

ARUP

SHAPING A BETTER WORLD

UK Autodrive

Tim Armitage

Oasys LS-DYNA Users Meeting

The Hype

AVs have been long purported to bring a myriad of transport benefits – reducing congestion and emission, increasing free time, improving mobility for the elderly and disabled, allowing cities to re-shape more liveable spaces etc. etc.



The Reality

But it's easier said than achieved... There are a whole host of challenges:

Social – user acceptance, ethics, ownership

Technical – technology robustness, security, interoperability, infrastructure...

Economic – cost, business models

Political – codes, standards, regulations

Creating any version of reality from the “hype” is an intricate and multi-faceted challenge that requires collaboration between cities, tech providers, researchers, insurers, legislators, the public...

What was UK Autodrive?

A response to these challenges - a Government supported, **collaborative consortium project** to explore the realities of putting CAV technology into our cities – through academic studies, technology development, public engagement and real trials

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CATAPULT
Transport Systems



GOWLING WLG



MIRA
A HONDA COMPANY



RDM
GROUP



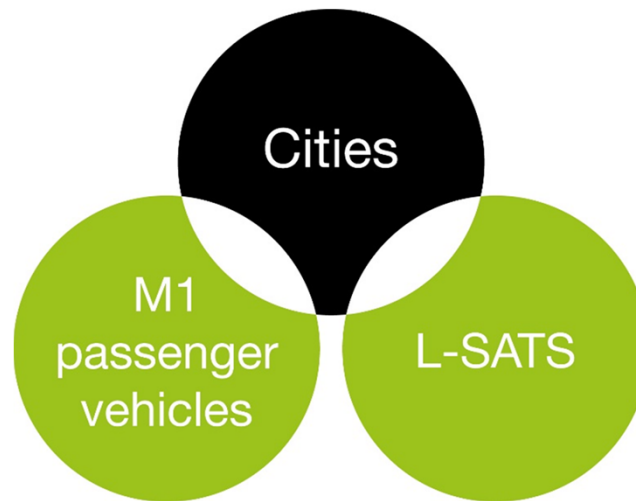
THALES



UNIVERSITY OF
CAMBRIDGE



What did we do?



What **impact** did we have?



Delivered **inclusive design** with real minority groups



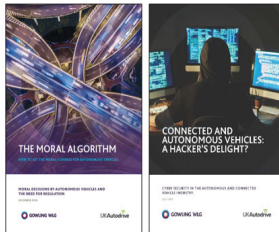
Examined **interoperability challenges**, influencing European legislation



Got the **public talking** about their concerns, aspirations and ambitions



Successfully **navigated Coventry ring road** with autonomous technology!



Demonstrated **thought leadership** on topics such as data, ethics and insurance



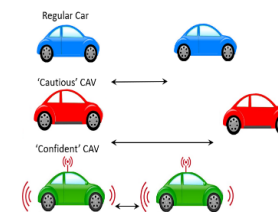
Achieved **global media coverage**, demonstrating UK leadership



Demonstrated how **CAVs can fit into a broader mobility framework**



Engaged with the **emergency services** to explore impacts on them



Modelled CAV **impacts on emissions, congestion and travel time**

What **impact** did we have?

City perspectives

- UKAD has provided two very different cities with a view of the possible.
- The successful demonstration of the technology has given MK the confidence to move forward with plans to enhance the public realm in CMK and to consider the removal of private cars from the city centre and enabling low-carbon autonomous public mobility services to take their place.
- UKAD has shown cities that wide-spread changes to infrastructure will not be needed before autonomous vehicles are able to operate within them.
- Cities will have to ensue a robust communications network if CAVs are to operate efficiently and effectively.
- Capacity gains (20%) with no big infrastructure spend
- Coventry and Milton Keynes disseminating learnings to other authorities

What **impact** did we have?

Tech perspective

- UKAD provided a platform for UK based car companies to demonstrate that the digital skills and desire exist in the UK to rapidly develop autonomous technologies and apply them to complex mobility problems.
- Unearthing big **challenges with respect to cyber security** – now front and centre with car manufacturers and National Cyber Security Centre (NCSC)

What **impact** did we have?

User perspective

- UKAD got people thinking and talking about how they would like to use future transport technologies to improve their daily lives.
 - Hospital trips
 - The school run
 - Trips with young children
 - Loneliness, accessibility for elderly people?
- Guide Dogs...

Don't just take our word for it

“UK Autodrive has been fundamental in helping us create our future mobility strategy”

Geoff Snelson
Director of Strategy and Futures
Milton Keynes Council



Don't just take our word for it

“UK Autodrive has helped us to explore future mobility and understand how our residents can benefit”

Brian Matthews
Head of Transport Innovation
Milton Keynes Council



Don't just take our word for it

“CAV technology will help us move smoothly through traffic, helping our paramedics and their patients”

Steve Windfield
Clinical Operations Manager
Ambulance Service



Don't just take our word for it

“connected vehicle technology will enable us to get to incidents quicker, which will save lives”

Peter Allington
Senior Driver Instructor
West Midlands Fire Service



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Thank you for listening