



**FOR APPROVAL**

**CONFIDENTIAL**

**IN CAMERA**

**TO:** Business Board

**SPONSOR:** Professor Scott Mabury, Vice President, University Operations

**CONTACT INFO:** 416-978-2031, [scott.mabury@utoronto.ca](mailto:scott.mabury@utoronto.ca)

**PRESENTER:** As above

**CONTACT INFO:**

**DATE:** June 1, 2016 for June 16, 2016

**AGENDA ITEM:** 13a (ii)

**ITEM IDENTIFICATION:**

Capital Project: Lab Innovation for Toronto (LIFT) – Execution of the Project

**JURISDICTIONAL INFORMATION:**

Section 5.2 (b) of the terms of reference for the Business Board states that the Board is responsible for “approval of capital expenditures for, and the execution of, approved projects, as required by approved policies.”

**GOVERNANCE PATH:**

**A. Project Planning Brief**

1. Planning and Budget Committee [for recommendation] (May 11, 2016)
2. UTM Campus Council [for recommendation] (May 24, 2016)
3. UTSC Campus Council [for recommendation] (May 26, 2016)
4. Academic Board [for recommendation] (May 30, 2016)
5. Business Board [(financing, for recommendation)] (June 16, 2016)
6. Executive Committee [for endorsement and forwarding] (June 14, 2016)
7. Governing Council [for approval] (June 23, 2016)

**B. Execution of the Project**

1. **Business Board [for approval] (June 16, 2016)**

**PREVIOUS ACTION TAKEN:**

At its meeting on May 9, 2016 the Executive Committee approved in principle the following:

## Capital Project: Lab Innovation for Toronto (LIFT) – Execution of the Project

THAT the two projects being submitted by the University of Toronto to the Federal Government's Post-Secondary Institutions Strategic Innovation Fund (SIF):

the Lab Innovation for Toronto (LIFT) Project (with an estimated total project cost of \$190,000,00), and, the Innovation Centre Phase 1A (with an estimated total project cost of \$70,000,000).

The Chair of the Governing Council signed a letter that formed part of the University's submission to the Government of Canada formally confirming that governance approval had been received and that the University of Toronto would process with completion of these projects pending confirmation of funding support from the Federal and Provincial Governments.

### **HIGHLIGHTS:**

The Post-Secondary Institutions Strategic Investment Fund (SIF) is a time-limited federal program that will provide up to \$2 billion to accelerate strategic construction, repair and maintenance activities at universities and colleges across Canada. The SIF aims to generate direct economic activity and to enhance the research and innovation infrastructure at post-secondary institutions.

Projects eligible under the SIF are those that support the enhancement, expansion, new construction and repair of infrastructure assets at post-secondary institutions. Projects are expected to be substantially completed by April 30th, 2018, and must correspond to at least one of the three program categories below:

- a) Improve the scale or quality of facilities for research and innovation, including commercialization spaces used by industry;
- b) Improve the scale or quality of facilities for specialized training at colleges focused on industry needs;
- c) Improve the environmental sustainability of research and innovation related infrastructure at post-secondary institutions and college training infrastructure.

Total funding from federal sources will cover up to half (50%) of the project's eligible costs.

The University of Toronto proposes an urgent, tri-campus renewal of research labs across nine divisions. The labs rejuvenated by the U of T Lab Innovation for Toronto (LIFT) project are on average 50 years old and comprise approximately 54,300 square metres of grossly inefficient space. The project will result in 561 fully renovated labs, which will provide state-of-the art research facilities to an estimated 800 researchers, 4,500 graduate students and 1,100 undergraduates.

While specific work will vary across each renovation component, all share the goal of modernizing our labs to increase usable space and enhance its quality. The renewed labs will be designed to support collaboration, flexibility of space allocation, and will support integrated basic science research platforms. Modernized floor plans will encourage proactive interaction and support, open discussion and cooperation. The revitalized research labs will also provide improved research grade laboratories with equipment and support rooms that will be used jointly by faculty, post-doctoral fellows, graduate students and undergraduates. Finally, the consolidation and revitalization of these research labs will

## Capital Project: Lab Innovation for Toronto (LIFT) – Execution of the Project

address basic infrastructure improvements such as air handling, climate, and electrical systems, which are currently overloaded and inefficient.

This project will eliminate perpetual barriers to breakthrough discovery and transform U of T's capacity to contribute to Canadian innovation. The key benefits of the U of T LIFT project will be realized through increased basic science discoveries, applied research innovations, commercialized products, spin-off companies, new and expanded industry partnerships, and more sophisticated research training opportunities for our students and graduates.

In the immediate term, the U of T LIFT project will generate significant direct economic activity and job creation in the Toronto region. The project will also produce on ongoing savings of at least \$3 million per year in utility expenses and reduce our environmental footprint by a minimum of 5,400 tonnes of eCO<sub>2</sub>. Revitalizing these existing assets to serve the demands of 21<sup>st</sup> century science is a highly cost-effective approach to supporting the needs of the Canada's evolving knowledge economy, and will save an estimated \$450 million over the cost of constructing new research facilities.

Due to the accelerated nature of this program and the deadline for the applications, the project components do not have full project planning reports. Briefs have been prepared for each individual component that detail scope of work.

In the event the project receives partial funding then we will first determine our ability to deliver the bulk of the project objectives through the normal value engineering process. If further budget alignment is required we would then assess the relative need and worthiness of the individual sub-components and strategically allocate available funding for the highest positive impact.

### **St. George Campus Components**

#### Faculty of Arts & Science

1. Ramsay Wright

NASM: 5357

**Cost: \$26,759,691**

Researchers: 158

A total of 26 labs will be renovated in the Ramsay Wright Building. Cell & Systems Biology and Ecology and Evolutionary Biology research labs on the 3<sup>rd</sup>, 5<sup>th</sup> and 6<sup>th</sup> floors will be renovated to meet current standards and consolidated into one space (currently EEB has space in Earth Science building). Research support spaces including the Aquatics facility, Vivarium and Microscopy Suite will be renovated and expanded.

Current Psychology teaching labs on the 3<sup>rd</sup> floor will be renovated and converted into wet research labs for faculty currently working in the basement.

2. Lash Miller Sustainability Upgrades

NASM: 16,730

**Cost: \$18,628,653**

Researchers: 75

This project will reduce energy consumption and modernize the infrastructure in the Lash Miller Building. The work includes new ventilation, cooling, fire protection, building controls, lighting and electrical supply.

## Capital Project: Lab Innovation for Toronto (LIFT) – Execution of the Project

### 3. Koffler Scientific Reserve Lab Expansion in Racing Barn

NASM: 535                      **Cost: \$3,240,000**                      Researchers: 38

This project will take the remaining 75% of an inhabitable racing barn and transform it into a modern research facility. 3 dry labs will be created and new roof top 60 kw solar panels will be installed.

### Dalla Lana School of Public Health

#### 1. Research Lab Renovation

NASM: 400                      **COST: \$1,500,164**                      Researchers: 15

10 discrete labs will be renewed in Gage Building, and the mechanical systems will be upgraded. Two additional laboratories will be created from currently unused space in the basement of the building.

### Daniels Faculty of Architecture, Landscape, and Design

#### 1. Expansion of Grit Lab

NASM: n/a                      **COST: \$2,124,625**                      Researchers: 8

The expansion of the GRIT Lab will be housed at One Spadina Crescent and include both roof and at-grade structures A green roof, smart irrigation system, Silva cells and planting soil, porous paving and high-reflective concrete paving, earthworks and plantings will be installed.

### Faculty of Dentistry

#### 1. Research Lab Renovation

NASM: 3,800                      **COST:\$30,000,000**                      Researchers: 65

95 labs will be renovated into 21 labs, located on the 4<sup>th</sup> and 5<sup>th</sup> floors of the Dentistry Building. The overall renovation will provide large, open-plan labs, shared support rooms, faculty offices, dedicated trainee space as well as shared multi-user collaboration space. The building systems will be upgraded with new energy-efficient ones and energy-efficient equipment.

### Faculty of Applied Science & Engineering

#### 1. UTIAS Lab Renovation

NASM: 351                      **COST:\$3,260,000**                      Researchers: 26

The UTIAS project at 4925 Dufferin Street will update the current Field Robotics Lab and expand and renovate the Sustainable Aviation Design Lab.

#### 2. Civil Engineering and Electrical & Computer Engineering Lab Renovations

NASM: 3,944                      **COST:\$10,050,000**                      Researchers: 178

44 labs will be renovated in the Galbraith and Sanford Fleming buildings; and the Engineering Annex. These renovations will bring the research lab space up to current standards, including the much needed environmental controls (temperature and humidity) needed to support sensitive research equipment. Many of the spaces will also be opened up to create more collaborative facilities that will support a higher number of grad student researchers.

## Capital Project: Lab Innovation for Toronto (LIFT) – Execution of the Project

### 3. Mechanical and Industrial Engineering Lab Renovations (Lassonde &Haultain)

NASM: 221                      **COST:\$1,159,000**                      Researchers: 16

5 labs will be renovated in Lassonde Mining building and the Haultain building. These renovations will revitalize the research labs and bring their capabilities up to our standard labs, providing clean, modern, and well-serviced facilities for thermal & fluid sciences and energy & environmental engineering research.

### 4. Mechanical and Industrial Engineering Lab Renovations (Mechanical Engineering Bldg)

NASM: 157                      **COST:\$3,871,000**                      Researchers: 5

6 labs will be renovated in the Mechanical Engineering Building. The proposed renovations include complete renewal of the research labs, the replacement of 6 existing fumehoods, the addition of 2 new fumehoods, and the installation of new HVAC systems.

### 5. IBBME Lab Renovation

NASM: 629                      **COST:\$1,450,000**                      Researchers: 17

10 labs will be renovated in the Rosebrugh Building for the Institute of Biomaterials & Biomedical Engineering. The proposed renovations include opening up the research environment to create a more collaborative work space, the replacement of fumehoods, the provision of emergency power, and the installation of new mechanical and electrical services.

### 6. Materials Science & Engineering and Chemical Engineering & Applied Chemistry Lab Renovations

NASM: 893                      **COST:\$11,801,000**                      Researchers: 94

10 labs will be renovated in the Wallberg and Pratt buildings, and the infrastructure in both buildings will be upgraded. The proposed renovations include new fumehoods, new lab furniture, window replacement, and the replacement and modification of the mechanical and electrical services.

## Faculty of Medicine

### 1. Research & Teaching Lab Renovation

NASM: 12,243                      **COST:\$40,000,000**                      Researchers: 272

The Medical Sciences Renewal Project includes 3 separate areas of the building; the research floors, the Anatomy teaching and support facilities, and the NMR facility. The research lab renovations are planned for lab and lab support rooms on floors 3 to 7 in MSB, with the exception of the 4th floor of the west wing (Block B), which will serve as temporary lab spaces for the remaining occupants during the renovations. 389 research and teaching labs will be renovated to current standards with upgraded infrastructure and centralized facilities. A new structural slab, emergency power and stair will be provided for the NMR facility.

## Faculty of Music

### 1. Electro-Acoustic Music Studio Renovation

NASM: 122                      **COST:\$1,150,000**                      Researchers: 6

The Electro-Acoustic Music Studio at Edward Johnson Building will be renovated to improve air quality, extend performing space and provide adequate acoustical separation.

**UTM**

1. Davis Building Research Lab and Infrastructure Upgrades

NASM: 6,859                      **COST:\$17,100,000**                      Researchers: 95

Six inter-dependent elements are planned in the Davis Building: Back-up Power, A-wing HVAC Renewal, a Retrofit of Electrical Power System, renovations of 1st Floor D Block BIO & FISH research labs, and the 3rd Floor A Block Research Labs. A total of 63 labs will be renewed.

**UTSC**

1. Campus Vivarium & S-Wing Research Labs Renovation and Growth

NASM: 2,030                      **COST:\$17,800,000**                      Researchers: 38

20 research labs and 11 teaching labs that will be fully renovated. The Campus Vivarium will be undergo renovation and growth to remedy serious compliance and space recommendations. Infrastructure will be upgraded to support existing and planned levels of research, improve efficiency and reduce environmental impact.

**FINANCIAL IMPLICATIONS:**

**a) Total Project Cost**

The proposed Total Project Cost (TPC) has been established at **\$189,894,133**.

**b) Funding Sources**

The funding sources are as follows:

Strategic Investment Fund	\$ 76,239,254
Faculty of Arts & Science	\$24,314,172
Dalla Lana School of Public Health	\$750,082
Daniels Faculty of Architecture, Landscape, and Design	\$1,524,625
Faculty of Dentistry*	\$17,500,000
Faculty of Applied Science & Engineering	\$16,591,000
Faculty of Medicine	\$ 17,500,000
Faculty of Music	\$575,000
University of Toronto Mississauga	\$8,550,000
University of Toronto Scarborough	\$8,900,000
Total	\$189,894,133

The Province of Ontario’s Facilities Renewal Program requires expenditure of deferred maintenance funds for this project. These will be allocated within the sub-projects.

\* The Faculty of Dentistry is seeking borrowing for an amount of \$8 million.

Capital Project: Lab Innovation for Toronto (LIFT) – Execution of the Project

**RECOMMENDATION:**

Be It Resolved:

Subject to Governing Council approval in principle of the project

THAT the Vice-President, University Operations be authorized to implement the capital project for the Lab Innovation for Toronto (LIFT) at a total project cost of \$189,894,133.

**DOCUMENTATION PROVIDED:**

-