UNIVERSITY OF TORONTO

OFFICE OF THE GOVERNING COUNCIL

FOR RECOMMENDATION **CONFIDENTIAL** ***IN CAMERA***

TO: Business Board

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DATE: January 24, 2019 for February 4, 2019

AGENDA ITEM: 19(a)

ITEM IDENTIFICATION:

Capital Project: Report of the Project Planning Committee for *FitzGerald Building Revitalization* – Financing Requirement

JURISDICTIONAL INFORMATION:

Under the *Policy on Capital Planning and Capital Projects*, "…proposals for capital projects exceeding $20 million must be considered by the appropriate Boards and Committees of Governing Council on the joint recommendation of the Vice-President and Provost and the Vice-President, University Operations. Normally, they will require approval of the Governing Council. Execution of such projects is approved by the Business Board. If the project will require financing as part of the funding, the project proposal must be considered by the Business Board."

GOVERNANCE PATH:

A. Project Planning Report: Total Project Cost and Sources of Funding

1. Planning and Budget Committee [for recommendation] (January 10, 2019)
2. Academic Board [for recommendation] (January 31, 2019)
3. **Business Board [Financing, for approval] (February 4, 2019)**
4. Executive Committee [for endorsement and forwarding] (February 13, 2019)
5. Governing Council [for approval] (February 28, 2019)

B. Execution of the Project:

1. Business Board [for approval] (February 4, 2019)

PREVIOUS ACTION TAKEN:

In March 2017, the University of Toronto initiated a *Feasibility Study* to explore the adaptive re-use possibilities and constraints of this building subsequent to forthcoming relocation of occupants including the Faculty of Medicine and Faculty of Dentistry. The study proposed new mechanical and electrical systems, as well as new controls technologies, all of which emphasize sustainability and energy management advancements. The *Final Report of the Feasibility Study* was completed in December 2017.

On March 2, 2018, the Capital Projects and Space Allocation Committee (CaPS) Executive Committee approved a proposal to engage consultants to develop the project through to the construction drawing stage; to proceed with early demolition; and the removal of hazardous waste. Through a subsequent proposal call, RDHA, a local architecture firm teamed with the Office of Metropolitan Architecture (OMA). based in New York, were selected as the project architectural team.

HIGHLIGHTS:

The Faculty of Medicine commissioned two studies in 2014 to determine the feasibility of continued use and investment within the FitzGerald Building, located at 150 College Street on the St. George Campus. Both studies indicated significant challenges and costs to continue to use the heritage building for wet-laboratory research. Since this time, the Faculty of Medicine and Faculty of Dentistry have completed major Strategic Investment Fund (SIF) renovation projects in buildings elsewhere, and have vacated the FitzGerald Building.

Looking ahead, the University envisions that the FitzGerald Building will be an exemplar in adaptive re-use, and set a precedent for progressive campus work environments. The primary goal is the creation of a modern, flexible, collaborative office environment, where the quality of space results from the acknowledgement and accommodation of an evolving ‘me’ to ‘we’ workplace culture. The housing of various central administration functions together under one roof will help create synergies and efficiencies to best serve the academic needs of the University. The new workplace must strike the appropriate balance between proprietary and shared workspaces, both within and between departments to foster community, collaboration and best practice. A neighbourhood-type plan is envisaged that will mix open workstations, offices, meeting rooms and collaboration zones. It must be highly adaptable to accommodate both current and future foreseeable and unforeseeable needs of the University’s central administration staff.

The space program proposes a subtotal of approximately 4,900 NASM of space dedicated to the following central administration groups:

- Division of Advancement, Advancement Communication Marketing
- Governing Council, Internal Audit
- Human Resources & Equity
- Office of the President, Finance Division

- University of Toronto Communications
- Ancillary Services
- Parking & Transportation
- Planning & Budget

Part-and-parcel to restoring new life into the FitzGerald Building, is also envisioning how the space can be best leveraged to promote collaboration. Three key interventions are proposed. First, a small addition on the south roof is proposed to provide proper egress on the fourth floor east wing. Adjacent to the addition is a new rooftop terrace for the western portion of the roof facing the CCBR forecourt. Accessed directly from the fourth floor, this terrace will serve as a building-wide amenity. Second, a proposed atrium will infill the south courtyard "E" shape to encourage cross-collaboration between departments and enhance building porosity. The proposed Atrium will also provide a new second accessible entrance. The existing accessible entrance is at the basement level, south façade, facing College Street. Third, the South entrance will become the new "front door" for the building that will improve the building's urban relationship to College street. Forging a stronger building relationship to the streets consists of strengthening pedestrian connections with Pharmacy and the CCBR forecourt while also enhancing the landscape with trees, plantings, site furniture and lighting. All the landscape upgrades around the building will comply with new *Design of Public Spaces Standard* to improve accessibility.

The proposed alterations will conserve the vast majority of the building's significant exterior architectural elements, with only minor impacts to the identified heritage attributes. The impacts are mitigated overall by the renewal of a protected heritage property for continued academic/administrative use, with a sensitively-designed renovation exemplary in sustainability and energy efficiency.

Secondary Effects

The following are the primary and secondary effects of the project:

Classrooms: The inventory for centrally shared classroom space will be affected with removal of the existing FitzGerald Building classroom. Currently ACE is working a classroom renovation project, Transforming the Instructional Landscape, across the St George campus that will renovate 174 existing classrooms in 23 buildings (~15,700 NASM).

Grounds Exterior Storage: Grounds uses the garage in the south courtyard for seasonal storage. Contents vary depending on the season, but includes a large snowplough that attaches to the University's tractor. Due to the proposed demolition of the garage, a new secure, enclosed interior space of approximately 30sm is required to be constructed or existing available garage can be utilized. BCIT Loading dock area where existing Facilities and Services have 3 EV charging stations for their EV vehicles has been selected to accommodate the storage function. In order to accommodate the new garage storage, one of the EV charging stations will be relocated to 254/256 McCaul Street and the remaining two charging stations will be stored until a new location can be found.

Tunnel at Level B2: For a limited term while the building is under construction users of the tunnel including the Faculty of Pharmacy and Faculty of Medicine will need to modify their activities. All regular activities will continue post construction.

Existing Caretaking Rooms: Sub-basement Rooms 8, 29, 30 & 31 are dedicated for CCBR and need access throughout remediation and construction.

Schedule

The proposed schedule for the project is as follows:

- Construction Documents finalized — December 2018
- Governing Council approval — February 28, 2019
- Demolition and Hazardous Waste Removal completion — March 2019
- Tender and award — March/April 2019
- Construction start — May 2019
- Full operational occupancy — October 2020

FINANCIAL IMPLICATIONS:

a) Total Project Cost

The total estimated project cost for the FitzGerald Building Revitalization is $47,661,069.

At the March 2, 2018, at the CaPS Executive meeting, an expenditure of up to $4,536,348 in consulting fees, included in the Total Project Cost, was approved to hire design consultants to proceed with design development to the end of construction documents and for demolition and hazardous waste removal.

b) Funding Sources

The Total Project Cost of $47,661,069 is to be funded as follows:

Central Funds	$ 20,000,000
Financing	$ 27,661,069
Total:	$ 47,661,069

c) Operating Costs

Annual operating costs are estimated to be $51.67 per gross square metre (2018). It is estimated that post renovation, the annual operating costs will be approximately $10.65 per gross square metre. Operating costs will be apportioned to building occupants based on amount and type of space occupied, as well as use of shared amenities.

RECOMMENDATION:

Be It Recommended to Governing Council:

THAT the FitzGerald Building Revitalization Project, with a space program of approximately 4,900 net assignable square metres (nasm) (10,092 gross square metres (gsm)), as outlined in the Project Planning Report dated November 23, 2018, be approved in principle with a total project cost of $47,661,069 including a maximum amount of long term borrowing not to exceed $27,661,069.

DOCUMENTATION PROVIDED:

- *Report of the Project Planning Committee for FitzGerald Building Revitalization*, dated November 23, 2018.

Report of the Project Planning Committee for the
Fitzgerald Building Revitalization

November 23, 2018

I.Executive Summary

The University envisions that the Fitzgerald Building will be exemplar in adaptive re-use and set a precedent for progressive campus work environments. The primary goal is the creation of a modern, flexible, collaborative office environment, where the quality of space results from the acknowledgement and accommodation of an evolving 'me' to 'we' workplace culture. The housing of various central administration functions together under one roof will help create synergies and efficiencies to best serve the academic needs of the university. The new workplace must strike the appropriate balance between proprietary and shared workspaces, both within and between departments to foster community, collaboration and best practice. A neighbourhood-type plan is envisaged that will mix open workstations, offices, meeting rooms and collaboration zones. It must be highly adaptable to accommodate both current and future foreseeable and unforeseeable needs of the University's central administration staff.

The FitzGerald building is located on the St. George Campus at 150 College Street. It was built in 1927, with two subsequent additions in 1932 and 1937. The FitzGerald building is designated under Part IV of the Heritage Act.

The Faculty of Medicine commissioned two studies in 2014 and both indicated significant challenges and costs to continue to use the heritage building for wet-laboratory research. There have not been any significant upgrades to the building infrastructure in many years, and the wet research space in particular has deteriorated and poses significant challenges. The Faculty of Medicine renovated other Faculty buildings to relocate its research and staff from FitzGerald. Likewise, the Faculty of Dentistry also renovated their building at the 124 Edward St in order leverage space to work more efficiently for their academic and research needs. In both cases, Medicine and Dentistry's renovations were substantially complete by April 2018, and the FitzGerald building was vacated by July 31, 2018.

In March 2017, the University of Toronto initiated a Feasibility Study to explore the adaptive re-use possibilities and constraints of this building subsequent to relocation of the current occupants. The study proposed new mechanical and electrical systems, as well as new controls technologies, all of which emphasize sustainability and energy management advancements. The Final Report of the Feasibility Study was completed in December 2017.

On March 2, 2018, CaPS Executive Committee approval to engage consultants to develop the project through to the construction drawing stage and for demolition and hazardous waste removal was confirmed. Through a proposal call, RDHA, a local architecture firm teamed with the Office of Metropolitan Architecture (OMA) based in New York were selected as the project architectural team.

The space program proposes a subtotal of 4,553 NASM of space dedicated to the following central administration groups:

- Division of Advancement, Advancement Communication Marketing
- Governing Council, Internal Audit
- Human Resources & Equity
- Office of the President, Finance Division
- University of Toronto Communications
- Ancillary Services

- Parking & Transportation
- Planning & Budget

In addition, the space program consists of 225 NASM of space dedicated to Plant Maintenance, 11 NASM of space dedicated to Central and 78 NASM of space dedicated to Research Lab Support for a total of 4,900 NASM.

The proposed program for the central administration workplace creates flexibility by prioritizing open workstations over offices –the ratio of offices to open workstations is 19:81. The density of the workplace is efficient and modelled after appropriate workplace examples—the density is 7.6 NASM per FTE. In order to support the goals of a collaborative workplace, 68-84% of the office space will be support space, such as conference rooms, meeting rooms, kitchenettes, collaborative zones and a video studio. The video studio will be a centrally shared campus resource and will accommodate a wide variety of academic and administrative uses:

- Video production for academic needs (i.e. Arts & Science, OISE, etc.)
- DUA, ACM & UTC photography and video production
- ODLC online training ("micro" learning seminars delivered directly to staff)
- Press Conference and live-to-air Faculty interviews on a green screen

The exterior envelope is protected under an existing Heritage Easement Agreement. The masonry and brickwork will be restored and conserved while also enhancing the energy performance through new energy-efficient windows and enhanced envelope--the building's existing interior finishes will be stripped back to the existing brick substrate to allow for new insulation and drywall finish. The original slate roof will be retro-fitted with new slate tiles to match the existing. Specific interior spaces of interest to maintain are the original south-wing cruciform entrance with historic stair along with FitzGerald's former Library and Study. These interior spaces will be retained, restored and integrated with the remainder of interior.

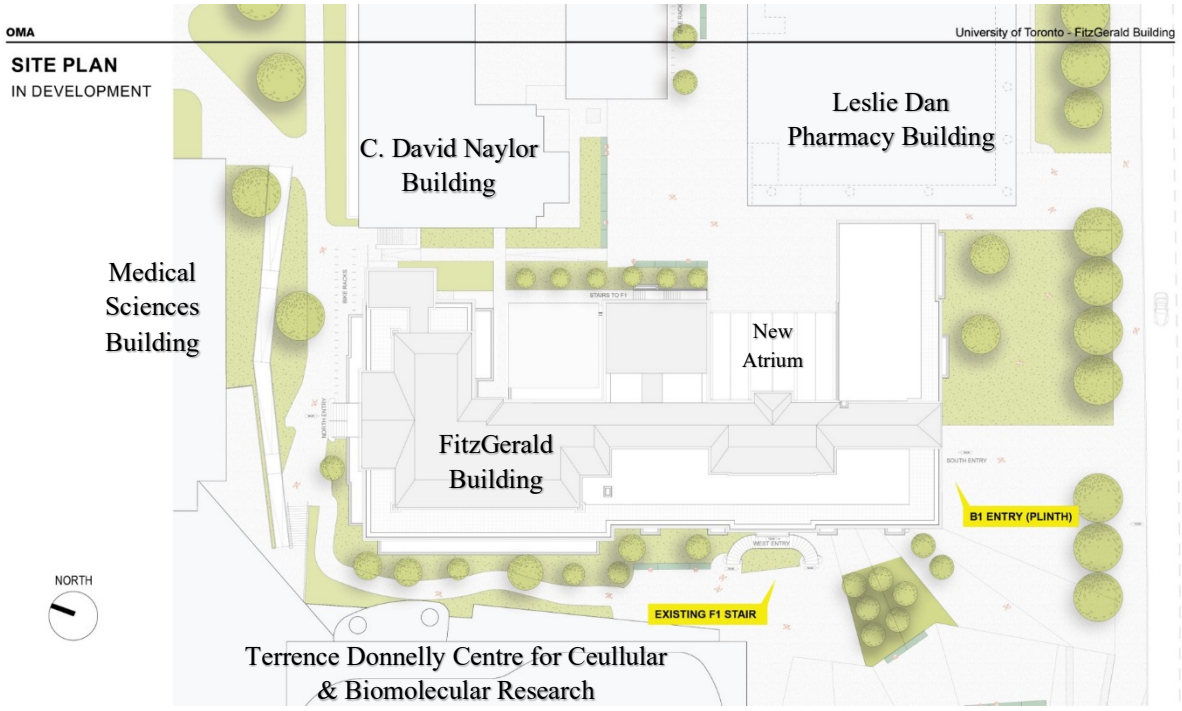
Part-and-parcel to restoring new life into the FitzGerald Building, is also envisioning how the space can be best leveraged to promote collaboration. Three key interventions are proposed. First, a small addition on the south roof is proposed to provide proper egress on the fourth floor east wing. Adjacent to the addition is a new rooftop terrace for the western portion of the roof facing the CCBR forecourt. Accessed directly from the fourth floor, this terrace will serve as a building-wide amenity. Second, a proposed atrium will infill the south courtyard "E" shape to encourage cross-collaboration between departments and enhance building porosity. The proposed Atrium will also provide a new second accessible entrance. The existing accessible entrance is at the basement level, south façade, facing College Street. Third, the South entrance will become the new "front door" for the building that will improve the building's urban relationship to College Street. Forging a stronger building relationship to the streets consists of strengthening pedestrian connections with Pharmacy and the CCBR forecourt while also enhancing the landscape with trees, plantings, site furniture and lighting. All the landscape upgrades around the building will comply with new Design of Public Spaces Standard to improve accessibility.

The proposed alterations aforementioned above will conserve the vast majority of the building's significant exterior architectural elements, with only minor impacts to the identified heritage attributes. The impacts are mitigated overall by the renewal of a protected heritage property for continued academic/administrative use, with a sensitively-designed renovation.

A Zoning Bylaw amendment nor site plan application is required for the proposed project. However, the landscape around FitzGerald is within CCBR and Pharmacy's existing Site Plan Agreements. Minor

amendments to the Site Plan Agreements are not anticipated to add any time to the Schedule as the amendment process can occur parallel to the Building Permit. Since minor alterations to the exterior envelope have been proposed, these changes require an amendment to the Heritage Easement Agreement and subject to Preservation Board and Community Council approval.

The FitzGerald building revitalization should also be exemplary in sustainability. The existing envelope should be enhanced to meet UofT's Design Standards for Energy Efficiency for New Construction: Capital projects must meet ASHRAE 90.1-2013 + 20% at a minimum. Projects are required to add components, which have payback of less than 15 years to reach an ASHRAE 90.1-2013 + 40%. ASHRAE provides Standards for all components within buildings – HVAC, windows, lighting, modeling, envelope, ventilation and reviewed by industry experts. It allows for prescriptive and performance based compliance paths to meet the minimum energy use. Toronto Green Standards (TGS), Ontario Building Code and LEED all use ASHRAE 90.1 to define their energy efficiency standards.



Proposed FitzGerald Site Plan

FitzGerald, showing the proposed South Façade off College Street. Note: the windows shown in the rendering propose single pane, triple glazing. An alternative approach may include metal screens to introduce divisions into the windows.

FitzGerald, showing the proposed Entry Stair off College Street, looking up towards the proposed 1st floor

FitzGerald, showing the proposed Atrium space from 1st floor, looking east towards Leslie Dan Pharmacy Building

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II. Project Background

a) Membership

Scott Mabury, Vice-President, University Operations (Chair)
Elizabeth Cragg, Director, University Operations
Erin Jackson, Chief Human Resources Officer, Human Resources & Equity
Rosalyn Figov, Chief Operations Officer, Human Resources & Equity
David Estok, Vice-President, University of Toronto Communications
James Robertson, Chief Operating Officer, Division of University Advancement
Trevor Rodgers, Executive Director, Planning & Budget
Sally Garner, Senior Strategist, Operational Initiatives
Pierre Piche, Controller & Director, Financial Services Department
Aisha Ryan, Associate President UTSU, Trinity College, Student Representative
Anne Macdonald, Assistant Vice President, Ancillary Services
Steve Bailey, Director, Academic and Campus Events
Costas Catsaros, Director, Project Development
Christine Burke, Director, Campus and Facilities Planning
Lisa Neidrauer, Senior Planner, Campus and Facilities Planning
Evelyn Casquenette, Planner, Campus and Facilities Planning

b) Terms of Reference

The Advisory Committee will:

1. Make recommendations for a generic space program, functional layout and project scope understanding that specific FitzGerald occupants/groups will not be identified as part of this process.

2. Plan to permit maximum flexibility of space to permit future allocation as program needs change.

3. Identify guidelines and opportunities where the FitzGerald building can be exemplary in space for the University. This may include, but not limited to:

    - Identifying functions and spaces that can benefit from shared spaces (meeting rooms, kitchenettes, office support spaces, etc.)

    - Planning for work space that is flexible and dynamic to short and long-term needs as well as working solo and collectively (multi-functional)

    - Identifying inefficiencies in current workspaces to avoid and efficiencies to replicate at FitzGerald

    - Citing specific UofT or local non-UofT work environments that can be used as precedents

    - Identify any specific technical or programming needs for the Video Studio.

4. Demonstrate that the proposed space program will be consistent with the Council of Ontario Universities (COU), the University of Toronto's own best practice guidelines for office space.

5. Identify a phasing plan and implementation plan for the project, if required.

6. Identify all secondary effects, including:

    - impact on central administration functions during transition;
    - staging of potential site occupants;
    - all costs associated with transition during construction and secondary effects resulting from the realization of this project.

7. Address campus-wide planning directives as set out in the campus master plan, proposed Secondary Plan, open space plan, urban design criteria and site conditions that respond to the broader University community such as protection of view corridors and heritage considerations.

8. Review the capacity of existing conditions, services and infrastructure at the FitzGerald Building and determine the extent of upgrades, or new systems as required. Identify related costs to integrate, repair or replace.

9. Identify equipment and moveable furnishings necessary to the project and their estimated cost including signage strategy.

10. Identify all data, networking and communication requirements and their related costs.

11. Identify all security, occupational health and safety and accessibility AODA requirements and their related costs.

12. Determine a total project cost estimate [TPC] for the capital cost including costs of implementation in phases if required, and also identifying all resource costs, including a projected increase to the annual operating cost.

13. Identify all sources of funding for capital and operating costs.

c) Background Information

In the fall of 2015, the Office of the President requested a space utilization study of all central administrative space on the St. George campus, to include the following Offices: President, Governing Council, Vice-President & Provost, Vice-President University Advancement, Vice-President Communications, Vice-President Human Resources & Equity, Vice-President International, Government & Institutional Relations (now Vice-President International and Chief of Government, Institutional & Community Relations GICR), Vice-President University Operations and Vice-President Research & Innovation.

The study's report provided detailed information for each Office with respect to space, location, proximity to other related functions, with recommendations for future efficiencies and location. Of all

buildings examined, three had the majority of space belonging to Central Administration: McMurrich Building, Simcoe Hall and 215 Huron Street. Select areas of Simcoe Hall are to be renovated in future to address the needs identified in the report. 215 Huron Street is a future development site. In order to allow for the redevelopment of 215 Huron, all occupants need to be relocated in order for the existing building to be demolished. This relocation process is a priority for the University.

In order to fully address the central administrative space needs, the University envisions the creation of a modern, flexible and collaborative office environment in the Fitzgerald Building. Currently an outdated laboratory/research facility, the building offers an opportunity to provide an adaptable, progressive and collaborative work space for use primarily by central administration.

The FitzGerald building is located on the St. George Campus at 150 College Street. It was built in 1927, with two subsequent additions in 1932 and 1937. Until summer 2018, the primary occupant was the Faculty of Medicine, utilizing space on all floors, with Dentistry occupying most of the second floor. In addition, there were four existing classrooms on the lower levels and Facilities & Services storage space.

The Faculty of Medicine commissioned two studies in 2014 and both indicated significant challenges and costs to continue to use the heritage building for wet-laboratory research. There have not been any significant upgrades to the building infrastructure in many years, and the wet research space in particular has deteriorated and poses significant challenges. The Faculty of Medicine renovated other Faculty buildings to relocate its research and staff from FitzGerald. Likewise, the Faculty of Dentistry also renovated their building at 124 Edward in order leverage space to work more efficiently for their academic and research needs. In both cases, Medicine and Dentistry's renovations were substantially complete by April 2018, and the FitzGerald building was vacated by July 31, 2018.

In March 2017, the University of Toronto initiated a Feasibility Study to explore the adaptive re-use possibilities and constraints of this building subsequent to relocation of the current occupants. No specific functional program was defined for this project apart from typical office space and addition of a new Video studio to deliver Massive Open Online Courses (MOOC) and also serve as press conference space for the University. Although the existing instructional spaces are fairly well used, they are older spaces and better teaching environments can be found elsewhere on campus. The majority of space is proposed to be office work space for Central Administration groups. In efforts to maximize utilization of space, there is a desire to maximize shared, non-proprietary support spaces for various groups. The new workplace must strike the appropriate balance between proprietary and shared workspaces, both within and between departments to foster community, collaboration and best practice.

The project includes new mechanical and electrical systems, as well as new controls technologies, all of which emphasize sustainability and energy management advancements. The building is to be an exemplar in adaptive re-use.

Upon completion of the Feasibility Study in December 2017, on March 2, 2018, CaPS Executive Committee approval to engage consultants to develop the project through to the construction drawing stage and for demolition and hazardous waste removal was confirmed. Through a proposal call, RDHA, a local architecture firm teamed with the Office of Metropolitan Architecture (OMA) based in New York were selected as the project architectural team.

d) Existing Space

Existing space

In its current state and configuration, the Fitzgerald Building provides approximately 5,200 net assignable square metres of space on Levels 1 – 4, Basement and Sub-Basement, distributed as follows:

Table 2.0 – Existing FitzGerald Building Area Summary by Level

Level	Non-Assignable Area NASM	Net Assignable Area NASM	Total Net Area GSM
Sub-Basement	895.29	785.48	1,680.77
Basement	450.44	937.09	1,387.53
Level 1	413.38	984.14	1,397.52
Level 2	320.20	1,100.60	1,420.35
Level 3	369.38	1,053.97	1,423.35
Level 4	313.36	369.63	682.99
	2,762.05	**5,230.91**	**7,992.96**

The building program, prior to occupants vacating in summer 2018, was largely comprised of wet and dry research laboratory and administration space for the Faculty of Medicine (Department of Nutritional Sciences or DNS) and the Faculty of Dentistry. The primary occupant was the Faculty of Medicine, utilizing space on all floors, with Dentistry occupying most of the second floor. The first floor, at 11'-0" above grade, also houses centrally booked instructional space, including a 200-seat lecture hall and two classrooms at 30 and 42 seats respectively, in addition to one 22-seat classroom at the Basement level. These classrooms are managed by Academic and Campus Events (ACE), a centrally shared inventory of instructional/event space for the campus. A Sub-Basement was utilized by Faculty of Medicine, Grounds, Facilities & Services and Environmental Health & Safety and provides physical connection to Donnelly Centre for Cellular and Biomolecular Research (CCBR), Medical Sciences Building (MSB) and the Pharmacy Building. The Sub-Basement is largely uninhabitable due to low ceiling heights, poor air quality and overall poor condition. The Sub-Basement was utilized by Faculty of Medicine, Grounds, Facilities and Services and Environmental Health & Safety and provides physical connection to Donnelly Centre for Cellular and Bio-molecular Research (CCBR), Medical Sciences Building (MSB) and the Pharmacy Building.

The existing ACE instruction space at FitzGerald hosts a variety of activities including academic classes, academic meetings, campus group meetings and external organization meetings. These events are typically of a periodic nature. Utilization rates based on a 34-hour week are shown below:
FG 103 – 197 person capacity, booked on average 45 hours/week, 132% usage
FG 129 – 28 person capacity, booked on average 20.5 hours/week, 60% usage
FG 139 – 42 person capacity, booked on average 26 hours/week, 77% usage
FG 77 – 22 person capacity, booked on average 20 hours/week, 59% usage

Existing space Central Administration groups proposed to relocate to FitzGerald are shown below.

Table 2.1 - FitzGerald Occupants – Existing Central Administration Space across St. George Campus

Division, Department	703 Spadina NASM	215 Huron NASM	229 College NASM	214 College Koffler NASM	27 KCC Simcoe Hall NASM	254/256 McCaul NASM	167 College NASM	100 College Banting NASM	Total NASM
DUA, Advancement Communication Marketing (ACM)							280		**280**
Governing Council, Internal Audit (IA)	153								**153**
HR&E, Human Resources Department (HR&E)		837		37		67			**941**
Office of the President, Finance Division		1,019							**1,019**
University of Toronto Communications (UTC)							327		**327**
UO, Ancillary Services (AS)			401						**401**
UO, Parking & Transportation (P&T)								242	**242**
UO, Planning & Budget (P&B)		34.72			303				**338**
Total NASM	**153**	**1,891**	**401**	**37**	**303**	**67**	**607**	**242**	**3,701**

Occupant profile

The total number of Central Administration FTE for 2017-2018 and anticipated for 2022-2023 were used to generate a benchmark requirement for facilities as described in the next section, Space Requirements.

Table 2.2 – Central Administration Groups Full Time Equivalent (FTE)

Division, Department	Existing 2017-2018 FTE	Anticipated 2022-2023 FTE	Change %
DUA, Advancement Communication Marketing (ACM)	33	40	121%
Governing Council, Internal Audit (IA)	9.7	10.7	110%
Human Resources & Equity (HR&E)	67	74	110%

Division, Department	Existing 2017-2018 FTE	Anticipated 2022-2023 FTE	Change %
Office of the President, Finance Division	60	63	103%
University of Toronto Communications (UTC)	48	54	113%
UO, Ancillary Services (AS)	19.5	21.5	109%
UO, Parking & Transportation (P&T)	21.5	21.5	100%
UO, Planning & Budget (P&B)	27	28	104%
Total FTE	**285.7**	**312.7**	**109%**
Feasibility Study – Total number of stations (287 standard, 26 hoteling seats)		313	

*The 19.5 FTE noted above for Ancillary does not include 1.0 FTE at 229 College under the Housing Department whose position necessitates that they are repatriated with other Housing staff elsewhere on campus. The 21.5 FTE noted above for Parking & Transportation includes 10 FTE, which are Parking Officers, not included in the COU Analysis (section 3b) as they fall under Category 9 Plant Maintenance

Update: The building capacity based on current drawings (November 21, 2018) has increased to ±327 FTE seats + 38 hoteling

Table 2.3 Casual and Hoteling Requirements

	Existing 2017-2018		Anticipated 2022-2023	
Division, Department	**Casuals**	**Hoteling**	**Casuals**	**Hoteling**
DUA, Advancement Communication Marketing (ACM)	2	1	2	0
Governing Council, Internal Audit (IA)	0	4	0	4
Human Resources & Equity (HR&E)	1	0	1	0
Office of the President, Finance Division	1	0	2	2
University of Toronto Communications (UTC)	3	0	3	0
UO, Ancillary Services (AS)	0	0	0	2
UO, Parking & Transportation (P&T)	2	0	0	0
UO, Planning & Budget (P&B)	0	2	0	2
Total Seats	**9**	**7**	**8**	**10**

Both Casual and Hoteling staff have been assigned an approximate FTE "equivalent" and are captured under Total Seats in Table 2.2. For the Space Program, Casual positions have been assigned regular open workstation space allocation. Hoteling stations are smaller open workstations. Internal Audit requires hoteling for 2-4 students throughout per year. The Finance Division requires hoteling for auditors that

come in to work. Ancillary is spread out across the campus requires hoteling stations for remote staff needing touchdown space to work. These Ancillary hoteling stations would also be shared with P&T.

In addition to the 10 hoteling stations noted above for the respective Departments, 20 centrally shared hoteling stations are included in the space program to provide for future flexibility (i.e. flex workstations and/or swing space). These 20 centrally shared hoteling stations would be in addition to the existing 31 Central Administration hoteling stations inventoried in the Central Administration Study, 2016.

DUA, Advancement Communication & Marketing (ACM) Description:

Advancement Communication & Marketing (ACM) provides strategic planning, creative development and production support for central and divisional fundraising and alumni relations activities. This includes research analysis, brand strategy, integrated communications planning, account management, creative development, campaign and proposal writing, social media community management, design, digital, website, print and video production for advancement activities, including fundraising, alumni relations, donor recognition and stewardship.

ACM is led by the Executive Director, Advancement Communications & Marketing, and is comprised of four teams:

- Account Management
- Editorial Services
- Creative Services
- Digital Marketing & Communications

The majority of staff share an open workspace supported by collaboration & breakout spaces. Though the Editorial Services team can work in open workstations, the general area requires visual and acoustical separation as the activities are writing based. The Creative Services team requires additional layout and pin-up space for creative work. ACM also requires secure storage for equipment and space for art supplies.

Interdepartmental Relationships
ACM also leads brand strategy and marketing communications planning across the University in partnership with the University of Toronto Communications team.

Governing Council, Internal Audit (IA) Description:

The Internal Audit department is committed to promoting efficient and effective administration in support of the academic mission of the University. Services provided include assurance services (i.e. audit reviews), investigative services (special reviews) and consulting services (educational presentations). The scope of Internal Audit services encompasses all University operations and serves all four campuses.

Human Resources & Equity (HR&E) Description:
The Human Resources & Equity portfolio is responsible for a broad range of activities and initiatives across all three campuses and within every division of the University of Toronto. HR&E and its 13 divisional partners who work to:

- Retain, engage and attract outstanding employees
- Promote a community that is diverse and inclusive
- Provide a safe and healthy teaching, learning and working environment
- Develop employees to their fullest potential

The five departments proposed to relocate to the FitzGerald building are:

- HR Strategic Initiatives, including UTemp
- Organizational Development & Learning Centre (ODLC)
- Benefits & Pension, Payroll & HRIS Support
- Compensation, including SESU & JDX
- Recognition & Engagement

The Chief HR Officer (CHRO) leads the aforementioned departments above with support from Director in each department. The department teams currently reside in a mixed open and private office work place. The majority of units perform internal HR services that deal with sensitive security, privacy and labour information necessitating that these groups work on a floor collocated together separate from other non-HR&E departments. Payroll and the Strategic Recruitment Centre are examples within this group that differ slightly in that there is a service desk function for UofT staff.

Two HR&E units that have a strong service interface functionality are ODLC and UTemp and can be collocated at or closer to street level. ODLC provides organization development, career management, mentoring and continuous learning programs that support the University community including numerous skills-oriented and career-related workshops. ODLC has a variety of group support spaces for online training and video conferencing as well as smaller, private one-on-one counselling or testing spaces. UTemp provides casual staffing services for covering all casual vacancies: peak periods, vacations, illness and special projects. It is recommended that both UTemp and ODLC share a service desk close to the main south entrance where staff and students can receive information and directions regarding Human Resource services.

Finance Division Description:

The Chief Financial Officer (CFO) oversees and manages the Finance Division through the following departments: Financial Services, Procurement Services, and Risk Management & Insurance for the University. The Finance Division is led by the Chief Financial Officer (CFO) and supported by three Directors.

Financial Services supports the academic goals of the University through excellent financial management, effective and appropriate use of all financial resources (operating, research, trust and capital funds). Financial Services is comprised of six teams:

- Benefits, Pensions & Financial Analysis
- Operating Accounting & Financial Analysis
- Trust Accounting & Treasury
- Ancillary & Capital Accounting
- Student Accounts
    - Student Accounts receives student foot traffic who may have fee, service or loan inquires and requires a front desk to service student information and requests. Student Accounts does not need to be co-located with the rest of the CFO offices, and is ideally located on the ground or basement level.
- Financial Advisory Services & Training (FAST) Team

Procurement Services creates the framework based on internal policies, provincial legislation, and federally negotiated trade agreements to ensure high legal, ethical and professional standards in the

management of resources entrusted to it. Procurement is comprised of two teams Services & Operations and Competitive Procurement.

Risk Management & Insurance identifies assesses and quantifies the risks inherent in the activities of the UofT community in order to mitigate potential losses and minimize the financial consequences to the University.

Interdepartmental Relationships:
The CFO office collaborates extensively with Planning & Budget and interfaces with Internal Audit.

University of Toronto Communications (UTC) Description:

University of Toronto Communications (UTC) is the University's central resource for communications expertise. UTC is a group of strategists, planners, marketing specialists, editors, writers, designers and visual artists. UTC's role is to work with partners throughout the UofT community to tell the University's story. UTC is made up of four integrated teams:

- Communications Partnerships
- Brand Marketing
- News & Media Relations
- Digital Creative Services

UTC has a vision of a more open work and concentrated environment as compared to traditional University administration offices—media rooms of institutions such as the CBC and National Post and marketing companies such as TAXI have been used as precedents for UTC space planning. The teams share one open workspace arranged to foster collaboration and consultation.

Interdepartmental Relationships:
University of Toronto Communications team works closely with DUA's ACM team to integrate brand strategy and marketing communications planning across the University.

UO, Ancillary Services (AS) Description:

Ancillary Services provides a range of services to the campus to support the University's academic mission and enhance the community life on campus for students, faculty and staff. Ancillary Services departments include:

- Housing
- Food Services
- Parking and Transportation
    - Parking & Transportation Services provides resources for effective and efficient transportation to campus, operating surface parking and underground garages. P&T facilitate the sale of TTC Metropasses, parking passes and provide a shuttle bus service between St. George and Mississauga campuses
- Beverage Service
- Trademark Licensing

Ancillary is distributed around campus in order to fully serve clients more efficiently. The Ancillary portfolios proposed to relocate to the FitzGerald building currently work at the 229 College Street, comprising of Ancillary, Food Services and Trademark Licensing and 100 College Street, comprising of Parking & Transportation Services. Food Services operates and maintains food service outlets on the St.

George campus including, full-service conference and catering services. Food Services receive a lot of foot traffic from students and staff wanting to purchase or get information regarding meal plans. Trademark Licensing ensures a fast and efficient way to purchase quality branded products for the UofT community.

Both Food Services along with Parking & Transportation Services would benefit from a shared, streamlined service desk.

UO, Planning & Budget (P&B) Description:
Planning & Budget is responsible for three key areas of academic planning: enrolments, tuition fees and the University's budget. P&B maintains detailed models providing multi-year projections of enrolments, revenues and costs and supports the Vice-President, University Operations and the Vice-Presidents and Provost in setting the University's budget.

Planning & Budget consists of five teams:

- Academic Planning & Analysis
- Budget Administration & Institutional Planning
- Enrolment, Tuition Fees, Planning and Analysis
- Business Intelligence & Data Governance
- Institutional Research

As part of its mandate, the P&B office is committed to providing support to academic and administrative divisions in all aspects of planning and management related to enrolments, tuition fees and budgets.
Interdepartmental Relationships:
P&B interfaces with all divisions and portfolios across the university.

III.Project Description

a) Vision Statement

The University envisions that the Fitzgerald Building will be exemplar in adaptive re-use and set a precedent for progressive campus work environments. The primary goal is the creation of an inviting, high-performance office environment, where the quality of space results from the acknowledgement and accommodation of an evolving 'me' to 'we' workplace culture. The housing of various central administration functions together under one roof will help create synergies and efficiencies to best serve the academic needs of the University. The new workplace must strike the appropriate balance between dedicated and shared workspaces, both within and between departments to foster community, collaboration and best practice. A neighbourhood-type plan is envisaged that will mix clusters of open workstations, offices, meeting rooms, collaboration zones and support spaces. It must be adaptable to accommodate both current and future foreseeable and unforeseeable needs of the University's central administration staff.

b) Space Requirements, Program and Functional Plan

Space Requirements

The space need for potential central administration groups was generated using the most recently published Council of Ontario Universities (COU) Building Blocks space formula, 2016-2017. The COU space formula are used to generate benchmark requirement to determine space requirements, based on Full Time Equivalent (FTE) and space factors (NASM) defined for each space type. Input measures, defined by COU are used by all Ontario postsecondary institutions for this purpose.

University central administrative space falls under COU Space Category 10: Central Administrative Office and Related Space, defined and calculated as follows:

10.1 Office Space
FTE Non-Academic Staff requiring offices x 12 NASM = Category 10.1 Total NASM
For the purposes of the analysis, category 10.1 space has been divided into 10.1.1 space (Office Single) and 10.1.2 (Office Shared/Open Workstations) to provide a more granular understanding of the analysis.

10.2 Office Support Space
0.50 x Category 10.1 Total NASM = Category 10.2 Total NASM
Includes: conference/meeting rooms, storage, photocopy/print areas, waiting and reception areas, interview rooms, lunch rooms, kitchenettes, lounges and any other area that supports the office/work space.

In order to factor these positions into the space analysis and functional space needs, student or casual are filled as an FTE "equivalent" and included in the total FTE count.

Space analysis in Table 3.1 is the summary of all the proposed profiled central administration groups (COU Category 10.0) compared against the System Average of Ontario Post-Secondary Institutions from the publication, "2016-2017 Triennial Inventory of Physical Facilities of Ontario Universities". Note that the analysis in this report was performed in 2017 using the 2013-2014 space factors (which is why 2013-2014 heading are used in the tables below). The space factor for COU Category 10 has remained the same from 2013-2014 to the new 2017-2017 inventory, published June 2018.

Table 3.1 - Division Summary of Potential Groups, compared against System Average from 2013-14

		2017-2018						2022-2023			
COU Cat	COU Space Type	Input Measure FTE	COU Space Factor	Generated Space "G" NASM	Existing Inventory "I" NASM	% I/G	Average NASM per FTE	Input Measure	Generated Space "G" NASM	% I/G	2013-2014 System Average
10.0	**Central Administrative Offices**										
10.1.1	Office Single	75.5	12.0	906	1,029	114%	13.63				
10.1.2	Office Shared	200.2	12.0	2,402	1,390	58%	6.94				
	Total FTE Staff	275.7	12.0	3,308	2,419	73%	8.77	302.7	3,632	67%	104%
10.2	Office Support Space		0.5	1,654	1,256	76%	4.55	0.5	1,816	69%	118%
10.0	**Total Central Administrative Office**			**4,963**	**3,674**	**74%**	**13.33**		**5,449**	**67%**	**109%**

Overall, the COU space analysis above indicates that profiled central administration group is less than the COU generated space approximately 74% in 2017-2018. Compared to the 2013-2014 System Average at

109%, the central administration groups surveyed in this report are more efficient. If these profiled departments stayed in their existing spaces and their FTE grew as anticipated in Table 2.2, then the analysis suggests an underaccommodation at 67% of COU for academic year 2022-2023.

Space analysis for Tables 3.1a-h below shows existing 2017-2018 FTE compared against COU generated. The last three columns show anticipated growth in 2022-2023 per Division, Department compared to COU generated, in a scenario where departments remained in their existing space. Due to anticipated growth, almost all departments show an underaccommodation of space over time.

Table 3.1a - Division, Department: DUA, Advancement Communication Marketing (ACM)

		2017-2018						Anticipated 2022-2023		
COU Cat	COU Space Type	Input Measure FTE	COU Space Factor	Generated Space "G" NASM	Existing Inventory "I" NASM	% I/G	Average NASM per FTE	Input Measure FTE	Generated Space "G" NASM	% I/G
10.0	**Central Administrative Offices**									
10.1.1	Office Single	5	12.0	60	58	97%	11.62			
10.1.2	Office Shared	28	12.0	336	137	41%	4.88			
	Total FTE Staff	33	12.0	396	195	49%	5.90	40	480	41%
10.2	Office Support Space		0.5	198	86	43%	2.59	0.5	240	36%
10.0	**Total Central Administrative Office**			**594**	**280**	**47%**	**8.49**		**720**	**39%**

Table 3.1b - Division, Department: Governing Council, Internal Audit (IA)

		2017-2018						Anticipated 2022-2023		
COU Cat	COU Space Type	Input Measure FTE	COU Space Factor	Generated Space "G" NASM	Existing Inventory "I" NASM	% I/G	Average NASM per FTE	Input Measure	Generated Space "G" NASM	% I/G
10.0	**Central Administrative Offices**									
10.1.1	Office Single	7	12.0	84	75	89%	10.66			
10.1.2	Office Shared	2.7	12.0	32	18	57%	6.82			
	Total FTE Staff	9.7	12.0	116	93	80%	9.59	10.7	128.4	72%
10.2	Office Support Space		0.5	58	60	103%	6.20	0.5	64.2	94%
10.0	**Total Central Administrative Office**			**175**	**153**	**88%**	**15.79**		**192.6**	**80%**

Table 3.1c - Division, Department: Human Resources and Equity (HR&E)										
		2017-2018						Anticipated 2022-2023		
COU Cat	COU Space Type	Input Measure FTE	COU Space Factor	Generated Space "G" NASM	Existing Inventory "I" NASM	% I/G	Average NASM per FTE	Input Measure	Generated Space "G" NASM	% I/G
10.0	**Central Administrative Offices**									
10.1.1	Office Single	22	12.0	264	299	113%	13.58			
10.1.2	Office Shared	45	12.0	540	337	62%	7.50			
	Total FTE Staff	67	12.0	804	636	79%	9.49	74	888	72%
10.2	Office Support Space		0.5	402	305	76%	4.55	0.5	444	69%
10.0	**Total Central Administrative Office**			**1,206**	**941**	**78%**	**14.04**		**1,332**	**71%**

Table 3.1d - Division, Department: Finance Division										
		2017-2018						Anticipated 2022-2023		
COU Cat	COU Space Type	Input Measure FTE	COU Space Factor	Generated Space "G" NASM	Existing Inventory "I" NASM	% I/G	Average NASM per FTE	Input Measure	Generated Space "G" NASM	% I/G
10.0	**Central Administrative Offices**									
10.1.1	Office Single	19	12.0	228	268	118%	14.12			
10.1.2	Office Shared	41	12.0	492	419	85%	10.23			
	Total FTE Staff	60	12.0	720	688	96%	11.46	63	756	91%
10.2	Office Support Space		0.5	360	331	92%	5.52	0.5	378	88%
10.0	**Total Central Administrative Office**			**1,080**	**1,019**	**94%**	**16.98**		**1,134**	**90%**

Table 3.1e - Division, Department: University of Toronto Communications (UTC)										
		2017-2018						Anticipated 2022-2023		
COU Cat	COU Space Type	Input Measure FTE	COU Space Factor	Generated Space "G" NASM	Existing Inventory "I" NASM	% I/G	Average NASM per FTE	Input Measure	Generated Space "G" NASM	% I/G
10.0	**Central Administrative Offices**									
10.1.1	Office Single	1	12.0	12	13	104%	12.50			
10.1.2	Office Shared	47	12.0	564	179	32%	3.81			
	Total FTE Staff	48	12.0	576	191	33%	3.99	54	648	30%
10.2	Office Support Space		0.5	288	135	47%	2.82	0.5	324	42%
10.0	**Total Central Administrative Office**			**864**	**327**	**38%**	**6.81**		**972**	**34%**

Table 3.1f - Division, Department: UO, Ancillary Services										
		2017-2018						Anticipated 2022-2023		
COU Cat	COU Space Type	Input Measure FTE	COU Space Factor	Generated Space "G" NASM	Existing Inventory "I" NASM	% I/G	Average NASM per FTE	Input Measure	Generated Space "G" NASM	% I/G
10.0	**Central Administrative Offices**									
10.1.1	Office Single	7.5	12.0	90	120	134%	16.03			
10.1.2	Office Shared	12	12.0	144	98	68%	8.16			
	Total FTE Staff	19.5	12.0	234	218	93%	11.19	21.5	258	85%
10.2	Office Support Space		0.5	117	183	157%	9.39	0.5	129	142%
10.0	**Total Central Administrative Office**			**351**	**401**	**114%**	**20.58**		**387**	**104%**

Table 3.1g - Division, Department: UO, Parking & Transportation (P&T)										
		2017-2018						Anticipated 2022-2023		
COU Cat	COU Space Type	Input Measure FTE	COU Space Factor	Generated Space "G" NASM	Existing Inventory "I" NASM	% I/G	Average NASM per FTE	Input Measure	Generated Space "G" NASM	% I/G
10.00	**Central Administrative Offices**									
10.1.1	Office Single	3	12.0	36	55	152%	18.20			
10.1.2	Office Shared	8.5	12.0	102	55	54%	6.49			
	Total FTE Staff	11.5	12.0	138	110	80%	9.55	11.5	138	80%
10.2	Office Support Space		0.5	69	105	153%	9.17	0.5	69	153%
10.0	**Total Central Administrative Office**			**207**	**215**	**104%**	**18.71**		**207**	**104%**

Note: Parking & Transportation has 241.82 NASM at Banting. However, for the COU Analysis, only Cat 10.0 generates space formulaically (215.18 NASM). Category 9 Plant Maintenance space of 26.64 NASM, including 10 FTE (Parking Control Officers), are not included in the analysis above, but will be included in the space program.

Table 3.1h - Division, Department: UO, Planning & Budget (P&B)										
		2017-2018						Anticipated 2022-2023		
COU Cat	COU Space Type	Input Measure FTE	COU Space Factor	Generated Space "G" NASM	Existing Inventory "I" NASM	% I/G	Average NASM per FTE	Input Measure	Generated Space "G" NASM	% I/G
10.00	**Central Administrative Offices**									
10.1.1	Office Single	11	12.0	132	142	108%	12.91			
10.1.2	Office Shared	16	12.0	192	146	76%	9.11			
	Total FTE Staff	27	12.0	324	288	89%	10.66	28	336	86%
10.2	Office Support Space		0.5	162	50	31%	1.86	0.5	168	30%
10.0	**Total Central Administrative Office**			**486**	**338**	**70%**	**12.52**		**504**	**67%**

Planning For An Appropriate Workplace Density

The open office is the dominant form of workplace because it can foster collaboration, promote learning and nurture a strong culture. The FitzGerald building will be an exemplar modern, open workplace for University of Toronto central administration. Various central administration will be relocating from work environments that have a higher office-to-workstation ratio than what is planned for FitzGerald. Currently, these occupants are in spaces that are old and not ideal to foster collaboration. In order for the work place to be effective, the design of the workplace will be appropriately balanced between bringing teams together as well as supporting individual focused work. While there are many factors that require consideration in creating a successful open workplace (i.e. workplace culture, office functions, meeting rooms, acoustics, furniture, etc.), the density of the workstations sets a framework to guide the level of comfort for staff to function, as well as allow for dynamic growth and change.

The Council of Ontario Universities does not provide density targets for universities, but assigns a space factor of 12 NASM per office per workstations, or 18 NASM per FTE including 6 NASM of support space. From the space analysis shown in Table 3.1, the average existing space to FTE relationship of all the departments demonstrates a more efficient percentage as compared to the system average. In comparing existing COU efficiency to proposed COU efficiency, the table below show the individual departments profiled as one “office”, understanding that shared spaces across the entire building like meeting rooms will be shared/non-proprietary.

Table 3.2 Efficiency Measured by COU Standards for Cat 10.0 as a whole (Cat 10.1 and 10.2)

Table 3.1 - Division Summary of Potential Groups, compared against System Average from 2013-14													
		2017-2018					2022-2023		2022-2023		2022-2023		
COU Cat	COU Space Type	Input Measure FTE	COU Space Factor	Generated Space "G" NASM	Existing Inventory "I" NASM	% I/G	Generated Space "G" NASM	% I/G	Proposed NASM	% P/G	Proposed NASM "Adjusted"	% P/G	
10.0	**Central Administrative Offices**												
10.1.1	Office Single	75.5	12.0	906	1,029	114%							
10.1.2	Office Shared	200.2	12.0	2,402	1,390	58%							
	Total FTE Staff	275.7	12.0	3,308	2,419	73%	3,632	67%	2,471	68%	2,471	68%	
10.2	Office Support Space		0.5	1,654	1,256	76%	1,816	69%	2,082	115%	1,699	94%	
10.0	**Total Central Administrative Office**			**4,963**	**3,674**	**74%**	**5,449**	**67%**	**4,553**	**84%**	**4,170**	77%	

The analysis above suggests that the Proposed Space Program is 84% of COU. The proposed figure is slightly above the existing inventory at 74% of COU. Note that Office Support Space has increased from existing 76% to 115% COU. The “Adjusted” column is shown to provide some context to the analysis by “removing” some specialized COU category 10.2 support space intended to serve the campus at large and not just building occupants—the Video Studio and the ODLC seminar, learning and training rooms are anticipated to be used by students, staff and faculty across the whole campus. Once these respective spaces have been “removed” from the space inventory, the result is a leaner 94% of COU. In comparison to the Request for Proposals Space program, the Shared Space has increased by approximately 452 NASM.

Next, workplace density is examined through analysis of space per employee allocation across a few different sectors. Locally, two examples on campus were examined at 255 McCaul Street and 167 College Street (Communications House). The fourth floor of 255 McCaul is comprised primarily by Facilities & Services and University, Design, Planning and Construction (UPDC), whose workspace is characterized

by a mix of open workstations, enclosed offices and support space. The fourth floor of 167 College is utilized by University of Toronto Communications (UTC), whose workspace is characterized by a denser cluster of open workstations and smaller meeting rooms as the work culture takes the form of media "news rooms". Looking at these two examples, 255 College accommodates 11.2 NASM per FTE whereas 167 College accommodates 6.1 NASM per FTE (Table 3.3). Through the Advisory Committee, it was noted that the 167 College space on the fourth floor is overly compact, and more individual space would create a better work environment.

The proposed density for FitzGerald range is 12.5-13.9 NASM per FTE when looking at all of COU Category 10.0 space (10.1 office and open workstation and 10.2 office support). This density is slightly higher than at 255 McCaul. Similarly, with the COU Analysis, if area attributed to Video Studio and ODLC spaces are adjusted and removed, the density range falls closer to the 255 McCaul workplace to 12.8 NASM per FTE. In addition, the space program also houses 38 hoteling stations, which technically do not count as FTE and slightly decreases the density. However, it is intended that these hoteling stations will be used to house FTE as swing space for a limited term. On average the current planned ~13sm per FTE at FitzGerald is similar to the density proposed by the Federal Government of Canada's Workplace Standard at 140sf per FTE published in 2014. Note that Table 3.3 shows an analysis of COU category 10.0 space as a whole, including both office, workstation and support space. The analysis was included as a quick way to draw comparisons to other sectors like the government and private sector where granular information was not possible to glean.

The Private Sector profiled in Table 3.3 represents the financial service sector, which arguably may or may not be applicable to an institutional workplace as there is a much higher degree of mobility in financial services. Despite this point, the private sector is creating denser workspace. The Deloitte office in Toronto was analyzed with limited information available to accurately compare space apples-to-apples. An estimation of NASM to FTE was calculated from a typical work floor floorplate, providing an estimated allocation of 8.8-9.3 NASM per FTE. The Deloitte complex in Toronto is geared towards a workplace that allows for a wide range of non-assigned work stations for a 100% mobile work force. Though the workforce at Deloitte in Toronto is roughly 4,000 people, at any given time, it can only accommodate ~40% of that workforce sitting at individual workstations. The remainder of that workforce is either working in project rooms, Deloitte University, meeting rooms, cafes or at other remote locations. The line between traditional and informal work stations are blurred, allowing office support spaces to be utilized in multiple ways, thus leveraging space more efficiently.

Table 3.3 – Density Examples for Cat 10.0 Space as a whole

Division, Department	*Cat 10.1.1*	*Cat 10.1.2*	*Existing Office Single: Office Shared*	*Proposed Office Single: Office Shared*	*Existing Office Support Space as a % of Office Space*	*Proposed Office Support Space as a % of Office Space*	*Existing Density Cat 10 NASM/FTE*	*Proposed Density Cat 10 NASM/FTE*
DUA, ACM	58	137	30:70		44%		8.5	
Internal Audit	75	18	80:20		65%		15.8	
HR&E	299	337	47:53		48%		14.0	
Finance Division	268	419	39:61		48%		17.0	
UTC	13	179	7:93		71%		6.8	
Ancillary Services	120	98	55:45		84%		20.6	
P&T	55	55	50:50		96%		18.7	
P&B	142	146	49:51		17%		12.5	
Total	**1029**	**1,390**	**45:55**	**19:81**	**52%**	**68-84%**	**13.3**	**12.5-13.9**
Feasibility Study			**17:83**		**60%**			
COU Benchmark					50%			
UofT - 255 McCaul St, 4th floor							11.2	
UofT - 167 College St, 4th floor							6.1	
Federal Government Workplace 2.0 Fit-Up Standards (2012)							13.2-13.7	
Private Sector average 2014 (Various Industries)			32:68				9.3-11.1	
Deloitte, Toronto Office					65%		8.8-9.3	

Note: The Proposed columns noted above uses anticipated FTE for 2022-2023.

A more granular analysis of just office and workstation space (COU category 10.1) is analyzed in Table 3.4 is more precise in describing workplace density with the exclusion of office support space, which could vary across departments. Office and workstation space is compared across UofT examples at 255 McCaul, 167 College and the Central Administration Study, which profiled all the central administration on St. George Campus. The results of Table 3.4 indicate that the FitzGerald proposed space program for offices and open workstations is efficient once the category 10.2 Support space is removed from the analysis.

Table 3.4 Density Examples for Cat 10.1 only

COU Cat	2017-2018 Existing Departments NASM/FTE	Existing 4th Floor 255 McCaul NASM/FTE	Existing 4th Floor 167 College NASM/FTE	Central Administration Study NASM/FTE	2022-2023 Proposed Space Program NASM/FTE
10.1	**8.8**	**8.9**	**4.4**	**15.8**	**7.6**

In conclusion, workplace design is evolving with the workforce and understanding appropriate workplace density is contextual, as many factors contribute to a successful workplace. Looking at relevant precedents to emulate spatially or in spirit can provide confidence in setting the right framework for density. In the case of FitzGerald, the majority of central administration staff are non-mobile and it may be more pertinent to evaluate workplaces that are more relevant. The overall proposed density of 7.6 NASM per FTE (Cat 10.1 only) is close to 8.9 NASM per FTE at 255 McCaul, to help support individual

focused work. The proportion of dedicated office support space is well accommodated, accounting for almost 84% of overall space in order to achieve the project goal of fostering collaboration. The 84% is higher due to Video Studio and LC Spaces. When these areas are "adjusted" the percentage drops to 68%.

Space Program

Space Program based on drawings dated November 21, 2018			
ROOM TYPE	**COUNT**	**ROOM NASM**	**AREA NASM**
Cat 10.0 Space			
SHARED SPACES:			
Conference Room, 22 seats	1	57	57
Conference Room, 32 seats	1	88	88
Meeting Room, 4 seats	10	13	132
Meeting Room, 10 seats	5	27	135
Phone Booth	2	5	10
Lunch Room / Atrium	1	143	143
Kitchenette	2	18	37
Pantry	5	4	22
Collaboration Zone, large	2	58	115
Collaboration Zone, small	3	33	98
Production Studio, divisible	1	153	153
Coat Closet	multiple		14
Hoteling Stations	18	5	89
New Hoteling Stations	10	4	35
New Meeting Room, 8 seats	2	35	70
New Meeting Room, 10 seats	1	20	20
New Phone Booth	2	5	10
New Lounge Areas beside Atrium	4	54	216
New Pantry	1	4	4
New Entry Stair	1	48	48
New Library	1	50	50
SHARED SPACES SUBTOTAL			**1,545**
Shared Spaces New NASM under review			452
Shared FTE Hoteling	28		
DUA, ADVANCEMENT COMMUNICATION & MARKETING (ACM):			
Office, large	1	14	14
Account Management			
Open Workstations	8	5	40
Creative Services			
Open Workstations	8	5	40
Online Marketing & Communication			

ROOM TYPE	COUNT	ROOM NASM	AREA NASM
Open Workstations	8		40
Editorial Services			
Open Workstations	8	14	111
Open Workstations, growth	7	5	35
Waiting Area			
Workroom large	1	15	15
Mailroom	1	10	10
Spray Booth	1	4	4
Equipment Storage	1	12	12
Storage	1	32	32
New Office	3	12	37
New Open Workstations (hoteling)	13	5	69
DUA, ACM SUBTOTAL			**458**
DUA, ACM New NASM under review			106
DUA FTE Open Workstations	52		
DUA FTE Hoteling	0		
DUA FTE Offices	4		
DUA FTE Total	**56**		
INTERNAL AUDIT (IA):			
Office, small	2	13	26
Open Workstations	7	4	32
Open Workstations, growth	1	5	5
Hoteling station	4	4	17
Workroom large	1	26	26
Storage	1	14	14
New Office	1	12	12
New Meeting Room, 4 seats	1	13	13
IA SUBTOTAL			**144**
IA New NASM under review			25
IA FTE Open Workstations	8		
IA FTE Hoteling	4		
IA FTE Offices	3		
IA FTE Total	**15**		
HUMAN RESOURCES & EQUITY (HR&E)			
Office, Large	1	14	14
Open Workstations	4	8	30
Open Workstations, growth	7	8	53
Workroom	1	22	22
Storage	1	19	19
Compensation (including SESU & JDX)			
Office, small	1	14	14
Open Workstations	15	8	113

ROOM TYPE	COUNT	ROOM NASM	AREA NASM
Job Evaluation Room	1	14	14
HR Strategic Initiatives			
Office, small	1	12	12
Open Workstations	14	8	105
Benefits & Pension, Payroll & Support			
Office, small	1	12	12
Open Workstations	19	8	143
Recognition & Engagement			
Office, small	1	13	13
UTemp			
Open Workstations	3	8	23
LC			
LC Office, small	1	12.4	12
LC Open Workstations	5	8	38
Service Counter, 1 workstation	1	20	20
Waiting Area			
LC Seminar Room, 50 seats, divisible	1	126	126
LC Seminar Room Storage	1	14	14
LC Meeting Room, 10 seats	1	20	20
LC E-Learning Room, 4 seats	1	20	20
LC Training Room, 20 Seats	1	52	52
LC Kitchenette			
LC Equipment Storage			
Workroom	1	10	10
New Reception	1	8	8
New Open Workstation	1	8	8
HR&E SUBTOTAL			**912**
HR&E New NASM under review			15
HR&E FTE Open Workstations	69	8	521
HR&E FTE Hoteling	0		
HR&E FTE Service Counter	1		
HR&E FTE Offices	6		
HR&E FTE Total	**70**		
CHIEF FINANCIAL OFFICER (CFO)			
Office, large	2	13	26
Open Workstations	33	6	188
Open Workstations, growth	2	6	11
Hoteling stations	2	5	9
Vault Room (and cheque stick storage)	1	13	13
Deposit Box/Funds Room			

ROOM TYPE	COUNT	ROOM NASM	AREA NASM
Workroom			
Waiting Area			
Student Accounts			
Service Counter, 1 workstation	1	18	18
Waiting Area			
Office, small			
Open Workstations	7	6	40
Workroom			
Risk Management and Insurance			
Office, large	1	13	13
Open Workstations	2	6	11
Procurement Services			
Office, large	1	12	12
Open Workstations	13	6	74
Storage	1	18	18
CFO SUBTOTAL			**435**
CFO New NASM under review			0
CFO FTE Open Workstations	57		
CFO FTE Hoteling	2		
CFO FTE Service Counter	1		
CFO FTE Offices	4		
CFO FTE Total	**64**		
UNIVERSITY OF TORONTO COMMUNICATIONS (UTC)			
Office, Large	1	12	12
Open Workstations	47	7	325
Open Workstations, growth	6	5	31
Workroom, large			
Equipment Storage			
New Storage			19
New Office, Small	2	13	25
New Workstations (hoteling)	2	7	12
UTC SUBTOTAL			**425**
UTC New NASM under review			37
UTC FTE Open Workstations	55		
UTC FTE Hoteling	0		
UTC FTE Offices	3		
UTC FTE Total	**58**		

ROOM TYPE	COUNT	ROOM NASM	AREA NASM
ANCILLARY SERVICES (AS)			
Office, large	1	16	16
Office, small	2	12	24
Open Workstations	16	6	99
Open Workstations, growth	1	4	4
Hoteling	2	4	9
Service Counter, 2 workstations	1	27	27
Waiting Area			
Workroom			
Storage	1	14	14
Parking & Transportation			
Office	1	12	12
Open Workstations	7	6	44
PCO Men's Locker Room	1	22	22
PCO Women's Locker Room	1	11	11
Deployment Room, 3 workstations	1	29	29
Storage	1	40	40
AS SUBTOTAL			**351**
AS New NASM under review			0
AS FTE Open Workstations	24		
AS FTE Hoteling	2		
AS FTE Service Counter	2		
AS FTE Offices	4		
AS FTE Total	**32**		
Planning & Budget (P&B):			
Office, large	2	14	28
Office, small	5	11	54
Open Workstations	20	7	134
Open Workstations, growth	1	6	6
Hoteling	2	8	9
Workroom	1	16	16
Storage	1	14	14
New Reception	1	8	8
New Waiting Area	1	4	4
New Workstations (hoteling)	5	8	42
P&B SUBTOTAL			**316**
P&B New NASM under review			54
P&B FTE Open Workstations	27		
P&B FTE Hoteling	2		
P&B FTE Offices	7		
P&B FTE Total	**36**		

Total NASM			**4,587**
Total FTE Open Workstations	**292**		
Total FTE Hoteling	**38**		
Total FTE Service Counter	**4**		
Total FTE Offices	**31**		
Total FTE (incl hoteling)	**365**		
Total FTE	**327**		
ROOM TYPE	**COUNT**	**ROOM NASM**	**AREA NASM**
Other Cat (3.0, 9.20, 12.0) Space			
Bio Wash Shredder & Pail Washer	1	37.8	37.8
Hazardous Waste Storage	1	39.9	39.9
Building Storage	1	112.5	112.5
Caretaking Storage	1	26.0	26
Caretaking Storage	1	23.3	23.3
Male Caretaking Changing Room	1	7.5	7.5
Female Caretaking Changing Room	1	12.6	12.6
Caretaking Lunchroom	1	21.2	21.2
Caretaking Closet	1	2.8	2.8
Coats	1	2.0	2
Janitor's Closet	1	10.8	10.8
Janitor's Closet	1	2.0	2
Janitor's Closet	1	2.0	2
Janitor's Closet	1	2.0	2
Janitor's Closet	1	0.0	0
Mail Room	1	10.5	10.5
			312.9
Total NASM			**4,900**

Note: Space Reconciliation Comparison based on Request for Proposals Space Program available upon request

Proposed NASM-to-Gross Ratio by Floor

	Existing GSM	**Proposed GSM**	**Proposed NASM**	**NASM-to-Gross Ratio**
F4	870.39	1,090.52	404	2.7
F3	1,691.53	1710.27	1052	1.6
F2	1,691.69	1710.27	1018	1.7
F1	1,710.75	1,658.44	900	1.8

	Existing GSM	Proposed GSM	Proposed NASM	NASM-to-Gross Ratio
B1	1,710.56	1,906.69	992	1.9
B2	2,082.30	2,016.76	534	3.8
Total	**9,757.22**	**10,092.95**	**4,900**	**2.1**

Non-assignable space

Included in the building project are non-assignable elements that are not specifically described in the Space Program, but will be part of the architect's responsibility for design.

Non-assignable spaces include lobbies, corridors, stairs, mechanical stacks etc. Specific requirements include:

- Corridors, stairs, ramps, and public circulation space
- Lobby
- Garbage room & recycle room
- Security closet, 1 in the middle floor, stacked with the data closets to use the same floor plate opening.
- Data & communication closets: one on every other floor, possibly combined with electrical closets
- Mechanical and Electrical rooms are to be located in the basement
- Transformer room: accessible at grade by service vehicles, approximately 80 sm. Requires 4.0m clearance height.
- Janitor's closet – there is 1 closet per floor. Upper level Janitor's Closets to be approximately 8sm and should include a slop sink and storage. The ground floor and basement level closets should be at least 2.5 x 6.0m in size to store custodial carts, supplies, equipment, storage shelves, and should include a slop sink and dedicated outlets for recharging equipment. Refer to UofT Caretaking Standards.
    - Existing Subbasement Rooms 8, 29, 30 & 31 are dedicated for CCBR
- Janitor change room
- Washrooms: The provision of public washrooms must meet exceed minimum code requirements and should also include an accessible stall, sink, and mirror in gendered washrooms and in separate universal washrooms. Universal washrooms must comply with current AODA standards.
    - 1 washroom, single, all gendered to be close to ODLC
- Elevators: 2 elevators are proposed to access all levels; one should be a freight elevator. Elevator service rooms are also required.
- The rooftop should meet accessibility codes and standards for use as a terrace/amenity space.
- Water fountain on Basement and First floor levels.

Workplace

The workplace will be a well-considered balance of public and private space. It must provide for multiple modes of working, ranging from task oriented to collaborative. Personal work spaces are to be complemented with carefully placed, conveniently configured meeting places. These places can be informal or more defined. A range of meeting spaces is to be provided, from open counter-tops, lounges, café-style to closed meeting rooms. The informal meetings areas are ideally aligned and scaled with the

corridor space. The necessary combination of these spaces, the distribution, and aesthetic, qualitative appeal will encourage the interactive and productive nature of the overall workspace.

Private open work stations should be located towards the perimeter. Open workstations should be located along the south facing windows to permit greater daylight penetration; closed offices and meeting rooms should be oriented to the north where possible.

Future-proofing workspaces for potential future needs is a component of the Implementation phase. Examples of future-proofing to include, but not limited to the following items below:

- Office partitions should not be tied to any building systems requiring vertical connection to floors above or below;
- Furniture layouts showing how work spaces can be optimized to add for future growth to be included along with work station infrastructure (power, data, etc.);
- Explore feasibility of all workstations to be height adjustable;
- Design informal seating (open lounges and eating areas) to be utilized as a flex workstation;
- Provide secure file storage for staff who are fixed and potentially mobile.

Shared Support Spaces

There are two large Conference Rooms planned for the building: one with a capacity of 22 (plus additional seating along the walls) and one with a capacity of 32. The Conference Rooms will be a central resource, capable of being booked by occupants of the building as well as central administrative units located elsewhere. In addition, there are numerous meetings rooms of various sizes planned for each floor. These range from a capacity of 4 to a capacity of 10. These meeting rooms are also non-proprietary and centrally booked, but will be primarily be used by adjacent occupants. Soundproofing of all meeting rooms is necessary.

Collaboration Zones are planned for each floor. These can be described as ‘destination areas’ that bridge one neighbourhood of offices to the rest. Informal and open in nature, the collaboration zones are located at key meeting points within a floor, providing space for open meetings and work, scheduled or unscheduled. Given the intention to minimize offices and prioritize open workstations, collaboration and lounge zones are key supports for workstation staff. Precedents and case studies show that this approach supports efficient space planning along with positive daylighting in an office environment.

With the natural building core forming a double-loaded E corridor, the Fitzgerald building benefits from the integration of ‘in-between’ spaces. The spaces within circulation corridors help soften the edge between programmed space and circulation. Small touch down meeting tables, carrels, and seating dispersed throughout wide corridors can transform the traditional corridor space. Further, it increases the net assignable area of the floorplates by increasing functional program. The proposed atrium to infill the south courtyard, will be a flexible space supporting the following uses: eating, lounge, collaboration and study.

Acoustic considerations are crucial to the success of these spaces. An open work environment needs to employ technical and situational measures to ensure that primary workspaces are not noisy and can support individual focused work.

Rooftop Terrace

A new rooftop terrace is envisioned for the west terrace on the southern portion of the building. Accessed directly from the fourth floor, this terrace will serve as a building-wide amenity. As the original structure

was not planned to accommodate an occupied outdoor space, structural upgrades will be required. Seating and landscaping should be integrated to create an inviting environment for meals, informal meetings and events.

Video Studio

A video studio is being proposed to accommodate a wide variety of needs both academic and administrative. The video studio is intended to be a centrally shared resource to accommodate the following needs:

- Video production for academic needs (i.e. Arts & Science, OISE, etc.)
- DUA, ACM & UTC photography and video production
- ODLC online training ("micro" learning seminars delivered directly to staff)
- Press Conference and live-to-air faculty interviews on a green screen

The primary needs for the studio is video and photography production. Many academic units across campus do not have appropriate facilities to create video content. Often called "lecturettes", these videos are 10-20 minutes in length; they are recorded by the instructor and later uploaded for viewing. In addition, ODLC, Advancement and Communications all have the need to develop online content. The likelihood that the video studio would be used for graduate seminars to broadcast to students present in the studio and beyond the classroom was not advised as shooting bi-modal is very technical. Instead it was advised that the sequence of graduate seminars should be filmed, produced and delivered remotely to the graduate student. The University also has a need for a permanent facility in which to hold press conferences and have UofT faculty interviews. Generally, press conferences would be held at the specific venue to announce the event. In cases when the announcement is not tied to a specific venue, it would be convenient to have a dedicated place to hold the conference. Faculty are often asked by various media to weigh in as academic experts and often these are held in faculty offices or the faculty member goes to the media studio. Currently, only the Rotman School of Management has a green screen room that can be utilized for this purpose, but it is not available to all UofT departments. Ideally, the studio can be divided into two spaces - or exist as two separate spaces - such that multiple video and photography can occur simultaneously and separately. The primary production space would be in the "back-of house" room, connected by a sound lock vestibule, to house storage for video equipment as well as workstations for video/photography production.

The video studio is to be outfitted with the following technology:

- A light truss set-up either suspended from the ceiling or of a stand-up type
- 10 LED lights that require at least a duplex for every 2 lights mounted
- Dimmer unit and lighting board for control
- Backdrop curtains and a green backdrop (for Chroma Keys)
- Centre stage floor requires microphone plug-ins for multiple mics
- Sound mixer and amplifier nearby for audio control and room P.A.
- Green screen studio

An area for media with their cameras will be incorporated. A permanent or portable sound feed will be necessary for press/media to connect. Feasibility of infrastructure required to broadcast live vs other systems more scalable to higher-end conferencing technology is under assessment.

Studio quality lighting must be provided and the room must be soundproof. All furnishings and technology must be moveable and have the flexibility to be moved in and out of the room. Storage must be provided adjacent to the room for ease of moving and changing studio sets.

Operationally, the Video Studio would be a bookable space for UofT students, staff and faculty who would like to book the room, equipment and/or technical support staff (if needed). The Video Studio is anticipated to be a central-wide resource, in demand by multiple central administration departments, academic departments, and students. Operational management of this central-wide resource will be required to ensure both ongoing technical and studio booking support.

Service Counter
Service Counters are envisaged as locations that allow for some level of signage communication as well as where face-to-face interaction can occur within a welcoming environment. Service Counters are to be located proximate to main corridors, waiting areas and other amenities. Privacy and confidentiality are to be incorporated into the design/planning around service counters (i.e. Student Accounts and HR&E).

Storage
Level B02 can be largely dedicated to document storage needs for groups stationed in the building and in the sector. Work and private file storage are to be accommodated on work space floors (Basement to Forth).

Feasibility of bicycle storage is being explored in design stage.

Functional Plan

The existing floorplates follow the form of an 'E': a double loaded corridor with three branches. This arrangement lends itself well to administrative space, as there is ample access to light on all areas of the floors above grade. Layout of permanent, long-term workstations should be focused primarily on the ground, second, and third floors.

The southern portion of the building at the basement level can also accommodate fully functional workstations with adequate access to daylight. Work spaces on this level should be optimized for daylight. For example, the south window wells may be reworked and lowered in order to provide more light into the lower levels.

The fourth floor configuration will permit a complement of limited workspaces as well in conjunction with more reflective quiet areas that overlook green roof plantings.

The sub-basement does benefit from access to light wells. However, these are deeply shadowed by the surrounding buildings and physical depth from grade. As such, these spaces are not recommended for long-term permanent workstation use. Other uses, such as storage, dark rooms, and screening rooms might be considered for these spaces to support uses in other areas of the building. The existing bio-waste facility in the sub-basement will be relocated to the wing closest to the Medical Sciences Building in order to separate bio-waste facilities from building occupants.

The ground level should contain spaces most used by visitors: students, staff, and faculty not housed in the building. Service-oriented uses should be located on this floor.

c) Building Considerations

Standards of construction

As this is a renovation, the standards of construction apply mostly to the interior. Finishes should be durable and of mid-range quality. As this is to become a model for adaptive reuse on campus, elements such as windows are to be of high-quality to promote building energy efficiency.

The FitzGerald building is a four-storey, masonry red brick building. The walls appear to be uninsulated. There are also many limestone elements throughout, including stone bands at floor separations and at various other locations, as well as stone cornices. These elements, including the exposed red brick, are historically significant and are part of the heritage designation for this building. Significant changes to upgrade the thermal performance will need to be conducted from the interior. The majority of the exterior envelope appears in good physical condition, particularly for a building of this age. There is some deterioration and staining of brick, and some areas of masonry repair will be required to return the walls to a sound and water tight condition. Replacement brick and mortar appropriate to the heritage characteristics of the building are to be used.

The uninsulated existing walls permit considerable heat flow through them. This heat serves to push moisture out of the walls and to keep them relatively warm and dry during cold weather, greatly reducing the frequency of freeze thaw cycles. This phenomenon is likely at least partially responsible for the generally good condition of the brick and stone masonry.

Improving thermal performance will require the addition of thermal insulation to the interior wall surfaces. Doing this will reduce the amount of heat flow through the walls with the end result of the stone and brick being colder and wetter for longer periods of time. This will increase the number of freeze thaw cycles the masonry is exposed to, with the increase in exposure proportional to the increase in thermal resistance added to the wall interior. It is important to determine at what interior insulation value the moisture content in the masonry goes from low risk to high risk because of the reduced heat flow. Freeze thaw or critical saturation tests can be completed on the masonry to determine its susceptibility to freeze thaw exposure. Once that value is established, an insulation value can be selected that maximizes the thermal performance of the wall, while permitting enough heat to flow through to avoid freeze thaw damage.

The majority of the existing windows are thin framed aluminum fixed or operable units of varying ages. These should be replaced with modern, thermally broken, double-glazed insulated glass units with a low-e coating. They should match as close as possible the original windows that were designed for the building.

The existing structural system for the original U-shaped building consists of discrete concrete spread footings at each column location, and concrete strip footings running along the perimeter of the building below the exterior walls. The vertical load-bearing elements include interior concrete columns of varying sizes and perimeter load-bearing masonry walls. Floor systems of the building consist of concrete joists formed with blocks of clay tile to create the cavities, topped with structural concrete slabs, framing between concrete beams and/or load bearing masonry elements. Structural changes as a result of the building use are expected to be restricted to the roof, where a terrace and enclosure is envisaged, and where new mechanical systems dictate a need.

Elevators

There are two elevators in the building. Both require replacement and enlarged openings to meet current standards. The openings are framed with concrete beams at the floor levels. In order to increase the size of these openings in the eastward direction, the floor structure to the east of the elevator opening would need to be shored, a new steel beam framing the new opening size would need to be installed, and the east concrete beam framing the opening and the floor area for the extent of the enlarged area would require localized removal. This would be required at each floor level. Expanding the elevator openings towards the east is the simplest way of enlarging the elevator openings. While the openings could be expanded in the north-south direction, significantly more reinforcing and temporary shoring would be required.

The existing elevator pits require further investigation to confirm pit size and depth. Modifying or installing new elevator pits would require demolition of a significant area of the existing slab on grade, excavation, forming, and pouring new reinforced concrete footings and walls. Drains within the elevator pits will also need to be installed.

Sustainability design and energy conservation

Integration of environmentally sustainable principles into buildings, landscapes and transportation options, has been a high priority in discussions with both campus and neighbouring communities. At a minimum, all new buildings shall be designed to meet the Toronto Green Development Standard, Tier 1 and LEED Canada – NC Silver rating with at least 10 points achieved for "Optimizing Energy Performance", 2 points achieved for "Enhanced Commissioning" and 4 points achieved for "Water Use Reduction". This will significantly reduce the building's operating costs over its lifetime. Further, the project must comply with City of Toronto Tier 1.

Please refer to the City of Toronto Green Roof Bylaw No. 583-2009, Chapter 492 for specific green roof requirements.

Sustainable strategies under consideration during the design phase include:

- Heat recovery systems
- Low flow and water efficient fixtures
- Grey water re-use
- Super insulated low albedo roofing
- LED lamps
- Solar shading
- High performance building envelope
- Equipment and systems must be put in place so that the long term energy and water efficiency can be monitored and verified.

As of 2016, UofT proposed the following Design Standards for Energy Efficiency for New Construction: Capital projects must meet ASHRAE 90.1-2013 + 20% at a minimum. Projects are required to add components which have payback of less than 15 years to reach an ASHRAE 90.1-2013 + 40%.

ASHRAE provides Standards for all components within buildings – HVAC, windows, lighting, modeling, envelope, ventilation and reviewed by industry experts. It allows for prescriptive and performance based compliance paths to meet the minimum energy use. Toronto Green Standards (TGS), OBC and LEED all use ASHRAE 90.1 to define their energy efficiency standards.

Building energy performance modeling during the design phase shall serve several purposes. The primary objective is to inform design decisions in a way that guides the designs toward the University's goals of sustainable energy efficiency, reduced carbon footprint and optimal long term building performance and comfort. It is recognized that the detail and resolution of the performance assessment through modeling will refine as the design progresses from concept through design development to tendering and then on-going measurement and verification.

Energy modeling coupled with Life Cycle Cost Analyses will serve as tools throughout the design phases to evaluate design options and make appropriate choices that support the University of Toronto's pursuit of sustainable reduced energy use and lower carbon footprint with long term built space comfort.

At each design phase model submission, the *Project Consultant Team* will be expected to submit the energy model with EUI's to test the energy performance for alignment with U of T Policy and standards. Please see Appendix 2 for UofT's Energy Modeling Guidelines.

Accessibility

The University of Toronto is committed to ensuring that its buildings and services are accessible to persons with disabilities. This is informed by the University's institutional Statement of Commitment Regarding Persons with Disabilities, as well as the obligations that fall under the Accessibility for Ontarians with Disabilities Act (AODA) and the Ontario Building Code. Neither the AODA, nor the University, requires full adherence to the standard for renovation projects, particularly of older buildings where there may be some recommendations that are very difficult or impossible to implement. However, the design team must provide written explanation in the event of non-compliance. In the case of a heritage building where it is either prohibitive from a heritage maintenance perspective, or is cost prohibitive, the University has a policy of accommodation elsewhere on campus.

Part IV.1, The Design of Public Spaces Standard, section 80 of the Integrated Accessibility Standards Regulation (191/11) of the AODA, came into force for the broader public sector January 1, 2016. Projects that create new or redeveloped exterior public spaces will adhere to the specifics set out in the Standard. This includes any ramps, outdoor public use eating areas and play spaces, exterior paths of travel (including stairs and depressed curbs), accessible parking (including requisite algorithms for type and amount of spaces), and service areas. Some interior areas must also comply as well with Part IV.1. Some interior items fall under this standard such as service counters, fixed queuing guides, and waiting areas. Maintenance, environmental mitigation, or environmental restoration excluded from this requirement. Refer to link **http://aoda.hrandequity.utoronto.ca/buildings/**

Public space projects affecting exterior paths of travel, recreational trails, outdoor play spaces, or accessible on-street parking must include consultation with the public and persons with disabilities pursuant to aforementioned standards. For additional information contact the University of Toronto's AODA Office. **http://aoda.hrandequity.utoronto.ca/**

The proposed Atrium will also provide a new second accessible entrance. The existing accessible entrance is at the basement level, south façade, facing College Street. All landscape upgrades around the building will comply with new Design of Public Spaces Standard to improve accessibility.

Building Code

Part 11 of the 2012 Ontario Building Code (OBC) requires that the performance level of the structure shall not be reduced due to renovations unless compensating construction is provided. Converting the Fitzgerald building from a combination of lecture, office, and laboratory space into solely lecture and office use does not change the major occupancy of the building as defined by section 1.4.1.2 of the 2012 OBC. The occupant load of the building is not expected to increase past the assumed original design occupant load. The feasibility study does not suggest that the existing structural floor and roof framing systems and their supporting members are inadequate to support the proposed dead and live loads, with the exception of upgrading the mechanical systems or repurposing part of the roof to a rooftop terrace.

Areas where compliance will be required include the exit stairs, washrooms and elevators.
The existing south fire exit stair does not reach the fourth floor, meaning this floor is not compliant. In order to meet exit regulations, the main central staircase would require enclosure. Given the formal, open nature of this stair and its relationship to the lobby, the preferred option in the feasibility study was to provide a roof addition to connect to the existing east stair well, eliminating the need for a new stairwell. The washrooms do not meet current AODA or University standards and must be upgraded. As noted above, the elevators also require upgrading to meet current standards.

Personal safety and security

All spaces must meet University standards for safety and security. As this building is to be accessed by central administration staff as well as students, a strategy for ensuring the safety and security of all building users during all hours of use must be considered in the design. To improve safety around the building, site lighting will be enhanced.

Signage, donor recognition

New exterior signage is under review, particularly on the College Street frontage.

See Audio-Video Technology for wayfinding.

Mechanical/ Electrical and Data

The feasibility study (December 2017) concluded that all existing HVAC, plumbing and fire protection systems are outdated and past their service life. All systems will require demolition and replacement through this building renewal. The following summary lists the proposed improvements to the building, details of which are found in the feasibility study (December 2017):

HVAC

- Air Handling Plant: Multiple air handling units fed by a dedicated outdoor air system (DOAS)
- Cooling Plant: Heat exchanger between existing Campus Chilled Water service and building complete with secondary pumping station and chilled water distribution to air handling units.

Heating Plant:

Sofame to be extended (feasibility of piping scope TBD) from the Campus service. Heat exchanger to be provided between campus service and building. Steam to hot water heat exchanger will be installed for peak shaving. Cascading primary loop with three (3) secondary loops for perimeter heating, air handling units heating and VAVs reheat coil heating.

Plumbing:

- Provide new sanitary, storm, domestic water and venting services
- Provide new plumbing fixtures.
- Provide new steam to domestic hot water heat exchanger

Fire Protection:

- Replace existing fire pump
- Replace existing standpipe
- Provide wet sprinklers coverage for the whole building as per NFPA 13.

The existing power supply shall remain and be re-utilized for this renovation.

All existing power distribution serving the existing Fitzgerald building should be removed, complete with all associated panels, risers, feeders and wiring and exposed conduits. All have reached or are nearing their end-of-life-cycles and do not meet current codes.

The lighting control system will perform scheduled and automated lighting control sequences and will include software that provides control, configuration, monitoring and reports.

Audio-Video Technology

Audio-visual solutions must allow for the dynamic and evolving requirements of various user groups in the building. In addition to meeting and collaborative spaces, it is anticipated that wayfinding will be designed and implemented using an A/V approach. For example, both the Basement and First floor must have a combination of well-considered electronic and graphic signage for wayfinding, but also communicate what is going on in the building. The ability of these solutions to accommodate wide-ranging requirements will increase the efficiency of the building's shared and collaborative spaces. The systems employed should be at the leading edge of current technologies and easily accommodate changes in approach.

Audio-visual and conferencing technologies have experienced a convergence of audio, video and control systems with information technology, specifically local area networks and the Internet. This technology trend is pushing forward as available network bandwidth increases. In a continuing effort to evolve with this convergence, systems must be designed in a flexible manner with consideration for future University networks.

In order to simplify functionality and operational understanding, the system designs should minimize the number of user interfaces while maintaining system functionality. The building should employ a common user interface to minimize start-up time and troubleshooting. To minimize set-up or preparation time, the majority of the systems' elements will be built-in to room infrastructure. There will likely be a requirement for a full-time IT specialist suitably trained in AV technologies assigned to on-demand AV support.

Audio-visual systems in purpose-built rooms, such as the Video Studio and large conference rooms, should have an appropriate complement of equipment for presentation of various media, should facilitate prepared and ad-hoc presentations among local participants and provide access to remote or distant user groups.

Systems will provide all necessary elements of visual, aural and device/ environment control.
To aid, rather than hinder, the meeting convener or presenter, user control of system/ room devices must be logical and easy to understand.

Visual displays will be provided in a size and clarity appropriate for intended use and group size and to minimize viewing fatigue. Audio reproduction will allow for unstrained listening and interactive participation, suited for the intended programming and/or room or area. Conferencing systems must link remote sites for extended audience venues.

Booking meeting rooms and spaces should be seamlessly integrated into UofT communication platform (Office 365) and mobile technology. Displays system similar to Deloitte Toronto Offices where information is displayed and interactive (i.e. booking kicks user out of room if user does not sign in) will allow for efficient use of space.

Environmental Health and Safety

The University of Toronto's Environmental Health and Safety office, including an Environmental Protection Services team, provides a broad range of health and safety services to the University community and whose responsibility it is to ensure environmentally responsible, safe and healthy work, research and study environments on campus. Please refer to their website for information, **https://ehs.utoronto.ca/**.

The change of use from laboratories to office required the decommissioning of those labs. This work was carried out as Medicine and Dentistry vacated the building, coordinated with Environmental Health & Safety.
The new office use will require complete renovation of the building. Key considerations for healthy environments will include office and student space design, use of materials, air quality, access to natural light, and overall space and furniture design.

Facilities and Services prepared a facility condition assessment on the existing physical infrastructure at the Fitzgerald Building in 2013. The report included a summary of hazardous materials confirming the findings of asbestos, lead, mercury and silica in the building materials. Remediation of these hazardous materials is required.

d) Site Considerations

Site context

Located near the intersection of College Street and Queen's Park Crescent, the Fitzgerald Building lies within the University of Toronto Secondary Plan Area. Within the context of the University campus Character Areas, the subject site sits within the South Campus. This portion of the campus was

established through incremental development, alterations and selective redevelopment and functions as the southern public interface with the city. To the east sits Queen's Park and associated legislative buildings. South of the building is a mixed-use area.

Master Plan and Zoning

In 1997, a number of sites in the University's Secondary Plan Area were zoned for redevelopment. The Fitzgerald building was identified as being part of Site 15, which also included the parcels where CCBR and Pharmacy now sit. The development of the CCBR and Pharmacy buildings in 2003-4 resulted in the implementation of a comprehensive urban design strategy for the entire site. Development potential for Site 15 is considered complete, by both the University and the City. The 2003 heritage easement on the Fitzgerald building was entered into as part of the development at CCBR and Pharmacy.

Since then, the University has prepared a new St. George Campus Master Plan (2011), and submitted an application to update its 1997 Secondary Plan with the City. Neither the Master Plan nor the proposed new Secondary Plan anticipates any significant development increase on the Fitzgerald site or its adjacent sites.

The current, in-force Zoning Bylaw is 438-86. The property itself is zoned Q (Institutional). A Zoning Bylaw amendment nor site plan application is required for the proposed project. However, the landscape around FitzGerald is within CCBR and Pharmacy's existing Site Plan Agreements. Minor amendments to the Site Plan Agreements are not anticipated to add any time to the Schedule as the amendment process can occur parallel to the Building Permit. Since minor alterations to the exterior envelope have been proposed, these changes require an amendment to the Heritage Easement Agreement and are subject to Preservation Board and Community Council approval.

Landscape and open space requirements

The Fitzgerald Building is surrounded by significant landscaped spaces including the CCBR forecourt to the west and a courtyard to the east made to feel enclosed also by the Pharmacy and the C. David Naylor buildings. This courtyard to the east is located adjacent to both the smaller north and south courtyards of the Fitzgerald Building. Originally, this south courtyard space was formalized with partial height exterior garden walls. The south wall was removed, while the north portion remained and now acts as a wall for a storage garage constructed at a later time. The storage garage can be removed, freeing up the courtyard to permit a proposed atrium, enhancing and activating the existing "mews" between Pharmacy, Naylor and FitzGerald. The South entrance will become the new "front door" for the building, will improve the urban relationship of the building to College Street. Forging a stronger building relationship to the streets consists of strengthening pedestrian connections with Pharmacy and the CCBR forecourt while also enhancing the landscape with trees, plantings, site furniture and lighting.

Site access

The formal front entrance to the Fitzgerald Building faces the forecourt of the CCBR Building and additional entrances are located on the north and south of the building. Both the front (west) and north entrances are reached by stairs rising ~11'-0" above grade providing direct access to the First Floor. The south entrance provides barrier-free access to the building at the Basement level. This accessible entrance will be enhanced as a new "front door" to the building.

Service access is shared with that of CCBR, MSB and Pharmacy Building, accessed from the Sub-Basement level. The re-use of the building as largely office space is not expected to increase use of the shared service area. Fire access is from the forecourt of CCBR.

Heritage status

Designed by Mathers and Haldenby, the building is an example of Georgian Revival style of the early 20th century. An independent division of the University that housed the departments of hygiene, preventative medicine and public health nursing, the building also was home to the College Division of Connaught Laboratories. In that capacity, the building functioned as the centre for insulin production in Canada from 1927 to 1969. After the School of Hygiene was absorbed into the Faculty of Medicine in 1975, the building was renamed in recognition of John Gerald Fitzgerald, co-founder of the school and a leading advocate for public health in Canada during the 20th century.

The property is listed on the inaugural City of Toronto Inventory of Heritage Properties in 1973 and a Heritage Easement Agreement was registered in 2003. The property was then designated under Part IV of the Ontario Heritage Act in 2007. City of Toronto Bylaw No. 1360-2007 states that the building's heritage attributes are found on the exposed walls and roofs of the original building (including those facing the east courtyard), the southeast wing, and the north and south addition, consisting of:

On the original building, southeast wing and north addition, the four storey plans (with penthouses) above raised bases with door and window openings.

The Red brick cladding, with brick quoins, stone band courses dividing the stories and beneath the third-floor window openings, a stone cornice with modillion blocks and ovolo moulding.

The flat roofs with brick chimneys and hip roofed penthouses set back behind parapets with balustrades.

The exterior envelope is protected under the existing Heritage Easement Agreement. The masonry and brickwork will be restored and conserved while also enhancing the energy performance through new energy-efficient windows and enhanced envelope--the building's existing interior finishes will be stripped back to the existing brick substrate to allow for new insulation and drywall finish. The original slate roof will be retrofitted with new slate tiles to match the existing. Specific interior spaces of interest to maintain are the original south-wing cruciform entrance with historic stair along with FitzGerald's former Library and Study. These interior spaces will be retained, restored and integrated with the remainder of interior.

Hazardous waste disposal

The Faculties of Medicine and Dentistry were responsible for ensuring that all hazardous waste associated with their occupancy was removed and disposed of as per current regulatory and University standards.

e) Campus Infrastructure Considerations

Utilities (electrical capacity, water, gas, steam lines)
Sewer and storm water management

It is understood that the services to this building have generally been considered to be past the majority of their useful lifespan and are due for replacement as part of the future upgrades. The feasibility study recommended piping that allows for new domestic and sprinkler system requirements. This is based on a reasonable expectation for water system pressure in the existing water main on College Street. This pipe size must be determined at the detailed design stage based on adjacent hydrant flow tests and sprinkler system requirements.

Similarly, a new sanitary sewer to connect to the existing combined sewer on College Street is advised, along with a storm sewer to connect to the existing storm sewer located on the laneway located west of the Fitzgerald Building. These pipe sizes must be determined at the detailed design stage. Redevelopment will be required to control post-development flows from the 100-year storm event to the two-year pre-development levels, which will reduce the overall storm run-off from the site. This will decrease run-off from current levels thereby reducing storm flows to the sewer system.

A combination of storm water management control measures is recommended, such as green roofs, cisterns, infiltration chambers, enhanced swales, rain gardens, and oil-grit separators. Since the Fitzgerald Building site redevelopment does not contain significant sediment generating surfaces, an oil-grit separator is not expected to be required for this site.

Bicycle parking

There is existing short-term bicycle parking around the building. Requirements needed for short-term and long-term bicycle spaces are under review. Long-term bicycle spaces may be accommodated in the Sub-basement, to be determined through the design phase.

f) Secondary Effects

- Classrooms – The inventory for centrally shared classroom space will be affected with removal of existing FitzGerald classroom. Currently ACE is working a classroom renovation project, Transforming the Instructional Landscape, across the St George campus that will renovate 174 existing classrooms in 23 buildings (~15,700 NASM).
- Grounds Exterior Storage:
    - Grounds currently uses the garage in the south courtyard for seasonal storage. Contents vary depending on the season, but includes a large snowplough that attaches to the University's tractor. Due to the proposed demolition of the garage, a new secure, enclosed interior space of approximately 30sm is required to be constructed or existing available garage can be utilized.
    - Proposed location: BCIT Loading dock area where existing Facilities and Services have 3 EV charging stations for their EV vehicles. In order to accommodate the new garage storage, one of the EV charging stations will be relocated to 254/256 McCaul Street and the remaining two charging stations will be stored until a new location can be found
- CCBR, MSB, Naylor and Pharmacy Buildings

    - Some operational changes are required to service the buildings noted above during construction. All building occupants affected have been notified and interim plans have been developed to accommodate service needs.
- Existing Caretaking Rooms
    - Subbasement Rooms 8, 29, 30 & 31 are dedicated for CCBR caretaking needs. Due to abatement and demolition, caretaking equipment/supplies needed to be temporarily absorbed into existing caretaking space at MSB. Once FitzGerald is completed, caretaking storage, etc. will return to FitzGerald.

g) Schedule

Project milestones	Date
• Governance approval (CaPS Executive)	March 2, 2018 (Cycle 5)
• Consultant selection	February – April, 2018
• Schematic Design to Construction Documents	May – December 2018
• Environmental remediation/demolition	August 1 2018
• Cycle 3 Governance (CaPS Executive)	November 30 2018
• Cycle 3 Governing Council	February 28, 2019
• Tender and award	March/April 2019
• Mobilization and construction	May 2019
• Substantial completion date	August 2020
• Moving	September 2020
• Full operational occupancy	October 2020

IV. Resource Implications

a) Total Project Cost Estimate

Refer to Appendix

b) Operating Costs

Annual operating costs are estimated to be $51.67 per gross square metre (2018). It is estimated that post renovation, the annual operating costs will be approximately $10.65 per gross square metre. Operating costs will be apportioned to building occupants based on amount and type of space occupied, as well as use of shared amenities.

c) Funding Sources

The Fitzgerald Revitalization capital project will be funded through Central Funds and Borrowing.

APPENDICES:

1. Feasibility Study, December 2017 (on request)
2. Existing Space Inventory (on request)
3. Room Specification Sheets (on request)
4. Total Project Cost Estimate (on request to limited distribution)