Our ref: CRS 706,531
Your ref:

Mr P Andrews
"What do They Know" website

2nd Floor
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Bedford MK41 7LW

Direct Line: 01234 796167

14 May 2014

Dear Mr Andrews

M1 JUNCTIONS 10 - 13: VARIABLE SPEED LIMIT SIGNS

Thank you for your further Freedom of Information request of 11 April requesting additional information regarding the MIDAS system on the M1 motorway. I will answer your additional requests in the same order that you have raised them:

1. On that date, 6 March, when had the system that controls variable speed limits last been maintained and what is the recommended maintenance period?

MIDAS is a system that uses non-vehicle specific traffic flow data to automatically set the speed limits on the road. The system collects traffic flow information from loops in the road and transmits that data to a computer which does the required calculations to set the appropriate speed limit.

The only routine maintenance carried out to the MIDAS system is that which is required to meet the requirements of the Electricity at Work Regulations 1989. The Highways Agency meets these requirements through the application of BS7671 - Requirements for Electrical Installations. The system in use on this section of the M1 Motorway was most recently tested under these requirements in March 2012.

2. The calibration for all devices MIDAS on the junction in question, including Home Office approval certificate for the devices.

MIDAS is not calibrated. The equipment is very basic in that it receives a pulse from a traffic loop embedded in the road surface which is transmitted to a computer which does the required calculations to set the appropriate speed limit. If the loop fails to transmit, it is automatically identified as a fault. A single loop failure is not critical to the overall operation of the system.

There is no Home Office approval certification required for MIDAS.

3. The signal interpretation from each functioning MIDAS signal device, ie what were they reading during the times stated.

Please find attached at Annex A, a spreadsheet which shows what each signal was set at between junctions 10 and 11 northbound at 8.03am on 6 March.

The following legend will help you understand the data included in the spreadsheets:

- Gantry reference - M1 = M1 Motorway, next 4 numbers = marker post ref, next letter advises carriageway (A = North Bound; B = South Bound)
- Equipment reference - M1 = M1 Motorway, next 4 numbers = marker post ref, next letter advises carriageway, last number advises the indicator on the gantry.
- 30R = Enforced 30mph speed restriction set
- 40R = Enforced 40mph speed restriction set
- 50R = Enforced 50mph speed restriction set
- 60R = Enforced 60mph speed restriction set
- BLNK= Broken Red Cross
- HSD = Hard shoulder divert (used to move traffic out of the hard shoulder when it is to be closed)
- NR = No restriction (National speed limit: 70mph)
- OFF = No display
- REDX = Red Cross displayed

4. The equation used to calculate congestion and the speed restriction requirements.

It is not possible to provide an equation. The MIDAS software programme is populated with numerous data types that it uses to capture all the characteristics of the section of road to then interpret the traffic flow data to set the appropriate speed settings. To illustrate the complexity of the system, I attach a copy of TR2177H, which is the MIDAS algorithm specification. I also attach a copy of SEA/02/TR/3706 HiOCC2 Algorithm Design which is used by MIDAS for incident detection.

In keeping with the spirit and effect of the legislation, all information is assumed to be releasable to the public unless exempt. We may therefore be publishing the information you requested, together with any related information that will provide a key to its wider context, via our website: http://www.highways.gov.uk/

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If you require a print copy, please phone the Highways Agency Information Line on 0300 123 5000; or e-mail ha_info@highways.gsi.gov.uk . You should contact me if you wish to complain.

If you are not content with the outcome of the internal review, you have the right to apply directly to the Information Commissioner for a decision. The Information Commissioner can be contacted at:

Information Commissioner's Office
Wycliffe House
Water Lane
Wilmslow
Cheshire SK9 5AF

If you have any queries about this letter, please contact me. Please remember to quote the reference number above in any future communications.

Yours sincerely

pp JOHN GALLACHER
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