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RESEARCH SUMMARY

REMOVING ROADBLOCKS TO INTELLIGENT VEHICLES AND DRIVERLESS CARS

Intelligent cars are possible today after decades of research and development in vehicle automation and computer processing. Advanced intelligent vehicle technology can bring significant economic and social benefits. Unfortunately, policymakers often impose "precautionary principle" policies on developing technology, stunting growth and discouraging innovation. Though it is well intentioned, trial-without-error policymaking results in fewer choices, lower-quality goods and services, and diminished economic growth. Regulators should not demand that developers prove that intelligent vehicle technology will not cause any harm.

In a new study for the Mercatus Center at George Mason University, scholars Adam Thierer and Ryan Hagemann argue that "permissionless innovation"—the primary driver of entrepreneurialism and economic growth in many sectors of the economy—should be the default principle for policymakers addressing the rise of intelligent vehicles. Any perceived or actual problems with new technologies can be corrected later through better-informed policymaking.

For the complete study, see "Overcoming Roadblocks to Intelligent Vehicles."

"PERMISSIONLESS INNOVATION" AND INTELLIGENT VEHICLES

Policymakers should focus on clearing existing roadblocks to the development of intelligent vehicles, and exercise restraint regarding hypothetical concerns about their use. "Permissionless innovation" is the idea that experimentation with new technologies and business models should generally be permitted by default. Permissionless innovation brought the Internet, an open and lightly regulated platform that allows entrepreneurs to adopt new business models and offer new services without first seeking approval from regulators.

Increased use of intelligent vehicle technology will bring social and economic challenges, but governments should maintain a flexible system that deals with real problems rather than hypothetical ones. Additionally, the problems that may arise due to intelligent vehicles should be understood in

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context. For example, in 2012, 33,561 people were killed and 2,362,000 injured in traffic crashes, largely as a result of human error. Reducing the number of accidents by allowing intelligent vehicle technology to flourish would be a success. If regulators hinder accident-reducing innovative technology, avoidable injuries and deaths will continue unnecessarily.

ECONOMIC CONSIDERATIONS

- Driver errors resulting in accidents cost $300 billion annually in the United States. While intelligent vehicles will not be 100 percent accurate 100 percent of the time, they will likely achieve a level of control and awareness that no human could possess, thus reducing the economic impact of accidents. Additionally, insurance premiums could fall or even disappear entirely.

- Intelligent vehicles will also reduce congestion and lower fuel consumption. In 2011 congestion caused drivers to spend an extra 5.5 billion hours on the road and purchase 2.9 billion gallons of fuel at a cost of $121 billion. Intelligent vehicles will help reduce human-initiated driving errors, allowing vehicles to travel at higher speeds and closer together, reducing congestion costs.

- Increased use of intelligent vehicles may cause some sectors of the economy to change or disappear entirely, such as professional driving of taxis, buses, and trucks. However, policymakers should not choose winners and losers in the market; that benefits entrenched industries, not consumers. If regulators in the early 20th century had curtailed the development of the automobile for the sake of carriage drivers and woodworkers, whose livelihoods depended on horse-drawn carriages, the world might never have seen Henry Ford's Model T.

SOCIAL CONSIDERATIONS

- A cultural shift toward roadways with entirely driverless vehicles will not happen overnight: comprehensive change takes time. As consumer demand for intelligent vehicles increases, market penetration will increase in proportion. While some may resist changing traditional cultural norms about hitting the "open road" as a driver, eventually most people will accept the benefit and value of accommodating a cultural shift.

- Security concerns may slow the adoption of intelligent vehicles, but concerns over remote car-hacking are likely overblown. Manufacturers have powerful reputational incentives to continuously improve the security of their systems and adopt best practices within the industry, much as the information-technology sector has taken steps to secure its networks. Legislation and regulation is unnecessary and could hinder growth in the industry.

- Intelligent vehicles also raise privacy concerns. Manufacturers and application developers would be wise to develop best practices for data retention, consumer consent to collection and sharing, and safeguarding collected data. But imposing burdensome privacy regulations during the development of this technology would create complex and costly tradeoffs,

possibly resulting in higher costs for consumers, a decrease in content and services, and less competition in the market.

EMBRACING CHANGE: GENERAL RECOMMENDATIONS TO PROMOTE INTELLIGENT VEHICLES

The government's approach here should be guided by humility and patience, allowing intelligent vehicle technology to develop while refraining from overbearing regulation. Lawmakers should sunset any laws that inhibit innovation and experimentation. Policymakers should also examine infrastructure and network operations, as well as licensing issues. In the private sector, businesses should work together and with policymakers to overcome hurdles to the widespread adoption of intelligent vehicle technology, and stakeholders should develop clear and fully transparent guidelines and best practices to allay safety, security, and privacy concerns.

Additionally, government data collection should be constrained to the fullest extent possible. Consensual data collection should be allowed between consumers and producers of goods and services, which will translate to practical benefits, cheaper systems, and a more robust marketplace.

CONCLUSION

Policymakers should embrace permissionless innovation when dealing with intelligent vehicle technologies. They should not live in fear of hypothetical worst-case scenarios related to security, safety, and privacy. While disruptive at times, these new technologies will bring incredible economic and social benefits to society. In the near future, it will be very difficult to use a car to hurt yourself or others. The sooner that day arrives, the better.