

## 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 Yorkville – 280 Bloor Street West, Toronto, Ontario, Canada M5S 1V8  
1-877-660-8550, 1-416-968-0010
- 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. Ask for the UofT rate.

## 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 University of Toronto Transportation Research Institute. UTTRI brings together experts from engineering, economics, policy, urban geography and planning and computer science. The institute and its members are internationally renowned for high quality research in transportation from the perspectives of engineering, science and humanities.

## Registration and Payment Information

Participants register and pay through the University of Toronto School of Continuing Studies. Discounts are available to those registering before July 21, 2017 and/or registering for both courses. **Register by phone at 416-978-2400 to receive discounts.**

### SCS 3378 Public Transit Planning & ITS

- <http://learn.utoronto.ca/interactive-course-search#/profile/3378>

### SCS 3379 Public Transit Modelling

- <http://learn.utoronto.ca/interactive-course-search#/profile/3379>

## Registration Fees & Acknowledgment

The registration fees (exclusive of 13% HST) are \$1,300 for SCS 3378 Public Transit Planning and ITS course; \$650 for SCS 3379 Public Transit Modelling course; or \$1,750 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 (exclusive of 13% HST) are offered for early bird registration before **July 21, 2017**: \$1,100 for the PT Planning and ITS course; \$550 for the PT Modelling course; and \$1,500 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 no later than August 15, 2107. After that date, no refunds are available. A replacement can always be nominated if you cannot attend.

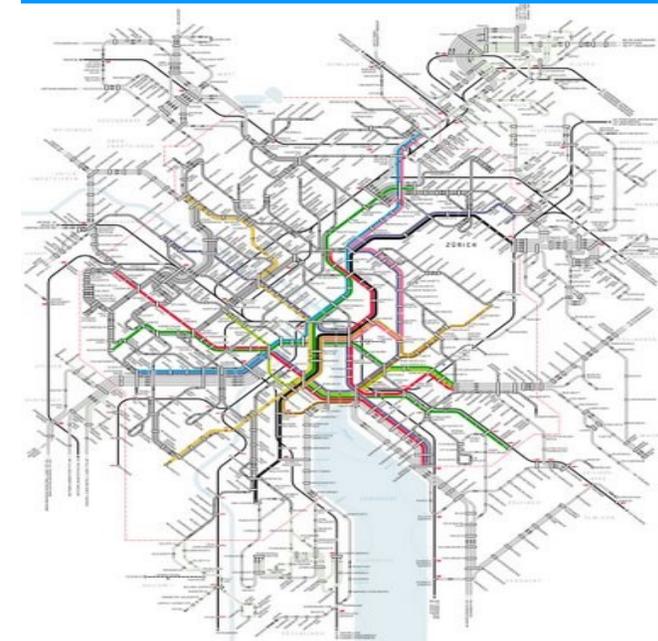
## Contact Details

For inquiries about the course, please contact:

Ms. Pat Doherty  
Events and Communications Coordinator  
University of Toronto Transportation Research Institute  
Phone: 1-416-978-4175



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



Two Short Courses on Public Transit

**SCS 3378 Public Transit Planning & ITS**  
August 23-24, 2017

**SCS 3379 Public Transit Modelling**  
August 25, 2017

**Galbraith Building, Room GB202**  
35 St. George Street

Presented by the University of Toronto  
Transportation Research Institute  
(UTTRI) in collaboration with the  
School of Continuing Studies

High quality public transit is the linchpin of liveable cities. Not only does it enhance mobility, accessibility, economic productivity, public health and safety in modern cities, but it also plays an instrumental role in combating serious environmental challenges at the local and global scales. However, the provision of attractive public transit continues to face numerous challenges such as low-density land use due to continuous suburbanization, deteriorating level of service due to rising road congestion and constrained financial resources, to name a few. Given the challenges facing public transit, it is essential for transit planners to acquire advanced analytical skills and knowledge to aid them in the planning of attractive and efficient public transit systems. At the same time, advanced technology such as Intelligent Transportation Systems (ITS) is playing an increasingly important role in the planning and operations of public transit, and needs to be fully integrated into internal business processes.

The University of Toronto Transportation Research Institute 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 13 years of immanent knowledge and experience with developing simulation models using a wide range of traffic software/tools. He is an Accredited Paramics User (APU) with ample experience in building, calibrating, and validating models using AIMSUN, Paramics, UAF, VISSIM, DynusT, HCS, Synchro, SimTraffic, EMME, and Dynameq.

**Brendon Hemily**, Ph.D., is an independent consultant with 34 years of experience working with the transit industry in Canada and the US, having 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 15 years.

Professor **Eric J. Miller** is the inaugural director of UTTRI and a recognized expert in integrated land use transportation modeling 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 a Professor of Civil Engineering at the University of Toronto with more than 20 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 is a member of three transit committees of the Transportation Research Board, and he sits on the editorial board of three international journals. In addition to academic research and teaching, Dr. Shalaby has led numerous transit consulting projects for a wide variety of clients in Canada and internationally, and has offered short courses on public transit planning to the professional community.

**Nigel Wilson** is a Professor of Civil and Environmental Engineering at MIT focusing on urban public transport. He directs 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

### Wednesday, August 23, 2017

8:45-9	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>

### Thursday, August 24, 2017

8:30-10:00	Transit Signal Priority: Architecture, Algorithms and Technologies - <b>Shalaby</b>
10:00-10:30	Coffee Break
10:30-12:00pm	Transit Performance Monitoring Using ITS Data - <b>Wilson</b>
12:00-1:00	Lunch
1:00-2:30	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

### Friday, August 25, 2017

8:15-8:45am	Registration and Tea/Coffee
8:45-9	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