Cities & Electric Urban Transit

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Background

- 2004 – 2009 @ University of Belgrade, Serbia
- 2010 – 2017 @ University of Utah, United States
- 2017 – Present @ CHALMERS
Previous Research

- Transit Oriented Development
- Traffic Incident Management
- Vulnerable Road Users
Focus on Urban Transit

Spatial constraints: Station locations and line configuration

Temporal constraints: Fleet schedule and service frequency
Current Urban Transit Research Gaps

- How to use Big Data and Open Data to enhance urban transit?
- How to take advantage of automation technologies in transit?
- How to integrate other transport modes with urban transit?
- How to ensure that urban transit truly serves our citizens?
My Past Year @ CHALMERS 😊
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“One should always be humble”

- Mechanical vs. Civil
- Research vision
- Networking approach
- Global perspective
- Steep learning curve
Innovative Transport Technologies

- Automation
- Connectivity
- Electromobility
- Sharing
Existing work in Electromobility

- Demand estimation
- Travel behavior
- Noise investigation
- Charging stations
- Energy systems
Existing implementation cases

- ELIPTIC – Electrification of public transport in cities
- POLIS – Platform for electrification of surface transport
- SEEV4-City – Smart electric vehicles for the city
- The European Electromobility Observatory
- CleanMobilEnergy – Clean mobility and energy for the cities
What makes ElectriCity Very Unique

- It is in the city!
- It is a collaborative initiative!
- It somewhat incorporates the land-use & human factors!
How to plan the city for electric urban transit?

- Do not plan the city!
- Read what the city needs and tailor transit service to it!

The principle of zone management for controlling electric operation and speed on a bus route (this does not represent route 55).
How can we learn about our Cities?

- Smart card data
- Air quality sensors
- Mobile phone data
- Urban data platforms
- Real-time app feeds
How can we use that knowledge?

- To make our cities smarter, responsive, resilient, **sustainable**.

**Air Pollution-based Zone Management System for Electric Urban Transit**

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<tr>
<th>CHALMERS TEAM</th>
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How to plan the City for Electric Urban Transit

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