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### **Fact Sheet – Vehicle-to-Vehicle (V2V) Communications Notice of Proposed Rulemaking**

The Intelligent Transportation Society of America (ITS America) strongly urges the White House allow the National Highway Traffic Safety Administration (NHTSA) to proceed with its rulesmaking on V2V communications. (RIN: 2127-AL55)

This will speed deployment already underway and greatly enhance the safety of our roads for all Americans.

- **Why do we need one open, interoperable, and nation-wide Connected Vehicle system to support Intelligent Transportation Systems?**

One standard for all vehicles and all traffic control systems enables industry to focus on new application development without worrying about interoperability. One standard drives economies of scale and scope, and lowers the cost of Intelligent Transportation Systems.
- **Where do Vehicle-to-Vehicle/Vehicle-to-Infrastructure (V2V/V2I..ie. “V2X”) and Dedicated Short Range Communications (DSRC) technologies fit in the next generation of Automated Vehicles and Smart Cities?**

V2X will allow next-generation traffic management systems that can not just report when and where congestion occurs, but can adaptively direct traffic to mitigate congestion. Mobile phones and GPS will include DSRC technology that will expand V2X features into older existing vehicles, and even to protect vulnerable road users such as cyclists and pedestrians. Furthermore, most experts agree that in the long term, there will be a fundamental need for next generation automated vehicles to talk to each other and to other road users.
- **What do our members think of the market potential and the role for regulation?**

Our members recognize that V2X solutions will be market driven. However, having NHTSA establish a standard will help resolve technology and standards issues as they arise, before they become significant problems (e.g network interoperability, security, privacy, etc.). This will reduce the risk for industry to further invest in V2X applications and will bolster consumer confidence.
- **Why might making V2V standard in all new cars be preferable to relying on voluntary adoption?**

Traditional vehicle safety technologies such as airbags, seatbelts, electronic stability control etc., protect drivers the minute they drive off the dealership lot. In order for drivers to benefit from V2V, however, there needs to be a critical mass of other V2V equipped vehicles. Making it a requirement for all new cars would ensure a minimum number of vehicles will be deployed in a short period of time. With new V2V equipped vehicles on the road, road agencies could then invest in traffic control V2I, and portable and aftermarket device manufacturers can begin adding V2X features in their GPSs, dash and rear-view safety cams, and mobile phones.
- **What is unique about DSRC and how does it support V2X applications?**

Engineers developed DSRC to be a platform that meets four requirements: (1) low latency and the ability to function at highway speeds in difficult road conditions; (2) interoperability across vehicles (V2V) and traffic control systems (V2I); (3) “expandability” to allow for multiple V2X applications to be provisioned on one or many app service platforms; and (4) security and privacy, or the ability to establish secure connections between random vehicles while maintaining the privacy of the drivers.

- **Given all the new wireless technologies being developed, why do we think DSRC is the best fit for V2X not just now, but in the future?**

Some new consumer-grade communications technologies such as Low Power Bluetooth or LTE Direct have been suggested as possible alternatives to DSRC. Fifth generation “5G” cellular has also been suggested – if latency of cellular can be improved. The problem with cellular-based solutions such as LTE-Direct or 5G is that they require wireless carriers to maintain large databases of vehicle location information in order to route messages between cars, violating security and privacy requirements. Furthermore, wireless carriers do not offer all services (such as 4G) in all areas nationwide, which means that technologies such as LTE Direct may not be available nationwide to support Connected and Automated Vehicles. Waiting for the market for these service to develop would needlessly delay the development of new vehicle and smart cities technology.

- **How much V2V and V2I deployment has there been already? Why is V2V important for V2I?**

All the major automakers either have some level of V2X on their premium vehicles or are working on prototypes. A rulemaking would expand V2X for all new vehicles. There are more than 20 road agencies operating large testbeds for V2I. After a NHTSA V2V final rule, road agencies will feel more confident investing public monies into V2I without the risk that any given automaker may change their approach later, leaving agencies stranded with incompatible equipment.

- **What is the potential for growth in the V2X marketplace?**

ITS America is in the process of completing a market adoption forecast that suggests that growth in DSRC will be relatively faster than at first expected. Assuming a NHTSA rule that requires all new vehicles to be equipped with DSRC in a few years, growth in consumer and aftermarket devices with V2X features will also grow to accommodate existing vehicles. It is expected that well over 50% of vehicles may be DSRC-equipped before the end of the next decade.

- **What is at stake with the NHTSA V2V rulemaking?**

Auto safety technologies of the past focused on crashworthiness of vehicles --protecting the driver after a crash. New technology has evolved to the point where crashes can be prevented in the first place. Industry and academic research concluded that V2V safety applications are effective, and that DSRC is the most practical approach for “cooperative” crash avoidance. V2V has the potential to help drivers avoid or mitigate 70 to 80 percent of vehicle crashes involving unimpaired drivers, and that could help prevent many thousands of deaths and injuries on our roads every year. As driverless cars began to be deployed on our roads, V2V and V2I will expand crash avoidance capabilities, and grow industry experience and public confidence in these incredible new technologies.

ITS America is an association public and private organizations that are focused on advanced vehicle technology, smart cities, and new models for mobility. Our members include auto, telecomm, traditional IT and emerging tech, and consumer apps and industrial electronics. We also include public agencies and non-profits, such as road, transit and other transportation infrastructure operators and the research community focused on bringing new technology from the lab to our roads, cars, buses and trucks.

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