

The Public Safety Case

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Why do we regulate safety?

To correct market failures, particularly those that could undermine safety or trust.

- Safety: Where developers lack internal or external incentives to act reasonably safely.
- Trust: Where the public lacks information, time, or other resources to decide if something is reasonably safe.

This regulation involves the exercise of a government's *authority and credibility*.

How safe is safe enough?

- We don't know, and we won't know!
- The public expects perfect safety.
- But nothing is perfectly safe today (including humans).

Today's regulation is also imperfect

- These imperfections might advance or stymie automated driving.
- Automated driving might ameliorate or exacerbate these imperfections.

Trust matters

Shift from assessing the product to assessing its developer/deployer, as products will be:

- Diverse.
- Complex.
- Dynamic.
- Part of broader systems.
- Services!

Benchmark for assessing performance may shift from point of sale to point of use!

Diversity in assessment

- There is no single universal method of safety assessment.
- Some philosophical disputes may never be resolved empirically.
- Assessment is also a subject of innovation! And its high cost provides an economic incentive.
- This innovation is critical for driving automation and other technologies.

The public safety case

- To manage public expectations.
- To obtain an approval or exemption.

To manage public expectations

- **A developer shares its safety philosophy with the public through data and analysis:**
- How does the developer define, design for, establish, and monitor reasonable safety over the lifetime of its system?
- What are the system's risks and opportunities?

To obtain an approval or exemption

- A developer seeks a regulatory approval or exemption.
- The developer makes a *public* argument for the safety of its system.
- The regulator, with input from the public, evaluates the reasonableness of that argument.
- The regulator exercises substantial discretion and receives substantial deference.

Why a public safety case matters

- Regulators can't have all the answers – but they can get better at asking key questions.
- Developers need space for technical innovation.
- Regulators need space for *regulatory* innovation.
- The public is an essential partner.

Why public expectations matter

- Legislators and regulators act in the context of public opinion.
- Civil liability often depends on the perceived reasonableness of a company or product.

Public safety case as option or obligation

- A lot is already legal!
- Developers can always choose to comply with or seek to change existing law.
- Nonetheless:
 - There are some regulatory gates.
 - There may be some legal obstacles.
 - There will be a post-crash minefield.
- A public safety case can be a stick or carrot.

Predicates for a public safety case

- More expansive and explicit exemption authority (federal and state).
- Cultivation of technology-agnostic safety expertise.
- More robust *public* disclosure mechanisms.

Evaluating the public safety case (Metaregulation)

Reasonableness rather than correctness.

- Substantial evidence (agency action).
- Arbitrary and capricious with hard look (same).
- Daubert (expert witnesses).
- Materiality (securities disclosures).
- Exclusively public data.

My prediction

*When an automated driving developer shares
its safety philosophy with the public
through data and analysis...*

...automated driving will be truly imminent.

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