

**STRUCTURAL MAINTENANCE
2008 – 2009
OVERVIEW OF TECHNIQUES AND COSTS**

In order to obtain the best value for money a number of factors are taken into consideration when formulating the structural maintenance programme.

- Narrowing the Gap (IMD)
- Objectivity - UKPMS Surveys
- Engineering Judgement
- Elected Member Liaison
- Partnerships
- Customer referrals
- Environmental Issues

Our quest is to align those variables and provide a programme that encompasses our long term strategy as it relates to The Bolton Plan.

TREATMENTS

The choice of treatment carried out largely depends upon the footway or carriageway condition. As with any highway network the objective is to maintain and improve the network and keep it safe for all users of the network. This can be achieved by taking into account its present condition and applying appropriate solutions and techniques that not only improve network condition but also extend its life.

Treatments fall into two broad categories – preventative and conventional.

There are those parts of the network that are coming to the end of their residual life but are in reasonable condition. In such cases, preventative processes such as slurry seal and surface dressing not only are they very cost effective but will extend the life of the surface considerably.

PREVENTATIVE MAINTENANCE

FOOTWAY SLURRY SEAL

Footway slurry seal can be used where the surface course is beginning to perish and looks 'hungry'. It is an extremely cost effective remedy for extending the life, improving safety, and appearance of the footway.

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|-----------------|------------------|
| Life Expectancy | 5 – 10 years |
| Cost | £2.80 per sq.mtr |

CARRIAGEWAY SURFACE DRESSING

Surface dressing is another extremely cost effective means of sealing the carriageway from the ingress of water thereby protecting the road layers and structural layers from further deterioration. In addition the application of chippings improves skid resistance.

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|-----------------|------------------|
| Life Expectancy | 5 – 10 years |
| Cost | £1.80 per sq.mtr |

MICRO-ASPHALT SURFACING (RALUMAC) CARRIAGEWAY

Ralumac is a relatively cheap carriageway solution. It consists of bitumen emulsion and aggregate slurry. It seals the surface and improves skid resistance and has very good stress absorbing characteristics. It is an ideal remedy where carriageways have been lacerated by utility company trenches and where wheel tracks have occurred.

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| Life Expectancy | 5 – 15 years |
| Cost | £4.00 per sq.mtr |

CONVENTIONAL MAINTENANCE

THIN SURFACINGS SMA (STONE MASTIC ASPHALT)

SMA is a surface course and can be used as an overlay to add extra strength or as an inlay following the removal of the defective surface course and binder course. It is a porous asphalt with noise levels and spray considerably less than other surface materials. Therefore it is an extremely useful process in an urban environment especially on the classified road network where environmental issues are important.

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|-----------------|---------------------|
| Life Expectancy | 15 -30 years |
| Cost | £12 - 18 per sq.mtr |

‘TRADITIONAL’ RESURFACING DBM (DENSE BITUMEN MACADAM) CARRIAGEWAY

Mainly used as an overlay to add extra strength or as an inlay following the removal of the defective surface course and binder course. Generally DBM is used as a solution on residential carriageways.

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|-----------------|---------------------|
| Life Expectancy | 10 – 25 years |
| Cost | £12 - 18 per sq.mtr |

RECONSTRUCTION CARRIAGEWAY

Total reconstruction is necessary and extremely expensive, when the carriageway is beyond repair and the foundation courses require replacement. The methods above may be used to provide the binder and surface courses.

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|-----------------|----------------|
| Life Expectancy | 25 – 40 years |
| Cost | £80 per sq.mtr |

FOOTWAY RESURFACING DBM

Footway resurfacing is necessary when preventative techniques will no longer provide the solution. Replacement of both the binder course and surface course is an option that will raise the standard greatly and will extend the life expectancy beyond 15 years.

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|-----------------|----------------|
| Life Expectancy | 15 – 20 years |
| Cost | £25 per sq.mtr |

If kerbs need replacing then life expectancy as below:

| | |
|-----------------|----------------|
| Life Expectancy | 15 – 20 years |
| Cost | £40 per sq.mtr |

ENHANCED WORKS (PUBLIC REALM)

Enhanced works are usually undertaken in prestige areas and entail reconstruction techniques for natural stone flags and sett paving. The high quality nature of the work reflects longevity and worthiness of the investment.

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|-----------------|----------------|
| Life Expectancy | 85 years |
| Cost | £80 per sq.mtr |