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Smart Corridors

In the autonomous vehicle world, most of the attention is focused on vehicles themselves, and rightfully so. Reading, watching, and hearing about what some of the vehicles can do is both fascinating and exciting.

But other simultaneous developments in the transportation world might have just as much of an impact on people as the vehicles themselves. The infrastructure, especially many urban intersections, where vehicles operate are going to get “smarter.”

Whether semi- or fully-autonomous, vehicles that can drive themselves need gobs of data to be on the road. At any given time, they need to know everything that is around them, how traffic and pedestrians are behaving and so on. For autonomous vehicles, being “aware” of their surrounding is especially challenging in busy urban intersections.

But what if the street it’s on, or the intersection it’s about to approach is also aware of the autonomous vehicle and can communicate with it? That’s not a distant pipe dream – the first generation of smart street corridors and intersections are here.

In Atlanta, for instance, the City teamed up with Georgia Tech to set up a smart corridor, a stretch of urban road with multiple intersections, that is now operational. The smart corridor employs technology like high definition video cameras to monitor cars, thermal cameras to identify pedestrians, and a smart phone app that can be downloaded and provides information to drivers, pedestrians, cyclists.

A key focus of the smart corridor is safety. Traffic signals in the corridor are all connected and aware of how traffic is moving through the corridor and employ machine learning to improve flow and monitor safety.

If you’re a pedestrian in this corridor and are about to cross the street, the system recognizes you with the help of thermal cameras and can turn on the flashing crosswalk signal without you having to press any button. If you’re a driver in a vehicle approaching that intersection and have the app active, the intersection will tell you that there is a pedestrian crossing the road ahead.

The corridor has improved traffic flow and reduced traffic accidents by an impressive 25 percent. One can only imagine what the combined impact will be as more cities are able to move towards smart corridors as autonomous vehicles take to the streets in greater numbers.

The information in this article is based on a summary of legal principles. It is not to be construed as legal advice. Individuals should consult with legal counsel before taking any action based on these principles to ensure their applicability in a given situation.