

## Smart Motorway Detached manhole covers

# SafetyAlert

25 September 2015

### Incident description

A manhole cover became dislodged from its frame within LBS1 of the M1 southbound carriageway; subsequently four vehicles then struck the cover. The cover pierced a lorry fuel tank leading to a diesel spillage. The second half of the cover fell into the chamber. Subsequently two further lids became detached causing damage to cars.

### Investigation/findings:

The manhole cover was made up of two triangular sections held together by a bolt. Subsequent investigation revealed defects to the bedding material below the frame and the bolt holding the two sections of the cover together had sheared.

The M1 motorway was running under long term traffic management at the time, causing the wheel track of vehicles to move from their usual position.

Surround to the manhole had been made with a proprietary bituminous repair material IKO Permatrack carried out during M1 10-13 widening. This had subsequently been repaired evidently with a different material. Further investigation is required in to the durability of the original material and the subsequent repair, either of which may be a contributory factor.



### Further Information:

For more information about this incident please contact Richard Willson, Operations and Support Division, [Richard.Willson@highwaysengland.co.uk](mailto:Richard.Willson@highwaysengland.co.uk)  
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### Actions:

- IAN 111 guidance states *Clause 5.7 states: Manholes in hard shoulder should be avoided if possible, relocated or upgraded to D400/E600 standard.*
- It is therefore possible that similar circumstances exist on other smart motorways. Investigation should be carried out to establish if similar risks exist.
- Prior to switching traffic position under traffic management, investigation as to whether manholes would fall under the wheel track should be carried out, with appropriate risk mitigation
- Practical measures to reduce the risk associated with manholes in running lanes will vary to suit site circumstances, but could include welding of the manhole covers, although this alone may be insufficient if the bedding of the frame is compromised. Under such circumstances reducing the level of the manhole, plating and surfacing over the gap may be required. Such options introduce attendant maintenance risks, meriting a site specific risk assessment.
- Further technical investigation in to maintenance strategies for manholes in running lanes is required.

For information about alerts process, call Wayne Mullin on 01234 796 120 or email [wayne.mullin@highwaysengland.co.uk](mailto:wayne.mullin@highwaysengland.co.uk)