



**Queen's**  
UNIVERSITY

# Strategic Framework

**2014-2019**

**Year Three Implementation Report**

# Principal's Message

Queen's University now finds itself at the mid-way mark of the first iteration of the Strategic Framework.

I am pleased that this compilation of strategic directions – coupled with outcome targets and measures – continues to serve us well as an institutional dashboard. The Strategic Framework steers decision-makers at Queen's toward realizing our vision to be a university that uniquely combines high student engagement, exceptional student outcomes, and one of the highest degrees of research intensity in Ontario. In a succinct fashion, it informs the Queen's community about the current state of progress toward our goals.

The Year Three Implementation Report identifies successes and challenges across all four strategic drivers – student learning experience, research prominence, financial sustainability, and internationalization. These lessons will guide our future efforts as we head toward the final two years of this Strategic Framework.

Over the past year, a focus on diversity and inclusion has come to complement our emphasis on Strategic Framework goals, and we will continue along this path. As our experience so far with the Strategic Framework tell us, once we know where we stand, and we know where we want to go, we can all work together to reach challenging goals.

I wish to thank all members of the Queen's community who support our efforts to move Queen's toward a better future for all.

Sincerely,



Daniel Woolf  
Principal and Vice-Chancellor

# Introduction

We have arrived at the approximate midpoint of our five-year Strategic Framework timeframe. This third annual report on the implementation of the 2014 – 2019 Strategic Framework updates our progress towards our planning targets during the 2016-17 academic year, and highlights some of the initiatives we have implemented to move us toward those targets. Our overarching goal is to ensure Queen's remains a university recognized as much for research excellence as for its transformative student learning experience. The dozen or so Strategic Framework metrics capture essential elements of this goal, while Faculty/School, service unit and University-wide implementation activity indicates that the Strategic Framework is being incorporated throughout Queen's.

Progress on the Strategic Framework's four pillars is examined through the use of various metrics:

## 1 Student Learning Experience

- Undergraduate Student Engagement
- Graduate Student Engagement
- Undergraduate and Graduate Experiential Education Opportunities
- New Credentials: Professional and other Innovative Programming

## 2 Research Prominence

- Research Intensity and National Position
- Tri-Council Funding
- Alignment with the Strategic Research Plan

## 3 Financial Sustainability

- Revenue Generation
- Revenue Diversification
- Cost Containment

## 4 Internationalization

- International Research Engagement
- International Undergraduate Student Recruitment
- International Student Engagement

We also monitor and report on two sets of supplementary indicators in the Appendix – the quality of our student population and additional dimensions of financial sustainability.

For previous reports on Queen's Strategic Framework, please refer to

- *Strategic Framework: 2014 – 2019* (April 2014) for a preliminary overview of the Framework, its objectives, and metrics under consideration;
- *Strategic Framework: 2014 – 2019 Initial Report* (September 2014) for a detailed description of the Framework's metrics;
- *Strategic Framework: 2014 – 2019 Setting Targets for the Strategic Framework's Key Performance Indicators* (December 2014) which establishes interim and final targets for the Framework's metrics;
- *Strategic Framework: 2014 – 2019: Year One Implementation Report* (December 2015) for a 2014-15 progress report;
- *Strategic Framework: 2014 – 2019: Year Two Implementation Report* (December 2016) for a 2015-16 progress report.



# Student Learning Experience

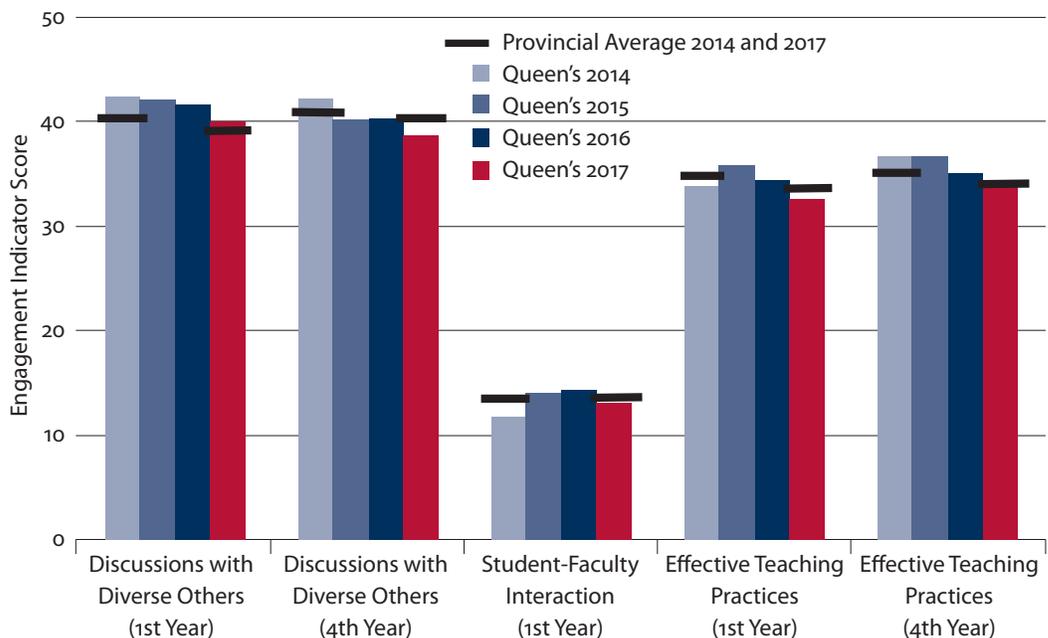
## Undergraduate Student Engagement

We assess undergraduate engagement using the [National Survey of Student Engagement \(NSSE\)](#), which measures numerous dimensions of student behaviours and institutional practices known to be associated with positive learning outcomes. Relative to provincial and national averages, Queen's performs well on many of these dimensions, exceeding average scores and in some cases placing in the very top tier of Canadian universities. However, a few of the 20+ dimensions are the focus of our continuing efforts. "Discussions with Diverse Others" measures the level of interaction among students of different ethno-cultural, religious and cultural backgrounds. "Student-Faculty Interaction" gauges out-of-class connections between students and faculty members. And "Effective Teaching Practices" assesses student perceptions of in-class experiences and instructor feedback. Across each of these dimensions, we seek to attain or exceed the provincial average by 2019 and in so doing, enrich the student experience.

Our results from the 2014, 2015, 2016 and 2017 NSSE administrations indicate that our performance in these critical areas has remained relatively stable over time and in relation to the provincial average (within sampling range of error). However, we are not experiencing the modest annual growth in engagement scores envisaged in our target. We intend to assess and intensify our engagement implementation efforts in the hope of achieving measurable improvement over the next two to three years. One important lesson learned is that NSSE scores are remarkably stable over time and unlikely to show significant and reliable year over year change.

Figure 1

**Undergraduate Student Engagement:  
Queen's 2014 – 2017 Performance against the Provincial Average**



## Discussions with Diverse Others

Improving access for and supporting students in under-represented groups are key elements in increasing interaction among diverse students. The following discussion provides some examples of the work underway in this area.

Services for Queen's 1,500 students with disabilities are provided through a number of channels including [Start Up](#) – a transition support service program offering appointments, drop-ins and small group sessions that assist students in adjusting to their new environment, connecting with peers, and acquiring study and learning skills (including gaining access to and using adaptive technologies). Construction continues on the [Innovation and Wellness Centre](#), which will contain a new examination centre that will allow enhanced coordination, scheduling and delivery of a growing number (3,600) of increasingly complex examination accommodations. The university implemented policy and procedures on academic accommodation consistent with requirements of the Ontario Human Rights Commission.

Queen's has developed and will implement a first generation admission pathway based on strong evidence of student academic preparedness and potential, that will involve support to students during the application process and following admission. We continue our involvement with [Pathways to Education](#) programs in low-income neighbourhoods across the province, and offer free transportation to and participation in Summer Orientation and Fall Preview activities, after-school activities for high school students, peer mentoring by *Pathways* alumni, and renewable entrance awards.

Services to Indigenous students are offered through [Four Directions Aboriginal Student Centre](#) (FDASC), the recruitment/ admissions process and Faculties and Schools. FDASC programs include the Aboriginal Youth Leadership Program (weekly after-school sessions for youth in grades 7 – 12 focusing on health, leadership skills and academic enrichment); and the Leaders Empower Together program (cultural awareness and education involving Indigenous and non-Indigenous youth aged 17 – 24, led by a newly appointed Aboriginal Outreach Worker). In 2016-17 Queen's expanded its Indigenous outreach and recruitment with visits to recruitment fairs and Indigenous communities throughout Ontario and Quebec. Since 2011-12, Indigenous applications have increased by 80%, offers of admission by 161%, and acceptances by 156%. On the academic side, the Faculty of Arts and Science has introduced and is developing several courses in Indigenous language and culture that will provide the framework for the Certificate in Indigenous Languages and the Certificate in Mohawk to be introduced in upcoming academic years. A team from the Faculty of Engineering and Applied Science worked with over 600 Indigenous youth at several Indigenous schools contributing to in-class enrichment, teacher coaching and after school robotics clubs. The Faculty of Education has received approval for an Indigenous Language Immersion Teacher Education Program on Manitoulin Island, slated to begin in May 2018.

Queen's international student recruitment efforts have resulted in a substantial increase in international undergraduates studying at Queen's; this recruitment success is summarized in the "Internationalization" section below. [Queen's University International Centre](#) (QUIC) promotes an internationally informed and cross-culturally sensitive campus that promotes connections among students from across the globe including social network building, welcome and community-building events and activities, workshops and conversation groups. Student participation in intercultural competency training activities at QUIC increased by 37% in 2016-17.

The University has now consolidated data from numerous sources to produce more reliable reports on under-represented groups at Queen's that will inform ongoing [Diversity and Inclusion](#) planning and program/service development.

## Student-Faculty Interaction

The Student-Faculty Interaction indicator incorporates four types of out-of-class contact with faculty members: discussions of career plans, course topics and academic performance, and student involvement with faculty in out-of-class activities. While Queen's 4th year scores on each of these are well above the provincial average, our 1st year scores lie at or slightly below the provincial average (though there is preliminary evidence that Queen's scores have been increasing).

At this time our student-faculty ratio does not compare well to our competitors. This is attributable to a lag in increasing our faculty complement as our student numbers have increased. The current five-year Faculty Renewal plan which projects 200 hires including 50 net new appointments will make a difference throughout the University, including in student-faculty interaction.

Faculties and schools are working to improve student-faculty interaction in various ways. The Faculty of Arts and Science is developing initiatives to expand opportunities for undergraduate students to actively engage in research projects. The Faculty of Engineering and Applied Science has instituted a mentorship program in which 1st year students meet with faculty supervisors to discuss career goals and related academic opportunities. And the Faculty of Law now ensures that students will receive at least one 1st year course in a small-section format to enhance faculty-student interaction; and has hired an Educational Innovation Developer to support innovative teaching and learning and improved assessment.

## Effective Teaching Practice

This indicator captures the clarity of course goals and requirements, course organization, the use of examples and illustrations in class; and the quality and promptness of formative and summative feedback on student work. Both 1st and 4th year scores on these five component items are, for the most part, comparable to provincial averages, with instructor feedback showing slightly lower than average results.

University-wide improvement on this front is proceeding in several areas and we are legitimately seen as leaders in Ontario. First, through the provincial Quality Assurance Process, cyclical program reviews are becoming increasingly rigorous. All of Queen's programs have now developed explicit learning outcomes/expectations and over half have created curriculum maps to support course and curriculum design and inform course goals and requirements. (The remaining half will develop curriculum maps as part of our cyclical program review process.) Second, Queen's has completed the 4-year [Learning Outcomes Assessment Consortium \(LOAC\) project](#). The aims of the project are (in part) to quantify student achievement of transferable learning skills outcomes and to develop reliable and sustainable means of assessing student learning in these areas. Several assessment tools were tested; the most promising is the use of VALUE rubrics. Phase 2, to begin soon, will deal with the alignment of VALUE rubrics and course objectives. Third, the USAT course/instructor assessment survey is being redeveloped to better measure teaching practices and options will be piloted in the coming year. Finally, the Centre for Teaching and Learning has expanded its faculty development offerings (participation increased by 25% in 2015-16); it has supported university-wide implementation of the OnQ learning management system, which facilitates improved monitoring of student progress, better communication, and improved instructor feedback; and it has participated in the design and implementation of 4 new active learning classrooms.

Within Faculties and Schools, a number of other initiatives continue or were introduced in 2016-17. Ongoing assessment of the 14 large introductory blended learning courses in the Faculty of Arts and Science is ensuring that engagement improvements are firmly embedded in course and delivery design. And Queen's continues to lead Ontario in receiving grants through eCampusOntario; in 2016-17 Queen's was awarded grants to develop 5 new online certificate programs and 2 new graduate programs; to research faculty supports in online

teaching and learning; and to explore barriers to the participation of non-traditional and international students in online studies. The Faculty of Engineering and Applied Science has expanded its Teaching and Learning Team and has established the Teaching and Learning Lab; both support faculty in the design and development of technology-enabled courses. The Faculty also launched the Dean's Educational Enhancement Grants to support curriculum renewal using the most up-to-date evidence-based practices. Finally, the School of Medicine recently became the first in Canada to fully implement competency-based assessment.

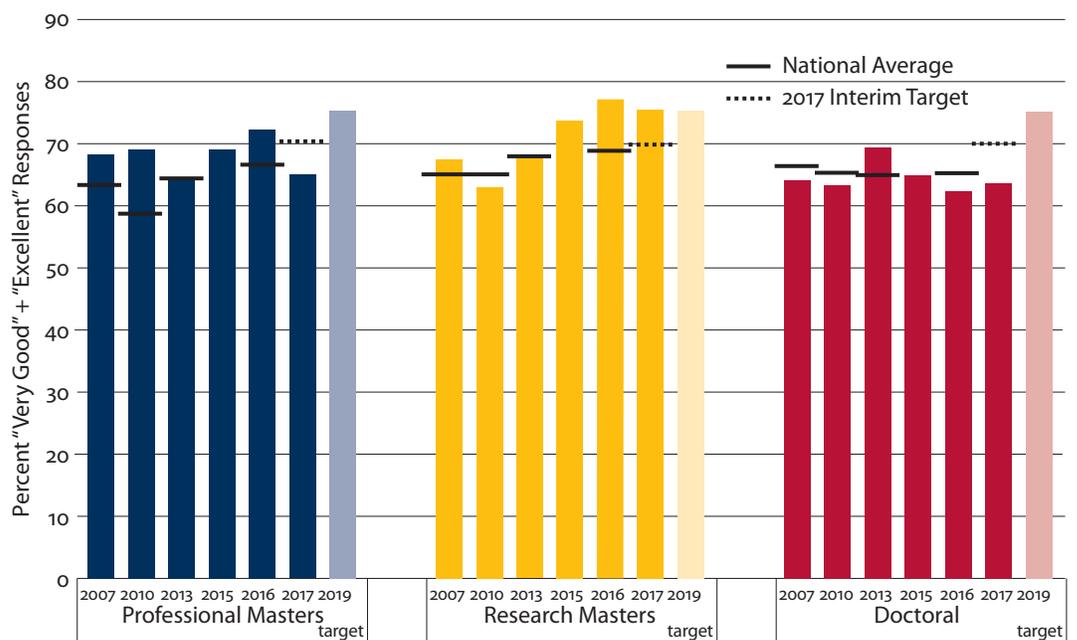
## Graduate Student Engagement

Graduate student engagement metrics are obtained from the [Canadian Graduate and Professional Student Survey \(CGPSS\)](#), a consortium project now involving 50 universities. The survey deals with various aspects of the graduate student experience, and includes a summary student rating of the "overall academic experience" which we examine separately for professional masters, research masters and doctoral program students. Our goal is to increase this rating (comprised of "very good" and "excellent" responses) from about 65% in 2013, to 70% by 2017 and to 75% by 2019 in all three groups.

Queen's results for the 2013, 2015, 2016 and 2017 rounds of CGPSS generally indicate continuing improvement in the professional masters and research masters experience rating. (Relatively small sample sizes and the resulting 5 – 6% sampling error make it difficult to interpret the 2017 decline in the professional masters rating.) The research masters rating has, however, grown consistently and currently exceeds our 2019 target. The doctoral rating has remained essentially unchanged for the past three years. Though not a Strategic Framework metric, Queen's undergraduate students report (via NSSE) "good" plus "excellent" ratings of their entire educational experience in the 85 – 88% range. By way of rough comparison, if CGPSS overall academic experience ratings were to include "excellent", "very good" and "good" responses, Figure 2 would show experience ratings of 85 – 95% across the three groups.

Figure 2

### Graduate Student Engagement: Overall Academic Experience Ratings by Program Type



University-wide, we are addressing academic experience ratings on several levels. Earlier in 2017, all Ontario universities administered the first Graduate Program Outcomes Survey (GPOS) in conjunction with the Ministry of Advanced Education and Skills Development. All diploma, masters and doctoral program graduates from 2009 – 2014 responded to questions about their subsequent educational activities and about their original career expectations and their experiences since graduation; they provided the information necessary to construct detailed employment profiles; and they assessed the impact and importance of various components of their graduate program. Queen's played a major role in the design of this project. Analysis for Queen's and for Ontario overall is expected to be available in Spring 2018.

We continue to develop new graduate credentials that ladder from graduate diplomas to masters degrees, that combine undergraduate and masters degree programs to provide accelerated routes to graduate degree completion, and that promote masters students to doctoral programs without having completed the masters degree or through advanced standing in the doctoral program. Virtually all graduate programs have developed [Grad Maps](#) that identify the academic milestones and timelines for timely completion of academic requirements, address the value proposition of the degree and the types of careers that graduate pursue, and provide guidance about the suite of [Expanding Horizons](#) professional and skills development opportunities (provided as an official Supplemental Training Record upon completion of degree requirements).

Policy and regulation changes to comprehensive/candidacy exams and thesis formats introduced in early 2017 enable doctoral program structure and content to better align with student aspirations and goals. Students can now explore the policy implications of their research or its broader impacts beyond the discipline, contributing not only to the thesis, but to student portfolios for navigating the job market. Doctoral programs are also placing renewed emphasis on experiential learning opportunities beyond students' research. Within the Expanding Horizons framework, the [PhD-Community Initiative](#), introduced as a pilot in 2016 and now rapidly expanding, forms interdisciplinary teams of doctoral students who apply their research training and knowledge to challenges identified by community partners. Participating students describe the experience as transformative. Faculties have promoted the inclusion of internships into graduate degree requirements: all four recently developed doctoral programs have embedded internships. An increasing number of Mitacs Accelerate grants in both STEM and non-STEM programs provide experiences for students to translate their academic training into non-academic environments.

Within Faculties and Schools, numerous initiatives in 2016-17 dealt with local service, curricular and research priorities. Responses to the Faculty of Education's graduate student services and support needs survey led to improved support to timely degree completion; increases in faculty supervisor availability; and enhanced research support (mentors, grant and manuscript writing support); and increased research communications through the Faculty newsletter. The Faculty of Engineering and Applied Science introduced workshops for advanced doctoral students and post-doctoral researchers dealing with careers in research, research promotion, funding programs and publishing support; and it introduced a new course in Professional Practice (leadership, innovation and project management) in the MEng program that will be made available to students in all graduate Engineering programs.

Last year saw the establishment of the [Queen's Health Sciences Graduate Mentor Program](#): a volunteer program provided by current graduate students enrolled in health sciences departments (DBMS, Neuroscience, Pathology, Public Health) that matches upper-year graduate student peer mentors with incoming graduate students to facilitate informal out-of-classroom conversations, knowledge-sharing and network-building. The goal of the program is to provide new graduate students an opportunity to meet and talk with senior graduate students, allowing them to more easily integrate and transition into the [Queen's](#) community.

Other local initiatives include new partnerships in China and India that increase opportunities for joint programming and graduate study exchanges (Faculty of Law); enhanced mentorship and career guidance services through a new Office for Research Career

Development (Faculty of Health Sciences); a greater number of high quality clinical training opportunities through more international clinical placements and preceptor support for local placements (School of Rehabilitation Therapy); collaborative international dual degree programs (Department of Chemistry, Faculty of Education); and a multi-day Graduate Student Consortium for MSc and PhD students involving 3-minute thesis (3MT) and summer research project presentations; and various workshops – math boot camps, early publishing, job market preparation and building a research career (Smith School of Business).

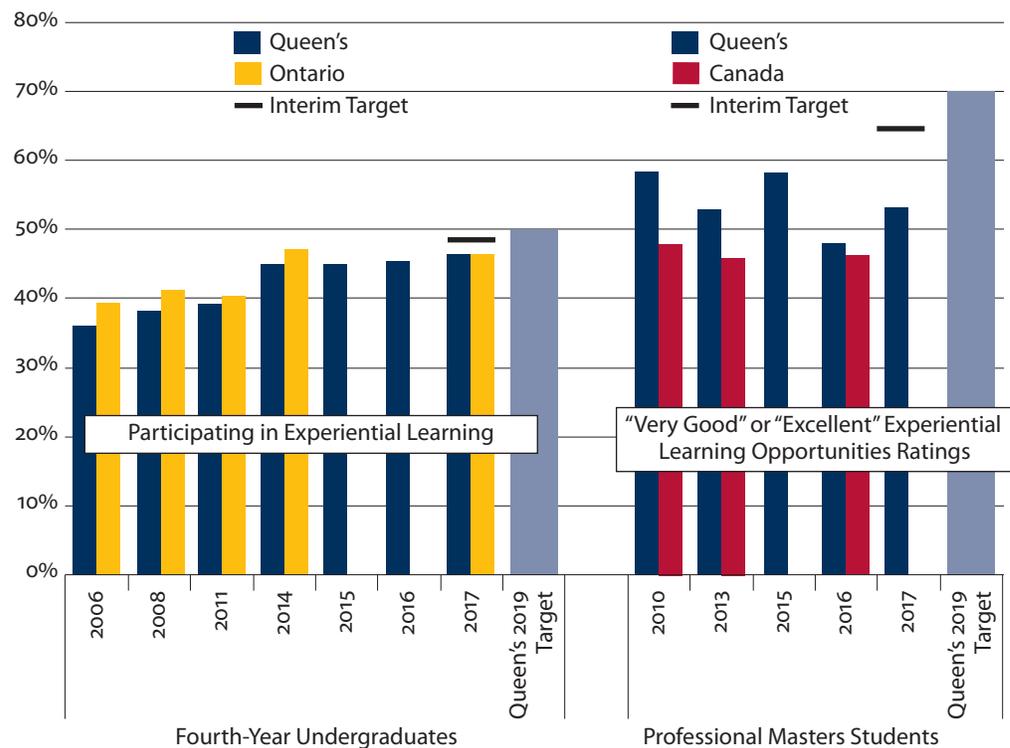
## Undergraduate and Graduate Experiential Education Opportunities

Experiential learning (EL) provides both undergraduate and graduate students additional opportunities to integrate practical and work-related experience into their programs of study. At the undergraduate level, we use the percentage of fourth-year NSSE respondents who have completed, or who are currently involved in, an “internship, co-op, field placement, student teaching or clinical placement”; our goal is to increase this participation rate from 45% in 2014 to 50% by 2019. At the graduate level, we use CGPSS to count the percentage of professional masters program students who rate EL opportunities as “excellent” or “very good”. Our goal is to attain a 60% rating by 2017 and a 70% rating by 2019.

Our most recent NSSE results indicate a modest continuing upward trend in undergraduate EL participation: from 36% in 2006 to 46% in 2017, growth consistent with our 2019 target. Queen’s 2017 CGPSS results for professional masters ratings suggest a partial recovery from the decline reported last year. As noted above, smaller CGPSS sample sizes make varying ratings more difficult to interpret; however, it appears that we are not moving quickly enough toward our graduate EL target. We are confident, though, that efforts currently underway (summarized below) will result in progress in future reports.

Figure 3

### Experiential Learning: Undergraduate Student Participation and Graduate Student Ratings



Increased participation in experiential learning (and other high impact practices) is a Provincial Government priority that is reflected in our 2017-2020 Strategic Mandate Agreement (SMA), and that will almost certainly play a larger role in subsequent rounds of SMA's. Queen's has two members on the COU Task Force on Quality Indicators that is exploring undergraduate and graduate EL measurement methods and metrics, including "course tagging" (course- and program-level coding to indicate the types and intensity of EL at the student level), co-curricular records, job-readiness assessments and employer surveys for possible incorporation into future rounds of SMA's.

A wide variety of Queen's services focus student attention on EL and provide opportunities for pursuing EL experiences. *It All Adds Up* is an award-winning Queen's coordinated national social media campaign that encourages students to reflect on career skills acquired through curricular and co-curricular activities and to translate these skills into career plans. Second, employer/partner relations services include career days (involving 4,300 students and 265 recruiters last year), resume clinics, and customized recruiter events (52 sessions involving 1,130 students). Third, the use of undergraduate *Majors Maps* and (noted above) graduate Grad Maps is rapidly increasing and students report that the maps increase confidence and help them understand the skills and career options associated with their programs at Queen's. Fourth, the *Experiential Learning Hub* was formally launched in 2016-17, providing students, employers and community organizations a central point of contact and a range of resources. And the Queen's Cares community service learning initiative experienced a doubling of participants in 2016-17.

Each of Queen's Faculties and Schools is also implementing or expanding EL initiatives. The Faculty of Education is exploring the introduction of credit internships in its graduate programs; and one-fourth of its BEd students pursue alternative practica outside of Canada in 45 different countries. The Faculty of Engineering and Applied Science recently appointed an Associate Director of Career Services to support EL and career planning and to improve implementation of internships. The Faculty of Law now offers 20 advocacy skills courses and 30 practice skills courses. New programs in the Faculty of Health Sciences (Graduate Diploma and Master of Medical Sciences, Doctor of Science in Rehabilitation Leadership, Masters in Aging and Health) all offer embedded EL. The Smith School of Business Career Advancement Centre expanded its suite of services to include, for example, coaching tailored to students' career interests and access to experts in residence in finance, consulting and marketing and industry-specific recruiting events involving over 70 firms.

## New Credentials: Professional and Other Innovative Programming

Graduate programming is evolving rapidly to accommodate shifting disciplinary and professional interests and demands for flexible delivery. Our target is to double the number of professional and other innovative graduate programs between 2014 and 2019 and to increase enrolment in these programs to account for nearly one-half of total graduate enrolment. For the purposes of the Strategic Framework, we define innovative programs as those that (i) offer advanced course work and applied research opportunities in specialized fields, (ii) are offered in alternative locations or through alternative delivery formats; (iii) cater to non-traditional and/or part-time students; (iv) are offered jointly with other universities; (v) are interdisciplinary, and/or (vi) offer alternative/laddered entry and exit points. In 2017-18 forward, enrolment planning is managed within the funding and enrolment provisions of updated Strategic Mandate Agreements and the new Ontario university operating grant framework.

We remain on track to achieve both our new program and new program enrolment targets. Six new professional and other innovative graduate programs have been introduced since 2013-14 for a total of 23 programs; several others will be launched in the next few years. Enrolment in these programs has increased from about 1,000 in 2013-14 to the current 1,321, a 30% increase. Enrolment across all professional graduate programs has reached 2,276, in excess of our interim target of 2,099.

Figure 4a

### Innovative/Professional Graduate Program Enrolments

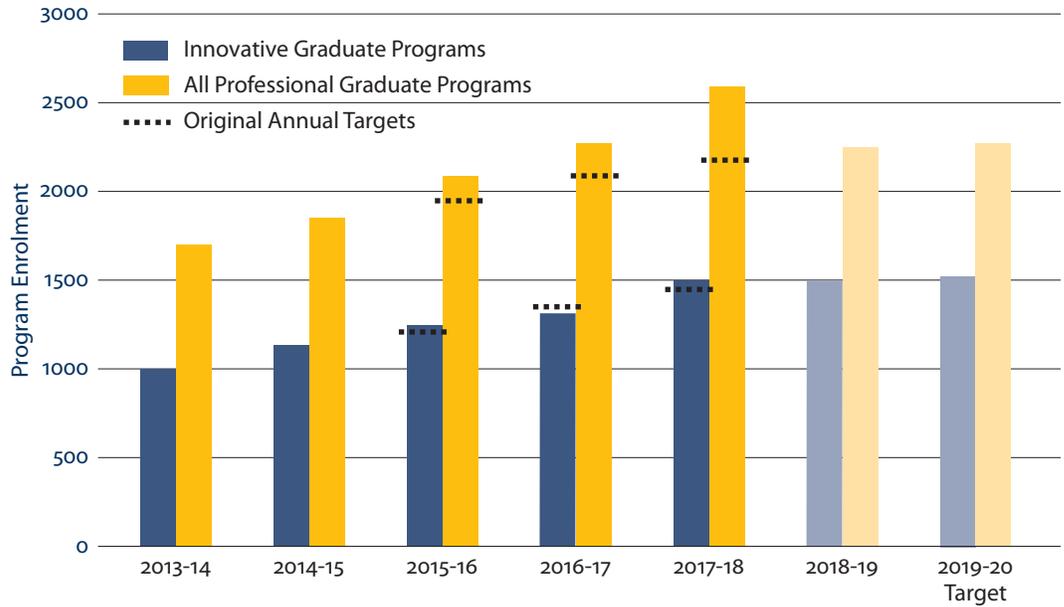
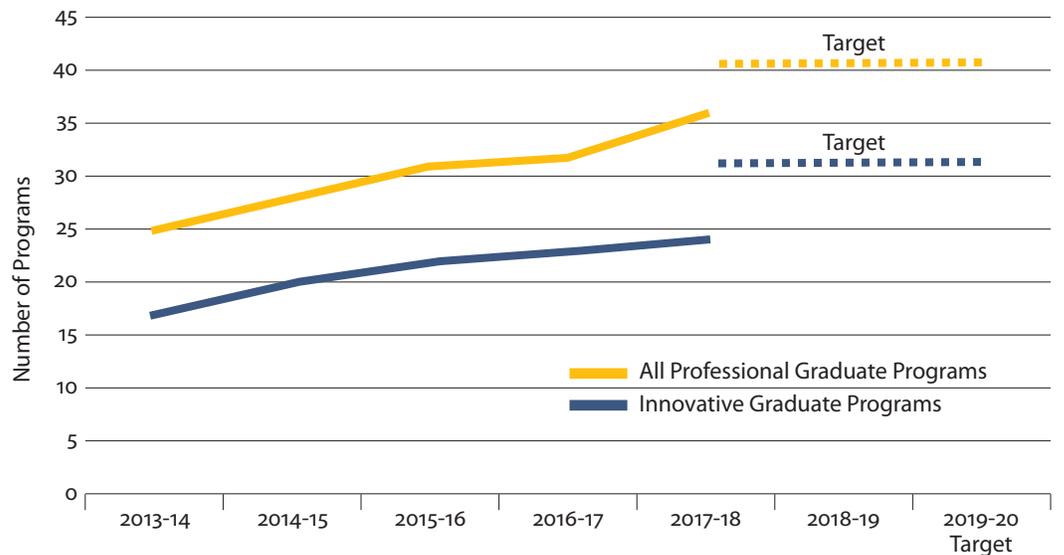


Figure 4b

### Number of Innovative/Professional Graduate Programs



New program development at Queen's is occurring on numerous fronts beyond those discussed above. In the past few years, these have included new undergraduate major specializations and majors, undergraduate certificates, and collaborative degree programs with other universities, with several new graduate diplomas and degrees in various stages of planning and development (Faculty of Arts and Science); extensive undergraduate curricular revisions in the Faculty of Engineering and Applied Science to conform to CEAB outcomes-based accreditation procedures; and planning for a range of specialized graduate diplomas and degrees in the Faculty of Health Sciences (e.g. Pharmaceutical and Healthcare Management Innovation, Bioinformatics, Biotechnology and Translational Medicine). These programs are (will be) offered in classroom and/or online formats.



# Research Prominence

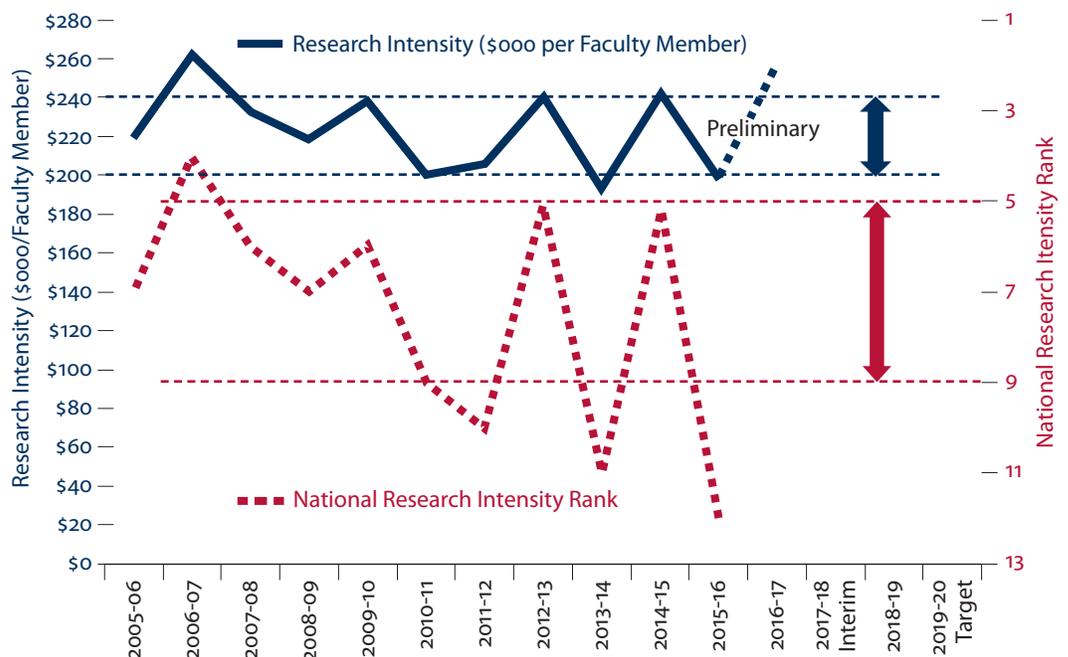
The Canadian research environment has been challenging since 2008, with the plateauing of federal funding and increased competition nationally. As a balanced academy, we have resisted subsidizing research at the expense of the student experience, as some of our competitors have done. The Naylor report makes a strong case for faculty reinvestment, which would be well timed with our current ambitious faculty renewal plan. Finding other sources of research revenues, notably through increased industry partnerships, is also paramount. The appointment of our first Vice-Principal Research and Innovation will be critical in implementing a strategy for research intensification.

## Research Intensity and National Position

As a member of the U15 group of Canada's most research-intensive universities, Queen's is conscious of its national and international position as a leader in research and innovation. We seek to maintain or improve on this position while remaining acutely aware of the distinctive student experience we offer. We measure this national research standing using research intensity (ranked research revenue per faculty member) as calculated by [Research InfoSource](#). Our goal is to maintain research revenue at between \$200,000 and \$240,000 per faculty member and national research intensity rank at between 5th and 9th place.

Figure 5

**Queen's University Research Intensity and National Research Position**



In 2015-16, our research fell just below our target range (at \$197,000 per faculty member), while our national rank fell to 12th. Our 2016-17 financial statements indicate a rebound in research intensity to approximately \$260,000 per faculty member; our ranked national position will be published by Research InfoSource in October 2018 and will certainly increase from the 2015-16 level.

A key factor affecting research intensity is diversification of research revenue. While the competition for research funding from various national sources is becoming more intense, some of Queen's research foci are well positioned to adapt to both industry-funded research opportunities and higher levels of internationally funded and internationally collaborative research. The Faculty of Health Sciences (FHS) serves as an example of adaptation within this environment. The Faculty generated \$119 million in research revenue last year. Faced with a static faculty complement and a challenging CIHR funding environment, the Faculty has taken steps to improve grant success and bolster its research programs. Over the past several years, FHS has intensified efforts to work with industry and has substantially increased its industry co-authored publications. Similar increases have occurred for publications with international co-authors. International collaboration is encouraged through such programs as the Office of Global Health, the International Centre for the Advancement of Community-Based Rehabilitation, and the Canadian Cancer Trials Group (whose network spans 40 countries). The Faculty's Strategic Plan targets improvements in the health system, investment in infrastructure and people, investment in young researchers and research trainees, and concentration on research areas showing national leadership and international distinction. FHS is exploring with its three partner hospitals the formation of a joint research institute, the first of its kind in Canada. It is expected that the institute will offer an increased profile for research, opportunities for joint fundraising, increased research competitiveness and operational efficiencies, and enhanced talent recruitment and retention.

In several of Queen's other Faculties and Schools, the focus is on research promotion and graduate student recruitment (e.g. the Faculty of Arts and Science, see [universityresearch.ca](http://universityresearch.ca)) and increased grant and administrative support to researchers (e.g. Faculty of Education, Faculty of Engineering and Applied Science). As Queen's embarks on a sustained period of faculty renewal, it has deployed four new research advisors embedded in three faculties to support researchers in Tri-Council and other research grant opportunities.

Some examples of Queen's 2016-17 research successes include:

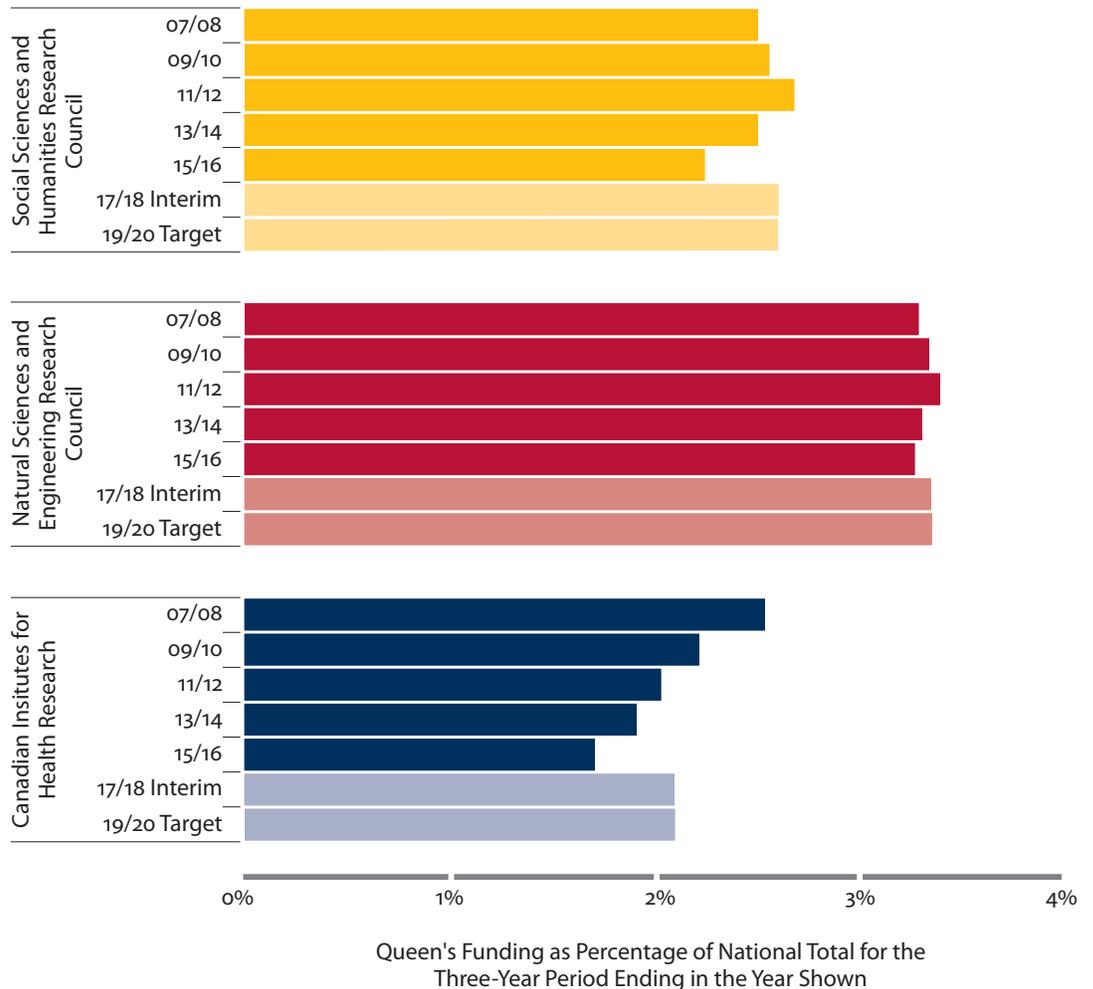
- \$64 million to create the [Canadian Particle Astrophysics Research Centre](#);
- \$29 million to support the [Sudbury Neutrino Observatory](#);
- \$24 million reinvestment in the [Canadian Frailty Network](#);
- \$24 million from the MasterCard Foundation (a portion of which is for research) to advance inclusive education for young people with disabilities in Ethiopia and other African countries;
- \$4 million to create the [Ontario Molecular Pathology Research Network](#);
- \$4 million to create the [W.J. Henderson Centre for Patient-Oriented Research](#);
- \$7 million to establish the [Queen's CardioPulmonary Unit \(QCPU\)](#);
- \$2 million to study the Indigenous community impacts of Indigenous leadership in renewable energy development;
- \$4 million to develop small scale, point-of-use photovoltaic residential power systems.

# Tri-Council Research Funding

Queen's share of funding from each of the three federal granting agencies serves as an indicator of our research success in a highly competitive and peer-reviewed research grants environment. For the three-year period ending in 2015-16, Queen's share of NSERC grants has remained relatively stable, while our shares of SSHRC and particularly CIHR grants have declined. In the case of CIHR, grant applications to some new funding programs were by invitation only at launch; three funding competitions have been cancelled; and application success rates are in decline (recently reaching 14%). Faculty renewal and growth in the faculty complement are key factors in future Tri-Council success. The challenge here is the provision by Faculties/Schools and the VP Research Office of pre-grant support and workshops that will reduce the time to Tri-Council research "success" for new faculty members. (Research indicates it may take 15 – 20 years post doctoral degree completion for faculty to reach peak research success.) As Queen's embarks on a major faculty renewal initiative support for new faculty will be critical.

Figure 6

## Queen's Tri-Council Research Funding Shares



# Alignment of Research Chairs with the Strategic Research Plan

Appointments and appointment renewals under the federally funded Canada Research Chairs (CRC) program and the university's Queen's National Scholars program continue to align with the four themes of the Strategic Research Plan (exploring human dimensions; understanding and sustaining the environment and energy systems; creating, discovering and innovating; and securing safe and successful societies). Eight such research chair appointments were made in 2016-17 and we remain on track to reach our final targets.

Figure 7

## Alignment of Research Chair Appointments with the Strategic Research Plan

	CRC <sup>2</sup>		CERC <sup>2</sup>		QNS		Total	
	Target <sup>3</sup>	Filled	Target	Filled	Target	Filled <sup>4</sup>	Target	Filled
2014-15 actual	13	13	1	1	5	7	19	21
2015-16 actual	6	6	0	0	2	3	8	9
2016-17 actual	5	4	0	0	2	4	7	8
2017-18 planned <sup>1</sup>	5		0		2		7	0
2018-19 planned	6		0		TBD		6+	0
2019-20 planned	6		0		TBD		6+	0
<b>Total<sup>5</sup></b>	<b>41</b>	<b>23</b>	<b>1</b>	<b>1</b>	<b>11</b>	<b>14</b>	<b>52+</b>	<b>38</b>

- 1 Projections are as of 2014-15
- 2 CRC and CERC data assume no increase or decrease in number of chairs relative to 2014-15
- 3 CRC targets include both renewals and new appointments
- 4 QNS 2014-15 "filled" value is cumulative to 2014-15
- 5 Recruitment delays may result in a lag between target and fill date

The current iteration of Queen's Strategic Research Plan (SRP) will conclude at the end of 2017. Over the past five years, several federal award programs (e.g. Canada Research Chairs) and the Queen's National Scholars program have contributed significantly to Queen's research excellence; and along with partnerships and innovation have contributed to the emergence and focus of research beyond traditional academic boundaries.



# Financial Sustainability

There is no question that the implementation of the Activity Based Budget Model has contributed to both increasing revenues and curtailing expenses. Rating agencies and provincial observers all agree that Queen's is in a solid financial position.

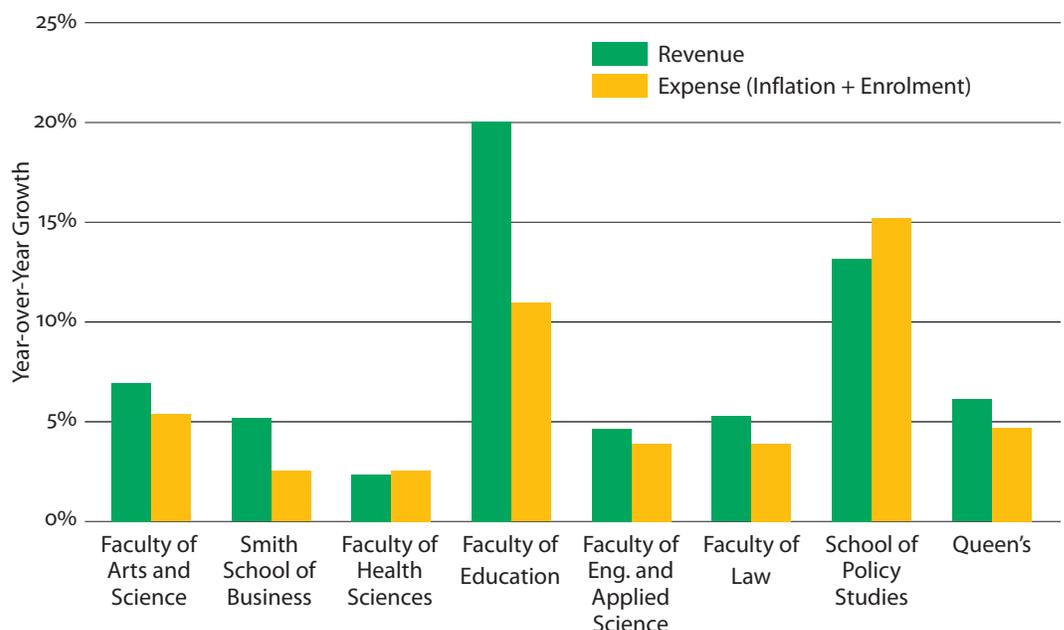
## Revenue Generation

Financial sustainability is a prerequisite for the success of our strategic academic and research goals. Queen's is now in the fifth year of implementation of our RCM budget. Queen's budget model and its associated processes have created strong incentives for Faculties and Schools to increase revenue, diversify revenue sources, and align their planning with overall university goals; and they encourage cost effective and responsive service provision within the shared service units. We measure financial sustainability in part by comparing Faculty and School revenue growth with expense growth (i.e. the combined effect of enrolment growth and inflation) in order to assess changes in real revenue per student. Our goal is to maintain revenue growth sufficient to at least offset the combined effect of inflation and enrolment growth. The Appendix presents several additional financial sustainability metrics that apply to the university as a whole.

The majority of Queen's Faculties and Schools experienced revenue growth exceeding expense growth in 2016-17, as did Queen's overall (6.17% vs. 4.74%).

Figure 8

Faculty/School Revenue and Expense Growth 2015-16 to 2016-17



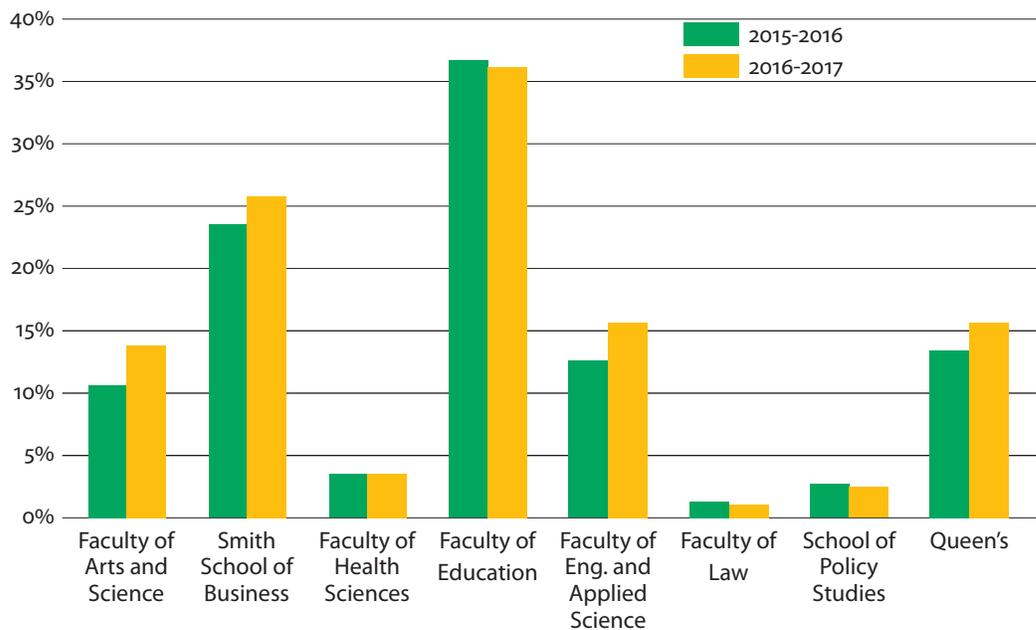
Faculty/School revenue growth in 2016-17 was driven by a combination of factors: domestic tuition fee increases (subject to provincial requirements for a maximum 5% cap in some programs, a 3% cap in others, and a 3% cap overall in 2017-18 and 2018-19); international fee increases; domestic undergraduate enrolment growth; domestic graduate growth (consistent with previously announced MAESD graduate allocations); increased international enrolment; and in some Faculties/Schools, growth in non-credit enrolment and tuition fees. The current round of Strategic Mandate Agreements (2017-20) with MAESD provides for specified increases in graduate enrolment to 2020; however, a decision on undergraduate flow-through growth funding has not yet been finalized or communicated.

## Revenue Diversification

Although we have not established a specific target, our goal is to continue to increase the proportion of university revenue obtained from non-government and non-regulated sources. Such revenue accounted for 11.4% of total operating revenue in 2013-14, and has increased annually to 12.2% (2014-15), 13.4% (2015-16), and 15.8% (2016-17).

Figure 9

### Percentage of Faculty Revenue from Non-Regulated and Non-Government Sources



For most Faculties and Schools, international student tuition is the largest component of non-government/non-regulated revenue growth. However, practical limits on international student enrolment in our undergraduate Nursing, Medicine and Law programs restrict their ability to access this revenue.

## Cost Containment

Having completed an extensive cost containment analysis in 2014-15, we remain focused on identifying and implementing cost-efficient service delivery models and service agreements. Key among these was the implementation in 2016-17 of acQuire, an e-procurement tool that will provide savings to the university through a user-friendly web interface that provides flexibility while focusing spending on preferred suppliers, and that allows the university to capture more granular data to analyze expenditure patterns and negotiate new and better contracts. In addition, the introduction of acQuire will create efficiencies in transactional processing, allowing staff time to be redeployed to more value-added activities.

Second, because of opportunities created by regulations in the Provincial energy market, the university has had the opportunity to reduce our electricity expenditures based on our consumption at selected points during the year. The peak demand program was initiated in 2012 and has been very successfully expanded over the last few years, saving several million dollars during this time. And finally, the University launched its new and improved card payment program in the Summer of 2016 which includes payment facilities through both a procurement card and centralized credit card program. Since launching the program over 400 suppliers have signed on to the program. In addition to generating rebates for the university, the card program creates efficiencies in payment processing.



# Internationalization

It was a tremendous validation of our recent internationalization efforts to be nominated as a finalist for the Global Learning, Research, and Engagement Awards of the Association of Public and Land-grant Universities (APLU), along with international powerhouses like Michigan State, the University of Washington, and the University of Calgary – the latter receiving the top honour. While much remain to be done, the change that has occurred since 2015 and the launch of our Comprehensive International Plan has been noteworthy and we should take pride.

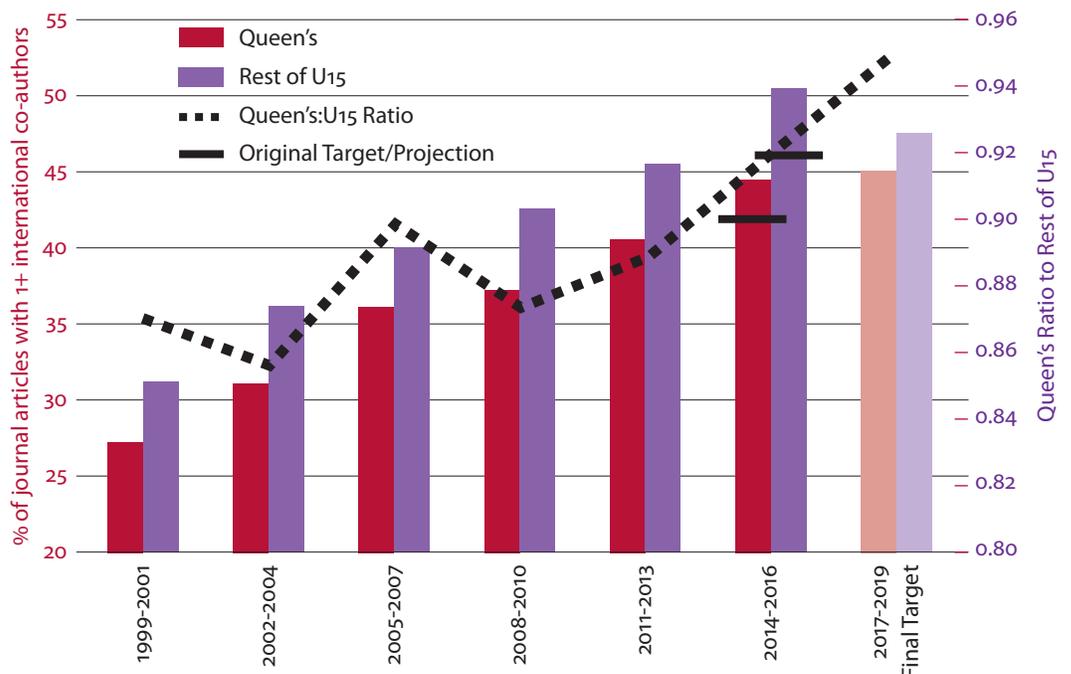
## International Research Engagement

International research collaboration is the “new normal” in a number of fields, as research activity becomes ever more globally integrated. We measure international research engagement using the “international collaboration index” (ICI) which measures the number of refereed journal articles with both a Queen’s co-author and one or more international co-authors, expressed as a percentage of all refereed journal articles over a 3-year period (with data provided by Elsevier).

Our 2019 goal is to achieve an ICI equal to 95% of the U15 average; we are on track to achieve or come very close to achieving this goal. The ICI within U15 universities has increased from just over 30% (1999-2001) to over 50% (2014-16) – an increase higher than projected only 3 years ago. The Queen’s:U15 ratio has kept pace with this growth and now stands at 44.6%

Figure 10

### International Research/Publication Collaboration



(92% of the U15 average). The next reporting window will capture 2017-19 and is expected to be available in the Fall of 2020. In addition to measuring Queen's presence in international research itself, collaboration increases the reach and profile of Queen's research and is consistent with international faculty and student recruitment efforts.

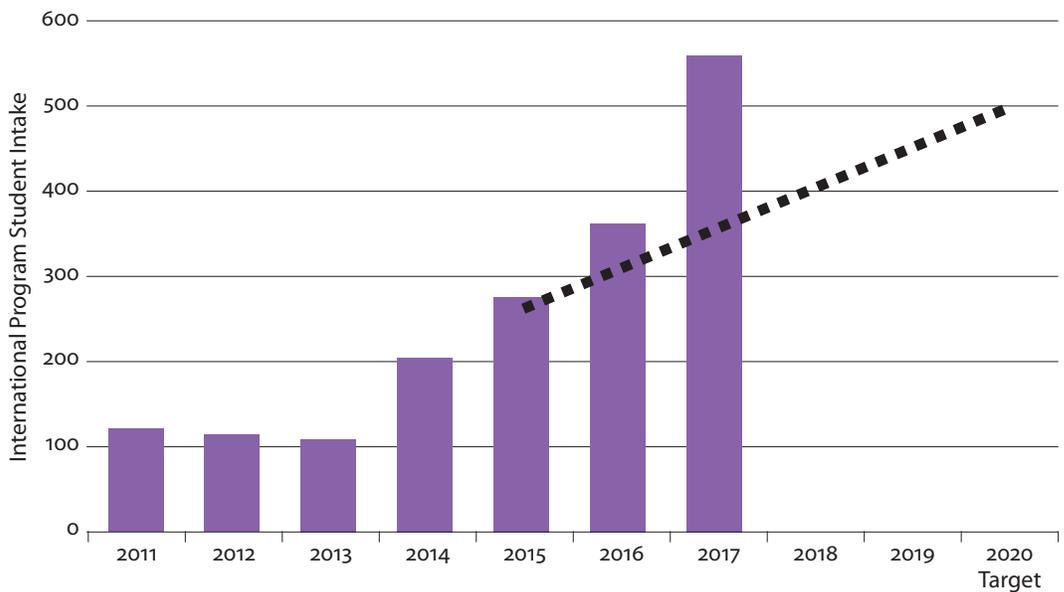
## International Undergraduate Student Recruitment

The presence of international students on campus benefits both international and domestic students by broadening their global perspective. Our 2019 target is for fee-paying international students to account for 10% of our incoming undergraduate class (about 500 students); if international *intake* is maintained at the 10% level, the entire student body will be comprised of 10% international students by about 2022-23.

Preliminary enrolment data for Fall 2017 indicates that we have already met and exceeded our 2019 target, with approximately 560 undergraduate international students arriving to study at Queen's (compared to just over 100 per year between 2011 and 2013). This success results from a number of longstanding international recruitment, English language training and bridging pathways, and student service initiatives introduced previously but continuing today, supplemented with more recent activity (e.g. an international student experience survey in the Faculty of Engineering and Applied Science).

Figure 11

### Queen's International Undergraduate Intake: Program Students



International enrolment decisions continue to be guided by the Comprehensive International Plan, the International Undergraduate Recruitment Plan and the Long-Term Strategic Enrolment Management Framework.

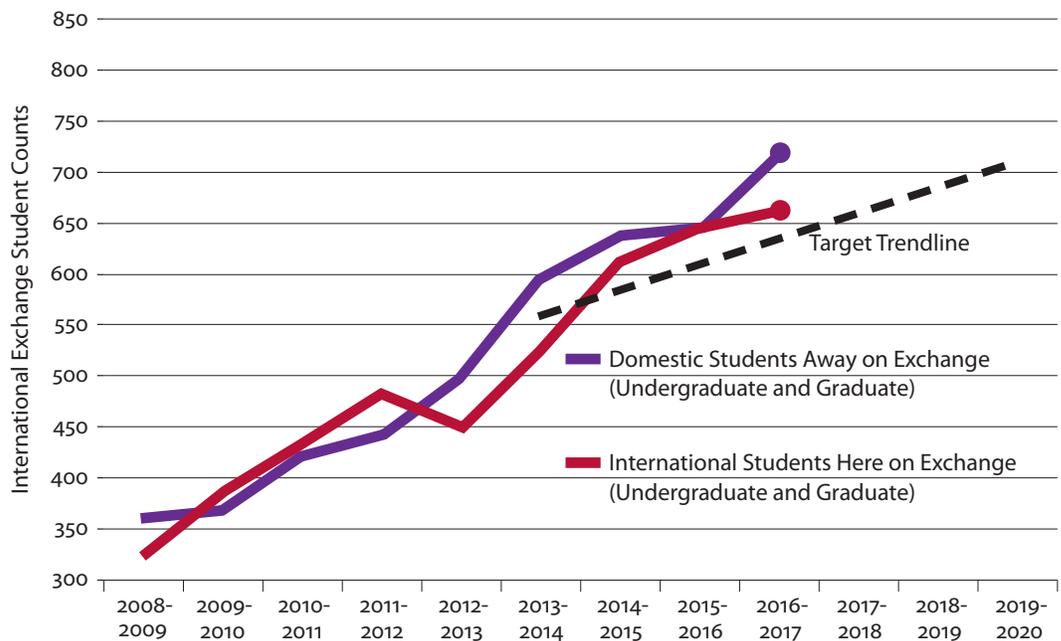
# International Student Engagement

Study abroad is one of a half-dozen “high impact practices” that research has shown to be associated with enhanced learning and skill development outcomes. We measure international student engagement using the number of students participating in international study exchanges, under the umbrella of reciprocal exchange agreements with 197 universities worldwide. Our goal is to increase participation in such exchanges by 25% between 2014 and 2019 – growth more than sufficient to offset increased enrolment.

Data for the 2016-17 year indicate 1,381 exchanges (718 Queen’s students away on exchange and 663 students studying at Queen’s on exchange), an increase over 2013-14 of 23% and well above our target trendline. Continued growth in exchange activity will be supported by new exchange partnerships and the provision of appropriate services to students here and away on exchange.

Figure 12

## International Students Here on Exchange and Queen’s Students Away on Exchange



Other student-centred internationalization activities not included in our study exchange metric include, for example, expansion of the Science program and launch of the Concurrent Education (Arts) program at the Bader International Study Centre; establishment of 2+2 undergraduate pathways with several universities in China and the United Arab Emirates; signing of a dual masters degree in Chemistry with the University of Stuttgart in Germany; and 24 students studying in China with funding from the Canada Learning Initiative in China (CLIC).

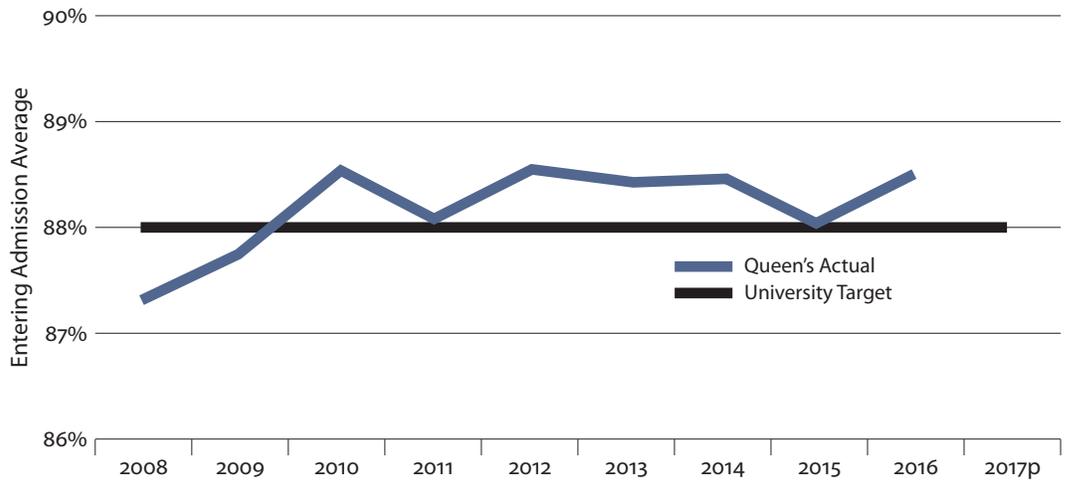
# 1. Student Population Quality Indicators

Our Strategic Framework calls for us to monitor and maintain the overall quality of our undergraduate student population – one of Queen’s strongest differentiating characteristics. Student quality is measured in three ways: using the high school admission average of the incoming class; the percentage of students who return to Queen’s after completing their first year of study; and the percentage of students who complete their degree within seven years. In all three cases, the quality and academic performance of Queen’s students continue to be stable.

## ADMISSION AVERAGE

Figure A

**Queen’s Undergraduate Entering Student Admission Averages, All Programs Average**



## FIRST- TO SECOND-YEAR RETENTION RATE

Figure B

**Queen’s Year-1 to Year-2 Retention Rate, All Programs Average**

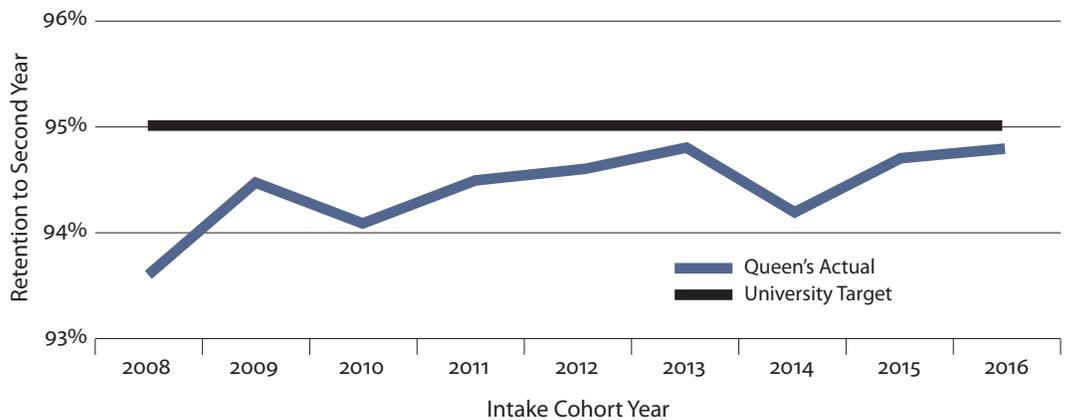
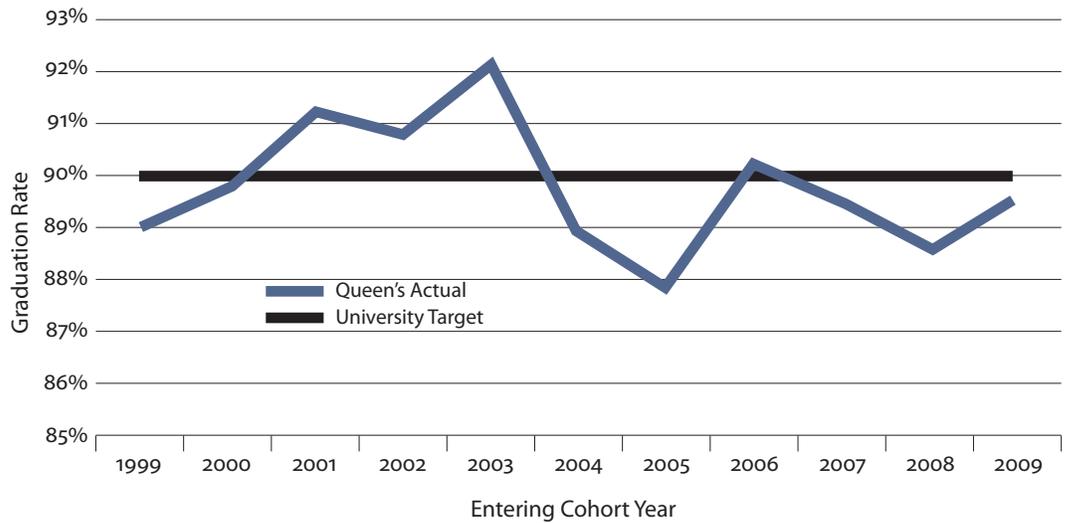


Figure C

## BACCALAUREATE GRADUATION RATE

### Undergraduate Seven-Year Degree Graduation Rate, All Programs Average



## 2. Additional Financial Sustainability Indicators

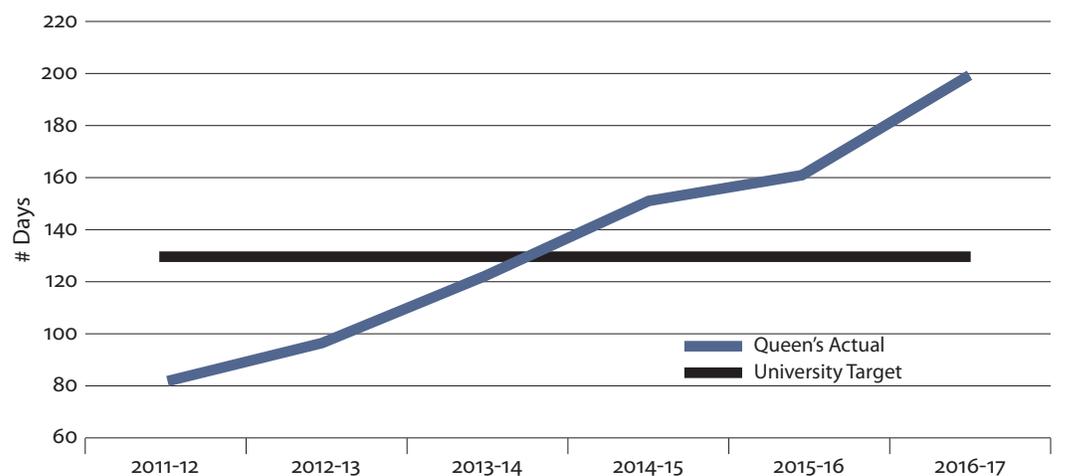
Financial metrics presented above dealt with revenue growth and diversification within Faculties and Schools specifically. A complementary set of metrics is presented below indicating the financial health of the university overall based on year-end financial statements over time.

### PRIMARY RESERVE RATIO

The primary reserve ratio, which is defined as expendable net assets divided by total expenses, helps to determine whether the university's resources are sufficient and flexible enough to support its mission. The ratio indicates how long an institution can function using only its expendable reserves without relying on additional assets generated through operations. A ratio of 0.4, for example, means the institution's reserves will cover 40 percent of one year's operation (roughly five months). The university's recent balanced budgets, after several deficit years, are reflected in improvements in this ratio.

Figure D

### Queen's University Primary Reserve Ratio (Days) by Fiscal Year

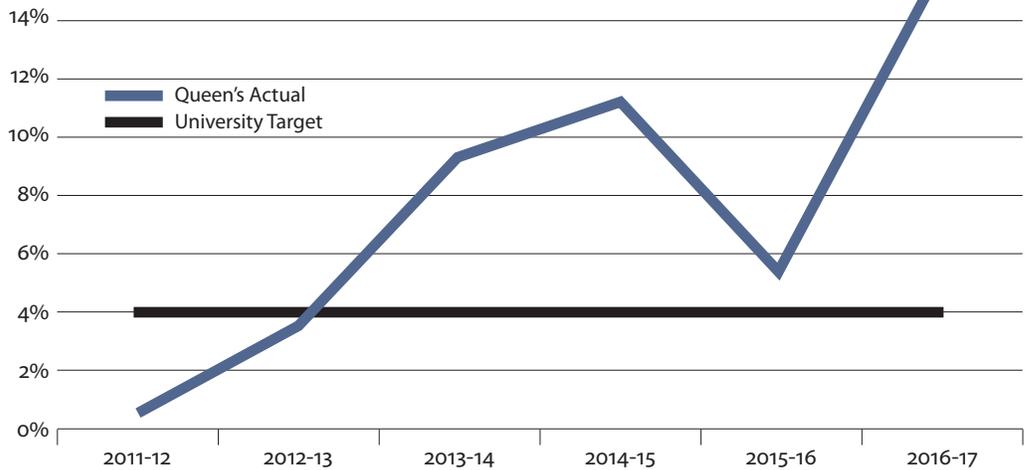


## NET OPERATING REVENUES RATIO

This ratio is defined as cash flow from operating activities divided by total revenues. Positive cash flow from operations indicates strengthening position and conversely, structural negative cash flow is almost always an indication of financial pressure, particularly if there are no identified initiatives to reverse the shortfall. Significant positive cash flow could be deceiving if it is a consequence of underspending on operations critical to an institution's core mission. The increase in the ratio since 2012 indicates stronger operating results and potentially, flexibility in future strategic investments.

Figure E

### Queen's University Net Operating Revenues Ratio by Fiscal Year

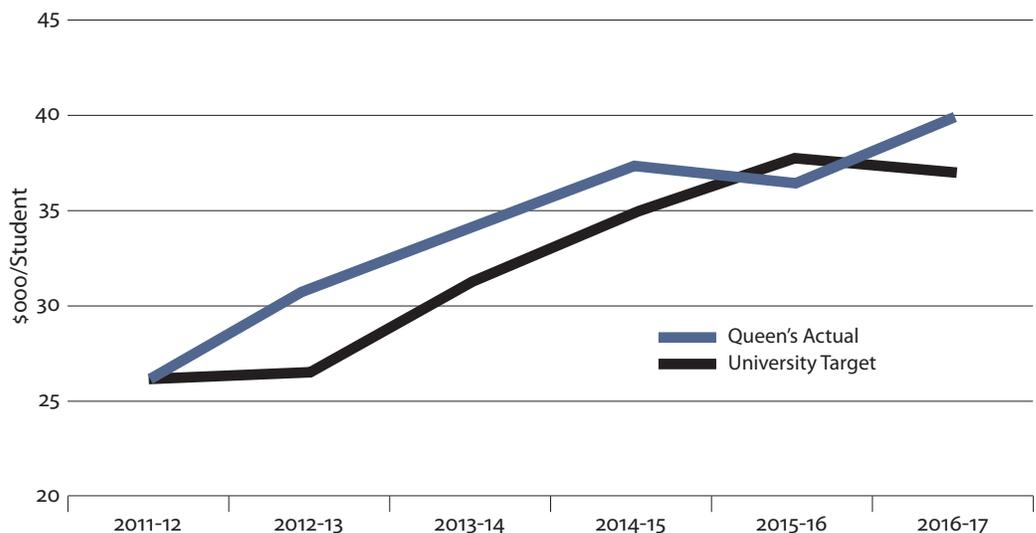


## ENDOWMENT VALUE PER STUDENT

Endowments enable universities to support students, attract world class faculty, and support the mission of the university in perpetuity. Endowment per student provides information on the effect of the endowment relative to student enrolment changes.

Figure F

### Queen's University Endowment Value per Student

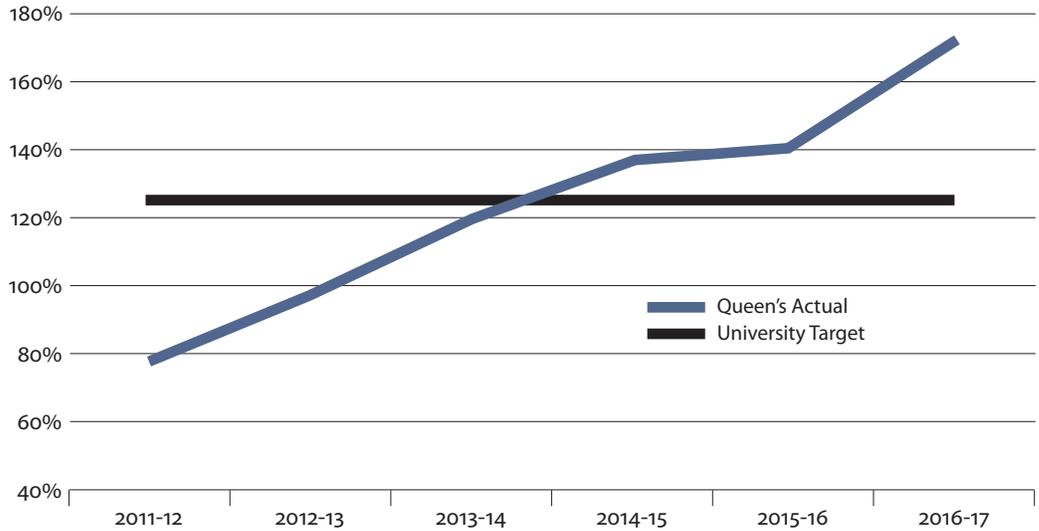


## VIABILITY RATIO

The viability ratio is defined as expendable net assets divided by long-term debt, and provides an indication of funds on-hand to settle the university's long-term debt obligations at a point in time. This ratio is an indicator of debt affordability. A ratio of 100% or greater generally indicates that an institution has sufficient expendable net assets to satisfy debt obligations.

Figure G

### Viability Ratio (Using only External Debt) by Fiscal Year

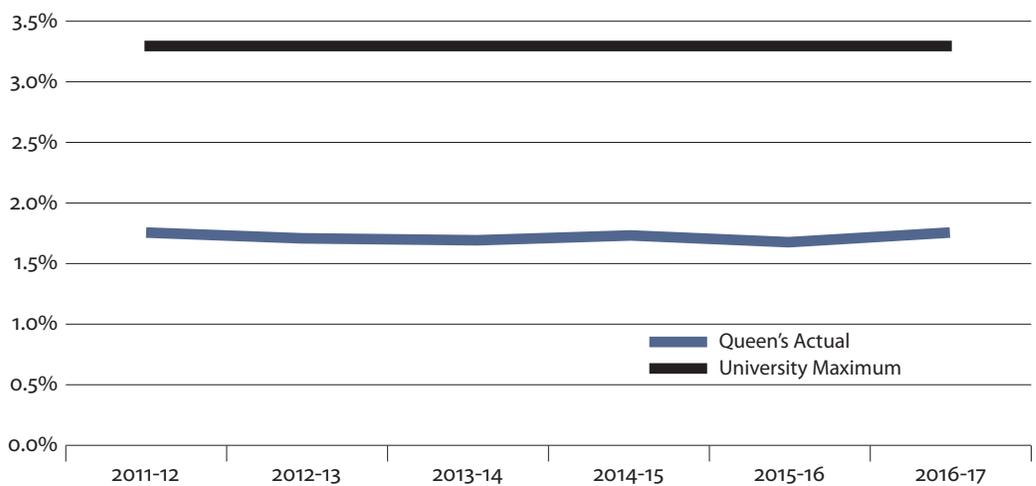


## INTEREST BURDEN RATIO

The interest burden ratio, defined as interest expense divided by total expenses less depreciation, is an indicator of debt affordability as it indicates the percentage of total expenses used to cover debt servicing cost. This ratio aids in an assessment of the university's future capacity to manage debt.

Figure H

### Interest Burden Ratio by Fiscal Year

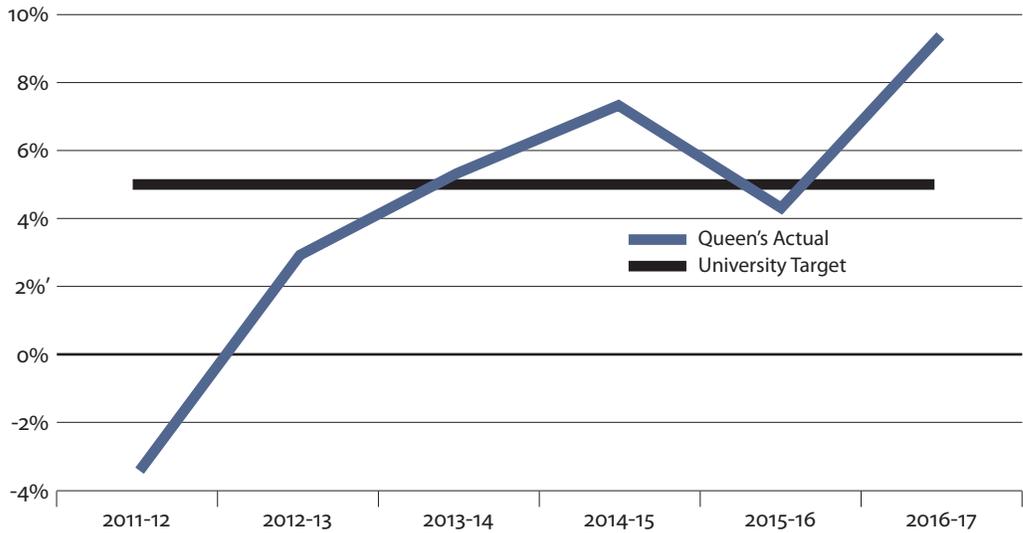


## NET INCOME/LOSS RATIO

The net income/loss ratio is defined as net income or loss divided by total revenues. It measures the percentage of revenues that contribute to net assets. An increase in the ratio indicates greater future financial flexibility. Like the net operating revenues ratio, this ratio can be volatile as a result of variation in investment returns; longer term trends are therefore particularly important.

Figure I

### Net Income/Loss Ratio by Fiscal Year



OFFICE OF THE  
PROVOST

Richardson Hall  
Queen's University  
Kingston, Ontario  
Canada K7L 3N6