# Ford Trials Tech to Help Foresee Traffic Incidents; Connects Cars and Sensors to Improve Road Safety

- Ford is developing a digital road safety tool that could predict potential incident hotspots, using data from sources including connected vehicles and roadside sensors
- Ford is partnering with Vivacity Labs, Oxfordshire County Council and Loughborough University with support from Transport for London following funding from the British government innovation agency, Innovate UK, and the UK Department of Business, Energy and Industrial Strategy
- The initiative follows extensive Ford research into how advanced analytics and data from connected vehicles can be used to improve urban mobility and road safety. This identified how relatively minor improvements could potentially address issues

**LONDON, Aug. 20, 2020** – A consortium led by Ford is developing an innovative predictive road safety tool which, using data from connected vehicles and intelligent roadside sensors, could help to make travel in towns and cities safer and easier.

Each year more than 1.3 million people are killed on roads around the world[1] – around 3,700 every day – with road injuries the eighth leading cause of death globally[2] . On top of the human impact, accidents also have significant financial consequences. The U.K. Department for Transport puts the annual economic cost of road incidents at more than £35 billion[3].

The Data-Driven Road Safety Tool will analyse information from connected vehicles, smart roadside sensors and local-authority data to predict the likely locations and possible root causes of potential road safety hotspots. The insights will enable cities to take pre-emptive action to address roads and junctions that pose the highest risks to road users.

"Soon every new vehicle will be a connected vehicle, and we see this as an opportunity to reduce road traffic incidents and save lives in a significant way," said Jon Scott, project lead, City Insights, Ford Mobility, Europe. "By collaborating with leading innovators, experts and academics – and with the backing of Innovate U.K.– we truly believe we can help improve mobility for millions around the world."

Ford Mobility is working alongside partners including Oxfordshire County Council, AI sensor specialists Vivacity Labs, and leading academics from Loughborough University's Transport Safety Research Centre, with support from Transport for London. The aim is to develop the tool into a solution that could benefit cities and road users around the world. The initiative has now received financial backing from the Innovate UK, the government-backed innovation fund.

**Data-driven road safety**

Ford has conducted extensive research into the opportunity for connected vehicles and predictive analytics to help improve road safety, Now, up to 700 passenger and commercial vehicles will be voluntarily connected across Oxfordshire and London as part of the 18-month project starting this summer.

Detailed telematics data from the fleet of vehicles – such as brake or accelerator pedal usage and steering wheel angle – will be analysed alongside information from up to 25 additional smart sensors to be provided in Oxfordshire by Vivacity Labs a specialist in traffic capture and classification, bringing the total number in use up to 100.

Vivacity's roadside sensors employ machine learning algorithms to detect near-miss incidents and are able to analyse movement patterns of vulnerable road-users such as cyclists and pedestrians, as well as non-connected vehicles. All data shared by the sensors is anonymised with video feeds discarded at source, enabling safer roads without intruding on privacy.

"This project enables us to extend our AI research into road safety, while also providing the opportunity to work with experts at Loughborough University and explore a wider integration of our system into Ford's Mobility ecosystem," said Peter Mildon, chief operating officer, Vivacity Labs. "Unlocking the potential road safety benefits of Vivacity's existing traffic sensor network has been a goal for us for some time, so it's rewarding to see this underway in London and Oxfordshire."

Experts from the Transport Safety Research Centre at Loughborough University, led by Ruth Welsh, senior lecturer, Traffic Safety and Ford's Global Data Insight and Analytics team will analyse driver and vehicle data, while Oxfordshire County Council will focus on how local authority-provided data sources combined with the predictive tool can improve road safety for all users.

"Oxfordshire County Council is committed to enabling innovative applications for connected vehicle technology that will benefit our communities," said Llewelyn Morgan, head of innovation, Oxfordshire County Council. "By connecting vehicle data with smart infrastructure, we hope this project will help improve safety for all road users."

The insights and analysis will be used to further prove and develop the digital road safety algorithm and tool into a scalable, commercial product to benefit cities and citizens around the world. The consortium will also seek to uncover further real-world applications for predictive road safety-related insights.

"Loughborough has a unique capability in Transport Safety research, built up over almost 40 years, and we are proud to be part of a transformational project to position the UK as a global leader in connected vehicle safety," said Prof Steve Rothberg, pro vice-chancellor for research), Loughborough University.

**Connected Vehicle Trials**

The project follows two successful trials in London in which analysts and data scientists from Ford Mobility sampled more than 1 million miles of driving by connected vehicles to identify, analyse and provide detailed safety mitigation guidance to local authorities on various road safety hotspots in Greater London[4]. *

Recommendations for improvements included the introduction of red-light cameras to deter signal jumping, cutting back vegetation to ensure road signage was clearly visible, double-height signage and signals, resurfacing carriageways and raising service covers.

Ford Mobility is also working with authorities in Cologne, Germany, and Valencia, Spain, to identify further ways in which analysis of information connected vehicles and infrastructure can benefit urban mobility.

Vehicle owners in Oxfordshire and London who wish to find out more about participating in the road safety trial can contact the project team at https://takepartinresearch.co.uk/jobs/future-driving-solutions.

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1. World Health Organisation: Road traffic injuries

2. World Health Organisation: The top 10 causes of death

3. GOV.UK: Accident And Casualty Costs

4. Ford Media Center: Ford Exposes 'Hidden' Dangers On City Streets, Uses Big Data And Connected Vehicles To Help Improve Road Safety

* For the full report, including animated data visualisations, methodology and video interviews with its researchers, visit citydatareport.fordmedia.eu