
southyorkshire
local transport plan partnership

**SOUTH YORKSHIRE
HIGHWAY ASSET MANAGEMENT PLAN
SEPTEMBER 2010**

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1) EXECUTIVE SUMMARY

- 1.1 The Highway Asset is generally recognised to be the largest, most visible, and most valuable community asset that is managed by Councils of South Yorkshire. Its continued maintenance and improvement underpins most other council and externally delivered services and should therefore be a key priority in the delivery of those services that people need and want in order to fulfill the asset's potential.
- 1.2 Virtually the entire population of South Yorkshire plus transient users of the highway use the highways asset service on a daily basis to access their jobs, local services schools and shops, etc. The highway network is therefore of fundamental importance in playing a key role to support the socio-economic well being of the community and in promoting environmental benefits, transport efficiencies, regeneration and social inclusion.
- 1.3 Inadequate investment in the highway asset only stores up maintenance problems for the future, which will be more expensive to rectify and will cause greater disruption to the operation of the network. The Department for Transport (DfT) and the Roads Board recommend a sustained and long-term program of local roads planned maintenance investment which should be efficiently managed and supported by effective technical and management systems.
- 1.4 To this end, the DfT encourages all Local Authorities to extend the preparation of asset management plans to their highway and transport assets, with the plans being informed by their current Local Transport Plan (LTP) and other service and corporate plans.
- 1.5 LTP2 guidance states that *“effective Transport Asset Management Plans (TAMPs) will provide the means for authorities to understand the value and liability of their existing asset base and make the right strategic decisions to ensure this base is exploited to its full potential and its value safeguarded for future generations”*. In essence, TAMPs and their counterpart documents HAMPs (Highway Asset Management Plan) provide a transparent process for decision making and will predict the consequences of funding decisions through the modelling of condition deterioration. Care should be taken not to confuse this HAMP with a “TAMP”, although the South Yorkshire Authorities are working together to deliver a TAMP.
- 1.6 A generic South Yorkshire HAMP format document has been developed and agreed by officers from Barnsley, Doncaster, Rotherham Metropolitan Borough Council (BMBC), (DMBC), (RMBC), Sheffield City Council (SCC), and South Yorkshire Passenger Transport Executive (SYPTe), which broadly follows the County Surveyors' Society Framework document however the detail of the plan is tailored to each Authority's environment and policies reflective of service levels and the identification of resultant performance gaps.
- 1.7 The HAMP is developed as an evolving document and will be refined periodically over a number of years. This preliminary South Yorkshire HAMP is an overarching HAMP concentrating at this stage of development on the high level corporate information reflective of the network condition status and asset inventory and providing the core data by which the highway assets are registered, managed and maintained.
- 1.8 All councils within South Yorkshire undertook a health check review exercise on the Council's position up to that point and looking at the work outstanding and the priorities for further development of the HAMP. What transpired was the recognition that besides the expected technical and operational matters for consideration by service managers, a number of other requirements were identified which demanded the joint attention of elected members, such as:-
- Understanding legal obligations.
 - Adoption and publication of policies for highway maintenance.

- Defining priorities and service levels.
- Establishing condition performance indicators and inventory needs.
- Risk assessments and adequate safety inspections.
- Designing for sustainable maintenance and whole life costs.
- User and community contact.

1.9 Contact with the community through elected members and via customer satisfaction surveys is of importance in determining views on:-

- Customer expectations of the service.
- Customer views on priorities for highway maintenance and improvement.
- Customer outlook on spending and comparable service priorities.

1.10 It is likely that our customers will have high and growing expectations for highway services that will be very challenging to meet. The information obtained will have a direct influence on the priorities for action within the Improvement Plan.

1.11 In this first draft of the South Yorkshire HAMP, it is recognised that more work needs to be done in gaining public and stakeholder opinion on service delivery and the determination of service levels and to this end the South Yorkshire HAMP will be kept under continuous review and will be updated to reflect annual network changes.

1.12 Maintenance of the highway is a continual activity with the asset never remaining 'as new' for very long. Degradation through continued use, environmental influences, age or weathering, results in the need to employ both reactive and planned maintenance techniques, reflective of condition status. Elected Members and officers will need to be proactive in reviewing and adopting best practices and industry codes as council policy and put them into practice. The South Yorkshire HAMP is not a management tool but highlights the basis by which the councils within South Yorkshire are achieving the HAMP requirements and delivering the HAMP.

2) HIGHWAY ASSET MANAGEMENT IN SOUTH YORKSHIRE

2.1 INTRODUCTION

- 2.1.1 South Yorkshire's Road Network, comprises of 5,947.8 km of adopted roads, 1,706.5 km of which form the Classified 'A' 'B' 'C' Road networks. The road and footway network as a whole has an indicative construction value of £3.2bn, (this excludes high cost drainage items), making it amongst the most valuable physical assets owned by the South Yorkshire Councils.
- 2.1.2 Almost every resident, worker and visitor in South Yorkshire uses the highway network in some way on a daily basis, whether as a pedestrian; as a cyclist or motorcyclist, as a car, bus or commercial vehicle driver or passenger, or in other diverse ways such as a mobility scooter user, etc. The network is used by a diverse range of society, young and old, able-bodied, disabled persons, e.g. partially sighted/blind, etc, and by other minority groups such as equestrian users. The highway network therefore needs to perform in different ways for different user and social groups each with their own needs and priorities.
- 2.1.3 Although the highway network provides the main thoroughfares for the distribution and transportation of people throughout South Yorkshire on foot or in vehicles, these same streets can also provide an ancillary function as key social-environmental space for such as those browsing sidewalk fruit stalls or shop window displays, enjoying a snack at an outdoor café, or taking a break on a bench beside the footway, or simply strolling taking in the open air. These social groups are also key stakeholders of the network and are growing in numbers. In essence, the continued provision and maintenance of this network affects the lives of tens if not hundreds of thousands of people in our town on a daily basis who have a need to use the highway service.
- 2.1.4 This HAMP has been written to provide all interested stakeholders with an overview of the policy drivers and investment decisions that affect the maintenance of the highway network within South Yorkshire. The South Yorkshire HAMP demonstrates and informs the process of keeping the highway network safe and serviceable while achieving value for money.
- 2.1.5 The UK Roads Liaison Group document, "Maintaining a Vital Asset", states the following:-
- "Continuing growth in traffic and its attendant problems has brought an increasingly widespread recognition of the importance of highway maintenance, and the high value placed on it both by users and the wider community. Conversely, public concern is increasing about failure to invest adequately and effectively in highway maintenance and the implications of this for safety and journey reliability. Inadequate maintenance only stores up even greater problems for the future. Recent increases in investment have been welcome and effective, but a sustained long term programme of investment in maintenance of the local highway network is crucial. This investment needs to be planned, efficiently managed and supported by effective technical and management systems".*
- 2.1.6 "Maintaining a Vital Asset" lays out the cornerstone of asset management as being a strategic and holistic approach to planning and managing investment over the whole life of the asset so as to ensure better value for money. For instance, the provision of adequate capital and revenue investment in the highway assets, eg for the timely intervention of planned structural and preventative refurbishment works associated with resurfacing or reconstruction of the carriageway, rather than continual local reactive patching, promotes value for money maintenance strategies which can achieve both a better and safer ride for road users with less traffic disruption, less delays and at a lower whole life cost.

2.1.7 South Yorkshire's HAMP covers the processes for the management, maintenance and operation of the following types of highway assets:-

- I. Carriageways and footways.
- II. Public Rights Of Way (PROW).
- III. Highway structures, including bridges, footbridges, retaining walls, subways and culverts.
- IV. Tunnels.
- V. Lighting and lighting columns.
- VI. Other assets, including traffic signs, road markings and studs, drainage, street furniture, and the green estate.
- VII. Changes to Highway Assets.
- VIII. Additions to the highway network.
- IX. Unadopted roads programme.
- X. Section 38 Private Developments & Section 278 works.
- XI. De-commissioning of assets.

2.1.8 The HAMP focuses on the level of service delivered by the highway assets and not on the transport system that it supports.

2.2 WHAT IS HIGHWAY ASSET MANAGEMENT

2.2.1 Asset management has many different interpretations. For the purposes of this HAMP it is considered to be a framework which can be applied to the range of highway assets and to a variety of processes for providing, managing and maintaining these assets. A key part of understanding and implementing asset management is to have quantitative knowledge about the extent of the assets, i.e. inventory, the asset condition, its future use requirements and the levels of funding available impacting on future maintenance levels and service delivery capabilities.

2.2.2 The UK highways industry has adopted the following definition for "What is Asset Management"...ref CSS TAG "Framework for Highway 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"

2.2.3 The UK national guidance goes on to define key aspects of this definition as follows:-

KEY ASPECTS	ASSET MANAGEMENT DEFINITION
Strategic	Taking a long term view
Approach	Systematic processes
Optimal	Trading off competing demands
Resource Allocation	Allocating resources based on assessed need
Management operation	Taking a whole life and life cycle approach
Highway infrastructure	Covering all assets within the highway
Needs	Explicitly identifying and documenting needs
Customer focus	Explicitly considering customer needs and desires

2.2.4 Asset management builds on existing processes and tools to form a continuous improvement framework by using Levels of Service to define needs and expectations, to monitor performance against them and then to identify the most cost effective ways of closing performance gaps.

2.2.5 Continuous improvement of service delivery will be achieved through the Improvement Action Plan. These plans will be specific for the individual Authority within South Yorkshire and will have a three-year lifecycle, with individual improvement actions prioritised over this timeframe. The HAMP will be subject to an annual review. The review will include the benefits and progress delivered as a result of the improvement plan actions identified for that year/period.

2.3 THE BENEFITS OF ASSET MANAGEMENT

2.3.1 The benefits of asset management on our network can be realised in the near future. A major benefit of the asset management approach is that we will seek to optimise the value of our assets over their whole life. Asset management supplements our engineering judgement with financial, economic and engineering analysis, enabling South Yorkshire to understand and manage the relationship between cost and performance and thereby bring about improved decision-making.

<p>The 'Value Equation'</p> $\text{Value} = \frac{\text{Performance}^*}{\text{Cost of Service Delivery}}$ <p>* Where Performance comprises Level of Service, condition, availability, safety etc.</p>

2.3.2 There are a number of specific benefits associated with the asset management approach: Our ability to:-

- Comply with statutory duties, value our highway assets and demonstrate our prudent management of these assets.
- Demonstrate that we are actively managing our risks.
- Document our Levels of Service and the ability to audit our performance against these.
- Arrive at the best whole life cost solutions for our assets based on predictive modelling.
- Predict the consequences of funding decisions relating to the effect on our asset condition, Levels of Service and longer-term costs.

2.4 SOUTH YORKSHIRE'S APPROACH TO HIGHWAY ASSET MANAGEMENT PLAN

2.4.1 The overall philosophy adopted in South Yorkshire is to set out the links between high - level strategies and policies, desired outcomes, level of service statements and performance indicators with targets, after an overview of capital renewal and operational management common to all asset types

2.4.2 The national CSS/TAG working group have produced a generic asset management framework showing how various activities are interlinked. It is South Yorkshire's intention to follow this approach. The framework is produced below in Figure 1.

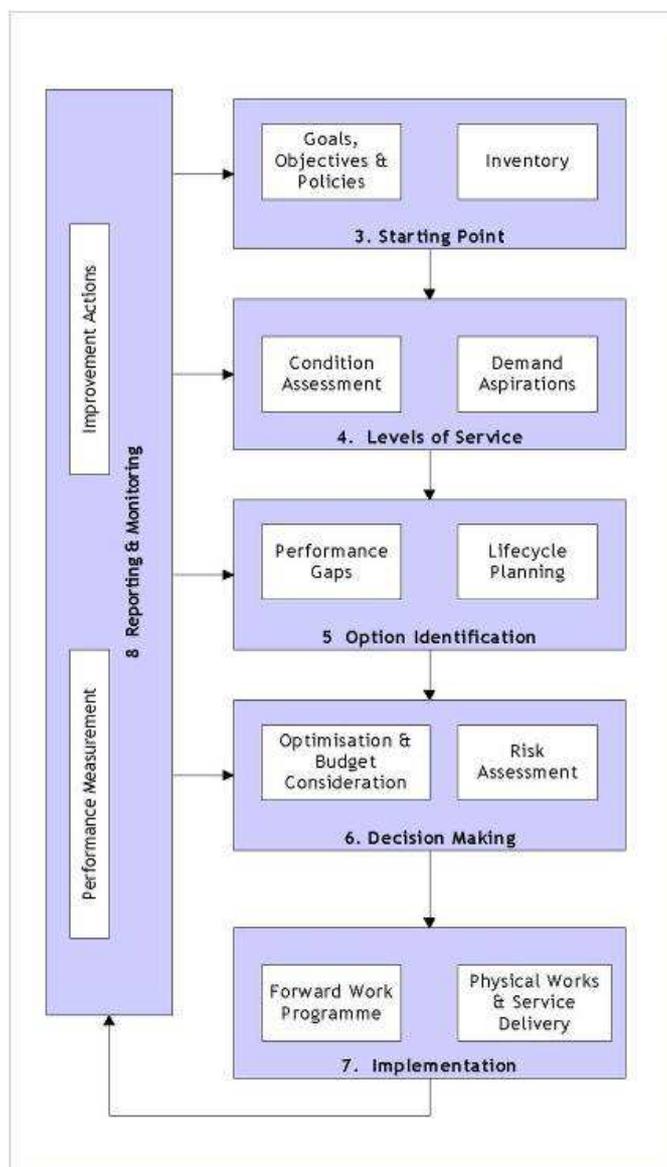


FIGURE 1 – Asset Management Framework

2.4.3 Care should be taken not to confuse this HAMP with a “TAMP”. The HAMP seeks to implement other higher-level strategic plans only in so far as they apply to the physical integrity of the highway asset itself. Other specific plans, documents and processes contained within the TAMP will themselves deal with management of the transport service that runs over the highway asset, the management of pedestrian and vehicular traffic, the control of congestion, bus priority measures, etc. It is the intention that a South Yorkshires TAMP be developed which will supersede this HAMP by March 2011, in accordance with LTP3.

2.4.4 The HAMP is primarily concerned with management activities and influences driven by the need to maintain the existing highway network and support the desired Levels of Service that its assets offer. These capital and operational maintenance activities can extend in a limited way to “asset improvements” but only in so far as:-

- (1) Activities taken to extend the life of the asset may by definition also improve it somewhat; or
- (2) New standards can lead to a limited rise in Level of Service expected of the asset itself, and subsequent capital renewal initiatives may include asset upgrades to meet this standard.

As an example of (1) above, the HAMP impacts on the timely refurbishment of assets and the optimisation of serviceable life, including painting, anti - graffiti treatment and reducing the risk of damage or loss by deliberate attack. These activities are undertaken to extend the life of the existing asset but can be seen to improve it as a 'collateral benefit'.

Examples of (2) above might be the strengthening a bridge to meet a limited increase in the level of service regarding weight or bearing capacity. It might be improving street lighting equipment to meet new standards on energy consumption. It could also reflect opportunistic activities undertaken in relation to implementing the Streetscape Guidance and initiatives related to the green estate. In this context South Yorkshire is keen to consider opportunities to make environmental and streetscape improvements where appropriate when undertaking capital renewal works on the carriageway or footway. Opportunities could include adding highway trees or the repositioning street furniture to reduce clutter.

2.4.5 The management of South Yorkshire's highway assets operate within an overarching array of other policies and documents representing various objectives, initiatives and programmes. The strategic context and the policies and manuals which influence asset management at South Yorkshire are listed below:-

- Barnsley HAMP
- Doncaster HAMP
- Rotherham HAMP
- Sheffield HAMP
- Second South Yorkshire LTP 2006-2011 (LTP2)
- National Indicators (NI's)
- Well Lit Highways COP
- Well Maintained Highways COP
- Management of Highway Structures COP
- CSS Framework for Highway Asset Management
- CIPFA Transport Infrastructure Asset Code (Asset Valuation & Depreciation)
- Winter Services Policy

2.4.5 In this way, the HAMP serves to draw on the linkages between national legislative and strategic initiatives at one end of the scale, and at the opposite end it brings in the everyday maintenance, management and operational issues reflective of local decision making in South Yorkshire.

2.5 SECOND SOUTH YORKSHIRE LOCAL TRANSPORT PLAN 2006-2011

2.5.1 The Second South Yorkshire LTP (LTP2) incorporating South Yorkshire's LTP initiatives was submitted in July 2005. This South Yorkshire sub-regional plan was prepared jointly between the five operational transport authorities within South Yorkshire, namely Barnsley MBC, Doncaster MBC, Rotherham MBC, Sheffield CC and the South Yorkshire Passenger Transport Authority/Executive (SYPTA/E).

2.5.2 There are four themes within the shared priorities for LTP2 which have to be considered within the HAMP, these are:-

- **Improve Accessibility**
Improved cycling and walking links and well maintained, safer streets.
- **Tackle Congestion**
Better use of existing Highway network capacity through Network Management and improvements to public transport corridors (Should be tackled within TAMP).
- **Improve Road Safety**
Well maintained highway surface and street lighting.

- **Address Air Quality** and other quality of life issues.

2.5.3 The LTP2 has six core elements, two of which are applicable to this HAMP, these are:-

“A road network in good condition, managed and enhanced, in conjunction with car parking policies and other appropriate demand management measures to maximise the use of road space, minimise congestion and facilitate the free movement of goods”

“A safe transport system for all users”

2.5.3 The core elements above show that a highway network in good condition should be a high priority to achieve the targets of the South Yorkshire LTP. The core development of this will therefore need to be the backbone of South Yorkshire’s HAMP, which in turn will support cross border transportation and maintenance strategies within the South Yorkshire region and additionally with other neighbouring authorities. This will be achieved through:-

- **Economic Diversification**
Addressed through inward investment and economic development strategies.
- **Urban Renaissance**
By the environmental improvement and redevelopment of town and city centres.
- **Safer, Stronger Communities**
Created through addressing crime and fear of crime and the creation of safer environments with activities including:-
 - Safe routes to schools
 - Street lighting maintenance and upgrading
 - Road and footway maintenance
- **Sustainable Communities**
Through neighbourhood and housing market renewal.
- **Quality of Life**
Influenced by energy efficiency and sustainability standards.

2.6 HIGHWAY MAINTENANCE BENEFITS (AS LISTED WITHIN THE LTP)

2.6.1 The priority for highway maintenance is to provide and maintain a safe and serviceable network. This includes ensuring that bridges and retaining walls supporting the highway are adequate in terms of their condition and load carrying capacity. The overarching highway maintenance objective is to improve the, strength, ride quality and appearance of the whole network for the benefit of all road users and highway stakeholders.

2.6.2 In particular, highway maintenance contributes to the four Transport Shared Priority themes as follows:-

- **Accessibility** – Improved accessibility measures are fundamental to the continued habitation and future regeneration of an area. For example, improving street lighting levels, enhancing the condition of footways and cycleways and undertaking appropriate winter maintenance treatments can improve the public’s accessibility confidence in walking and cycling as viable alternatives to motorised vehicular transport for shorter trips. The provision of dropped kerbs at road junctions and the removal of street clutter, (often as part of a wider maintenance scheme), can provide better continuity of travel modes and can make the network more desirable and accessible for people with mobility impairments.

On a more strategic level, a well managed and maintained transport network has a vital role to play in the continued economic regeneration of the sub-region as it provides access to areas of employment.

An attractive streetscene, whether in an industrial or residential setting adds to the desirability of the area as a good place to live, work or invest.

Weight, height and width limits on bridges and other highway structures must be appropriate and fit for purpose, these attributes should be improved where necessary to support the needs of the areas they serve, otherwise industry and business may no longer be able to grow and continue operating.

- **Congestion** – A well maintained transport network encourages greater use of healthy and more sustainable modes of travel, such as walking and cycling. Smoother road surfaces improve ride quality and lessen delays, this could help attract people from their cars and onto public transport. Strategic and well planned maintenance, undertaken at the correct time using low maintenance materials and cost effective processes, results in less disruption and congestion than the alternative of undertaking more frequent reactive maintenance repairs. Use of high-tech materials, maintenance and construction processes and strengthening techniques on roads and bridges can avoid undesirable road closures, lengthy diversions or long term lane closures. Modern, well maintained and phase-coordinated traffic control equipment also enable corrective action to be taken to reduce traffic congestion.
- **Road Safety** – Highway maintenance activities contribute to road safety initiatives, accident prevention and casualty reduction in many ways by:-
 - Maintaining road surfaces and enhancing skidding resistance particularly at high risk sites such as the approach to major junctions and on bends and gradients.
 - Ensuring traffic signal controlled junctions and pedestrian crossings work satisfactorily and faults are repaired promptly.
 - Salting roads in winter weather conditions.
 - Making sure that signs, road markings and studs are in good repair.
 - Keeping gullies, drainage systems and drain connections clear and operational so that surface water does not remain on the carriageway and cause a hazard.
 - Ensuring that footways are properly maintained to reduce the risk of injury to pedestrians.
 - Providing well lit roads and footpaths.
- **Air Quality and Quality of Life** – Poorly maintained or missing signs can lead to driver confusion resulting in longer journeys as drivers search for their destinations, thereby increasing fuel use and reducing air quality and increasing congestion. By local authorities and statutory undertakers carrying out planned maintenance in a coordinated manner it is possible to reduce overall disruption and minimise the occurrence of slow moving or stationary traffic which has an adverse effect on air quality. Improving the quality of the network may help to achieve a modal shift towards more sustainable forms of transport. Poorly maintained and low quality road surfaces can also increase noise from vehicles passing over rough or settled surfaces and over bumps and pot holes. In noise sensitive residential areas this can readily detract from the well-being and amenity of nearby residents and adversely impact on the quality of life.

2.7 COORDINATION ISSUES

- 2.7.1 It is considered that a joint-working approach could be achieved by effectively and better communicating the nature, extent, coverage and timings of the various services being delivered between neighbouring authorities and with utility organisations to promote the continuity and consistency of cross-boundary services, maintenance operations and

facilities. This would provide a more coordinated and aligned approach to service delivery for the road user and would support the network management duty that has been placed on Local Authorities by the Traffic Management Act 2004.

- 2.7.2 Wherever possible the opportunity will be taken to coordinate maintenance works in an holistic fashion when major transport improvements are being implemented. A good example of this is the work being carried out on the South Yorkshire Quality Bus Corridors (QBCs), where the ancillary maintenance requirements of the corridor are considered together with those of the adjoining streets and connecting footpaths. Bridge strengthening and maintenance is also planned simultaneously. Failure to include such comprehensive works can lead to complaints from the public of an incomplete job with further disruption at some future time required to complete the job. Furthermore, across South Yorkshire common minimum standards have been set for the provision and maintenance of QBC's.
- 2.7.3 Regular coordination workshops are also set up between the highway authorities and utility organisations to review current and future planned streetworks activities such that potential works conflicts and programmes can be identified and coordinated in advanced mitigation of problems arising.

2.8 RIGHTS OF WAY IMPROVEMENT PLANS

- 2.8.1 The Countryside and Rights of Way Act 2000 requires highway authorities to prepare and publish a "Rights of Way Improvement Plan" by November 2007, which will be updated every ten years.
- 2.8.2 A "Rights of Way Improvement Plan" must demonstrate and assess:-
- The extent to which local rights of way meet the present and likely future needs of the public.
 - The opportunities provided by local rights of way for exercise, and other forms of outdoor recreation and the enjoyment of the authority's area.
 - The accessibility of local rights of way to blind or partially sighted persons and other users with mobility problems.

2.9 LEGISLATIVE REQUIREMENTS

- 2.9.1 There are a number of government and industry legislative requirements that have a direct and mandatory impact on the way highway operations are undertaken, governed by various Acts of Parliament. The main Acts are as follows:-

The Highways Act 1980 sets out the main powers and duties of highway authorities in England and Wales. In particular Section 41 imposes a duty to maintain highways maintainable at public expense, and almost all claims against authorities relating to highway functions arise from the alleged breach of this Section. Section 58 provides for a defence against action relating to alleged failure to maintain on grounds that the authority has taken such care as in all circumstances was reasonably required to secure that the part of the highway in question was not dangerous for traffic. Under Section 97 it is not mandatory for authorities to install street lighting, but once installed on adopted highways there is a responsibility for maintenance.

The Railways and Transport Safety Act 2003 also added a duty 'to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice'.

New Roads and Street works Act 1991 sets out the duties of authorities to co-ordinate and regulate works carried out in the highway by any organisation.

Traffic Management Act 2004 places a network management duty on local authorities to keep traffic flowing. When fully implemented it will supersede the New Roads and Street works Act.

Transport Act 2000 allows authorities to designate any road as a quiet lane or home zone and introduces a power for authorities to charge Utilities for the occupation of road space.

Road Traffic Regulation Act 1988 and Traffic Signs and General Directions 2002 specify the requirements for traffic regulation orders and use of approved signs.

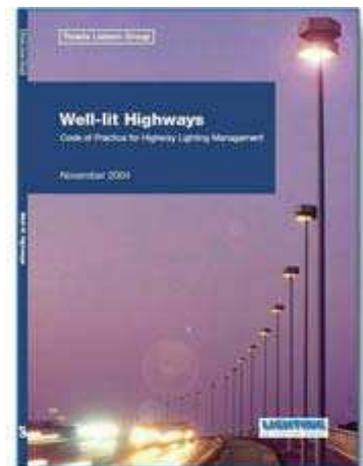
Road Traffic Act 1988 provides a duty for highway authorities to promote road safety.

2.10 NON-LEGISLATIVE / BEST PRACTICE GUIDES / DOCUMENTS

2.10.1 Guidance Document for Highway Infrastructure Asset Valuation (July 2005).
Guidance on the Requirements for the Production of Highway Asset Management Plans and a Simple Valuation Methodology (TRL Report PPR/INN/036/5).

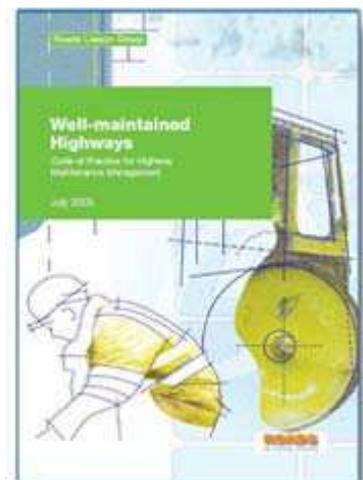
2.10.2 **Street Lighting**

Well maintained road lighting can change our communities, make the night time environment a safer place to be, encourage regeneration and investment, leading to an improved local economy and at the same time contributing to a more inclusive society. Current standards for lighting management embody the ideas set down in the “**Well Lit Highways - Code of Practice for Highway Lighting Management**”.



2.10.3 **Highway Maintenance**

The main purpose of highway maintenance is to maintain the highway network for the safe and convenient movement of people and goods. South Yorkshire follows the advice contained in the national guidelines for highway maintenance standards – “**Well Maintained Highways – a Code of Practice for Highway Maintenance Management**”. The national document embodies the wider contexts of integrated transport, best value and the corporate vision of the responsible authority in three key service headings:-



Network Safety

- Complying with statutory obligations.
- Meeting User's needs.

Network Serviceability

- Ensuring availability
- Achieving integrity
- Maintaining reliability
- Enhancing quality

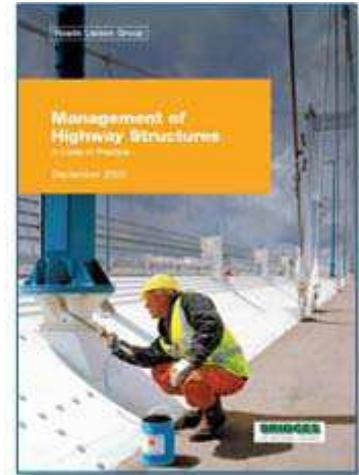
Network Sustainability

- Minimising cost over time
- Maximising value to the community
- Maximising environmental contribution.

2.10.3 Highway Structures

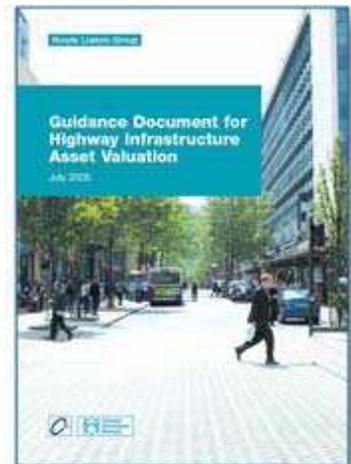
Bridges and other highway structures are fundamental to the transport infrastructure because they form essential links in the highway network. Current standards for structures maintenance embody the ideas set down in the “**Management of Highway Structures – a Code of Practice**”. The National Code of Practice recognises that there is a statutory obligation on highway authorities to maintain the public highway [*Highways Act 1980; 1*]. The obligation embraces the two essential functions of *Safe for Use* and *Fit for Purpose*. The two functions are not the same:-

- **Safe for Use** requires a highway structure to be managed in such a way that it does not pose an unacceptable risk to public safety.
- **Fit for Purpose** requires a highway structure to be managed in such a way that it remains available for use by traffic permitted for the route.



2.10.4 Asset Valuation

The purpose of this Code is to support an asset management plan based approach to the provision of financial information about local authority highway infrastructure assets. The intention is that each authority should develop a single set of financial management information about these assets which is robust and consistent between highway authorities. The Code is intended to serve as best practice guidance for those who are responsible for the management of the assets and as a tool for those who audit their performance. The Code uses accounting principles and other financial disciplines and techniques to ensure that the financial information generated for asset management is robust, consistent and fit for purpose. It also generates asset management data in a form that can be readily used to report the assets on a current value basis in Whole of Government Accounts.



In addition, the new CIPFA “Transport Infrastructure Assets Code” which has been developed in collaboration with the Highways Asset Management Financial Information Group (HAMFIG), has now been published and provides guidance on the development and use of financial information to support asset management, financial management and reporting of local transport infrastructure assets.

2.11 NATIONAL INDICATORS (NIs)

2.11.1 Central Government and the Audit Commission require South Yorkshire to produce National Indicators (NI's), previously termed Best Value Performance Indicators (BVPI's), based upon condition assessment surveys of the carriageway and footway. Presently, the survey required for the calculation and reporting of road NI's is the SCANNER survey (Surface Condition Assessment for the National Network of Roads). The survey data is processed by UKPMS-DfT accredited software. Table 2.1 below shows the UKPMS management systems used by the South Yorkshire Authorities.

LOCAL AUTHORITY	SYSTEM USED
Barnsley MBC	MARCHpms
Doncaster MBC	Symology
Rotherham MBC	Symology
Sheffield MBC	Confirm

TABLE 2.1 – UKPMS Systems within South Yorkshire

2.11.2 Table 2.2 below shows the current NI's and BVPI's which are relevant to the Highways Asset. It should be noted that road BVPI's were first introduced in the late 1990's and continued until 2007/08 after which they were replaced by NI's in 2008/09. Performance measures are calculated reflective of rules and parameter processing algorithms, (RP's) and these can be subject to annual change by Central Government. Table 2.2 shows the former BVPI results in 2007/08 for the classified roads and the corresponding NI's processed to rule sets PR 7.01 & RP 8.01 for purposes of comparability and trend analysis. It should be noted here that the apparent betterment in condition in 2007/08 given by NI 168 and NI169 processed to RP8.01 is reflective of a change in the data processing algorithms rather than by physical network condition. It is necessary to retain the annual performance measures for the purpose of developing and reviewing the Highway Asset Management Plan as this enables service levels to be monitored and reviewed.

INDICATOR	YEAR	R & P	DESCRIPTION	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC	SOUTH YORKSHIRE (AVERAGE)
BVPI 223	2007/08	7.01	Condition of Principal Roads (A)	8%	4%	9%	15%	9%
NI 168	2007/08	8.01		5%	2%	4%	10%	5%
NI 168	2008/09	8.01		5%	2%	5%	9%	5%
NI 168	2009/10	9.01		5%	3%	4%	9%	5%
BVPI 224a	2007/08	7.01	Condition of Non-Principal Classified Roads (B & C)	13%	7%	14%	23%	14%
NI 169	2007/08	8.01		8%	4%	6%	13%	8%
NI 169	2008/09	8.01		9%	5%	8%	15%	9%
NI 169	2009/10	9.01		10%	7%	7%	15%	10%
BVPI 224b	2007/08		Condition of Unclassified Roads	28%	17%	10%	45%	28%
BVPI 224b	2008/09			27%	18%	11%	56%	32%
BVPI 224b	2009/10			33%	19%	13%	42%	29%

TABLE 2.2 – NI and BVPI Results

2.11.3 The South Yorkshire Authorities use various condition surveys to monitor different performance aspects of the highway network. Table 2.3 shows the condition surveys undertaken by each Council respective of the network type.

DESCRIPTION	BARNSLEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Condition of Principal Roads	SCANNER surveys	SCANNER & CVI surveys	YES	SCANNER & CVI surveys
Condition of Non-principal Classified Rds	SCANNER surveys	SCANNER & CVI surveys	YES	SCANNER & CVI surveys
Condition of Unclassified Rds	CVI surveys	CVI surveys	YES	CVI Surveys
Condition of Cat 1,1a & 2 Footways	BV187 stopped in 2007/08	Footway Network Survey commencing in 2009/10	CVI surveys (LPI = network % with CI>40)	Footway Network Survey commencing in 2009/10
Condition of Cat 3 & 4 Footways	N/A	Footway Network Survey commencing in 2009/10	As above	Footway Network Survey commencing in 2009/10

TABLE 2.3 – Summary of Condition Performance Surveys

2.12 SCRIM POLICY DOCUMENT

2.12.1 All councils within South Yorkshire have or are working towards compiling an internal SCRIM Policy Document which states how the council operates and reacts to road surface texture and skidding deficiencies. Each plan will be slightly different with regards to how it is procured and managed. Individual HAMPS will consider this policy when defining levels of service and this will probably contribute to the definition of a future KPI for this road characteristic.

DESCRIPTION	BARNSLEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
SCRIM Policy Document	Skid Management Policy (Draft – Pending Approval)	Road Skid Resistance Testing and Treatment Policy and Procedures (Draft - Pending Approval)	Policy forms part of local CoP for Highway Inspection & Assessment	Skid Resistance Policy and Procedures Document. (Version 2)

TABLE 2.4 – SCRIM Policy Document Summary

2.13 WINTER SERVICES

2.13.1 An annual Winter Service Policy document is produced by each of the South Yorkshire Authorities which defines and addresses the precautionary salting network routes, operational policy and standby arrangements, weather forecasting provisions and ancillary items such as gritting vehicles, salt reserves and salt bins. In addition, ice alert weather stations are located at strategic positions on the South Yorkshire highway network. Table 2.5 shows that each authority has a Winter Service Policy and gives the number of Ice Stations located in each district.

DESCRIPTION	BARNSELY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Annual Winter Service Policy Document.	Yes	Yes	Yes	Yes
Number of Ice Stations in operation	Principal 5	Principal 2	Principal 4 Secondary 6	7

TABLE 2.5 – Winter Service Summary

2.14 SCOPE OF HIGHWAY ASSETS (INVENTORY)

2.14.1 The highway network comprises of many asset inventory items in need of maintenance. It is essential in order to effectively identify the asset maintenance needs and their related costs, that knowledge of that asset from an inventory base and condition assessment surveys are available for evaluation purposes.

2.14.2 This section of the HAMP explores the scope and extent of the various highway asset types that have a significant impact and cost on the operational performance of the highway network and provides a quantitative measure of the nature type and extent of each asset inventory feature. The items considered are broadly reflective of the asset types and components given in the “Guidance Document for Highway Infrastructure Asset Valuation”.

2.15 ROADS

2.15.1 Road length information, defined by road classification, is maintained within the individual Asset Management System and is updated and reported to the Department for Transport (DfT) on an annual basis via the DfT1578 (R199b) proforma submissions.

2.15.2 Table 2.6 below shows a breakdown of the Highway Network by Road Classification based on the latest R199b submissions plus the lengths of de-trunked A-Roads thereby providing a measure of network length based on road kilometres (A-B).

ROAD CLASSIFICATION	U / R	BARNSELY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Principal Road Network (A Roads)	Urban	56.1	81.2	60.1	102.0
	Rural	73.1	78.7	46.5	43.5
Classified Road Network (B Roads)	Urban	39.8	23.0	52.3	94.2
	Rural	33.9	30.1	43.0	6.6
Classified Road Network (C Roads)	Urban	59.3	98.6	88.4	235.2
	Rural	101.8	153.2	89.7	16.2
Unclassified Road Network (U Roads)	Urban	702.6	945.3	676.4	1,344.9
	Rural	110.2	239.5	75.2	129.4
Green Lanes	Rural	N/A	7.8	n/a	10.0
TOTALS		1,176.8	1,657.4	1,131.6	1,982.0

TABLE 2.6 – Network Length by Road Classification (KM)

2.15.3 The road network is also designated by hierarchy definitions as recommended and defined in the Code of Practice for Highways Maintenance Management “Well Maintained Highways” July 2005.

2.15.4 Network hierarchy is the foundation of a coherent and auditable maintenance strategy, and is also crucial to asset management in establishing “Levels of Service”. It is important that the hierarchy designated to each road reflects the needs, priorities and actual use of each road in the network. Furthermore the network hierarchy governs the frequency of highway safety and serviceability inspections. Table 2.7 below shows the present distribution of the highway network by hierarchy.

ROAD CATEGORY	U / R	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
2-Strategic Route Principal A roads between primary destinations.	Urban	168.0	68.6	60.1	42.0
	Rural		47.8	46.5	3.6
3a-Main Distributor Route Major urban network and inter primary links carrying medium distance traffic.	Urban	395.0	74.1	22.9	60.0
	Rural		73.4	14.2	39.9
3b-Secondary Distributor Route Unclassified bus routes carrying local traffic with frontage access and frequent junctions.	Urban	29.0	62.0	170.6	329.4
	Rural		138.9	113.4	22.8
4a-Link Road Routes Link roads between the main and secondary distributor routes.	Urban	191.0	171.6	86.8	341.3
	Rural		0.0	16.1	35.4
4b-Local Access Roads Serving limited numbers of properties and carrying only local traffic.	Urban	393.0	773.7	525.8	1,003.6
	Rural		0.0	75.2	94.0
5-Rural Unclassified Roads These are rural unclassified roads which are paved and also include un-paved roads defined as ‘Green Lanes’.	Urban	Included above	0.0	n/a	0.0
	Rural		247.3	Included in 4b above	10.0
TOTALS		1176	1657.4	1131.6	1982.0

TABLE 2.7 – Highway Network Length by Hierarchy (KM)

2.16 FOOTWAYS

2.16.1 The footway length is maintained within each Asset Management System and is designated by DfT "Footway Hierarchy" for maintenance purposes in accordance with the Highways Code of Practice "Well Maintained Highways". Table 2.8 below shows a breakdown of the Footways Network by hierarchy definition.

FOOTWAY CATEGORY	U / R	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
1a-Prestige Walking Zone Very busy areas of towns with high public space and street scene contribution	Urban	8.5	18.0	0.0	14.0 (Prestige)
	Rural		0.0	0.0	0.0
1-Primary Walking Route Busy urban shopping and business areas and main pedestrian routes	Urban	0.5	Included in 1a above	6.4	382.0 (High-Usage)
	Rural		0.0	0.0	0.0
2-Secondary Walking Route Medium usage routes through local areas feeding into primary routes local shopping centres and large schools	Urban	36.0	50.0	91.9	0.0
	Rural		0.0	0.0	0.0
3-Link Footway Linking local access footways through urban areas and busy rural footways	Urban	183.0	263.0	1,408.8	2,729.0 (Low-Usage)
	Rural		197.0	51.1	0.0
4-Local Access Footway Associated with low usage, short estate roads to the main routes and cul-de-sacs	Urban	948.0	1,050.0	67.3	0.0
	Rural		158.0	41.5	0.0
TOTALS		1,176.0 (C/way Km)	1,710.0	1,667.0	3,125.0
<p>NOTES</p> <p>Sheffield CC no longer uses COP categories, a new category of footways has been developed for the PFI which aligns with the COP as follows:- [1a = Prestige] [1&2 = High Usage] [3 & 4 = Low Usage].</p> <p>Barnsley MBC are in the process of reviewing their footway inventory in line with the Asset Valuation Initiative therefore default road lengths have been used at this time to provide an indicative measure/split of footway category lengths.</p>					

TABLE 2.8 – Footway Network Length by Hierarchy (KM)

2.17 PUBLIC RIGHTS OF WAY

2.17.1 Public rights of way (PROW) form part of the definitive highway network and is usually maintained within the highways asset management system, although some councils within South Yorkshire may maintain the PROW outside the main asset management system. Table 2.9 shows the system/platform on which PROW's are defined and managed.

LOCAL AUTHORITY	SYSTEM USED
Barnsley MBC	CAMS
Doncaster MBC	Access Database
Rotherham MBC	CAMS (Definitive map) / Symology (Maintenance / Customer Service)
Sheffield MBC	CAMS / EXEGESIS

TABLE 2.9 – Public Rights of Way System

2.17.2 Table 2.10 below shows the length (KM) breakdown of the PROW by network type and Table 2.11 gives the condition performance indicator BVPI 178.

TYPE	BARNSLEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD. CC
Footpaths	561.0	380.0	323.0	632.0
Bridleways	133.0	97.0	75.0	94.0
By-ways	0.0	14.0	2.0	19.0

TABLE 2.10 – Public Rights of Way Length by Type (KM)

SURVEY YEAR	NETWORK % COVERAGE				BARNSLEY MBC		DONCASTER MBC		ROTHERHAM MBC		SHEFFIELD CC	
	B	D	R	S	TARGET %	ACTUAL %	TARGET %	ACTUAL %	TARGET %	ACTUAL %	TARGET %	ACTUAL %
2004/05		5	80	5		Unknown	58.6	57.0	95.0	95.3	80.0	80.1
2005/06	7-10	5	80	5		68.0	65.0	73.8	95.0	93.4	82.0	81.6
2006/07	7-10	5	80	5		34.0	69.0	65.8	95.0	95.4	83.0	82.9
2007/08	7-10	5	80	5		54.0	73.0	75.5	95.0	87.4	84.0	84.1
2008/09	7-10	5	80	5	55.0	42.0	77.0	70.4	91.0	93.3	No Survey	No Survey
2009/10	18	5	80	5	60.0	74.0	81.0	76.1	93.0	96.6	No Survey	No Survey
<p>Barnsley: The condition indicator continues to be collected as a local PI.</p> <p>Doncaster: The condition indicator continues to be collected as a local PI. The 2007 floods result in damage to part of the network shown in the following years PI 2008/09.</p> <p>Rotherham: The condition indicator continues to be collected as a local PI. The 2007 floods reflect damage to a significant part of the network in the 2007/08 PI result.</p> <p>Sheffield: This condition indicator no longer continues to be collected.</p>												

TABLE 2.11 – BVPI 178 – PROW Condition “Ease of Use”

2.18 STREET LIGHTING

2.18.1 South Yorkshire has a large stock of street lighting which is generally maintained within the Asset Management System for each local authority. Table 2.12 shows the respective management systems on which the lighting stock is registered and number of lamp columns which the councils are responsible for:-

LOCAL AUTHORITY	SYSTEM USED	NUMBER
Barnsley MBC	Deadsure	32,500 (Estimate)
Doncaster MBC	Symology	46,614
Rotherham MBC	Deadsure	37,800
Sheffield MBC	MAYRISE	65,356

TABLE 2.12 – Street Lighting Inventory

2.19 TRAFFIC SIGNS, SAFETY FENCES AND BARRIERS

2.19.1 Asset information relating to traffic signs, safety fences and barriers are held the systems given in Table 2.13 below.

LOCAL AUTHORITY	SYSTEM USED
Barnsley MBC	Bespoke System
Doncaster MBC	Symology
Rotherham MBC	Deadsure
Sheffield MBC	Confirm

TABLE 2.13 – Traffic Signs System

2.19.2 South Yorkshire has a large stock signs, fences and barriers and it is envisaged that this information will be entered into the Asset Management System. Table 2.14 shows the estimated number or length of these asset items.

INVENTORY ITEM	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Illuminated Signs	2.983	Unknown	3,000	6,278
Non-illuminated Signs	12.000 (Est.)	15,000 (Est.)	12,000	24,745
Illuminated Bollards	1.098	1,300	1,300	1,248
Non-illuminated Bollards	2.500	Unknown	6,000	4,235
Street Name Plates	15,000	Unknown	8,000	19,000 (Est.)
Pedestrian Barriers	15km (Est.)	Unknown	18km	26km
Vehicular Barriers	18km (Est.)	Unknown	48km	17km
Other fences & barriers	Unknown	Unknown	200km	95km
Red Light / Speed cameras	21 Installations	10	25	29

TABLE 2.14 – Traffic Signs Inventory

2.20 TRAFFIC SIGNALS AND PEDESTRIAN CROSSINGS

2.20.1 Although this asset belongs to the individual authority it is usually maintained by an outside contractor and is linked to the South Yorkshire traffic management system.

LOCAL AUTHORITY	INTERNAL SYSTEM USED	PART OF SOUTH YORKSHIRE TRAFFIC MANAGEMENT SYSTEM
Barnsley MBC	Comet	
Doncaster MBC	Symology	Yes
Rotherham MBC	ROTS / FREDA / Deadsure	
Sheffield MBC	MAYRISE & STATUS/FOXPRO	Yes

TABLE 2.15 – Traffic Signals System

2.20.2 Table 2.16 provides the number of traffic signal installations and pedestrian crossing facilities located in each district.

TYPE	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Traffic Signal Installations	51	85	44	292
Controlled Crossings	35	65	51	186
Uncontrolled Crossings (Zebra / Pecan)	13	30 (Est.)	37	202
School Crossing Flashing Beacons	57	No data	58	58

TABLE 2.16 – Traffic Signals System

2.21 STREET FURNITURE AND HIGHWAY AMENITIES

2.21.1 Table 2.17 gives the systems on which this group of asset inventory is registered.

LOCAL AUTHORITY	INTERNAL SYSTEM USED
Barnsley MBC	Various Bespoke Systems
Doncaster MBC	Symology
Rotherham MBC	Deadsure
Sheffield MBC	Confirm

TABLE 2.17 – Street Furniture Systems

2.21.2 Street furniture and high amenity assets are potentially wide ranging and large in number. Table 2.18 shows those asset items which are on the highway network and which belong to and are maintained by the Highway Authority. The list below is not exhaustive and the ownership status of the following street assets can vary between the South Yorkshire Authorities.

INVENTORY ITEM	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Litter and dog bins	Non-Highway	Non-Highway	2,968	2,400
Highway Seats	No data	No data	1,200	No data
Cycle Racks	No data	No data	No data	No data
CCTV Installations	15	50	98	32
Monuments	Non-Highway	No data	18	No data
Matrix & Car Park VMS	0	7	38	74
ANPR Cameras	25 (+16 programmed)	18	35	100
If the item listed is not a highways asset, then it is noted as "Non-Highway". Individual authorities may include additional inventory items in this Table.				

TABLE 2.18 – Street Furniture Inventory

2.22 VERGES AND HIGHWAY TREES

2.22.1 Highway verges and trees are important items within the public realm which are sometimes not addressed appropriately. Highway trees are maintained by the individual authorities Arboricultural Officer and highway verges are maintained separately. Table 2.19 shows the management system within which trees and verges are registered.

LOCAL AUTHORITY	INTERNAL SYSTEM USED TREES	INTERNAL SYSTEM USED VERGES
Barnsley MBC	Bespoke System	Bespoke System
Doncaster MBC	Symology	Symology
Rotherham MBC	Symology	Microsoft Access
Sheffield MBC	Confirm	Confirm

TABLE 2.19 – Verges and Trees System

2.22.2 Table 2.20 gives the number of highway trees and area of highway verges in each Authority.

INVENTORY ITEM	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Trees (number)	Unknown	8,000 (Est. -excludes rural locations) (tree management system to be set up)	Unknown	40,437
Area of Grass verge (hectares)	73	Unknown	Unknown	297

TABLE 2.20 – Verges and Trees Inventory

2.23 HIGHWAY DRAINAGE

2.23.1 Highway drainage is a key inventory item reflective of its role in support of maintaining the structure and integrity of the highway and the cost of its provision and maintenance. If the drainage system is maintained, is working correctly and effectively removes the water from the highway then it will assist in allaying the onset of structural degradation of the highway and the occurrence of flooding. However, drainage is probably the item known the least about on account of it being buried underground with only a small amount of the drainage assets being visible from the surface. The matter is further compounded by ownership issues, i.e., whether the drainage system is a highway drain owned and maintained by the Council or a public sewer owned and maintained by the respective Water Authority.

2.23.2 Table 2.21 gives the asset management system on which available drainage assets are stored.

LOCAL AUTHORITY	INTERNAL SYSTEM USED
Barnsley MBC	Bespoke Database
Doncaster MBC	Symology
Rotherham MBC	Symology / Microsoft Access
Sheffield MBC	Confirm

TABLE 2.21 – Drainage System

2.23.3 Table 2.22 below shows the number or length of the various drainage assets that are recorded and maintained within the individual authorities Asset Management System.

INVENTORY ITEM	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Gullies	48,000 (Est.)	84,000 (Est.)	45,500	72,000
Highway Manhole Chambers	No data	No data	No data	No data
Linear Drainage Channels	No data	No data	No data	51.1km
Kerb Drainage Systems eg "Beaney Blocks"	Limited Data	No data	13.5 km	28.4km
Soakaways	Limited Data	No data	209	No data
Highway Drains (pipd)	Limited Data	No data	Limited data	Limited data
Balancing Ponds	4	No data	None	None
Interceptors	No data	No data	16	No data
Pumping stations	0	No data	1	None

TABLE 2.22 – Drainage Inventory

2.23.4 Where possible the above table has been populated from actual inventory surveys. Where the asset is sub surface and/or where no survey records are available, then where possible the drainage asset data has been estimated based on the highway network length and status.

2.23.5 The manner in which the asset information has been determined may vary between the South Yorkshire Authorities, further information of the calculation assumptions can be obtained from the individual authority.

2.24 HIGHWAY STRUCTURE

2.24.1 These assets are maintained by the Structures Department within each authority and they contribute to an integral part to the highway network.

LOCAL AUTHORITY	INTERNAL SYSTEM USED
Barnsley MBC	Symology
Doncaster MBC	BMX
Rotherham MBC	Symology
Sheffield MBC	Confirm

TABLE 2.23 – Structures System

2.24.2 Table 2.24 lists the type and quantity of highway structures that exist in the South Yorkshire region.

HIGHWAY STRUCTURES INVENTORY ITEM	BARNSLEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Bridges	153	294 (DMBC) 452 (All)	52	173
Culverts	66	108	105	123
Subways	10	8	32	50
Footbridges	13	6 (Road) 1 (Canal) 1 (Rail)	11 (Road) 138 (PROW)	202
Viaducts	Unknown	0	2	1
Gantries / ramps	Unknown	2	0	22
Retaining Walls	3,055 (on classified network)	558	2,000 (approx.)	Limited data survey ongoing
High Mast Lighting	2	Unknown	32	98

TABLE 2.24 – Structures Inventory

2.25 SUMMARY

- 2.25.1 It can clearly be seen that the nature and extent of the highway network included in the individual authorities HAMP's is complex and wide-ranging. There are many legislative, service delivery and operational impacts on the way the various highway services are provided and implemented and there exists a number of detailed auxiliary plans, policies and documents that are already in place that govern the operational delivery of the service reflective of best practice initiatives, industry accepted standards and value management protocols.
- 2.25.2 Underpinning the HAMP and fundamental to the whole process of highways asset management is an appreciation of what the network comprises (inventory) and the present condition of the assets. Armed with this core knowledge it is then possible to determine where we are now with respect to service delivery and then consider where we would wish to be reflective of "Levels of Service".
- 2.25.3 Each authority within South Yorkshire is at varying stages of collection of the inventory information. As part of their gap analysis each authority has prioritised inventory collection.

3) HIGHWAY SERVICE PROFILE

3.1 WHAT ARE “LEVELS OF SERVICE”

3.1.1 The national Framework Document for Highway Asset Management defines “Level of Service” as a term used to describe a composite indicator that reflects “the quality of services provided by the asset for the benefit of customers”.

3.1.2 The Level of Service may therefore be said to reflect the way the service is delivered and perceived by our customers based on service quality. Service Quality is related to measures of performance which may either be founded by (a) condition evaluation, or is related to (b) customer demand aspirations.

(a) Condition assessment provides a measure of the state of preservation of the physical integrity of the asset and is determined by objective engineering survey or by public road user perception.

(b) Customer demand aspirations is a non-condition measure of how the service is perceived and delivered by the asset in terms of its use in providing a service to customers by enabling them to travel. This can generally be expressed in terms of such factors as safety, availability, accessibility, integration, aesthetics, etc which reflect the social, economic and environmental goals of the wider community.

3.1.3 In practice, a combined approach to Levels of Service is recommended, taking account of the competing demands of both engineering and socio-economic needs, this is especially true in local residential locations that are sensitive to the ‘feel-good’ factor and ‘well-being’ of the community. The ability to rationally assess competing demands is at the core of an asset management approach.

3.2 HOW WILL WE USE LEVELS OF SERVICE

3.2.1 It is important to review the Levels of Service and associated standards to ensure they align to and will continue to support customer expectations and priorities, whilst at the same time achieving compliance with other obligations (e.g. statutory requirements) in delivering the highway service.

3.2.2 A Level of Service review should always be undertaken with a detailed appreciation of the cost implications of any proposed enhancement and its operational consequences on other aspects of whole service delivery and performance. A review should also ensure that the customer views are based on an informed approach to service delivery and are not distorted because of a lack of knowledge about statutory service obligations, budget constraints, competing demands, etc.

3.2.3 Levels of Service should reflect the interests of customers in a way that can be measured and evaluated, i.e. they should enable the Highway Authority to:-

- Document and measure the service provided.
- Rationally evaluate service versus cost trade offs.
- Determine if adequate focus is given to what is important to the customer.
- Establish if operational activities support the achievement of strategic goals.

3.2.4 The national framework recommends that measures be put in place to monitor highway performance and the resources used to support the delivery of Levels of Service, (safety, availability, accessibility etc), if the principles of asset management are to be fully applied throughout the service.

3.3 SOUTH YORKSHIRE'S CURRENT SERVICE LEVELS

3.3.1 Each authority within South Yorkshire have varying Levels of Service due to the fact each authority has individual requirements and aspirations, although most are reflective of those defined by Legislative Requirements, Central Government, the LA Code of Practice for Highway Maintenance and Best Practice guidelines and initiatives. In order to achieve Service Level status, the measure of performance contributing to a particular Service Level needs to be approved by the individual Council.

3.3.2 Service levels tend to be condition based, however, as an organisation the authorities are moving towards a combined customer focus service level being achieved through the value management process. Joint ownership of this process is necessary between Officers, Members and local communities in taking onboard customer expectations, however, further work needs to be done on this in review of the process to achieve a redefinition of service levels for highways.

3.3.3 The following items are indicative of where South Yorkshire's current highway service levels are derived from:-

- Each Authorities Corporate objectives
- "Surface Transport Strategic Themes, Issues and Goals".
- The Street Maintenance Strategy.
- The Streetscape Guidance.
- In addition, levels of service, and level of service 'statements', are set within the context of relevant legislation. These include not only the Legislative Acts mentioned in Section 1.5 of the HAMP, which drive highway asset management, in particular the Highways Act, the Traffic Management Act and the New Roads and Street Works Act.

3.3.4 In addition, there are other pieces of legislation that affect the standard of service implementation, chief among these are:-

- The Health and Safety at Work Act 1974.
- Management of Health and Safety at Work Regulations 1992.
- Construction (Design and Management) Regulations 1994 and 2007.
- The Disability Discrimination Act 1995 and 2005.

3.3.5 Environmental legislation also affects how and where highway works are carried out. The following are particularly relevant:-

- Noxious Weeds Act 1959.
- Wildlife and Countryside Act 1981.
- Environmental Protection Act 1990.

3.3.6 In addition to the above, a number of best practice guidelines underpin the levels of service and level of service statements.

3.4 NHT – NATIONAL BENCHMARKING GROUP

3.4.1 Finally, as previously stated, customer aspirations are a vital part of setting Levels of Service. All four local authorities in South Yorkshire are members of a national benchmarking group.

3.4.2 As the government demands ever greater public accountability for public services, improving public satisfaction with transport services has increasing focus within government policy. Under Comprehensive Performance Assessment, Local authorities

increasingly need to show their understanding of the views of residents and service users, and to demonstrate that they are acting on them.

- 3.4.3 The National Highways and Transport Public Satisfaction Survey helps meet this challenge by asking what people think about important local transport services and by comparing the results with what residents think in other parts of the country. Developed in a collaboration between the National Highways Benchmarking Club and the CSS South West Highways Service Improvement Group (SWHSIG), and with support and endorsement by the National Highway Efficiency Liaison Group (HELG), the SW Regional Improvement and Efficiency Partnership (SW RIEP) and The Government Office for the South West (GOSW), the NHT Survey is the first standardised public satisfaction survey for Highways and Transport Service.

LOCAL AUTHORITY	MEMBER OF NHT BENCHMARKING
Barnsley MBC	Yes
Doncaster MBC	Yes
Rotherham MBC	Yes
Sheffield MBC	Yes

TABLE 3.1 – Member of NHT

- 3.4.4 Membership of the NHT survey will enable South Yorkshire to monitor the performance of the individual authorities and also benchmark South Yorkshire with other similar demographic areas.

4) **MEASURED PERFORMANCE**

4.1 **HIGHWAY INSPECTIONS AND ASSESSMENT (CARRIAGEWAY AND FOOTWAYS)**

Conditional Assessment Surveys

- 4.1.1 Regular measuring and monitoring of the condition of South Yorkshire's highway network enables performance targets to be set reflective of the extent of structurally sound and serviceable carriageways. For the foreseeable future the SCANNER survey will provide measures for condition performance information for NI168 and NI169, to assist in scheme programming and for national comparisons on the classified road networks.
- 4.1.2 By contrast, UKPMS Coarse Visual Inspections (CVI-driven or walked visual surveys) are undertaken on the unclassified road network. These surveys provide the principal data source for condition reporting. South Yorkshire will continue with these annual surveys to promote condition monitoring and the evaluation of condition based Levels of Service.
- 4.1.3 Doncaster and Sheffield undertake the new UKPMS FNS survey on footways, which replaces the UKPMS DVI footway survey. Rotherham undertakes the UKPMS CVI survey and Barnsley undertakes an in-house developed assessment. All footway surveys undertaken by the South Yorkshire Authorities are supported by the Roads Board and the PCIS support contractor.

SCRIM Surveys

- 4.1.4 The resistance of road surfaces to skidding continues to be regularly monitored using the Sideways-force Coefficient Routine Investigation Machine (SCRIM) and the Grip Tester. SCRIM testing is carried out on the Classified A, B & C Road Networks in compliance with national industry guidelines in accordance with Technical Standard HD28/04. The SCRIM Policy Document deals with this in greater detail.

Summary of Condition Surveys

- 4.1.5 Table 3.2 below provides a summary of the various condition surveys undertaken and the percentage annual network coverage for each survey type and road class.

SURVEY NETWORK	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
SCANNER - A Roads	100%	100%	100% (1-dir)	100%
SCANNER - B Roads	100%	100%	100% (1-dir)	100%
SCANNER - C Roads	100%	100%	50% (1-dir)	100%
SCANNER - U Roads (Promoted)	[X]	[X]	[X]	100%
SCANNER - U Roads	[X]	[X]	[X]	[X]
CVI or DVI - A Roads	[X]	100%	25%	100%
CVI or DVI - B Roads	[X]	100%	25%	100%
CVI or DVI - C Roads	[X]	100%	25%	100%
CVI or DVI - U Roads	33%	50%	25%	33%
SCRIM - A Roads	100%	33%	Yes	100%
SCRIM - B Roads	100%	33%	Yes	100%
SCRIM - C Roads	Ad-hoc	33%	Ad-hoc	100%
SCRIM - U Roads (Link roads)	Ad-hoc	[X]	Ad-hoc	100%
SCRIM - U Roads (Local roads)	[X]	[X]	[X]	[X]
DVI or FNS - Cat 1a Footways	[X]	25%	[X]	33%
DVI or FNS - Cat 1 Footways	[X]	25%	25%	33%
DVI or FNS - Cat 2 Footways	[X]	25%	25%	33%
DVI or FNS - Cat 3 Footways	[X]	25%	25%	33%
DVI or FNS - Cat 4 Footways	[X]	25%	25%	33%
Other Survey - Cat 1a Footways	[X]	[X]	Yes	[X]
Other Survey - Cat 1 Footways	[X]	[X]	Yes	[X]
Other Survey - Cat 2 Footways	[X]	[X]	Yes	[X]
Other Survey - Cat 3 Footways	[X]	[X]	Yes	[X]
Other Survey - Cat 4 Footways	[X]	[X]	Yes	[X]

TABLE 4.1 – Summary of Annual Condition Surveys

4.2 SAFETY INSPECTIONS

4.2.1 Safety inspections are intended to identify any defects that present a imminent safety hazard to users, following which, urgent local repairs are undertaken to remove the safety hazard. South Yorkshire councils carry out safety inspections in line with the Code of Practice for Highways Maintenance Management, which is based upon the network definition by hierarchy. Each South Yorkshire Authority has an internal document which states the inspection frequencies and defect threshold interventions relating to each hierarchy.

4.3 SERVICEABILITY INSPECTIONS

4.3.1 Serviceability inspections (previously known as detailed inspections), are aimed at the identification of permanent repairs to defects that are routine in their nature or in support of longer-term planned maintenance requiring more extensive works. The survey aims to identify and address defects that are likely to become a safety hazard or will have an inordinate adverse impact on the surface or structural integrity of the highway at the time of the inspection or in the period up to the next inspection, perhaps up to 12 months ahead.

4.3.2 Serviceability inspections are carried out in line with the Code of Practice for Highways Maintenance Management which is based upon network hierarchy and use.

4.4 TREATMENT SELECTION AND SCHEME PRIORITISATION (ROADS)

4.4.1 Having condition assessed the carriageway using the toolbox of survey methods outlined in Table 3.2 above, each authority then processes the defect data and assesses the planned maintenance needs of the network. The post-survey evaluation process and the determination of scheme priorities and works programmes is carried out by each Authority using varying methods of data analysis. Table 3.3 below shows the scheme priority evaluation processes for individual authorities.

LOCAL AUTHORITY	SCHEME PROCESSING
Barnsley MBC	Two policies are currently in use in the development of the Maintenance Programmes. For Local Roads (B, C & U/C) the programme is prioritised through an accepted "Worst First" methodology which is linked to Condition (derived from Safety Inspector Reports and UKpms returns) with the footway programme taking account of 'softer' issues such as, Accidents & Insurance Claims, Complaints, hierarchy and local 'special' circumstances. The PRN programme was prioritised from a Coarse Visual survey and programmed as part of the 5 year prudential borrowing period. During this time other schemes were introduced subject to local deterioration and condition.
Doncaster MBC	Data from the UKPMS surveys, plus SCRIM and Deflectograph surveys, is loaded into Scheme Engineer © which provides a list of condition scored schemes which can then be value managed and prioritised. Economic prioritisation techniques are used to ascertain the correct treatment option.
Rotherham MBC	Priority for the surface treatment programme is accorded to sites identified from SCRIM survey data. Otherwise CVI data processed through UKPMS ascribes a CI and Ranking to all road and footway sections. Scheme proposals at the head of these rankings are assessed against PI data from SCANNER and a range of other priority factors to produce a balanced programme of works
Sheffield MBC	Data from the UKPMS surveys, plus SCRIM and Deflectograph surveys, is loaded into Scheme Engineer © which provides a list of condition scored schemes which can then be value managed and prioritised. Economic prioritisation techniques are used to ascertain the correct treatment option.

TABLE 4.2 – Scheme Selection and Prioritisation Process

- 4.4.2 The quantity of work carried out within South Yorkshire’s annual planned maintenance programme varies from year to year reflective of the specific site maintenance needs and funding from LTP Capital allocations and LA Revenue budgets.
- 4.4.3 The adequacy of the overall funding investment in highway maintenance will likely continue to be significantly less than is required for the foreseeable future due to budget constraints. This is compounded by the current national financial position and additionally, annual increases in material, plant and labour costs and the expanding network size have the added effect of reducing annual maintenance outputs.
- 4.4.4 Occasionally funding from the LTP Maintenance allocation is supplemented by funds made available from within a Council’s Strategic Capital Pot. Benefits can also be obtained through other grant funded programmes, such as Housing Market Renewal projects or via the Green Corridor Environmental Improvement Programme and opportunities have arisen to jointly fund schemes where they accorded with maintenance priorities.

4.5 LENGTH OF ROADS RESURFACED OVER THE PAST 5 YEARS (KM)

- 4.5.1 Over the past 5 years a number of road resurfacing treatments have been undertaken reflective of annual funding allocations and resource constraints. Table 3.4 below shows the length of roads receiving a surface treatment over the 5 year period 2004-2008, based on the annual DfT-NRMCS Questionnaire submissions.

TREATMENTS (KM)	YEAR	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Surface Dressing	2004/05	20.7	41.6	32.5	8.1
Major Schemes	2004/05	16.6	13.7	9.3	36.3
Surface Dressing	2005/06	20.6	35.0	10.0	10.5
Major Schemes	2005/06	21.0	3.9	5.1	27.1
Surface Dressing	2006/07	19.4	0.0	44.2	12.0
Major Schemes	2006/07	17.8	17.0	3.6	20.7
Surface Dressing	2007/08	18.6	5.3	24.2	16.4
Major Schemes	2007/08	19.5	10.9	4.4	17.6
Surface Dressing	2008/09	14.0	11.9	15.2	9.2
Major Schemes	2008/09	14.3	13.8	8.6	31.4
<p>NOTE Sheffield’s and Rotherham’s “Surface dressing” figures above also include other surface treatments. “Major Schemes” = Reconstruction, Overlay, Resurfacing, Thin Surfacing.</p>					

TABLE 4.3 – Roads Resurfaced (KM)

4.6 FOOTWAYS / CYCLE TRACKS

- 4.6.1 All footways and cycle tracks in the South Yorkshire borough are subject to annual safety & serviceability inspections which determine the need for reactive maintenance.

4.7 LENGTHS OF FOOTWAY RESURFACED OVER THE PAST 5 YEARS (KM)

4.7.1 Planned footway refurbishment schemes are identified from condition evaluation surveys, e.g. FNS, DVI, CVI. Table 3.5 below shows the length of footways in each district that has been resurfaced in the 5 year period 2004-2008.

TREATMENTS (KM)	YEAR	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Slurry Surfacing	2004/05	N/A	54.7	53.45	22.3
Major Works	2004/05	45.4	3.1		
Slurry Surfacing	2005/06	N/A	74.0	23.3	32.4
Major Works	2005/06	31.5	0.5		
Slurry Surfacing	2006/07	N/A	97.6	36.2	44.0
Major Works	2006/07	28.1	1.5		
Slurry Surfacing	2007/08	N/A	0.0	29.7	1.3
Major Works	2007/08	29.4	1.3		
Slurry Surfacing	2008/09	N/A	34.3	33.9	25.9
Major Works	2008/09	24.4	0.9		
NOTE Major Works = Reconstruction, Overlay, Resurfacing, Retread. For RMBC Minor works represents footways treated with microasphalt surfacing.					

TABLE 4.4 – Footways Resurfaced (KM)

4.8 PUBLIC RIGHTS OF WAY

4.8.1 As Highway Authority each authority within South Yorkshire has certain statutory duties relating to the protection and maintenance of public rights of way and the keeping of legal records.

4.8.2 The condition of South Yorkshire's public rights of way is assessed each year to produce the national performance indicator BVPI 178 – Ease of Use. The recommended approach for the assessment is to randomly select 5% of the network, by length, as a 'snap shot' of the condition of the network, although some authorities may increase the percentage inspection rate for operational reasons.

4.8.3 The survey is carried out at different times throughout the year such as one part in spring and the other in autumn, to allow for differences caused by the weather and the farming year. The methodology used is that developed and recommended by the former County Surveyors Society (CSS) and is approved by the audit commission.

4.9 STREET LIGHTING

4.9.1 The South Yorkshire authorities are collectively responsible for the maintenance of approximately 182,270no street lighting units located throughout the region.

4.9.2 To support the management and capital renewal of lighting columns, South Yorkshire undertakes inspections of the structural condition and electrical components of the columns.

4.9.3 Table 3.6 lists the number of lighting columns replaced through Capital Renewal.

TREATMENTS	YEAR	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Capital renewal	2004/05	950	No Data	305	327
Capital renewal	2005/06	1900	No Data	520	237
Capital renewal	2006/07	2244	No Data	455	162
Capital renewal	2007/08	1236	326	330	258
Capital renewal	2008/09	1236	310	375	151

TABLE 4.5 – Lighting Columns Renewals

4.10 SIGNS / ROAD MARKINGS

4.10.1 Sign faces within South Yorkshire are replaced and maintained as part of a highway improvement programme or via complaints from members of the public. Signs are expected to perform satisfactorily for up to 10 years before they need replacing. Surveys of illuminated signs are conducted with the street lighting inspections.

TREATMENTS (NUMBER)	YEAR	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Sign renewal	2004/05	No Data	No Data	No data	831
Sign renewal	2005/06	No Data	No Data	No data	900
Sign renewal	2006/07	120	350 (Est.)	1,392	1,393
Sign renewal	2007/08	151	363	1,345	801
Sign renewal	2008/09	100	342	1,281	2,303

TABLE 4.6 – Sign Renewals (Number)

TREATMENTS (ANNUAL EXP. £s)	YEAR	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Sign Renewal	2004/05	No Data	No Data	133,300	34,000
Sign Renewal	2005/06	No Data	No Data	137,300	57,000
Sign Renewal	2006/07	62,000	71,970	142,300	64,000
Sign Renewal	2007/08	70,000	71,970	159,800	86,000
Sign Renewal	2008/09	65,000	71,970	153,200	89,000

TABLE 4.7 – Sign Renewals (£s)

4.10.2 Road markings are generally renewed in association with a highway structural maintenance schemes, e.g. resurfacing, or preventative maintenance programmes, e.g. surface dressing. In addition routine inspections and customer complaints identify faded and worn road markings that are replaced as reactive works subject to budget constraints.

4.10.3 Traffic Regulation Orders (TRO's) also contribute to the growing extent of new road markings, particularly yellow lines, in addition road safety schemes and traffic calming projects make use of road markings and coloured surfacings to reflect local safety needs. Table 3.9 shows the annual expenditure for provision of all road marking items.

TREATMENTS (ANNUAL EXP. £s)	YEAR	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Road Mkgs	2004/05	No Data	194,300	57,400	128,000
Road Mkgs	2005/06	No Data	104,000	79,700	122,000
Road Mkgs	2006/07	87,000	100,500	74,000	118,000
Road Mkgs	2007/08	75,000	260,700	88,000	115,000
Road Mkgs	2008/09	75,000	175,500	69,200	113,000

TABLE 4.8 – Road Markings Expenditure (£s)

4.11 HIGHWAY DRAINAGE

4.11.1 Effective highway drainage is very important in protecting the structural integrity of the road and for removing surface water from the carriageway enabling the road to function correctly and in a safe manner, thereby prolonging its life expectancy.

4.11.2 There tends to be no regular condition surveys undertaken of the highway drainage infrastructure, in consequence there are no annual programmes for the planned replacement and renewal of highway drainage systems.

4.11.3 Annual road and footway safety and serviceability inspections serve to identify local reactive drainage problems and piped system deficiencies but these can be somewhat limiting.

4.12 HIGHWAY STRUCTURES

4.12.1 Highway structures are maintained by the Bridges & Structures Department in accordance with the Code of Practice of Highway Structures, published in 2005.

4.12.2 Bridge condition is determined following a general Inspection and is rated using the County Surveyors Society (CSS) Bridge Condition Index. The condition indicators for an individual bridge (BCI) or a stock of bridges (BSCI) are evaluated using the data collected during the bridge inspections, which typically report the condition of different elements (e.g. main beams, abutments, drainage etc.) according to a predefined scale set out in the CSS inspection. The BCI values can be interpreted broadly as the “percentage service potential” of a bridge. Thus a BCI value of 100 implies that the bridge has retained 100% of its service potential; a value of 60 implies that the bridge has lost 40% of its service potential and a value of 0 implies that the bridge is no longer serviceable.

4.13 WINTER SERVICE

4.13.1 To promote the safe transient passage of vehicles and pedestrians over the network during the winter period, the South Yorkshire Authorities precautionary salt 2,654km of the highway network equating to 44.6% of the South Yorkshire road network length.

4.13.2 South Yorkshire authorities all have a Winter Service Plan and Policy, the objective of this is to:-

- Provide for the safe movement of traffic within South Yorkshire on those roads identified as a priority to the travelling public.
- Allow for the free movement of foot traffic on footpaths attached to those routes identified as a priority to pedestrians.
- Prevent accidents caused by adverse weather conditions while travelling by vehicle or on foot
- Ensure, as far as is reasonably practicable, that the safe passage along a highway is not endangered by snow or ice.

4.13.3 To meet the above objectives, each authority has available for use, dedicated spreaders, de-mountable grit vehicles, loading shovels and ancillary support equipment to promote the efficient and timely implementation of the winter service plan. In addition, grit bins are placed at sensitive locations around the network to permit local residents to initiate self-help in times of severe weather conditions.

4.13.4 South Yorkshire has a number of Ice Alert Stations to advise the winter maintenance duty officer in each Authority as to the status of the region's roads and weather conditions. The winter maintenance officer will use the Ice Station information together with weather forecast information from the winter weather forecast suppliers to identify the occurrence of pending frost/ice/snow conditions thereby enabling the decision to grit to be correctly determined and justified based on the availability of the most current information (refer to Table 2.6 – Network Length by Road Classification).

4.14 THE ASSET GROUP

4.14.1 To help focus the planning and delivery of South Yorkshire's highway maintenance activities, the range of activities covered by the individual HAMP is broken down into simple categories termed "Asset Groups", such as those relating to the road surface, lighting, accessibility, etc. Each category can be linked to one or more proposals or policies.

4.14.2 High-level desired outcomes are identified and grouped together under these categories, expressing the desired result for the asset or for management of the asset. To elaborate on what is meant by each outcome, the HAMP includes a more detailed level of service statement of what the individual authority will aim to provide. The outcome is then divided into one or more measurable aspects (known as customer outcomes) to which performance indicators are matched, and a quantitative target is set for each performance indicator. The individual authority monitors progress against these targets. Levels of service statements are declarations of what the authority will aim to do to ensure that the highway asset provides a fit-for-purpose service achieved in a fair and efficient manner.

4.14.3 The Asset Groups are as follows:-

- Carriageways
- Footways
- Structures
- Street Lighting
- Highway Drainage
- Public Rights of Way
- Signs & Signals
- Street Furniture & Amenities

- Highway Verges and Trees.
- Street Cleansing / Street Environment.
- Highways Data and Data Management.

4.14.4 South Yorkshire has adopted the Transport Research Laboratory (TRL) guidance on setting levels of service and all the service levels for each asset group will be categorised as:-

Minimum	–	Core service (Safety / Statutory)
Fair	–	Safe and serviceable
Good	–	Safe and serviceable improving towards a sustainable service
Excellent	–	Safe, serviceable and sustainable

4.14.5 The four South Yorkshire Authorities have sought to agree outline service definitions for each of the asset groups comprising the highway network and the management of highway data. These consist of basic descriptions of level of service and appropriate performance measures / targets compatible with service provision at these levels. The definitions adopted are stated in simple terms for ease of understanding.

4.14.6 A service level matrix has been devised for the Asset Groups in which an overall rating for the current service provision is provided from which gaps in service provision can start to be identified.

4.15 FACTORS INFLUENCING THE LEVELS OF SERVICES

4.15.1 The following factors listed, have been considered by all South Yorkshire Authorities and are taken from the TRL asset management guidance document, which states that these factors should be considered as a minimum when developing levels of service.

4.16 NATIONAL OBJECTIVES

4.16.1 The main items in the Governments ten year plan in 2000 were:-

- Halt the deterioration in the condition of local roads by 2004.
- Eliminate maintenance backlog by 2010.
- To reduce the number of people killed or seriously injured.
- To reduce road congestion on the inter-urban network to below current levels by 2010.
- To increase bus use whilst improving levels of punctuality & reliability.
- To triple the number of cycling trips compared with the base year of 2000.

4.17 LOCAL OBJECTIVES

4.17.1 The main local / corporate objectives on the highway network are set out in South Yorkshire's LTP, and all of the following main objectives are contained within all individual HAMP's:-

- Accessibility – improving access and enhancing opportunities to reach a full range of facilities and activities, especially those without access to a car and with specific emphasis on people with mobility problems.
- Economy – supporting economic growth, promoting regeneration and improving prosperity.
- Environment – reducing transport related atmospheric pollution and other adverse environmental impacts of traffic to ensure sustainable transport policies.
- Integration – improving the links between public transport networks, closer integration of land use and transportation planning and close liaison with the transport policies of neighbouring authorities.
- Safety – improving road safety and reducing the fear of crime associated with transport.

5 BASE BUDGET REVIEW

- 5.1 A Base Budget review shall be carried out by all authorities in South Yorkshire, to ascertain how the revenue and capital budget is being distributed. The reason for this review is to confirm that all monies received are spent wisely and that the money received for the Highway Asset is enough to meet the requirements of the individual asset management plan. An initial Base Budget Review Panel for the individual authorities should have started in 2008/09 financial year.
- 5.2 This review should look into the following:-
- Has calls to the Call Centre increased in relation to highway matters, if so is this due to inadequate funding?
 - How are resident satisfaction levels?
 - If resources are re-directed onto the high profile services how would this affect the deterioration in highway condition through the redistribution within the Revenue budget. In particular what would the impact of deterioration on the highway have on safety and satisfaction levels?
 - What is the Council's annual spending on highways per km compared with other Authorities (United Kingdoms average is £9,183/km)?
 - With the continuing demand for services and increasing customer expectations, (taking into account funding constraints), it recommended that the highways service develop a strategy for managing expectations having due regard to core priorities and available resources.
 - The Corporate Plan contains very challenging targets...could the service live within its current budget if targets were reduced?
 - The linkage between the Revenue and Capital budgets for the service is crucial for a medium to long term maintenance strategy and stable funding is crucial. The review team shall look into this process.

6 VALUE FOR MONEY

6.1 Current expenditure on maintenance of the highway asset falls significantly below the formula funding share and the level of revenue spending funded by central government, this has been the case for a number of years. Taking this into account the current levels of service across the highway asset indicated above would illustrate that the service as a whole has achieved good value for the funding committed over recent years. This has been achieved through the balancing of priorities across the South Yorkshire network and in the development and use of innovative treatments and processes which will need to continue as part of the Asset Improvement Plan.

6.2 HIGHWAYS EFFICIENCY TOOLKIT

6.2.1 The “Toolkit for Local Transport Highways Efficiency Gains”, published in May 2006 and revised in October 2008 by the Highways Agency, indicates that evidence of improving service standards achieved with similar levels of funding could be used to demonstrate an efficiency gain under the Gershon requirements. Amongst other potential efficiency actions “the asset management approach” in reducing life-cycle maintenance costs is highlighted. Within the Toolkit two matrices are included to provide alternative crosschecks to demonstrate continued service quality or to aid in demonstrating service enhancement. Matrix A provides an outline of objectives, processes and measures for highways performance and Matrix B lists appropriate supporting indicators drawn from a range of sources. This toolkit has been considered by all South Yorkshire Authorities.

6.3 COLLABORATIVE PROCUREMENT

6.3.1 Within the guidance published by the Department for Transport on LTPs: (Second Edition), more pooling of purchasing power within and between local authorities is encouraged to help to facilitate efficiency in the delivery of highway maintenance. During the drafting of the Second South Yorkshire LTP a joint working group of maintenance officers was established to explore opportunities for joint working which might lead to improved service delivery, more efficient operation of the network and cost savings through economies of scale.

6.3.2 Joint South Yorkshire-wide contracts are already let via the South Yorkshire Laboratory for condition surveys of the road network and for other joint procurements of significant value, for instance for rock salt and energy, this is managed on behalf of a number of authorities, including South Yorkshire, by the Yorkshire Purchasing Organisation.

6.3.3 The possibility of letting joint programmes for a variety of road surface treatments was the first area of potential collaborative procurement opportunities to be examined. It was recognised that the delivery of such contracts would prove quite challenging as the works undertaken can be quite diverse in character. The Group looked to identify common processes and have ranked them into short, medium and long term goals. The first road treatment activity identified for collaborative procurement was surface dressing, commencing with the 2007 season and extended over four years into 2010. Other considered activities for collaboration include a carriageway re-tread contract.

6.3.4 Joint procurement has also been undertaken for service contracts such as Winter forecasting and is being pursued for materials testing following the closure of SY Laboratory in March 2010.

7 CORPORATE RISKS

7.1 The risks identified for South Yorkshire on the Corporate Risk Register that could impact on the delivery of Highway Services include:-

- Capital Budget – Falling allocation from LTP (reducing strategic road maintenance).
- Departure of several key personnel or substantial loss of operational personnel.
- Implementation of the Job Evaluation Scheme.

7.2 WHOLE LIFE COSTS (WLC)

7.2.1 South Yorkshire Authorities are taking account of WLC in assessing the works required. Wherever practicable and reflective of the levels and nature of trafficking, the most appropriate surface treatment will be selected based on the most economically beneficial option taking into account unit cost, service life, traffic carried, stakeholder preference and site configuration. Some low cost proprietary surface treatments can and have delivered over 10 years satisfactory service performance on the Principal Roads which serves to promote network sustainability and service efficiency deliverables.

7.3 CONGESTION MANAGEMENT

7.3.1 All works within South Yorkshire are programmed to avoid disruption to traffic within traffic sensitive periods. Well planned programmed maintenance causes less disruption to traffic than frequent small scale reactive repairs. Improved co-ordination of maintenance and improvement work across the highway asset would assist in avoiding the potential for duplication of disruption to traffic. The implementation of the requirements of Traffic Management Act 2004 for noticing and co-ordinating works will assist in reducing the potential for disruption and congestion if they are complied with and managed effectively. Cross boundary liaison has already been established within South Yorkshire and beyond to ensure that major works planned by adjacent authorities and the resultant impact on traffic movements outside their boundaries are taken account of during work programming.

7.4 CLIMATE CHANGE

7.4.1 Forecasts for the medium term effects of global warming include for more severe and frequent precipitation events. In order to minimise the effect of flooding from such events it is a priority for our highway drainage systems to operate effectively. This will require that standards of cleansing are maintained and that more proactive action towards the identification of potential faults is considered. New highway drainage design and SUDS implementation allows for the forecast effects of climactic change.

7.4.2 The gradual warming of temperatures will also impact on Winter Services. Milder and wetter winters will see an increase in the number of marginal nights and an increase in precipitation may result in an increase in the number of treatments applied in such circumstances as a result of salt wash off.

7.5 INDIVIDUAL AUTHORITIES' HAMPS

7.5.1 All of the Asset Groups discussed above have been included within each individual authorities HAMP's. For each asset group every authority has addressed the following headings:-

- Contribution to Corporate Objectives
- Current Performance
 - General Position

- Existing Levels of Service
- Influences in Determining Desired Level of Service
 - Customer Expectations
 - Life-cycle maintenance options
 - Survey Data
 - Value for Money
 - Service Risks
 - Whole Life Costs
 - Network Hierarchy
 - Sustainability / Environmental Management
- Gaps between Current and Desired Service Levels
 - Routine Maintenance
 - Renewal
 - Improvement
- Priority for Action / Resource Implications
- Recommendations for Improvement Plan
 - General
 - Options

8) **PLANS FOR IMPROVEMENT**

8.1 Although some of the principles of asset management planning have been practiced for a number of years in South Yorkshire, the HAMP is still a new corporate document, therefore each South Yorkshire authority has an Improvement Plan as part of their HAMP with regard to the following:-

- With current resource levels for maintenance below those identified for effective life cycle maintenance of many elements of the network, priority should be given to programmes of work that will extend the life of the assets.
- An annual planned highway maintenance programming and review cycle to be adopted to promote effective works coordination and extending the forward programme of works across the highway asset to a 5-year term by 2010.
- Improved procedures be developed to ensure that “maintainability” be built into Highway Improvement and Development proposals.
- More comprehensive knowledge on the condition of individual assets be built up to ensure more effective utilisation of available resources.
- Regular reports be made to Members illustrating the adequacies, effects and consequences of resource allocations.
- An appropriate level of priority be given to cyclic maintenance activities that serve to mitigate instances of service failure.
- Seek to provide equitable service standards across the South Yorkshire region.
- Sheffield City Council's Outline Business Case for a Highway Maintenance PFI Project was approved by the DfT in April 2009 and resulted in the award of £674.1 million of PFI Credits. The City Council have commenced procurement of the required contract using the Competitive Dialogue Process. It is currently anticipated that the contract will commence in August 2011. The successful Service Provider will be required to rehabilitate all highway assets including carriageways, footways, street lights and traffic signals over a seven year period and then maintain the network at the improved condition for the remainder of the 25 year contract.

9) REVIEW PROCESS

- 9.1 It is important that the HAMP is kept under continuous review and that the Improvement Plan is updated regularly.

10) ASSET VALUATION

A simple asset valuation spreadsheet has been produced to calculate the asset value for South Yorkshire. This represents the initial declared asset value for South Yorkshire reflective of the position that the South Yorkshire Authorities are each at varying stages and levels of confidence regarding the current status of their asset inventory. The following tables have been completed by all authorities to produce an initial overarching asset value for South Yorkshire.

Transport Asset Valuation Spreadsheet		April, 2007 Version 2 Miles: 11,847	RPI Adjustment April 09 2.97 %			
Authority: Barnsley MBC		Gross Asset Valuation: £980.2 million	£1,009.3 million			
Carriageways						
class of road	TAV asset category	length kms	design width m	unit rate for carriageway £/m2		
A (Principal)	Urban, Dual	5.5	9.0			
A (Principal)	Urban, Single	50.8	8.0	£95.08		
<i>(for dual carriageways, width of each carriageway)</i>						
A (Principal)	Rural, Dual	6.9	7.5			
A (Principal)	Rural, Single	66.2	7.2	£76.96		
B	Urban, Single	39.8	7.2	£77.70		
B	Rural, Single	33.9	7.2	£69.62		
C	Urban, Single	59.3	7.0	£76.01		
C	Rural, Single	101.8	6.8	£64.27		
unclassified	Urban, Single	702.6	6.5	£73.37		
unclassified	Rural, Single	110.2	5.5	£61.26		
Total length of network		1,177.0				
Segregated Footways, Cycleways				length kms	unit rate for footway/cycle track £/m2	
footways and cycle tracks:		0.0		£60.00		
Structures				total surface area: m2	unit rate for structures £/m2	
bridges: deck area; culverts: soft area; retaining walls: retained area		23,971.0		£4,800		
This figure does not include retaining walls						
Street Lighting				number	unit rate per item £ each	
		32,500		£1,000		
total number of individual electrical items, usually no. of lighting columns						
Traffic Management				number	unit rate per item £ each	
traffic signal junctions:		51		£350,000		
pedestrian signals:		35		£150,000		
traffic signs:		12,000		£500		
urban traffic control systems:		1		£1,500,000		
junctions, signals: total number of sites; UTC: number of systems						
Exceptionally: Special Needs Adjustment Factor				adjustment factor:	%	
reason for adjustment:				100.0	%	
for example, enter a +7.5% premium on costs as "107.5"						
carriageway only valuation:		£567.0 million		£583.79 million		
carriageway + footway valuation:		£645.0 million		£664.15 million		
oway + fway + ancillaries valuation:		£802.0 million		£825.81 million		
oway + ancillaries valuation:		£724.0 million		£745.46 million		
Fway valuation:		£78.0 million		£80.35 million		
segregated cycle & fways valuation:		£0.0 million		£0.00 million		
structures valuation:		£115.1 million		£118.48 million		
lighting and electricals valuation:		£32.5 million		£33.47 million		
traffic management valuation:		£30.6 million		£31.51 million		

TABLE 10.1 – Barnsley Asset Valuation Tables

Transport Asset Valuation Spreadsheet				April, 2007 Version 2	Michael Peck 11/4/07	RPI Adjustment April 09 2.97 %
Authority: Doncaster M.B.C				Gross Asset Valuation: £1,542.8 million		£1,588.6 million
Carriageways						
class of road	TAV asset category	length kms	design width m	unit rate for carriageway £/m2		
A (Principal)	Urban, Dual	47.9	9.0			
A (Principal)	Urban, Single	56.5	8.0	£85.08		
<i>(for dual carriageways, width of each carriageway)</i>						
A (Principal)	Rural, Dual	5.0	7.5			
A (Principal)	Rural, Single	76.6	7.2	£76.96		
B	Urban, Single	23.0	7.2	£77.70		
B	Rural, Single	30.1	7.2	£69.62		
C	Urban, Single	98.6	7.0	£76.01		
C	Rural, Single	153.2	6.8	£64.27		
unclassified	Urban, Single	945.3	6.5	£73.37		
unclassified	Rural, Single	247.3	5.5	£61.26		
Total length of network		1,683.5 (incl. Roundabouts - 7.2km)				
Segregated Footways, Cycleways						
	length kms	unit rate for footway/cycle track £/m2				
footways and cycle tracks:		450.0		£80.00		
Structures						
	total surface area: bridges: deck area; overbridges: soft area; retaining walls: retained area	m2	unit rate for structures £/m2			
		61,590		£4,800		
<i>This figure does not include retaining walls</i>						
Street Lighting						
	number	unit rate per item £ each				
		45,000		£1,000		
<i>(total number of individual electrical items, usually no. of lighting columns)</i>						
Traffic Management						
	number	unit rate per item £ each				
traffic signal junctions:		84		£350,000		
pedestrian signals:		63		£150,000		
traffic signs:		15,000		£500		
urban traffic control systems:		1		£1,500,000		
<i>(UTCS: total number of sites; UTC: number of systems)</i>						
Exceptionally: Special Needs Adjustment Factor						
reason for adjustment:						
adjustment factor:		100.0	%			
<i>(for example, enter a +7.5% premium on costs as "107.5")</i>						
carriageway only valuation:				£802.0 million		£825.79 million
carriageway + footway valuation:				£909.7 million		£936.69 million
cway + hwy + associated valuation:				£1,127.3 million		£1,160.80 million
segregated cycle & footways valuation:				£27.0 million		£27.80 million
structures valuation:				£295.6 million		£304.41 million
lighting and electricals valuation:				£45.0 million		£46.34 million
traffic management valuation:				£47.9 million		£49.27 million

TABLE 10.2 – Doncaster Asset Valuation Tables

Transport Asset Valuation Spreadsheet

Version 2 M2010 Rother 11/10/07

2.97 %

Authority: Rotherham M.B.C

Gross Asset Valuation: £1,058.2 million

£1,089.6 million

Carriageways				
class of road	TAV asset category	length kms	design width m	rate for carriageway £/m2
A (Principal)	Urban, Dual	11.1	7.5	
A (Principal)	Urban, Single	55.4	11.4	£85.08
<i>(for dual carriageways, width of each carriageway)</i>				
A (Principal)	Rural, Dual	8.8	7.5	
A (Principal)	Rural, Single	31.3	11.4	£76.96
B	Urban, Single	52.3	7.9	£77.70
B	Rural, Single	43.0	7.9	£69.62
C	Urban, Single	88.4	6.8	£76.01
C	Rural, Single	89.7	6.8	£64.27
undclassified	Urban, Single	676.4	6.1	£73.37
undclassified	Rural, Single	75.2	6.1	£61.26
Total length of network		1,131.6		

carriageway only valuation: £564.8 million £581.61 million

carriageway + footway valuation: £243.1 million £662.22 million

way + flyway + ancillaries valuation: £807.5 million £831.46 million

Segregated Footways, Cycleways		
	length kms	rate for footway/cycle track £/m2
footways and cycle tracks:	89.8	£60.00

segregated cycle & ftways valuation: £5.4 million £5.55 million

Structures		
	m2	rate for structures £/m2
total surface area:	33,578	£4,800

bridges: deck area; culverts: soffit area; retaining walls: retained area
This figure does not include retaining walls

structures valuation: £161.2 million £165.96 million

Street Lighting		
	number	rate per item £ each
	37,800	£1,000

total number of individual electrical items, usually no. of lighting columns
High mast not included

lighting and electricals valuation: £37.8 million £38.92 million

Traffic Management		
	number	rate per item £ each
traffic signal junctions:	84	£350,000
pedestrian signals	63	£150,000
traffic signs:	15,000	£500
urban traffic control systems		£1,500,000

junctions, signals: total number of sites; UTC: number of systems

traffic management valuation: £46.4 million £47.73 million

Exceptionally: Special Needs Adjustment Factor		
reason for adjustment:		
adjustment factor:	100.0	%

for example, enter a +7.5% premium on costs as "107.5"

TABLE 10.3 – Rotherham Asset Valuation Tables

Transport Asset Valuation Spreadsheet

April, 2007

Version 2 M23481/Robt 1/14/07

RPI Adjustment April 09

3.60 %

Authority: Sheffield CC

Gross Asset Valuation: **£1,662.6 million**

£1,722.5 million

Carriageways				01/04/09 R199b Data	
class of road	TAV asset category	length kms	design width m	rate per carriageway £/m2	
A (Principal)	Urban, Dual	62.4	5.8		
A (Principal)	Urban, Single	96.7	7.5	£85.08	
<i>(for dual carriageways, width of each carriageway)</i>					
A (Principal)	Rural, Dual	20.8	5.8		
A (Principal)	Rural, Single	32.2	7.5	£76.96	
B	Urban, Single	94.2	5.8	£77.70	
B	Rural, Single	5.7	5.8	£69.62	
C	Urban, Single	235.2	5.8	£76.01	
C	Rural, Single	16.2	5.8	£64.27	
unclassified	Urban, Single	1,339.4	4.5	£73.37	
unclassified	Rural, Single	151.2	4.5	£61.26	

carriageway only valuation: **£756.8 million**

£786.09 million

carriageway + footway valuation: **£914.9 million**

£947.85 million

roadway + footway + ancillaries valuation: **£1,165.3 million**

£1,207.25 million

Segregated Footways, Cycleways		length kms	rate per footway/cycle track £/m2
footways and cycle tracks:		283.0	£60.00

segregated cycle & footways valuation: **£17.0 million**

£17.59 million

Structures		m2	rate per structure £/m2
total surface area:		56,106	£4,800
<small>bridges: deck area; culverts: soffit area; retaining walls: retained area</small>			
<small>This figure does not include retaining walls</small>			

structures valuation: **£269.3 million**

£279.01 million

Street Lighting		number	rate per item £ each
total number of individual electrical items, usually no. of lighting columns		65,407	£1,000

lighting and electricals valuation: **£65.4 million**

£67.76 million

Traffic Management		number	rate per item £ each
traffic signal junctions:	289	£350,000	
pedestrian signals	182	£150,000	
traffic signs:	31,366	£500	
urban traffic control systems	1	£1,600,000	
<small>junctions, signals: total number of sites; UTC: number of systems</small>			

traffic management valuation: **£145.6 million**

£150.88 million

Exceptionally: Special Needs Adjustment Factor	
reason for adjustment:	
adjustment factor:	100.0 %
<small>for example, enter a +7.5% premium on costs as "107.5"</small>	

TABLE 10.4 – Sheffield Asset Valuation Tables

NOTE:

The above simple asset valuation forms are to be replaced in 2010/11 with a new nationally agreed format, in compliance with the CIPFA "Transport Infrastructure Assets Code" (April 2010) and Whole Government Accounting requirements, with asset rates being provided on a regional basis.

The valuation of the highway will be split across 3 areas:-

- Carriageways & Footways
- Street Lighting
- Traffic Signals & Integrated Traffic Systems

ITEM	BARNSELEY MBC	DONCASTER MBC	ROTHERHAM MBC	SHEFFIELD CC
Carriageway and ancillary	745.46	1049.90	750.85	1,045.49
Footway	80.35	110.90	80.61	161.76
Segregated Footways, Cycleways	0.00	27.80	5.55	17.59
Structures	118.48	304.41	165.96	279.01
Street Lighting	33.47	46.34	38.92	67.76
Traffic Management	31.51	49.27	47.73	150.88
GROSS ASSET VALUATION	1,009.27	1,588.62	1,089.62	1,722.49

TABLE 10.5 – General Asset Valuation (£m)

The South Yorkshire Authorities of Sheffield, Doncaster, Rotherham and Barnsley have omitted retaining walls from their Structures AV calculations as it is considered the specified unit rate to be incorrect.

The gross South Yorkshire Transport Asset Value (less retaining walls) is presently calculated to be £5,410m however this will be revised upon implementation of the new "Transport Infrastructure Assets Code" as better inventory detail and costings are obtained.

GLOSSARY

BCI	Bridge Condition Index
BSCI	Bridge Stock Condition Index
BVPI	Best Value Performance Indicator
COP	Code of Practice
CSS/TAG	County Surveyors Society / Technical Advisors Group
CVI	Coarse Visual Inspection
DfT	Department for Transport
DVI	Detailed Visual Inspection
FNS	Footway Network Survey
HAMP	Highways Asset Management Plan
KPI	Key Performance Indicator
LTP	Local Transport Plan
NI	National Indicator
PFI	Private Finance Initiative
PROW	Public Rights Of Way
QBC	Quality Bus Corridor
SCANNER	Surface Condition Assessment for the National Network of Roads
SCRIM	Sideways-force Coefficient Routine Investigation Machine
TAMP	Transport Asset Management Plan
TRL	Transport Research Laboratory
TRO	Traffic Regulation Order
UKPMS	United Kingdom Pavement management System