



February 11, 2022

The Honorable Pete Buttigieg  
Secretary of Transportation  
U.S. Department of Transportation  
1200 New Jersey Avenue SE  
Washington, DC 20590

Dear Secretary Buttigieg,

We commend you on releasing the Department of Transportation’s “Innovation Principles” to promote safe transportation innovation.<sup>1</sup>

We believe that investments in the **autonomous vehicle (AV) sector align with your Department’s six innovation principles** and urge you to support innovation within the AV sector that will provide a future with safer roads, a cleaner environment, and more economic opportunities for all Americans. By fostering an administrative environment that supports the positive development of the AV industry, you will help carry America’s transportation infrastructure through the 21st century.

**Innovation Principle #1:**

**AVs serve the key policy priorities of the Biden-Harris administration – creating jobs, addressing climate change, and achieving racial equity – while reducing deaths and serious injuries on our transportation network**

A Department of Transportation report predicted AVs will “lower freight transportation costs and enhance productivity, leading to greater economic activity and job creation in the transportation and logistics agencies.”<sup>2</sup> Access to transportation is also key for finding work. Studies show that access to a car or reliable public transportation is the best predictor of whether someone will find a job after being unemployed, and AVs can increase access to both.<sup>3</sup>

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<sup>1</sup> <https://www.transportation.gov/priorities/innovation/us-dot-innovation-principles>

<sup>2</sup> <https://www.transportation.gov/sites/dot.gov/files/2021-01/Driving%20Automation%20Systems%20in%20Long%20Haul%20Trucking%20and%20Bus%20Transit%20Preliminary%20Analysis%20of%20Potential%20Workforce%20Impacts.pdf>

<sup>3</sup> [https://www.researchgate.net/publication/37183877\\_Transportation\\_as\\_a\\_Stimulus\\_of\\_Welfare-to-Work\\_Private\\_versus\\_Public\\_Mobility](https://www.researchgate.net/publication/37183877_Transportation_as_a_Stimulus_of_Welfare-to-Work_Private_versus_Public_Mobility)

Additionally, AVs could reduce greenhouse gas emissions from cars and trucks—the biggest source of transportation emissions—by 80 percent.<sup>4</sup> Because electric vehicles are easier for computers to control than traditional ones, most AVs will be electric or hybrid. AVs also drive more efficiently than humans, reducing emissions and maximizing fuel and cost savings.

Further, AVs can also be a tool to address historic racial inequities. Minority and poor neighborhoods were often intentionally left out of transit services around the country—in some cities, up to 1 in 8 residents live in transit deserts.<sup>5</sup> As AVs become fully integrated, they can be an important tool in efforts to expand transit access to neighborhoods that were previously shut out.

Finally, AVs can make our roads safer. Human error is a factor in over 90% of accidents.<sup>6</sup> Replacing human decision-making with machine learning can reduce preventable death and injury on our roads.

We appreciate the Department's recent release of its National Roadway Safety Strategy and its many sensible recommendations for safer infrastructure and road design.<sup>7</sup> However, AVs can play an even bigger role in increasing roadway safety than the report suggested. We encourage the Department to fully embrace AVs as a tool in its mission to design a transportation system that protects everyone.

### **Innovation Principle #2:**

**AVs can help America win the 21st century by leading the world in modernized transportation systems.**

The race to deploy AVs has already started, with China and the European Union setting ambitious targets to adopt the technology in the next decade. China included the development of AVs in its most recent Five-Year Plan and is aiming for widespread adoption by 2035.<sup>8</sup> In 2017, EU member states and European transportation companies created the Automotive-Telecom Alliance to bring cross-border automated driving to Europe.<sup>9</sup> America has already joined the race, but governmental support is critical to make us the leader through the century.

### **Innovation Principle #3:**

**AVs support workers by improving working conditions and creating new jobs for the 21st century.**

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<sup>4</sup> <https://e360.yale.edu/features/will-self-driving-cars-usher-in-a-transportation-utopia-or-dystopia>

<sup>5</sup> <https://www.smithsonianmag.com/innovation/dozens-us-cities-have-transit-deserts-where-people-get-stranded-180968463/>

<https://www.usnews.com/news/healthiest-communities/articles/2018-04-24/transit-deserts-a-growing-problem-in-the-us>

<sup>6</sup> <https://www.rand.org/blog/articles/2017/11/why-waiting-for-perfect-autonomous-vehicles-may-cost-lives.html>

<sup>7</sup> [https://www.transportation.gov/sites/dot.gov/files/2022-01/USDOT\\_National\\_Roadway\\_Safety\\_Strategy\\_0.pdf](https://www.transportation.gov/sites/dot.gov/files/2022-01/USDOT_National_Roadway_Safety_Strategy_0.pdf)

<sup>8</sup> <https://www.china-briefing.com/news/investing-in-chinas-self-driving-car-market/>

<sup>9</sup> <https://www.acea.auto/press-release/connected-and-automated-driving-eata-presents-deployment-roadmap-submits-proposal-for-eu-project/>

In addition to the jobs created by increasing efficiency in the transportation and logistics industries, widespread use of AVs can increase demand for maintenance and IT professionals. To meet this demand, companies like Nuro have partnered with community colleges to create technician training programs.<sup>10</sup> Additionally, companies like Waymo, Zoox, and Cruise have hired remote human operators to assist their vehicles and improve passenger experience.<sup>11</sup>

The Department of Transportation also predicts that AVs can improve working conditions in existing transportation jobs by reducing the risk of accidents and shifting demand toward last-mile services and short trips.<sup>12</sup> For long-haul truckers, this could mean fewer nights spent sleeping in truck cabs and more time on deliveries close to home.

There is real opportunity for governments to play a major role in bringing forth the benefits from AVs in a timely manner. As industries evolve, it is important to build incentives for interested individuals to begin training for future positions that will be established under an AV-workforce; however it is just as important to enhance or establish relevant programs that will respond to any potential job loss or job displacement. Furthermore, the full array of roles that will be available under an AV-workforce have yet to be determined. Therefore, fully understanding what potential positions may be created through industry evaluations and studies will be important in bolstering training programs and incentivizing new workers to join the industry.

#### **Innovation Principle #4:**

#### **Gradual implementation of AVs allows for experimentation and learns from failure.**

AV companies are slowly deploying fleets in cities across the country to learn about different weather conditions and landscapes. Pilot programs have been rolled out in Phoenix, San Francisco, Boston, Houston, and Seattle, cities with vastly different weather patterns, densities, and road designs.<sup>13</sup> By gradually expanding pilot programs in different areas, companies and cities can learn from past experiences and tailor each program to their unique environments.

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<sup>10</sup>[https://www.losaltosonline.com/schools/de-anza-college-introduces-autonomous-vehicle-training-program/article\\_ffbd1d4c-57b6-11ec-b9db-3f562772a842.html](https://www.losaltosonline.com/schools/de-anza-college-introduces-autonomous-vehicle-training-program/article_ffbd1d4c-57b6-11ec-b9db-3f562772a842.html)

<sup>11</sup> <https://www.bloomberg.com/news/newsletters/2021-08-10/driverless-cars-are-proving-to-be-job-creators-at-least-so-far>

<sup>12</sup><https://www.transportation.gov/sites/dot.gov/files/2021-01/Driving%20Automation%20Systems%20in%20Long%20Haul%20Trucking%20and%20Bus%20Transit%20Preliminary%20Analysis%20of%20Potential%20Workforce%20Impacts.pdf>

<sup>13</sup> <https://medium.com/cruise/the-next-steps-to-scale-start-in-san-francisco-713315f3a142>, <https://waymo.com/faq/>, <https://www.getcruise.com/news>, <https://zoox.com/about/?modal=timeline&date=2021>

**Innovation Principle #5:**

**AVs present opportunities for public-private partnerships.**

Colorado and Virginia have already established public-private partnerships to integrate autonomous vehicles, providing a model for similar efforts throughout the country. The Colorado Smart Cities Alliance launched a fleet of autonomous shuttles and funded the expansion of highways to include autonomous-only lanes.<sup>14</sup> Virginia's program combines state, county, academic, and private resources to increase public transportation options with autonomous vehicles. In 2020, autonomous shuttles were opened to the public in Fairfax County.<sup>15</sup>

**Innovation Principle #6:**

**Implementation of AVs can be flexible and adaptable as technology changes.**

While we are unable to predict all the benefits AV technology can bring, we are already seeing hints of its robust potential. Cruise recently partnered with Walmart to use its fleet to deliver groceries in a pilot program in Arizona<sup>16</sup>. Nuro partnered with FedEx to use its AVs for last-mile delivery services in Houston.<sup>17</sup> John Deere is rolling out autonomous tractors this year, with the potential to increase farm productivity.<sup>18</sup> As the technology develops, other industries can discover novel uses and spur other innovations.

In sum, AVs can be an important tool for solving today's most pressing policy issues and unlocking the jobs of the future. We encourage your Department to promote innovation in this growing field. Thank you for all your work on this issue.

Sincerely,



Koustubh "K.J." Bagchi  
Senior Director, Federal Public Policy

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<sup>14</sup> <https://coloradosmart.city/>

<sup>15</sup> [https://www.fairfaxcounty.gov/transportation/news/t21\\_20](https://www.fairfaxcounty.gov/transportation/news/t21_20)

<sup>16</sup> <https://corporate.walmart.com/newsroom/2020/11/10/walmart-teams-up-with-cruise-to-pilot-all-electric-self-driving-delivery-powered-by-100-renewable-energy>

<sup>17</sup> <https://medium.com/nuro/the-world-on-time-with-help-from-robots-announcing-nuros-partnership-with-fedex-32f33b39d36a>

<sup>18</sup> <https://www.deere.com/en/news/all-news/autonomous-tractor-reveal/>