Uber Technologies, Inc.
1515 3rd Street
San Francisco, California

February 23, 2022

Re: Request for Expressions of Interest, *Trenton MOVES*

Dear Ms. Ghorbani:

On behalf of Uber Technologies Inc., it is my pleasure to submit the below expression of interest for the Trenton MOVES autonomous technology project.

As described below, Uber offers unparalleled experience at helping New Jersey residents reach their destinations, using innovative and long-established technologies. And we believe we are uniquely positioned to help unlock the benefits of autonomous technology by serving as a platform that provides an intuitive suite of consumer-facing tools, along with backup options for consumers whose rides may be difficult for an autonomous vehicle to satisfy.

Moreover, as discussed below, our contemplated approach would demonstrably advance the program's objectives around improvements in equity, access, and sustainability.

We are available to discuss our contemplated approach in greater detail at your convenience.

Sincerely,

s/Joshua Wilkenfeld

Joshua Wilkenfeld
Director, Regulatory, Autonomous Mobility & Delivery
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Executive Summary

Uber Technologies Inc. ("Uber") offers this proposal in response to Trenton *MOVES*' Request for Expressions of Interest (RFEI) in connection with New Jersey's innovative proposal to avail Garden State residents of the benefits of autonomous technology.

The RFEI envisions one or more autonomous vehicle ("AV") operators adding to New Jersey's transportation and delivery mix, and thereby improving road safety while advancing principles of equity and sustainability.

Uber is hopeful that leading AV developers will be eager to operate their fleets in New Jersey. Uber does *not* operate our own AV fleets. Instead, we offer this submission with another proposed contribution to this important effort: ***That Uber partner with the State to tailor our Autonomous Mobility & Delivery (AM&D) platform to best effectuate the goals of this program by providing consumers with a highly developed, intuitive interface that will help match the right user with the right vehicle, and thereby demonstrably contribute to the state's broader policy objectives.***

Uber operates the largest mobility and delivery platform in the world, with over 100 million active monthly users globally, and tens of thousands of drivers in New Jersey. Our platform provides consumers access to multiple private and public transportation options, along with the seamless payment systems, routine and emergency support infrastructure, and sophisticated ETA calculations necessary to satisfy consumers' mobility needs. And we are now folding autonomous vehicles into this platform to further enhance the options available for consumers in New Jersey and around the world.

Integrating AVs into the Uber platform will allow AV developers to benefit from Uber's mature backend technology platform: These AVs will quickly be able to leverage Uber's fleet management and dynamic repositioning technology, marketplace insights, and hard-earned operational efficiency in order to meet demand sustainably. And consumers taking AV trips will be able to benefit from Uber's fully-supported, multilingual, user-friendly frontend interface for booking on-demand and scheduled rides. This arrangement sets all parties up for success -- letting AV developers focus on developing safe, functional vehicles, while Uber takes care of the consumer-facing and data-driven elements of providing reliable, affordable, on-demand trips.

A partnership with Uber's platform would also yield greater reliability for consumers outside dense urban areas or whose trips raise somewhat atypical factors that may prove challenging from an AV (bad weather; unforeseen road conditions; etc.), along with demonstrable contributions to transportation equity. Where consumers' requested trip routes fall outside AVs' discrete operating limits, Uber's platform can intelligently match those consumers with conventional vehicles that are able to service the trip, and thereby promote increased transportation access for those most likely to be underserved by existing transportation options.

Potential Project Description

Uber proposes providing the consumer-facing interface that will help connect NJ Residents with whichever AV operator(s) the City and State might select under this program. Under this proposed approach, Uber would offer its platform to connect Trenton residents with AV fleets, which would be managed by AV developers, to provide on-demand, kiosk-to-kiosk transportation options. Trenton MOVES could select the AV operators that most align with the vision of this program. Uber would then partner with those operators to help connect vehicles with NJ consumers. Under this approach, (i) consumers would benefit from increased transportation options, even if a particular trip falls outside the AV fleet's operating domain and (ii) the aggregate improvements in transportation will demonstrably advance the program's equity and accessibility goals, as described below.

Uber is building a suite of products to integrate AV fleets into the Uber platform so as to connect riders with AVs based on the trip parameters and the limitations of AVs' varying Operational Design Domains ("ODDs"). Our marketplace insights and deep knowledge of consumer preferences and behaviors allow us to best utilize available vehicles, and optimal utilization in turn allows fleet operators to furnish the most affordable rides to consumers. Simply put, Uber's existing ridesharing dispatch and routing technology are purpose-built to give more rides with fewer miles traveled.

Uber also brings tremendous value through our experience in providing an intuitive platform that has been fine-tuned for over a decade to consumer usage patterns. Uber's platform helps facilitate *billions* of trips. This experience is built off a user-friendly flow for consumers to request transportation or delivery, and a series of tools to help assure consumers receive the support they need before, during, and after a trip.

We have already announced a partnership with Motional, which will conduct autonomous deliveries in Santa Monica early this year. And we plan to integrate a significant number of additional AV providers onto the Uber AM&D platform over time, accelerating the entire AV ecosystem as it brings this critical technology to market.

In building the technology infrastructure to match AVs to the right trips, we have also come to recognize that, 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. But folding AVs into the Uber platform can convert these limitations into opportunities: Uber's AM&D Platform would enable an expansion of this program's impact beyond the geographic,

weather, and capability constraints offered by an AV developer. With Uber's hybrid offering, even riders whose trips fall outside AVs' ODDs will always be able to get where they need to go.

Advancing Transportation Equity

This approach would also allow for more impactful and traceable contributions to transportation equity.

AVs promise to increase the supply of affordable transportation. As this pilot program recognizes, the benefits of increased supply arising from AV deployment should result in improved opportunities for traditionally underserved communities, including, in particular, those communities that face a variety of economic barriers.

At the same time, for the foreseeable future, AV design realities may limit the ability of AVs to safely service some of those very same communities. Most AVs, operating alone, will impact only very limited trip types -- often trips that are likely already well-serviced.

But limited ODDs need not and should not limit the impact of AV deployment on transportation inequity. Resolving transportation equity does not specifically require access to AVs, but access to affordable, safe, and reliable transportation services. As AV transportation services become available in particular areas, Uber's platform can facilitate the movement of other vehicle supply to serve underserved areas in which AVs may not be able to operate, to create linkages with mass transit, and to address other policy priorities for NJDOT. In this way, Uber can promote a wider distribution of the benefits arising from the introduction of AVs in Trenton and beyond, and we can tell this story with you, using real data that is generated by the Trenton MOVES initiative.

For example: Imagine a given NJ resident would like to arrange transportation to a New Jersey Transit station. Uber has long looked to increase connectivity with mass transit through our various mobility as a service offerings. If a single AV option is available, that AV fleet *may* or *may not* be able to accommodate this trip. Quite a few elements of the trip would need to align: the origin and end point would need to fall within the developer's operational domain, the weather and time of day would need to match with an operator's constraints, and the passenger would (most likely) need to be able to independently navigate aspects of the trip without a human driver's assistance. Our hope is that these factors would successfully line up for quite a few trips and passengers -- and that AVs can help support greater use of efficient public transport. But, as the foregoing likely highlights, several trip types may prove out of scope: the AV operator may not be able to execute the trip request if the NJT station falls outside the domain, or the consumer lives in an underserved area that falls outside the domain, or if the particular consumer presents special needs warranting a driver's attention, or if the weather or time of day simply do not allow for use of an AV in a given scenario.

At the same time, coupling AV offerings with a broader hybrid network (like ours) can help assure this type of trip is successful in every occasion -- whether involving an AV or otherwise -- thereby dramatically expanding the reach of this program. If a given AV partner can satisfy a

given trip request, our platform can match the rider with the appropriate AV. If not, our platform can look to additional AV partners, or conventional vehicle partners to help execute the trip request.

In this respect, the project's impact grows, by surrounding innovative AV options with conventional vehicle capacity.

And the impact becomes more traceable: This approach allows greater clarity, through Uber's data across all trips, into exactly how the new transportation options allow for the execution of particular trip types (like trips that intersect with public transit, or trips that improve options in target areas).

Uber has, since its inception, looked to improve transportation options in traditionally underserved areas. We look forward to this type of model further advancing that mission.

Next Steps

AV technology and mobility services are complementary but distinct areas of development. Uber has proven that its mobility platform works -- for hundreds of millions of people across billions of on-demand and scheduled trips. Using the Uber platform for this initiative will remove the guesswork from the trip booking experience for consumers, bringing them the reliability and familiarity that they have come to expect from Uber.

We are grateful for your consideration, and recognize the parallel work of evaluating potential AV partners. As noted herein, our own participation in this effort would require deep coordination with the eventual AV operating partner(s) selected under this program.

Our hope is that this RFEI response can kick start a conversation between Uber, the team involved in the Trenton MOVES pilot, and whatever AV operators may ultimately be involved in this program.

We are excited about the opportunities that AVs will unlock around the country, and would look forward to a further discussion with your team about this possible platform approach, and the benefits it might yield for New Jersey.