

Student Worksheet

Are We Ready For Driverless Cars?

<http://www.pbs.org/newshour/extra/2013/05/are-we-ready-for-driverless-cars>

A car that can drive itself may sound like science fiction, but car manufacturers and Google hope to offer this technology to consumers by 2018, raising hopes for physically-disabled drivers, but also concerns about safety and legal responsibility.



Several auto manufacturers including BMW, Toyota and General Motors are developing cars that can drive themselves. Google seems to be furthest along, however, and reports that its self-driving cars have logged over 300,000, including 50,000 miles without intervention by a human operator.

Computer chauffeurs

When Google announced its driverless car project in October 2010 it said, "One of the big problems we're working on today is car safety and efficiency. Our goal is to help prevent traffic

accidents, free up people's time and reduce carbon emissions by fundamentally changing car use."

Today, driverless cars are street legal in California, Nevada and Florida.

Google's car can figure out if a parking space is large enough, keep a safe distance from other cars on the highway and brake to avoid a collision at city speeds. However, the cars are still unable to obey traffic signs, identify pedestrians, or maintain lanes in bad weather on the highway.

The engineers claim the car is a safer ride and opens new ways to serve sight impaired and handicapped drivers. It also could help create options for ride sharing and promote environmentally friendly commuting.

Some lingering concerns

Although Google's cars have not yet officially had an accident where they are at fault, critics are still concerned about how computer error may endanger lives on the road, particularly at high-speeds. Currently, the car's sensors are unable to cope with poor weather conditions like heavy rain and snow-covered streets.

One of Google's cars did crash in August 2011, but the company says that it was being piloted by a human driver at the time.

Still, many aspects of driving depend on small gestures and signals. Would a driverless car know to stop or slow down for a construction project? Other situations like giving the right of way or waiting one's turn at a stop sign appear to be issues of judgment that would be hard to perform without a human brain.

The question of legal responsibility also remains a sticky issue. If one of these vehicles collides with another, or with a human-driven car, whose insurance pays the claim?

If a police officer pulls over a driverless car, who gets the ticket? Whether or not the cars will be able to react to an officer directing them to pull over is not clear. Legal structures for insurance traffic violations will have to be changed to account for driverless cars.

What might these driverless cars mean for the future?

Driverless cars could have wide-reaching effects. Fewer accidents could mean lower insurance rates for all drivers, and smoother driving could save gas.

Wired Magazine predicts that most people won't need a driver's license by the year 2040, since the Institute of Electrical and Electronics Engineers estimates that by that time 75 percent of the cars on the road will be able to navigate themselves.

Perhaps most radically, personal cars could potentially be used like taxis, dropping their owners off at a location, driving home, and then picking them up again when called.

– Compiled by Ibrahim Balkhy for NewsHour Extra

READING COMPREHENSION QUESTIONS

1. By what year might driverless car technology be available to consumers?
2. How many miles have Google's self-driving cars logged without intervention by a human operator?
3. In which states are driverless cars street legal?
4. What are two of the potential benefits of a driverless car?
5. What are two problems with the cars that still need to be solved?
6. What percentage of cars on the road might be able to drive themselves by 2040?

DISCUSSION QUESTIONS (more research might be needed)

1. What do you find most interesting about the idea of a driverless car?
2. How might a self-driving car affect people who are too young to drive a car?
3. Can you see any downsides to adopting driverless cars? If so, explain.
4. What new rules would you put in place to address the issues of legal responsibility in case of a crash with a driverless car?

Extension Activity

Have students write a 300-500 word essay on this topic providing clear examples. Send your completed editorial to NewsHour Extra (extra@newshour.org). Exceptional essays might be published on our Web site.

Using NewsHour Extra Feature Stories

Are We Ready For Driverless Cars?

May 9, 2013

<http://www.pbs.org/newshour/extra/2013/05/are-we-ready-for-driverless-cars>

Estimated Time: One 45-minute class period with possible extension

PROCEDURE

1. WARM UP

Use initiating questions to introduce the topic and find out how much your students know.

2. MAIN ACTIVITY

Have students read NewsHour Extra's feature story and answer the reading comprehension and discussion questions on the student handout.

3. DISCUSSION

Use discussion questions to encourage students to think about how the issues outlined in the story affect their lives and express and debate different opinions.

INITIATING QUESTIONS

1. How do cars affect your life?
2. What are some technologies that have made cars safer?
3. What do you think about the possibility of a driverless car?

READING COMPREHENSION QUESTIONS

1. By what year might driverless car technology be available to consumers?

2018

2. How many miles have Google's self-driving cars logged without intervention by a human operator?

50,000

3. In which states are driverless cars street legal?

California, Nevada and Florida

4. What are two of the potential benefits of a driverless car?

5. What are two problems with the cars that still need to be solved?

6. What percentage of cars on the road might be able to drive themselves by 2040?

75 percent

DISCUSSION QUESTIONS (more research might be needed)

1. What do you find most interesting about the idea of a driverless car?
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