

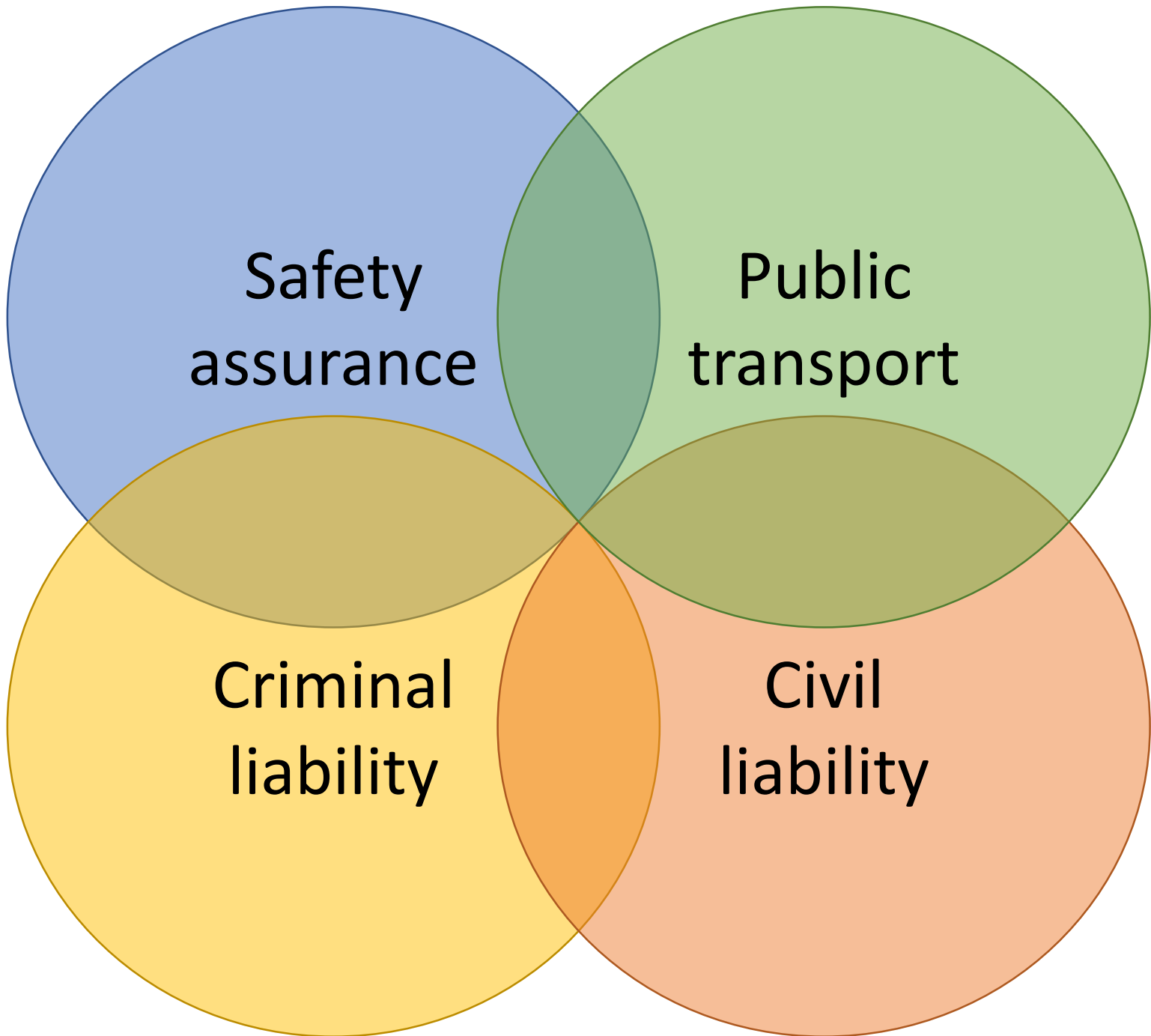
# The challenges of regulating automated vehicles



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# The Law Commissions' three year project

- Joint project with the Scottish Law Commission runs **2018-2021**
- **Consultation Paper 1:** safety and legal accountability (8 Nov 2018)
  - 178 responses received (published analysis last week)
- **Consultation Paper 2:** automated mobility services and public transport (Autumn 2019)
- **Consultation Paper 3:** Bringing proposals together (2020)
- **Final report** (2021)



**Safety  
assurance**

**Public  
transport**

**Criminal  
liability**

**Civil  
liability**

# Four challenges for regulation and certification

1. A lot of law
2. Old divisions breaking down
3. Uncertainty and timing
4. Ethical dilemmas?



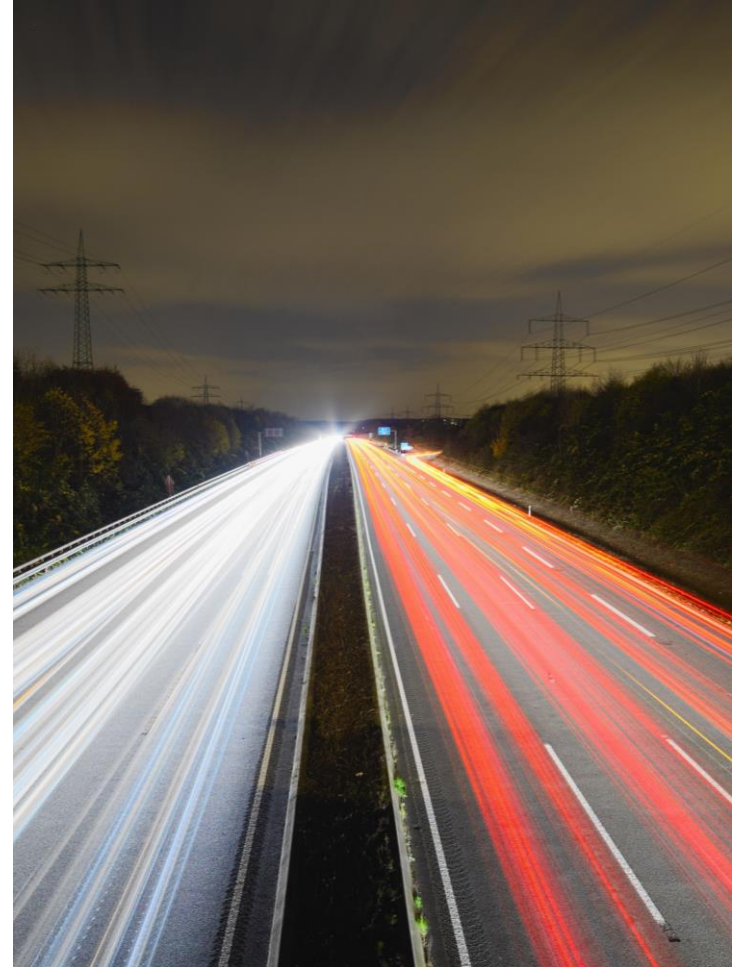
# Challenge 1: A lot of law

- Insurance
- Product liability
- International vehicle standards
- Criminal liability for driving offences
- Civil penalties for driving infractions
- Roadworthiness (MOT)
- Consumer information and marketing
- Driving licences
- Accident investigation
- Hacking and interference
- Taxi and private hire
- Public service vehicles
- Bus regulation (London / outside London)
- Traffic regulation orders
- Infrastructure management
- ...

# Challenge 2: Old divisions breaking down

- VEHICLES
  - Regulated by UN Economic Commission for Europe + EU
- DRIVING RULES
  - Regulated at national and local level

**Is safety assurance for an automated driving system about the vehicle or about driving?**



# Challenge 3: Uncertainty and timing

- UNCERTAINTY – how will technology be used?
- TIMING – not too early, not too late



# Two development paths

## Path 1:

- Consumer vehicles sold across borders;
- Continue to have human in the driving seat.

BUT

- Automated system becomes more important to regulate (internationally?)

## Path 2:

- Sells a journey rather than a vehicle.
- No driving seat

BUT

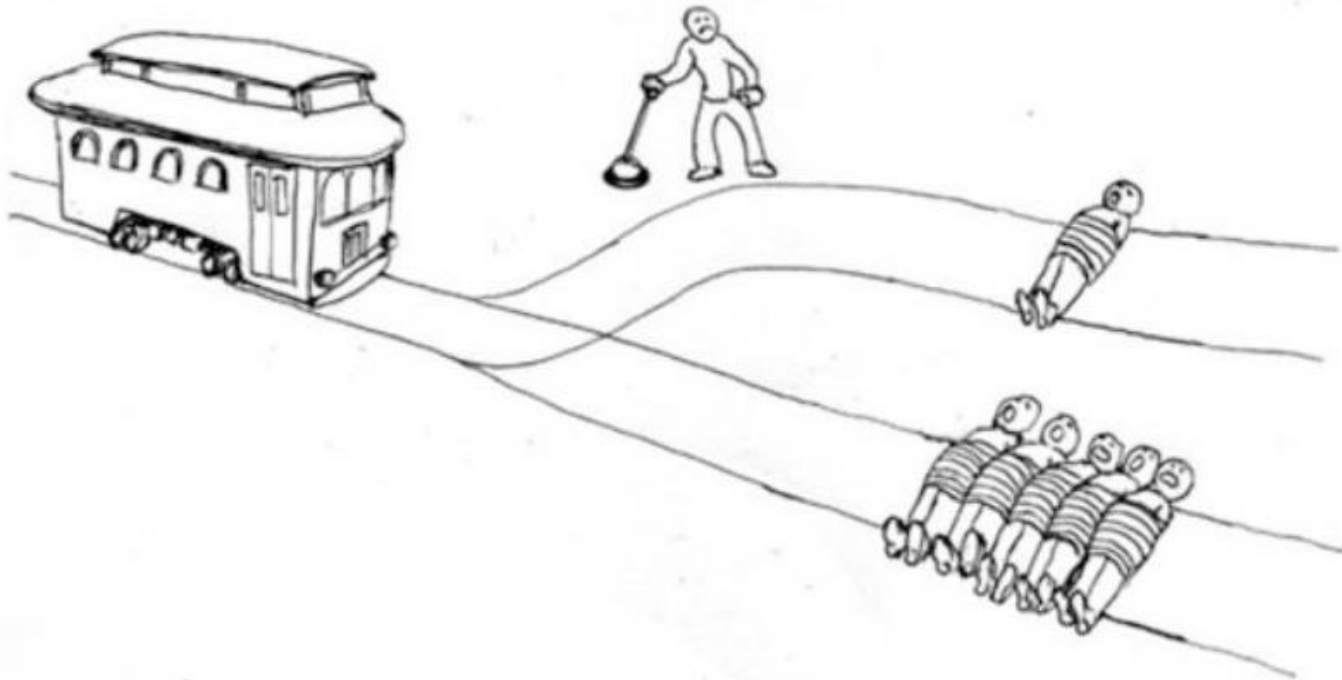
- Initially confined to limited local context. (certification done locally on operator?)





# Challenge 4: The trolley problem

- Do automated vehicles pose ethical dilemmas?



# Should AVs follow speed limits?



# Swerving to avoid someone at fault



# Edging through pedestrians



# The Way forward?

## *Collaboration between developers and regulators*

### Composition of a forum?

- Government
  - Regulators
- Manufacturers
- Software engineers
  - Insurers
- Interest groups
- Law Commission?



# The Way forward?

## *Preliminary Safety Assurance measures...*

### Overwhelming support for:

- A New Safety assurance scheme (84%) for small series and ADS vehicle modifications
  - The concept of an ADSE (84%)
- A prohibition on unauthorised ADSs (90%)
- A mix of 3<sup>rd</sup> party testing and self-certification





**Thank you**

**Questions?**

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