

THE PROPOSED NETWORK RAIL (SUFFOLK LEVEL CROSSING REDUCTION) ORDER

Individual and Collective risk and the calculated Fatalities and Weighted Injuries (FWI)

1. Mr Brunnen's Proof Of Evidence in 8.14 describes Individual Risk and states that "ALCRM calculates this risk as the 'probability of fatality' and unlike the collective risk, is not expressed as an FWI. Individual risk is expressed in the simplified form of an 'Individual risk letter' ranked from 'A to M' "
2. The Collective Risk is the measure of total harm, or safety loss. It considers the risk to all individuals and user groups (crossing users, railway staff and passengers), and also considers the risk of derailment. As such, it can be said to be the crossing's *total* risk.
3. Collective Risk is presented by ALCRM in the simplified form of a numeric scale ranging from 1 to 13. The total risk is also expressed in Fatalities and Weighted Injuries (FWI) thereby facilitating more detailed understanding and risk ranking. FWI represents the number of fatalities and/or weighted injuries that we might expect to occur during a 12 month period. If risk is particularly high, the FWI score could predict more than one fatality per year – the upper limit is theoretically infinite.
4. The Collective Risk is used by ALCRM to calculate the level of risk experienced by an individual crossing user per year, i.e. the Individual Risk. It does so by applying the normalising assumption that an individual user makes 500 traverses per year and it produces an output that is termed the *probability of fatality*. The risk of fatality to an individual could obviously never exceed one. FWI is therefore unsuitable for the measurement of Individual Risk and we must consider the probability of fatality instead. This probability in turn allows ALCRM to report Individual Risk using a simplified ranking scale ranging from A to M.
5. Mr. Prest was therefore correct to state in his oral evidence that Individual Risk is included in the crossing's total FWI score; Individual Risk is derived from the total score. Mr. Brunnen's Proof of Evidence (Para. 8.14) was also correct to note that Individual Risk "*is not expressed as FWI. Individual risk is expressed in the simplified form of an 'Individual risk letter' ranked from 'A to M'".*