

# Autonomous Vehicles Are Here

## The Transportation Theory Of Everything

By [William Lyons](#) | Sep 27, 2015

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As a child, I used to love to watch the Jetsons. The personal jet craft they used to get to work and to run their errands fascinated me. At the time, my father was driving a 1968 Dodge Coronet station wagon and the Jetsons could not have seemed more futuristic. In 2015, something akin to the Jetsons has already begun in the form of autonomous vehicles.

While autonomous vehicles are not ready for flight (yet), they have equal potential to revolutionize the way we imagine personal transportation. In fact, I believe autonomous vehicles are the transportation version of the “theory of everything.” They represent the convergence of private automobile travel and transit. They represent the end of parking as a dominant land use. And they represent the end of traffic congestion as we know it.

Imagine a world where your personal automobile (which looks nothing like an automobile at all) takes you and four friends to work in the morning and drops you off at the front door of your place of employment. On your way to work, your autonomous vehicle pulls into traffic seamlessly, with minimal headway and spacing between your vehicle and adjacent vehicles. Your vehicle can do this because of the sensors with which it is equipped, and because all of the other vehicles have the same sensors. In fact, once your vehicle is on the road, headways are reduced to the bare minimum, because your vehicle is capable of maintaining headways and spacing similar to transit vehicles.

Taking my example a step further, what if all of the personal vehicles became so autonomous that they essentially became transit systems? Devoid of human error. Rapidly moving people from origin to destination with no interference from humans. Endless trains of vehicles filling every roadway. Sounds futuristic, doesn't it? In fact, it is here.

The U.S. Department of Transportation announced last week that New York, Florida and Wyoming have launched pilot programs to test autonomous vehicles like the ones I described. According to Google, they have been testing self-driving cars (aka autonomous vehicles) since 2009 in Texas and California, logging more than 300,000 miles. Apple is exploring self-driving cars as well. The future is upon us.

### More Disruptive Technology

It is worth considering some of the other potential disruptive concepts associated with autonomous vehicles.

If your vehicle could drive you to work, drop you off and return to home until it was needed to pick you up, what would happen to urban parking? According to Gabe Kaplan, a thought leader in transportation technology, the urban parking garage and parking lot would disappear as a land use. Why would anyone pay for parking when their vehicle could return home and park in their driveway for free?

As a primary consideration, no longer paying for parking is a lot of savings for America's suburban dwellers as well as urban businesses. That alone is a disruptive technology. The cost savings could revolutionize compensation packages and pump more money into consumer spending nearly overnight.

Second, what would happen to all of those parking garages and the shabby surface parking lots all over the city? They would disappear. The business model upon which they were based would vanish. Such a market shift would bankrupt parking garage owners with debt predicated on parking revenues. But ultimately, it would free these properties up for higher and better uses, such as housing, office and innovation space. The demise of the urban parking space that costs \$40,000 to construct is in sight.

Also, what would happen to traffic congestion as we know it if everyone owned (no one would “drive”) autonomous vehicles? It would effectively disappear. At least until the theoretical capacity of every roadway used like a transit line was reached. The implications of this possibility are stunning.

If every autonomous vehicle took five people to work, dropped them all off at the destination, went back to a central location (someone's driveway), and picked them all up on their schedule at the end of the day, we could take 80 percent of the vehicles off the road during peak periods. On top of that, these vehicles would operate at smaller headways than today's cars, making it physically possible to put more free-flowing cars on the highway.

Add to this the fact that accidents would be exceedingly rare, so all of that congestion caused by highway “incidents” would go away. No more rubber-necking. No more delays when there is a small fender bender or a major crash.

In essence, congestion as we know it would disappear.

So there you have it. The transportation theory of everything. No more congestion. All highways converted to transit systems. And no more parking as an urban land use. Sounds pretty interesting, right?

Hold onto your hat. The days of the Jetsons are here and about to revolutionize transportation as we know it.