



CONFIDENTIAL AND COMMERCIALY SENSITIVE

Automated Vehicles Team
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By email (to automatedvehicles@lawcommission.gov.uk)

21 March 2021

Re: *Automated Vehicles: Consultation Paper 3 - A regulatory framework for automated vehicles*

Dear sir or madam:

Uber Technologies Inc. (Uber) is pleased to submit these comments in connection with the Law Commission's consultation on establishing a regulatory framework for automated vehicles (the "Consultation").

As the Consultation recognises, automated vehicles ("AVs") have the potential to play an important part in the UK's future transport mix, to significantly improve road safety and achieve a host of other benefits throughout the transportation system.

Uber shares the Law Commission's objective of ensuring the safe and expeditious deployment of AVs. Uber further agrees with the Commission's assumption that any such broad-based deployment will require significant public buy-in, which in turn will require a credible basis for concluding that AVs will safely contribute to the transportation mix.

Moreover, as this consultation process recognises, the safe deployment of AVs requires not only the development of this technology, but an appropriate mechanism for connecting passengers with AV rides provided through shared fleets. Uber is committed to the safe

development of such mobility-as-a-service opportunities, incorporating autonomous vehicles as a safe and reliable option for increasing transportation opportunities. In our view -- in light of inherent limitations in existing AV technology -- the best path for safely deploying AVs involves incorporating this emerging technology as a supplement to conventional vehicles operating on the Uber platform, and not as a substitute for human drivers.

As discussed in more detail below, Uber looks forward to connecting our customers with safe and reliable transportation, including transportation via AVs. In this role, we envision helping to satisfy our customers' mobility and delivery needs by connecting them with the right service provider for each request. To that end, this Consultation helps advance a framework that envisions the right categories of responsibility for some of the many different players in the AV-service supply chain.

I. Uber's Approach to a Self-Driving Vehicle Platform

At Uber, we strive to make transportation safe, reliable, accessible, efficient and affordable. Pre-COVID our platform helped serve the needs of over 100 million monthly active platform users, who were completing over 20 million trips a day. Simply put, a huge number of consumers open the Uber app to help move them throughout their lives.

We believe that self-driving technology can also play a part in helping to connect our customers with increased options for safe and affordable transportation, including both autonomous and conventional vehicles. Accordingly, we are well placed to play a role in connecting fleets of self-driving vehicles with consumers exploring transportation options, by building the technology to incorporate those fleets into the broader Uber platform and helping to fold safe ADS technology into the fabric of our transportation systems.

As part of this process, Uber appreciates the importance that our customers will place on self-driving vehicle safety and welcomes the Commission's leadership in charting an approach that will help reinforce that type of public confidence. Uber simultaneously appreciates the value that our current and prospective consumers and AV fleet partners will place on increased clarity regarding prevailing safety standards. Uber's efforts in this space are guided by our core company priority to Stand for Safety and, as such, Uber is acutely interested in the Commission's various efforts to advance the safety of AV technology and transportation safety overall.

We look forward to the potential of AV technology to improve transportation safety around the world and to provide consumers with a variety of mobility options, including AVs, through the Uber platform in the years ahead. In processes such as these, we take seriously the imperative to serve as an advocate for our many customers and partners, and to speak on their behalf in encouraging policies that promote safe and affordable transportation options. This vision and commitment to safety motivates the filing of this submission.

II. The Commission’s Proposed Division of Responsibility Rightly Recognises that Emergent AV Rules Should Vary by Actor Type

Uber’s platform connects passengers around the world with the transportation or delivery option that works best for them. Uber believes there is potential to add AV-based fleets into the possible mix of delivery or mobility options.

Our experience in running this type of platform helps inform our sense of the roles that different actors may valuably play in the deployment of AVs in analogous circumstances.

The Commission’s approach (at Chapter 13) valuably distinguishes between the core competencies of and roles played by developers, operators, and service providers within an AV ecosystem. Moreover, the Commission’s proposal reasonably recommends that an actor’s duties should derive from such distinctions between roles. For example, Uber agrees that developers play lead roles in AV design and therefore are reasonably subject to some subset of design-related responsibilities, and that operators are reasonably subject to responsibility for safe on-road operation. Uber anticipates a role that, in running the type of platform described above, will involve an array of customer-facing responsibilities: Providing a clear customer interface, helping to match a customer with the best transportation or delivery option (whether through an AV or a conventional vehicle), processing payments, etc.

A recognition of these various and distinct roles can and should inform the ultimate regulatory framework governing different actors’ responsibilities -- much like the present, conventional-vehicle regime turns on very similar distinctions (with design rules for developers; operational rules for fleets; customer engagement rules for other actors; etc.). So, we could envision Uber owning certain responsibilities related to consumer experience, even while developers and fleet operators will (between them) own responsibilities related to the safe design and operation of vehicles.

We view the Commission’s proposals for developer, operator, and customer-experience responsibilities as largely following this sensible pattern. The Commission’s tier-based approach seems to reflect this basic recognition, with a separation between developer responsibilities, operator-focused “Tier One” responsibilities, and use-case specific “Tier Two” responsibilities which (for personal mobility use-cases) might include certain of the non-design / consumer experience responsibilities that are akin to Uber’s current role in the conventional vehicle space.

As this framework continues to develop, Uber encourages the Commission to allow for a modular approach to responsibilities, recognising that although *some* actors may fall into multiple responsibility-categories, others may fall into only one. And, inversely, certain responsibility sets may at times travel together and yet may at times be relevant for different actors. For example, as noted previously, the Consultation envisions Tier One responsibilities that attach to all AV operators, and Tier Two responsibilities that may attach in different contexts (i.e., where a commercial player is engaged in freight delivery or passenger mobility operations). Although a single operator may provide multiple sets of services giving rise to these

responsibilities, those same sets of services may also split among different operators -- and the regulatory framework should recognise (for example) that the customer-facing platform need not always additionally serve as the operator.

The Uber self-driving vehicle platform contemplates this exact division of responsibilities. In a situation where Uber connects passengers to AV fleet services operated by third-parties, the Consultation's proposed framework would rationally look to the operator to fulfill certain responsibilities (such as those contemplated in the Tier One set of obligations) and would look to Uber to fulfill certain customer engagement functions (some of which are captured in the Consultation's description of Tier 2 services). But the framework need not look to either Uber or an operator to satisfy those obligations that, per the Consultation's structure, most naturally involve responsibilities outside a given actor's zone of activity. Put otherwise, Uber recommends that the Commission not assume that every actor subject to some subset of Tier 2 responsibilities should *automatically* also be subject to the full suite of Tier One / Operator-focused responsibilities. Instead, we recommend that the Commission continue to recognise the prospect that the activities of individual actors (such as operators or consumer platforms) might lend itself to tailored sets of responsibilities.

III. Clarity in Safety Expectations will Increase Public Confidence in AV Technology

This appreciation of the division of responsibilities involved in AV deployment also might inform the Commission's approach to one of the questions at the heart of this Consultation: How can the UK government measure and assess AV safety?

Chapter Five of the Consultation offers at least four possible approaches to deciding on the right standard of safety: "(1) as safe as reasonably practicable; (2) as safe as a competent and careful human driver; (3) does not cause a fault accident; and (4) a positive risk balance (so that, overall, AVs are safer than the average human driver)." And Chapter Five further recommends that the Secretary of State lead the analysis of the safety of individual AVs.

Uber anticipates that a range of valuable opinions are available to help inform these questions on who should evaluate safety within the UK government, and on what basis. Rather than endorse one particular approach to analysing safety, though, our goal through this submission is to encourage the Commission and the broader UK government to expeditiously and on a rolling basis help inform all stakeholders -- including developers, operators, and consumers -- on safety expectations for AV technology.

As this broader consultation effort has recognised, AV technology has not yet given rise to the type of clear performance demarcation that can serve as the basis for a new and definitive safety standard. First, the technology remains highly fluid: Developers are continuing to launch wholly new hardware and software approaches to solve the many dimensions of automated driving. Amid this dynamic development -- with approaches that vary from developer to developer -- the industry may be beginning to coalesce around broadly appreciated bases for evaluating performance. But, such alignment remains in its earliest stages.

As expertise in this area continues to grow, the UK government -- whether through the Commission, the Secretary of State, or otherwise -- can employ a variety of techniques to build public understanding of AV safety expectations, and to provide developers and operators with an initial sense of possible safety targets that will inform an eventual regulatory structure:

- Government experts can direct consumer and industry attention to emerging trends or practices, such as by spotlighting substantive approaches that, in the Government's view, warrant further development or attention.
- Government agencies can catalyse the exchange of safety approaches from different developers (including bases for measuring safety, and the types of safety targets that reasonably would promote AV safety), and to assure a helpful illumination of standards and best practices, which the Commission or other government actors could identify as such.
- Government experts can highlight salutary AV-related safety metrics and aspects of performance that, even in the absence of definitive/all-encompassing performance standards, can at least allow for a meaningful comparison of AV safety profiles.

In our view, efforts such as these can help ground clear expectations that will prove crucial for moving the industry forward: Known safety targets (even if they remain fluid) can provide interim clarity for developers on their progress while also giving consumers a basis for appreciating that an AV is safe enough for their needs.

In processes such as these, we take seriously the imperative to serve as an advocate for our many customers and partners, and to speak on their behalf in encouraging policies that promote safe and affordable transportation options. We understand that reducing some of the mystery around AV safety will help all parties gain the necessary confidence to proceed with adopting this technology.

IV. The Deployment of AVs Should Contribute to Broader Transportation Equity

A focus on the imperative of building public confidence also yields a series of insights on the importance of a framework for AV deployment that encourages AVs to create benefits for the public at large.

This Consultation recognises the close nexus between the deployment of AV technology and improvements throughout the transportation system. For example, Chapter 5 stresses the need for AV technology to contribute to improved equity in transportation services, while

Chapter 13 highlights the importance of delivering improvements in transportation for disabled persons and the elderly. The Commission (rightly, in our view) appreciates that these types of community benefits constitute both an important piece of the value proposition of AV technology, and also a key basis for promoting public confidence in the adoption of AVs.

AVs present a rare opportunity to raise the bar on providing transportation to underserved communities; connecting to mass transit; improving transportation sustainability; and improving access for the disabled community. AVs can add to our supply of safe and affordable transportation, and these services can collectively, in the long run, help increase the capacity of rides to meet these various objectives.

At the same time, the mere fact of an AV's deployment may not, on its own, achieve some of these developments. During the next phases of development, AVs will necessarily operate in limited domains -- domains for which a given AV can safely operate based on a finite set of capabilities. Similarly, the complexities of AV design may narrow the possibilities for incorporating inclusive or emission-free designs. With safety representing a threshold imperative, the type of AV deployment that naturally follows a safety-first design process may not provide a clear path for achieving some of the transportation system's broader objectives.

In our view, the Commission can help manage this potential tension between AV-design realities and broader transportation goals, through a recognition of two key principles:

- Communities benefit from safe, reliable, and affordable transportation, regardless of whether that directly involves transportation via AVs. And where the supply of quality and affordable transportation increases in one sector of the transportation system, those improvements free up other transportation providers to service additional customers, and help groups with particular transportation needs move about with greater ease.
- Even if an AV operator cannot practically provide transportation to a given community, such as people with accessibility needs, an AV operator can contribute to these broader goals by freeing up capacity on conventional transportation to service such riders.

As a platform that has the potential to incorporate conventional vehicles alongside AVs, Uber could work with communities and AV operators to help achieve this precise balance and help match riders to the right transportation option.

At the same time, Uber can help operators and government stakeholders promote a community's broader transportation interests. Although design limitations may restrict a given

AV fleet's capacity to expand its operating domain, any AV fleet can partner with human-driven, conventional vehicle mobility as a service provider (including, potentially, through a platform like ours), and thereby help contribute to a host of other objectives. Again, the key goal is for AVs to contribute to a better, more equitable, more accessible transportation system; not necessarily to match every person to an AV.

Different mechanisms are available to help establish this linkage: An AV operator might help incentivise the provision of non-AV rides focused on target communities -- an incentive structure that a platform such as ours could help facilitate.

Regardless of the particular mechanism employed, an AV operator has various available tools to spur transportation improvements in underserved communities *even without* directly providing that transportation via AV. That might involve financial contributions that incentivize operators to provide such rides while improving affordability for consumers. Or an AV operator might establish partnerships (including partnerships with other conventional vehicle operators participating in the same platform) that demonstrate a linkage between the provision of AV rides in well-served areas with an expansion of transportation options in underserved areas.

We stand ready to directly engage with regulators and policymakers to both: (i) establish mechanisms to promote the distributions of the benefits arising due to the introduction of AVs; and (ii) demonstrate the positive impact these mechanisms can have, especially for populations that are underserved by conventional transportation.

III. Conclusion

Uber appreciates the Commission's commitment to stakeholder engagement as it charts a carefully calibrated approach to the regulation of AV technology and deployment. Uber has helped to lead a number of recent innovations in mobility, and looks forward to further opportunities to work with the Law Commission and the UK government to explore additional possibilities for innovation -- whether involving AVs or otherwise.

Sincerely,

Joshua Wilkenfeld