# Securing Autonomous Highway Futures: Creating an ELSI vision
*Security Node, Lancaster University*

Prof. Corinne May-Chahal, Sociology
Dr. Joe Deville, Sociology
Dr. Luke Moffat, Sociology
Dr. Catherine Easton, Legal Studies

Contact: l.moffat1@lancaster.ac.uk
Twitter: @TAS_Security

## Setting the Scene

As part of the TAS Security Node, we have been building a collaboration between Lancaster and National Highways, to co-create ethical, legal and social guidance for National Highways to use in their future work, which increasingly involves autonomous systems

To help tackle the diverse and complex sets of AS security related challenges that organisations like National Highways face, RS3 for TAS-S has designed some creative and art thinking methods to foster spaces for critical reflection and open discussions. Below is a summary of some of our most recent work together.

❖ **National Highways work is diverse, covering many areas in which AS are involved**
❖ **Engaging publics and forming a clear and accessible image is key for the future**
❖ **What kinds of considerations should be made in terms of customer protection for AS use?**
❖ **How can collaborations with industry and public advocacy be managed as they become more diffuse?**
❖ **2 overarching themes, and 3 in depth case studies**

**Organisational Adaptation**
What kinds of roles will National Highways play in the future UK road network and AS adoption? National Highways as public service includes change in different organisations, and how they interact. Considerations include: Engagement with regulators; Guidelines for AS security, use & design

**Public Engagement**
How to engage diverse publics. Consultation without coercion. Crossing sectors and domains. Using participatory methods to make space for different voices. What public input counts and who decides?

## Case Studies

### Connected and Autonomous Vehicles

CAVs bring prospects of more-than-human agency. This raises issues of data ethics, and infrastructuring new road practices

### Autonomous Plant

More AS in public spaces need social readiness and adaptation. Technologies need to be ready for society, not vice versa

### Supply Chain

As supply chains grow denser and more complex – including automation along the chain, the politics and security of outsourcing and global data flows are of key importance
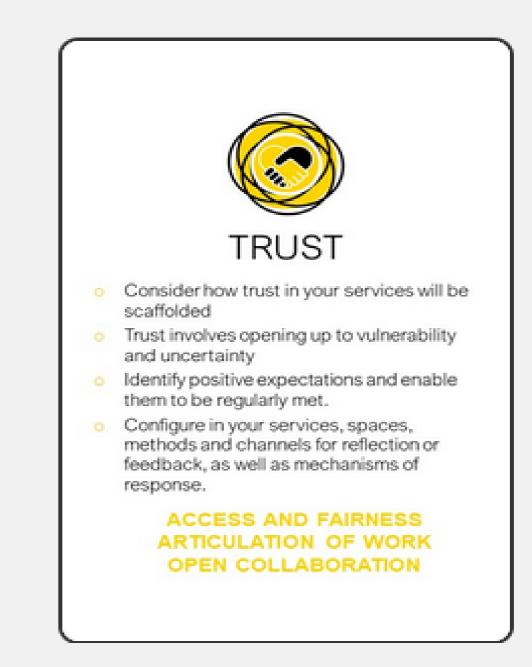
Each of these case studies provides a chance to go into more detail with National Highways and the work they are developing. The two themes mentioned above offer lenses to examine how these cases merge with public perceptions, and other organisations working with AS. As the collaboration continues these case studies will form thematic bases for co-creating ELSI guidance.

There is still more work to be done around these case studies, to get more of a grasp on how practice with AS works in an organisation concerned with customer protection and standards of excellence for knowledge, advocacy, and maintenance of the UK road network.

## isITethical Card Game

To open spaces for critical and circumspect reflection, we played a version of the isITethical card game, in which players, though a series of rounds, had to select three cards for an 'ELSI vision', which could inform future work and collaborations. You can see the results below and at this here:



**TRUST**
- Consider how trust in your services will be scaffolded
- Trust involves opening up to vulnerability and uncertainty
- Identify positive expectations and enable them to be regularly met.
- Configure in your services, spaces, methods and channels for reflection or feedback, as well as mechanisms of response.

ACCESS AND FAIRNESS
ARTICULATION OF WORK
OPEN COLLABORATION

**SECURITY**
- Take the time to make a security plan
- Ensure all measures are in place to protect security of researchers, customers and stakeholders, including data subjects
- Ongoing assessment that your research does not infringe security
- Security needs to balance the right to privacy, civil liberties, and vulnerability to hacking

WELLBEING IN RESEARCH
HEALTH AND SAFETY
CONFIGURING AWARENESS

**TWO-SPIRIT**
- Automation beyond binary differentiation
- Recognising co-dependence and entanglement
- Autonomous System services where humans and things can become together
- Consider the chaotic, temporal, simultaneous, and contradictory in your use of autonomous technologies and their affects

BEYOND BINARIES
EMBODYING VALUES

**ACCOUNTABILITY**
- Capacity to stay answerable for one's choices, actions and expectations of one's role.
- Capacity of codes of conduct, programming language, to account for their affordances in an intelligible way
- Integration in the research and systems beings created of spaces and capacities to respond to the unknown and unexpected.

ACCOUNTABLE ANONYMITY
TRANSPARENCY OF DATA
PROCESSING