

# Are We There Yet? Expectations vs. Reality in Autonomous Driving

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Autonomous vehicles are one of the most talked-about technologies in automotive, so naturally, there is a lot of speculation about how [Advanced Driver Assistance Systems](#) and the levels of autonomy will evolve. Let's take a look at how expectations compare to reality.

## **Expectation: There Is No Automation in Vehicles Today**

A common misperception is that automated functions mean highly or fully self-driving vehicle, which is categorized at levels 4 and 5 according to the Society of Automotive Engineers (SAE). Actually, there are plenty of new cars on the road that offer automated functions that perform specific driving tasks autonomously.

## **Expectation: the Ability to Drive and Navigate Is the Most Important Aspect of Autonomous Driving**

This is true, but carmakers are also considering the entire vehicle ecosystem, including vehicle-to-human communication. One example would be an autonomous vehicle telling a pedestrian that they are allowing them the right of way to cross the street. [Vehicle-to-infrastructure](#) is not sufficiently available in cities and on roads today, so cars will need to be equipped to operate effectively without it.

## **Expectation: People Will Own Autonomous Vehicles**

Ride-sharing and robotaxi services will change traditional car ownership. Vehicle design may prioritize function over style, with a fleet of uniform vehicles designed to seat any number of people comfortably, regardless of the external aesthetics, like yellow taxis today. Instead of choosing a red sports car or a minivan to suit your lifestyle, you can simply request the type of vehicle that's best for your outing. Other lifestyle factors may also change; for example, you won't need a garage to house your car. Vehicles will be warehoused and beckoned by an app.

## **Expectation: Autonomous Vehicles Will Be on the Road as Fast as Technology Can Produce Them**

This may not happen as quickly as all the buzz indicates. Some predictions say 2020, but the broader rollout might actually be in the latter part of the decade, in the form of commercial auto fleets or ride-sharing services. Also, other factors beyond technological advancements will determine the speed to market for fully autonomous vehicles, including government regulations and infrastructure requirements and social acceptance.

Hear more about the impact legislation will have on autonomous driving from my recent conversation with my colleague, Hope Bovenzi, an [infotainment systems](#) engineer, where we discussed the intersection of autonomous driving with connected cars.

## **Additional Resources**

- Hear our experts weigh in on the future of automotive in the blog post, "[Insights on the road ahead.](#)"
- Read about the "[Top trends driving the automotive industry in 2019.](#)"

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