

# Waymo rolls out autonomous vans without human drivers

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In this Sunday, Jan. 8, 2017, file photo, a Chrysler Pacifica hybrid outfitted with Waymo's suite of sensors and radar is shown at the North American International Auto Show in Detroit. Waymo is testing vehicles on public roads with only an employee in the back seat. The testing started Oct. 19 with an automated Chrysler Pacifica minivan in the Phoenix suburb of Chandler, Ariz. It's a major step toward vehicles driving themselves without human backups on public roads. (AP Photo/Paul Sancya, File)

A self-driving car company created by Google is pulling the human backup driver from behind the steering wheel and will test vehicles on public roads with only an employee in the back seat.

The move by Waymo, which started Oct. 19 with an automated Chrysler Pacifica minivan in the Phoenix suburb of Chandler, Arizona, is a major step toward vehicles driving themselves without human backups on public roads.

Waymo, which is owned by Google's parent company Alphabet, is in a race with other companies such as Delphi, General Motors, Intel, Uber, Apple and Lyft to bring autonomous vehicles to the public. The companies say the robot cars are safer than human drivers because they don't

get drowsy, distracted or drunk.

Google has long stated its intent to skip driver-assist systems and go directly to fully autonomous driving. The Waymo employee in the back seat won't be able to steer the minivan, but like all passengers, will be able to press a button to bring the van safely to a stop if necessary, Waymo said.

Within a "few months," the fully autonomous vans will begin carrying volunteer passengers who are now taking part in a Phoenix-area test that includes use of backup drivers.

Waymo CEO John Krafcik, who was to make the announcement Tuesday at a conference in Portugal, said the company intends to expand the testing to the entire 600-square-mile Phoenix area and eventually bring the technology to more cities around the world. It's confident that its [system](#) can handle all situations on public roads without human intervention, he said.

"To have a vehicle on public roads without a person at the wheel, we've built some unique safety features into this minivan," Krafcik said in remarks prepared for the conference. "Our system runs thousands of checks on itself every second. With these checks, our systems can instantly diagnose any problems and pull over or come to a safe stop if needed."

The company also says it has redundant braking, steering, power and computing systems so it never has to rely on a human driver.

Sam Abuelsamid, senior analyst for Navigant Research, says Waymo's tests without a human backup are the first to his knowledge on public roads at normal speeds. The company picked Phoenix because weather conditions are ideal for testing with no snow and little rain, he said, adding that Waymo knows its system isn't ready yet for inclement weather even with camera, radar and

laser sensors.

"This demonstrates Waymo's confidence in the ability of these vehicles to function at least in this environment," Abuelsamid said.



Waymo CEO John Krafcik, seen earlier this year, has announced the former Google car unit is offering autonomous rides for the first time without a driver at the wheel in a test project in Arizona

He expects General Motors and its Cruise Automation autonomous vehicle unit to be the next to announce testing without human backups, followed by auto parts maker Delphi, which recently acquired Massachusetts Institute of Technology self-driving software startup nuTonomy.

Waymo wouldn't say how many vehicles will be in the initial test or exactly how wide an area it will cover. The test will take place in a small area at first, then spread to portions of five cities and 100 square miles in the Phoenix area. Eventually it will go to whole metro area.

The company also wouldn't say how many minivans are taking part in the initial testing. It has a fleet of 100 autonomous vans in Phoenix, with plans to add 500.

Waymo says it has an operations team that can answer questions from the cars' computers, but the cars will make driving decisions.

The company said it has been testing its autonomous systems for the past eight years with more than 5 million miles logged on [public roads](#).

Self-driving car competition between the auto industry and tech companies is fierce. The stakes are so high that Waymo is currently suing ride-hailing [company](#) Uber, alleging that one of its former managers stole its trade secrets and took them with him when he joined Uber in 2016 as part of an elaborate scheme. The trial in that high-profile case is scheduled to begin in early December.

Waymo is hoping to infuse its technology into ride-hailing services such as its current partner, Lyft, and big-rig trucking companies. It also intends to license its automated system to automakers such as Fiat Chrysler Automobiles, which makes the Pacifica minivan.

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