<td>1 course (6 units)</td>
<td>1,067</td>
<td>1,067</td>
<td>1,089</td>
<td>1,113</td>
<td>1,137</td>
</tr>
<tr>
<td>1 half course (3 units)</td>
<td>533</td>
<td>533</td>
<td>545</td>
<td>556</td>
<td>568</td>
</tr>
<tr>
<td>HSB 200, 300, &amp; 400 courses w/ Market Mod</td>
<td>770</td>
<td>770</td>
<td>786</td>
<td>803</td>
<td>820</td>
</tr>
<tr>
<td><strong>Law</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Fees (36 units)</td>
<td>12,193</td>
<td>12,193</td>
<td>12,455</td>
<td>12,723</td>
<td>12,996</td>
</tr>
<tr>
<td>Per Session (18 units)</td>
<td>6,096</td>
<td>6,096</td>
<td>6,227</td>
<td>6,361</td>
<td>6,498</td>
</tr>
<tr>
<td>Law - Full Course (6 units)</td>
<td>2,032</td>
<td>2,032</td>
<td>2,076</td>
<td>2,120</td>
<td>2,166</td>
</tr>
<tr>
<td>Law - Half Course (3 units)</td>
<td>1,016</td>
<td>1,016</td>
<td>1,038</td>
<td>1,060</td>
<td>1,083</td>
</tr>
<tr>
<td><strong>Medicine</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>14,864</td>
<td>14,864</td>
<td>15,183</td>
<td>15,510</td>
<td>15,843</td>
</tr>
<tr>
<td>Per Session</td>
<td>7,432</td>
<td>7,432</td>
<td>7,592</td>
<td>7,755</td>
<td>7,922</td>
</tr>
<tr>
<td>Full Course (6 units)</td>
<td>2,754</td>
<td>2,754</td>
<td>2,814</td>
<td>2,874</td>
<td>2,936</td>
</tr>
<tr>
<td>1 half course (3 units)</td>
<td>1,377</td>
<td>1,377</td>
<td>1,407</td>
<td>1,437</td>
<td>1,468</td>
</tr>
<tr>
<td>Post Graduate Medical education (PGME)</td>
<td>480</td>
<td>480</td>
<td>491</td>
<td>501</td>
<td>512</td>
</tr>
<tr>
<td>Max per year (12 months)</td>
<td>961</td>
<td>961</td>
<td>982</td>
<td>1,003</td>
<td>1,024</td>
</tr>
<tr>
<td>Total Tuition Fees (per 8 month year)</td>
<td>10,757</td>
<td>10,757</td>
<td>10,988</td>
<td>11,224</td>
<td>11,465</td>
</tr>
<tr>
<td>4 month work term (15 units)</td>
<td>419</td>
<td>419</td>
<td>428</td>
<td>437</td>
<td>446</td>
</tr>
<tr>
<td>4 month work term (15 units)</td>
<td>419</td>
<td>419</td>
<td>428</td>
<td>437</td>
<td>446</td>
</tr>
<tr>
<td><strong>GRADUATE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Time Graduate Programs (except MBA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PhD Degree</td>
<td>5,538</td>
<td>5,538</td>
<td>5,657</td>
<td>5,779</td>
<td>5,903</td>
</tr>
<tr>
<td>Master’s Degree with Thesis</td>
<td>5,538</td>
<td>5,538</td>
<td>5,657</td>
<td>5,779</td>
<td>5,903</td>
</tr>
<tr>
<td>Subsequent Years Fee &amp; Continuing Registration</td>
<td>1,611</td>
<td>1,611</td>
<td>1,646</td>
<td>1,681</td>
<td>1,717</td>
</tr>
<tr>
<td>Course Based and part-Time Graduate Programs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Program Fee Course-based programs</td>
<td>5,662</td>
<td>5,662</td>
<td>5,783</td>
<td>5,908</td>
<td>6,035</td>
</tr>
<tr>
<td>Full Course</td>
<td>1,415</td>
<td>1,415</td>
<td>1,446</td>
<td>1,477</td>
<td>1,509</td>
</tr>
<tr>
<td>Half Course</td>
<td>708</td>
<td>708</td>
<td>723</td>
<td>738</td>
<td>754</td>
</tr>
<tr>
<td>Masters of Business Administration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Thesis-Based MBA Program</td>
<td>11,350</td>
<td>11,350</td>
<td>11,594</td>
<td>11,843</td>
<td>12,098</td>
</tr>
<tr>
<td>Half Course - Total without Market Modifier 5</td>
<td>1,289</td>
<td>1,289</td>
<td>1,317</td>
<td>1,346</td>
<td>1,374</td>
</tr>
<tr>
<td>Half Course - Total with Market Modifier</td>
<td>1,607</td>
<td>1,607</td>
<td>1,642</td>
<td>1,677</td>
<td>1,713</td>
</tr>
<tr>
<td>Master of Public Policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Full-Time Annual Fee</td>
<td>20,290</td>
<td>20,290</td>
<td>20,726</td>
<td>21,172</td>
<td>21,627</td>
</tr>
<tr>
<td>Program Part-Time Annual Fee</td>
<td>10,145</td>
<td>10,145</td>
<td>10,363</td>
<td>10,586</td>
<td>10,814</td>
</tr>
<tr>
<td>Per course fee for non-MPP students taking MPP</td>
<td>1,600</td>
<td>1,600</td>
<td>1,634</td>
<td>1,670</td>
<td>1,705</td>
</tr>
<tr>
<td>Per course fee for MPP who do not pass Prep block</td>
<td>1,400</td>
<td>1,400</td>
<td>1,430</td>
<td>1,461</td>
<td>1,492</td>
</tr>
</tbody>
</table>

1) Proposed increase for 2013-2014 was 2.15%, but negated by the April 2013 tuition freeze.
2) Estimated increase for each subsequent year is assumed to be 2.15%
3) The Government approved market modifier for Commerce courses was implemented in Fall of 2011. For 2013-14 200 & 300 & 400 level Commerce courses (excluding TOUR) will be assessed an additional $236.43 per course.
4) Audit Fee = UG $267 per 3 unit course / GR $354 per 3 unit course.
5) Course based tuition is calculated on a per unit basis
6) Tuition amounts rounded to nearest dollar for purposes of presentation
| 10. Financial and Budget Information | 131 |

Table 16 – Non-Calendared Graduate Tuition Fees (Canadians and Permanent Residents)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive MBA (per 8 month year)</td>
<td>27,881</td>
<td>27,881</td>
<td>28,480</td>
<td>29,092</td>
<td>29,718</td>
</tr>
<tr>
<td>Executive MBA Global Energy (per 8 month year) ¹</td>
<td>105,000</td>
<td>110,000</td>
<td>112,365</td>
<td>114,781</td>
<td>117,249</td>
</tr>
<tr>
<td>Graduate Division of Educational Research EdD Online. HEA, HEL, LEAD, TECH WAL Year 1 - 4 (per 12 month year) Program Fee</td>
<td>11,110</td>
<td>11,110</td>
<td>11,349</td>
<td>11,593</td>
<td>11,842</td>
</tr>
<tr>
<td>Continuing (per 12 month year, yrs. 5+)</td>
<td>4,001</td>
<td>4,001</td>
<td>4,087</td>
<td>4,175</td>
<td>4,264</td>
</tr>
<tr>
<td>GDER Continuing Fees (Anniversary Term per 12) Distance Certificate Annual Program Fee</td>
<td>1,199</td>
<td>1,199</td>
<td>1,225</td>
<td>1,252</td>
<td>1,278</td>
</tr>
<tr>
<td>Distance Diploma Annual Program Fee</td>
<td>1,199</td>
<td>1,199</td>
<td>1,225</td>
<td>1,252</td>
<td>1,278</td>
</tr>
<tr>
<td>Distance M. Ed. Annual Program Fee</td>
<td>1,199</td>
<td>1,199</td>
<td>1,225</td>
<td>1,252</td>
<td>1,278</td>
</tr>
<tr>
<td>1 half course (3 units)</td>
<td>1,199</td>
<td>1,199</td>
<td>1,225</td>
<td>1,252</td>
<td>1,278</td>
</tr>
<tr>
<td>Master of Counselling, CAAP, Applied Psychology Annual Program Fee</td>
<td>1,562</td>
<td>1,562</td>
<td>1,596</td>
<td>1,630</td>
<td>1,665</td>
</tr>
<tr>
<td>3 Unit Fee CAAP Course</td>
<td>1,199</td>
<td>1,199</td>
<td>1,225</td>
<td>1,252</td>
<td>1,278</td>
</tr>
<tr>
<td>Community Rehabilitation Pan Canadian CORE 6XX.XX Course Section</td>
<td>1,199</td>
<td>1,199</td>
<td>1,225</td>
<td>1,252</td>
<td>1,278</td>
</tr>
<tr>
<td>Post Bachelor’s Diploma - Applied Psychology One-time fee on admit term</td>
<td>483</td>
<td>483</td>
<td>493</td>
<td>504</td>
<td>514</td>
</tr>
<tr>
<td>Master of Education - Applied Psychology Continuing Fees on 4th year onward at anniversary</td>
<td>1,152</td>
<td>1,152</td>
<td>1,177</td>
<td>1,202</td>
<td>1,228</td>
</tr>
<tr>
<td>Environmental Design 4 month Term</td>
<td>2,769</td>
<td>2,769</td>
<td>2,829</td>
<td>2,889</td>
<td>2,952</td>
</tr>
<tr>
<td>Continuing Fees (Year 3+) per 4 month Term</td>
<td>806</td>
<td>806</td>
<td>823</td>
<td>841</td>
<td>859</td>
</tr>
<tr>
<td>MSc in Sustainable Energy Development SEDV Domestic Calgary (per course)</td>
<td>1,765</td>
<td>1,765</td>
<td>1,803</td>
<td>1,842</td>
<td>1,882</td>
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<tr>
<td>Master of Architecture ³ Program Annual Fee</td>
<td>7,147</td>
<td>7,147</td>
<td>7,301</td>
<td>7,458</td>
<td>7,618</td>
</tr>
<tr>
<td>Program Fee - Fall or Winter</td>
<td>3,573</td>
<td>3,573</td>
<td>3,650</td>
<td>3,729</td>
<td>3,809</td>
</tr>
<tr>
<td>Foundation Year Annual Fee</td>
<td>5,333</td>
<td>5,333</td>
<td>5,447</td>
<td>5,565</td>
<td>5,684</td>
</tr>
<tr>
<td>Foundation Year - Fall or Winter</td>
<td>2,666</td>
<td>2,666</td>
<td>2,724</td>
<td>2,782</td>
<td>2,842</td>
</tr>
</tbody>
</table>

¹) Estimated increase for each subsequent year is assumed to be 2.15
²) March Foundation Year Fee is the same as 10 Undergraduate half-courses
³) Executive MBA Global Energy Fees are inclusive of Tuition and General Fees. No international differential is applied. Annual increase is subject to request and review.
### Table 17 – Tuition (International Students)

($ dollars)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNDERGRADUATE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5 courses (30 units)</td>
<td>18,158</td>
<td>18,158</td>
<td>18,547</td>
<td>18,946</td>
<td>19,353</td>
</tr>
<tr>
<td>5 half courses (15 units)</td>
<td>9,079</td>
<td>9,079</td>
<td>9,274</td>
<td>9,473</td>
<td>9,677</td>
</tr>
<tr>
<td>4 half courses (12 units)</td>
<td>7,263</td>
<td>7,263</td>
<td>7,419</td>
<td>7,578</td>
<td>7,741</td>
</tr>
<tr>
<td>3 half courses (9 units)</td>
<td>5,447</td>
<td>5,447</td>
<td>5,564</td>
<td>5,684</td>
<td>5,806</td>
</tr>
<tr>
<td>1 course (6 units)</td>
<td>3,632</td>
<td>3,632</td>
<td>3,709</td>
<td>3,789</td>
<td>3,871</td>
</tr>
<tr>
<td>1 half course (3 units)</td>
<td>1,816</td>
<td>1,816</td>
<td>1,855</td>
<td>1,895</td>
<td>1,935</td>
</tr>
<tr>
<td>HSB 200, 300, 400 level courses w/ Market Modifier</td>
<td>2,052</td>
<td>2,052</td>
<td>2,096</td>
<td>2,141</td>
<td>2,187</td>
</tr>
<tr>
<td><strong>Law</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Fees (36 units)</td>
<td>40,525</td>
<td>40,525</td>
<td>41,395</td>
<td>42,285</td>
<td>43,194</td>
</tr>
<tr>
<td>Per Session (18 units)</td>
<td>20,262</td>
<td>20,262</td>
<td>20,698</td>
<td>21,143</td>
<td>21,597</td>
</tr>
<tr>
<td>Law - Full Course (6 units)</td>
<td>6,754</td>
<td>6,754</td>
<td>6,899</td>
<td>7,048</td>
<td>7,199</td>
</tr>
<tr>
<td>Law - Half Course (3 units)</td>
<td>3,377</td>
<td>3,377</td>
<td>3,450</td>
<td>3,524</td>
<td>3,600</td>
</tr>
<tr>
<td><strong>Medicine</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>57,012</td>
<td>57,012</td>
<td>58,238</td>
<td>59,490</td>
<td>60,769</td>
</tr>
<tr>
<td>Per Session</td>
<td>28,506</td>
<td>28,506</td>
<td>29,119</td>
<td>29,745</td>
<td>30,385</td>
</tr>
<tr>
<td>Full Course (6 units)</td>
<td>9,377</td>
<td>9,377</td>
<td>9,579</td>
<td>9,784</td>
<td>9,995</td>
</tr>
<tr>
<td>1 half course (3 units)</td>
<td>4,688</td>
<td>4,688</td>
<td>4,789</td>
<td>4,892</td>
<td>4,997</td>
</tr>
<tr>
<td>Post Graduate Medical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max per year (12 months)</td>
<td>3,264</td>
<td>3,264</td>
<td>3,334</td>
<td>3,405</td>
<td>3,479</td>
</tr>
<tr>
<td><strong>Vet Medicine (per 8 month year)</strong></td>
<td>32,270</td>
<td>32,270</td>
<td>32,964</td>
<td>33,672</td>
<td>34,396</td>
</tr>
<tr>
<td>4 month work term (15 units)</td>
<td>1,423</td>
<td>1,423</td>
<td>1,454</td>
<td>1,485</td>
<td>1,517</td>
</tr>
<tr>
<td>4 month work term (15 units)</td>
<td>1,423</td>
<td>1,423</td>
<td>1,454</td>
<td>1,485</td>
<td>1,517</td>
</tr>
<tr>
<td><strong>GRADUATE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Time Graduate Programs (except MBA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PhD Degree</td>
<td>12,570</td>
<td>12,570</td>
<td>12,840</td>
<td>13,117</td>
<td>13,399</td>
</tr>
<tr>
<td>Master’s Degree with Thesis</td>
<td>12,570</td>
<td>12,570</td>
<td>12,840</td>
<td>13,117</td>
<td>13,399</td>
</tr>
<tr>
<td>Subsequent Years Fee &amp; Continuing Registration</td>
<td>3,657</td>
<td>3,657</td>
<td>3,735</td>
<td>3,816</td>
<td>3,898</td>
</tr>
<tr>
<td>Course Based and Part-Time Graduate Programs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Program Fee Course-based programs</td>
<td>12,852</td>
<td>12,852</td>
<td>13,128</td>
<td>13,411</td>
<td>13,699</td>
</tr>
<tr>
<td>Full Course</td>
<td>3,213</td>
<td>3,213</td>
<td>3,282</td>
<td>3,353</td>
<td>3,425</td>
</tr>
<tr>
<td>Half Course</td>
<td>1,607</td>
<td>1,607</td>
<td>1,641</td>
<td>1,676</td>
<td>1,712</td>
</tr>
<tr>
<td>Masters of Business Administration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thesis-Based MBA Program</td>
<td>25,043</td>
<td>25,043</td>
<td>25,581</td>
<td>26,131</td>
<td>26,693</td>
</tr>
<tr>
<td>Full Course</td>
<td>5,705</td>
<td>5,705</td>
<td>5,827</td>
<td>5,952</td>
<td>6,080</td>
</tr>
<tr>
<td>Half Course</td>
<td>2,852</td>
<td>2,852</td>
<td>2,914</td>
<td>2,976</td>
<td>3,040</td>
</tr>
<tr>
<td>Master of Public Policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Full-Time Annual Fee</td>
<td>30,435</td>
<td>30,435</td>
<td>31,089</td>
<td>31,758</td>
<td>32,441</td>
</tr>
<tr>
<td>Program Part-Time Annual Fee</td>
<td>15,218</td>
<td>15,218</td>
<td>15,544</td>
<td>15,879</td>
<td>16,220</td>
</tr>
</tbody>
</table>

1) Proposed increase for 2013-14 was 2.15%, but negated by the April 2013 tuition freeze
2) Estimated increase for each subsequent year is assumed to be 2.15%
3) Course based tuition is calculated on a per unit basis
4) Audit Fee = UG $908 per 3 unit course / GR $803 per 3 unit course.
5) Tuition amounts rounded to nearest dollar for purposes of presentation
General Fees

In Alberta general fees do not fall within the purview of the provincial Public Post-Secondary Institutions’ Tuition Fees Regulation. However, Board of Governors approval is required. Shown in the following tables are the recommended 2013-14 general fees.

Table 18 – General Fees – Fall or Winter (Undergraduate Students)

<table>
<thead>
<tr>
<th></th>
<th>2012-13</th>
<th>2013-14</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students’ Union General</td>
<td>55.50</td>
<td>55.50</td>
</tr>
<tr>
<td>U-Pass</td>
<td>117.00</td>
<td>117.00</td>
</tr>
<tr>
<td>Student Health Plan</td>
<td>51.50</td>
<td>51.50</td>
</tr>
<tr>
<td>Student Dental Plan</td>
<td>45.00</td>
<td>45.00</td>
</tr>
<tr>
<td>Campus Recreation</td>
<td>34.46</td>
<td>35.20</td>
</tr>
<tr>
<td>Athletics</td>
<td>47.32</td>
<td>48.32</td>
</tr>
<tr>
<td>Donation</td>
<td>10.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Student Services</td>
<td>150.00</td>
<td>225.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>510.78</td>
<td>587.52</td>
</tr>
<tr>
<td><strong>Part Time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students’ Union General</td>
<td>31.75</td>
<td>31.75</td>
</tr>
<tr>
<td>Campus Recreation</td>
<td>34.46</td>
<td>35.20</td>
</tr>
<tr>
<td>Athletics</td>
<td>47.32</td>
<td>48.32</td>
</tr>
<tr>
<td>Donation</td>
<td>7.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Student Services</td>
<td>50.00</td>
<td>75.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>170.53</td>
<td>197.27</td>
</tr>
<tr>
<td><strong>Coop / Internship</strong></td>
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<td></td>
</tr>
<tr>
<td>Students’ Union General</td>
<td>27.00</td>
<td>27.00</td>
</tr>
<tr>
<td>Student Health Plan</td>
<td>51.50</td>
<td>51.50</td>
</tr>
<tr>
<td>Student Dental Plan</td>
<td>45.00</td>
<td>45.00</td>
</tr>
<tr>
<td>Donation</td>
<td>10.00</td>
<td>10.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>133.50</td>
<td>133.50</td>
</tr>
<tr>
<td><strong>Faculty Specific General Fees</strong></td>
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<td></td>
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<tr>
<td>Engineering Endowment Fee</td>
<td>25.00</td>
<td>25.00</td>
</tr>
<tr>
<td>Engineering Student Society Fee</td>
<td>10.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Law Career Services Fee</td>
<td>75.00</td>
<td>75.00</td>
</tr>
<tr>
<td><strong>Full Time Medical Doctor Students</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students’ Union General</td>
<td>28.00</td>
<td>28.00</td>
</tr>
<tr>
<td>U-Pass (2)</td>
<td>117.00</td>
<td>117.00</td>
</tr>
<tr>
<td>Student Health Plan</td>
<td>51.50</td>
<td>51.50</td>
</tr>
<tr>
<td>Student Dental Plan</td>
<td>45.00</td>
<td>45.00</td>
</tr>
<tr>
<td>Campus Recreation</td>
<td>34.46</td>
<td>35.20</td>
</tr>
<tr>
<td>Athletics</td>
<td>47.32</td>
<td>48.32</td>
</tr>
<tr>
<td>Donation</td>
<td>10.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Student Services</td>
<td>150.00</td>
<td>225.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>483.28</td>
<td>560.02</td>
</tr>
<tr>
<td><strong>Part Time Medical Doctor Students</strong></td>
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<td></td>
</tr>
<tr>
<td>Students’ Union General</td>
<td>23.50</td>
<td>23.50</td>
</tr>
<tr>
<td>Campus Recreation</td>
<td>34.46</td>
<td>35.20</td>
</tr>
<tr>
<td>Athletics</td>
<td>47.32</td>
<td>48.32</td>
</tr>
<tr>
<td>Donation</td>
<td>7.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Student Services</td>
<td>50.00</td>
<td>75.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>162.28</td>
<td>189.02</td>
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</table>
Table 19 – General Fees – Spring or Summer (Undergraduate Students)

<table>
<thead>
<tr>
<th></th>
<th>2012-13</th>
<th>2013-14</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spring or Summer</td>
<td>Spring or Summer</td>
</tr>
<tr>
<td><strong>Full Time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students' Union General</td>
<td>22.75</td>
<td>22.75</td>
</tr>
<tr>
<td>U-Pass 2</td>
<td>110.00</td>
<td>117.00</td>
</tr>
<tr>
<td>Campus Recreation</td>
<td>17.23</td>
<td>17.60</td>
</tr>
<tr>
<td>Donation</td>
<td>7.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Student Services 1</td>
<td>50.00</td>
<td>50.00</td>
</tr>
<tr>
<td>Total</td>
<td>206.98</td>
<td>214.35</td>
</tr>
<tr>
<td><strong>Part Time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students' Union General</td>
<td>22.25</td>
<td>22.25</td>
</tr>
<tr>
<td>Campus Recreation</td>
<td>17.23</td>
<td>17.60</td>
</tr>
<tr>
<td>Donation</td>
<td>7.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Student Services 1</td>
<td>25.00</td>
<td>25.00</td>
</tr>
<tr>
<td>Total</td>
<td>71.48</td>
<td>71.85</td>
</tr>
<tr>
<td><strong>Coop / Internship</strong></td>
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<td></td>
</tr>
<tr>
<td>Students' Union General</td>
<td>19.25</td>
<td>19.25</td>
</tr>
<tr>
<td>Donation</td>
<td>7.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Total</td>
<td>26.25</td>
<td>26.25</td>
</tr>
</tbody>
</table>

Table 20 – General Fees – Yearly (Graduate Students)

<table>
<thead>
<tr>
<th></th>
<th>2012-13</th>
<th>2013-14</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yearly</td>
<td>Yearly</td>
</tr>
<tr>
<td><strong>Full Time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grad Students Association (GSA)</td>
<td>127.12</td>
<td>138.23</td>
</tr>
<tr>
<td>Group Insurance</td>
<td>11.00</td>
<td>11.00</td>
</tr>
<tr>
<td>U-Pass</td>
<td>351.00</td>
<td>351.00</td>
</tr>
<tr>
<td>Health Insurance</td>
<td>283.52</td>
<td>283.52</td>
</tr>
<tr>
<td>Dental Insurance</td>
<td>220.61</td>
<td>231.64</td>
</tr>
<tr>
<td>Campus Recreation 2</td>
<td>103.38</td>
<td>105.60</td>
</tr>
<tr>
<td>Athletics 2</td>
<td>47.32</td>
<td>48.32</td>
</tr>
<tr>
<td>Donation</td>
<td>10.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Student Services 2</td>
<td>300.00</td>
<td>450.00</td>
</tr>
<tr>
<td>Total</td>
<td>1,453.95</td>
<td>1,629.31</td>
</tr>
<tr>
<td><strong>Part Time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grad Students Association (GSA)</td>
<td>105.67</td>
<td>114.64</td>
</tr>
<tr>
<td>Campus Recreation</td>
<td>103.38</td>
<td>105.60</td>
</tr>
<tr>
<td>Athletics</td>
<td>47.32</td>
<td>48.32</td>
</tr>
<tr>
<td>Donation</td>
<td>10.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Student Services</td>
<td>100.00</td>
<td>150.00</td>
</tr>
<tr>
<td>Total</td>
<td>366.37</td>
<td>428.56</td>
</tr>
</tbody>
</table>

Note:
1) GSA Fees subject to change following GSA regulations
2) Starting in 2011, the following are assessed per term: Campus Rec, Athletics, UPASS, and Student Services
Residence Fees

Our residence program provides accommodation for single students and those with partners/families. Other than the rates shown for Family Housing, the Residence rates shown in Table 21 are residence fees for an eight month period from September to April, effective May 1, 2013 and include utilities, internet and furnishings. Family Housing fees are a monthly rate. All Family Housing increases would be effective April 1, 2013 for students taking occupancy on or after this date, or twelve (12) months following their last increase, in accordance with the Provincial Residential Tenancies Act.

Table 21 – Residence Fees

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase II Norquay Hall, Brewster Hall, Castle Hall*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Studios</td>
<td>6,202</td>
<td>6,388</td>
<td>6,580</td>
<td>6,777</td>
</tr>
<tr>
<td>1 Bedroom</td>
<td>7,160</td>
<td>7,303</td>
<td>7,522</td>
<td>7,748</td>
</tr>
<tr>
<td>2 Bedroom</td>
<td>5,253</td>
<td>5,489</td>
<td>5,654</td>
<td>5,823</td>
</tr>
<tr>
<td>4 Bedroom</td>
<td>4,855</td>
<td>5,049</td>
<td>5,200</td>
<td>5,356</td>
</tr>
<tr>
<td>Phase III Olympus Hall, Glacier Hall*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Studios</td>
<td>6,932</td>
<td>7,140</td>
<td>7,354</td>
<td>7,575</td>
</tr>
<tr>
<td>1 Bedroom</td>
<td>7,674</td>
<td>7,828</td>
<td>8,063</td>
<td>8,305</td>
</tr>
<tr>
<td>2 Bedroom</td>
<td>6,098</td>
<td>6,372</td>
<td>6,563</td>
<td>6,760</td>
</tr>
<tr>
<td>4 Bedroom</td>
<td>6,252</td>
<td>6,502</td>
<td>6,697</td>
<td>6,898</td>
</tr>
<tr>
<td>Phase IV Cascade Hall*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Studios</td>
<td>7,059</td>
<td>7,412</td>
<td>7,783</td>
<td>8,172</td>
</tr>
<tr>
<td>1 Bedroom (No Longer Available)</td>
<td>7,876</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2 Bedroom</td>
<td>6,013</td>
<td>6,314</td>
<td>6,630</td>
<td>6,961</td>
</tr>
<tr>
<td>4 Bedroom</td>
<td>5,599</td>
<td>5,879</td>
<td>6,173</td>
<td>6,482</td>
</tr>
<tr>
<td>Living Learning – Large Double</td>
<td>5,568</td>
<td>5,846</td>
<td>6,138</td>
<td>6,445</td>
</tr>
<tr>
<td>Living Learning – Small Single</td>
<td>6,117</td>
<td>6,423</td>
<td>6,744</td>
<td>7,081</td>
</tr>
<tr>
<td>Living Learning – Large Single</td>
<td>6,665</td>
<td>6,998</td>
<td>7,348</td>
<td>7,715</td>
</tr>
<tr>
<td>Phase V International House*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Bedroom</td>
<td>6,577</td>
<td>6,906</td>
<td>7,251</td>
<td>7,614</td>
</tr>
<tr>
<td>Phase VI – Yammuska (Suite Style)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Bedroom</td>
<td>6,096</td>
<td>6,401</td>
<td>6,721</td>
<td>7,057</td>
</tr>
<tr>
<td>2 Bedroom</td>
<td>6,417</td>
<td>6,738</td>
<td>7,075</td>
<td>7,429</td>
</tr>
<tr>
<td>3 Bedroom</td>
<td>6,096</td>
<td>6,401</td>
<td>6,721</td>
<td>7,057</td>
</tr>
<tr>
<td>Traditional Kananaskis Hall &amp; Rundle Hall*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>5,020</td>
<td>5,271</td>
<td>5,535</td>
<td>5,811</td>
</tr>
<tr>
<td>Double</td>
<td>3,115</td>
<td>3,271</td>
<td>3,435</td>
<td>3,606</td>
</tr>
<tr>
<td>Student Family Housing Town Home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Bedroom</td>
<td>1,045</td>
<td>1,097</td>
<td>1,152</td>
<td>1,209</td>
</tr>
<tr>
<td>2 Bedroom</td>
<td>1,149</td>
<td>1,206</td>
<td>1,266</td>
<td>1,330</td>
</tr>
<tr>
<td>3 Bedroom</td>
<td>1,190</td>
<td>1,250</td>
<td>1,313</td>
<td>1,378</td>
</tr>
</tbody>
</table>

*Academic year contracts are for eight months starting at the commencement of the Fall Term and ending in April.
Meal Plans

The dining program is an essential element of the overall residential experience. Four residential meal plans are available ranging from the smaller ‘sampler’ and ‘lighter side’ plans to larger ‘standard’ and ‘ultimate’ plans. This range provides options to students based on their eating habits. Table 22 shows meal plan rates effective May 1, 2013. Academic year contracts are for eight months starting at the commencement of the Fall Term and ending in April.

Table 22 – Meal Plan Rates

<table>
<thead>
<tr>
<th>($) dollars</th>
<th>2012-13</th>
<th>2013-14</th>
<th>2014-15</th>
<th>2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampler</td>
<td>2,010</td>
<td>2,080</td>
<td>2,153</td>
<td>2,228</td>
</tr>
<tr>
<td>Lighter Side</td>
<td>3,025</td>
<td>3,025</td>
<td>3,131</td>
<td>3,240</td>
</tr>
<tr>
<td>Standard</td>
<td>3,685</td>
<td>3,685</td>
<td>3,814</td>
<td>3,947</td>
</tr>
<tr>
<td>Standard Plus</td>
<td>3,990</td>
<td>3,990</td>
<td>4,130</td>
<td>4,274</td>
</tr>
<tr>
<td>Ultimate</td>
<td>4,640</td>
<td>4,640</td>
<td>4,802</td>
<td>4,970</td>
</tr>
</tbody>
</table>
11. Impact of New Provincial Budget

The Provincial Budget that was announced on March 7, 2013 resulted in a 7.3% cut (approximately $32M) to the Campus Alberta Grant for the University of Calgary, which given that we were expecting a promised 2% increase, was $41M less than expected. In addition, $6M was cut from our Infrastructure Maintenance Program money. More recently, a tuition freeze was announced, which will result in a further loss of revenue in the coming year, although we understand that this amount will be backfilled by the ministry in the 2013-14 fiscal year. We await further information on the long-term impact of the recent tuition decision.

While the University of Calgary was in relatively strong financial shape prior to the Provincial Budget announcement, cuts of this magnitude will have significant impact on our ability to progress at the pace we intended to on the strategic vision outlined in Eyes High. Below we describe a number of impacts that we have collected to date. Since we are still working through information, this should be considered an incomplete list at this time.

Overall economic impact: In a recent economic study using methodology developed at the University of British Columbia, we determined that the University of Calgary contributes an annual economic impact of $7.92B to the economy of the Calgary region. Using the same methodology, we have determined that a cut of the magnitude described above is equivalent to a loss to the local economy of $210M per year. As the University of Calgary becomes more integrated with the Calgary and surrounding communities, this is a large economic hit to a city that was the fastest growing metropolis in Canada in 2012.

Academic impact: The impact of cuts in the academy is varied and will be significant. We will remain committed to providing high quality programs with reasonable class sizes to all students. Budget cuts will affect people, programs, enrolment, and number of classes offered, operations, and research productivity.

People: In our early analysis of the budget cuts, we are going to lose approximately 50 academic staff members due to attrition and retirement (with no replacement in some cases). We will continue to hire the 50 stimulus hires we announced in November, 2012. Thus, we will achieve a modicum of academic renewal, which is critical for our institution, since we currently have the third most experienced academy in the country. However, the anticipated expansion of the academy that we were planning will not occur, and as a result anticipated outcomes that come with an expansion will no longer occur (e.g., enhanced economic benefit associated with productive people, the loss of research and teaching power associated with 50 people and its intended consequence on student experience, and the untold collaborative opportunities that exist when 50 additional people are in place). Since we are still in the early days of assessment of the budget cuts, it is possible that we will lose more than 50 people, to attrition, in large part due to the compounding effect of the budget cut, loss of AARP funding, and loss of AHFMR funding in the Faculty of Medicine. The situation is Medicine is particularly critical for the
University of Calgary, since Medicine is a research engine for the University, comprising about 47% of externally driven research.

Importantly, our ability to recruit the best academic staff to an uncertain fiscal environment is already apparent. While we have always touted the “Alberta Advantage” and the advantages of living and working in Calgary, we have already seen impacts of the budget decisions in hiring competitions – these decisions have, in some cases, resulted in top candidates dropping out of competitions.

In some units, there will be significant cuts to sessional teaching budgets. This will affect people because we will not be hiring as many. This will also affect our ties to the community since many sessional instructors in professional programs work within the community (e.g., lawyers, doctors, architects, engineers).

We will also lose administrative and support personnel through unfilled vacancies, restructuring, and elimination of positions. This will impact our ability in some cases to generate new revenue and support our academic mission, as staff hired to do academic work will now be involved in more administrative tasks. We are attempting to ensure that all of our academic staff are adequately supported in their academic work.

**Programs:** We have done an analysis of our low enrolment programs (enrolment under 20 students), and will eliminate close to 20 programs immediately (i.e., programs that have not enrolled students for a number of years). We will continue to analyze our programs, and if decisions are made to eliminate programs in the next year (i.e., by September 2014), we will ensure that any students who are currently enrolled in these programs will be provided an option of continuing to graduation in those programs. We have many units that will or are in the process of restructuring academic programs. As we will decrease our sessional budgets in many units, we will also offer fewer course options, providing less choice for students. As an example, in the Faculty of Arts alone we anticipate offering 40 to 50 fewer courses in the upcoming year. For a student who takes Arts courses, this could mean a less rich experience at our institution, damaging academic reputation.

**Enrolment:** At the University of Calgary, increasing student demand for our programs is occurring at a time when no new funding has been made available to expand our enrolment. Our efforts to address this issue within existing resources in the past decade have resulted in a current enrolment that has grown by 29.9%, which is currently 9.4% above existing physical capacity. Thus, space is constrained on our campus. Our enrolment is at a historical high point, and given the above, we will maintain a sustainable growth model at our institution – one that is clearly in line with accountability and ensuring a positive student experience for all students on campus. As a result of the budget cut, in addition to decisions made previously to manage our enrolment in a sustainable manner, we will immediately decrease our new enrolment in Faculty of Arts by 200 students per year. In addition, unrelated to the budget cut, we will also decrease new student enrolment in the MD program in Medicine by 15 students per year and in the BN program in Nursing by 30 students per year. Both program increases were funded on a temporary basis, and the funding at this time is not continuing. We are aware that enrolment will be an increasing issue over the coming decade given the demographic trends in Calgary – and we
anticipate that student demand for programs will only increase. Over the next year we will explore options, particularly through our Learning Technologies Task Force, to increase in enrolment in cost effective ways. As stated earlier, however, any move to a solution that involves technology is likely to come with increased costs, and these costs will have to be considered in any decision going forward.

**Strategic Initiatives:** Many strategic initiatives designed to help move us towards our Eyes High goals that were directly related to improving student experience will be delayed or stopped altogether. For example, a team-teaching mentoring program in the Faculty of Science will be delayed until funds are available.

**Equipment and Infrastructure:** Units will have less money to replace aging equipment, and most units will eliminate their discretionary renovation budget, putting increased strain on aging facilities. This is most concerning in fields that rely upon lab instruction and lab-based research, where constant upgrading of equipment and information technology is critical. This in turn could have drastic impacts on future research productivity, and ability to attract top researchers—who want to come and work in environments that have invested heavily in infrastructure and equipment.

**Research productivity:** Due to the loss of senior people to attrition through retirement, many of whom are very productive, we will lose research power, disciplinary depth, and in some cases professional scope if the people are not replaced. In cases where we are able to hire a junior professor to replace a retiree, we will recoup some of the research power over time, if we are able to attract top scholars to the current environment. As a result of a loss of senior personnel, we will also lose graduate supervision capacity, making it difficult to attract graduate students. A second ramp of hiring of 50 post-doctoral fellows that was contemplated will now be difficult to accomplish, further diminishing research power. We anticipate the loss of some research support personnel, who are critical in the success of our researchers. Finally, we anticipate that in some cases graduate student support will be diminished, making it difficult to attract graduate students. The overall loss of research productivity represents future loss of economic impact.

**Reputational Impacts:** The magnitude of budget cuts in Alberta has attracted considerable attention throughout the post-secondary sector in Canada. This has a potential reputational consequence as recruits to Alberta question the government’s commitment to the sector and, in particular, the ability of the University of Calgary to build on its recent momentum to become one of Canada’s top research intensive universities.

**Overall delay in reaching goals:** Generally, the impact will be an overall delay in reaching our strategic goals.

While the above impacts will be very difficult to handle, we also see opportunity. We see the possibility of re-imagining the university and over the next six months will conduct in-depth analyses of 210 ideas that have been submitted by our institutional community. These ideas range from an examination of administrative expenses to expansion of the integrated services delivery model. We will categorize the ideas, analyze and prioritize them, and lead a discussion with our community in the early fall. In addition, we need to examine what we fundamentally
need to do differently in our academy (e.g., with our programs, our delivery methods, our partnerships). This will also require thoughtful dialogue that will occur in the upcoming year.

The government has sent a message with the 2013-14 budget that the current model of post-secondary education is not sustainable. We are willing to partner with the government on a new model of post-secondary education. The government can enable us to move towards a new financially sustainable model of post-secondary education by doing the following:

1. Developing a new funding model that differentiates amongst institutions.
2. Conducting a discussion province wide on first principles that should be used in assessing tuition, and then using those principles to develop a new tuition regulation for the province.
3. Allowing us to innovate and collaborate with the private sector on key research platform ideas.
4. Providing a funding mechanism to build our new Engineering complex immediately. We believe that since construction costs are expected to escalate over the coming years, a funding mechanism today will result in cost savings overall.
12. Performance Measures

The purpose of this chapter is to identify the measures that we will use to monitor our progress across the domains of people, research, engagement, environment and teaching. The challenge we encounter in doing so is common among large, comprehensive research institutions –selecting measures that assess the breadth of our programs, the impact of our scholarship, the extent of our mandate, and the complexity of our organization.

To be successful, a valid and adequate set of performance measures would need to balance measurement along quantitative and qualitative dimensions and reflect different facets of our organization. Given the absence of data in some areas of the academy, the tendency would be to select measures most readily available and easily manipulated. The tendency to count things that can be counted and to discount those that cannot is at the center of much of the scrutiny about university performance measurement.

Our approach addresses this challenge through the selection of measures that we believe have horizontal and vertical validity and that are associated with our key thematic areas (Figure 9). By horizontal validity we mean applicability across the institution so that these measures are just as meaningful in the characterization of achievement for physicists as for mathematicians, political scientists, art historians, and musicians. By vertical validity we mean measures applicable at all levels of the academy. By thematic areas we mean measures clustered around our priorities. Selecting measures in this way is intended to ensure that they apply equally well to the individual faculty member as to departments, Faculties, and to the University.

It is important to note that the measures we have chosen are not simply internal comparisons of progress over time (Figure 12). Rather, they include comparisons across universities in a manner that compares *like with like*. We selected the Canadian U15 group of research universities, in particular, the top 5 to align with our vision to be a top 5 research institution by 2016. In most of our measures we include three targets —the score for the 5th ranked institution in the U15, the average score of the top 5 U15 institutions, and our stretch target for 2015-16. In the case of teaching, we have chosen to delay the selection of a measure.
### Performance Measures

<table>
<thead>
<tr>
<th>People</th>
<th>Research</th>
<th>Engagement</th>
<th>Environment</th>
<th>Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ratio of applicants to student intake</td>
<td>• Sponsored research revenue (Total)</td>
<td>• Undergraduate student engagement (NSSE)</td>
<td>• Fundraising</td>
<td>• Under construction</td>
</tr>
<tr>
<td>• Average entering grade</td>
<td>• Sponsored research revenue (per tenure and tenure-track faculty)</td>
<td>• Graduate student engagement (CGPSS)</td>
<td>• Endowment</td>
<td>• Retention rate</td>
</tr>
<tr>
<td>• Graduate proportion of total enrolment</td>
<td>• Tri-council research revenue (Total)</td>
<td>• Graduate satisfaction</td>
<td>• Unrestricted net assets</td>
<td>• Graduation rate</td>
</tr>
<tr>
<td>• International proportion of total enrolment</td>
<td>• Tri-council research revenue (per tenure and tenure-track faculty)</td>
<td>• Degrees awarded</td>
<td>• Facilities condition index</td>
<td>• Time to completion</td>
</tr>
<tr>
<td>• Student to faculty ratio (Total)</td>
<td>• Publications (Total)</td>
<td>• Employment rate</td>
<td>• Sustainability Tracking, Assessment and Rating System</td>
<td></td>
</tr>
<tr>
<td>• Student to faculty ratio (Graduate)</td>
<td>• Publications (per tenure and tenure-track faculty)</td>
<td>• Employee Engagement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Postdoctoral Fellows</td>
<td>• Citations (Total)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Citations (per tenure and tenure-track faculty)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New invention disclosures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New licenses</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Teaching**

- Under construction
- Retention rate
- Graduation rate
- Time to completion
**Ratio of Applicants to Student Intake**

The ratio of applicants to student intake measure is calculated as the number of applicants we attract relative to the number of available student spaces. It is one indicator of program demand. As shown below, student demand has increased significantly over the past two years.

![Figure 13 – Ratio of Applicants to Student Intake](image)

**Average Entering Grade from High School**

We promote high levels of student achievement by emphasizing the importance of academic admission standards. The average entering grade is one of a number of leading indicators of graduation rates. Average entering grade has improved by 1.4 percentage points in the last year. This is a significant increase that puts the University of Calgary in line with the top 5 institutions in Canada.

![Figure 14 – Average Entering Grade](image)
Student Mix (Graduate Proportion of Total Enrolment)

We monitor the graduate proportion of our total student population to ensure that we grow to the level of leading research universities. The proportion of graduate students at leading international research universities is approximately 25%, and our intent is to move towards that target by 2015-16.

Figure 15 – Graduate Proportion of Total Enrolment (Headcount)

Source: University of Calgary Fact Book (Headcount)

Student Mix (International Enrolment)

We monitor the number of international students that we attract to ensure that we grow to the level of top 5 universities. The proportion of international students at leading Canadian research universities is close to 10% at the undergraduate level and 30% at the graduate level. The proportion of international undergraduate students has increased by almost a percentage point in one year. This is a significant step towards the goal of 10%.

Figure 16 – International Enrolment (Proportion of Total Fulltime)

Source: University of Calgary Fact Book (Proportion of Total Fulltime)
Student to Faculty Ratio (Total)

Our student to faculty ratio is an indicator of the level of academic staff that we have available to educate students. It is calculated as the total number of students divided by the total number of academic staff. This particular metric will be heavily affected by the budget cut.

Figure 17 – Student to Faculty Ratio (FTE Total)

<table>
<thead>
<tr>
<th>Year</th>
<th>FTE Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>18.5 : 1</td>
</tr>
<tr>
<td>2008-09</td>
<td>18.9 : 1</td>
</tr>
<tr>
<td>2009-10</td>
<td>20.2 : 1</td>
</tr>
<tr>
<td>2010-11</td>
<td>21.2 : 1</td>
</tr>
<tr>
<td>2011-12</td>
<td>22.9 : 1</td>
</tr>
<tr>
<td>2012-13</td>
<td>22.5 : 1</td>
</tr>
<tr>
<td>Top 5 (min)</td>
<td>33.7 : 1</td>
</tr>
<tr>
<td>Top 5 (avg)</td>
<td>23.6 : 1</td>
</tr>
<tr>
<td>Top 5 (avg)</td>
<td>20.0 : 1</td>
</tr>
</tbody>
</table>


Source: Fall counts of Full-time Equivalent (FTE) students and Full-time tenure & tenure-track academic staff; peer data from 2010-11 President’s fact book

Student to Faculty Ratio (Graduate)

Our graduate student to faculty ratio is an indicator of the vibrancy of our graduate programs. It is calculated as the total number of graduate students divided by the total number of academic staff. The number of graduate students per faculty member has increased over the past year from 3.9 to 4.3 which is a significant step towards the top 5 goal of 5.0.

Figure 18 – Graduate Proportion of Total Enrolment

<table>
<thead>
<tr>
<th>Year</th>
<th>Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>3.4 : 1</td>
</tr>
<tr>
<td>2008-09</td>
<td>3.4 : 1</td>
</tr>
<tr>
<td>2009-10</td>
<td>3.8 : 1</td>
</tr>
<tr>
<td>2010-11</td>
<td>3.9 : 1</td>
</tr>
<tr>
<td>2011-12</td>
<td>4.3 : 1</td>
</tr>
<tr>
<td>Top 5 (min)</td>
<td>6.8 : 1</td>
</tr>
<tr>
<td>Top 5 (avg)</td>
<td>5.2 : 1</td>
</tr>
<tr>
<td>Top 5 (avg)</td>
<td>5.0 : 1</td>
</tr>
</tbody>
</table>

2007-08 2008-09 2009-10 2010-11 2011-12 Top 5 (min) Top 5 (avg) 2015-16

Source: Full-time Equivalent (FTE) graduate students and Full-time tenure & tenure-track academic staff; peer data from Presidents’ fact book

12. Performance Measures
Postdoctoral Fellows

Our Postdoctoral Fellows (PDF) measure monitors the number of PDFs that we attract. Postdoctoral fellows contribute to our overall research quality and productivity. Although the number of post-doctoral fellows declined, this metric will improve over the next year as the Eyes High post-doctoral program is implemented.

Figure 19 – Postdoctoral Fellows

Sponsored Research Revenue (Total)

Our sponsored research income measure is one indicator of our research quality and productivity. It includes revenue from federal, provincial and foreign governments, corporations, foundations and non-profit organizations, and donations and investment income. This is another metric that could have heavily affected by the budget cut, particularly since we will not have the increase in academic staff that we were projecting (in fact, we are likely to have a decrease).

Figure 20 – Sponsored Research Revenue (Total) ($M)

Source: University of Calgary unaudited schedule 16; CAUBO submission ($M s)
Sponsored Research Revenue (Per Tenure & Tenure-Track Faculty Member)

Sponsored research revenue per tenure and tenure-track faculty member is another indicator of research quality and productivity. It includes research revenue from federal, provincial and foreign governments, corporations, foundations and non-profit organizations, and donations and investment income.

Figure 21 – Sponsored Research Revenue (Per Tenure and Tenure-Track Faculty) (SM)

Tri-Council Revenue (Total)

Our Tri-Council research income measure is an indicator of our research income, intensity, and quality. It includes grant revenue from the Canadian Institutes of Health Research (CIHR), Natural Sciences and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC).

Figure 22 – Tri-Council Revenue (Total) (SM)

Source: University of Calgary unaudited schedule 16; CAUBO submission ($ thousands); faculty counts from HR

Source: University of Calgary unaudited schedule 16; CAUBO submission ($M s); Peer from CAUBO
Tri-Council Revenue (Per Tenure and Tenure-Track Faculty Member)

Tri-Council research income per tenure and tenure-track faculty member is an indicator of research income, intensity, and quality. It includes research grant revenue from the Canadian Institutes of Health Research (CIHR), Natural Sciences and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC). Unaudited financial statement data may differ from “awards” reported by the Tri-Council.

Figure 23 – Tri-Council Revenue (Per Tenure and Tenure-Track Faculty) ($ thousands)

Publications (Total)

One measure of a university’s scholarly output is the number of publications that it produces each year. This measure monitors the number of publications produced by the University of Calgary in all subject areas compared to peer institutions. The University continues to improve in publication quantity, with an increase in over 500 publications per year since 2007-2008. This metric is obviously affected by staff numbers, and thus will be affected by the budget cut.

Figure 24 – Publications (Total)

Source: University of Calgary unaudited schedule 16 ($thousands); faculty counts from HR

Source: Thompson Reuters – individual year total
Publications (Per Tenure and Tenure-Track Faculty Member)

One measure of a university’s research productivity is the number of papers produced on average by each faculty member. This measure monitors the number of publications produced by the University of Calgary by tenure and tenure-track faculty member in all subject areas compared to peer institutions. Productivity, as measured by publication, has risen significantly since 2007-2008 and is within range of the top 5 benchmark.

Figure 25 – Publications (Per Tenure and Tenure-Track Faculty Member)

Source: Thompson Reuters – individual year totals; faculty counts from UofC HR

Citations (Total)

One measure of the impact of the research that is performed in the University is the number of times its publications are cited. Frequently cited publications are viewed as having more relevance or impact. This citation measure monitors the number of citations produced by the University of Calgary in all subject areas compared to peer institutions. Our history over the past 5 years shows a clear pattern of year over year increase in overall citations rates and thus, in overall research impact.

Figure 26 – Citations (Total)

Source: Thompson Reuters – 5-year totals
Citations (Per Tenure and Tenure-Track Faculty Member)

One measure of the impact of the research that is performed in the University is the number of times its publications are cited. Frequently cited publications are viewed as having more relevance or impact and frequently cited investigators tend to be those who have more prominence in their fields. This citation measure monitors the number of citations per faculty member produced by the University of Calgary in all subject areas compared to peer institutions. The number of citations per faculty member has risen significantly in the past four years, reflecting an increase in the relevance and impact of the research conducted at the University of Calgary. We are within range of the top 5 U15 institutions in this measure.

Figure 27 – Citations (Per Tenure and Tenure-Track Faculty Member)

New Invention Disclosures

This measure monitors the number of new or novel inventions that our researchers disclose each year while patent protection is being obtained. New invention disclosures are granted for ideas that produce products, processes, machines, or compositions of matter, or any new and useful improvements of these.

Figure 28 – New Invention Disclosures

Source: Thompson Reuters – 5-year totals; faculty counts from UofC HR

Source: Innovate Calgary, AUTM Survey (Three-year running total)
New Licenses

New licenses provide one measure of a university’s scholarly output that will be translated into useful products that help to shape society. It refers to the number of new discoveries licensed each year. We have determined that we are not accurately capturing discoveries made on our campus, and will aim to improve reporting over the next year.

Figure 29 – New Licenses

Undergraduate Student Engagement

We monitor the quality of our learning environment, and the overall level of satisfaction reported by senior level undergraduate students, through their responses to the National Survey of Student Engagement (NSSE) question, how would you evaluate your entire educational experience at this institution?” Percentages shown are ratings of ‘good’ to ‘excellent’. The NSSE survey will be conducted on our campus again in the upcoming year.

Figure 30 – Undergraduate Student Engagement (NSSE)
Graduate Student Engagement

We monitor the quality of the learning environment and the overall level of satisfaction reported by our graduate students in regular programs through their responses to a Canadian Graduate and Professional Student Survey (GPSS) question that assesses the percentage of students (Master’s and Ph.D.) rating the quality of their graduate program as ‘very good’ or ‘excellent’.

Figure 31 – Graduate Student Engagement (Regular Programs)

Source: University of Calgary GPSS data

Graduate Satisfaction

We monitor the quality of our learning environment through student responses to the question, ‘rate the quality of your education experience’ on a Government of Alberta survey completed two years after graduation. Percentages shown are ratings of ‘satisfied’ to ‘very satisfied’. This survey will be conducted again in the upcoming year.

Figure 32 – Graduate Satisfaction

Source: University of Calgary Graduate Outcomes data (AET Survey)
Note: Only U of A data available for peer comparison
Degrees Awarded

This measure provides an indication of how many students graduate each year who go on to be thoughtful, communicative citizens and leaders of their respective communities with abilities to think critically and creatively to solve issues of the day. We have determined that we will be using a sustainable growth model to determine overall enrolment, and thus this measure is also affected by the budget cut.

Figure 33 – Degrees Awarded

![Bar chart showing degrees awarded from 2007-08 to 2015-16](chart)

Employment Rate (Government of Alberta Graduate Outcomes Survey)

We monitor how well we respond to the needs of individual learners and to the social, economic and cultural needs of the province through the percentage of graduate survey respondents who are employed, and employed in a related field, within a specified period following graduation.

Figure 34 – Employment Rate

![Bar chart showing employment rate from 2007-08 to 2015-16](chart)

Source: Graduate degrees awarded database (excludes certificate and diploma)

Source: University of Calgary Graduate Outcomes data (from AET Survey) Peer based on Alberta data
Employee Engagement

Our employee engagement survey provides an important measure of how well we work together to build commitment and trust in leadership, ensure a culture of respect and recognition, and create a “one university family” environment for our employees. Results from the 2011 survey provide an important baseline from which to measure progress. Recent results from 2013 demonstrate that while we have made significant improvements, there is still work to be done, and we have plans in place for key indicators.

Figure 35 – Employee Engagement (Percent Favourable and Neutral Combined)

<table>
<thead>
<tr>
<th>University Issues</th>
<th>0%</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
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</thead>
<tbody>
<tr>
<td>Learning and Research Focus</td>
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<td>85%</td>
<td>15%</td>
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<td>Clear and Promising Direction</td>
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<td>82%</td>
<td>18%</td>
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<tr>
<td>Authority and Empowerment</td>
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<td>83%</td>
<td>17%</td>
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<tr>
<td>Engagement</td>
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<td>79%</td>
<td>21%</td>
</tr>
<tr>
<td>Image and Reputation</td>
<td></td>
<td></td>
<td></td>
<td>78%</td>
<td>22%</td>
</tr>
<tr>
<td>Development Opportunities</td>
<td></td>
<td></td>
<td></td>
<td>78%</td>
<td>22%</td>
</tr>
<tr>
<td>Resources</td>
<td></td>
<td></td>
<td></td>
<td>77%</td>
<td>23%</td>
</tr>
<tr>
<td>Supervision</td>
<td></td>
<td></td>
<td></td>
<td>78%</td>
<td>22%</td>
</tr>
<tr>
<td>Faculty/Institute/Admin Unit</td>
<td>75%</td>
<td>25%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pay and Benefits</td>
<td></td>
<td></td>
<td></td>
<td>78%</td>
<td>22%</td>
</tr>
<tr>
<td>Enablement</td>
<td>75%</td>
<td></td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance/Work Demands</td>
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<td></td>
<td></td>
<td>75%</td>
<td>25%</td>
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<tr>
<td>Collaboration</td>
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<tr>
<td>Respect and Recognition</td>
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</tr>
<tr>
<td>Confidence in Leadership</td>
<td>62%</td>
<td>38%</td>
<td></td>
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</tr>
<tr>
<td>University Issues</td>
<td>62%</td>
<td>38%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: University of Calgary - Employee Engagement Survey

Fundraising

We monitor the extent to which we engage the community in our educational programs and our research, scholarship and creative activity through a measure that tracks the level of funds we raise within the community to support these activities.

Figure 36 – Annual Fundraising ($M)

<table>
<thead>
<tr>
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<tr>
<td>82.5</td>
<td>103.6</td>
<td>83.7</td>
<td>76.5</td>
<td>88.6</td>
<td>123.7</td>
<td>99.9</td>
<td>132.7</td>
<td>120.0</td>
</tr>
</tbody>
</table>

Source: University of Calgary Development Office ($M s)  
* Peer based on: Toronto, UBC, Alberta only (2009-11)
Financial Health (Endowment Balance)

Growth in our endowment balance is an important indicator of the cumulative support we have received from our community. It is an indication of our capacity to support our academic priorities in future years. While we are in the range of the top 5 U15 universities, this will be an area of focus in the coming years.

Figure 37 – Endowment Balance ($M)

Financial Sustainability (Unrestricted Net Assets)

One index of our leadership in the area of economic sustainability is the level of our Unrestricted Net Assets (UNA). As a general guideline, leading universities establish positive UNA balances of 5% of their budgets to ensure that they have the resources needed to address challenges and leverage opportunities. We are currently slightly over the 5% target of overall budget.

Figure 38 – Unrestricted Net Assets ($M)

Financial Sustainability (Facilities Condition Index – (FCI))
FCI provides one measure of the quality of our learning environment. It is calculated as a percentage of the total value of our supported asset pool requiring upgrades to various base building elements. Improvements in our FCI can result from investments in maintenance, changes in the replacement value of campus facilities, and the addition of new facilities. This is another measure we anticipate will be negatively impacted by the budget cuts.

Figure 39 – Facilities Condition Index (FCI)

Sustainability

Our performance is aligned with the Sustainability Tracking, Assessment and Rating System (STARS) developed by the Association for the Advancement of Sustainability in Higher Education (AASHE). This measure monitors our performance in the areas of environmental sustainability in education and research, operations, planning, administration and engagement. We have made significant progress and are now number 1 in the country on STARS.

Figure 40 – Sustainability Tracking, Assessment and Rating System (STARS)

Teaching
Undergraduate Retention Rate

Our undergraduate first-to-second year retention rate is an indicator of our performance that provides a basis for understanding at what stages in degree programs our students leave. This knowledge is useful in formulating and assessing interventions to minimize student withdrawal. Retention rate from year 1 to year 2 has improved significantly since 2007-2008 due in large part to initiatives undertaken during this period. We currently have a retention rate that is within the range of our top 5 U15 peers. The year 3-year 4 retention rate has changed less and is currently a focus of quality improvement activities.

Figure 42 – Undergraduate Retention Rate

Source: University of Calgary Submissions to the Consortium for Student Retention Data Exchange (CSRDE)
Graduation Rate

Our graduation rate measure is an indicator of university performance providing a basis for understanding the number of our students who ultimately graduate from a starting cohort. We are currently in the range of our top 5 U15 peers for graduate students, but need to work on our undergraduate graduation rates.

Figure 43 – Graduation Rate

Time to Completion

Our time-to-degree measure shows the average number of years taken to complete a degree by students who started at the University of Calgary. This knowledge is useful in formulating and assessing interventions to improve student success. We do very well on this metric from an undergraduate and PhD degree perspective, but need to work on our master’s degree time to completion.

Figure 44 – Time to Completion (Years)