ALLIANCE FOR AUTOMOTIVE INNOVATION

September 10, 2021

SUBMITTED VIA EMAIL

James A. St. Pierre
Acting Director
Information Technology Laboratory
National Institute of Standards and Technology
100 Bureau Drive
Gaithersburg, MD 20899

Re: Request for Comments on *A Proposal for Identifying and Managing Bias in Artificial Intelligence*

Dear Acting Director St. Pierre:

The Alliance for Automotive Innovation ("Auto Innovators") appreciates this opportunity to provide input to the National Institute of Standards and Technology ("NIST") in response to its Request for Comments on its recent *A Proposal for Identifying and Managing Bias in Artificial Intelligence* ("Draft Special Publication").

Auto Innovators is the singular, authoritative and respected voice of the automotive industry. Focused on creating a cleaner, safer, and smarter transportation future, Auto Innovators represents the manufacturers producing nearly 99 percent of cars and light trucks sold in the United States. Members of Auto Innovators include motor vehicle manufacturers, original equipment suppliers, technology companies and others within the automotive ecosystem.

Our member companies are leaders in innovation and are integrating cutting-edge technologies into consumer vehicles that are redefining the future of mobility. A number of these innovations – including automated driving and other advanced safety technologies, as well as other features that support drivers and passengers – incorporate or leverage artificial intelligence. For this reason, Auto Innovators shares NIST's interest in and commitment to increasing public trust in artificial intelligence systems.

We recognize that, while there are artificial intelligence use cases where there is very little possibility of harmful societal impacts from bias, there are certainly instances where biases that are present in artificial intelligence systems can lead to such impacts. We appreciate that reducing these harmful biases can help improve trust in these specific artificial intelligence systems and in artificial intelligence more broadly.

In general, we believe that the structure and themes identified in NIST's proposal are appropriate and flexible enough to accommodate application in a variety of contexts and use cases. We agree with NIST that, for more effective management and mitigation, it makes sense to associate applicable biases within specific stages modeled on the artificial intelligence lifecycle. That being said, we offer the following suggestions and comments to NIST with respect to its efforts:

- **Emphasize High-Risk Applications Over Other Applications**: The Draft Special Publication acknowledges that artificial intelligence will be used in a variety of different contexts. Conceding that it is "difficult to develop overarching guidance or mitigation techniques," NIST notes that its proposal "focuses on biases present in artificial intelligence systems that can lead to harmful societal outcomes." However, the Draft Special Publication does not take any steps to distinguish or differentiate between biases that can lead to harmful societal outcomes and those that are unlikely to lead to such outcomes. Instead, the Draft Special Publication appears to propose a structure that would be universally applied in all contexts and across all industries without regard to the likelihood of harmful societal outcomes. Auto Innovators believes that high-risk applications should be emphasized in both this proposal and in upcoming work. Furthermore, to help promote trustworthiness and innovation, we encourage NIST to consider the development of best practices for assessing the risks posed by artificial intelligence systems to guide prioritization of risk mitigation efforts.

- **Recognize the Iterative and Cyclical Nature of Innovation**: NIST proposes a three-stage approach derived from the artificial intelligence lifecycle with the intent of enabling artificial intelligence designers and deployers to better relate specific lifecycle processes with the types of artificial intelligence bias and facilitate more effective management of it. However, in the subsections detailing the proposed stages, there seems to be at least some potential overlap between the pre-design stage and the design and development stage and between the design and development stage and the deployment stage. For example, the selection of representative datasets is mentioned in the pre-design stage as well as in in the design and development stage. In addition, the suggestion to limit algorithmic decision-making tools for specific, well-defined use cases and not beyond those use cases is covered in both the design and development stage and the deployment stage.

  Evidence of risks stemming from biases in artificial intelligence systems may present in later stages of the development lifecycle. In these cases, practitioners may iterate their products by revisiting earlier stages of development. To help ensure that this is a useful tool that can be used effectively by developers, we suggest that NIST recognize the iterative and cyclical nature of the process. Additionally, we urge NIST to acknowledge that these three stages are not clearly distinguishable linear stages, but instead are overlapping stages in an iterative cycle. We also urge NIST to consider developing guidance, including potential techniques, that developers can use to successfully apply this approach to their work.

- **Continue to Affirm Important Baseline Values**: The Draft Special Publication includes important clarifications that should be maintained by NIST and adopted by other policymakers. Specifically, in the Draft Special Publication, NIST recognizes that "bias is neither new nor unique

to artificial intelligence." This essential point should continue to guide efforts by NIST and other policymakers related to bias in artificial intelligence. It is important to acknowledge that human decision-making may reflect inherent or implicit biases and, in some cases, artificial algorithmic decision-making may reduce, minimize, or even eliminate such biases.

The Draft Special Publication further recognizes that the goal of NIST's efforts is not "zero risk," but rather to "identify, understand, measure, manage, and reduce bias." Auto Innovators shares NIST's belief that technology exhibiting zero risk is unlikely to be developed. If policymakers hold artificial intelligence developers to an unreasonable zero risk standard, important and – in some cases – lifesaving artificial intelligence-enabled applications may be lost.

- **Ensure Broad Stakeholder Engagement**: The Draft Special Publication indicates a clear intent by NIST to obtain feedback from the broader community of interest and to host public events with a wide-ranging set of stakeholders. Auto Innovators shares NIST's perspective that "the broader [artificial intelligence] community, practitioners, and users all have many valuable insights and recommendations to offer in managing and mitigating bias." We firmly agree that efforts to identify which techniques to include in a framework that seeks to promote trustworthiness and responsibility in artificial intelligence, which has many use cases across many industries and contexts, requires an approach that is actively representative and includes a broad set of disciplines and stakeholders.

- **Incorporate Data Generation Provenance**: NIST should consider incorporating data provenance into its work. For example, to minimize bias and realize beneficial uses of artificial intelligence, the provenance of the data – including where the data comes from and how it is collected - should be known, understood, and maintained as part of the modeling solution. Since instances of bias in artificial intelligence development can sometimes be addressed by filling gaps in the data that is used, understanding the origins of the data may help a developer more easily address bias that emerges during development or deployment.

We appreciate your focus and attention on this important issue. We look forward to working with you to advance the deployment of trustworthy and responsible artificial intelligence in the United States and to help enable a cleaner, safer, and smarter transportation future.

Sincerely,

Hilary M. Cain
Vice President
Technology, Innovation, & Mobility Policy