Walsall Council

Highway Maintainability Audit.

Version 1.5 – Updated April 2023.

Contents.


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1 – Foreword.

Walsall Council recognises the importance of good highway maintenance for all road users. It also recognises that good highway maintenance benefits the economy; the potential to aid regeneration; social inclusion; community safety; health and environment. Whether we walk, cycle or use private or public transport at some point we all rely upon good reliable service from the road network to sustain our transportation needs.

It is therefore imperative that new developments, regeneration and improvement schemes which introduce new sections of highway to the network, or which enhance the established network must be carefully planned, designed and built.

The Walsall Highway Maintainability Audit forms part of Walsall's Highway Asset Management Strategy (HAMS) and will ensure commitment to carefully consider the future maintenance and sustainability of any changes made to the highway network.

2 – Purpose.

The purpose of the Walsall Highway Maintainability Audit (WHMA) is to co-ordinate the design of all proposed highway materials and to ensure as far as reasonably practicable that future maintenance implications are considered at the earliest stage of any highway project. It is essential that the designer's freedom for innovation is protected. It is hoped that the Walsall Highway Maintainability Audit will provide the opportunity for all parties to contribute their experience and expertise rather than lead to unresolved conflicts. The Walsall Highway Maintainability Audit is also the mechanism by which we can ensure that all new highway assets are properly recorded and registered on the Council's highway asset inventories.

3 – Streetscape and its economic contribution.

The Walsall customer experience and potential for them to return can be greatly influenced by the streetscape. How it appears, levels of congestion, restrictions due to roadworks all play a part in that experience. Public perception can also be greatly affected by the choice and use of materials in highway design and ongoing maintenance. Materials need to be pleasing to the eye, clean, safe to walk or drive on, durable and functional.

4 - Main Objectives.

- To encourage designers and officers to:
- Select materials which are durable and functional.
- Select materials that are from a sustainable, ethical source which can be easily matched replaced and maintained.
- Work closely together.
- Reduce street furniture and unnecessary clutter.
- Improve/maintain safety of the travelling public.
- Register all new highway assets on the relevant highway asset inventory.

5 – Who does the Walsall Highway Maintainability Audit apply to?

- The Walsall Highway Maintainability Audit applies to the following groups:
- All officers of Walsall Council.
- Any partnerships working with Walsall Council involved with design and maintenance of the highway network.
- Statutory Undertakers and contractors working on their behalf.
- Private developers and any organisation working under agreement or permit where the work affects the highway network.

6 – Integration of Policy, Design and Maintenance.

The Code of Practice for Highway Maintenance Management 'Well Managed Highway Infrastructure – A Code of Practice' (the Code) places great emphasis upon the integration of policy and adopting the asset management approach. The Code also states that 'Co-ordination of design & specification between highways maintenance & highways improvement schemes can be improved through formal & informal liaison & co-operation between those involved to ensure that the whole life costs of schemes are optimised'. Authorities should, however, give consideration to the introduction of more formal co-ordination arrangements in conjunction with the development of their Highway Asset Management Strategy, to ensure that whole life costs of schemes are optimised.'

Walsall's Highway Maintainability Audit provides the necessary formal co-ordination and at the same time promotes informal discussions that will be required to establish and agree future maintenance schedules and standards.

The Audit is a mechanism to monitor the effectiveness of design and over time to identify good practice which does not impinge unduly upon maintenance frequency or cost. However, it is not intended to restrict the use of high-quality materials in town centres or prevent the use of environmentally sensitive treatments if appropriate to the street scene but should identify and establish that these types of projects may require higher future maintenance funding.

Feedback will then over time influence service frequency and assist in the modelling of whole life costing which forms a very important part of the asset management approach. It will also offer the opportunity to compare similar materials, types of street furniture and construction designs, which may produce significant savings without impacting upon the quality of the street scene.

The areas which are known to cause problems are:

- Materials which require a high frequency of maintenance in order to function effectively.
- Schemes which subsequently require disproportionate traffic management costs in order to safely undertake maintenance works.
- Planting and verge treatments which are not appropriate to the location.
- Access for routine maintenance such as grass cutting, gully emptying and street cleansing.
- Materials with a high minimum stock order from manufacturers or a long delivery time.
- Traffic calming or safety features with excessively high deterioration rates.
- Inappropriate use of street furniture which causes unnecessary clutter.

7 – The Walsall Highway Maintainability Audit Procedure.

The Audit procedure is a simple but effective tool which is accessible to project managers for any project that involves a significant material change to the highway. The procedure (Appendix A) is accessible electronically via the Walsall Council website.

It is the responsibility of all project managers to complete and sign the procedure 'PART A – Designing with maintenance in mind', ensuring that relevant officers within Highways Maintenance Group sign the form.

A copy of the completed form will be retained by the Highways Maintenance Group together with as built drawings and the site-specific health and safety plan as required by the Construction (Design & Management) Regulations 2015 (CDM).

The monitoring form PART B provides the basis for managing the future maintenance implications following commission. This will enable the Highways Maintenance Group and other Council departments to establish and implement asset management activities, together with financial and operational provision that may be required as a consequence of changes made to the infrastructure of the highway network.

Project managers should complete the PART A procedure during the preliminary design stage as part of the consultation process but may also wish to informally discuss proposals with officers within the Highways Maintenance Group for advice.

Upon completion of the works, project managers should submit as built drawings to the Highway Asset Manager. It is essential that details of all additional, deleted or amended highway assets are submitted in the required data format.

The required level of information varies for each asset type, PART C lists the full range of highway assets and the contact details of those Council officers responsible for each asset category.

Project managers should contact each individual Council officer listed under PART C to determine the level of data required for each individual asset type.

8 – Integration Information for Project Managers and Designers.

Project managers and designers should be aware that:

- Highway authorities not only have powers to improve highways for various purposes but also have a statutory duty to maintain them. There is no liability for failing to exercise a power, but using the power, for example to erect new signing or traffic calming creates a liability to maintain.
- Any works on the highway shall require notification to Highways & Transportation at Walsall Council to ensure compliance with the New Road & Street Works Act 1991 and the Traffic Management Act 2004.
- The National Street Works Gazetteer is available online at www.geoplace.co.uk and provides essential information from and to statutory bodies, internal departments, and links to Walsall's Local Land & Property Gazetteer (LLPG) and Local Street Works Gazetteer (LSG). Information includes such things as special surface types, new surfaces, and protected streets.
- The Construction (Design & Management) Regulations 2015 (CDM) requires that materials should be accessible for maintenance purposes. For example, designers must consider the positioning of access covers, guardrail, lamp columns, gullies, grass verges etc so that operatives can safely access them in order to perform necessary maintenance.
- Highway surfaces will be cleaned on a routine basis usually by mechanical sweepers. The design of paving materials particularly in town centres should therefore be designed with this in mind. Narrow restricted areas typically less than 1.8 metres wide should be avoided along with right angle corner walls, as cleaning machines cannot access these areas. Areas which could trap detritus due to step changes or inappropriate profile should be avoided. Wherever possible profiles should ideally be able to self-cleanse during heavy rainfall. This will prevent the opportunity for weed growth and reduce the use of weed killers.
- Surface materials must be compatible for winter service treatments. Any materials used must be resistant to regular exposure to salt and acetate which are used to prevent ice forming. Materials must also be of suitable texture and not be unduly compromised during wet or winter conditions.
- Traffic congestion should be minimised both during the original construction and subsequent maintenance phases by using designs which can be constructed quickly and efficiently.
- Section 278 of the Highways Act 1980 affords developers permission to carry out work which is, or will form, part of the public highway. Included within this permission, the Council is able to obtain commuted sums from the developer where future maintenance will be required. When specialist or innovative materials are specified, the amount of commuted sum will increase, which is often why developers do not consider specialist design.

Any highway work in Walsall's Conservation Areas will require consultation with the Building Conservation Team and that surfaces must be approved prior to implementation. Excellent guidance is also available in the documents 'Streets for All' produced by English Heritage and Traffic Advisory Leaflet 1/96 'Traffic Management in Historic Areas'.

Walsall Council actively encourages and promotes the use of recycled materials or the indirect recycling of materials arising from construction.

9 – Monitoring and Measuring Success for Key Deliverables.

Key Deliverables.

The Walsall Highway Maintainability Audit will be monitored over time to establish whether it has been successful. It is hoped that the key deliverables will be:

- Reduced remedial works (and therefore congestion).
- Less routine maintenance and better knowledge for future planned maintenance operations.
- Better surfaces to walk, cycle and drive on.
- Reduced waiting times for repairs which are sometimes due to suppliers' delivery times. By identifying items of this nature, it is possible to either carry stock items or use alternative materials and products.

PART B of the Walsall Highway Maintainability A procedure is completed at the end of the defects correction period of each project, usually 12 months by nominated officer(s) stated in PART A who will take into account:

- Whether materials or street furniture have performed badly or if premature failure has occurred requiring replacement.
- Whether any material or street furniture has been replaced due to damage.
- If the original construction or any remedial works caused an increase in traffic congestion.
- Supply chain both during the works and for any replacement was effective and efficient.
- Complaints and/or compliments.

10 – Appendix A.

Walsall Highway Maintainability Audit (WHMA)

Part A – Designing with maintenance in mind.

Notes for guidance:

Project managers and designers should refer to the Walsall Highway Maintainability Audit (WHMA) and flowchart Figure.1 before completing this form.

This form should be completed for any scheme that involves a material change to the structure of the carriageway, footway or verge.

The purpose of the Walsall Highway Maintainability Audit (WHMA) is to co-ordinate the design of all proposed highway materials and to ensure as far as reasonably practicable that future maintenance implications are considered at the earliest stage of any highway project. It is essential that the designer's freedom for creativity and innovation is protected. It is hoped that the Walsall Highway Maintainability Audit will provide the opportunity for all parties to contribute their experience and expertise rather than lead to unresolved conflicts.

If the designer or project manager anticipates that the existing or surrounding highway has little or no residual life, then it may be necessary for structural works be carried out prior to implementation. It may be possible or even essential for the Highways Maintenance Group to modify existing works programmes in order for the project to progress.

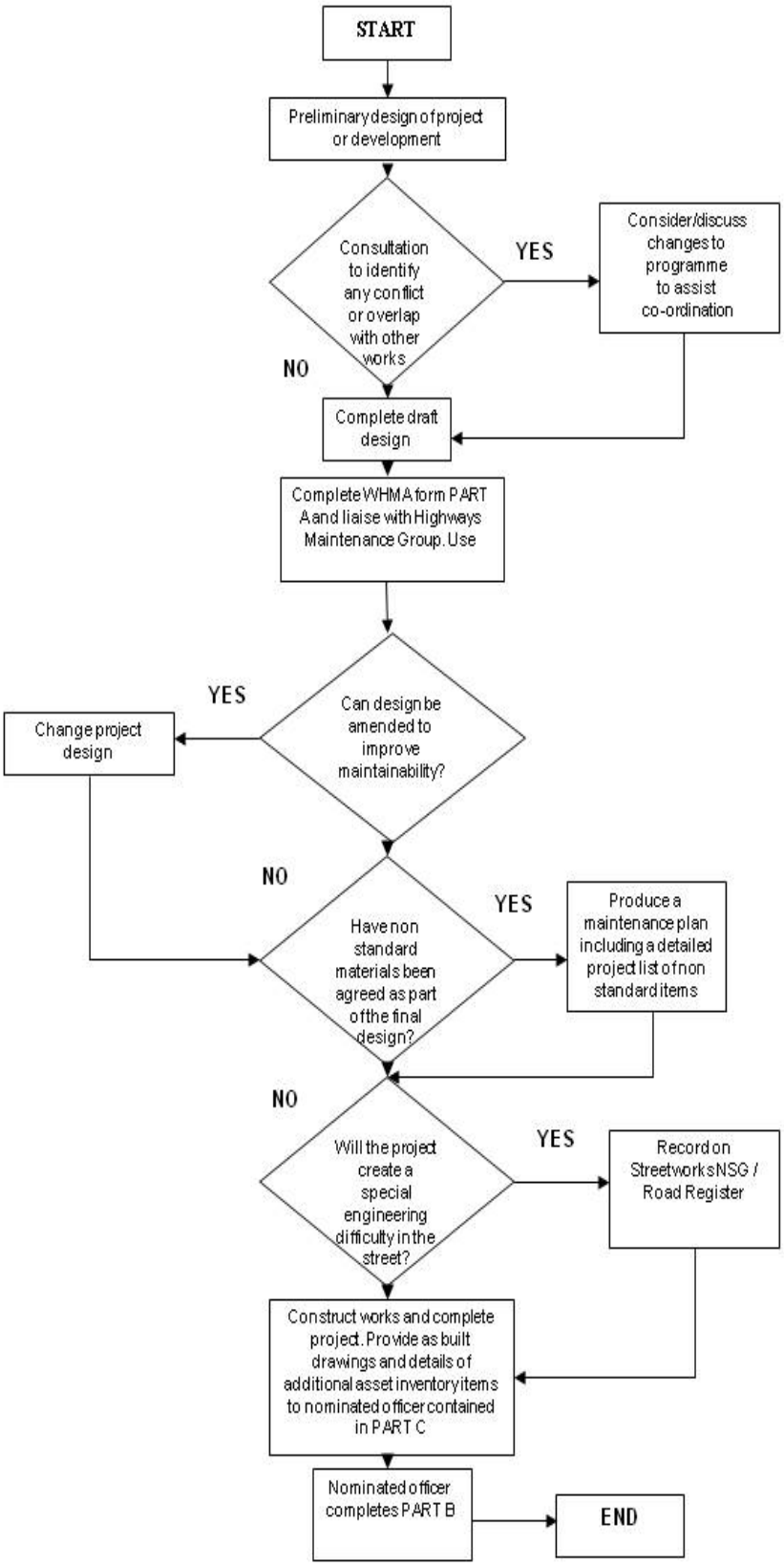
The specification of bespoke or high specification materials must be measured against delays in manufacture, supply and replacement or maintenance times. Minimum supply or order levels must also be considered. Stock piling of difficult to obtain materials or street furniture may be possible and this should be discussed with Highways Management and the suppliers.

The use of highly coloured products that may fade or discolour over time should be used with caution as replacement areas due to statutory undertaker's works or minor repairs will look unsightly.

Planting of trees and shrubs in or near paved surfaces often provide major benefit to the street scene, offering shade, focal points and colour. Care must be taken however, to consider root damage to paving and underground services, leaf litter, routine maintenance costs, the effect upon public lighting and the potential obstruction for pedestrians or sight lines once the planting reaches maturity.

An accurate and detailed project list of non-standard items must be compiled. The definition of the term standard means in this case, items traditionally used in Walsall. This will assist in future maintenance, promote the asset management approach and make matching of products easier for officers in the Highways Maintenance Group. This information must also be recorded as a site of Special Engineering Difficulty (SED) within the National Street Gazetteer (NSG) as this will ensure that statutory undertakers are then obliged to reinstate using similar materials. Without a Special Engineering Difficulty being recorded, statutory undertakers are only required to reinstate using standard or similar materials.

Figure 1 – Flowchart schematic outlining Designing with Maintenance in Mind & Monitoring Processes.



Scheme Details:

Name of project
Project details
Roads affected (including diversion routes for traffic management)
Drawing numbers
Project manager and/or designer
Print Name
Signature
Contact address
Phone numbers
E-mail address

Materials & Supply Details:

Asset	Detail	Supplier/Specification
CW	Standard bituminous/asphalt materials	
CW	Coloured/pigmented surfaces	
CW	Textured/imprinted concrete or asphalt surfacing	
CW	Concrete	
CW	High/anti-skid resistant materials	
CW	Modular paving	
CW	Other special	
FW	Standard bituminous asphalt material	
FW	Standard blocks	
FW	Modular Paving	
FW	Pigmented or patterned	
FW	Other special	
St Furniture	Standard	
St Furniture	Other special (including paint, finish or colour-RAL No. if known	
Drainage	Standard	
Drainage	Special (e.g. acco channel, beany blocks etc)	

Checklist If the answer to any selection below is no, please provide details:

What is the design life of the scheme?		Years
	Yes	No
Is the design life compatible with the existing or surrounding highway?		
Are the design and materials suitable for predicted traffic use?		
Are the materials likely to be readily available for replacement during the maintenance period?		
Are the materials similar to those in adjacent areas?		
Are the materials guaranteed not to discolour or fade?		
Can the surfaces be cleaned easily?		
Are the materials used resistant to acetate and salt?		
Has access for future maintenance needs been identified and catered for?		
Have trees and planting been specified based upon the fully mature size and has their location been considered so that traffic signs and visibility splays will not be obscured; and so that underground services and paving will not be damaged by lateral roots?		
Have recycled materials been considered and have the construction arisings been considered for recycling elsewhere?		
Has an inventory of all materials been supplied for asset management purposes to the officer responsible for managing each particular asset group. See PART C for details.		
If new Special Engineering Difficulties have been identified, have they been registered on the National Street Gazetteer (NSG)?		
Have commuted sums been sought?		
Have you co-ordinated this work through the NRSWA quarterly liaison meeting and ensured that there is no conflict with other works programmes?		
Have drainage requirements been calculated and designed?		
Have storage facilities for difficult to obtain materials or street furniture been made available and suitable stock provided for maintenance purposes?		
Has the existing surface been assessed, and the condition determined to have suitable residual life?		
	Dec.	Inc.
Do you consider that future maintenance requirements will Decrease or Increase?		

Comments from nominated Highways Maintenance Group Officer:

Name: …… Position: ……

Signature: …… Date: ……

Walsall Highway Maintainability Audit (WHMA)

Part B – Monitoring Form (upon completion of defects correction period.

To be completed by nominated Highways Maintenance Group Officer.

Name of Project:
Project details:
Roads affected (including diversion routes for traffic management):
Drawing numbers:
Project manager and/or designer:
Assessed by:
Date:
Position:
Signature:
Has any material or street furniture been repaired or replaced due to premature failure? If yes give details:
Has any material or street furniture been repaired or replaced due to damage? If yes give details:
Has traffic congestion increased due to the scheme or remedial works? If yes give details:
Have there been complaints or compliments about the scheme? Provide details:
Have there been unforeseen maintenance problems, and do you envisage any in the future? If yes give details:
General Comments: -

Walsall Highway Maintainability Audit (WHMA)

Part C – Highway Asset Inventory Data.

Maintaining an up-to-date and accurate inventory of Walsall Council's highway network is an essential pre-requisite for Walsall's highway maintenance management plan and asset management strategy.

Walsall does not rely upon a single computerised Highways Maintenance Management System, but has an integrated suite of specialist applications, models, and databases which all form component parts of the Walsall Highway Maintenance Management System.

Walsall's highway asset inventory is the foundation upon which its asset management processes are built. The key objective is to make high quality inventory and condition data readily available so that a consistent management approach is achieved on an informed basis to optimise resource allocation.

The ability to analyse inventory data in combination with condition data, and cross reference this with other information such as skidding resistance or accident records is crucial for targeting high risk sites.

The output provides important information upon which priorities and critical decisions can be based. It is then possible to consolidate the use of more advanced asset management processes such as optimisation and risk management, which rely on the existence of comprehensive, accurate and up-to-date asset inventories.

The level of information recorded against each asset group has been assessed to determine that it is meaningful and has specific regard for the use and purpose of the data. Typical uses include:

- To provide information on the condition of the asset
- To enable a long-term programme to be established
- To capture faults or damage in a way that can be analysed
- To report on National Indicators and Local Indicators
- To assist in the management of contractual arrangements
- To enable the value of the asset to be calculated

Designers and project managers should contact the appropriate council officer to determine the level of data that is required in connection with any changes they make to the highway network.

Each asset group is listed on the following page together with the contact details and required data format. You are advised to contact each relevant officer to determine their specific requirements with regard to each asset and the associated data attributes.

Contact officer details – Management of Highway Asset Inventories.

Asset Group	Contact Officer	Data Format
Changes to the extent of public highway, (Road Register)	Husna Khatun 01922 654672	As built drawings in AutoCAD or Geographical Information System format.
Carriageway and footway	Phil Hales 01922 654394	United Kingdom Pavement Management System.
High friction surfacing (Anti-skid)	Gary Chalk 01922 654393	As built drawings in AutoCAD or Geographical Information System format.
Public Rights of Way	Jo Sheeran 01922 654673	Spatial data in Geographic Information System format.
Cycle ways	Matt Crowton 01922 654358	Spatial data in Geographic Information System format.
Structures (Bridges, retaining walls, etc)	Jag Raan 01922 655921	As built drawings in AutoCAD. Structural calculations. Progress photographs.
Highway drainage pipe work and systems	Helen Ingram 01922 654399	As built drawings with levels based on AOD. Progress photographs.
Culverts and tunnels (in connection with watercourses)	Jag Raan 01922 655921	As built drawings in AutoCAD.
Highway gullies and kerb drainage systems	Helen Ingram 01922 654399	Spatial data in GIS format.
Traffic signals and controlled pedestrian crossings	John Charles 01902 555752	As built drawings in AutoCAD. Controller specification.
Street furniture	Richard Pohribnyj 01922 654392	Spatial data in Geographic Information Systems format.
Safety fencing and pedestrian guardrail	Richard Pohribnyj 01922 654392	Spatial data in Geographic Information Systems format.
Street lighting and road sign illumination	Elizabeth Thomas 01922 652555	As built drawings in AutoCAD. Spatial data in Geographical Information Systems format.
Road signs	Simon Hinton 01922 654675	Spatial data in Geographical Information Systems format.
Traffic calming	Alan Saunders 01922 654678	As built drawings in AutoCAD or Geographical Information Systems format.