

Jaguar Land Rover explores placing drivers on pothole alert

12 June 2015, by Nancy Owano



Jaguar Land Rover is doing its connected-car technology homework. (The company actually has someone with the job title of Global Connected Car Director.) They believe they are on to something important: a new system to detect, predict and share data about potholes. Its Pothole Alert research aims to be counted as a way that will help save motorists money that would otherwise be spent on punctures, vehicle damage and road accidents.

Noah Joseph, in *Autoblog*, described the actions the system can trigger: It can "signal the magnetorheological suspension to prepare in a split second for the impending bump, and in the future may even be able to steer the vehicle around the obstacle or slow it for impact – just like a driver would do, but likely with a higher level of efficacy and [safety](#)."

Jaguar Land Rover may look into developing technology that would guide vehicles around potholes and other such road hazards without the vehicle leaving its lane, Bell said, in *Automotive News*. Drivers would be able to slow down and avoid the danger, or the [car](#) could adjust suspension settings to reduce the impact and smooth the ride. By monitoring the car motion and changes in the height of the suspension, the car can continuously adjust suspension characteristics.

The research group is using an experimental car called the Range Rover Evoque. The car is being used to (1) identify the location and severity of potholes and broken manhole covers and (2) adjust suspension in [milliseconds](#).

Once dangerous potholes were identified, the car could also notify other cars via the cloud. How would drivers get warnings through the cloud? The team plans to consider different warning icons and sounds, Jaguar Land Rover spokesman Nick O'Donnell said. "Part of the project in the future will be to determine how best to achieve this without distracting the [driver](#)," he wrote, in an email to *Automotive News*.

Their research in addition to potholes encompasses broken drains and manhole covers. Data might also be shared with road authorities, to speed up action on road repairs.

Mike Bell, Jaguar Land Rover's Global Connected Car Director, noted that [sophisticated](#) sensors could allow the vehicle to profile the road surface under the wheels and identify any potholes, raised manholes and broken drain covers.

The research project is now at a stage where the team is set to install the road-surface sensing technology in the Range Rover Evoque. It will also carry a forward-facing stereo digital camera.

As stated before, they want to develop a system to detect, predict and share data and they want to get the prediction part right. *The Engineer* pointed out that "Currently all [data](#) is collected directly from the road as a vehicle passes over an anomaly." The Evoque research can lead to the use of camera technology to scan the road ahead and assess potential hazards.

"At the moment the most accurate data comes from when the car has driven over the pothole or manhole," said Bell. "So we are also researching

how we could improve the measurement and accuracy of pothole detection by scanning the road ahead, so the car could predict how severe they are before the vehicle gets near them."

What is more, Bell said, "If the pothole hazard was significant enough, safety systems could slow or even stop the car to minimize the impact. This could all help make future autonomous driving a safe and enjoyable reality."

Coventry City Council in the UK is partnering with their research efforts. The project will investigate whether Jaguar Land Rover's experimental camera could take an image of the pothole or damaged manhole - and share this with the [road](#) authorities, together with a GPS location.

According to *Automotive News*, O'Donnell said the development of this technology was in early stages with no production timeline yet.

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