



## **Pre-Budget Submission to the House of Commons Standing Committee on Finance**

McMaster University greatly appreciates the opportunity to participate in the development of Budget 2017 and thanks the Committee for its work on the Pre-Budget consultations. In addition to this submission, McMaster supports the submissions presented by the U15 and Universities Canada, our two national associations, which highlight the critical role Universities play in using their educational and research capacities to bolster Canada's economic development and build its highly skilled workforce.

McMaster University is anchored in Hamilton, Ontario, with campuses in Burlington, Niagara and Kitchener. The University is one of the largest employers in the Greater Hamilton Area with 7800 full-time faculty and staff. It is one of only four universities in Canada ranked in the top 100 in the world. McMaster is also one of Canada's most research-intensive universities, attracting more than \$325M in sponsored research income in 2015. This research intensity allows us to provide a highly interdisciplinary and engaging educational experience for our more than 30,000 students and provides them with the crucial skills needed to succeed in today's workforce.

The questions provided to focus the discussions around Budget 2017 are reflective of the concerns of most Canadians: how can I or my business or my local community build a better economic future and a better country? McMaster believes that investments in education and research are critical components in effectively addressing the questions posed by the Committee.

### *An Investment in Research is an Investment in the Economy*

The Minister of Industry, Science and Economic Development has articulated his vision for Innovation as a core Canadian value and McMaster wholeheartedly supports this goal. In addition, we welcome the Minister of Science's current Fundamental Science Review. As a research-intensive institution, we are keenly aware of the critical role research, scientific discoveries and innovation play in the development of those products and medical treatments that lead to new companies, jobs and economic prosperity. Universities are at the heart of an innovation ecosystem that accelerates these activities. We have state-of-the-art laboratory space, equipment, expert knowledge and highly motivated faculty and students eager to build on our existing collaborations with industry and government.

This dynamic atmosphere has been supported by the Federal Government through a variety of sources including the Granting Councils, CFI and regional economic development agencies such as FedDev Ontario. McMaster was pleased to see support for research increased in Budget 2016 including support to the Granting Councils, the Research Support Fund and also the very significant Post-Secondary Institutions Strategic Investment Fund (SIF). We believe that further funding for research, including discovery and applied research, is critical to building the economic potential of Canada's innovation networks and establishing Canada as a global research powerhouse.

The Federal Government's decision to create the SIF program signalled a depth of appreciation for research that transcended traditional federal funding models and addressed part of a core need all Canadian Universities have struggled with – maintenance and infrastructure backlogs. At McMaster, our current deferred maintenance backlog stands at \$314 Million. With federal support to renew and upgrade our research facilities through SIF we are in a much stronger position to offer students an enhanced learning experience, while also being able to reduce our environmental impact. We would encourage additional federal investments like SIF that enable Universities to improve their infrastructure.

We echo the call from our national associations for increased funding to the Granting Councils, and support for CFI. McMaster prides itself on its interdisciplinary nature and believes that research should be a collaborative experience not only between institutions but between disciplines as well. We support a vision of the Granting Councils that recognizes research initiatives that cut across areas of expertise, institutions and international borders. In addition, we encourage the Federal Government to invest additional resources in the Research Support Fund in an effort to fund the full cost of research. Finally, ongoing support to agencies such as FedDev Ontario, which support economic and community development, innovation, and economic diversification, is critically important to harnessing the full potential of universities to contribute to national growth and productivity.

McMaster is also supportive of the Federal Government's intentions to provide \$800M to support innovation clusters in Canada. McMaster is proud to be a part of the Toronto-Hamilton-Waterloo innovation corridor. As the Presidents of McMaster, University of Toronto and University of Waterloo articulated last year in an Op-Ed in the *Globe and Mail*, "the key is to build on existing strengths by enhancing interaction between local economic actors, while deepening external connectivity to a range of global partners."

We believe that encouraging and facilitating collaboration between institutions is critical to the growth of Canada's capacity to produce world-leading research and innovation. We support the idea of focusing resources on institutions that have proven track records of excellence to maximize the effect that investment can have on the local and national economy. This clustering effect allows for resources, both material and human, to be maximized and leveraged, and establishes a critical mass that acts as a beacon to the rest of the world. Universities are an essential partner in successful clusters and should be a required element of any proposed cluster development.

#### *Investing in Excellence is the Key to World Class Research and Innovation*

The relationship of universities with the communities they serve is becoming the focus of strategic planning at universities across North America. Community engagement has long been a McMaster priority and a distinguishing feature of the University. Our researchers are focused on some of the most pressing issues facing our communities and we believe that targeted investments to research and infrastructure in areas of importance to all Canadians will support the translation of cutting-edge research into real-world solutions and help ensure prosperous and secure communities.

Providing targeted support to institutions with a track record of industry partnerships, international collaborations and world leading researchers helps to build a reputation for excellence for the institution and its surrounding community. This in turn attracts businesses, highly qualified people and further investment in that community. Implementing this clustering model, so successful in places like Silicon Valley and Boston, would allow Canadian businesses to start, grow and thrive at home. We

believe McMaster already shows this potential through our partnerships with industry, our surrounding institutions and our surrounding communities. We would encourage targeted support to the following Canadian priorities:

#### *Advanced Manufacturing*

We continue to make strategic investments in advanced manufacturing to develop our research and training capacities. The Government of Ontario is investing \$35M towards a unique \$50M Advanced Manufacturing Consortium involving McMaster and two other top research-intensive and industrially collaborative universities. This partnership recognizes our collective strengths in this area of research and the importance that advanced manufacturing has within our local economies. The Consortium is intended to lead Ontario in advanced manufacturing in the broadest sense, including in emerging sectors such as next-generation additive manufacturing, and digital components and devices, and has the potential to make significant impact on a global scale.

Our Biomedical Engineering and Advanced Manufacturing (BEAM) project with Germany's Fraunhofer Institute is evidence of how targeted government investment can attract international investment and position us at the leading-edge in this sector. This project includes municipal, provincial and federal support (through FedDev Ontario) and engages a significant number of industrial partners. McMaster is also continuing to make impressive contributions to the sector through the McMaster Automotive Resource Centre, which recognizes the importance of the automotive industry in Southwestern Ontario.

#### *Antimicrobial Resistance*

The Michael G. DeGroote Institute for Infectious Disease Research (IIDR) is making a substantial impact in the area of infectious diseases and antimicrobial resistance. Its experts have won international recognition for innovative and rigorous infectious disease and antimicrobial research programs and have developed the specialized expertise Canada needs to be an international leader in this field. Infectious diseases kill thousands of Canadians every year and are the world's most common killers of children and the elderly. Infectious disease costs are measured in a number of ways, including the effect of disease on health and quality of life, in dollars spent on healthcare interventions, and in lost productivity.

Federal and provincial investments in the IIDR have created a unique combination of equipment, expertise and capacity that cannot be found elsewhere in Canada, let alone the rest of the world. McMaster would encourage the government to focus investment, as other nations have, in this critical area to ensure Canada's position as a global solutions leader.

#### *Optimal Aging*

Aging is an inevitable reality for all Canadians. By 2021, 18% of Canada's population will be 65 years and older, and that number reaches 23% by 2041. Helping older Canadians live a better quality of life, and enabling them to make positive, healthy choices to enhance their independence are important goals that the government has set.

McMaster has a range of multidisciplinary research experience in this field. This expertise has spurred the establishment of the McMaster Institute for Research on Aging, which will leverage areas of strength in aging across our six Faculties and capitalize on our interdisciplinary collaborations to address the big questions in aging. McMaster is also host to the CIHR-

supported Canadian Longitudinal Study on Aging, the national, long-term study of adult development and aging, and has a range of other established initiatives in the field of optimal aging, such as the TAPESTRY project, the Labarge Optimal Aging Initiative and the Gilbrea Centre for Studies in Aging. Thanks to these initiatives, the University was able to launch the McMaster Optimal Aging Portal in 2014. This unique portal ensures that relevant and trusted information about optimal aging is available to all Canadians.

### *Investing in Indigenous Education Addresses the Past and Builds the Future*

We commend the government on its response to the recommendations of the *Truth and Reconciliation Commission* and for the significant investment in First Nations primary and secondary education in Budget 2016. We also share the government's commitment to support Indigenous students who wish to pursue a postsecondary education. Postsecondary education is critical to the economic and social success of our country and therefore more needs to be done to narrow the gap between Indigenous and non-Indigenous postsecondary education attainment rates.

McMaster's geographic proximity to Six Nations of the Grand River, the largest reserve in Canada, along with a quarter century of collaborative work developing Indigenous educational and research programs, has positioned us to help lead the way as we enter this next phase of reconciliation.

McMaster has recently approved the creation of the McMaster Indigenous Research Institute (MIRI). MIRI will promote and foster collaboration on Indigenous research and knowledge, support community capacity building and priorities, and create a framework for Indigenous research that can be applied across Canada to support Indigenous communities in realizing their aspirations for economic, social, and cultural prosperity. McMaster also recently hosted, along with Universities Canada, a two day forum to discuss the current status of Indigenous Research in Canada, raise awareness of Indigenous knowledge, ethics and research methods, and identify opportunities for innovation, collaboration and long-term systemic change.

McMaster provides programming and pathways to success for Indigenous students through our enhanced Indigenous Studies major and our innovative Indigenous Undergraduate Summer Research Scholar program. The program provides Indigenous students with the opportunity to engage with a variety of research methods and disciplines to give students a sense of graduate student life in a culturally relevant way. We believe this model could be replicated across the country and is effective in reducing barriers to access post-graduate education while using Indigenous knowledge and teaching methods in the classroom as recommended by the Truth and Reconciliation Commission.

### *Conclusion*

McMaster University intends to continue working as an active partner in both Ontario and Canada's economic development. McMaster generates ground-breaking discoveries that have positive impacts in Canada and beyond.

We appreciate the opportunity to make this submission as the government develops its next Budget. Should you have any questions or would like more information, please contact:

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