



Review of the 'looked but failed to see' accident causation factor (No. 60)

Summary and advance information of publication of DfT road safety strategy research reports

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Parties involved:

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General points:

In-depth surveys of road traffic accidents have shown that a number of them are attributed to one or more of the involved road users having looked in the appropriate direction(s) but failing to see the person or vehicle with whom/which they collided.

This Review was therefore commissioned with the following objectives:

- To review the accident literature in order to estimate the magnitude of the problem and to investigate the types of road user and the road and traffic situations with which it is most likely to be associated,
- To evaluate the probability that the reported problem represents a genuine psychological phenomenon of attention, perception and cognition, relative to a number of alternative predictable possibilities, and
- To consider whether the phenomenon, if genuine, is researchable and, if so, to recommend methods by which its psychological basis may be most satisfactorily understood and appropriate countermeasures developed.

Key findings:

In 1999, a number of British police forces began to collect data on contributory factors in accidents that could be linked to routinely collected STATS19 information. Investigating officers were requested to assign one 'precipitating' factor to each accident and up to 4 'contributory' factors. Analyses of the first year's data, taking exposure in to account, showed that perceptual errors were the predominant contributory factor, accounting for 46% of all categories of contributory factor recorded. Within this perceptual category, LBFTS was the third most frequently recorded contributory factor, accounting for 17% of all factors. 'Inattention' accounted for 28% and 'misjudged others' path or speed' accounted for 21%.

LBFTS was recorded as a contributory factor in almost 21% of accidents incurred at road junctions and in over 8% of accidents incurred away from a junction. Where LBFTS was the primary contributory factor, it was recorded on 56% of all occasions on which it was associated with drivers' behavioural failures, mainly failure to give way or avoid something, and on 43% of all occasions on which it was associated with pedestrians' behavioural failures, mainly entering the carriageway carelessly. LBFTS was recorded most frequently at private drives or entrances, and almost as frequently at mini-roundabouts.

LBFTS errors were recorded almost 23% more frequently in daylight than in darkness, suggesting that they derive from failures of attention, perception and cognition, rather than being of sensory origin. Almost 17% of all drivers involved in daylight accidents were recorded as having LBFTS, 10% more often inside built-up areas than outside. Less than 14% of drivers involved in accidents during darkness were recorded as having LBFTS, 32% more often when street lights were lit than when they were not.

Recording of LBFTS errors increased monotonically with driver age, being 62% more frequent for the over-65s than for the under-21s. This difference was more pronounced in fatal than in serious or slight accidents. Overall, LBFTS errors were 17% higher for female drivers than for males. This sex difference was 41% in fatal accidents. The findings do not support the view that this difference was a function of inexperience with driving or unfamiliarity with the vehicle. Where LBFTS was the primary contributory factor, the main subsidiary perceptual factors were inattention and misjudgement. The main subsidiary motivational factors were carelessness, thoughtlessness, or recklessness.

A conceptual analysis of the different ways in which errors may be categorised as LBFTS suggests that an unknown proportion of them may be false reports, used by errant drivers in preference to an admission of incompetent driving, or recorded by investigating officers as a default option in the absence of evidence to the contrary. Further unknown proportions may represent conscious misjudgements of hazards, or failure to see a temporarily obscured person/object, or autonomous inattentive head and eye movements by distracted or drowsy drivers.

Only two types of error are seen to meet the criteria for genuine LBFTS errors: one results when individuals search the traffic environment over-selectively (e.g. looking for large vehicles and overlooking motorcycles), the other results when individuals search for features which distinguish hazardous from non-hazardous objects (i.e. location, orientation and speed), but fail to integrate those features into a coherent image representing danger. The psychological bases of these types of error are explained by reference to a wide body of empirical research in the field of attention and performance.

The problem is seen to be important and researchable. Recommendations are made for improving information on the problem of LBFTS, and for studies aimed at identifying training and engineering countermeasures against the phenomenon.

Any issues of particular interest or likely to be controversial: Not likely to be controversial.

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