

Session Report

Date: 10/02/2022

Authors of these conclusions: Dr. Chi Xie and Dr. Bo Zou

**FORESIGHT SESSION RF 7 ELECTRIFIED AND SMART TRANSPORTATION
THURSDAY FEBRUARY 10, 05.15 PM TO 06:45 PM**

1. KEYWORDS

Transportation electrification, smart mobility, systems analysis, vehicle charging, freight, international experiences

2. PRESENTATION OF THE SESSION

Presentation 1: "Planning Future Smart Cities by Managing Society's Mobility Infrastructure as a Platform", by Dr. Travis Waller

Presentation 2: "Freight Big-Data Implementation for Smart Logistics Evolution in China", by Dr. Xiaobo Liu

Presentation 3: "Smart and Sustainable Living Community in High Dense Asian Cities: Support from Electric Vehicle Charging Infrastructure Planning and Intelligent Charging System", by Dr. Qiang Meng

Presentation 4: "METS-R: A Data-Driven Approach for Reducing Energy Consumption at Transportation Hubs", by Dr. Satish Ukkusuri

3. PROGRAMME OF THE SESSION

Session Chair: Dr. Chi Xie and DR. Bo Zou

Session Organiser: Evelina ÅKESSON

Session Secretary: Evelina ÅKESSON

Person	Organisation, Position...	Title of the presentation
Travis Waller	Chair Professor and Head of School of Civil and Environmental Engineering University of New South Wales, Sydney, New South Wales, Australia	Planning Future Smart Cities by Managing Society's Mobility Infrastructure as a Platform
Xiaobo Liu	Professor and Dean of School of Transportation and Logistics Southwest Jiaotong University, Chengdu, Sichuan, China	Freight Big-Data Implementation for Smart Logistics Evolution in China
Qiang Meng	Professor and Editor-in-Chief	Smart and Sustainable Living Community in

	of Transportation Research Part E National University of Singapore, Singapore	High Dense Asian Cities: Support from Electric Vehicle Charging Infrastructure Planning and Intelligent Charging System
Satish Ukkusuri	Professor Purdue University, West Lafayette, Indiana, United States	METS-R: A Data-Driven Approach for Reducing Energy Consumption at Transportation Hubs

4. TECHNICAL FINDINGS AND DEBATE

There was a vigorous discussion after the presentations. It was found that while electrified and smart transportation has been a very active and dynamic area of research, still, much needs to be explored and understood, particularly in connecting research with practice. Based on his presentation, Dr. Meng discussed the real-world challenges in implementing charging stations in neighbourhoods composed of high-rise residential building in the context of Singapore. Dr. Liu from Southwest Jiaotong University shared his industry outreach experiences and the key problems in the Chinese trucking freight industry. Dr. Travis further talked about the potential issues that may arise in implementing the research concepts in practice.

5. RECOMMENDATIONS FOR DECISION MAKERS, FOR PIARC OR FOR INTERNATIONAL ORGANISATIONS

Overall, two recommendations were made: first, it is important to building the bridge between research and implementation; second, localization of solutions that cater to specific characteristics of the problem-solving context is key to successful implementation of electrified and smart transportation.

6. PREPARATION OF THE SESSION

This session was planned, designed and organised as follows.

Dr. Chi Xie and Dr. Bo Zou were organizer of this session. Evelina ÅKESSON from PIARC provided much assistance in session planning and other logistics.