

## Transportation Access

The venue is near the intersection of St. George and College Streets in Downtown Toronto. It is accessible by the subway (Queen's Park Station) and the 506 Carlton streetcar line. Paid parking is also available around the venue location.

## Accommodation

Suggestions for accommodation are:

- Holiday Inn Toronto Downtown Centre  
30 Carlton Street, Toronto, ON M5B 2E9  
(877) 660-8550 (416) 977-6655
- Chelsea Hotel – 33 Gerrard Street West  
Toronto, Ontario, Canada M5G 1Z4  
1-800-243-5732, 1-416-595-1975

Accommodation booking should be made directly by the participants.

## Who Should Attend?

The two short courses are designed for practising public transit professionals or those involved in the transportation and planning industry who have an interest in public transit planning and ITS. If you are new to the field and wish to have some formal exposure to the fundamentals, or if you have been practising for some time and wish to undertake a refresher and be exposed to recent state-of-the-art developments, then these short courses could form part of your professional development program.

It is expected that those involved in planning, designing and operating transit services at various levels of government will find value in the two courses. Consultants involved in traffic and public transit planning and ITS will also find the courses useful and relevant. Members of the general public with an interest in public transit are also invited to attend.

## Course Organization

The two short courses are organized by the Transit Analytics Lab at the University of Toronto Mobility Network. The Mobility Network brings together experts from engineering, economics, policy, urban geography and planning and computer science. The network and its members are internationally renowned for high quality research in transportation from the perspectives of engineering, science and humanities.

## Registration and Payment Information

Interested participants can register and pay online at <https://forms.gle/GM6aD2tPQgYW5UDv5>

## Registration Fees & Acknowledgment

The registration fees (inclusive of 13% HST) are **\$1,695.00** for the PT Planning and ITS course; **\$847.50** for the PT Modelling course; and **\$2,288.25** for both courses. All amounts are in Canadian dollars. Registration covers attendance, course notes, lunches, coffee breaks and course completion certificate. Accommodation costs are not included in the registration fee. Upon receipt of your completed registration form and payment, your registration will be acknowledged by email.

## Early-bird Registration

The following discounted fees (inclusive of 13% HST) are offered for early bird registration until **July 25, 2023**: **\$1,440.75** for the PT Planning and ITS course; **\$723.20** for the PT Modelling course; and **\$1,949.25** for both courses.

## Refunds

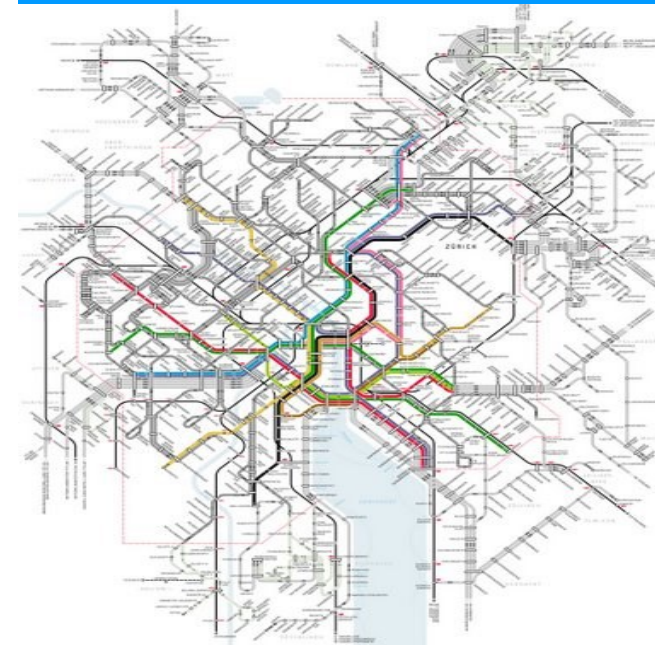
If you have to cancel your registration, your fee will be refunded in full provided that we receive your cancellation request in writing no later than **August 8, 2023**. After that date, no refunds are available. A replacement can always be nominated if you cannot attend.

## Contact Details

For inquiries about the course, please contact:

Ms. Alaa Itani, Course Manager  
E-mail: [tal@utoronto.ca](mailto:tal@utoronto.ca)

*A Practical Guide to Public Transit Planning, Modelling and ITS Applications*



Two Short Courses on Public Transit

**Public Transit Planning & ITS**  
August 15-16, 2023

**Public Transit Modelling**  
August 17, 2023

**Galbraith Building, Room 202**  
**35 St. George Street**

**Presented by:**

**Transit Analytics Lab at the University  
of Toronto Mobility Network**

*Two courses Serving as a Practical Guide to Public Transit Planning, Modelling and ITS Applications*

High quality public transit is the linchpin of liveable cities. Not only does it enhance mobility, accessibility, economic productivity, and help address climate change, but the COVID pandemic also illustrated its critical role in public health and ensuring the mobility of essential workers. Transit has always faced challenges in our auto-dominant society, but now faces an environment that is increasingly uncertain and turbulent. The last few years have highlighted the strategic importance of data, sophisticated analytics, and advanced technology such as Intelligent Transportation Systems (ITS), that enabled transit systems to respond more nimbly to the dynamic situation and the changing needs of customers. These tools are playing an increasingly critical role in the planning and operations of public transit, and need to be fully integrated into internal business processes.

The Transit Analytics Lab at the University of Toronto Mobility Network is offering two back-to-back courses designed to provide participants with knowledge on key concepts and best practices related to public transit service planning and technology. The first course, **Public Transit Planning and ITS**, provides an overview of key concepts and best practices related to transit planning, network and service design, service standards, transit and land use, and the application of ITS technologies. The second course, **Public Transit Modelling**, provides a complementary but more focused and advanced exploration of tools that can be used for forecasting demand at both the system and route levels, transit assignment, and microsimulation-based analysis. The courses will be taught by leading transit planning researchers and practitioners and will provide a balanced perspective on transit systems planning and ITS, including both state-of-the-art techniques and practical perspectives.

## Short Course Leaders

Dr. **Hossam Abdelgawad** has 18 years of experience in developing simulation models using a wide range of traffic software/tools. He has ample experience in building models using AIMSUN, Paramics, UAF, Vissim, DynusT, HCS, Synchro, SimTraffic, EMME and Dynameq.

**Brendon Hemily**, PhD, is an independent consultant with 40 years of experience working with the transit industry in Canada and the US, and he serves as Senior Advisor for the Transit Analytics Lab. He has been involved in a wide range of projects related to the implementation of innovative service concepts and the effective use of advanced technology. Previously, he was Manager of Research and Technical Services at the Canadian Urban Transit Association where he worked for 15 years.

Professor **Eric Miller** is the director of the Mobility Network and a recognized expert in integrated land use transportation modelling and demand forecasting. He is the developer of *GTAModel*, a “best practice” regional travel demand modelling system used widely to forecast travel demand in the Greater Toronto Area. He is co-author of the textbook *Urban Transportation Planning: A Decision-Oriented Approach*.

**Amer Shalaby** is Bahen-Tanenbaum Professor in Civil Engineering and Founding Director of the Transit Analytics Lab at the University of Toronto, with 30 years of research and consulting experience in Canada and internationally in the areas of transit planning and intelligent transportation systems. His research has been published widely in peer-reviewed journals and international conference proceedings. He has served on various transit committees of the Transportation Research Board, and he sits on the editorial boards of multiple scientific journals.

**Nigel Wilson** is Emeritus Professor of Civil and Environmental Engineering at MIT focusing on urban public transport. He is Founding Director of the MIT Transit Lab, a major long-term collaborative research program with leading global public transport agencies including Transport for London (UK), MTR (Hong Kong) and the MBTA (US) which focuses on making better use of smart card and other automatically collected data to support decision-making throughout the agency. During sabbatical leaves from MIT, Professor Wilson worked in three large transit agencies, the MBTA, Metro Transit and TFL, and has served as consultant to a number of other North American transit authorities. He taught a short course in transit planning at MIT for twenty years which had a cumulative enrollment of over 400 transit professionals.

## Public Transit Planning and ITS

### Tuesday, August 15, 2023

8:45-9am	Welcome and Course Introduction - <b>Hemily</b>
9-10:30	Setting the Context for Transit Planning - <b>Hemily</b>
10:30-11	Coffee Break
11-12:30pm	Transit Lines and Networks: Types and Operations - <b>Shalaby</b>
12:30-1:30	Lunch
1:30-3	Fundamentals of Line Analysis and Scheduling - <b>Shalaby</b>
3-3:30	Coffee Break
3:30-5	Transit ITS: Developments, Challenges, Opportunities and Future Directions - <b>Hemily</b>

### Wednesday, August 16, 2023

8:30-10am	Transit Signal Priority - <b>Shalaby</b>
10-10:30	Coffee Break
10:30-12pm	Transit Performance Monitoring Using ITS Data - <b>Wilson</b>
12-1	Lunch
1-2:30	Transit Cost Modelling - <b>Wilson</b>
2:30-2:45	Coffee Break
2:45-4:15	Transit Fare Policy and Collection Technology - <b>Hemily</b>
4:15-4:30	Closing Session: Attendance Certificate Presentation

## Public Transit Modelling

### Thursday, August 17, 2023

8:45-9am	Welcome and Course Introduction - <b>Miller</b>
9-10:30	Introduction to Transit Ridership Forecasting & System Level Methods - <b>Miller</b>
10:30-11	Coffee Break
11-12:30pm	Transit Assignment Models - <b>Shalaby</b>
12:30-1:30	Lunch
1:30-3	Route-Level Ridership Forecasting Methods - <b>Miller</b>
3-3:15	Coffee Break
3:15-4:45	Microsimulation Models of Transit Operations - <b>Abdelgawad</b>
4:45-5	Closing Session: Attendance Certificate Presentation