



TRANSPORT AND WORKS ACT 1992

TRANSPORT AND WORKS (INQUIRIES PROCEDURE) RULES 2004

THE NETWORK RAIL
(ESSEX AND OTHERS LEVEL CROSSING REDUCTION)
ORDER

SUMMARY PROOF OF EVIDENCE

-OF-

DANIEL FISK

Document Reference	NR/31/3
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INTRODUCTION

- 1.1 My name is Daniel Fisk. I am a Route level crossing manager (RLCM) within the Anglia Route by profession with 32 months' experience. My current responsibility, so far as relevant to this inquiry, is the day to day management of eight Level Crossing Managers (LCMs) on the Great Eastern and Thames Side sections of the Anglia Route.
- 1.2 The Anglia route is split into 13 geographical areas, with each LCM having responsibility for risk assessment and asset inspections, liaison with local authorities, internal and external stakeholders and other duties relating to the management of level crossing operation and maintenance.
- 1.4 I supervise and am accountable for the activities carried out by the LCMs along the Great Eastern section of the Anglia Route and ensuring the risk at level crossings is kept as low as reasonably practicable. There is another RLCM responsible for the West Anglia section of the Anglia Route; I have worked closely with the RLCM for West Anglia in producing my evidence.

SCOPE OF EVIDENCE

- 2.1 In my evidence, I explain how the LCMs conduct the risk assessment in respect of an individual crossing, and their general maintenance responsibilities. I then discuss each crossing contained in the Order, including its particular characteristics or features, risk score, and history of incidents.

RISK ASSESSMENT

- 3.1 There are three aspects to the risk assessment carried out in respect of each level crossing:
 - (i) ALCRM
 - (ii) Qualitative Risk Assessment ("QRA");
 - (iii) Narrative Risk Assessment ("NRA")
- 3.2 LCMs undertake all of those risk assessments, which ultimately lead to an optioneering exercise to consider how risk at an individual crossing can be eliminated, mitigated or managed.
- 3.3 The LCM will carry out a risk assessment once a year at the highest risk crossings, every two years at the medium risk crossings, and every three years at the lower risk crossings.
- 3.4 When there are either three reports of poor user behaviour within 12 months, one occasion requiring a train driver to apply an emergency brake, or an accidental fatality, a "triggered" risk assessment is undertaken within 6 weeks of the event.

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- 3.5 There is also a requirement, to carry out a new risk assessment if there is a planned increase to the train timetable or a requirement to run longer trains. Additionally, any changes to the layout of the crossing or usage over the crossing would require a new assessment to be completed.
- 3.6 To calculate the level of risk for each level crossing, ALCRM requires specific information about each level crossing asset to be inputted in order for the 'risk score' to be calculated.
- 3.7 LCMs are responsible for collecting and consolidating information required, and inviting relevant stakeholders to participate in the assessment.
- 3.8 Information on the crossing is first gathered from existing records held by Network Rail; most importantly from historic risk assessments, incident data, and stakeholder engagement.
- 3.9 An important aspect of the information gathering exercise is the site visit completed by the LCM to gather the following information for input into ALCRM:
 - i. The type of crossing surface or deck and its configuration.
 - ii. The distance from the decision point to the nearest rail and the distance from the decision point to 2 meters beyond the furthest rail. These measurements are vitally important to calculating the traverse time and thus the required sighting distance. (A decision point is the last point of safety, where an individual would stand and make an informed decision whether or not it is safe to cross).
 - iii. Whether the signs are positioned so that they are clearly visible to a crossing user as they approach the crossing.
 - iv. Sighting distances measured in all directions from both sides of the track.
 - v. Any obstructions that make it difficult to see an approaching train
 - vi. Any adjacent sources of light or noise which could affect the user's ability to see or hear an approaching train
 - vii. Whether a second train passes the crossings within 20 seconds of the first and if the second train would be visible to a crossing user.
 - viii. The orientation and layout of the crossing is used to assess sun glare risk.
 - ix. Anything that can be done to improve sighting
 - x. Whether there are whistle boards providing additional warning at the crossing
 - xi. If there are any new or planned developments in the area.
- 3.10 Anything else the LCM believed relevant would be noted on his data collection form and included on the NRA.

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- 3.13 The time available to a user of the crossing to see an approaching train and to cross safely is dependent on the speed of the train and variation in train speeds.
- 3.14 The required sighting distance is calculated by multiplying the time taken to cross the railway safely by the line speed for the section of line at issue.
- 3.15 The first step is to calculate the required time to traverse the crossing safely. This is done by dividing traverse distance by the average walking pace (1.18 m/s). The traverse distance is the distance measured from the decision point to a point 2m from the line on the opposite side of the railway.
- 3.16 The traverse time is then multiplied by the maximum line speed (converted from mph to m/s) to give the required sighting distance.
- 3.17 When vulnerable persons are known to use the crossing, an additional 50% is added to the traverse time. Where no crossing deck exists, a walking speed of 0.914 m/s is used, rather than 1.18. Where steps are within the decision point or the crossing is skewed to the tracks the LCM can adjust the traverse time as they see fit.
- 3.18 Weather conditions can affect visibility – especially if areas are known to be foggy / misty in the winter months. The LCM would include this information in their NRA. Even if the sighting exceeds that required for compliance with industry standards, this does not necessarily mean there is sufficient sighting throughout the year.
- 3.18 As part of the risk assessment process, the LCM will place a covert camera at the crossing for a minimum of 9 days. This provides the LCM with an understanding of when and by whom the crossing is used. The census also highlights potential vulnerable users.
- 3.19 The LCM will also assess the surrounding environment for potential seasonal variation to the sightlines or usage. If necessary, the LCM would undertake a second census at the appropriate time to record seasonal variations.
- 3.20 A defined set of observable crossing features are then input into ALCRM to obtain the rating score.
- 3.21 The risk assessment process, and decision making which follows the same, does not stop with the ALCRM score.
- 3.22 The NRA is vitally important to the management of level crossings; it gives the LCM the opportunity to describe any concerns they have with each particular crossing under their control and also allows them to differentiate between similar types of crossing with a similar risk score. The LCM will use the NRA to support and justify their decision making and thought process.
- 3.23 Following completion of the risk assessments, the LCM will carry out an 'optioneering' exercise, to consider options for eliminating, reducing, mitigating or managing the risk at an individual crossing.

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3.24 The decision on whether any particular option should be taken forward (save the limited options I refer to in para 3.41 of my Proof) do not rest with the LCM. The decision on whether an option should be taken forward is for Head of Maintenance and Head of Operations for the Anglia route.

MAINTENANCE

4.1 The LCM is responsible for carrying out a maintenance asset inspection of each crossing. An inspection is carried out at least once every 6 months at an unprotected footpath or user worked crossing. If the crossing has an automatic warning system installed, its inspection frequency is increased to at least every 7 weeks.

4.2 During this inspection the LCM carry out a visual tactile inspection on the crossing, if there is a minor defect the LCM can safely rectify, they will do it there and then. Anything they cannot complete will be reported to the relevant department for action.

4.3 These inspections, and any resulting works are in addition to Maintenance Scheduled Tasks (MSTs) which are in place to maintain the sighting lines of each footpath and user worked crossing, and for maintenance of the walking route across the crossing. A MST is estimated to cost £3792 per crossing visit, and there are in, general, at least 2 visits a year.

4.4 These figures to give an indication of the general maintenance costs associated with each level crossing on an annual basis, but do not take into account any costs which would be incurred in the event of an incident or a defect identified by an LCM on a site visit which he was not able to safely rectify himself.

THE CROSSINGS

5.1 I discuss each of the crossings included in the Order in the following sections of my Proof:

Code	Name	Section
E01	Old Lane	6
E02	Camps FPS	7
E04	Parndons Mill	8

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E05	Fullers End	9
E06	Elsenham Emergency Hut	10
E07	Ugley Lane	11
E08	Henham	12
E09	Elephant	13
E10	Dixies	14
E11	Windmills	15
E12	Wallaces	16
E13	Littlebury Gate House	17
E15	Margaretting	18
E16	Maldon Road	19
E17	Boreham	20
E18	Noakes	21
E19	Potters	22
E20	Snivellers	23
E21	Hill House 1	24
E22	Great Domsey	25
E23	Long Green	26
E25	Church 2	27
E26	Barbara Close	28
E28	Whipps Farmers	29
E29	Brown & Tawse	30

E30	Ferry	31
E31	Brickyard Farm	32
E32	Woodgrange Close	33
E33	Motorbike	34
E35	Cranes No. 1	35
E36	Cranes No. 2	36
E37	Essex Way	37
E38	Battlesbridge	38
E41	Padget	39
E43	High Elm	40
E45	Great Bentley Station Foot Crossing	41
E46	Lords No.1	42
E47	Bluehouse	43
E48	Wheatsheaf	44
E49	Maria Street	45
E51	Thornfield Wood	46
E52	Golden Square	47
E54	Bures	48
E56	Wivenhoe Park	49
E57	Abbotts	50
H01	Trinity Lane	51
H02	Cadmore Lane	52

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H03	Slip Lane	53
H04	Tednambury	54
H05	Pattens	55
H06	Gilston	56
H08	Johnsons	57
H09	Fowlers	58
HA01	Butts Lane	59
HA02	Woodhall Crescent	60
HA03	Manor Farm	61
HA04	Eve's	62
T01	No Name Number 131	63
T04	Jefferies	64
T05	Howells Farm	65