# ABSTRACT

DMD & Associates Ltd.
1B 19044 95A Avenue
Surrey, BC V4N 4P2

604/888-9010
Fax 604/888-9011

**Speaker Info** - Don McLean is President of DMD & Associates Ltd., an engineering firm with offices in Surrey and Seattle. He has over 25 years of experience in electrical and lighting design including ITS, and is the primary author of the soon to be available Transportation Association of Canada (TAC) Guide for the Design of Roadway Lighting. As a practicing designer, Don has participated in numerous ITS projects, ranging from small municipal projects to multi-million dollar transportation projects involving. In addition to design projects, Don has been involved in the development of standards and specifications for municipal and provincial governments. Don currently serves on Transportation Association of Canada Traffic Operations and Management Standing Committee, Illuminating Engineers Society of North America (IESNA) and is a member of ITS Canada and the IMSA.

**Contact Info –** DMD and Associates Ltd, 19044 95A Ave, Surrey, BC, 604-888-9010, e-mail - don@dmdeng.com

**Presentation - Adaptive Roadway Lighting**

Recent blackouts in eastern North America as well as an increasing demand for power have opened all our eyes to what we often take for granted – reliable electricity. Unfortunately we can't continue using electricity at will without considering an increase in power conservation. We must seek out new and innovative ways to reduce our power demands to ensure future generation can benefit from what we have enjoyed – uninterrupted delivery of reliable electrical power. In fact all communities should be strongly encouraged to find innovative ways to save power.

A new wireless technology which retrofits into a standard street light has the potential to save 5 billion kW/h of power each year through dimming street light lamps during non-peak periods. Besides dimming of the luminaries an asset management feature tied into global positioning system coordinates assigned to each street light which allows outages to be tracked and reported via the Internet. One might ask the question "what does this type of system have to do with ITS?". In response we believe roadway lighting is part any transportation system and though not currently linked to ITS this technology could very well be tied into an ITS control center.

We will discuss this innovative wireless control/monitoring system which allows roadway lighting levels to be adjusted by time of the night. Light levels could be adjusted to suit traffic volumes, road and weather conditions and ultimately be tied into a Road Weather Information System (RWIS). We believe this system will allow lighting levels on a roadway to be adjusted to suit weather conditions which would lead to improved visibility.

We will discuss how this technology can be easily retrofit into industry standard roadway luminaries and the benefits of this technology which include: reduced power consumption, tracking of luminaire outages for improved efficiency and improved asset management.

We will review a first-of-its-kind demonstration project which used this innovative street lighting technology and remote management system. Remote feedback for dimming schedules, power consumption, operational state and maintenance needs along with field testing results to confirm operations and power savings will be presented. In addition new projects and programs will be discussed.

We will also discuss various applications for this technology and get feedback as to specific ITS elements which could be added into to a system.

Seattle Office:
911 Western Ave. Suite 210
Seattle, Washington
Tel: 877/249-0808

Pacific Northwest Office:
413 - 19th Street, #267
Lynden, Washington 98264
Toll Free: 877/249-8080

www.dmdeng.com