

**PROGRAM IN INDUSTRIAL & SYSTEMS ENGINEERING
IE 8773-8774**

**The Use of Automated Data Collection Systems
to Improve Transit System Performance**

by

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Wednesday, March 4, 2009
3:15 p.m. — Refreshments before the seminar
3:30 p.m. — Graduate Seminar
Rooms 4125A + 4125B Mechanical Engineering

ABSTRACT — Over the past decade many large transit agencies have implemented a range of automated data collection systems including Automatic Vehicle Location Systems, Automatic Passenger Counting Systems and Automated Fare Collection Systems. These systems are providing high quality and detailed information on several aspects of transit system operations of a type which did not previously exist, opening new opportunities for analyzing existing performance of transit systems and the potential for developing new strategies for performance enhancement. Some of these opportunities are described in this seminar including the estimation of travel patterns of transit customers, development of service reliability metrics and connection protection, with examples of applications in Boston, Chicago and London.

BIO — **Nigel Wilson** is a Professor of Civil and Environmental Engineering at the Massachusetts Institute of Technology whose research and teaching focus on urban public transport systems. He directs a large research program building long-term collaboration with a small number of public transport agencies aimed at changing operations and planning practices to take advantage of new data collection technologies. Currently the main industry partners are the Chicago Transit Authority and Transport for London. Professor Wilson has directed the MIT Master of Science in Transportation program for much of the past thirty years since it was created. This year he is on sabbatical leave and spending most of the year in Minnesota working with the University of Minnesota, through the ITS Institute, and with Metro Transit, on a set of research initiatives including planning and design of Bus Rapid Transit services, fare policy and technology, and decision support using the automated data collection systems recently implemented by Metro Transit.

Host: Prof. William Cooper