

UOIT SPACE CONSIDERATIONS

DISCUSSION PAPER SERIES

PROVOST'S ADVISORY COMMITTEE ON INTEGRATED PLANNING

January 2017

Introduction

UOIT launched during a time where space constraints were becoming a new norm within the Ontario post-secondary system. By 2010-11, when UOIT was welcoming its seventh incoming class, students in the Ontario system had access to less space (classroom, study, lab, general space) on average than students in 1998-99. Between 1998-99 and 2010-11, there was a 20% decline in classroom space per student FTE¹ and an 18% decline in research space per faculty member. In this light it was quite ambitious of UOIT to indicate to the Ministry in its original 2002 business case that it would set a target for teaching, research and student support space roughly equivalent to 70% of the recommended space at that time (approximately 5.02 NASMs²/FTE).

Since the original business case was submitted UOIT was met with significant issues with regards to their capital space plans. With the changing of the government in 2003, the original aggressive plan was cut by a third and the remaining buildings were financed through a debenture. Furthermore, UOIT exceeded its 2010 planned enrolment (6,586 FTEs) with 6,761 FTEs registered; which lead to a space figure of 4.53 NASMs/FTE considerably below the original target. UOIT has dealt with space limitations by altering how classes are delivered (i.e. increased online offerings), increased the intensity of classroom/lab scheduling, and reconfigured available space to ensure optimal utilization. Despite these various efforts the university has classes scheduled on evenings and weekends, professors without adequate (or any research space), students studying in inadequate areas, and support functions inefficiently dispersed in various buildings across campus. Based on this space deficit and the continual demand for UOIT programs in 2011 the Senior Leadership Team considered strategies to help alleviate the space crisis.

These strategies were:

- Outline methods to implement further space saving strategies;
- Initiate the implementation of a Campus Master Plan³ (CMP); and
- Set-up a financial reserve for a new building.

To date UOIT has implemented all the proposed space strategies, completed a Framework & Action Plan for Growing UOIT and downtown Oshawa⁴ (2011), completed a Campus Master Plan (2015), and created a Capital Reserve Fund.

The purpose of the following paper is to provide information on current space limitations and provide information on the next set of buildings for UOITs campus and highlight some areas that UOIT has to consider moving forward.

Current Environment

In the 2015 COU publication, *“Inventory of Physical Facilities of Ontario Universities 2013-14”*, it was stated that Universities operate at 79% of the space that they should have according to current standards. The longitudinal data below (Figure 1) demonstrates the space issues within the entire

¹ Student FTEs or Full-Time Equivalents relates to the portion of a full time program a student is registered in. For instance a student taking half a course load would be a 0.5 FTE.

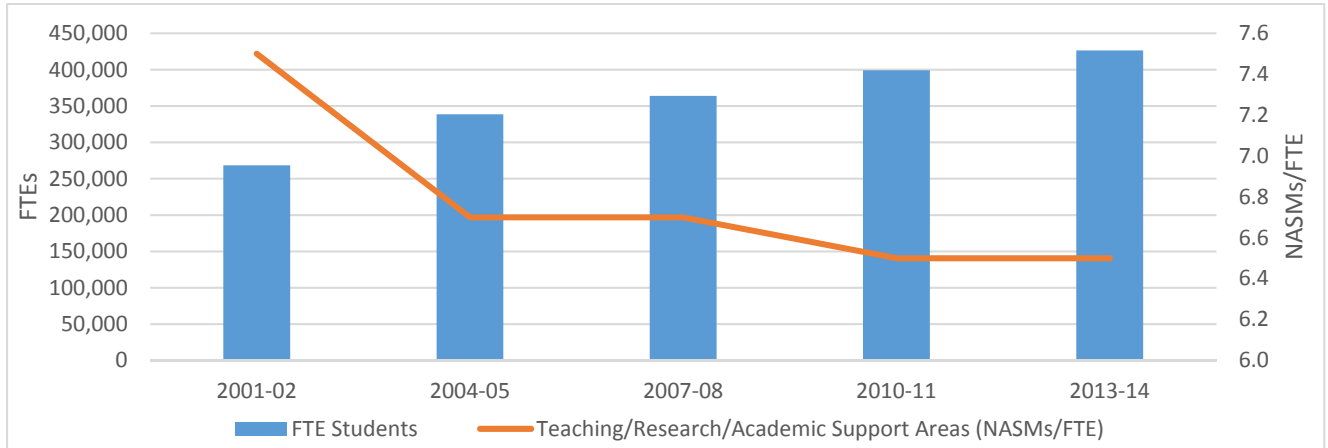
² NASMs or Net Assignable Square Meters are all the areas of a building that can be assigned to individual units.

³ Campus Master Plan. Available: <http://www.campusmasterplan.ca/>

⁴ Into the Future: A Framework & Action Plan for Growing UOIT & Downtown Oshawa. (March 2011). Available: <http://uoit.ca/downloads/news/DOWNTOWN%20OSHAWA%20STUDY%20APRIL%202015.pdf>

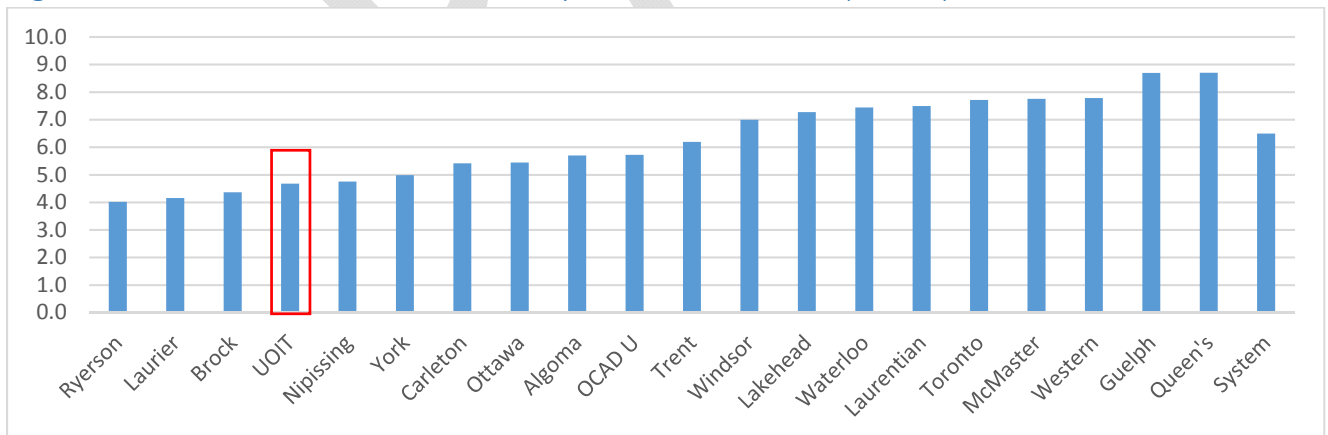
system, the amount of space dedicated to Teaching/Research/Academic support areas is not able to keep up with the increase of students attending university. UOIT is not expecting to see too much change throughout the system in terms of available space during the next COU reporting year (2016).

Figure 1: COU Teaching/Research/Academic Support Areas NASM/FTE Students



While UOIT is not alone in its space needs it is recognized that we are much lower than the system average with respect to the academic and teaching space. With this data in mind UOIT has defined specific benchmarks based on COU standards and reviewing other universities (Figure 2) with a clear objective of growing the net total amount of owned and permanent space. The long term goal is to increase UOITs NASM/FTE in the teaching/research/ student support areas (COU factors 1-5, 10) from 4.7 (2013 figure which in 2015 is 4.10) to 5.13 NASMs/FTE. This goal is approximately 60% of the COU standard and 72% of the 2013 average for Ontario.

Figure 2: 2013-14 NASMs/FTE Ontario System, COU Factors (1-5,10)



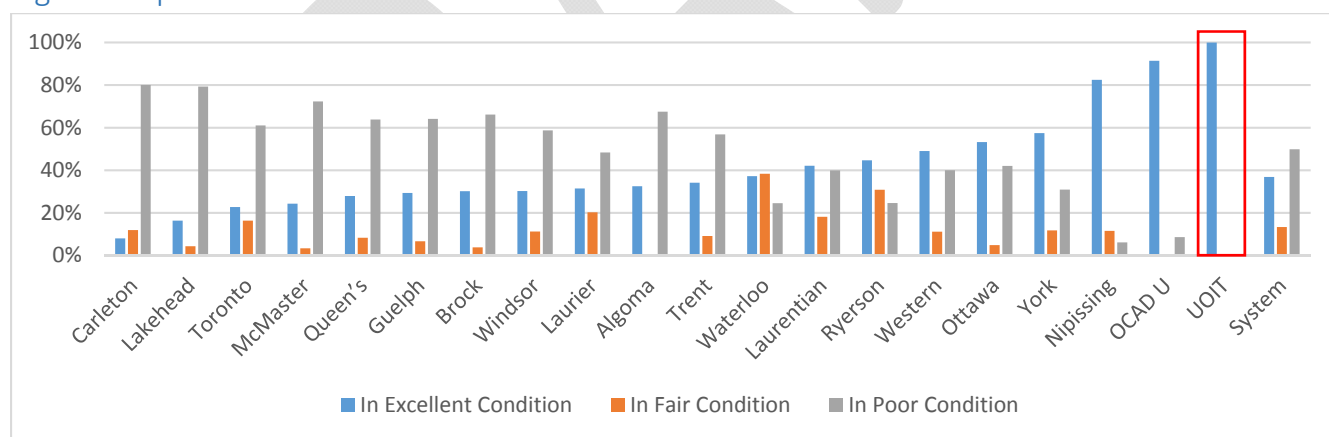
The 2015 data represented in Table 1 shows that UOITs academic offices provide ample room to Faculty, being at 114% of the COU standard, yet this is a function of office physical size not quantity. UOITs existing offices measure slightly (2 NASMs) large compared to COU standards, so the measure looks like we are doing well. Yet, UOIT still has faculty without office space which is not captured in the reported space documents. All other categories reported are below standard showing 23-76% of the recommended standard, creating an overall total of 48% of the COU standard.

Table 1: UOIT Space as percentage of COU standards

	UOIT Current (2015)	% of COU Standard
1 – Classrooms	0.84	76.4
2 – Laboratory	0.72	23.7
3 – Research	0.77	56.6
4 – Academic Offices	0.80	114
5 – Study Space/Learner Support	0.34	56.5
	3.48	51.0
10 – Central Administration	0.62	36.5
	4.10	48.1

While UOIT does not have enough space, the permanent space that it does have is considered first-rate. The 2014 Facilities Condition Assessment Program report shows that 100% of UOIT buildings are in excellent condition while only 36.8% of the system received this rating (Figure 3). Almost 50% of the building space at Ontario universities was rated poor. While it is acknowledged that being a young institution attributes to the building conditions being so amenable, it is this type of space and conditions that UOIT takes pride in and drives the long term planning goals.

Figure 3: Space conditions at Ontario universities



Unfortunately, not all of our space is permanent. UOIT has 12% leased space compared to the sector average of 1%. When we add in portables UOIT has 37% of its space in temporary structures⁵. Permanent owned space is an area in which UOIT would like to improve, with current focus to get to 5.13 NASMs/FTE of owned space. However, this decision will not come easily. As we get more permanent space the desire will be to reduce portables but the sheer need for space makes this nearly impossible.

⁵ this is not a category within the COU report so a system comparison with temporary space included is not possible

Table 2: UOIT Leased Spaces

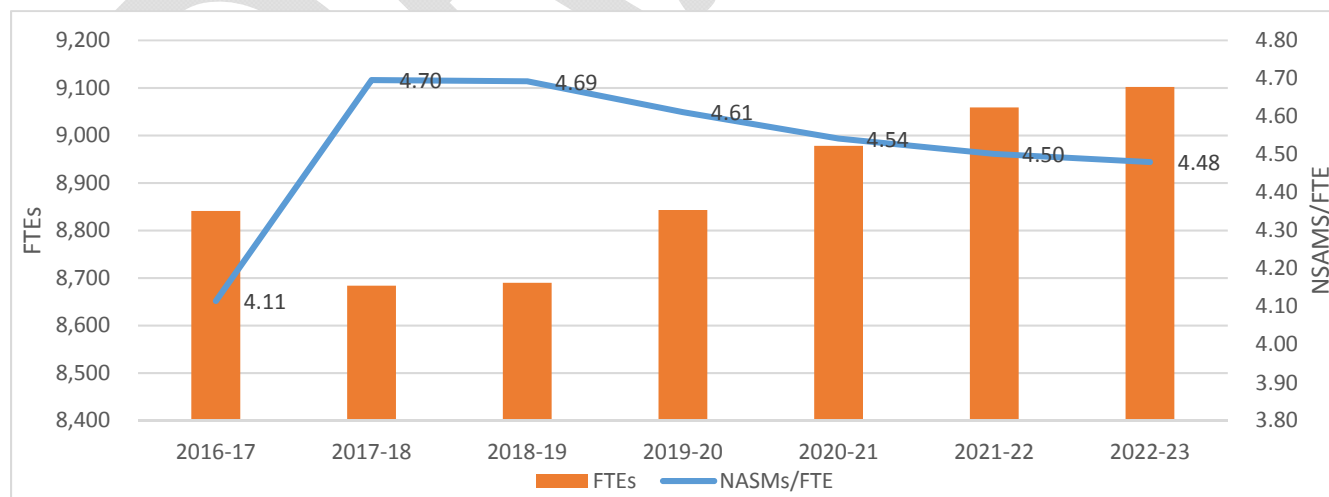
Building	Lease Expiration Date	Total Space	Cat. 1-5, 10
Simcoe	2018	250	250
Durham College J-wing	unknown	1,499	1,499
St. Gregory's	2018	1,943	335
11 Simcoe Street North	2023	1,873	1,624
Campus Corners	2027	2,214	1,361
CIBC Offices	2030	553	553
55 Bond ⁶	2030	1,592	1,478
61 Charles	2040	3,777	3,108

Future Space Needs

Current enrolment projections have UOIT growing in a slow and controlled manner. UOIT's current space breakdown is provided in Appendix A. The FTE growth over the time depicted is only 260 FTEs which allows UOIT to make gains in its desire to be 5.13 NASMs/FTE for Teaching/Research/Student support areas (Cat 1-5, 10) should it get funding for more space. In order for UOIT to move towards the CMP and achieve the space per FTE it desires anticipation of space needs in the future must be considered.

Although space gains are initially seen in 2017 with the addition of the Software and Informatics Research Centre (SIRC)⁷, the increase in FTE enrolment although small actually decreases the NASMs/FTE in future years (Figure 4 – note this calculation is assuming all space in SIRC and backfill is in these categories). The potential loss of leased space (Table 2) could amplify this with even lower NASMs/FTE than currently depicted in Figure 4.

Figure 4: Projections of FTE growth and NASMs/FTE (Cat 1-5, 10)



⁶ 55 Bond and 61 Charles are lease to own agreements. 55 Bond is owned after 20 years and 100% after 40 years. 61 Charles we own 100% after 30-year term.

⁷ <https://www.uoit.ca/about/campus-buildings/north-oshawa/sirc/index.php>

Guided by the principles of the Campus Master Plan (CMP), UOIT is moving towards the goal of more owned high quality space. In June of 2015, the federal government announced a \$29.9 million investment in the Centre for Advanced Research, Innovation and Entrepreneurship (CARIE) building⁸. UOIT is currently fundraising to contribute to the remaining construction costs. In August of 2016, the new Software and Informatics Research Centre (SIRC) started its development on the north side of Conlin Road.

Figure 5: SIRC (a) and CARIE (b) building schematics

a)



b)



The next three buildings outlined within the CMP are the Student Innovation Learning Centre (SILC) Joint Health Sciences Building, and Downtown Expansion. The estimated space and cost breakdown (2016 dollars) for these are located in Table 4.

⁸ <https://news.uoit.ca/archives/2015/07/uoit-receives-26.9-million-in-federal-support--for-major-new-research-centre.php>

Figure 6: Future Buildings, SILC (a), Joint Health Sciences (b), Downtown Expansion (c)

a)



b)



c)

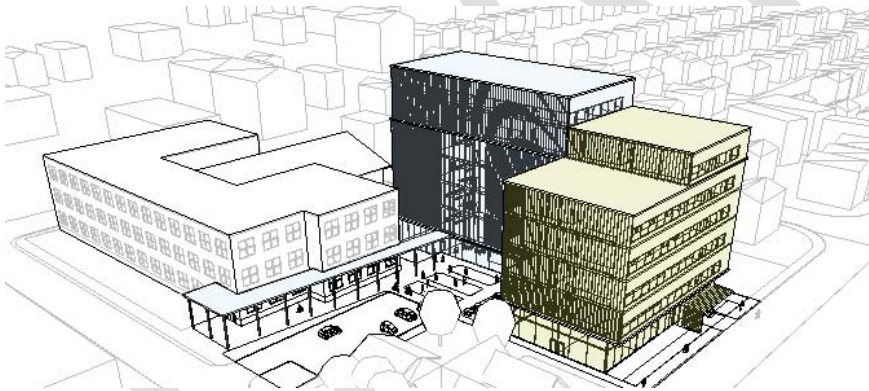


Table 4: Space and Cost of UOIT Recent and Future Buildings

Building	Year	GSM	Estimated Total Cost (\$M)	Cost/sq m to build (incl FF+E)	NASMs (1-5, 10)
ACE	2011	14,950	119.9	\$25,606	2,680
ERC	2011	9,940	66.7	\$14,020	4,540
SIRC	2017	7,580	32.3	\$5,300	4,400
CARIE		22,300	140.0	\$11,166	11,280
SILC		30,650	102.5	\$6,699	9,200
Joint Health Sciences		40,970	175.1	\$7,087	10,220
Downtown Expansion		14,742	56.3	\$5,637	6,990

* cost is recalculated to 2016 dollars for comparison purposes.

Space to Adapt to Evolving Pedagogy

Currently UOIT has completed what could be done in designing the future campus and enforced efficiencies where physically possible. However, until new capital is available directing attention to our current pedagogy may allow for some relief to our space issue. As we move towards a vision for a new UOIT campus, we must carefully consider the design of our teaching and learning spaces. Research indicates that physical space can have a significant impact on learning (Brooks, 2010). Far from being a passive element, these spaces play an active role in the learning process (Graetz, 2006). Indeed, the relationship between learners and the learning environment can be thought of as transactional: learners are shaped by their environment, and the environment is in turn shaped by the learners (Lippman, 2010). This leaves us with important questions to consider: What shape do we want the student learning experience at UOIT to take? How can we shape our built environment to reduce barriers and increase opportunities for learning? How will we continue to provide the excellent quality of space to our students in years to come? How will our new campus shape and reflect our institutional values and ongoing evolution?

As we continue to define our vision, there are key factors to be considered. By considering our pedagogical values, we can enable and encourage faculty to enact student centered active learning in our classrooms - learning that engages students in interactive, authentic activities (Brooks & Solheim, 2014, Felder, 2009, Grabinger & Dunlap, 1995). By considering our social environment, we can create flexible, inclusive learning spaces that respect and celebrate our diverse community. By considering our relationship with technology, we can maintain a technology enriched learning environment that keeps pace with new developments and ideas.

Summary

UOIT is experiencing a space shortage due to the popularity and growth of its programs. Even during this time of population decline of university-aged students UOIT sees continued demand for the types of differentiated programs offered. Moving forward, UOIT will be unable to realize increased enrolments in high-demand programs without a significant investment in space.

References

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Boulder, CO: EDUCAUSE. Available: <https://net.educause.edu/ir/library/pdf/PUB7102f.pdf>

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Appendix A: Current total space – by COU categories, 2016

COU Category	Actual Inventory
1. Classroom Facilities	7,486
2. Lab Undergrad	6,249
3. Lab Grad & Faculty	7,221
4. Academic Office & Related Space	6,677
5. Lib Facilities & Campus Study Space	3,613
6. Recreation/Athletic Space	5,816
7. Food Service	1,114
8. Bookstore & Merchandise Facilities	31
9. Plant Maintenance	546
10. Admin Office & Related	5,132
11. Non-Library Study Space	949
12. Central Services	549
13. Health Service Facilities	-
14. Student Activity Space	419
15. Assembly, Exhibition Facilities	555
16. Non-Assignable	40,829
17. Residential Space	-
18. Animal Space	-
19. Other	9,835
20. Health Science Clinical Facilities	-
Total	97,022

UOIT Space Considerations Academic Council

Presented By Craig Elliott, CFO and Deborah Saucier, Provost
February 28, 2017



Agenda

- 1. Significant Points In The Discussion Paper**
- 2. Space Measurement**
- 3. Assessment of Facility Conditions**
- 4. Forecast Enrolment Growth**
- 5. Planning for Future Growth**
- 6. Questions/Comments**

Significant Points In The Discussion Paper



- UOIT enrolment continues to grow, and this is putting a strain on our available classroom and research space
- Strategies such as increased on-line offerings, intensification of classroom/lab scheduling, and space reconfiguration have been used to help alleviate our space issues
 - These strategies have been exhausted, and UOIT will need additional space to support future growth
- A Campus Master Plan has been developed to help guide future growth
 - This outlines potential locations, size and scope of buildings. It will be altered based on actual requirements/ funding
- UOIT budgets have included a Capital Reserve of \$2M to help fund our growth plans

Space Measurement



- Standard space allocations for classrooms, labs, research, academic support, etc. have been established by the Council of Ontario Universities (COU). In these standards, space is measured in Net Assignable Square Meters (NASM's). For your reference, this is what a NASM looks like
- While space totals have been increasing the amount per FTE has been declining across the entire Ontario university sector over the past 15 years.
 - UOIT is below the system average.
- UOIT goal is to increase NASM/FTE from current 4.1 level to 5.13 for instructional and research space. The system average is 6.6

Assessment of Facility Conditions



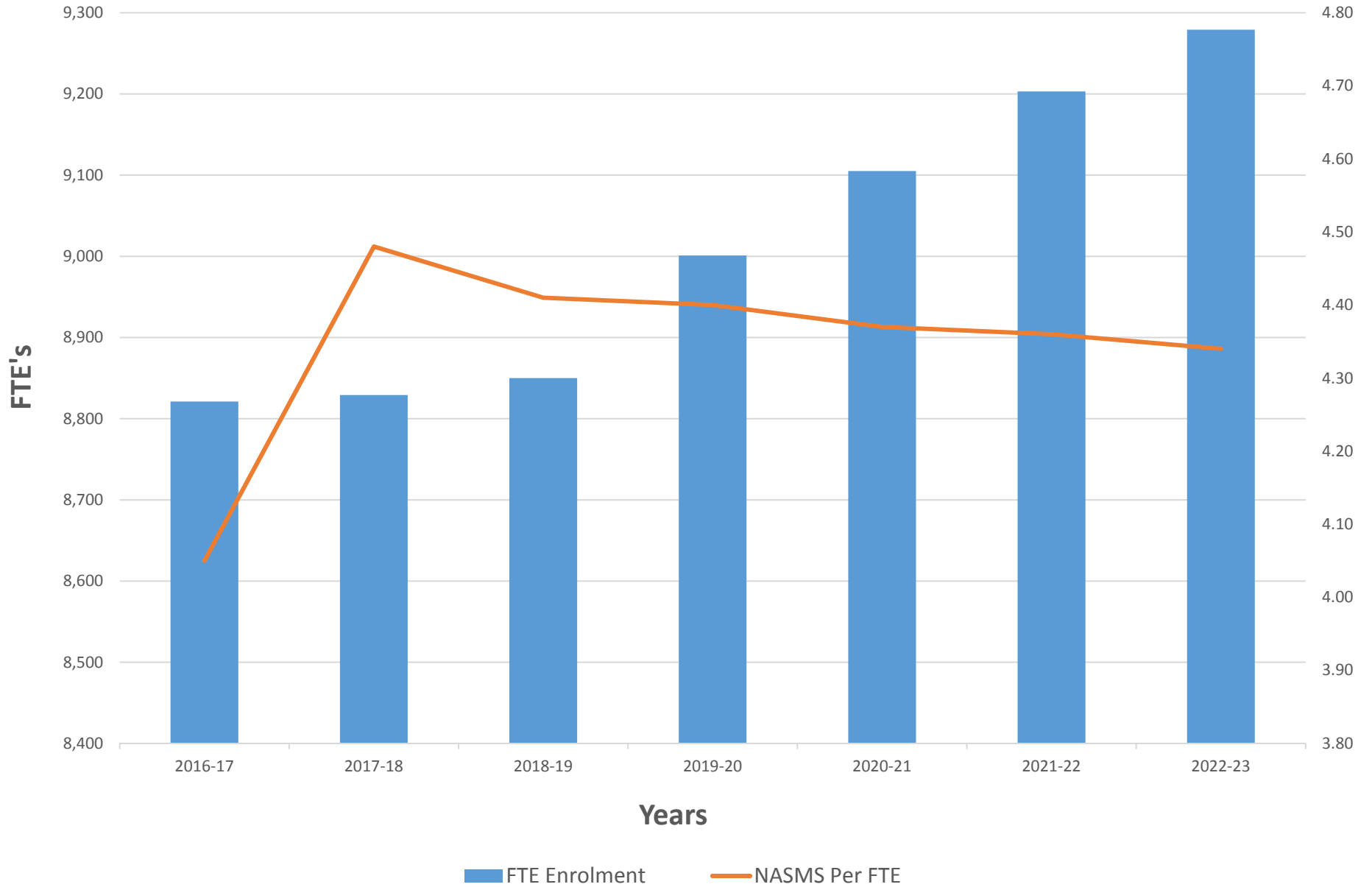
- COU also measures the condition of the space at each institution in Ontario. UOIT buildings are considered to be in excellent condition.
- However, we do have a significant amount of leased space, and we have temporary structures – portables.
- UOIT has a long term goal to eliminate the portables, and eventually move to owned vs leased buildings. However, our current space needs dictate that we maintain these structures in the near term

Forecast Enrolment Growth



- UOIT enrolment projections are for slow growth over the next seven years.
 - Figure 4 of the “UOIT Space Considerations” has been updated with our more current enrolment forecasts. Most notable is 2017-18, where the anticipated enrolment decline from demographic changes has not materialized for UOIT.
- From the graph we see space gains in terms of NASM’s/FTE with the completion of SIRC in 2017/18. However, without any further new space the measurement gradually declines even with our controlled growth in enrolment over the next seven year.
- The key takeaway is that UOIT needs more space in order to support future enrolment growth

Updated Projections of FTE growth and NASMs/FTE (Cat 1-5,10)



Planning for Future Growth



SIRC

- UOIT began construction of Software and Informatics Research Centre (SIRC) last summer, with a planned occupancy date of Sept 1, 2017 for floors 1&2 and Jan 1, 2018 for floors 3&4. SIRC will provide new space for research, innovative learning, student study, and a single centralized Registrar location
- The project is funded by a Federal Strategic Infrastructure Grant (SIF) of \$11.8M, Provincial FRP funding of \$1.2M, and UOIT Capital funding of \$20.5M. The project is on budget, and on schedule
- Live images of the construction can be seen on the UOIT website at www.uoit.ca/SIRC



SIRC



SIRC Building



CARIE

- In June, 2015 UOIT was awarded \$26.9M from the Federal Government for the construction of the Centre for Advanced Research, Innovation, and Entrepreneurship (CARIE).
- This award must be matched at minimum 2/3rds from other funds
- UOIT is currently fundraising for this project

CARIE Concept Building



Other Design Ready Projects

- Following along with our Campus Master Plan (CMP), UOIT has general design binders in place for three other buildings
 - Student Innovation Learning Centre (SILC)
 - Joint Health Sciences Building
 - Downtown Expansion

Campus Master Plan



Revised Framework Plan

Question or Comments



ROOM TYPE LEGEND

LEVEL 1

SCALE: 1:200

 CAMPUS SAFETY	 GRAB & GO	 RECEPTION & WELCOME	 RO FRONT OFFICE	 STUDENT SEATING AND COLLABORATION
 FACULTY OFFICE	 MULTI-PURPOSE AREA	 RO BACK OFFICE	 RO MID OFFICE	 SUPPORT SPACES



ROOM TYPE LEGEND

LEVEL 2

SCALE: 1 : 200

CLASSROOMS

STUDENT SEATING AND COLLABORATION

SUPPORT SPACES

TECHNOLOGY / ENHANCED RESEARCH / INNOVATION LABS



LEVEL 3

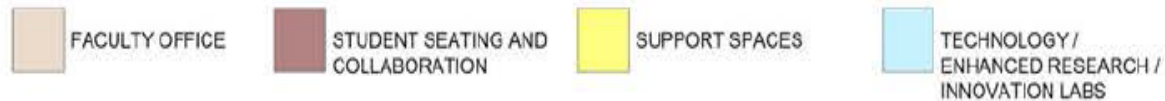
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ROOM TYPE LEGEND

- FACULTY OFFICE
- STUDENT SEATING AND COLLABORATION
- SUPPORT SPACES
- TECHNOLOGY / ENHANCED RESEARCH / INNOVATION LABS



ROOM TYPE LEGEND



LEVEL 4

SCALE: 1 : 200