A Regulatory framework for the safe and responsible self-driving vehicles in Great Britain

Lead department	Department for Transport
Summary of proposal	The proposal is to create a comprehensive regulatory framework for self-driving vehicles to clearly define the legal responsibilities of all important parties, including users, and establish a clear process for vehicle safety assurance and monitoring.
Submission type	Impact assessment (IA) – 24 June 2022
Legislation type	Primary legislation
Implementation date	tbc
Policy stage	Final
RPC reference	RPC-DCfT-5208(1)
Opinion type	Formal
Date of issue	29 July 2022

RPC opinion

Rating[1]	RPC opinion
Fit for purpose	The Department's assessment meets RPC requirements for primary legislation stage IAs for its assessment of direct impacts on business and impacts on small and micro businesses. There are areas where further evidence and analysis will be needed at secondary legislation stage.

Business impact target assessment

	Department assessment	RPC validated
Classification	Qualifying regulatory provision	Qualifying regulatory provision
Equivalent annual net direct cost to business (EANDCB)	Not quantified	Further IA(s), supporting secondary legislation, to be submitted to the RPC for EANDCB validation.
Business impact target (BIT) score	N/A	See above.
Business net present value	Not quantified	
Overall net present value	Not quantified	

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[1] The RPC opinion rating is based only on the robustness of the EANDCB and quality of the SaMBA, as set out in the Better Regulation Framework. RPC ratings are fit for purpose or not fit for purpose.

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RPC summary

Category	Quality[2]	RPC comments
EANDCB	**Green**	The Department's assessment meets RPC requirements for primary legislation stage IAs. The IA helpfully includes indicative unit costs using comparators from analogous regulations.
Small and micro business assessment (SaMBA)	**Green**	The IA describes the sizes of businesses that might be affected and provides an initial discussion of disproportionality of impact and exemption.
Rationale and options	**Good**	The IA provides a clear rationale for intervention and range of options, explaining clearly why non-regulatory interventions would not address the problem.
Cost-benefit analysis	**Satisfactory**	The assessment, albeit largely qualitative, appears to be based upon a good level of engagement with industry and stakeholders. The IA would benefit from further consideration of international evidence and familiarisation costs.
Wider impacts	**Weak**	The IA includes good sectoral analysis but would benefit significantly from further discussion of impacts on trade, competition and innovation.
Monitoring and evaluation plan	**Satisfactory**	The plan sets out key objectives, research questions, evaluation methods and data collection. The plan would benefit from providing further information on the collection of quantitative evidence and engagement with stakeholders.

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[2] The RPC quality ratings are used to indicate the quality and robustness of the evidence used to support different analytical areas. Please find the definitions of the RPC quality ratings here.

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Summary of proposal

The IA describes that, for over a century, road traffic legislation has placed primary responsibility on drivers; with the advent of automated vehicles (AV), this is no longer appropriate and a new framework is necessary. This proposal replaces an earlier interim measure and seeks to put in place a flexible framework capable of adapting to changes in technology and providing incentives for improved safety, efficiency and innovation. The proposal is to create a comprehensive regulatory framework for self-driving vehicles to clearly define the legal responsibilities of all important stakeholders, including users, and establish a clear process for vehicle safety assurance and monitoring. This would also remove unnecessary regulatory barriers and/or uncertainty currently hindering commercial deployment. The proposal implements recommendations from a review by the Law Commission undertaken on behalf of the Government's Centre for Connected & Automated Vehicles.

The issues considered by the Law Commission and intended to be addressed by the proposed regulatory framework include:

- who the "driver" or responsible person is, as appropriate;
- how to allocate civil and criminal responsibility where control switches between the automated driving system and a human user;
- the role of self-driving vehicles within public transport networks and emerging platforms for on-demand passenger transport, car sharing and new business models providing mobility as a service;
- whether there is a need for new criminal offences to deal with possible interference with self-driving vehicles and other novel types of behaviour; and
- the impact on other road users and how they can be protected from risk.

Primary legislation will establish the principles and structure of the new framework. Details of requirements will be set by secondary legislation, taking account of developments in technology over time. The framework also aims to address current issues, provide incentives for innovation that might address them more effectively, whilst allowing emergent issues to be recognised (e.g., through monitoring) and handled appropriately.

EANDCB

Assessment of impacts at primary legislation stage

The IA explains that uncertainty over requirements to be set out in legislation means that it is not possible to produce an EANDCB figure at this stage. It also explains why it is not possible to provide an indicative monetised figure for overall scale of impact at this stage due to high uncertainty over the development of the self-driving vehicle market. Instead, the IA concentrates on providing a detailed identification and qualitative discussion of impacts. It also usefully provides indicative figures (pages 21-28 and annex A) for the unit costs of complying with each of the proposed requirements, using comparators from analogous regulations, such as relating to whole vehicle type-approval (authorisation) and public service vehicles (licensing). The IA would benefit from discussing whether or how far whole vehicle type-approval

costs are representative, given that AV type-approvals, both initial and in-service, could be considerably more complex. Overall, the Department's assessment meets RPC requirements for primary legislation stage IAs.[3] In line with 'scenario 2' in that guidance, the RPC would expect to see further IA(s), supporting secondary legislation, to be submitted to the RPC for validation of an EANDCB figure(s).

Direct/indirect

Under the current BIT framework, the IA(s) supporting secondary legislation will need to differentiate more clearly between direct and indirect impacts. Assessing whether impacts of permissive legislation are direct or indirect can be difficult and complex, particularly where the legislation is designed to stimulate the growth of a market and/or to induce innovation. The IA appears to mistakenly interpret RPC guidance on permissive legislation by assuming that impacts of permissive legislation are necessarily direct (paragraph 40, page 14); the RPC would be happy to work with the Department to clarify the guidance in relation to the secondary legislation stage IA(s).

SaMBA

The IA provides a satisfactory assessment of impacts on Small and Micro businesses (SMBs) at this stage. This describes the size distribution of businesses that might be affected and provides an initial discussion of disproportionality of impact and exemption. The SaMBA would benefit from linking this discussion to the assessment of wider impacts; for example, in relation to potential indirect impacts on taxi businesses. The IA would also benefit from discussing possible impacts on SMBs through their potential use of AVs for (particularly local) deliveries.

Rationale and options

The IA provides a clear rationale for intervention. This covers market failure (information asymmetries and negative externalities) and government failure (outdated regulations and the need for regulatory certainty) and notes strong stakeholder support for regulatory intervention. The discussion of information asymmetries/failures could also address whether other parties (manufacturers, system providers, network service providers etc) might also lack relevant information. The discussion on road safety could also be clearer about the impact of a mix of AVs and regular vehicles (including different levels of driver assistance). The IA could also consider Smart Roads and other situations in which AVs are neither driver-controlled nor autonomous.

The IA also provides a useful range of options and explains clearly why non-regulatory interventions could not provide the regulatory certainty necessary to address the problem. The IA would benefit from discussing options in relation to

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[3] https://www.gov.uk/government/publications/rpc-case-histories-primary-legislation-ias-august-2019.
The Department's assessment is consistent with 'scenario 2' in the guidance. This is where uncertainty over the contents of the secondary legislation means that departments need to submit a further IA at the secondary legislation stage for EANDCB validation.

what other countries have been doing/are planning to do in this area (see comment under 'cost benefit analysis' below), taking account of any trade implications and trade-borne regulatory competition issues. The IA could also discuss variations on a continuum running from a driver operating a vehicle to a fully autonomous vehicle, including various smart driver assistance systems. On presentation, the Department may wish to consider whether swapping options 2 and 3 round might improve clarity, as this would align the option numbering with the degree of regulatory intervention.

Cost-benefit analysis

Evidence and data

The IA's discussion of other countries is limited (page 9) and would benefit from expansion. For example, it is noted that no country has so far introduced a comprehensive regulatory framework and that other countries still leave some residual criminal liability with the driver or remote operator. The IA would benefit from discussing the potential behavioural consequences of this residual liability (e.g., when to adopt AVs of different types and the resulting distribution of operating modes on the roads). The IA could also provide more extensive discussion of the implications for the insurance sector and the risk-mitigating measures that insurance companies would insist on. Overall, the IA would benefit from discussing further the cost-benefit trade-offs associated with different levels of comprehensiveness of the regulatory framework.

On familiarisation costs, the IA argues that businesses would only familiarise themselves with the proposed legislation if they saw a benefit in doing so, for example in terms of entering the market. The IA would benefit from discussing whether there might be some businesses who are not interested in developing self-driving vehicles who would nevertheless feel that they needed to be familiar with the proposed legislation. These might include insurance companies, mechanics and vehicle testing, fleet operators (own-account or for-hire) etc.

The assessment, albeit largely qualitative, appears to be based upon a good level of engagement with industry and stakeholders. However, this is not immediately apparent to the reader; for example, a list of engagements undertaken is only provided in the PIR plan (page 37). The Department may wish to consider drawing together the description of engagement with stakeholders and presenting it much earlier in the IA to help the reader understand the provenance of the evidence used.

There are a number of other areas where the present and/or secondary legislation IAs could address, including:

- the IA notes the need for continuing monitoring of safety, but the analysis could go further in considering a) correlated safety decrements (e.g., 'bugs' in push updates or in-service cascade effects spreading across interacting AVs); b) the need to change the way other traffic regulations are designed and assessed; and c) the potential for technology to replace regulatory monitoring and assurance (e.g., regtech); and

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- strengthening the analysis of the reallocation of liability to insurers (or groups of insurers and to operators of e.g., smart road infrastructures - both when AVs are operating autonomously and when they are under system control).

Wider impacts

The IA provides a useful assessment of impacts by sector (pages 30-32). The proposal has implications for the justice sector and the initial assessment of impacts there is helpful. However, the assessment of wider impacts overall is limited. In particular, the IA would benefit significantly from discussing further the impacts on trade, competition and innovation.

The IA would benefit from providing a clearer definition(s) of the 'market' or 'markets' involved (self-driving vehicles, insurance, leased services etc). This issue extends also to competition and retail markets, where, for example, the use of AVs may transform the competitiveness of SMBs and/or change the power of logistics providers.

As noted above, the IA states that no other country has so far introduced a comprehensive regulatory framework for AVs. The IA would benefit from discussing potential issues around the UK developing a self-driving regime in isolation from, or ahead of, other countries. These might include synchronisation of car and road design to ensure UK AVs function fully abroad and vice versa.

Monitoring and evaluation plan

The IA includes a satisfactory monitoring and evaluation plan for this stage of the policy development. The plan sets out key objectives, research questions, evaluation methods and data collection. The plan refers to separate PIRs for secondary legislation measures but would benefit from addressing further the case for an integrated PIR. Monitoring and evaluation are more challenging but also particularly important for interventions aimed at developing a market. The RPC would expect more specific information to be added as policy details are set out at secondary legislation stage. The plan would benefit, in particular, from providing further information on the tracking and collection of quantitative evidence and analysis, and how continuing engagement with other stakeholders (e.g., insurance, commercial (logistics) vehicle companies etc is envisaged.

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