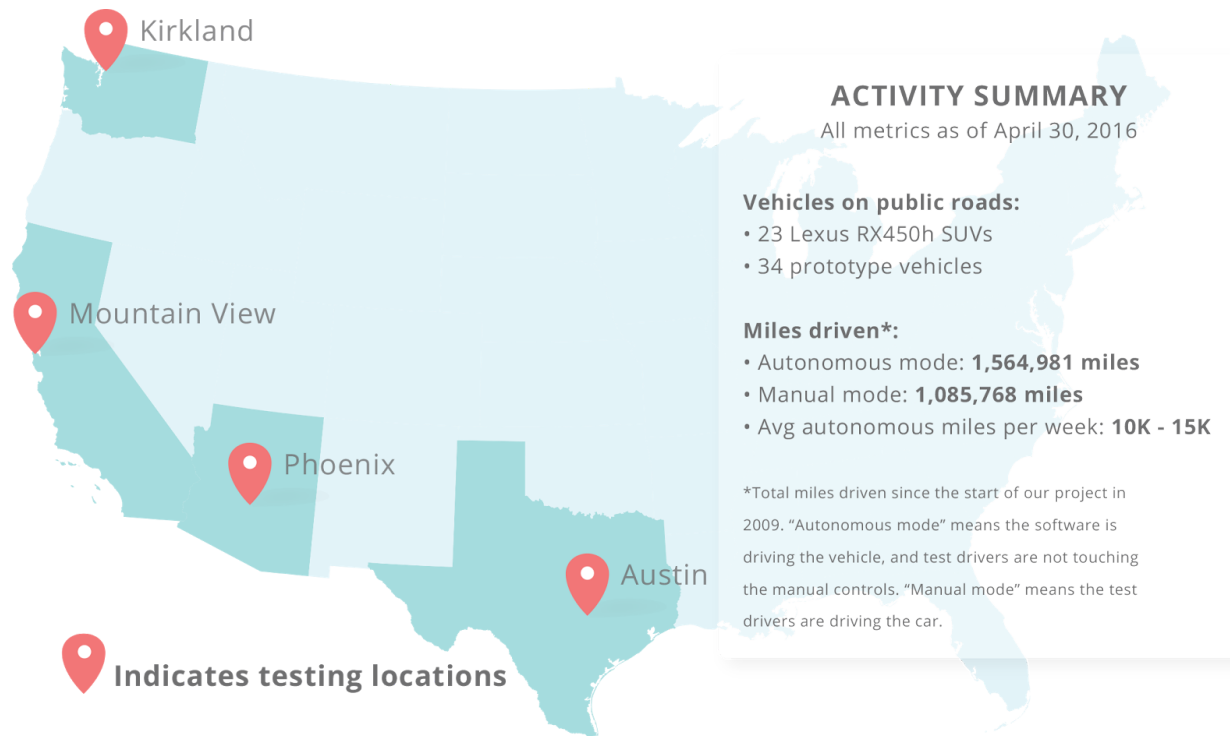


Google Self-Driving Car Project Monthly Report

April 2016

ON THE ROAD



ON THE GROUND IN AUSTIN



From residents to city leaders, tech-savvy Austinites have been supportive and curious about self-driving technology. Our test drivers are often the public face of our testing program and this month, we ask one of our first local test drivers in the city, Amanda, about her experience driving in Austin.

How did you become a test driver?

I live near the [Mueller area](#) of Austin and I kept seeing self-driving cars drive around the neighborhood for several months. I was excited about the project and read the monthly reports posted on the project website. I decided to leave feedback on the website and ask if there were volunteer opportunities available here in Austin. A Google representative responded, thanked me for my feedback, and mentioned that there were open positions for test drivers. And now here I am!



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What experience did you have before joining the project?

The job of a test driver is so new that it's not a matter of having prior experience. Before joining the project I worked as a research associate at a biotech company, and a lot of the other test drivers have diverse backgrounds, too. One worked in solar panel production, another was an orbital welder, another was an English language teacher and we even have a former water ski instructor on the team. Before driving, we're given extensive training to understand how the technology works, how to operate the car safely, and how to give feedback on the car's performance. We also had in-car instruction on a private test track where we learned to deal with extreme or complicated driving situations, as well as the practical aspects of handling a self-driving car (such as how to take back manual control of a car that's driving autonomously).

What's your favorite part of being a test driver?

Knowing that my contribution to the project can help transform mobility and make our roads safer. This has a personal element: in high school, I was involved in a serious car accident when the teenage driver of the car I was in ran a stop sign and t-boned a truck at 80mph. The crash broke my L5 vertebrae and I spent four months in bed and even longer in physical therapy. I consider myself lucky to not be paralyzed. From this, I believe a self-driving car that follows the rules of the road has a huge potential to reduce accidents.



What are some of the challenges you've experienced on Austin's roads?

We did part of our training driving around Mountain View, CA, so I was able to pick up the subtle differences driving in Austin. For one, there's the physical environment: Austin's traffic lights are horizontal, and vertical in California. But there's also subtle driving behaviors to be aware of, like how our cars interact with cyclists differently in Austin. Specifically, when we make a right turn, we avoid moving into the bike lane (in Mountain View, on the other hand, you're supposed to move into the bike lane when turning). I've also encountered a lot more large bushes and low-hanging trees in Austin. That may not seem like a big deal, but our cars used to sometimes come to a full stop when faced with protruding vegetation or overhanging trees. Now our cars can recognize trees and bushes, and nudge around them appropriately.

How has the community responded to self-driving cars?

People have been really supportive, curious and eager to try self-driving cars themselves. We receive a lot of love from the community. Recently while riding in Mueller, a car pulled up next to us and expressed their excitement with a "You guys are the future, baby!!" The positive feedback is always great to hear, and we pay attention to all kinds of feedback so we can get better every day.

As we start test driving in Phoenix, we'll be hiring drivers there, too. Anyone interested can check out our [website](#), this [Backchannel story](#), and the [application](#) for our test driver program.



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TRAFFIC COLLISIONS INVOLVING AUTONOMOUS FLEET

Given the time we're spending on busy streets, we'll inevitably be involved in collisions; sometimes it's impossible to overcome the realities of speed and distance. Thousands of minor accidents happen every day on typical American streets, 94% of them involving human error, and as many as [55% of them go unreported](#). (And we think this number is low; for more, see [here](#).)

(CA regulations require us to submit CA DMV form OL316 Report of Traffic Accident Involving an Autonomous Vehicle for all collisions involving our cars. The following summaries are what we submitted in the "Accident Details" section of that form.)

April 7, 2016: A Google Lexus model self-driving vehicle was travelling southbound on Bryant St. in Palo Alto in autonomous mode and was stopped behind traffic at the red light intersection of Oregon Expwy. A vehicle attempting to pass on the right shoulder very slightly contacted the self-driving vehicle. The other vehicle's side mirror grazed the passenger side of the Google self-driving vehicle. There were no injuries reported at the scene by either party. The Google self-driving car sustained no damage and the other vehicle's left side-view mirror was slightly folded in.

April 28, 2016: A Google self-driving prototype vehicle travelling westbound in autonomous mode on Nita Avenue in Palo Alto was involved in an accident. The prototype vehicle came to a stop at the intersection of San Antonio Road, then, prior to making a right turn on San Antonio Road, began to gradually advance forward in order to get a better view of traffic approaching from the left on San Antonio Road. When the prototype vehicle stopped in order to yield to traffic approaching from the left on San Antonio Road, a vehicle approaching at approximately 9 mph from behind the prototype collided with the rear bumper of the prototype vehicle. There were no injuries reported by either party at the scene. Both vehicles sustained minor damage.

WHAT WE'VE BEEN READING

- **Reuters:** [How Google is shaping the rules of the driverless road](#) (April 2016)
- **Reuters:** [Google expanding self-driving vehicle testing to Phoenix, Arizona](#) (April 2016)
- **The Atlantic:** [The absurd primacy of of the automobile in American life](#) (April 2016)
- **Vox:** [Why car companies are about to spend billions mapping American roads](#) (April 2016)
- **Forbes:** [Keep your eye on the prize offered by driverless cars](#) (April 2016)
- **Fortune:** [Feds are publicly shaming drivers who text](#) (April 2016)
- **Re/code:** [Disability advocates to regulators: Consider us when making self-driving laws](#) (April 2016)

