

London Ironworks Summit

TfL Lane Rental Industry Publication



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Introduction

It is estimated that Circa £200 million is spent nationwide on replacing or reinstating ironwork each year, with failures ranging from the surrounding pavement, supporting structure, the frame and cover itself, or reduced anti-slip resistance from polished covers. The impact of such failures can cause skidding, cracks and potholes around covers and frames, and sunken and/or rocking covers. To date it does not seem that solutions in this area have evolved sufficiently to halt the decline of failures, or the nuisance these cause to road users and local residents/businesses. A Pan-London Ironworks Summit was held on 31 March 2015 to promote creative thinking in dealing with this costly problem. It was held at the Transport Research Laboratory (TRL) in Wokingham, Berkshire and attended by industry stakeholders from the highway authority, work promoter and work contractor organisations.



The Project

The summit, facilitated by TRL, was set two primary objectives:

- A. Establish causes of failure
- B. Identify areas where improvements could be made.

To achieve this, the workshop focused on the following ten main areas:

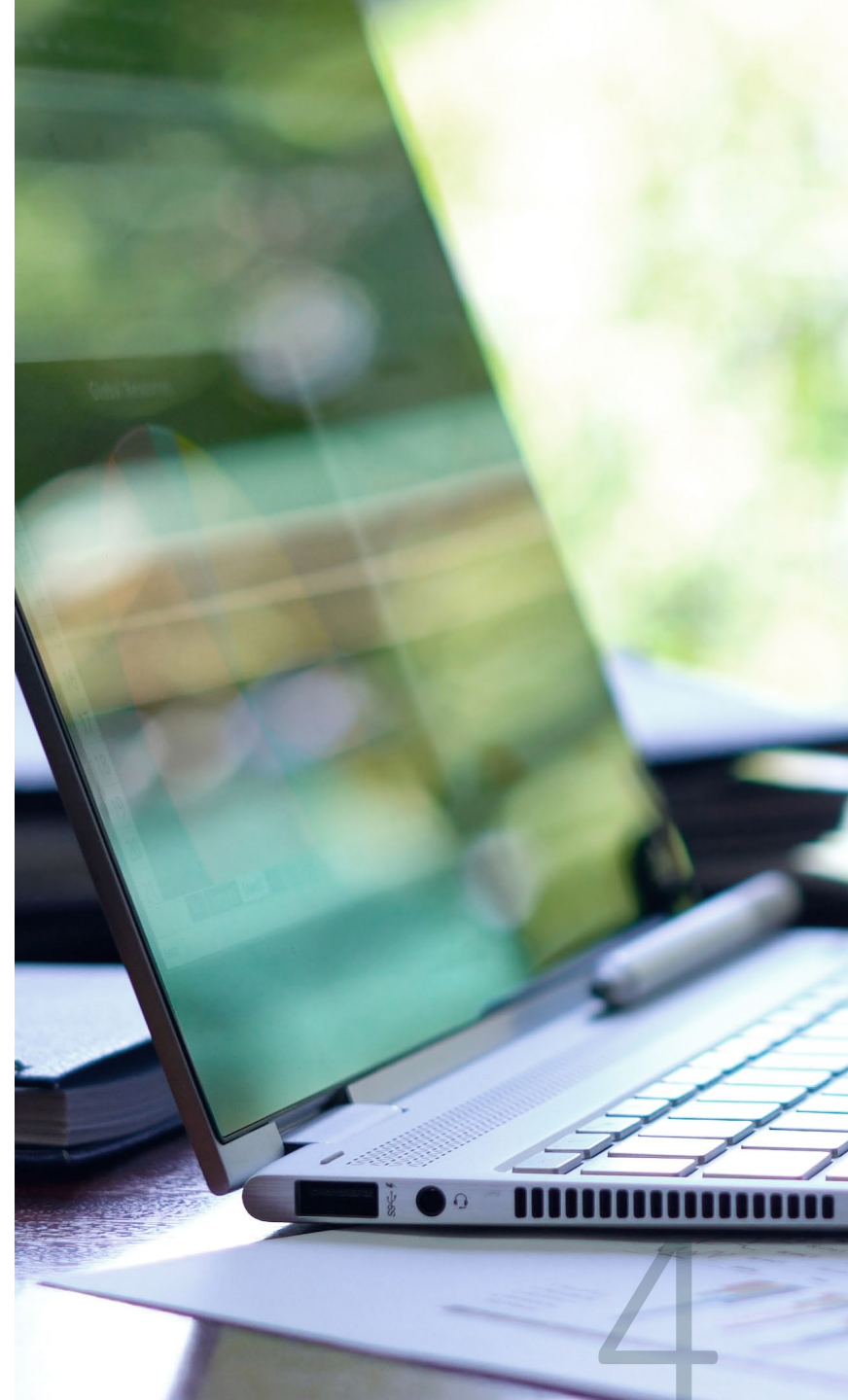
- Issues around ironworks
- Failure types
- Frequency and severity of failure
- Failures on ironwork or material
- Opportunities for improvement
- Dominate failures
- Method and frequency of Inspections
- Potential solutions
- Engineering solutions / best practice
- Benefits



Outcomes

A range of solutions to the problem were discussed, with the following items identified as delivering real improvements and benefits:

- Detailed and unified asset management data covering all ironwork categories
- A consistent and recordable approach to inspections sharing of information and best practice, together with improved analysis of failure types
- The use of proprietary surround materials instead of standard asphalts
- Deployment of heavy duty covers with proprietary (resin type) material surround to provide increased longevity and reduced risk of catastrophic failure
- Greater involvement in planning and technical approval of proposed works or regeneration schemes to minimise the need for ironworks located in the carriageway
- Removal of redundant assets
- Adequate provision of road space allocation to satisfactorily repair the defective ironworks in order to mitigate reoccurring failures
- Regular stakeholder working groups to share best practice and resolve common issues.



Since the Summit

The following progress has been made with initiatives that have taken place since the workshop was held:

1. A pilot has been undertaken by Thames Water to undertake detailed visual inspections of their apparatus within planned block closures implemented overnight by a highway authority for the purposes of undertaking cyclical maintenance works. This forms the precursor to widening these opportunities to allow other work promoters to undertake similar detailed visual inspections of their plant and schedule any necessary works to be undertaken during subsequent block closures, thus reducing, if not eliminating, responsive works.
2. A trial has been undertaken to use a HARRIS II vehicle (traffic speed survey) to collect ironworks asset data with a view to:
 - Mapping the locations of covers and frames
 - Identifying surface defects
 - Identifying sub surface anomalies that are not visible to the naked eye by using 'heat detection' technology

The data is being assessed at the time of publication, but if positively substantiated the long term aspiration will be to collect this information as part general carriageway condition surveys. This will significantly improve the inventory data held on ironwork covers, and provide advanced intelligence of impending failures.



Conclusion

Going forward trials of alternative ironwork cover designs and reinstatement materials are proposed. Meetings with ironworks manufactures have been held, with two cover types and three different reinstatement materials identified. European one piece circular covers will also form part of this assessment work stream.

The workshop was seen as an extremely useful first step in bringing ironwork owners together to discuss common problems and identify possible solutions, some of which are already being taken forward. It was agreed that establishing a formal Ironworks Stakeholder working group would be necessary in order to share outputs from the recommendations identified, and continue to discuss common concerns and innovative technology that might mitigate future failures. It was felt that adopting this collaborative environment would ultimately deliver optimum benefits to road users and customers directly impacted from such nuisances, with a decline in customer complaints anticipated.



TfL Lane Rental Scheme

Optimising customer journeys through the delivery of safer, innovative and sustainable roadworks



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