

Smart Cities and Transportation

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TRG Facts & Figures 2018

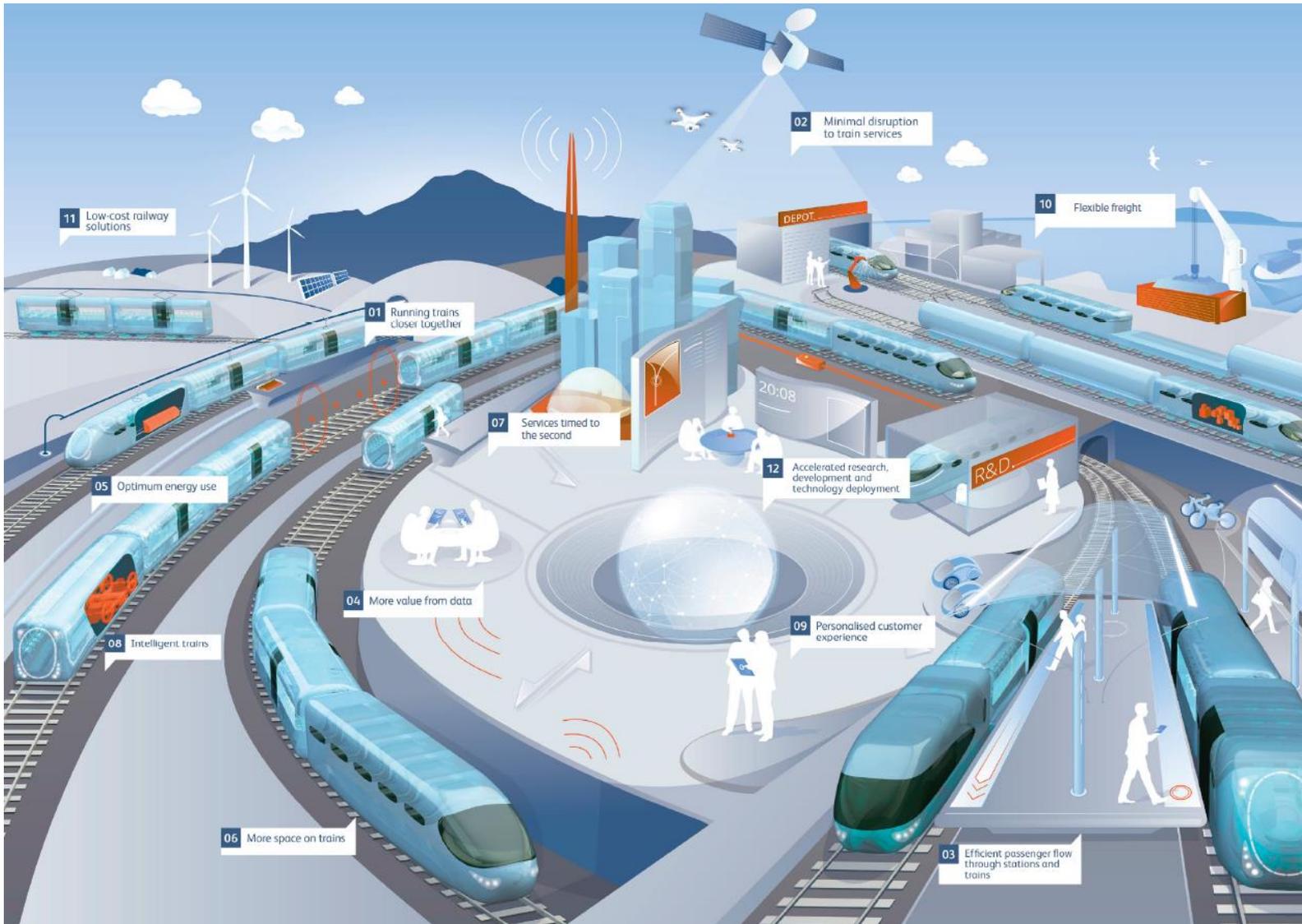
- Eight academics, 18 researchers, five technical staff and three administrative staff (34). 27 PGRs and 29 PGT students.
- Active research grants and contracts worth over £10M. Breakdown: 43% EPSRC, 6% EU, 52% Other – including MoD, Innovate UK and NIHR.
- The University of Southampton is ranked number two in the world by CWUR for Transportation Science and Technology (<https://cwur.org/2017/subjects.php#Transportation>)
- Transport viewed as a socio-technical system with the potential to deliver sustainability. Links with other sectors (including energy) examined through a system of systems approach.



Co-operative Intelligent Transport Systems



The Connected Railway



Benefits of Connected Vehicles (I)

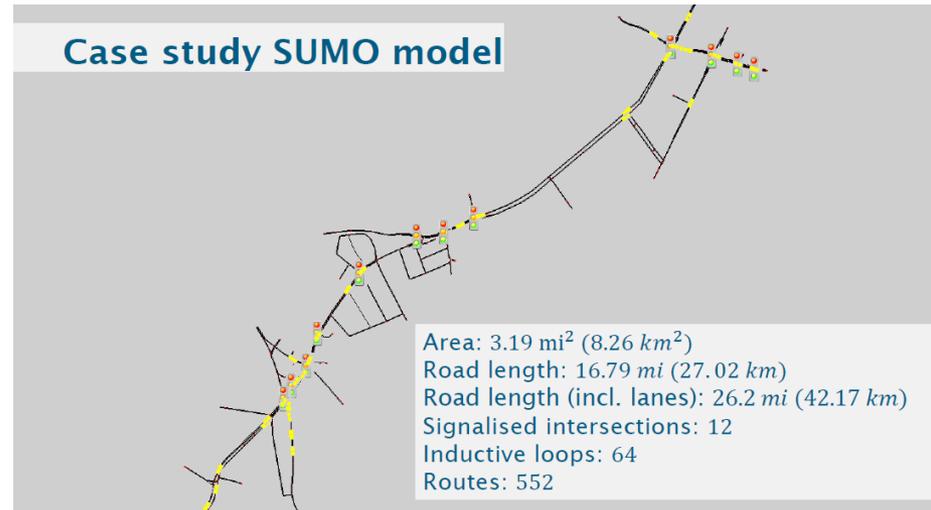
Increased connectivity will permit more sophisticated traffic control.

Multimode Adaptive Traffic Signals with Hybrid Actuation (MATS-HA) compared to TRANSYT.

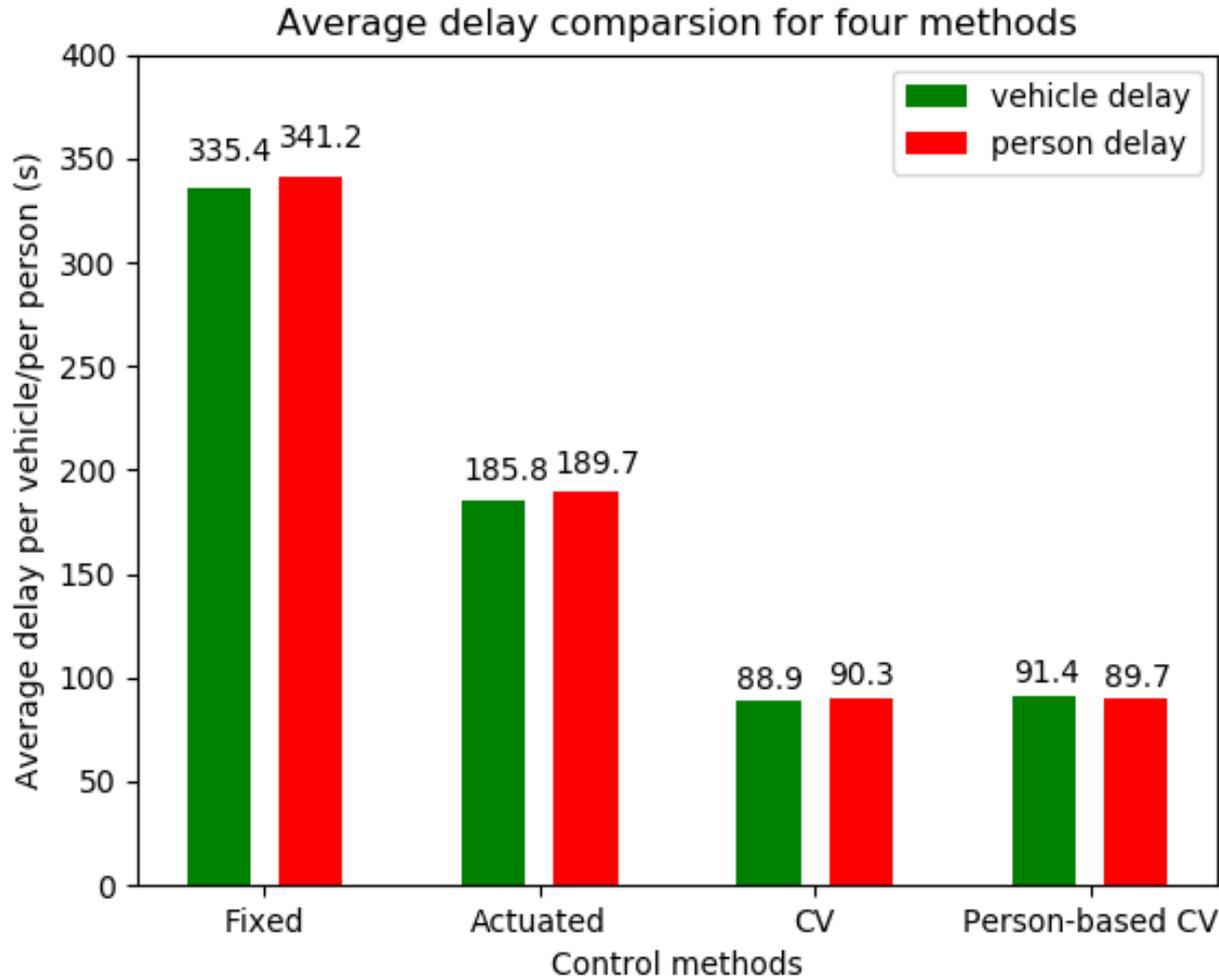
10% CVs – 53% reduction in delays but 6% increase in stops.

100% CVs – 65% reduction in delays and 12% reduction in stops

Source: Rafter et al., 2018.



Benefits of Connected Vehicles (II)



Test of concept SUMO simulation of simple junction. Benefits of person-based algorithm may be greater when more complex junctions, greater variation in vehicle occupancy and traffic generation taken into account.

Benefits of Connected Vehicles (III)

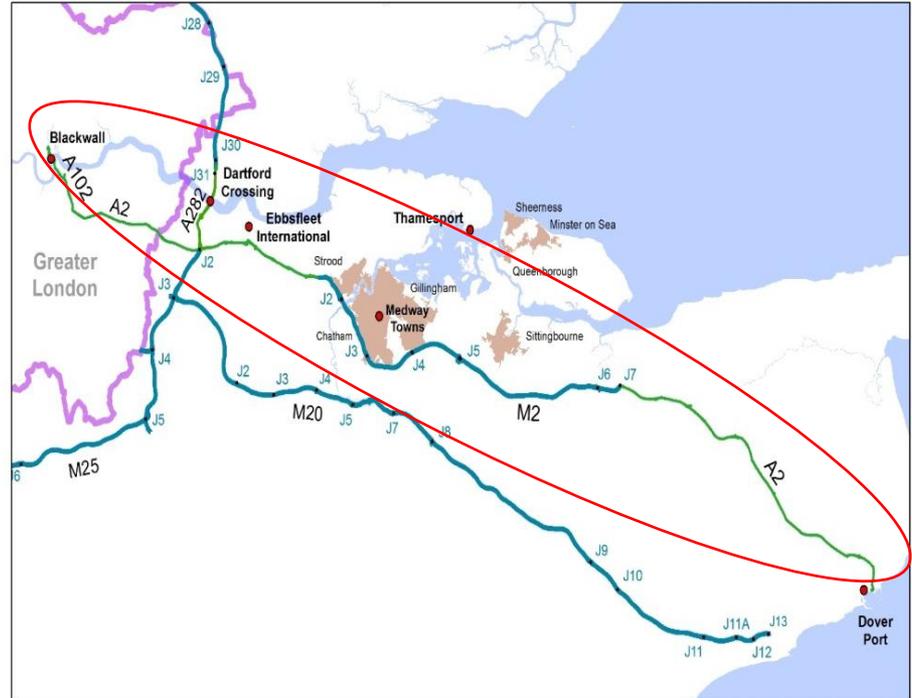


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M2/A2 corridor (Kent)

- Floating Vehicle Data
- Road works warning
- In-vehicle signage
- GLOSA (Green Light Optimised Speed Advice)



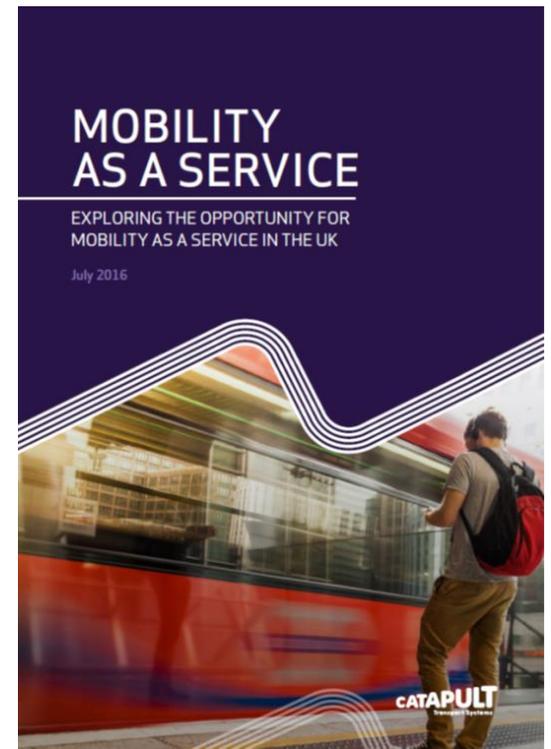
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Shared Mobility



UNIVERSITY OF
Southampton



Smart Freight

- Use of Drones by NHS.
- Oxfam Smartbins and Driver Apps reduced mileage by 3%
- On-foot portering could reduce delivery vehicle driving time in central London by 60% and parking time by 86%.

