

INTELLIGENT TRANSPORTATION SYSTEMS

Session Organizers: Brian L. Smith, University of Virginia, and S. Velmurugan, Central Road Research Institute

The safe, efficient, predictable movement of people and goods is a fundamental requirement to sustaining and improving the quality of life in any community. Advances in technology have always played an important role in improving surface transportation throughout history. Most recently, intelligent transportation systems have emerged that utilize advances in information technology to create more effective transportation operations. This session is focused on exposing participants to emerging intelligent transportation systems – addressing both the underlying technological innovation as well as the fundamental transportation challenges. In particular, the session will delve into how intelligent transportation systems are being utilized to improve surface transportation in the wide variety of urban environments found around the globe, and also how intelligent transportation systems are currently seeking to harness the enormous potential provided by the explosion in wireless communications to significantly improve safety and efficiency.

The session will begin with talks highlighting the latest in intelligent transportation systems research, focusing specifically on “connected vehicles” which seek to use wireless communications to improve travel. Ben McKeever will begin by providing an overview of the connected vehicles research program in the United States. He will be followed by Mashrur Chowdhury, who will discuss specific infrastructure applications of wireless communications. The next two speakers will then look at how intelligent transportation systems are being used to address transportation challenges in India today. Tom Mathew will discuss how ITS is being used to model and control traffic in urban areas with heterogeneous conditions. Finally, Lelitha Vanajakshi will continue to address these challenges, focusing on advanced public transportation systems and advanced traveler information systems in India. In particular, this presentation will focus on data collection and surveillance challenges.