REGULATION 28: REPORT TO PREVENT FUTURE DEATHS (1)

	REGULATION 28 REPORT TO PREVENT FUTURE DEATHS **THIS REPORT IS BEING SENT TO:** [redacted] **Chairman and Managing Director** **Ford UK** **PO BOX 7597** **Daventry NN11 1DL**
1	**CORONER** I am Heidi J. Connor, Senior Coroner for the coroner area of Berkshire.
2	**CORONER'S LEGAL POWERS** I make this report under paragraph 7, Schedule 5, of the Coroners and Justice Act 2009 and Regulations 28 and 29 of the Coroners (Investigations) Regulations 2013.
3	**INVESTIGATION and INQUEST** On 15th November 2018 I commenced an investigation into the deaths of Catherine Gardiner, Jason Aleixo and Lorraine McLellan. The investigation concluded at the end of the inquest on 10th October 2019. I recorded a conclusion of Road Traffic Collision for each of the three deceased. I also recorded: > [Each of the deceased] died after the vehicle which [s/he] was travelling was in collision with another vehicle. The reason why the vehicle in which [Ms Gardiner] was travelling came to an abrupt stop remains unclear after detailed investigation, although on balance a problem with the vehicle appears to be more likely than driver input from the minibus driver.
4	**CIRCUMSTANCES OF THE DEATH** In addition to factual witness evidence, I heard evidence form the Forensic Collision Investigation Unit, and from [redacted] a senior engineer from Ford. The facts as I found them were as follows: The minibus (a Ford Transit, registration [redacted] was carrying 8 people on the 11th October 2018, a mix of students and staff from Prior's Court, a school for young people with autism. The vehicle was driving between Junctions 14 and 13 of the M4, eastbound. We heard evidence that three people, Catherine Gardiner, Jason Aleixo and Lorraine McLellan lost their lives after the collision. Others in the minibus suffered life-changing injuries. All of those who died or who were severely injured were staff. We heard evidence that Ms Gardiner was an experienced driver. Her passenger, [redacted] had been on journeys with her before and had no concerns about her driving. We saw the dashcam footage from the driver of the LGV which was in collision with the minibus. We also heard from [redacted] the lorry driver who overtook the LGV shortly before the collision.

All three vehicles had been driving along on the M4 between junctions 14 and 13; all were driving at just over 50mph. It was daylight, the weather was fine. There were no concerns about the road surface. The speed limit here was the national speed limit. No vehicle was exceeding this, and speed can be ruled out as a factor in this case.

[redacted] overtook the LGV, travelling at 56 mph. He moved back into lane 1, in front of the LGV, and began to pull away from him. Neither I nor Thames Valley Police had any concerns about the driving of either vehicle. This is borne out by the dashcam footage which we saw in court.

[redacted] on pulling into lane 1, almost immediately realised that there was something amiss with the vehicle in front of him (the minibus). He described the situation as "like a wall coming towards me". He managed to check the outer lane and move swiftly around the minibus to avoid hitting it. He said very candidly that, had those lanes had not been clear, he would have collided with the minibus. He did not think the lorry behind him had sufficient opportunity to avoid hitting the minibus.

The driver of the LGV gave evidence that he braked immediately when the virtually stationary minibus was visible to him. He did this before the Autonomous Braking System had a chance to operate. Forensic evidence suggests that he had around 2 seconds, possibly less, between the minibus being visible, and impact.

We heard evidence about perception-reaction time, and how our brains take time to perceive a hazard and act on that. It would appear that the LGV driver reacted to the situation in front of him very quickly indeed. No driver would expect, when another vehicle moves out of his way in front of him, to be presented with a stationary vehicle in the lane – a vehicle which had, up until that point, been driving perfectly normally at a similar speed.

A key question for the inquest was the question of what caused the minibus to come to such a sudden stop that day.

[redacted] (a front seat passenger in the minibus) described the events from his recollection. He said that he experienced juddering in the vehicle and a loud noise from the engine. Ms Gardiner's hand was on the gearstick. He recalled her saying "oh my god, oh my god". He said it felt like something had happened outside of her control. He felt that there must have been a problem with the engine. He said Ms Gardiner did not seem ill. (Indeed Ms Gardiner survived to hospital and no medical issues were identified). Nothing was happening inside the vehicle to cause any alarm. There was no hazard on the road which would have caused her to brake suddenly. It did not feel to Mr Mihov that the vehicle was stalling or braking.

We considered possible causes for the sudden stopping of the minibus. We heard evidence that the system designed to protect the DMF can shut down the engine if, for instance, a driver selects too high a gear and fails to correct it. There are two important caveats here:

1. This would <u>only</u> be relevant at low revs and low speed, i.e. in the final moments. It would not explain why the vehicle began to slow down from around 50mph to start with.
2. There is no <u>direct</u> evidence for this. Engine shut down by the DMF protection system does not trigger a fault code in this vehicle. This is something that has been suggested as a <u>possible</u> explanation – but only for the last few moments before impact.

So the key question here is what caused the minibus to <u>start</u> to slow down so quickly and suddenly.

We have considered possible causes for this under two headings, which I will call "driver input" and "vehicle issues".

Driver Input

We heard evidence from the two lorry drivers involved and a passenger in the minibus. I asked each of the forensic experts (from Thames Valley Police and Ford) if they could think of ways in which driver input could have caused the vehicle to behave as it did.

1. Firstly, we considered what would perhaps be the most likely cause of a vehicle coming to an abrupt stop, namely heavy braking. In this respect, we heard evidence from [redacted] driver of the box van who narrowly avoided colliding with the mini bus) that the brake lights were not on when he first noticed the minibus was slowing down, despite describing the situation as "like a wall coming towards me". This is borne out by dashcam footage which shows that the brake lights on the minibus were illuminated only moments before impact. There were no tyre marks on the road consistent with braking – not definitive on their own, but part of the overall picture. Ms Gardiner had no leg and foot injuries consistent with heavy braking. There was no reason for her to brake suddenly – neither inside nor outside of the vehicle. For all of these reasons, I found it unlikely that the minibus began to slow down because of heavy braking by the driver.

2. We considered whether selecting either too low or too high a gear could have been a problem.

   We heard that TVP attempted to reconstruct the situation that occurred, using a very similar vehicle. It is plainly obvious that selecting even 6th gear when driving at over 50mph would not cause the vehicle to slow down so dramatically with or without juddering.

   If too low a gear had been selected and this was the cause of the sudden drop in speed, we heard in evidence that a fault code would have been triggered. The evidence of [redacted] was that Ms Gardiner was not changing gears at the time. His impression was that something had happened beyond her control.

   I find it unlikely that upshifting or downshifting of gears by the driver caused the vehicle to start to slow down.

The reconstruction by Thames Valley Police officers, even with full knowledge of these events, was unable to trigger this response in a very similar vehicle. The engine for this minibus did run during subsequent examination.

Not one of the highly experienced forensic witnesses has been able to think of any other possible scenarios where something the driver did could have caused the vehicle to have started to slow down so quickly. There is simply no evidence to suggest that was the case.

Vehicle Issues

We were able to rule out, on the evidence, certain more common reasons for engines to cut out, including:

1. Running out of fuel – on the basis of vehicle examination, lack of fault code and the fact that witness evidence suggests that the minibus had recently been filled with fuel.

2. DPF overheating – again not likely following the vehicle examination and absence of fault code.

3. We heard evidence that there was a vehicle recall for Ford transits that were built between 12/9/14 and 26/1/15 – vehicles in which fuel injectors had not

	been properly installed leading to engine shutdown. Again forensic vehicle examination and absence of relevant fault codes suggests that this is an unlikely cause. This vehicle does not fall within the relevant date range for this product recall. 4. I questioned whether the DMF protection system could possibly have triggered inappropriately – i.e. at higher revs and speed. This was felt to be unlikely by each of the forensic experts. If, for instance, the engine speed sensor was sending incorrect information to the DMF protection system, a fault code would be expected. Again however, crucially, no code is recorded when the DMF system is triggered, so no one can be confident of its role in these events. Ford appears to view this situation as driver error. It is something which [redacted] (for Ford) accepted should be reviewed. Having considered possible explanations under headings of driver input and vehicle issues, all we were able to do is rule things out. There was no clear or obvious reason why this vehicle stopped so suddenly. Factual witness and expert evidence points more towards vehicle input than driver error, but this is based on an absence of evidence despite the extensive investigations which have taken place. I form this view on a balance of probabilities basis. This was a view accepted by the witness for Ford and is also the view of [redacted] from the Forensic Collision Investigation Unit (FCIU). We heard evidence from [redacted] about another fatality that he was recently asked to assist with (in the investigation). This involved a vehicle which, whilst not exactly the same, was still a Ford transit. He told us that this vehicle stopped unexpectedly and was in collision with another vehicle. I treated this evidence with necessary caution, given the limited information that we had about the circumstances of that case. It was however sufficiently similar to be of concern to me.
5	**CORONER'S CONCERNS** During the course of the inquest the evidence revealed matters giving rise to concern. In my opinion there is a risk that future deaths could occur unless action is taken. In the circumstances it is my statutory duty to report to you. The **MATTERS OF CONCERN** are as follows: – (1) In line with the view of Ford's witness at the inquest, I believe that Ford should consider fault code provision when the DMF protection system leads to engine shutdown. (2) This vehicle remains in the custody of the Forensic Collision Investigation Unit. Whilst Ford was involved in the investigation in terms of considering relevant fault codes, they have not examined the vehicle forensically to ascertain whether they can identify a relevant fault. Ford is now offered the opportunity to carry out this investigation, with the results of that investigation to be included in their Regulation 28 response. One of the interested persons has indicated that they wish for their own investigators to be present whilst the examination of the vehicle takes place, and I request that that be facilitated..
6	**ACTION SHOULD BE TAKEN** In my opinion action should be taken to prevent future deaths and I believe you (and your organisation) have the power to take such action.

7	**YOUR RESPONSE** You are under a duty to respond to this report within 56 days of the date of this report, namely by 19th December 2019. Your response must contain details of action taken or proposed to be taken, setting out the timetable for action. Otherwise you must explain why no action is proposed.
8	**COPIES and PUBLICATION** I have sent a copy of my report to the Chief Coroner and to the following Interested Persons: 1. Families and/or legal representative of the three families involved. 2. Insurer of Prior's Court who was treated as an Interested Person at the inquest. 3. Forensic Collision Investigation Unit. I am also under a duty to send the Chief Coroner a copy of your response. The Chief Coroner may publish either or both in a complete or redacted or summary form. He may send a copy of this report to any person who he believes may find it useful or of interest. You may make representations to me, the coroner, at the time of your response, about the release or the publication of your response by the Chief Coroner.
9	**24th October 2019** **Mrs Heidi J. Connor** **Senior Coroner for Berkshire**