Industry collaboration the key to avoiding autonomous driving traffic congestion - HERE and SBD whitepaper

The location cloud company and industry analyst firm explore the impact higher levels of vehicle automation and user adoption will have on traffic congestion, and how the auto industry can overcome the medium-term complexities of having both traditional and autonomous vehicles on the roadways.

July 19, 2016

Berlin, Germany – A joint whitepaper published today by HERE and SBD argues that new levels of vehicle automation will increase traffic congestion in the foreseeable future, and it's up to the automotive industry to enhance its collaboration in order to create a seamless transition as we reach these new levels of automation.

"Autonomous cars have the potential in the long-term to revolutionize mobility and radically improve the safety of our roads. However, the journey towards the fully autonomous car is full of potholes, which may create short-term pains in unexpected ways. The automotive industry and road authorities will need to work carefully together to navigate around these potholes, in order to gain the trust of consumers and reap the societal benefits of this new technology," said co-author of the study Andrew Hart, Director at SBD.

According to the authors, there are two main factors that will determine just how big the impact automated vehicles will have on traffic congestion. The first is the level of vehicle automation. The second is the corresponding level of user adoption.

While basic levels of automation could have a small positive impact in helping to ease traffic congestion, higher levels of automation could have a detrimental effect on congestion when the user adoption rate is low.

In order to help mitigate the increase in congestion during these transition periods, the authors urge the entire automotive industry to shift away from 'each-to-their-own' autonomy, where each car is responsible for itself, and towards Collaborative Autonomous Cars. This includes formalized efforts to break down information silos and establish vehicle, road network and infrastructure data exchanges in conjunction with local, state and national transportation agencies.

"The combined power of vehicle and road sensor data, autonomous vehicles and sophisticated real-time location services will ultimately decrease traffic congestion," said co-author of the study Carrie Cox, Senior Product Marketing Manager at HERE. "But how we get to that objective and what it takes to get there, in terms of building the necessary digital infrastructure at scale, is a call to action for all of us in the auto industry. Greater collaboration is needed to ensure drivers and road operators alike can seamlessly transition into the era of automated vehicles."

The authors describe how levels of automation represent a sequence rather than a binary occurrence where one day the roads are exclusively filled with self-driving vehicles. According to SBD, 11 million cars in Europe, USA and China will be shipped in 2016 with driver assistance systems such as Adaptive Cruise Control, Automatic Emergency Braking or Lane Keep Assistance. From 2020, car manufacturers have announced a new generation of autonomous vehicles will be launched that achieve Level 4 to 5 automation, allowing drivers to handover control to the vehicle.

Click here to download the executive summary and full whitepaper. You can also read an interview with the authors and learn more on the HERE 360 blog.

HERE is working with government transportation agencies around the world on piloting advanced traffic management technology, including the first cellular network-based connected vehicle alert systems in Europe and North America. The intelligent transportation system utilizes the cell network and HERE location cloud to rapidly receive, analyze, verify and distribute safety critical information, such as accidents or extreme weather, to a targeted set of drivers on the roadway.

HERE in recent months has also brought the vision of autonomous vehicles closer to reality through its successful efforts to move the industry toward an open car-to-cloud data transmission specification. HERE believes that pooling analogous vehicle data from millions of vehicles will be a key enabler for highly and fully automated driving, ensuring that each vehicle has a near real-time view of road conditions and hazards that can lead to better driving decisions.

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HERE, the location cloud company, enables rich, real-time location applications and experiences for consumers, vehicles, enterprises and cities. HERE is backed by a consortium of leading automotive companies. To learn more about us, including our work in the areas of connected and automated driving, visit http://360.here.com.

About SBD
SBD is a world-leading provider of independent research and consultancy, informing business decisions on the latest automotive technologies.

- Connected
- Autonomous
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