

NISKANEN C E N T E R

Secretary Elaine L. Chao
US Department of Transportation
1200 New Jersey Ave, SE
Washington, DC 20590

June 12, 2017

Chairman Ajit Pai
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

*RE: Federal Motor Vehicle Safety Standards: Vehicle-to-Vehicle (V2V) Communications
Docket No. NHTSA-2016-0126*

*Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information
Infrastructure (U-NII) Devices in the 5 GHz Band, ET Docket No. 13-49*

Dear Secretary Chao and Chairman Pai:

In December 2016, the previous Administration issued a Notice of Proposed Rulemaking (NPRM) proposing to mandate a vehicle-to-vehicle (V2V) communication standard—Dedicated Short Range Communications (DSRC)—in all light vehicles. Automakers, technology companies, and policy analysts responded by filing comments with the National Highway Traffic Safety Administration (NHTSA). These comments demonstrate a growing consensus that technology and the marketplace have left DSRC behind.

If NHTSA adopts the DSRC mandate, the price of every new car will surge and taxpayers will be saddled with the enormous costs of developing the security protections and the nationwide network of specialized roadside units that DSRC will require. Moving forward with the mandate would also deny the country the benefit of new technological developments that would improve automotive safety better and faster. It is time for the Department of Transportation to fundamentally rethink the previous Administration's mandate proposal.

As demonstrated in the attached set of materials, a broad cross-section of stakeholders have urged NHTSA to change its approach to V2V safety communications to avoid heavy-handed regulatory

The Niskanen Center is a 501(c)3 libertarian issue advocacy organization that works to change public policy through direct engagement in the policymaking process.

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mandates or, at the very least, develop a rule that is technology-neutral and can better address privacy and cybersecurity concerns. Those commenters include:

Automakers

- 5G Automotive Association
- BMW of North America, LLC
- Fiat Chrysler Automobiles US LLC
- Mercedes-Benz USA, LLC
- Tesla, Inc.

Technology Organizations

- 5G Americas
- Applied Information, Inc.
- Broadcom Corporation
- CTIA
- NCTA
- Nexar Inc.

- NGMN Alliance
- Qualcomm Incorporated
- Verizon

Policy and Research Organizations

- Cato Institute
- Center for Democracy and Technology
- Competitive Enterprise Institute
- Consumer Federation of America
- Electronic Frontier Foundation
- Electronic Privacy Information Center
- Mercatus Center at George Mason University
- Niskanen Center
- SecureSet

This diverse group represents core elements of the automotive industry and a wide variety of other industries and viewpoints. All agree that the mandate should not be adopted as proposed in the NPRM, and their comments demonstrate that the proposed DSRC mandate (1) reduces overall safety, (2) increases privacy and cybersecurity risks, and (3) should be set aside in favor superior alternative technologies.

1. A new government mandate is not needed to advance safety.

Commenters demonstrate that NHTSA's mandate of a single V2V communications technology will do more harm than good for several reasons. First, DSRC has fallen behind other technologies—and it will never catch up. Despite two decades of effort and significant government backing, DSRC has failed to develop into a mature technology ready for the commercial market. Even as DSRC languished, the market produced various vehicle-resident technologies that have already been deployed on the streets. As Tesla explained in their comment filing, vehicle resident technologies in existence today “will outpace the rulemaking trajectory of V2V communications, to the point where the range and comprehensiveness of their capabilities will eclipse the capabilities of V2V communications, which will be limited by its fleet penetration rate.” Unless every car and truck is equipped with DSRC, unless the country builds a nationwide network of roadside units at taxpayer expense, and unless the technology advances so as to account for vehicle-to-non-vehicle crashes, the associated safety benefits can never be realized.

Second, despite 20 years of development, DSRC proponents have not shown that DSRC can actually deliver the safety benefits the previous Administration predicted—even once fleet-wide rollout is complete. For example, Mercedes-Benz emphasizes that current GPS technology cannot provide the “trustworthy lane-level discrimination of vehicle position” that is essential to some of the safety

applications NHTSA envisions. That deficiency, Mercedes-Benz explains, will lead to false warnings that negatively impact driver acceptance of the system. For that reason, Applied Information, Inc. warns, efforts to mitigate short-range collisions must depend on “systems not associated with V2V as described in the NPRM.”

Third, NHTSA’s proposed mandate will further harm consumers by slowing and stifling innovation in other safety technologies. In recent decades, federal regulators, including the FCC, have moved away from government command-and-control “industrial policy” mandates that pick winners and losers among competing technologies. NHTSA’s proposal to mandate DSRC is a throwback to a bygone era that threatens to undercut NHTSA’s own safety goals by freezing in place a protocol that researchers at George Mason University’s Mercatus Center called “a government-designed technology from top to bottom.” In doing so, the mandate will divert investment away from promising alternatives that lack the competitive advantage of a government mandate, all while denying consumers the safety benefits of new technological developments.

2. DSRC suffers from serious privacy and cybersecurity shortcomings.

Many commenters also described serious concerns regarding the privacy and cybersecurity shortcomings of the current DSRC plan. These threats are serious, specific to the DSRC approach the NPRM considers, and the solutions fall far outside NHTSA’s expertise. While vehicles are already vulnerable to privacy intrusions, SecureSet emphasizes that “DSRC, as presently conceived, would make matters worse” in ways that “risk[] life and safety.” Among other security failings, NHTSA’s proposal will not prevent bad actors from tracking the physical location of vehicles because, as the Electronic Frontier Foundation explained, NHTSA fails to adequately address the “*systematic attempts* that will undoubtedly be made to monitor and record [basic safety messages (BSMs)] for the purpose of tracking vehicles” using sensor networks that can easily tie a vehicle to “the full set of certificates” assigned to it. Additionally, researchers at the Center for Democracy and Technology have demonstrated that the BSMs transmitted by DSRC systems will be “linkable to each other and to the individual who drives the vehicle via a variety of readily available, inexpensive means.” Together, these security failings raise the real risk that DSRC systems will cause unprecedented privacy intrusions.

Automakers share these concerns. BMW, for example, has concluded that NHTSA’s proposed security requirements are not “mature enough for implementation into the market.” For similar reasons, Tesla described NHTSA’s “murky” approach to consumer privacy as a threat to automakers’ relationships with consumers, who entrust manufacturers with protecting the privacy. Given these significant issues, it is no surprise that automakers have not committed to deploying the technology unless the government requires them to do so. As the Mercatus Center put it, “any technology ‘so good it must be mandated’ warrants extreme skepticism.”

3. Alternative technologies can improve auto safety better, faster, and more efficiently.

NHTSA—and the American people—need not settle for DSRC. Numerous commenters working to develop the next generation of mobile networks—including Qualcomm, Broadcom, and the members of

5G Automotive Association, 5G Americas, and NGMN Alliance—submitted detailed discussions of how alternative technologies like cellular-V2X can support V2V communications without the need for massive investments in single-purpose infrastructure. Many of these commenters believe that cellular-V2X will develop on its own in LTE bands that already exist, without requiring a heavy-handed government mandate, and with all of the innovation and efficiencies of a market-driven approach. The NPRM does not seriously consider these alternatives. In its comments, CTIA emphasized that NHTSA has unreasonably dismissed the possibility that V2V communications could travel over widely available commercial networks and has mischaracterized the “reliability, security, and privacy protections” those networks offer.

That omission carries serious consequences because, after two decades of development, DSRC is still years away from producing real safety gains. Cellular-V2V solutions, on the other hand, are available and can be deployed immediately. Nexar, which is operating V2V cellular networks today in New York City, San Francisco, and Tel Aviv, has already observed “equivalent, if not significantly enhanced crash prevention capability [compared] to that offered by DSRC.” And unlike DSRC, which cannot offer the benefits NHTSA predicts until *decades* into the future when it achieves substantial fleet-wide penetration, other technologies that do not require universal adoption to work can improve safety much faster, as NCTA noted in its comments.

Without a mandate, there is little reason to believe manufacturers would choose DSRC over these alternatives. After all, as 5G Automotive Association pointed out, cellular-V2X is “more reliable than DSRC at any given range,” performs better than DSRC in congested environments, and offer very low latency even in crowded environments. For its part, BMW, which “participated in and supports” the Alliance of Automobile Manufacturers’ position, urged NHTSA to amend the NPRM to adopt a technology-neutral approach because “many of the shortcomings of DSRC can be efficiently and cost effectively addressed” by other technologies in “the very near future.” Mercedes-Benz, also an Alliance member, echoed that conclusion, calling on NHTSA to allow automakers to adopt “cellular solutions” to the safety challenges outlined in the NPRM “without incurring the unnecessary cost to integrate DSRC technology into our vehicles.”

Secretary Chao, as you yourself noted in a recent conference on Drones, we need a new regulatory framework that can better accommodate the rapidly changing pace of technology.¹ Industry-led standards and a viable multistakeholder process can help address many of those concerns likely to emerge from new technologies that cannot be effectively remedied through traditional command-and-control regulatory proceedings. The Niskanen Center has begun developing such a framework, and has submitted numerous comments to a variety of federal regulatory agencies

¹ Remarks Prepared for Delivery by U.S. Secretary of Transportation Elaine L. Chao, Drone Focus Conference, Fargo, North Dakota, Wednesday, May 31, 2017, <https://www.transportation.gov/briefing-room/drone-focus-conference>. (“Smart new transportation technology needs smart infrastructure. And we need the smartest infrastructure possible to allow manned and unmanned aircraft and vehicles to safely share airspace and roads. The line between aerospace and terrestrial transportation technology is beginning to blur. So it makes sense to ensure that our infrastructure can accommodate these developments. This means an appropriate regulatory framework that can keep pace with rapidly changing technology.”)

supporting this type of light-touch approach governing new emerging technologies.² Such an approach can help guide the government towards promoting policies that help enable, rather than smother, a vibrant, healthy, and competitive ecosystem for technologies like V2V—an outcome that is unlikely under a prescriptive mandate like the one currently under consideration.

For these reasons, a broad range of automakers, technology companies, and policy analysts agree that NHTSA should not rush into adopting the previous Administration's DSRC regulations. To do so is not necessary to improve automotive safety and would impose large new costs on consumers and taxpayers while stifling innovation.

Sincerely,

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² See Ryan Hagemann, "New Rules for New Frontiers: A Regulatory Manifesto for Emerging Technologies," Niskanen Center, January 30, 2017, <https://niskanencenter.org/blog/new-rules-new-frontiers-regulatory-manifesto-emerging-technologies/>; Ryan Hagemann, *Comments submitted to the National Telecommunications Information Administration in the Matter of: The Benefits, Challenges, and Potential Roles for the Government in Fostering the Advancement of the Internet of Things*, Niskanen Center, Docket No. 160331306-6306-01, May 23, 2016, https://niskanencenter.org/wp-content/uploads/2016/05/NiskanenCenter_NTIA_IoT_Comments.pdf; Ryan Hagemann, *Comments submitted to the National Telecommunications Information Administration in the Matter of: Green Paper: Fostering the Advancement of the Internet of Things*, Niskanen Center, Docket No. 170105023-7023-01, February 8, 2017, https://niskanencenter.org/wp-content/uploads/2017/02/NiskanenCenter_CommentsIoTGreenPaperNTIA.pdf; Ryan Hagemann, *Comments submitted to the National Highway Transportation Administration in the Matter of: Federal Automated Vehicle Policy*, Niskanen Center, Docket No. NHTSA-2016-0090, November 21, 2016, <https://niskanencenter.org/wp-content/uploads/2016/11/CommentsAutonomousVehicleStandardsNHTSA.pdf>.