

Smart Motorways All Lane Running

MM-ALR



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Presentation Outline

The problem. . .

Approach to the problem. . .

Problem solving. . .

Challenges

Questions & Answers

Defining the problem. . .



- Congestion costs UK plc circa **£4 billion** per annum
- Some facts about the Strategic Road Network:
 - **2.4%** of nations roads
 - Carries **1/3** of all traffic and **67%** of all freight

Defining the problem. . .



- Traffic forecasts suggest that traffic growth is returning to pre-recession levels.
- Latest figures from DfT forecast 44% growth between 2010 and 2035!
- Average commute in UK is between 47 and 58 minutes
- SRN forms backbone for British industry and leisure

The problem. . .

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Dynamic Hard Shoulder Learning. . .



- **Construction**
 - Costs less than road widening
 - Quicker than road widening
 - Impacts whole carriageway
- **Operations**
 - Resource intensive
 - Technology reliant
- **Maintenance**
 - Number of assets
 - Frequency of visits
 - Mix of near side, overhead and off-side
- **Performance**
 - Not always intuitive – misuse;
 - Compliant

The problem. . .

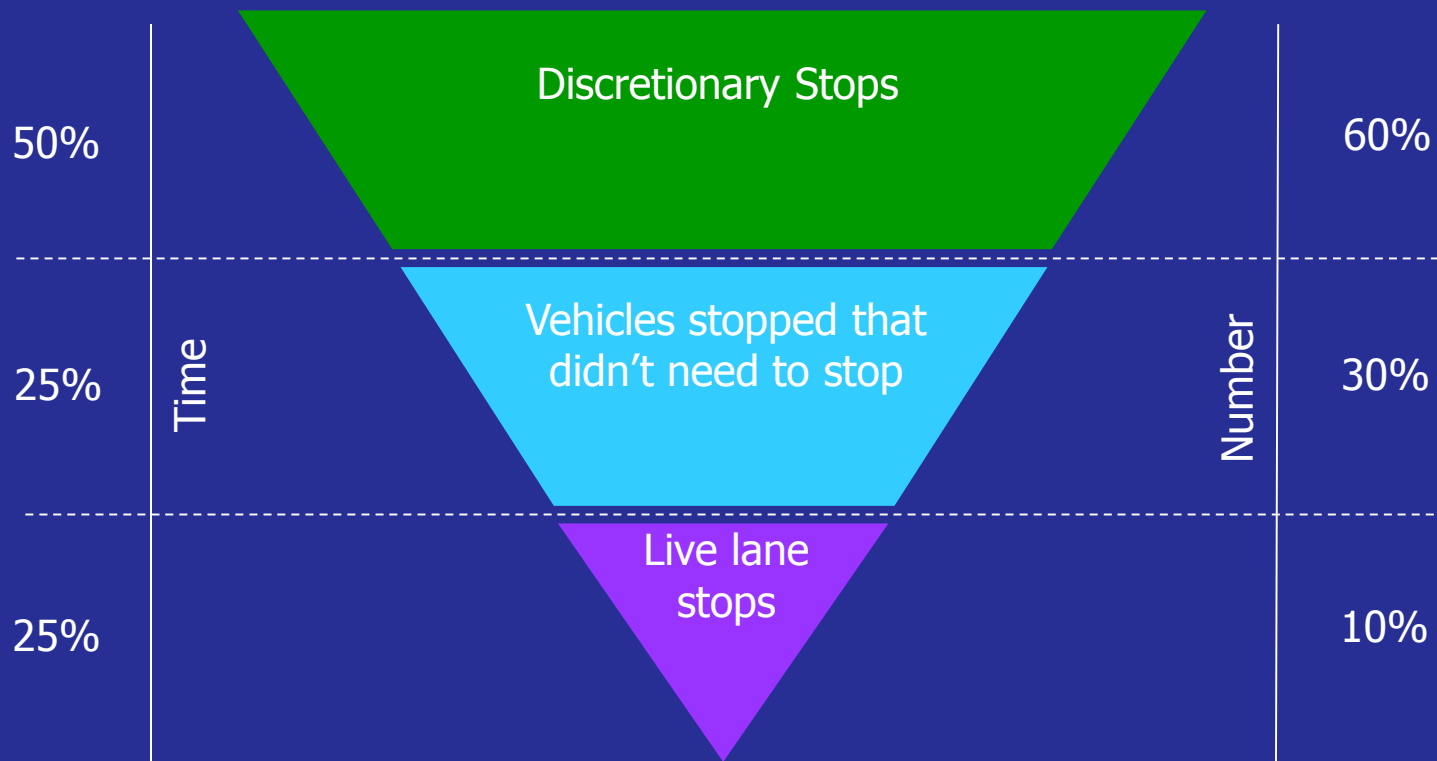
Approach to the problem. . .

Problem solving. . .

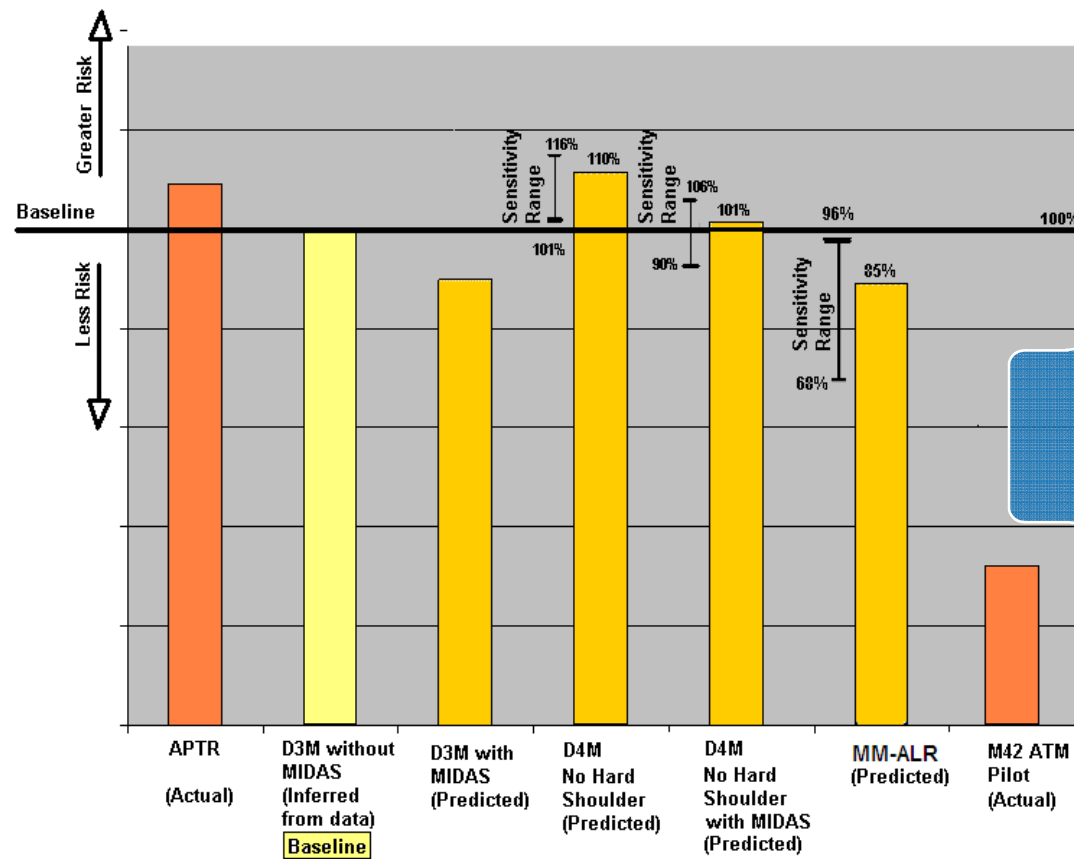
Challenges

Questions & Answers

Evidence. . .



Hazard Analysis. . .



- Built from a combination of experience, empirical evidence and simulation;
- Approximately 15% reduction in risk compared to baseline (D3M without MIDAS)

Driving simulator. . .



- Information location
- Distance between information
- Information obscuration
- Speed compliance
- Driver behaviour – accident
- Driver behaviour – breakdown

Applying the Learning. . .



- **Construction**
 - Simple design;
 - Reduced costs
 - Quicker to construct
 - Impact limited predominantly to near side
- **Operations**
 - Less resource intensive
 - Not technology reliant
- **Maintenance**
 - Fewer assets
 - Remote diagnostics
- **Performance**
 - Intuitive;
 - Compliant

Purpose – the problem. . .

Approach to the problem. . .

Problem solving. . .

Challenges

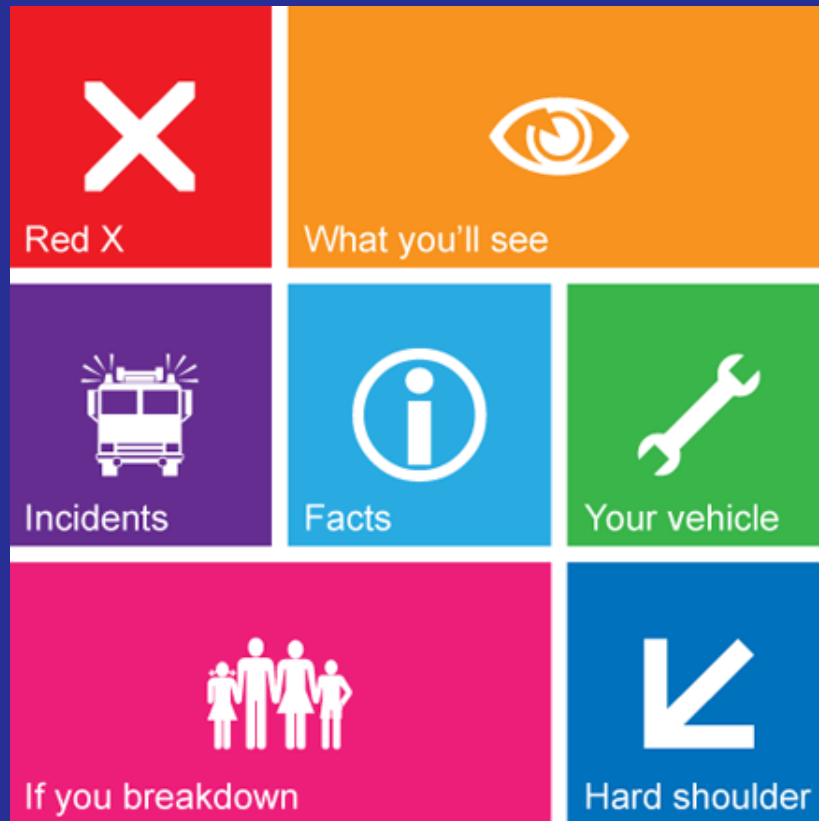
Questions & Answers

Challenges. . .



1. Driver fatigue
2. Individual vehicle is driven too fast
3. Vehicle stops in running lane – Off Peak
4. Pedestrian in running lane – live traffic
5. Tail gating
6. Vehicle stops in running lane – Peak
7. Rapid change of general vehicle speed
8. Maintenance workers setting up and taking down work site
9. Vehicle recovered from refuge area

Education and Communication. . .



Red X

What You'll See

Incidents

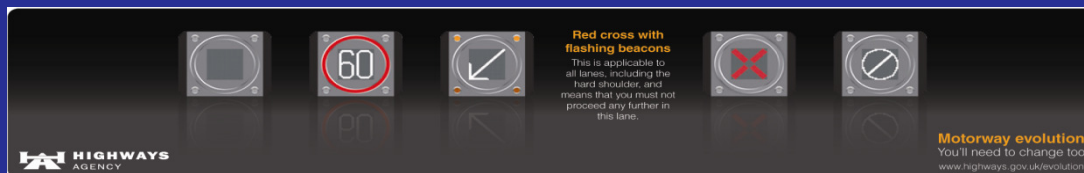
Facts

Your vehicle

If you breakdown

Hard Shoulder

Communicating. . .

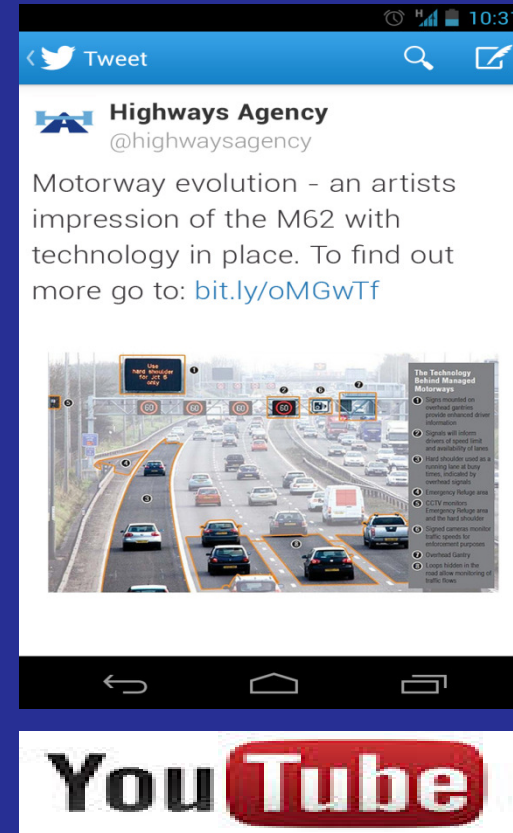


- Interactive / static web banner for use on Agency, scheme and partner websites;
- Posters for use nationally and locally to support schemes;
- HA Information Points – local and national

Communicating...



The screenshot shows the Highways Agency's official Facebook page. The header includes the Facebook logo, a search bar, and navigation links for 'Highways Agency', 'Find Friends', 'Home', and 'Settings'. The main profile picture is a large aerial view of a complex highway interchange. Below this is the agency's name, 'Highways Agency', with 79 likes and 25 people talking about it. The bio identifies it as the official Facebook page for the Highways Agency, an executive agency of the Department for Transport. Navigation tabs for 'Photos', 'YouTube', 'Twitter', and 'Flickr' are visible. The 'Activity' section shows recent posts, including a link to a website and a news release about the M62 Managed Motorway. The right sidebar features sponsored content from Samsung Mobile UK and a 'Feel More Alive!' promotion for Exodus Travels.



The screenshot shows a tweet from the Highways Agency (@highwaysagency). The tweet text reads: 'Motorway evolution - an artists impression of the M62 with technology in place. To find out more go to: bit.ly/oMGwTf'. Below the text is an image of a highway with various technological overlays, including speed cameras, emergency call points, and overhead gantries. To the right of the image is a list of technologies used in the 'Managed Motorway' system, such as 'Signage', 'Speed cameras', 'Emergency call points', and 'Overhead gantries'. The bottom of the tweet interface shows the 'Tweet' button and a 'YouTube' logo.

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Questions?



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