

Workshop 8. Big spatial data and data analytics in the digital age and how it can benefit public transport users

Chair: [Professor Marcela Munizaga](#)

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Workshop 5 at Thredbo 14 initiated a discussion on Big Data and its relevance for public transportation, for example to improve planning and operations. It was concluded that although progress has been made in terms of its utilization, much remains to be done. Examples include standardization of data formats, development and sharing of analytical tools and best practices across the industry, collaboration between academics and transit agencies, data fusion using data from different sources, and utilization of data generated in transportation systems for “outside applications” such as urban planning, healthcare and public safety.

In general, there is a need for more case studies to be discussed, involving people from a broad range of stakeholders and disciplines. In addition to the need to continue work on models to extract knowledge from historical transportation data, there is a largely unexplored area of predictive transportation models that can be built using big data.

This workshop include papers that contribute to the further development and knowledge related to the use of big data in public transportation. Papers to be presented include case studies, discussion of governance challenges and different data processing methods.

Workshop 8. Plan

The presenting author is shown in underlined font. The number in square brackets [0] refers to the number of the electronic paper file.

*Author assigned to another workshop, attending this session only.

Monday 14 August		
Workshop session I: Introduction		
13:30	Introduction of participants	
	Considerations from Thredbo 14	
	Definition of main issues/questions to be discussed	
15:00	<i>Afternoon tea</i>	
Workshop session II: A local case study		
15:30	<u>Sida Jiang</u> and Karin Brundell-Freij	Development of smart card data (SCD) approach for travel demand characterization - a Stockholm case study [41]
	Discussion	
16:50	<i>Short break</i>	
Workshop session III: Governance		
17:00	<u>Wijnand Veeneman</u> , Haiko Van Der Voort, Fabio Hirschhorn, Bauke Steenhuisen and Bram Klievink	PETRA: governance as a key success factor for big data solutions in mobility [160]
	Discussion	
18:00	<i>Close</i>	
Tuesday 15 August		
Workshop session IV: Tools		
09:00	<u>Nicolás García</u> and <u>Juan Carlos Herrera</u>	Assessment of models based on GPS data to identify buses skipping formal stops [95]
	<u>Menno Yap</u> , Oded Cats, Shuixian Yu and Bart van Arem	Crowding valuation in urban tram and bus transportation based on smart card data [67]
	Discussion	
10:30	<i>Morning tea</i>	
Workshop session V		
11:00	Discussion	
12:30	<i>Lunch</i>	
Workshop session VI		
13:30	Marcela Munizaga and <u>Ricardo Cubillos</u>	Bus travel time model for different bus priority schemes using massive data for the city of Santiago [180]
	Jan Berczely and <u>Ricardo Giesen</u>	Machine learning methods to predict bus travel speeds and analysis of the impact of different predictive variables [175]
	Discussion	

15:00	<i>Afternoon tea</i>	
Workshop session VII		
15:30	Alejandro Schmidt, Jaime Moya, Diego Cruz and Juan Carlos Munoz	Identifying and visualising operational bottlenecks for public transport considering queue length, bus load profiles and a sharper data source [107]
	Discussion	
16:50	<i>Short break</i>	
Workshop session VIII		
17:00	Discussion and preparation of workshop report	
18:00	<i>Close</i>	
Wednesday 16 August		
Workshop session IX		
09:00	Discussion and preparation of workshop report	
10:30	<i>Morning tea</i>	
Workshop session X		
11:00	Discussion and finalization of workshop report	
12:30	<i>Lunch (end of workshop sessions)</i>	