



The Road Surface Treatments Association Ltd

# Asset Management Using Road Surface Treatments

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CIHT North West Region Annual Highway Maintenance Conference

19.5.16

[www.rsta-uk.org](http://www.rsta-uk.org)

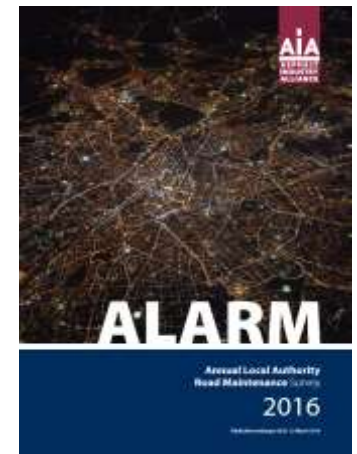
# Context



- Our road network is our biggest asset and its availability and standard of maintenance impacts on economic activity and our everyday lives
- Road maintenance funding is inadequate so highway authorities are improving efficiencies through better asset management
- Preventative maintenance is integral to good asset management and now there is more help available to make the right choice



[www.rsta-uk.org](http://www.rsta-uk.org)



# Drivers for Better Asset Management



- Reducing highway maintenance budgets and increasing input costs e.g. aggregates and bitumen
- New incentive funding scheme
- Increasing traffic and the need to reduce congestion
- Improving network resilience to combat climate change
- Protecting public safety e.g. skid policy
- Extending the road asset service life and delaying replacement
- Improved customer satisfaction
- Benchmarking and efficiency

# Its important for asset managers to know what treatments are available





# Surface Dressing



- The most common treatment used is surface dressing, followed by resurfacing, then strengthening (reconstruction and overlay).
- Surface dressing accounted for 65% on the principal 'A' road network and 69% of all treatment on the minor road network in 2014/15.



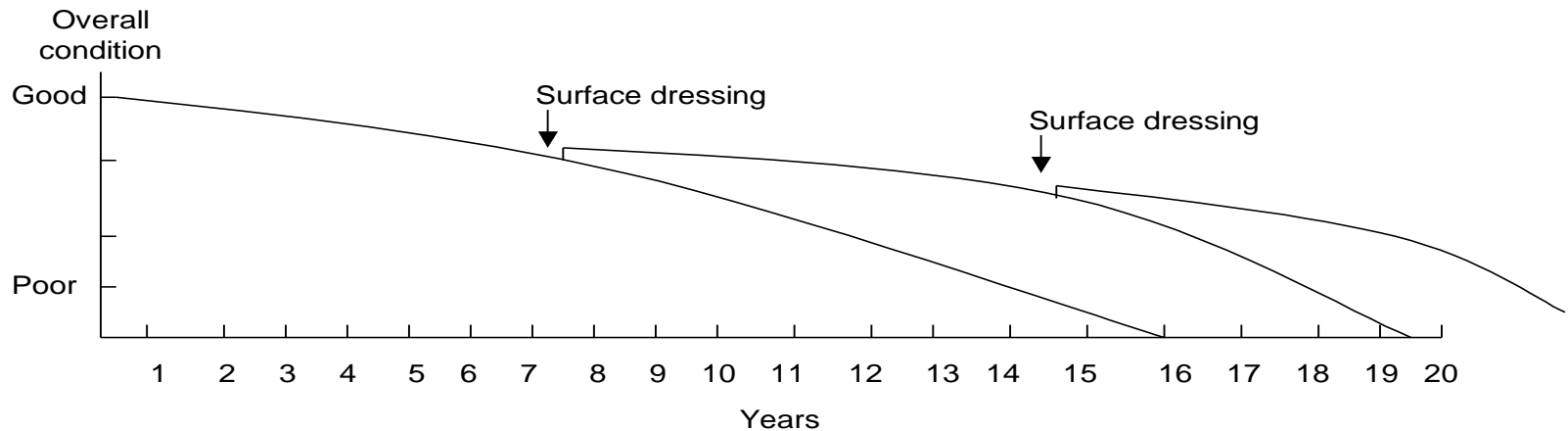
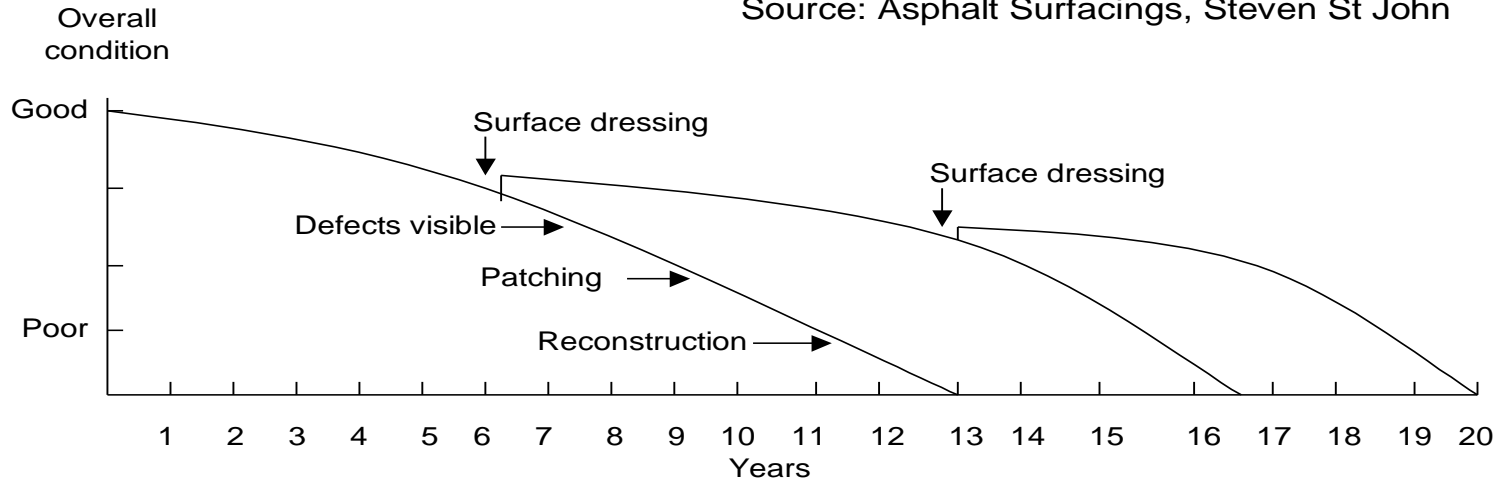
Department  
for Transport

**Road Conditions in England  
2015**

# Preventative maintenance



Source: Asphalt Surfacing, Steven St John



# PREVENTION AND A BETTER CURE

## POTHOLES REVIEW



APRIL 2012

# New asset management guidance



- RSTA, ADEPT and MSIG recognised in 2014 the need for new tools/guidance to help highway authorities to make better informed decisions at the pavement level
- This resulted in a panel being set up by RSTA involving industry stakeholders to collaborate and produce a new tool
- The tool was launched at the 2016 RSTA Conference and is now available through [www.rsta-uk.org](http://www.rsta-uk.org)





# The initial demand came from MSIG



MSIG is a collective of Midlands and North West County, City and Unitary Councils sharing best practice to drive improvements and efficiencies within the Highways and Road Safety Disciplines of Local Authorities.



# The MSIG Authorities



Rutland County Council



Courtesy of Herefordshire CC

[www.rsta-uk.org](http://www.rsta-uk.org)



# MSIG recognise ADEPT's definition of Asset Management



*Asset management is a strategic approach that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the highway infrastructure to meet the needs of current and future customers.*

The definition brings together these themes;

- ❑ **Strategic Approach** - A systematic process that takes a long term view.
- ❑ **Whole of Life** - The life-cycle of an asset is considered.
- ❑ **Optimisation** - Maximising benefits by balancing competing demands.
- ❑ **Resource Allocation** - based on assessed needs.
- ❑ **Customer Focus** - consideration of customer expectations.

# Incentive Funding is a key driver for MSIG



In December 2014, the Secretary of State for Transport announced that £6 billion will be made available between 2015/16 and 2020/21 for local highways maintenance capital funding. Since then we have also announced in November 2015 a further £250 million for a dedicated Pothole Action Fund. From this funding, £578 million has been set aside for an Incentive Fund scheme, to reward councils who demonstrate they are delivering value for money in carrying out cost effective improvements.

Each local highway authority in England (excluding London) will be invited to complete a self-assessment questionnaire, in order to establish the share of the Incentive fund they will be eligible for in 2016/17.

Local authorities are not competing with each other for funding, but are demonstrating that efficiency measures are being pursued in order to receive their full share of the funding.

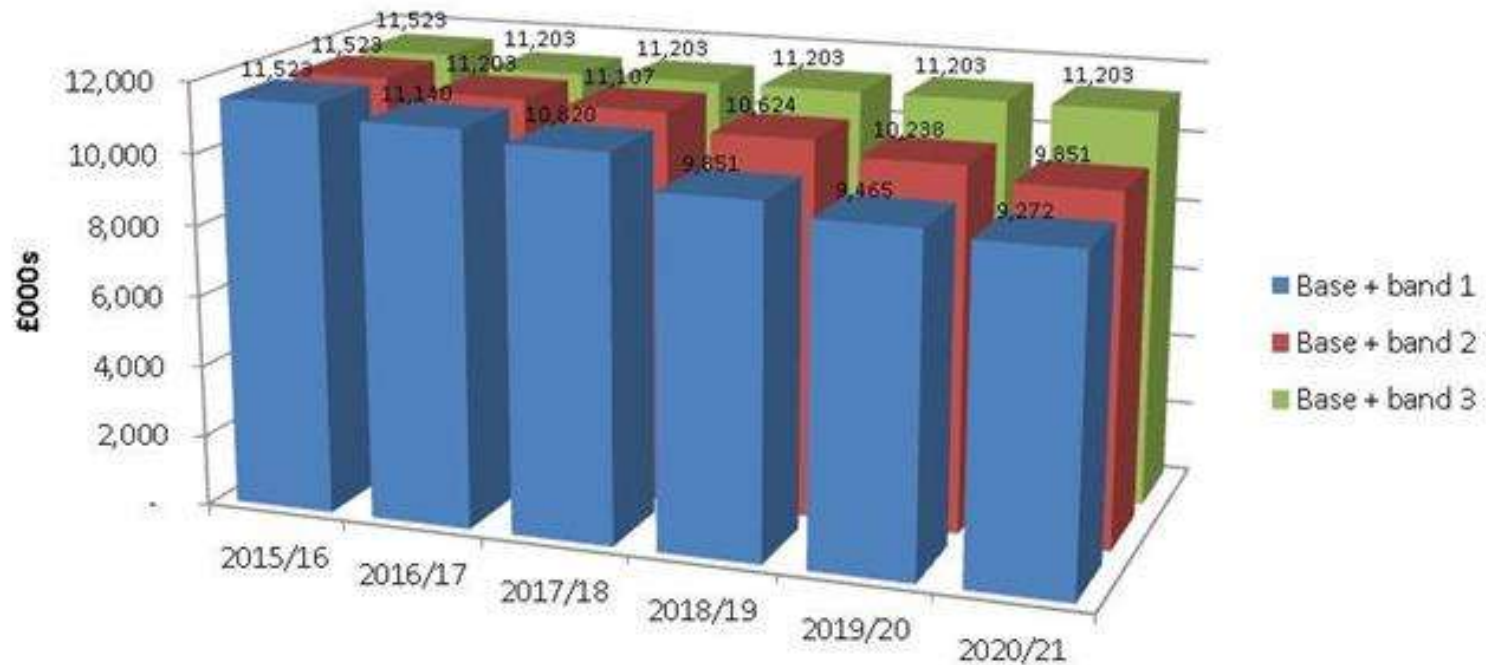




# Incentive Funding is a key driver for MSIG



## Variation in maintenance block subject to band allocation



# Why MSIG welcome the new tool



- To help bridge the gap between strategic asset management planning tools and the extensive guidance that the RSTA has on road surface treatment products.
- Best results will be achieved if asset managers can make the shift from a predominantly reactive 'worst first' approach to planned preventative works.
- Prevention is better than cure, so it is essential that we are aware of the full spectrum of surface treatment options available, and understand where they fit in our lifecycle plans.
- This tool will support sound investment decisions and enable RSTA members to demonstrate how their products can help deliver the best return on the investment made in local roads.

# Now lets look at how the new tool works



Over to Stacy.....

# iROADS Pavement Decision Tool

Asset Management Tool for RSTA

Stacy Smith, TRL





- Tool is a cut down version of TRL's iROADS Asset Management System
- Tool calculates the Economic Prioritisation of treatments
  - Allowing the user to compare 2 or more treatment options
- Tool facilitates the user to produce Treatment Lifecycle Plans
  - Allowing the user to compare 2 or more lifecycle scenarios illustrating the benefit of:
    - Preventative Maintenance Lifecycles
    - And/or Early Investment reaping benefits within the "Whole Life Cost"



Please note: the tool is not a Pavement or Asset Management System:

- It does not identify sections of network that require treatment
- A PMS/AMS can be used prior to the tool to identify the most appropriate type of treatment

# Key Information

## How much does it cost?

The tool is FREE to use for RSTA members!

(System logins are unique to each organisation)

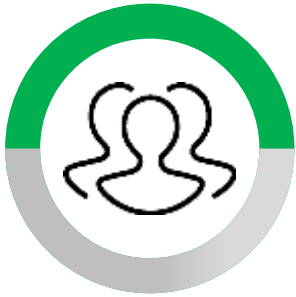
## When is it available?

- Commencing with members of RSTA then MSIG
- Available to any interested Local Authority

## Who is it intended for?

The tool's intended users are engineers/competent asset managers with knowledge of the available treatments and their options.

Register your interest for system access by emailing [iroads.support@trl.co.uk](mailto:iroads.support@trl.co.uk)



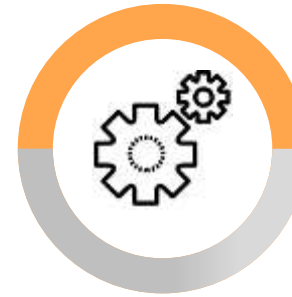
### Users can...

- Copy and update the default rates & lives
  - But will need to rename the treatment name
- Create additional treatments (from scratch)
- Copy and update the pre-populated Lifecycle Examples
  - But will need to rename the lifecycle name
  - Number of treatments, order of treatments & intervention period are user definable
- Create Lifecycle Plans (from scratch)



### Users cannot...

- The User **Cannot** update the default rates and lives
- The User **Cannot** update the pre-populated Lifecycle **Examples**



### Default values...

- Default unit cost rates are not provided
- Example treatments with broad-brush rates are populated
- Default life expectancy has been provided - users can populate their rates and life expectancy
  - Cannot be viewed or edited by other organisations
  - Commercially sensitive info (rates) can be input confidently
  - Users from other organisations cannot inadvertently edit a preconfigured tool

# Configuring The Tool



**Treatment Definitions and Unit Costs**

Treatment Costs Effects of Treatment

Copy selected treatment definition.

**HFS-High Friction Surfacing (Cold applied)**

**Treatment Costs**

|   | Environment | Maintenance Hierarchy | Cost /Sq. m | Li |
|---|-------------|-----------------------|-------------|----|
| ▶ | Rural       | 2                     | 0.01        | 12 |
|   | Rural       | 3a                    | 0.01        | 12 |
|   | Rural       | 3b                    | 0.01        | 12 |

- Users can select a treatment from the Default List
  - And use the 'Copy selected treatment definition' functionality



# Configuring The Tool



The screenshot shows the 'Treatment Definitions and Unit Costs' application window. On the left is a tree view under 'Treatment Definition' with 'My Organisation' expanded to show 'HFS-EG-High Friction Surfacing (Cold applied)'. The main area displays the title 'HFS-EG-High Friction Surfacing (Cold applied)' and a subtitle 'Exemplshire CC Local rates HFS (Cold Applied)'. Below this is a 'Treatment Costs' table with the following data:

| Environment | Maintenance Hierarchy | Cost /Sq. m | Life (Yrs) | Feature     |
|-------------|-----------------------|-------------|------------|-------------|
| Rural       | 2                     | 20          | 12         | Carriageway |
| Rural       | 3a                    | 20          | 12         | Carriageway |
| Rural       | 3b                    | 20          | 12         | Carriageway |
| Rural       | 4a                    | 20          | 12         | Carriageway |
| Rural       | 4b                    | 20          | 12         | Carriageway |
| Rural       | 1                     | 20          | 12         | Carriageway |
| Urban       | 2                     | 20          | 12         | Carriageway |

- Users can input local unit rates (and life expectancy)

# Running The Tool



The screenshot displays the 'Value Management' software interface. On the left, a tree view shows the following structure:

- Standard VM Attributes
- Site Condition VM Attributes
- Scheme Sets
  - Available HAGs
- Prioritisation Results
  - Available HAGs

The main area is titled 'Value Management Attributes' and shows a tree view with the following structure:

- Value Management
  - VM Attributes
  - Site Condition Assessment
  - Treatment Options
  - Maintenance Lifecycles

The detailed view for 'Value Management Attributes' includes the following fields:

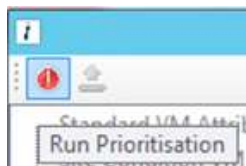
- Section Label: HAG05 XSP C From
- Description: HAG05 Hier 3a Urban
- Scheme Name: HAG05
- Comments: (empty text area)

Below the fields is a table with the following data:

| Treatment                            | Cost       | Life (years) |
|--------------------------------------|------------|--------------|
| HFS-EG-High Friction Surfacing (...) | £80,000.00 | 12           |
| HFS-EG-High Friction Surfacing (...) | £60,000.00 | 8            |

- Using iROAD's Value Management Functionality
  - 2 or more treatments can be selected for economic prioritisation

# Running The Tool



The screenshot shows the 'Value Management' software interface. On the left is a tree view with the following structure:

- Standard VM Attributes
- Site Condition VM Attributes
  - Scheme Sets
    - Available HAGs
  - Prioritisation Results (highlighted in red)
    - Available HAGs

The main area displays a table with the following data:

| Section Label | Description         | Treatment                                     | Ranking | Cost       |
|---------------|---------------------|---|---------|------------|
| HAG05         | HAG05 Hier 3a Urban | HFS-EG-High Friction Surfacing (Cold applied) | 4.05    | £80,000.00 |
| HAG05         | HAG05 Hier 3a Urban | HFS-EG-High Friction Surfacing (Hot applied)  | 3.60    | £60,000.00 |

- The Tool can be run by selecting “Run Prioritisation”
- The Prioritisation Results can be viewed

# Lifecycle Planning



Value Management Attributes

Value Management

- VM Attributes
- Site Condition Assessment
- Treatment Options
- Maintenance Lifecycles

Maintenance Lifecycles

Lifecycle Definitions

- Carriageway
  - 2
    - Rural
      - CJR-LCP1
      - HRA-LCP1
      - HRA-LCP2
      - Ref Cracking-LCP1
      - Ref Cracking-LCP2
      - Ref Cracking-LCP3
      - Ref Cracking-LCP4
      - TSCS-LCP1
      - TSCS-LCP2
    - Urban
      - 1
      - 3a
      - 3b
      - 4a
      - 4b
      - ND

Lifecycle Treatments

Ref Cracking-LCP3

Carriageway Maintenance Plan

on hierarchy 2 in Rural environments

Treatments in lifecycle

| Treatment Sequence | Treatment            | Life (yrs) | Cost /Sq. m |
|--------------------|----------------------|------------|-------------|
| 1                  | PO-Convrentional HRA | 10         | 14.00       |

Lifecycle analysis period: 10 year(s) Date created: 24/02/2016

- Similar Functionality exists for Lifecycle planning
  - Whole Life Cost over the entire Lifecycle is used to calculate the economic prioritisation

Next steps...

Register Interest in Tool: [iroads.support@trl.co.uk](mailto:iroads.support@trl.co.uk)

Email: [stacy.smith@trl-appia.com](mailto:stacy.smith@trl-appia.com)

Call: 07506 311 898

