

ASSET MANAGEMENT AND ROAD MAINTENANCE COST OPTIMISATION EXAMPLES FROM THE UK

Yann LEFEUVRE, UK
(Highways Term Maintenance Association)



Contents

#ErfRam

- Economics and infrastructure background in UK
- Road network and long term contracts
- The means to support asset management
- Asset management in practice
- Conclusion and outlook

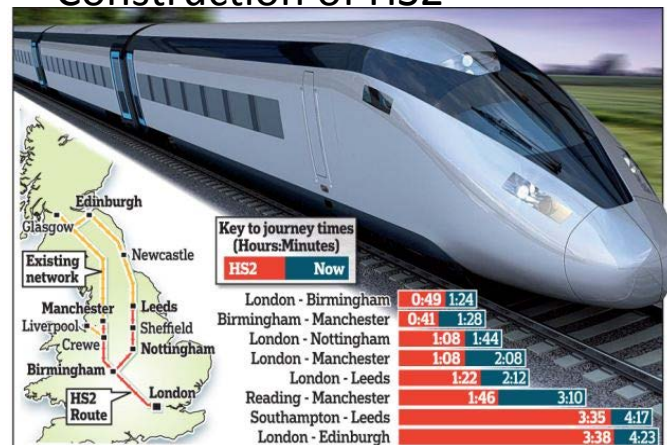
Budget cuts vs. infrastructure investment needs

Subprime mortgage crisis in 2008



VS.

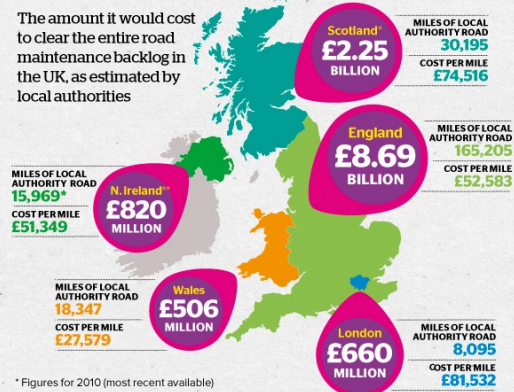
Construction of HS2



Backlog in road maintenance

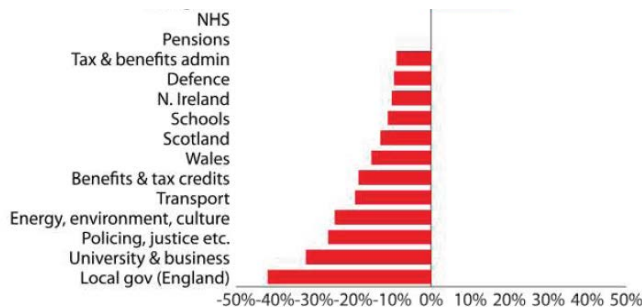
£12.93 billion

The amount it would cost to clear the entire road maintenance backlog in the UK, as estimated by local authorities



SPENDI

Percentage growth or cut in annual funding by 2015 in real terms



Source: Huffington Post UK website

27 January 2015
Brussels

Contents

#ErfRam

- Economics and infrastructure background in UK
- Road network and long term contracts
- The means to support asset management
- Asset management in practice
- Conclusion and outlook

Road networks and long term contracts

- For example in England, most of the road networks is owned by:
 - The Local Authorities (LA), solely or grouped
 - The Highways Agency (HA)
- Examples of long term contracts:
 - On LA's network:
 - Framework contracts (fixed rates, risk with LA)
 - Term Maintenance Contract (3-5 yrs, fixed rates, risk with LA)
 - Private Finance Initiative (25-30 yrs, risk with Service Provider)
 - On HA's network:
 - Framework contracts
 - Managing Agent Contractor & Asset Support Contracts,
 - 5 years+ and shared risk through mix of lump sum & fixed rates

Contents

#ErfRam

- Economics and infrastructure background in UK
- Road network and long term contracts
- The means to support asset management
- Asset management in practice
- Conclusion and outlook

Latest changes and government led incentive actions

- Towards the LA's, e.g. the Highways Maintenance Efficiency Programme for:
 - Providing guidance documents and tools to support sector stakeholders on their “journey to transform highway services”;
 - Reducing the backlog of maintenance works;
 - Helping the sector “deliver 15% savings by 2015 and 30% or more by 2020, transforming delivery so that roads and services are improved”

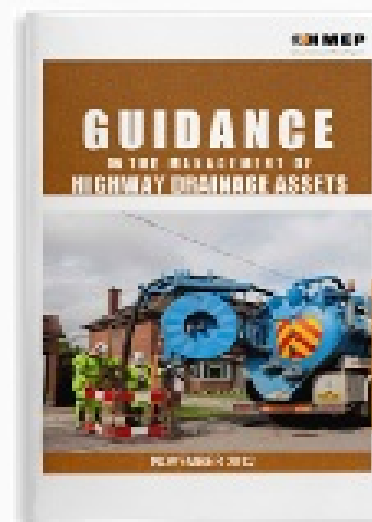
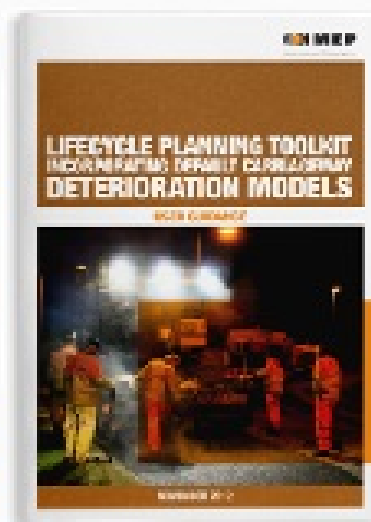
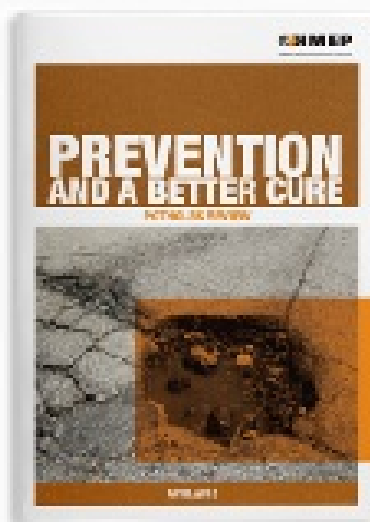
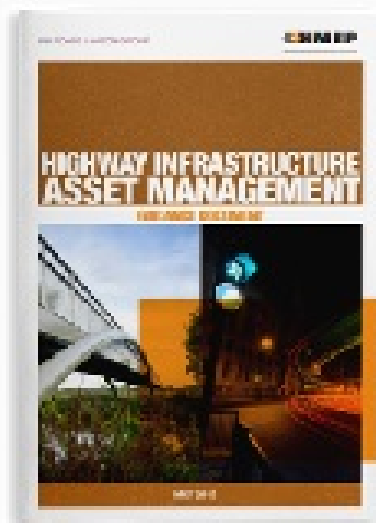
Latest changes and government led incentive actions

- Towards the HA, e.g. change of status, means and scope:
 - A Government-owned company in April 2015 renamed Highways England,
 - To establish a “road investment strategy” over the next 5 years,
 - 2010-2021 investment in strategic roads worth £24bn,
 - Road network upgrade + expected savings of £2.6bn in 10 years

Evolving context for managing roads

- Strong 'push' from Dpt for Transport for Asset Management and Whole Life Costing approach
- Key driver: demonstrating value for money over longer periods of time
- A favourable 'environment' of guidance & standards, e.g.:
 - PAS 55 – UK guidance for asset management processes
 - ISO 55000 – standard for AM processes
 - UK guidance document for Whole Life Costing methods
 - Highways Maintenance Efficiency Programme
 - Recent and strong development of PMS and road survey devices/vehicles

Evolving context for managing roads



Evolving context for managing roads

Carriageway Lifecycle Planning Toolkit

EXPENDITURE BY TREATMENT GRAPH



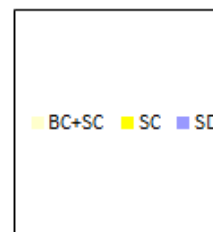
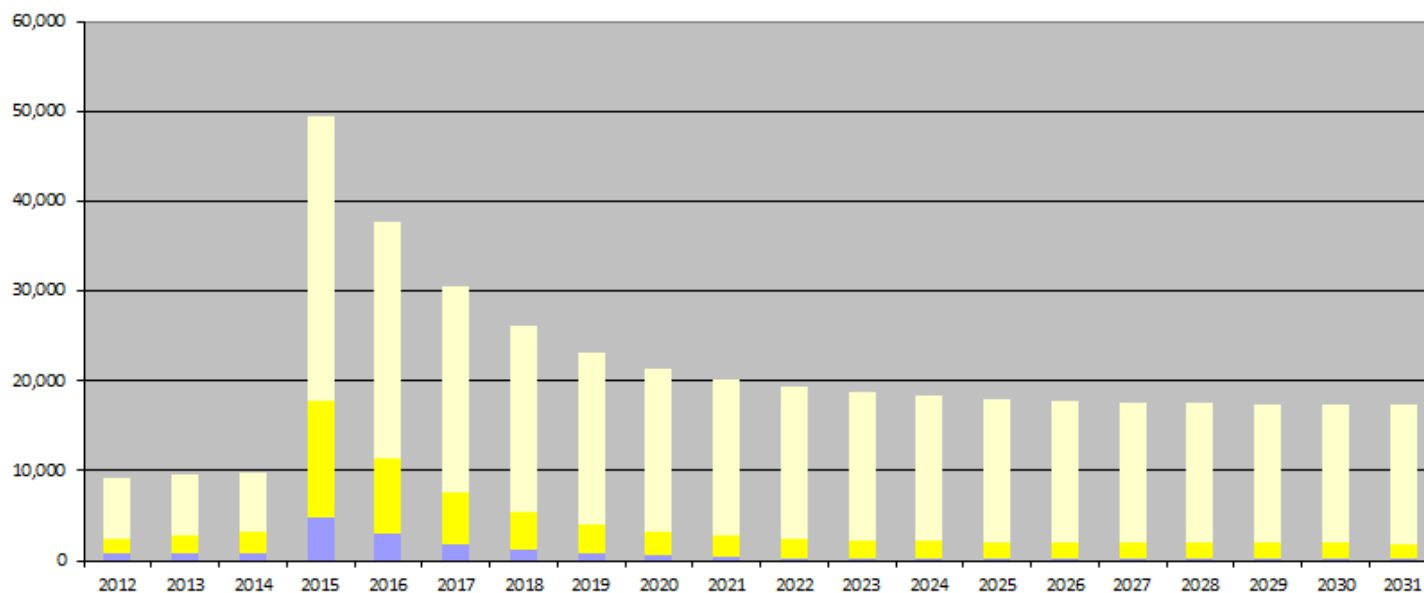
Select Asset Group: **Primary**

- Total Expenditure
- Primary**
- Secondary
- Tertiary

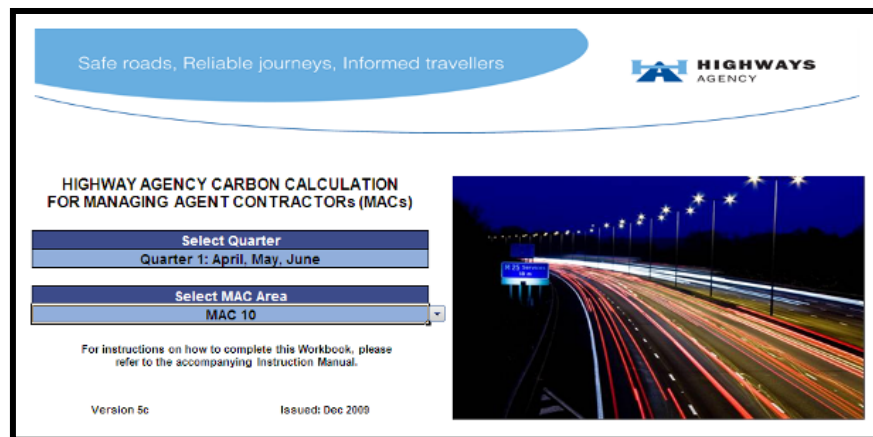
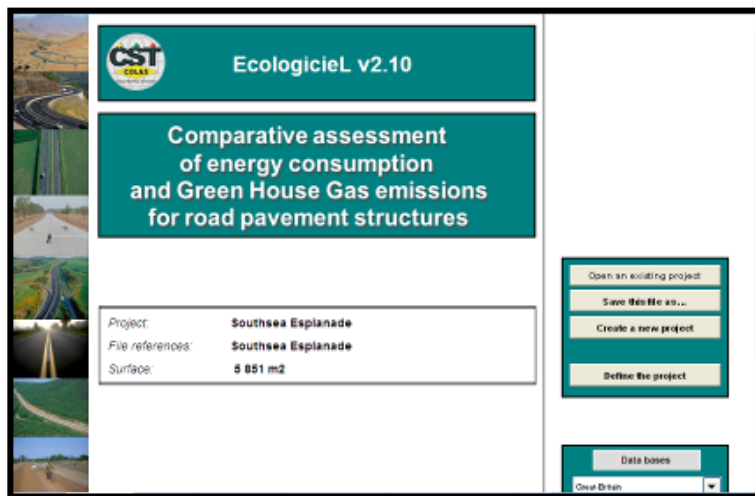
Treatment: **All Treatments**

Asset: Primary Scenario:

Expenditure (£) by Treatment Type for selected Asset

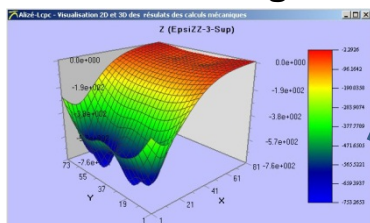


Evolving context for managing roads

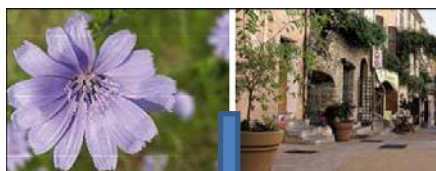


Evolving context for managing roads

Modelling

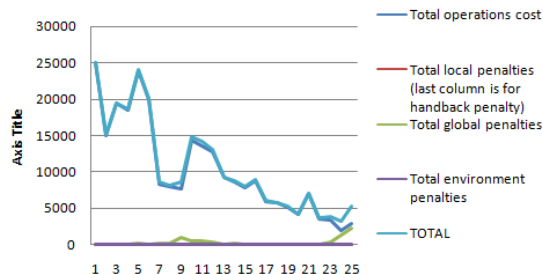


Innovative products

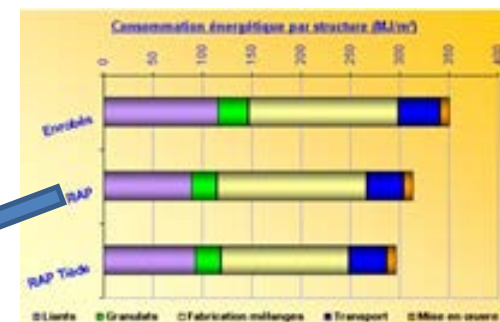


Best Value Coordination

Global costs



Environmental impact



Measures and data collection on the assets



GIS



Socio-economic criteria



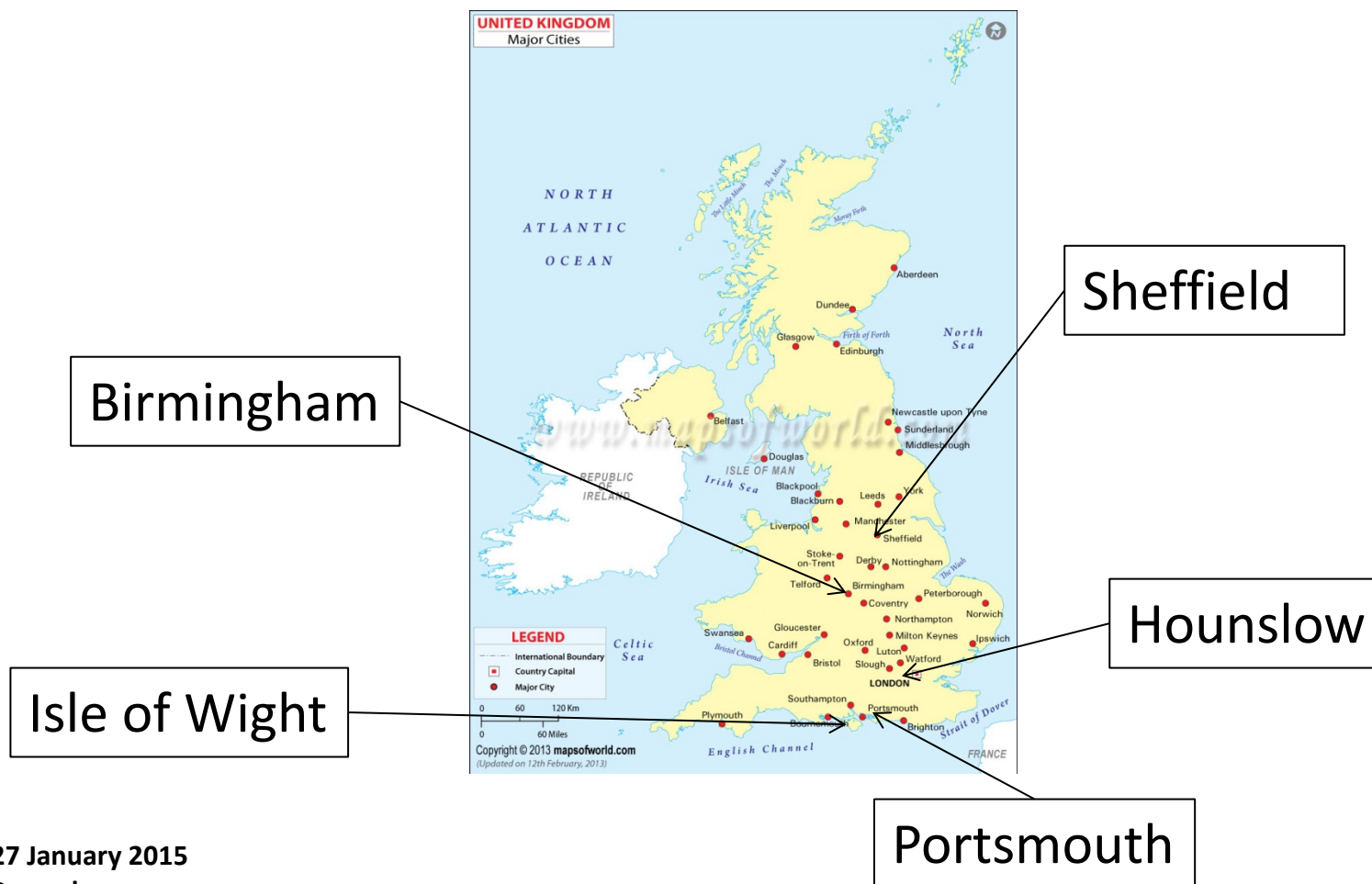
Contents

#ErfRam

- Economics and infrastructure background in UK
- Road network and long term contracts
- The means to support asset management
- Asset management in practice
- Conclusion and outlook

AM in practice: the PFI's

MAP OF THE PRIVATE FINANCE INITIATIVE PROJECTS

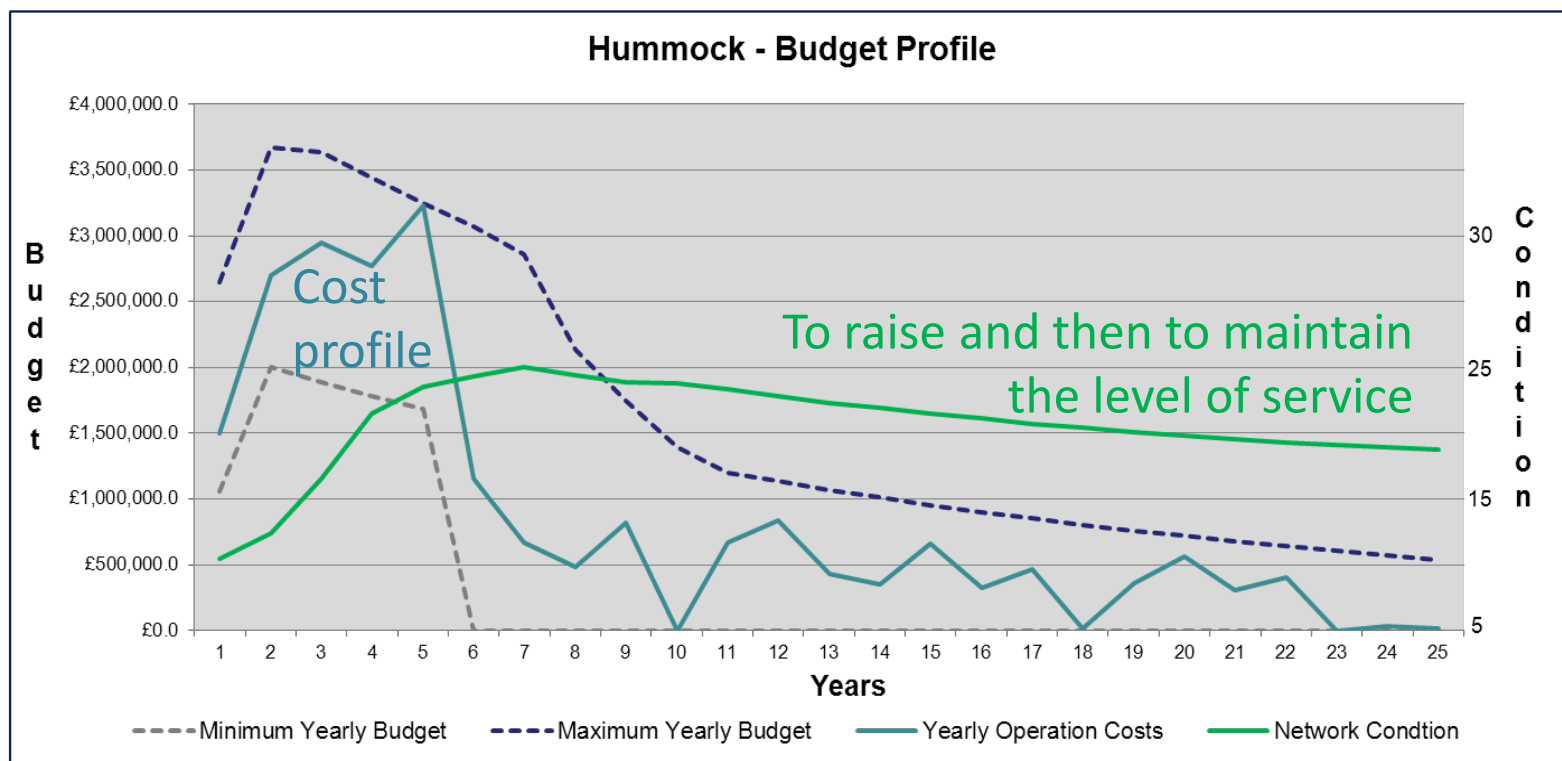


AM in practice: Portsmouth PFI

- Private Finance Initiative contract over 25 years, started in 2005
- Principle: risk is down to the service provider under a regime of fixed annual payment and possible penalties
- In charge of all assets on the public realm, i.e. within the fence-to-fence area (e.g. street cleansing, street lighting, road works, works emergency call centre, winter maintenance)
- 480km long road network
- Street lighting network comprised of 20,000 units
- Contractual carriageway indicators based on pavement structural remaining life, skid resistance and visual assessment

AM in practice: Portsmouth PFI

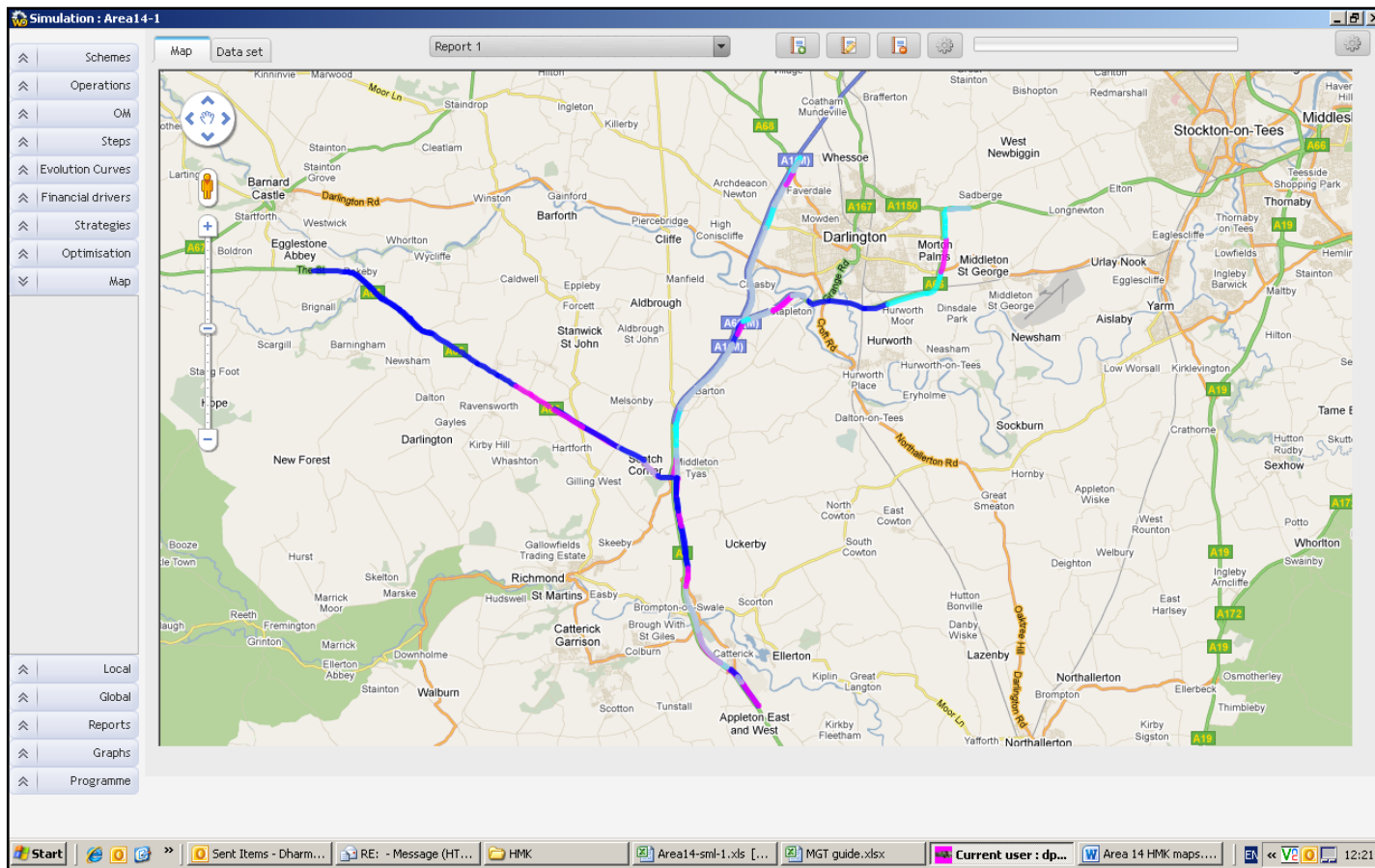
To forecast, optimise and anticipate the cost of works and the associated impact on the level of service



AM in practice: HA's transformation



AM in practice: HA's transformation



AM in practice: HA's transformation

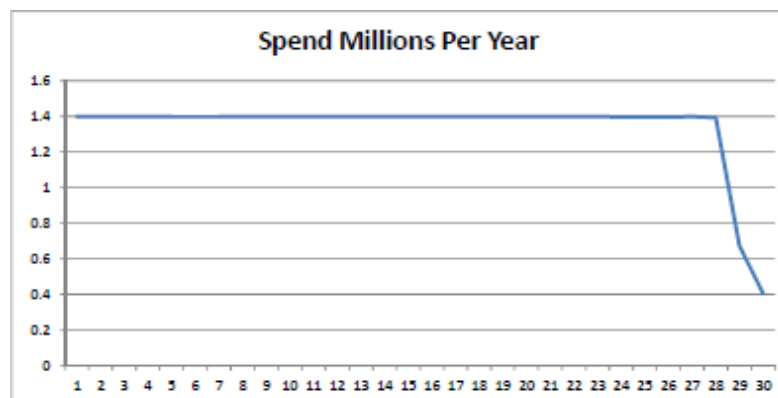


Figure XV. Do Something (High Spend) Spend Profile

To test various scenarios of investment locally and for the entire network as a whole

To derive the associated programme of works

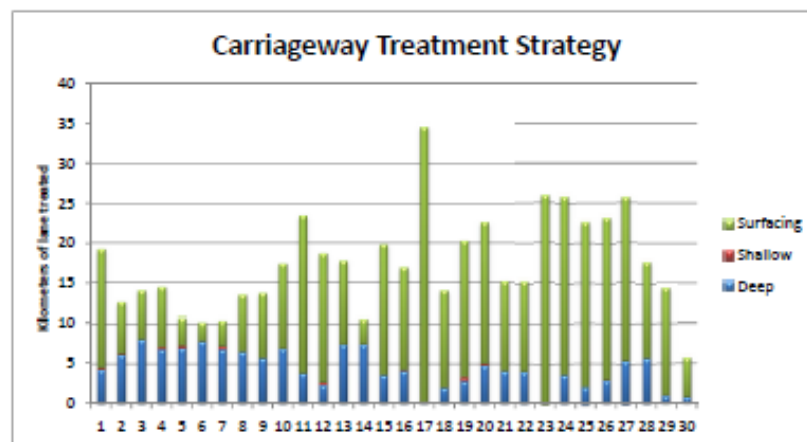


Figure XVI. Do Something (High Spend) length of carriageway lane treated and type of treatment deployed

AM in practice: HA's transformation

...and to evaluate the impact on selected key performance indicators

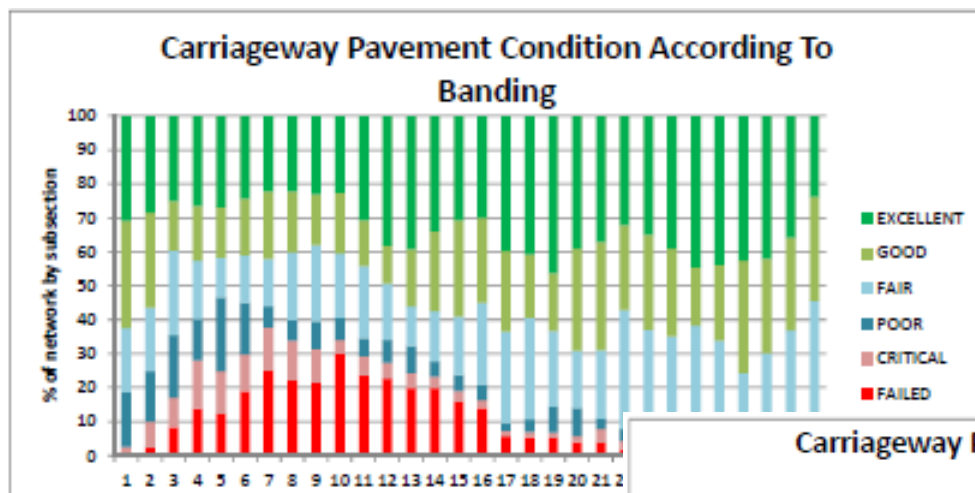


Figure XVIII. Do Something (High Spend) Evolution of S&CI Banding

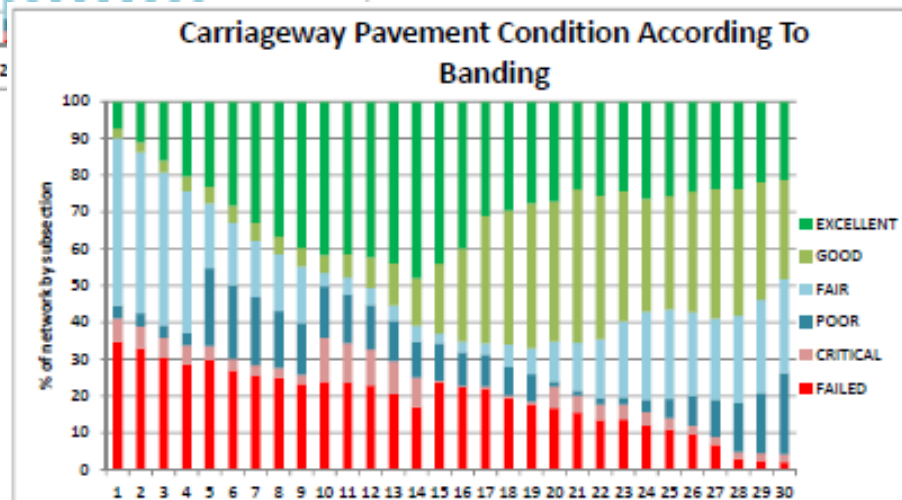


Figure XVII. Do Something (High Spend) Evolution of PCI Banding

Contents

#ErfRam

- Economics and infrastructure background in UK
- Road network and long term contracts
- The means to support asset management
- Asset management in practice
- Conclusion and outlook

Conclusion and outlook

- Reducing costs for maintenance is through asset management approach
- Absolute need for securing long term funding
- Absolute need for joint efforts between public decision makers and industry representative associations to progress this culture change

Conclusion and outlook

- Towards better and more intensive data management
- Let's not forget Socio Economic criteria...and common sense
- And new enhancements are already around the corner (released in 2016 in the UK):



Building Information
Modelling (BIM)
Task Group

THANKS FOR YOUR ATTENTION

