

How Connected Cars and Autonomous Vehicles Will Change and Shape the Future of How We Move

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In this hoganlovells.com interview, Hogan Lovells partner Lance Bultena talks about the impact connected cars and autonomous vehicles (AVs) will have on America's infrastructure and environment; the services associated with car ownership like repairs, financing, and insurance; and the revenue streams of automotive manufacturers.

How will connected cars and AVs change America's physical infrastructure?

Bultena: When I hear the word infrastructure, I first think of the transportation network itself — the roads, bridges, and highways. The impact there should be quite significant. Most expect connected and autonomously driven vehicles will increase road capacity quite dramatically. They will have sensors that provide a 360-degree view of the vehicle, vehicle-to-vehicle communication, and vehicle-to-infrastructure communication. That's vastly more information than any human being can ever take in.

That information will run through onboard computers where it will be analyzed and a decision made and effectuated at a speed that is dramatically faster than any human can do. You will basically have a much better and faster decision capacity based on much greater information that will allow cars to synch up and drive much faster and much closer together. That means a much greater capacity for the roads. I've seen projections that say the capacity of the existing road systems will go up by three times — I've even seen numbers that put the increase at 8 times. Either way, the impact is very significant.

How will connected cars and AVs impact the environment?

Bultena: Some environmentalists are worried about vehicle miles traveled (VMT). If transportation gets cheap and convenient, people will demand more of it. That seems true. But if you have electric vehicles and don't have clogged roadways because you are able to move safely very fast, there is an environmental opportunity there. Plus, there is a large social benefit in safe, cheap, reliable transportation for all.

Would you expect to see a reducing in parking infrastructure and

gas stations as a result of AVs?

Bultena: About 30 percent of urban driving is people looking for a parking spot. If you have driverless cars that drop people off — you have less need for parking facilities. You will need spots to station and position the driverless cars but nothing like the 500 million or so parking spots that are currently in the United States.

If driverless cars are owned by fleets as opposed to individuals — meaning that you rent time in the car by distance and or time — the price could get very cheap. If this turns out to be the case, you have less need for those consumer outlets like gas stations, car washes, and automobile repair shops as those tasks will be handled by the fleet manager. And if AVs meet their goal of being dramatically safer — 94 percent of accidents are caused by human error — you'll have less need for medical services and some of the infrastructure built around repairing cars.

How will connected cars, and ultimately AVs, impact the marketing of cars and the need for personal financing of cars?

Bultena: It affects them quite dramatically — it's all built around cost numbers. Right now, there's about a billions cars in the world valued at about US\$20 trillion. Since we use our cars on average just under an hour a day — that is a utilization rate of about four percent. You have a US\$20 trillion asset that is only being used four percent of the time — meaning 96 percent or US\$20 trillion dollars is not being utilized. Increasing that utilization rate is what gets you to the initial cost advantage of the connected car and ultimately bigger savings from a driverless car.

Having a smartphone in our pocket enables us to feel confident that we can summon a car that is operated by someone who will take us where we want to go (an Uber or Lyft type of ride share model). That greater utilization rate for a car and the greater competition it is bringing to the taxi-type service is decreasing the cost that people spend getting ferried around by someone else. If you take the human driver out of the car, the cost will dive dramatically. So much so that many analysts think only the really wealthy individuals would own their own driverless cars. Most cars would be fleet owned.

If AVs are fleet owned, what does that do to the marketing of cars? If you are selling cars to a concentrated number of entities that run car fleets, that's very different than selling them to individuals by advertising at every sporting event or on a TV show. You would have a different distribution network. Obviously, if individuals are not buying cars they are not financing them either.

What types of new revenue streams will emerge as a result of the connected car and AVs?

Bultena: Connected cars would produce new revenue streams and cut off some revenue streams. If you are an original equipment manufacturer (OEM), the wonderful thing about a

connected car is the prospect of ongoing revenue from that vehicle. Right now, largely you sell the vehicle and you don't get more revenue. There might be some after-market floor mats or limited repairs but it is tiny revenue. The big issue with the connected car is that you can track a person's location and learn things about their behavior. That's valuable information that can be used for marketing purposes, supplying of services, or supplying the connectivity. That's ongoing revenue for the OEM and others.

Some revenue streams will be cut off. If cars are indeed vastly safer in the driverless context and they are owned by fleets not individuals, the need for personal insurance as a driver evaporates. Driverless cars could be quite damaging to the revenue of dealerships, repair shops focused on individual owners, insurance companies, and gas stations.

How does data privacy and cybersecurity come into play with connected cars and AVs?

Bultena: The connected car has to be cyber resilient from a safety stand point. You have to take care of the cybersecurity problem, especially for those with a lot of autonomous capacity or are truly driverless cars — because a hacked car could pose real safety challenges.

There is also a need to be secure from a data protection and privacy standpoint. In a way it's hard to say what kind of information won't be collected by the car. If you have a car that's connected and it synchs up with the person's phone, you are going to know that person's location, what entertainment services they are using while in the car, what they are looking at while on the web, where they stopped to make a purchase, etc. The amount of information that is already collected from our cell phones is massive. Marketing is not the hit-or-miss enterprise of a couple of decades ago — it's extremely efficient because of all that data.

About Lance Bultena

Lance Bultena is a partner at Hogan Lovells based in our Washington, D.C. office. He helps clients improve business outcomes by helping them to understand the regulatory and public policy environment in order to stay ahead of developments in these areas. Prior to joining the firm, he served as counsel to the U.S. Senate Committee on Commerce, Science, and Transportation.

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