

**LOCAL AUTHORITY
TRANSPORT
INFRASTRUCTURE ASSETS**

**REVIEW OF ACCOUNTING,
MANAGEMENT AND FINANCE
MECHANISMS**

FINAL REPORT

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FOREWORD BY THE CHAIRMAN OF THE REVIEW PROJECT STEERING GROUP

Highways are a major asset for local government and for the country as a whole, and yet measuring, maintaining and accounting for them is beset with difficulty. This paper is the product of the Treasury and the Department of Transport commissioning CIPFA to review accounting and finance arrangements for local government transport infrastructure assets in order to pilot a way through the present stalemate.

A key principle in accounting is that the consumption of capital assets should be funded throughout their life through revenue budgets, in order to both maintain the quality of the asset and ensure that the users of the services pay for its use. For local authorities, the costs of depreciating assets are considered so great a potential burden to the level of council tax that they are book entries in services' budgets, so as to reflect real costs for benchmarking purposes, but this is not then charged to revenue budgets by authorities.

For highways however, the picture is even more complex in that unlike other assets, not only across local government but indeed across the whole of government, the valuation given in accounts does not reflect their real capital or economic value or their cost of maintenance. As a starting point for our review, therefore, we could not easily assess the scale of the problem.

This review does not deal with the issue of depreciation, although it is inevitable that this will be addressed one day in the future. But the review deals squarely with the need for full inventory, robust condition surveys and sound valuation processes so that through proper asset management local authorities understand the capital and revenue value of the assets under their stewardship. Moreover this review recommends to the relevant bodies changes to the accounting requirements for local government so that accurate information must be compiled and reported; albeit that at present this will show a revenue gap and that our highways network is not being fully maintained.

In calling for local authorities to introduce a standardized and consistent approach to data and reporting, the review also highlights the need for central government and administrations in Scotland, Wales and Northern Ireland to support local authorities to make this happen. Although local government, armed with better information, will need to consider using its own resources by balancing transport infrastructure assets against its other priorities, we believe the numbers generated will demonstrate the need for more funding nationally to be made available to this 'Cinderella' asset class.

By the nature of the subject area, this is a complex and technical report, but the bottom line is that more resources will not be deployed until there is a sound basis of data on which to make decisions; but at present the lack of resources means that the need for better data and reporting remains to be properly addressed. This 'chicken and egg' problem must end with local government and central government giving greater priority to their responsibilities, because for the public the poor state of our roads continues to be a major concern both about 'liveability' in their neighbourhoods, whether in urban or rural areas, and ensuring that economic regeneration is allowed to flourish.

Importantly, this report starts the process of taking the first stepping stones to well maintained highways across the length and breadth of the country. We hope that together all branches of government consider and act on the recommendations that will make this happen

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1 INTRODUCTION, MAIN FINDINGS AND RECOMMENDATIONS

The final report

- 1.1 This is the final report of CIPFA's review of accounting, management and financing mechanisms for local authority transport infrastructure assets. A draft report was published for consultation in summer 2007, and the responses to the consultation and other exchanges with stakeholders have informed this final report. The consultation and follow up to it are covered in a new Section 7 and Annex N, and resulting changes to the review recommendations are reflected in Section 8 and in the summary of findings later in this section. Apart from some minor updating and clarification, the material in Sections 2 – 6 and in the other Annexes has not changed.

Introduction

- 1.2 The roads network and other transport infrastructure assets together represent by far the biggest capital asset that the UK public sector holds. It is worth many billions of pounds and is vital to national economic prosperity. The comfort and safety in which we can move from place to place and the appearance of our streets are important to our quality of life. But few authorities know what their infrastructure is worth, and detailed information on what it consists of, and the condition it is in, is patchy and often out of date. Nor do they have the detailed information that is needed to ensure that the money being spent is delivering best value.
- 1.3 There is also often a perception that at the national level we are not spending enough to maintain our transport infrastructure to satisfactory standards. However Government does not have robust, consistent information about the true cost of holding and maintaining these vital assets, or the size of maintenance and investment backlogs.
- 1.4 Although not a simple panacea in isolation, asset management could play a key role in tackling these problems. Experience in other sectors and from those transport authorities that have made good progress towards comprehensive asset management shows that it has the potential to deliver significant value for money benefits and improve service delivery, but that most local authorities are not yet achieving these benefits. Most English authorities hoped to have an Asset Management Plan (AMP) in place by the end of 2007. However, in most cases, completed AMPs will not initially be underpinned by good quality inventories and cost information, nor be based on robust information about asset condition and how this is changing over time.

The Review

- 1.5 The Government has concerns about the inadequacy of information about transport infrastructure, the slow progress in implementing asset management, and the need for consistent information to support Whole of Government Accounts (WGA). As a result HM Treasury and the Department for Transport commissioned CIPFA to undertake a review of accounting, management and finance mechanisms for local authority transport infrastructure. The full terms of reference for the review are given at Annex A, but the main objectives were:
- 1.6 To evaluate the issues associated with implementing an asset management plan based approach to accounting, managing and financing local authority transport infrastructure assets, and in particular to consider the best way to use AMP based information to:

- Support good financial management decisions locally;
- Provide good information to support policy development and resource allocations;
- Provide financial accounts complying with relevant IFRS requirements; and
- Deliver consistent high quality information for WGA and National Accounts purposes.

We were also asked to consider whether there might be lessons for other (non-infrastructure) local authority assets

- 1.7 The issue of depreciation hitting the bottom line (i.e. having to be fully funded) in local authority accounts was outside the terms of reference. We have however been concerned that any new arrangements should so far as possible deliver the benefits and disciplines that full depreciation accounting would bring.
- 1.8 The review has been overseen by a project steering group, which includes representatives from local government — both finance and transport professionals, the four UK administrations and the national audit bodies. The full list of members is at Annex B, and information on how the review has been carried out and the organisations interviewed/consulted is at Annex C.

Consultation

- 1.9 The main messages from the consultation were:
- very strong support for adoption of AMP based approaches;
 - substantial but less unanimous support for a change to the Statement of Recommended Practice (SORP) on local authority accounting. Some respondents were content with (or did not comment upon) the suggested 2009-10 implementation, but others felt that a slower timescale would be desirable;
 - substantial support for proposed work on further guidance, and a desire to progress AMP matters quickly;
 - strong support for extending AMP-based approaches to transport infrastructure outside the SORP; and
 - strong support for the principle of putting all local authority operational assets on a comparable basis and for work to look at the scope for extending an AMP based approach beyond infrastructure.

Main findings and final recommendations

- 1.10 Comprehensive transport asset management has the potential to deliver significant value for money benefits and improvements in the services delivered to users. Having looked at the available approaches, the report concludes that an AMP based approach is the only one capable of delivering all the objectives identified in the review terms of reference. In particular, it is the only one capable of fully supporting sound financial management decisions and effective long term stewardship of the asset base. The approach should help authorities to take better informed decisions about spending priorities, by demonstrating the long term consequences of particular levels of investment, and help them to maximise the output that can be achieved for the chosen level of expenditure. Robust information about what authorities really need to spend to maintain transport infrastructure to defined levels could also better inform future national spending decisions.

- 1.11 The few local authorities that have made good progress are already seeing significant benefits, and expect to achieve more as their systems and expertise develop further. Although it is impossible as yet to quantify precisely the extent of the possible value for money improvements from implementing an AMP based approach, the significant benefits from the approach are confirmed by the experience in other UK sectors.
- 1.12 In the UK water industry infrastructure asset management was initially implemented as a requirement of price regulation, but it is now closely integrated with financial and other key business management processes. Network Rail, where asset management has been introduced only recently, demonstrates that the approach can start to deliver significant benefits quickly, so long as implementation is well managed and has strong leadership and support from the top of the organisation.
- 1.13 Early findings from local government, combined with the greater experience in the water and rail industries, indicate that improved long term value for money from proper Asset Management Planning could be equivalent to at least 5% p.a (worth some £250m on the 2005/06 capital and revenue budget spent on roads maintenance). Improvements would come from more soundly based investment appraisals and consequent reductions in the long term whole life costs of the assets in question. It is important to avoid assuming these are 'cashable savings' that could ultimately be redirected to other service priorities (such as social care) or result in some reductions in council tax. That might be the case to some degree, but in reality the improvements in value for money are more likely be felt in equivalent reductions in existing sizeable maintenance backlogs.
- 1.14 The CSS/TAG guidance on highway infrastructure asset valuation (described in Annex D) has been designed specifically to support transport infrastructure asset management, and provides a comprehensive approach to producing the information required to deliver the review's objectives. However, this report makes a number of recommendations for further work to update and simplify the current version of the guidance, as well as to support implementation.
- 1.15 The report also concludes that if the benefits of an AMP based approach are to be realised quickly and in full, an early change is necessary to the relevant accounting guidance contained in the SORP. While many of the benefits from effective Asset Management Planning do not require changes in the relevant accounting guidance (e.g. better targeting of current and future spend), the full benefits from consistent measurement and accounting treatment across the sector will only flow from the consistent discipline imposed by changing the SORP. Clearly, even this would not resolve the amount of funding for road maintenance. That remains a function of national and local priority setting.
- 1.16 However, changing the current SORP treatment to an AMP based approach would require local authorities to have good quality, consistent information that is capable of withstanding audit scrutiny. The speed with which this could be achieved depends on the priority — including funding and other resources — that stakeholders are willing to give to it.
- 1.17 In the light of consultation responses, we recommend that 2010/11 – which will be the year in which local authorities complete the transition to IFRS – should also be the first year for which current value accounting information about infrastructure assets should be reported, but that this should be treated as a 'dry run' year. The main financial statements would still be on a historic cost basis but authorities would disclose information on a current (AMP based) accounting basis in the notes to the Accounts. The change to the SORP treatment could then be implemented in 2011/12. A 'prepare and decide' approach should be adopted,

with the possibility kept open of making 2011/12 a further dry run year. The final 'switchover' decision would then be made in the light of progress made for the 2010/11 dry run year. This approach should strike an appropriate balance between concerns about the work involved in implementing a significant change to infrastructure accounting alongside the move to IFRS based accounts, and the need to make early progress in developing sound financial information to support better asset management.

- 1.18 In 2010/11, the year before the proposed full adoption of the new AMP based accounting policies, dry run information would be used to inform WGA consolidation returns. However an interim approach will still be required for 2009/10, which will now be the first year of WGA publication, as well as for the 2008/09 dry run. The consultation draft proposed an interim approach to address the WGA information requirements, using a combination of national unit costs, asset inventory and condition information already held by local authorities. This approach has been explored further since the draft report was published, in discussion with central government, the Audit Commission and the National Audit Office and some local government practitioners, and is reflected in the revised Annex L.
- 1.19 Meeting the recommended timetable would, we estimate, require costs of £15m across Great Britain to set up systems and collect and input core inventory data, which would require funding support from stakeholders. After this initial 'pump-priming', the efficiency benefits delivered by better asset management should be capable of funding the ongoing information needs. The development of inventory and condition data needs to be driven by asset management planning considerations rather than simply being seen as an accounting requirement. The key to this is effective prioritisation of work, concentrating initially on the high value/high spend assets, and then gradually extending the coverage and detail over time.
- 1.20 The UK administrations will need to consider whether and how to support local authorities to deliver to a fixed early timetable in order to deliver the significant ongoing efficiency savings available. Otherwise the timetable for any change to the accounting will depend on the natural progress of the slower authorities, and the substantial potential benefits from the asset management plan based approach are unlikely to be realised for some years. In the light of the consultation report, DfT has announced that it will provide £15m to support development of transport asset management in England; further details are awaited on when and how this support will be allocated.
- 1.21 Not all local transport assets are covered by the SORP. For non-network infrastructure assets held in local authority companies, e.g. airports, the report concludes that there is not a strong case for any change in accounting approach. However, there is a good case, and strong support from consultees, for authorities, principally the Passenger Transport Executives (PTEs), who do hold significant public transport assets, including major networks, to implement asset management planning and generate financial information on the same basis and to the same standard as would apply to local authority assets within the SORP. In the absence of any Government imposed requirement, it would be for individual PTAs/PTEs and relevant local authority companies to take this recommendation forward as a matter of best practice. The guidance on asset valuation should be extended to provide appropriate coverage across all types of local transport assets in order to facilitate implementation of this recommendation.
- 1.22 Finally, the review looked at possible lessons for non-infrastructure assets. The MRA approach for local authority housing and the CSS/TAG guidance for transport infrastructure provide comparable measures of the cost of holding and maintaining two very different asset types. If this comparability could be achieved

across the whole asset base it would provide better information to support spending decisions both centrally and locally. The extension of an AMP based approach to other asset types should help to strengthen the links between asset management and financial management, and promote a more integrated, corporate approach across both property and infrastructure assets. It could also help to provide the data required to support implementation of the Government's objective that in the longer term depreciation should hit the bottom line in local authority accounts. In the knowledge that Asset Management Planning is already considerably better developed in some areas (e.g. local authority building stock), and the consultation response on this issue, we recommend that the national administrations should undertake research to look at the scope for applying a consistent AMP based approach to all local authority assets, with a view to establishing consistent financial information to support asset management, financial management, resource allocation and policy decision making across the full range of assets.

Structure of report

- 1.23 The remaining sections of the report set out the review evidence and findings using the following structure:

Section 2 sets out the context for the review. It looks first at the role of accounting information, particularly depreciation, in supporting effective long term management of assets and other requirements such as resource allocation. It then looks briefly at the development of transport asset management planning and valuation methodology and at the guidance which underpins them.

Section 3 looks at different definitions of infrastructure assets and at the main approaches to accounting for them in the UK — the SORP for local authorities, the Financial Reporting Manual for central government (the FReM), and the CSS/TAG valuation guidance. It also looks at the impact of accruals accounting and of the introduction of WGA.

Section 4 looks at the drivers for transport asset management, progress to date in implementing it, and at the costs and benefits involved. It includes case studies to highlight some early wins and other examples of good practice.

Section 5 compares the three main accounting approaches available for local transport infrastructure against the objectives in the review terms of reference. It then looks at the case for changing the existing SORP approach, what this would involve, and raises a number of important implementation issues that would need to be addressed before any change could take place.

Section 6 looks at how transport infrastructure is accounted for and managed in some other developed countries, and in the UK rail and water industries. It then goes on to look at the Major Repairs Allowance (MRA) regime for local authority housing and at the potential to extend an AMP based approach to other assets.

Section 7 reports on the outcome of the consultation on the previous draft report and comments on the issues raised.

Section 8 makes final recommendations, for implementing an AMP based approach to managing and accounting for transport infrastructure assets, taking account of the timetable for implementing WGA. It also considers the position of local transport assets that are not covered by the SORP and the potential benefits of an AMP based approach for non-transport assets.

2 POLICY CONTEXT

Asset information

- 2.1 Despite the fact that the roads network and other transport infrastructure assets together represent by far the UK public sector's biggest capital asset, there is remarkably little financial information available about it. With respect to the roads network there is excellent information about road lengths, a lot of information about condition, particularly of the road carriageway, and various other detailed performance statistics. Information is also published about annual expenditure on roads, which can be broken down into the various categories shown in Box 2.1.

Box 2.1: UK Road Lengths and Expenditure

	<u>England</u>	<u>Wales</u>	<u>Scotland</u>	<u>Northern Ireland</u>
Length (Kilometres) 1.4.05				
Motorways	2,992*	141	386	110
Trunk roads	4,330	1,547	2,806	2,270
Principal roads	27,885	2,625	7,464	
B roads	19,863	2,981	7,345	2,880
C roads	64,294	9,841	10,324	4,700
Unclassified roads	178,548	16,098	28,538	14,960
Total	297,911	33,233	56,864	24,930
Expenditure (£ million) 2004/05				
National	1,685	177	325	
Local	4,318	289	338	
Total	6,003	466	663	293

* includes 54 km of non-trunk motorways

In Northern Ireland all roads are the responsibility of DRD Roads Service. In the rest of the UK, most motorways and all trunk roads are the responsibility of the national administrations. All other road classes are local roads.

Expenditure figures include capital and revenue spending on new construction/improvement, structural, routine and winter maintenance, revenue expenditure on road safety and public lighting. National government figures also include expenditure on shadow tolls. Totals may not add precisely because of roundings. Northern Ireland road lengths rounded to nearest 10 km.

Data sources: Transport Statistics GB 2006; Welsh Transport Statistics 2006; Scottish Transport Statistics 2006; Northern Ireland Transport Statistics 2005/6.

- 2.2 Following the introduction of Resource Accounting and Budgeting (RAB) for national government departments, information is also available about the current value of the national motorway and trunk road network. The relevant departmental accounts also include a measure of 'depreciation' which provides an estimate of whether sufficient is being spent each year to maintain the assets at a stable level. However, except for Northern Ireland, where all roads are a national government responsibility, and are therefore covered by RAB, there is no equivalent published figure for the value of the UK local roads network. Similarly, published national statistics for other types of public transport concentrate on passenger journeys, revenues and expenditure but do not deal with the value of the assets or their condition.
- 2.3 The nearest approximation is a figure in the national accounts for the value of local government 'civil engineering works', with an estimated value of £282.3 billion, most of which appears to be attributable to highways. The reasons for the lack of useful information about the value of local highways and other transport infrastructure are discussed in more detail in the next section of the report.

Asset costs

- 2.4 Information about the cost of holding and maintaining assets is even more important than their valuation but again, as described in the next section, it does not generally exist — at least not on a robust and consistent basis between authorities. Within accounting, the function of depreciation is to provide a measure of the cost of the economic benefits embodied in a tangible fixed asset that have been consumed during the accounting period. Depreciation can be measured in various ways and the choice of method should therefore be dictated by whatever is most relevant and appropriate to the nature of the assets and the needs of the holding entity. For commercial undertakings one of the aims should be to reflect changes in market value or income generating potential, but for long life public sector infrastructure a more appropriate measure would be what needs to be spent to maintain the asset in a stable condition.
- 2.5 However, as described later, present depreciation figures bear no relation to spending need or trends in asset condition, and provide no useful information either for day to day management or to support resource allocation or long term planning. This is partly because the present basis of valuation for local authority infrastructure assets — historic cost — is not a good basis for dealing with assets that have very long lives. But it also a consequence of the way depreciation is treated more generally within local authority accounts. Although depreciation is calculated, the charge is reversed out before it hits the 'bottom line' so it does not have to be funded. Instead a charge based on the level of capital financed through borrowing (known as 'minimum revenue provision') is substituted. This has the effect in the short term of keeping down expenditure, but it also removes the incentives that depreciation should provide — to maintain assets to an adequate standard.
- 2.6 Government has a stated long term objective of moving to a position where depreciation does hit the bottom line in local government accounts, as it already does in those of central government, but this needs to be managed in a way that is affordable for both central and local government and does not have undesirable impacts on council tax levels. The question of when and how such a change should happen is outside the scope of this review. However, in addressing the issues within our terms of reference, a key consideration has been to look at how far different accounting approaches might achieve the benefits and disciplines of depreciation, even without the charge hitting the bottom line. We have also been conscious that our recommendations should support rather than hinder any future move to full depreciation accounting.

- 2.7 The potential role of depreciation in supporting more effective asset management was highlighted in 2003, when in the run up to the introduction of the prudential system, the Government undertook a consultation in England on future support for local authority capital investment. As well as consulting on short term issues, the document also looked at the scope for moving, in the longer term, towards a position where depreciation of assets would hit the bottom line in authorities' accounts.
- 2.8 In particular, the 2003 paper proposed that, if depreciation hit the bottom line, Government support for existing assets would be geared to supporting the associated charges. This would be done in ways that ensured that the assets could be maintained at an appropriate level, along the lines of the Major Repairs Allowance (MRA) regime for local authority housing that was introduced in England in 2001. (Similar arrangements operate in Wales). It was noted that two conditions needed to be satisfied before such a change could be made:
- affordability at both central and local levels; and
 - availability of robust data with an accounting treatment that was consistent, and, as with MRA, that ensured that sufficient resources were put in to allow operational assets to be maintained in good condition.

This approach received strong support from those who responded to the consultation. However, various issues, including data limitations which make it very difficult to get a feel for affordability, have prevented much further progress being made.

Background to introduction of asset management planning

- 2.9 In England, the Government made preparation of property AMPs and capital strategies for local authorities a formal requirement in 1999 and issued detailed guidance on how it should be done. In the first few years, English authorities were required to make annual submissions on their property asset management plans and capital strategies to Government Offices so that progress could be assessed. No upfront funding was provided, but authorities who received good or excellent ratings were given performance reward money in the form of additional unringfenced capital allocations. Early AMP scores were fed into the first round of Comprehensive Performance Assessments. By 2004, all but a handful of authorities were judged to have good quality AMP processes in place, and the requirement to make annual submissions to Government Offices was ended, although central government has continued to provide wider encouragement and guidance.
- 2.10 In Wales and Scotland, there has been less central direction, but again authorities have been encouraged to develop AMPs, in Wales supported by some pump-prime funding. Property asset management has become an important generator of capital receipts from identification and disposal of surplus and under-used assets, but attention has also increasingly focussed on managing retained assets more effectively. Property asset management is now accepted in both central and local government as an important element in improving service delivery and achieving significant efficiency gains. More generally, asset management was a key theme for the 2007 Comprehensive Spending Review.

Transport asset management plans

- 2.11 The terms of reference for the review specifically require us to look at the scope for implementing *an asset management plan based approach* to accounting, managing and financing local authority transport infrastructure assets. Although most UK public bodies have always undertaken some aspects of transport asset management, the adoption of comprehensive AMP systems is a relatively recent development and is still maturing.
- 2.12 An early driver for property asset management in the UK public sector was the ability to generate capital receipts that could finance additional capital investment. However the potential for disposal receipts from highways is low. As a result, while property asset management became a focus of attention from the late 1990s, work on transport infrastructure was more strongly focussed on achieving greater integration between different transport modes. Some individual elements of highway asset management were being developed and widely adopted, and attention was increasingly being focussed on asset condition and maintenance, but comprehensive infrastructure asset management systems for both central and local government lagged behind their property equivalents.
- 2.13 Accounting information started to be developed for national government infrastructure in order to support the introduction of RAB during the late 1990s, but as we discuss in more detail later, developments here very much focussed on meeting accounting requirements, and did not, at least directly, have a great impact on asset management.
- 2.14 The development of comprehensive asset management for local government transport infrastructure received a significant boost in 2004 when the County Surveyors Society, with the support of fellow professionals across the UK plus the relevant government bodies and CIPFA Commercial Services, produced the 'Framework for Highway Asset Management'. This is the recommended Best Practice framework for developing highway asset management in the UK. The framework defines asset management as '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'.
- 2.15 Transport Ministers for England, Scotland, Wales and Northern Ireland and the Mayor for London were joint signatories to a pamphlet issued in November 2005 called 'Maintaining a Vital Asset', which is aimed primarily at members and corporate managers. This document is available at www.roadscodes.org. It points out that the highway network is almost certainly the most valuable asset that any highway authority owns, that local roads are essential for a successful economy and society, and that their effective management and maintenance should be a key priority. As well as commending the various Codes of Maintenance Practice it says that 'all authorities should produce a Highway Asset Management Plan (HAMP) which will set out what they want to achieve with their highway network, clearly quantifying the value of the asset, identifying investment needs and priorities, based on whole life cost, and establishing co-ordinated programmes of work.'
- 2.16 Authorities are also being encouraged to apply asset management planning to other transport assets, though the detail here obviously varies depending on whether the authority owns/controls the other assets or is interfacing with and seeking to influence other providers of transport services. Asset management planning should underpin Local Transport Plans.

The CSS/TAG approach

- 2.17 Effective asset management requires good quality financial information as well as good inventory and condition data. In 2005, to assist authorities in implementing highway asset management planning and in anticipation of WGA implementation (see Section 3), the County Surveyors Society (CSS) and the Local Authority Technical Advisors Group (TAG) issued a Guidance Document for Highway Infrastructure Asset Valuation ('the CSS/TAG Guidance').
- 2.18 The CSS/TAG guidance (summarised in Annex D) was endorsed by H M Treasury, the (then) Office of the Deputy Prime Minister which was responsible for local government finance policy and the statutory framework in England, and the Department for Transport. It has been taken as the starting point for the review's consideration of valuation issues and AMP based financial information. Authorities are generally adopting, or intend to adopt, this approach to valuation for asset management purposes. However, as we discuss in Section 4, progress to date varies greatly between authorities.
- 2.19 It is important to note that while the two guidance documents were produced for highways, both the framework for asset management and the valuation guidance can be readily applied to other types of transport infrastructure. Both documents are available on-line at www.roadscodes.org.

Conclusions

- 2.20 The present historic cost accounting treatment for local authority transport infrastructure assets does not support effective long term management of the assets or other information needs such as resource allocation. The fact that depreciation does not hit the bottom line and therefore does not exert the normal financial disciplines is also a contributing factor here. A key issue for the review is therefore whether more can be done to achieve those benefits and disciplines even without a depreciation charge hitting the bottom line.
- 2.21 Despite strong support from the professional bodies and the four UK administrations, the implementation of transport asset management planning is not yet well advanced. Progress with the introduction of transport asset management plans is considered in more detail in Section 4, after the next section which considers infrastructure asset definitions and current approaches to accounting for them currently adopted in the UK.

3. INFRASTRUCTURE ASSETS: DEFINITIONS AND CURRENT UK ACCOUNTING APPROACHES

- 3.1 The review is mainly concerned with local government transport infrastructure assets in the UK. However the scope of our inquiries has been broader, to understand both how other types of infrastructure assets are dealt with in the UK, and to look at whether there are lessons to be learned from how infrastructure assets in general are accounted for in other countries.
- 3.2 This section of the report considers the definition of infrastructure assets, in terms of the types of assets encompassed and the extent to which terminology is standardised. Transport infrastructure assets are then considered in more detail, in the context of assets encompassed, accounting terminology and the accounting approaches adopted in the UK.

Infrastructure asset definitions

- 3.3 On the basis of our international survey, the types of infrastructure assets encompassed by the term 'infrastructure assets' include:

- Highways i.e. roads and associated structures*
 - Heavy Railways and associated structures
 - Light rail and tramways*
 - Water and sewerage systems
 - Power systems
 - Telecommunications networks
 - Airports*
 - Ports, docks and harbours*
 - Coastal and flood defences*
- *indicates categories where UK local authorities control some of the assets

However, there is no consistent definition of infrastructure assets for accounting purposes, either internationally or within the UK public sector.

Highway infrastructure assets

- 3.4 Highways are by far the biggest category of infrastructure assets in the public sector. They can be analysed in several ways, but the most common method in the UK is by road classification:

- Motorways
- Trunk Roads
- Non-trunk roads:
 - A-roads
 - B-roads
 - C-roads
 - Unclassified

Roads are also commonly divided between urban and rural.

- 3.5 The motorways and trunk roads in Great Britain are owned and managed by the relevant national administrations, while the non-trunk roads are owned and managed by local highway authorities. For the purposes of the review we have treated assets controlled by the Mayor for London as falling within scope since both the Greater London Assembly and Transport for London fall within the local government accounting regime. In Northern Ireland, all roads are managed by the Northern Ireland Roads Service.

- 3.6 All GB local roads are accounted for on local authorities' own balance sheets and are therefore accounted for under the SORP. National roads are accounted for in accordance with the Government Financial Reporting Manual (the FReM).

Other local authority transport infrastructure assets

- 3.7 Only a small part of other (non-roads) local infrastructure is on local authorities own balance sheets. This generally comprises the smaller assets, e.g. some smaller airports and harbours, and all coastal defence works. The majority of non-roads transport infrastructure is either held in local authority companies, e.g. the larger local authority owned airports and London Underground, or belongs to Passenger Transport Executives (PTEs), e.g. Manchester Tramlink and the Tyne and Wear Metro; there are also a number of off-balance sheet PFI schemes, such as Nottingham Express Transit. In all these cases UK Generally Accepted Accounting Practice (UK GAAP) applies directly rather than via the SORP. Further information on PTE accounting practices is provided in Annex E. Individual local authorities which have subsidiary companies are required to produce consolidated accounts: these group accounts have to be prepared in accordance with the SORP.
- 3.8 The one body that holds substantial non-roads transport infrastructure that is accounted for under the SORP is the Strathclyde Partnership for Transport, which among other things owns and operates the Glasgow metro. Until December 2005, the metro was part of the assets of Strathclyde PTE which operated commercial style accounts like its English counterparts. However, following the Transport (Scotland) Act 2005 a new structure of regional transport partnerships was introduced across Scotland, and one effect of re-structuring is that the new bodies fall within the scope of the SORP.

Accounting definitions of infrastructure

- 3.9 As discussed above, there is no consistent accounting definition for infrastructure assets, either internationally, or even across the UK public sector. The three sources of available guidance in the UK are:
- the SORP for local authorities;
 - the FReM for central government; and
 - the CSS/TAG valuation document.
- 3.10 The **SORP** defines infrastructure assets as:

'Fixed assets that are inalienable, expenditure on which is recoverable only by continued use of the asset created. Examples of infrastructure asset are highways and footpaths.'

The SORP Guidance Notes list a few further examples, but these are not comprehensive.

- 3.11 The **Government Financial Reporting Manual** (the FReM) states that:

'Infrastructure assets comprise assets that form part of an integrated network servicing a significant geographical area — for example road networks.'

The FReM does not contain any more detail on the assets falling within this definition.

3.12 It can be seen that the SORP and FReM definitions are significantly different from each other. While they obviously cover comparable types of asset, there is room for differences in treatment, at least at the margins, both between the central and local government sectors and between individual bodies. If convergence is to be achieved, these definitions and the accompanying guidance will need to be brought into line.

3.13 The CSS/TAG Valuation document helpfully provides more detailed guidance on highway infrastructure. It defines this as:

'An authority's portfolio of highway assets including roads, segregated footpaths and cycle routes, structures, lighting, traffic management systems etc. Together they function as a system or network which as a whole is intended to be maintained at a specified Level of Service (assessed through performance measures) by the continuing replacement and refurbishment of its assets and elements.'

3.14 We have taken this as our working definition of highway assets for the review. Within this, the CSS/TAG Guidance identifies the following categories of infrastructure asset:

- Road
- Segregated footpaths and cycleways
- Structures e.g. bridges, culverts, retaining walls
- Highway lighting
- Street furniture
- Traffic Management e.g. traffic signals, pedestrian crossings
- Off-highway drainage
- Land

It also provides the more detailed breakdown of highway asset types and groups set out in Annex D.

Overview of UK infrastructure asset accounting approaches

3.15 Until the 1990s there were significant differences between public sector and private sector accounting in the UK, reflecting the different nature and objectives of their financial activities. Although local government accounting was determined by central government legislation, there were also significant differences from central government accounting. Central government operated on a cash basis while local government and the rest of the public sector largely accounted on the accruals basis, which is described in Box 3.1.

Box 3.1: Background to accruals accounting and UK GAAP

The purpose of accruals accounting is to report the economic substance of the transactions a body has entered into during a period of time and their impact on its financial position, which is often different to their cash flow impact. For example, if a body buys a service in one period, it would reflect the cost of the service in its accounts for that period, even if it only paid for the service in the next period. Similarly, it would account for income it has earned during the period, even if it does not receive the cash until a subsequent period. Also where a body has incurred expenditure on an item that can be used in future periods, then an appropriate proportion of the original expenditure is carried forward, or capitalised.

The framework within which accruals accounts are prepared for non-listed private sector companies is known as Generally Accepted Accounting Practice (GAAP). Under UK GAAP, fixed assets are initially recognised at their historic cost. Entities then have a choice to continue to recognise their fixed assets on a historic cost basis or to revalue them. Depreciation can be calculated on either a conventional, normally straight line, basis over the life of the asset or, for assets that form part of a network or system, on a renewals basis.

- 3.16 Since the late 1990s, public sector accounts have been brought much more closely into line with UK GAAP. This is the basis on which central government Departments now prepare their accounts and for Whole of Government Accounts (WGA). Although the local authority SORP is also currently UK GAAP-based, important differences still remain between central and local government in the area of accounting for transport infrastructure assets. These are summarised below and are discussed in more detail in Annex F. The discussion is set in the context of the overarching national accounts and WGA frameworks.

The Local Authority SORP

- 3.17 Under the SORP, while most local authority assets are recognised on a current value basis, infrastructure assets are required to be valued on a historic cost basis. This is different from the approach adopted in central government, giving rise to the WGA convergence problem referred to in the previous section. Assets are depreciated as appropriate over their useful economic life. A renewals approach to calculating depreciation is allowed for assets that form part of a network or system, but this is rarely applied. The background to renewals accounting is summarised in Box 3.2.

Box 3.2 Renewals Accounting

(i) UK GAAP

Under UK GAAP, renewals accounting can be used where an entity has a network or infrastructure system. Major components in the system with different finite useful lives should be separately identified and depreciated. For the remaining network components, renewals accounting can be used as a method of estimating the assets' annual depreciation charge provided that:

- the whole infrastructure asset is to be maintained at a specified level of service potential by continually replacing and refurbishing its components;
- the amount of annual expenditure required to maintain the operating capacity (or service capability) is calculated from an asset management plan (which must be certified by an appropriately qualified and independent person); and
- the system or network is in a mature or steady state.

In these circumstances, annual depreciation charge is the estimated annual expenditure required by the AMP to maintain the asset. The depreciation charge is deducted from the carrying amount of the infrastructure asset and charged to operating expenses.

Actual expenditure on the asset each year to maintain it in the required condition is then capitalised i.e. added to the asset's value. Thus it can be seen that if the amount actually spent is less than that required, the asset will suffer a net fall in value, reflecting the deterioration of its condition. Similarly, if the amount spent is greater, then a net increase in the asset value will occur, to reflect an increase in its condition.

(ii) the Government FReM

The current UK GAAP-based version of the Government FReM adopts its own version of renewals accounting for infrastructure assets. Under this approach, the actual expenditure on maintaining the asset is charged each year to operating expenditure. Expenditure that increases the capacity (e.g. new roads) or capability of the network is capitalised. The asset itself is not depreciated, but is subject to revaluations at least every five years, with interim indexation. Any movements in the asset value as a consequence of these revaluations which are not due to new or removed assets (e.g. detrunking of roads) reflects changes in the asset condition and are charged or credited to the Operating Cost Statement/Income and Expenditure Account as appropriate.

Central government accounts (FReM)

- 3.18 Central government accounts are currently prepared on an accruals basis under UK GAAP with assets recognised on current value basis; renewals accounting must be applied for infrastructure assets; a conventional basis is used for other assets. However, the (then) Chancellor announced in the 2007 Budget that International Financial Reporting Standards (IFRS) would be adopted for WGA and central government and NHS bodies from 2008/09. In the 2008 budget this timetable was changed to 2009/10 to give organisations more time to prepare. The background to IFRS is set out in Box 3.3.

Box 3.3: Background to IFRS

International Financial Reporting Standards (IFRS) are set by the International Accounting Standards Board (IASB) and its associated groups and committees. Its activities are overseen by the International Accounting Standards Committee Foundation (IASCF).

IFRS 'GAAP' comprises many documents, of which the most important are:

- International Financial Reporting Standards (IFRS) issued by the IASB.
- International Accounting Standards (IASs) issued by the IASB's predecessor, the International Accounting Standard's Committee (IASC).
- Interpretations issued by the International Financial Reporting Interpretations Committee (IFRIC).
- Interpretations issued by IFRIC's predecessor, the Standing Interpretations Committee (SIC).

The European Union operates a process for adopting IFRS standards and interpretations and EU companies can only use the EU-adopted version of IFRS for their statutory accounts. This process may result in the modification or the rejection of part or all of a standard.

- 3.19 The current approach to renewals accounting adopted in central government, discussed in Box 3.2, is not consistent with the normal renewals accounting approach under UK GAAP, nor with IFRS. The IFRS accounting requirements in relation to purchased Tangible Fixed Assets are covered by four standards but for the purposes of the review, IAS 16 on Property, Plant and Equipment is the key standard on which to focus. This standard has no specific provisions for renewals accounting. It has therefore been decided that from 2009/10, government bodies with infrastructure assets will need to adopt a revised depreciation-based approach that is consistent with IFRS. The implications of the Chancellor's decision for the future accounting for local authority and national infrastructure assets are considered later in this report.

CSS/TAG approach

- 3.20 The purpose of the CSS/TAG valuation guidance is to 'provide guidance on asset valuation of highway infrastructure assets that aligns with financial reporting and Asset Management requirements.' It includes guidance on determining a valuation for infrastructure assets based on current replacement cost, adjusted to reflect past consumption of the assets.
- 3.21 The Gross Replacement Cost of assets is determined from asset inventory data and current unit construction costs. The asset value is then adjusted to reflect the known asset condition. Guidance is given on unit measures for each type of asset and for determining unit costs. Finally, there is guidance on depreciation approaches for the different asset types. A more detailed account of the CSS/TAG approach to valuation is given in Annex D. The CSS/TAG guidance provides a helpful classification of highway assets, but further work would need to be done to extend its application to other types of local transport infrastructure assets such as light rail and metro systems to ensure consistency of treatment.

- 3.22 As the approach to asset valuation recommended in the CSS/TAG guidance is based on current values, it produces very different results from the present historic cost valuation basis for infrastructure assets required by the SORP. It follows the FReM in requiring a renewals based approach to depreciation to be used for assets which form part of a network or system, and a conventional basis for other assets. This approach was chosen because it was thought to provide more useful information for asset management and other decision making purposes, and because it would support the objectives of WGA and other national reporting requirements.

National Accounts

- 3.23 National accounts are the primary means by which economic activity in countries and the financial activities of governments are measured. The national accounts for the UK are published by the Office for National Statistics (ONS). As a European Union (EU) membership condition, they are prepared using the rules in the European System of National and Regional Accounts 1995 (ESA 95), produced by Eurostat (the EU's statistical office). ESA 95 is itself based on the over-arching System of National Accounts (SNA), which is under the control of a committee comprising a range of international bodies including the United Nations, the International Monetary Fund and the World Bank.
- 3.24 Because the principles of SNA and ESA 95 are adopted across the world, the UK national accounts are widely comparable with European and other comparator nations. This international comparability is one of the reasons why national accounts are fundamental to the assessment of fiscal performance. A further advantage of national accounts is that they are integrated accounts for the whole economy; government is presented as a sector in the economy. National accounts thus reflect government's role in the economy and society. The accounts are analysed into key economic sectors, one of which is the General Government Sector. This in turn is analysed into Central Government and Local Government sectors.
- 3.25 The depreciation figures used in the national accounts are calculated using ONS' Perpetual Inventory Model (PIM). The source of the initial valuation data used in the PIM is not documented and we understand was probably calculated by ONS using broad-brush estimates at a national level. It was not based on detailed bottom-up information from individual local authorities.
- 3.26 The ONS PIM uses a component depreciation approach rather than a renewals approach. This involves separating an asset's value between those components that have significantly different expected economic lives and then depreciating them separately over those lives. Ultimately it is a matter for ONS to decide whether to adopt an AMP-based approach to estimating depreciation for inclusion in the national accounts. However, any new approach adopted for local authority transport infrastructure assets needs to demonstrate its consistency with a component based depreciation approach. This is considered in Section 5.

Whole of Government Accounts

- 3.27 The basis for the Government's fiscal framework is set out in the Code for Fiscal Stability. Among other things this commits the Government to ensuring that best practice accounting methods are used to construct the public accounts, and to introducing RAB. The aim is to provide better data for fiscal planning, increase transparency and improve accountability to Parliament. The production of WGA, described in Box 3.4, is a key part of delivering this commitment. WGA data are increasingly being used to support ONS in its work to improve the quality of the national accounts.

Box 3.4: WGA — Accounts for the whole public sector

WGA will use commercial accounting methods to produce a single set of consolidated financial statements based on Generally Accepted Accounting Practice (GAAP) for the whole public sector. In the context of individual body resource accounts, WGA will be prepared under GAAP, as adapted for the context. The Government Resources and Accounts Act 2000, which provides the legislative framework for WGA, requires the Treasury to prepare a set of consolidated accounts for bodies that appear to it:

- to exercise functions of a public nature; or
- to be entirely or substantially funded from public money.

Full WGA will therefore include all the different types of public sector bodies and treat these bodies as a single entity, so all material transactions and balances between the constituent entities must be eliminated. Consistent accruals accounting policies must be applied across the group for all material transactions and balances.

- 3.28 It is a fundamental principle that consolidation must be based on consistent accounting policies — i.e. that material transactions of the same type are accounted for in the same way across the group. H M Treasury has therefore been leading a programme of convergence of accounting policies across the public sector.
- 3.29 Local government is the most significant area to retain its own accounting regime. Considerable changes in recent years have brought the SORP into line with UK GAAP. However the big outstanding issue is that the treatment of local roads (and other infrastructure where it sits on the authority's own balance sheet) is different from that adopted for central government.

Conclusions

- 3.30 This section has shown that, while there is a general understanding across the UK and internationally as to what is meant by 'infrastructure assets', there is no consistent, comprehensive definition for accounting purposes. The SORP and FReM definitions need to be brought into line in order to achieve convergence for WGA and national accounts, and to provide consistent information for resource allocation and other purposes. The CSS/TAG guidance provides a helpful classification of highway assets, but further work would need to be done to extend its application to other types of local transport infrastructure assets such as light rail and metro systems to ensure consistency of treatment, and to bring it fully into line with IFRS requirements.
- 3.31 There are also significant differences in the way that the various bodies responsible for public sector roads and other transport infrastructure in the UK account for them. These will need to be addressed in order to deliver the consistent information required for WGA and national accounts purposes. The usefulness of these different approaches in providing information to support asset management and serve the other purposes identified in our terms of reference is discussed in detail in Section 5 of the report. However, to set the scene the next section looks at the drivers for implementing asset management, progress to date, and the costs and benefits of implementing it.

4 TRANSPORT ASSET MANAGEMENT — DRIVERS, PROGRESS TO DATE, COSTS AND BENEFITS

(i) Drivers for implementing local transport asset management

4.1 At the local level, development and implementation of transport asset management is being driven by the following factors:

- first and foremost by the need to deliver and demonstrate delivery of effective management and maintenance of the assets, providing a good quality and cost-effective service to users. Linked to this is the increased emphasis on longer-term planning, engagement with stakeholders and more collaborative working with neighbouring authorities and other relevant service providers;
- opportunities for greater and more flexible funding, including invest-to-save type projects, provided by the new prudential system of local authority capital finance. Importantly, the Prudential Code also requires authorities to have explicit regard not only to affordability of borrowing but also to option appraisal, asset management planning and strategic planning when making investment decisions; and
- other drivers to delivering economy, efficiency and effectiveness, notably the Best Value Duty and the Gershon efficiency programme.

4.2 More generally, asset management should be a key tool for financial management as well as for service delivery. This is recognised in CIPFA's own Financial Management Model, and in the attention given to asset management in the Use of Resources element of Comprehensive Performance Assessments. To maximise benefits, asset management and financial management need to be properly integrated.

4.3 In addition, there are a number of drivers for the introduction of transport asset management plans which operate at the local as well as the national levels, as already discussed in Section 2:

- need for robust and consistent information about the cost of holding assets, enhancing them where necessary, and maintaining them to appropriate standards in order to support funding allocation decisions;
- growth in funding, particularly capital, in recent years following a long period of under-investment. This had led to significant deterioration of transport networks, characterised by large maintenance backlogs and unmet demands for enhancements to increase capacity and improve quality of service to passengers and road users. There is a need to demonstrate that the new resources are being used to maximum effect; and
- pressure on revenue resources, as a result of constraints (from both Government and local taxpayers) on council tax levels and expectations, borne out by the 2007 Comprehensive Spending Review, that central government support will not continue to rise at the rate seen in recent years.

(ii) Progress to date

4.4 Progress in implementing transport asset management varies considerably across the UK. In England, the Department for Transport commissioned a study, undertaken by Atkins Global in parallel with our own, to review the current state of progress in implementing Transport Asset Management Plans (TAMPs) and to identify best practice. The study report was published in January 2008 and is

available on the Department for Transport website. It found that there had been considerable slippage in the development of TAMPs compared with authorities' earlier expectations. In April 2006, 76% of authorities had said that they would have a TAMP in place by December 2006, but by April 2007 only 33% of authorities had done so. Nonetheless, 93% of authorities expected to have a TAMP by the end of 2007. Insufficient resources were cited as the main reason for slippage. Atkins found that, in most cases, the focus of work so far had been on highways, and that therefore most documents would be better described as HAMPs rather than plans covering the full range of relevant transport assets. However, authorities generally stated their intent to go on to develop full TAMPs.

- 4.5 It is important to recognise that achieving a completed TAMP or HAMP is not the same thing as having comprehensive asset management planning systems in place and using them effectively. In most authorities the development of systems and data is proceeding more slowly than the production of TAMP documents, so even if 93% of authorities did have TAMPs in place by the end of 2007, most will still need to do considerable further work to deliver comprehensive asset management. In particular in many cases, completed TAMPs will not initially be underpinned by good quality inventories or cost information. Addressing those issues will be essential if authorities are to make their TAMPs robust and realise the wider benefits of asset management.
- 4.6 We have seen some good examples of AMPs, one of which is given in Box 4.1, that recognise this issue, describe progress so far, and set out clear plans for further development.

Box 4.1: Developing Newcastle's HAMP

Newcastle City Council have included in their first HAMP, which is published on their website, an Asset Information Strategy. This breaks their asset base down into detailed categories and for each one gives details of the coverage of existing inventory data, with information on things such as how the data is recorded, the confidence level, date of last survey and update frequency, together with proposed arrangements for filling in gaps.

A similar approach is adopted for condition data which is addressed as part of a series of Life Cycle Plans covering each of the main asset types.

Information issues together with other asset management processes and practices are also picked up in the Improvement Plan attached to the AMP. Newcastle intend to carry out a formal review of their HAMP every three years, at which time a new Improvement Plan will also be prepared.

- 4.7 The picture in Scotland and Wales shows similar variations in the amount of progress made so far, though authorities in each country are working together in national groups to develop asset management and share data and experience. A contract was put in place in 2006 to support Welsh authorities collectively in developing asset management and there is a specific group dealing with valuation issues, working along similar lines to the English regional groups. There has also been a separate three year commission, just finishing, with participation also from the Welsh Assembly Government, to provide information on the condition of the infrastructure. This has collected the data needed for performance indicators as well as information on backlogs. Previously Welsh authorities had only collected and reported carriageway data on A & B roads, but this has now been extended to cover all roads and performance indicators are being amended to reflect the wider network. Wales will be letting a new Commission to take work forward. In Scotland a four year contract was awarded in January 2008 for consultants to

support the implementation of roads asset management, both to develop a national framework and to support regional groups and individual authorities in developing their own plans and systems. On valuation, Scottish authorities are hoping to work in collaboration with colleagues in Wales, and also with Northern Ireland where local roads are already subject to valuation by the national Roads Service.

- 4.8 Despite the mixed overall picture in terms of TAMPs, authorities generally appear to have excellent information on the lengths of their roads, but most do not have good information on road widths. This is a serious problem not only for asset valuation, but also for operational activities that are based on rates per square metre. For instance, there is some evidence to suggest that those authorities that do have good information about road widths pay lower rates for things such as condition surveys and term maintenance. In the absence of reliable information, tenderers will deal with uncertainty by pricing up. Information about lengths, widths, location and composition of footways is less good than for carriageways, but still better than for some of the remaining groups.
- 4.9 Authorities also generally appear to have reasonable data on bridges, and the problem of recent years with columns reaching the end of their life has meant that many have good data on street lighting. The picture on other asset types is very much patchier, although the asset categories concerned generally represent only a relatively small proportion of total value. However, given the scale of transport infrastructure across the UK, this still represents many billions of pounds worth of investment. It also includes items such as safety fencing, signs and lighting which make important contributions to safety.
- 4.10 One matter that has come out strongly in the Atkins review is what a TAMP should cover. The issue is important for authorities in that the TAMP document provides a key means of communicating with various stakeholders, both local and national. However, for the purposes of the CIPFA review, in looking at an AMP based approach our focus is on the scope and quality of the underlying asset management planning processes and data — whether an authority's asset management planning systems and the way that these are used enable it to deliver all the benefits described in paragraph 4.14 below. That said we would expect a fully developed Transport Asset Management Plan document to include information about all the issues identified in paragraph 4.14.

(iii) Costs of transport asset management

- 4.11 Evidence from sectors such as water, which we look at in Section 6, shows that if organisations have good strategies for collecting and handling information, and enforce clear disciplines, e.g. that anyone responsible for implementing a change to the asset must update the data base immediately, then the cost of maintaining comprehensive data and systems is more than offset by the effort saved in not having to do one off exercises to gather and process information for particular purposes. This is even before one takes account of the savings from better asset stewardship and financial management. Many authorities have admitted to us that, in the past, in the absence of asset information strategies, a lot of information has been collected but either not retained once it had served its immediate purpose or else retained by the originators but not known about or accessible to other potential users. It is also important to put in place and enforce protocols to ensure that the inventory is updated whenever relevant works are carried out or one off surveys undertaken.
- 4.12 The other, more significant on-going cost is in collecting information about the condition of the assets. Much of that work is already being done to support maintenance and renewal programmes, meet safety obligations and produce

performance indicators, but there may be some additional costs if authorities are to realise fully the benefits of asset management, for example collecting more detailed and frequent information on condition to support deterioration modelling. However, again, experience from other organisations indicates that it is more cost effective to collect this information systematically in accordance with an overall strategy than to have to do urgent one off exercises when an issue or problem arises. There is also scope for authorities to work together, sharing information and modelling costs. Some work is also supported centrally through Government research programmes, and these are also increasingly taking account of the needs of transport asset management.

- 4.13 Overall, we conclude that there are some additional one off costs involved in the initial implementation of asset management, in particular in collecting a basic level of inventory data. However, once asset management systems are established, the cost of maintaining data and running systems is relatively modest in real terms, and small in comparison with the value of the savings and service improvements that they deliver. We discuss these costs further in Section 7 and Annex M.

(iv) Benefits of transport asset management

- 4.14 At the local level an asset management based approach has the potential to enable the asset holder to:

- Set defined levels of service and monitor performance against them (see Box 4.2);
- Understand and track over time the condition and performance of its assets and the costs of holding them;
- Assess the consequences of particular funding levels and strategies, in terms of the performance outcomes that different levels of funding could buy;
- Maximise the use of resources, both for maintenance and new investment, on a whole life cost basis; and measure the longer term impact that spending decisions now will have on the condition and performance of the asset base and longer term spending needs (see Boxes 4.3 and 4.4);
- Reduce financial, operational and legal risks, including better 'safety' decision making; appropriately targeted asset management can reduce insurance claims and premiums (See box 4.4 and Section 7);
- Use reliable and consistent information to support benchmarking, better cost control and reduced life cycle costs (see Box 4.5);
- Use the above to deliver unit cost savings and efficiency gains; given the general perception that spending on transport infrastructure, particularly highways, is insufficient to maintain it to an appropriate level of service, savings are more likely to be delivered in the form of lower unit costs, increased whole life based outputs or reduced backlogs rather than actual savings in transport budgets;
- Undertake better informed and more transparent resource allocations, including policy formulation as well as investment decisions, based on robust and consistent financial information. This does not necessarily always mean choosing the economically optimal solution, but it does enable decision makers to understand the cost of trade-offs between financial and other benefits and make them transparent to stakeholders (see Box 4.6); and

- Demonstrate stewardship of the assets and explain policy and resource allocation decisions to users and local taxpayers.

4.15 As referenced above, during the review we have identified a number of examples where these potential benefits are already being delivered in practice. The following case studies are taken from some of the authorities who were among the early starters in developing transport asset management and are therefore well enough advanced to be demonstrating efficiency gains and other examples of best practice.

Box 4.2: Defining and monitoring levels of service

Surrey County Council is working to develop levels of service for all highway assets and key related activities. They are developing a comprehensive set of operational standards, which reflect a steady, improving or deteriorating state. These have been grouped under a range of categories, originally identified in their asset plan, and include safety and condition of the asset, environmental impact, accessibility etc. The work also involves both the identification of risk and cost for each of these operational standards, as well as identifying the present operating level, with current funding. Future changes in these operational standards will then be jointly considered by Members and officers, and will be based on locally derived customer priorities or levels of service, and information on the revised operational standards. Once set up, progress in meeting existing or new operational standards will be regularly monitored.

Box 4.3: Maximising use of resources

Shropshire County Council has used whole life costing to justify a change in approach to carriageway maintenance under which earlier and more frequent but inexpensive treatments such as surface dressing are being applied to prevent the onset of more severe deterioration, which would require expensive reconstruction works. The whole life cost analysis suggests that the change will deliver potential savings at a scheme level of up to 24% over a 40 year cycle and eventually 16% per annum overall across the network as a whole.

As part of the revised strategy Shropshire are developing a system to prioritise major schemes on the basis of value added rather than worst first. This is expected to yield further efficiencies.

Box 4.4: Optimising costs and supporting decision making

Hertfordshire County Council was the first UK authority to develop a TAMP, producing its first plan in early 2002. It has put a lot of effort into both data collection and modelling work. The Project Steering Group had the benefit of a presentation on some of their work, from which the two following case studies are taken.

Hertfordshire has adopted a Pavement Performance Model which can be used to produce two main types of output: projections of deterioration/future condition of individual parts of the network; and a multi-year forward works programme, optimised on a whole life cost basis. Inputs to the model are the inventory of assets and quantities, unit rates for various replacement/rehabilitation treatments, traffic counts and HGV%, measure of road pavement stiffness, information about road pavement type and surface, age and depth, and condition data. The system has enabled Hertfordshire to move away from the traditional 'worst first' approach to maintenance to a programme which is prioritised on the basis of maximising value on a whole life cost basis. Hertfordshire estimate that this will increase the benefits gained in respect of long-term condition from a given budget by over 50% — effectively a 33% efficiency saving.

While the previous example demonstrates what can be done with complex modelling and a lot of data, this second Hertfordshire example was based on a much simpler, broader brush use of whole life costing. Like many authorities, Hertfordshire had a problem with deteriorating footways. Pavement slabs were known to be more costly and to cause more accidents, but tended to be the preferred option for residents. So an exercise was undertaken to look at the real — whole life based — costs of different footway treatments.

Information was put together for each treatment option on:

- planned life cycle costs — initial construction plus subsequent reconstruction/resurfacing/surface treatment;
- ongoing reactive costs — urgent safety works and minor maintenance; and
- other regular costs — insurance costs.

This was used to calculate the annual whole life cost per square metre of each treatment. Paving slabs were the most expensive option at £2.82 per square metre, while the best value option was Bitmac, costing less than half that of slabs at £1.39 per square metre. As a result, members have adopted a new strategy to move away from paving slabs except in high amenity areas such as town centre shopping streets and a planned programme of replacing the worst slab footways with Bitmac is under way. Hertfordshire have also used the evidence from the whole life cost exercise to explain and justify the new policy to local residents.

Box 4.5: Reducing life cycle costs

Derbyshire County Council is also developing life cycle planning as part of its work to develop transport asset management planning. Their approach has been to start small and grow the system over time, concentrating effort initially on the major assets – carriageways, footways, street lighting and structures, which together represent over 95% of Derbyshire's total asset value. They have started with a simplified analysis at first, developing more detailed systems and filling in gaps in the inventory over time.

This gradual approach includes developing a model to measure changes in asset condition over time. The model can be used to assess different service options – 'what ifs'. It estimates funding needs, condition and effect on asset value, and can be used to establish a link between asset consumption and asset renewal values. The model is being calibrated by comparing its outputs against the perception of local engineers as to what is actually happening to the condition of different parts of the network.

Even with a simplified approach, a model of this kind is capable of delivering a lot of complex information. An important part of the project therefore is developing the system to produce outputs in a form that can be readily understood by and serve the needs of members, senior management and other stakeholders.

Box 4.6 Informing resource allocations

Kent County Council developed an interim valuation in 2005, using the CSS/TAG guidance. They were one of the first authorities to get to grips with calculating depreciation as well as Gross Replacement Cost. They believe that the interim valuation is probably conservative so the calculation will be refined as more condition and inventory data become available and as the valuation process (methodology, guidance etc) is refined in the light of experience. Nonetheless Kent were able to use the interim valuation to inform decisions on how the highway 'repairs' budget should be allocated between different asset groups. (Repairs here mean works designed to maintain the structural integrity of the asset, and does not include revenue-funded routine or cyclical works such as grass cutting, gully emptying or winter maintenance.) The budget had previously been allocated on a largely historic basis, and Kent were concerned that this did not properly reflect spending need across the asset base as a whole.

Relative spending need for each asset type was calculated based on the annual spending requirement to maintain it at steady state, plus the cost of tackling the assessed backlog over 10 years. This gave a combined requirement for each asset group (carriageways, footways, drainage, safety fences etc) which together added up to the total budget requirement. Since this was greater than the funds available, the budget was allocated between asset types pro rata to the percentage each contributed to the total funding requirement. This produced some significant shifts in funding, for example it demonstrated and addressed a significant mismatch between need and spending on street lighting. Having a more rational basis to justify the way in which scarce resources are allocated could also be important in the event of legal action following a road accident.

Conclusions

- 4.16 For highway and other transport authorities, the infrastructure is by far the biggest asset that they hold. Comprehensive transport asset management is a new and untapped resource for most authorities. The few local authorities that have made good progress are already seeing significant benefits, and expect to achieve more as their systems and expertise develop further. Although it is impossible as yet to quantify precisely the extent of the possible value for money improvements from implementing an AMP based approach, the significant benefits from the approach are confirmed by the experience in other UK sectors.
- 4.17 Early findings from local government, combined with the greater experience in the water and rail industries, indicate that improved long term value for money from proper Asset Management Planning could be equivalent at least to 5% p.a (worth some £250m on the 2005/06 capital and revenue budget spent on roads maintenance). Improvements would come from more soundly based investment appraisals and consequent reductions in the long term whole life costs of the assets in question. It is important to avoid assuming these are 'cashable savings' that could ultimately be redirected to other service priorities (such as social care) or result in some reductions in council tax. That might be the case to some degree, but in reality the improvements in value for money are more likely be felt in equivalent reductions in existing sizeable maintenance backlogs.
- 4.18 One might therefore expect asset management to be being pursued as a high priority across the UK public sector. However, the reality is rather different. We have found that transport asset management is still not generally well understood or supported within the UK public sector other than among those transport practitioners directly involved in its implementation. As a result its potential is a long way from being realised.
- 4.19 Consistent, high quality financial information is an essential component of good asset management. Delivering the types of benefits identified in 4.14 will require further work including:
- Development and maintenance of good quality inventories and cost information to support these; and
 - Clarification and update of the CSS/TAG guidance on specific issues in order to encourage consistency.

Although there will be some one-off costs initially, particularly in collecting inventory data, good information strategies and working practices should mean that the total costs of collecting and using information in the longer term are no greater than at present. A further case study about the costs and some of the early savings from asset management has been included in Section 7.

- 4.20 Section 5 looks at how well different accounting approaches could support the financial information needs of transport infrastructure asset management and meet the wider information objectives of the review. It then goes on to look more specifically at the case for a change in the SORP and what would be involved in implementing this.

5. HOW WELL DIFFERENT ACCOUNTING APPROACHES CAN DELIVER THE REVIEW OBJECTIVES

5.1 The three main accounting approaches to be considered for local transport infrastructure are the existing historic cost approach in the SORP, the current UK GAAP-based approach used for national roads under the FReM, and the CSS/TAG approach. These have been assessed in terms of how far each can help deliver the review objectives:

- 1 Support good asset management and meet other local financial management needs;
- 2 Provide good information to support policy development and resource allocations;
- 3 Provide financial accounts complying with relevant IFRS requirements; and
- 4 Deliver consistent high quality information for WGA and National Accounts purposes.

(i) Historic cost

5.2 As described in Section 3, the SORP requires infrastructure assets to be valued on a historic cost basis, with assets depreciated as appropriate over their useful economic life; a renewals approach to depreciation is allowed in certain circumstances but rarely applied.

5.3 The financial data from which historic costs accounts are produced provide information about what is being spent (though not necessarily on a basis that is wholly consistent between authorities), but provide no measure of what impact that spending is having on the condition and operability of the assets. Therefore the historic cost approach does not meet Objectives 1 and 2. More specifically:

- The asset value figures provide no measure of the current worth of the assets because they are not re-valued to reflect general price movements. The values that feed into the accounts therefore understate their real world value very significantly.
- Conventional depreciation does not reflect reality well where the asset base is in place for many years, meaning that depreciated historic cost values are often very low, even though the assets represented are maintained and operated to serviceable standards. This sends out misleading signals, particularly since almost all other public sector capital assets, including other local government ones, are accounted for on a current values basis which measure the real world impact of the wearing out from use of long-lived assets and the impact of expenditure that is made to bring them back up to the chosen level of service.
- Authorities also operate very different practices and assumptions in the way they value and depreciate their assets, as there is no standardised consistent approach in the SORP to determining asset lives. This adds to the problems of making meaningful comparisons or consolidating information across the sector.

- 5.4 Historic cost has the advantage that it complies with both UK GAAP and with IFRS. Therefore it meets Objective 3, but it does not meet the requirements of Objective 4 because the basis of valuation is different from central government meaning that it does not provide the consistency required for WGA consolidation. Historic cost information also cannot be used for national accounts purposes. As discussed in Section 3, ONS therefore use their own Perpetual Inventory Model to estimate depreciation, but have no meaningful accounting information about depreciation of local transport infrastructure assets against which to test it.
- 5.5 In summary, although historic cost accounting for local authority infrastructure complies with relevant UK GAAP and IFRS requirements, it does not support any of the other review objectives.

(ii) National roads accounting under the UK GAAP-based FReM

- 5.6 The accounting approach currently adopted for national roads addresses some of the weaknesses of the historic cost approach. Valuation is based on current depreciated replacement costs and is therefore consistent with the approach adopted for other public sector assets other than local authority infrastructure. Resource accounting therefore satisfies the requirements of WGA and is also of potential use for national accounts purposes. Therefore, it meets Objective 4. However it has proved expensive and resource intensive to collect the necessary data. There are also some differences in approach between the national agencies as described in Annex F. Further work is therefore needed to improve consistency and to refine methodology, for example approaches to the depreciation of very long lived assets.
- 5.7 The methodology is very much geared to satisfying RAB and WGA requirements and is not an asset management based approach. Although it does provide some useful information about the real level of depreciation and about the impact of maintenance and other expenditure on the value of the asset from year to year, this limits its value in supporting effective management of the asset base and can make it harder to understand fully the relationship between year on year changes in the accounting numbers and the condition of the asset base. Although the national roads bodies across the UK are beginning to strengthen the links between accounting and asset management there is still some way to go before fully comprehensive asset management is in place. Therefore the method only makes a limited contribution to Objectives 1 and 2.
- 5.8 From the accounting standpoint, the most important drawback of the current approach is that the version of renewals accounting applied to national roads is an adaptation of the relevant UK financial reporting standard. However no version of renewals accounting is permitted under IFRS. Therefore it does not meet Objective 3. This issue is being addressed as part of the preparations before International Financial Reporting Standards are introduced for WGA and other public sector accounts from 2009/10.

(iii) AMP based CSS/TAG approach

- 5.9 The CSS/TAG AMP based approach to asset valuation was specifically designed to deliver the requirements of both asset management and accounting, using the same information to support both. As discussed in Section 4, there is already evidence from those authorities who are furthest forward in using AMP based information that it can deliver significant benefits in terms of more efficient management of the asset base and better local financial decision making.

- 5.10 Unlike either of the other two approaches, asset management also has the potential to support the operation of the prudential system of capital finance in the same way as property asset management does. The Prudential Code, which has statutory force, refers to affordability and prudence as related concepts. 'In order to ensure long term affordability, decisions have also to be prudent and in the long term sustainable. Therefore in carrying out their statutory duties under Part 1 of the Local Government Act 2003 (England and Wales) and Part 7 of the Local Government in Scotland Act 2003 in respect of affordability, local authorities are required to have regard to all those aspects of the Prudential Code that relate to affordability, sustainability and prudence.' Asset management planning is specified as one of the required processes that should underpin the operation of the Code.
- 5.11 For national policy making purposes, the most important requirements are consistent information about the state of the asset base, changes in this over time, and the expenditure required to maintain it at (or restore it to) specified performance levels. Such information could be used both to inform decisions on funding priorities between transport and other expenditure programmes, and to inform allocations of support for maintenance of transport assets between authorities. Of particular importance here is the information that the CSS/TAG approach provides about depreciation. Even without depreciation hitting the bottom line, there would be important benefits from having consistent information about the expenditure needed to maintain assets appropriately and to use that to inform resource allocations. Robust information about the cost of maintaining assets is also an important pre-requisite to any further work towards addressing the question of how to make true depreciation affordable. It would be particularly useful for transport assets where the question of affordability is perceived to be particularly acute.
- 5.12 An AMP based approach is consistent with the current requirements of UK GAAP. The review has also looked in detail at the question of IFRS compliance and has concluded that the CSS/TAG approach should be consistent with a component depreciation approach under IFRS. The analysis and conclusions on this are set out in detail in Annex G.
- 5.13 Finally, the CSS/TAG approach would meet the WGA consolidation requirements and also provide information that would assist ONS's work to improve the national accounts.

Objective	Accounting approach		
	LA SORP	UK GAAP-based FReM	AMP based
Support good asset management/good financial management	No	Some	Yes
Support policy development/ resource allocation	Some	Yes	Yes
IFRS compliant	Yes	No	Yes
Support WGA/National Accounts	No	Yes	Yes

- 5.14 Although the CSS/TAG valuation guidance needs some further simplification/clarification and development, and does not presently cover non-roads infrastructure, it effectively meets accounting requirements (although some relatively minor revisions are required to bring it into line with IFRS). It also has the potential to deliver robust and consistent information that can be used to inform both resource allocations and policy decisions at both local and national level. It can therefore meet all the review objectives and on the basis of the analysis in Table 5.1, such an AMP based approach should be the preferred approach for any change to the current SORP accounting treatment.

Is it necessary to change the SORP to deliver the review objectives?

- 5.15 Having concluded that an asset management plan based approach has significant advantages over the alternatives, we went on to look at whether these would be achieved simply by leaving authorities to implement the CSS/TAG approach administratively as now or whether the SORP should also be changed. We have concluded that if the benefits of an AMP based approach are to be fully realised, an early change to the SORP is desirable for the following reasons:

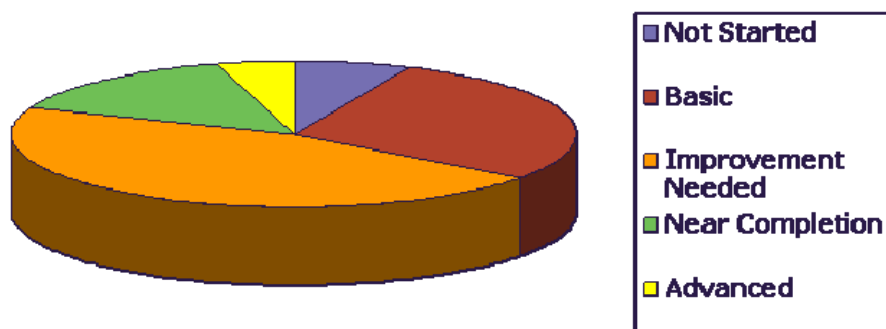
- **Greater professional finance input** to support the process of developing financial information within the AMP. This would have a number of benefits. Finance professionals would bring relevant wider experience to bear, for example in advising on appropriate levels of sampling and questions of materiality, and would generally provide an important external challenge function and backchecks on consistency and transparency. In the limited cases where professional finance input is being provided now, it is proving invaluable.
- **Increased data consistency.** In the many authorities where the AMP based approach is being pursued without any professional accounting input, a lot of time is being spent on debating precisely what cost elements should be included and how they should be treated, and the resulting decisions are not always consistent between authorities or regional groups. In many cases the way forward is to be found in the correct application of accounting principles.
- **Data quality.** Accounting information would be subject to external audit, thereby providing added assurance. Assurance about the quality as well as consistency of information is essential both to underpin the planning assumptions within the TAMP, and so that data can be used to inform resource allocations and policy decision making, both nationally and locally. It is also important for benchmarking purposes and for reliably tracking performance over time. A change in accounting would provide that assurance to both internal and external stakeholders that the information being generated is robust, of high quality and produced on a consistent basis.
- **Inputs.** Professional financial resource could of course be provided more widely anyway, but it is doubtful whether authorities would be prepared to give the work as much priority as they would if it also served the accounts.
- **Efficiency.** Having a body of financial information that is based on a set of accounting principles and is used for service and other decision making purposes but is not reflected in the actual accounts would be a waste of resources. It is also potentially confusing for external stakeholders.
- **WGA and national accounts.** Consistent high quality information for consolidation into WGA and the National Accounts can only be achieved by a change to the SORP, which would remove the need for dual reporting which would otherwise be required to achieve consistency.

- 5.16 As we concluded in Section 4, given the potential of TAMPs to deliver service improvements and significant efficiency gains, there is a strong case anyway for all authorities to make progress towards implementing them as quickly as possible. A change to the SORP would help drive a timetable for implementing TAMPs that is lacking at present.

Development work required to implement an AMP approach

- 5.17 The Atkins study also looked at progress with asset valuation. Again it found significant variation in the position between authorities. Only a small minority had not yet started to do anything, but at the other end of the spectrum only a similar small number were well advanced. Around three quarters of authorities described the quality of their asset valuation work as either basic or in need of improvement as shown in figure 5.1.

Figure 5.1 Atkins study findings on quality of asset valuation



- 5.18 In looking at progress in implementing valuation issues we have been able to draw on two further sources in addition to the Atkins study: a survey undertaken by the CSS/TAG Asset Management Working Group in late 2006/early 2007; and feedback from a large number of individual authorities who have attended regional workshops as members of the Local Authority Highway Asset Management Planning Network, run by CIPFA Commercial Services. The review team also ran its own workshop in February 2007, which was attended by representatives from across the English regions and from Scotland and Wales.
- 5.19 The CSS/TAG survey asked authorities, among other things, what they saw as the main challenges or concerns in undertaking asset valuation. The two highest scoring issues were incomplete data inventories and developing depreciation/impairment models. These were followed by time/resource constraints and insufficient data for unit rates. Feedback from the various workshops also highlighted these as key issues.

Issues that need to be addressed before valuation information can be used in financial statements

- 5.20 The total value of the highway assets if valued on a current value basis could be anticipated to be substantial when compared with the existing local authority balance sheets. If the valuations were insufficiently robust to withstand audit scrutiny, then in all likelihood their inclusion in published financial statements could lead to a qualification of the audit opinion. There are therefore a number of

areas that would need to be addressed in order to refine the valuation and accounting approaches before the formal step of including the amounts in the financial statements could occur. Essentially, this would mean having a transparent and consistent approach amongst authorities, which in turn was supported by sufficiently accurate underlying data and reasonable assumptions.

Calculating Gross Replacement Cost

- 5.21 The experience from those highway authorities that have sought to prepare a Gross Replacement Cost for their infrastructure assets following the CSS/TAG approach, or something similar, is that there are a number of key problem areas to be overcome. These are:
- **Inaccurate or absent inventory data on the assets.** Incomplete data inventories was one of the two highest scoring issues identified in the CSS/TAG survey, and a major theme from the workshops.
 - **Difficulties in determining unit costs due to the low level of new road construction.** This is an issue for some of the national roads agencies too. However, it is more acute for local authorities in that certain types of road, particularly unclassified ones, are rarely built these days other than by developers. For commercial reasons, they are generally unwilling to share tender information.
- 5.22 The valuation guidance recommends that authorities should join together in regional groups to share data and in particular to pool information to develop unit cost rates. Authorities are following this advice as set out in Box 5.1 and we have found some encouraging examples of joint working, with authorities sharing information and developing best practice. There is also evidence of developing practices in the area of asset information quality as described in Box 5.2.

Box 5.1: Examples of highway authorities sharing information

The Midlands Service Improvement Group (MSIG)

Eight authorities from the MSIG have pooled their resources within a valuation task group to determine average asset inventory amounts, for example average road widths. Similarly, where individual authorities have good data, they have used this to determine percentages so that other members can derive indicative asset inventories. This goes into further detail and picks up assets not otherwise recorded in the CSS/TAG document, such as trees.

South East Centre for Excellence (SECE)

Authorities in the SECE have jointly funded a study, project managed by Hampshire CC, to develop a streamlined approach to preparing consistent gross replacement costs. Highway authorities within the area were asked to supply information on infrastructure asset values. Eight authorities returned data and a comparison exercise was undertaken which identified significant variations. A spreadsheet model has been prepared which provides a quick approach to calculating Gross Replacement Cost for an authority's infrastructure assets. This model simplifies significantly the CSS/TAG approach by using standard values, based on average data from participating authorities, to determine default values that can be used where an authority lacks the relevant information itself. These values were drawn from the data provided by the eight authorities, but only used after analysis and discussion made sure that it was reliable rather than an outlier. The model also uses carriageway widths based on current design standards, on the assumption that a modern equivalent asset would be built to this width rather than the existing road widths. The model also provides for a user to vary the default values to reflect local circumstances — for example to allow the Isle of Wight, one of the participating authorities, to up-rate costs to reflect the extra cost of shipping materials and machinery from the mainland. The system also provides for an authority's own data to be input in place of the default values where it has its own good quality information. The project has been presented to the CSS/TAG Asset Management Working Group and at CIPFA's Regional Asset Management Workshops.

Box 5.2: Developing asset information quality

Hertfordshire County Council have previously carried out detailed inventories of their infrastructure assets over a number of years and generally have good data on most assets. They have also developed a confidence rating for the data they hold with tolerances expressed as a percentage variation. This ranges from Grade A (Accurate, based on validated data with a tolerance of +/- 5%) to Grade D (All data estimated, often based on judgement of experience personnel and with a tolerance of +/- 40%).

For most of their asset categories, including roads, footways, bridges, they have Grade A confidence, with only a small handful of categories below this.

Depreciated Replacement Cost and Annual Depreciation measurement

- 5.23 The other highest scoring issue from the CSS/TAG survey, again endorsed by feedback from the workshops, is the need for help in developing depreciation/impairment models. The availability of cost data is less of an issue here since unit cost rates for depreciation are based on maintenance rather than new construction rates and there is much more evidence to draw on. It is

important that so far as possible authorities do use their own rates, particularly for carriageways and any other large items of expenditure. However there is a need to promote greater consistency by developing normative approaches to depreciation of elements of the network. There is also a need for more work to develop consistent, repeatable condition assessment, although work on this is being undertaken particularly for carriageways. Annex H discusses survey methods for assessing the condition of roads.

- 5.24 As an example of the need to develop consistent approaches there is general acceptance that, except for certain older roads built on poor ground, lower layers of road carriageways are unlikely to degrade so long as they are maintained to an appropriate standard and therefore that part of the asset value should be treated as non-depreciable. However, as yet there is no agreed approach to determining the value of the non-depreciable element. Similarly there is no consistent approach to how far the value of very long lived structures should be depreciated at initial valuation to reflect their age. This means, for example that some very old structures are treated as having very small values although in practice they are in decent, serviceable condition and, subject to adequate maintenance, are expected to remain in use for many years to come.

Further guidance and support

- 5.25 Both the CSS/TAG survey and the review team asked practitioners what additional support they would like to receive in taking forward highway asset valuation. The review also sought views on how authorities who are still at the early stages of valuation might be helped to move forward quickly. In the slightly longer term practitioners felt that it would be desirable to update the existing guidance to take account of developing best practice and share lessons from the work undertaken so far. However, this might be better left for another year or so until some of our other recommendations have been addressed, so that the results of this and other ongoing development work can be reflected in the guidance.
- 5.26 In the shorter term, alongside the specific GRC/DRC issues discussed above, the main requirements from practitioners were to find ways of achieving greater consistency by providing more detailed advice on matters such as what individual cost elements should be included under particular definitions, and also advice on issues such as valuation of land. There was a strong view that there was scope for streamlining the valuation process, with authorities pooling data to help develop average rates for common components. This was seen as particularly useful for less important, lower value assets, leaving authorities free to concentrate their own early efforts on the more important, high value elements. The general feedback from those authorities that are further ahead seems to be that where this kind of approach has been tried, it has produced reasonably comparable results from different sources. So far, work to compare results of individual initiatives has been ad hoc. A more systematic process of bringing this kind of data together would increase coverage and so should make the outputs more robust. Over time, as actual inventory data is collected, the valuation could be refined.
- 5.27 There was also a wish for some kind of simple route map to give authorities in the early stages advice on what to tackle first in terms of covering the high value, most important things first, so that authorities would be able to produce good ball park valuations and start to have useful asset management information quickly.

Conclusions

- 5.28 In this section we have considered the three main potential approaches to accounting for local transport infrastructure and concluded that only the AMP based CSS/TAG approach would support delivery of all the review objectives. We also concluded that an early change to the SORP accounting treatment for transport infrastructure assets is necessary to ensure that the benefits from implementing an AMP based approach are realised quickly and in full.
- 5.29 However a proposal to change the SORP, raises a number of important implementation issues that need to be addressed before any change can take place. We shall return to this in Sections 7 and 8.

6. EXPERIENCE FROM OTHER COUNTRIES AND SECTORS

6.1 Section 6 looks at experience from other countries and in other sectors, both to compare their experience with our findings up to this point and to draw some further lessons for implementing asset management for local transport infrastructure. It also looks at what lessons the review might have for other, non-infrastructure, local authority assets.

(i) Developments in other countries

6.2 Developments in transport infrastructure asset management overseas are similarly being driven by funding pressures, drives for greater efficiency — particularly through whole life cost based decision making, and a desire to improve service delivery. In some cases the development of asset management is linked to or triggered by changes in accounting or other statutory requirements.

6.3 Table 6.1 summarises the variety of approaches that are used for accounting for infrastructure internationally as well as in the UK, and there are further details in Annex I. Where changes have been made or are in prospect these tend to be away from historic cost approaches to current accounting, and towards renewals/component type approaches to calculating depreciation. The main drivers for change appear to be a concern, arising from the development of asset management, that historic cost does not provide useful information about the performance of the asset, does not support moves to longer term planning and whole life costing, and does not provide useful information to support policy and funding decisions. New Zealand and Australia have had the greatest experience in implementing AMPs as discussed in Box 6.1.

Box 6.1 Asset Management Plan Implementation Experience in New Zealand and Australia

New Zealand is a world leader in public sector infrastructure asset management as it is in the property sector. Legislation enacted in 1996 required all local authorities to prepare long term financial strategies, updated every 3 years. These must take account of asset creation and depreciation and have specific regard to the costs and benefits of different options. Local authorities have to publish asset management plans for each of their asset types and, among other things, their plans must state explicit service levels. A lot of emphasis is placed on minimising the whole life costs of operating and maintaining the assets. Plans were initially subject to scrutiny by Audit New Zealand.

The national government set a programme of requirements to be followed in developing asset management plans and also funded workshops to raise awareness of the importance and benefits of good asset management. Implementation has also been supported by substantial research programmes. A National Asset Management Group was established, covering local authorities and utilities services, to develop infrastructure asset management. Its steering group includes a representative of Audit New Zealand. The Group is responsible among other things for the provision and updating of national guidance documents on asset management.

Australia has also practiced asset management for a long time and a lot of work has been done to develop systems and approaches. All state agencies and most local authorities now have a range of systems in place. However, as in the UK, progress varies considerably between authorities. In most cases asset management is still not fully integrated into business processes, and a study carried out for the Australian Local Government Association in 2004 concluded among other things that progress was being handicapped by a lack of adequate guidance and a need for greater standardisation in approaches and systems. It also concluded that asset holders often took too narrow a view of what asset management could and should be delivering for their authorities and that more needed to be done to raise awareness of its potential.

- 6.4 A particularly interesting feature of asset management in New Zealand is that it has been developed in a much more integrated way across the whole asset base than is so far the case in the UK and many other countries. The key asset management guidance document produced by the National Asset Management Group, itself a cross-sectoral group, is described as an 'infrastructure management manual' but it actually covers land and property, parks and recreation, and cultural and heritage assets as well as roads, water etc. The separate guidance document, about to be updated, on valuation and the calculation of depreciated replacement cost also covers the same wide range of assets within a common framework, although there are naturally differences of detail, e.g. to reflect the different lives and deterioration rates of particular assets. New Zealand has also produced some interesting guidance, again covering both property and non-property assets, on setting service performance levels, including customer consultation.

Table 6.1: Summary of international and UK infrastructure accounting approaches

	Asset Management Plan-based approach:	UK GAAP-based FReM Renewals approach	Conventional Depreciation approach
	<ul style="list-style-type: none"> • Depreciation = AMP Estimate • Actual spend capitalised 	<ul style="list-style-type: none"> • No Depreciation • Actual spend expensed • Assertion of adequate condition 	<ul style="list-style-type: none"> • Significant Components depreciated over economic lives • Actual spend capitalised or expensed as appropriate
Historic Cost	Water Company UK GAAP statutory accounts using historic cost	UK Water Regulatory Accounts — Historic Cost (some modifications) US State 'Modified Approach' French Local Government	UK Local Authority SORP UK Water Company IFRS statutory accounts using Cost Model Australia State Govt (e.g. VicTrack) US State 'Standard Approach' Canadian Federal Government
Current Cost / Fair Value	CSS/TAG Approach Water Company UK GAAP statutory accounts using Alternative Accounting Rules	Highways Agency — <i>some road elements</i> Northern Ireland Roads Service — <i>Roads</i> Transport Scotland UK Water Regulatory Accounts — Current Cost (some modifications) French National Government	UK Water Company IFRS statutory accounts using Revaluation Model Highways Agency — <i>structures</i> Northern Ireland Roads Service — <i>Other highway infrastructure assets</i> Australia State Govt (e.g. VicRoads) Network Rail (value in use, one asset, weighted life) New Zealand Federal Government

(ii) UK water and rail industries.

- 6.5 Companies operating in regulated industries in the UK such as water and rail are required to prepare two sets of accounts: commercial accounts compiled in accordance with either UK GAAP or IFRS as required by the Companies Act, and regulatory accounts.
- 6.6 Regulatory accounts are prepared to provide financial information about regulated businesses for use by the regulator, the industry, investors, consumers and other stakeholders. They provide more focussed information than the statutory accounts because they relate specifically to the regulated activities whereas statutory accounts relate to the activities, including unregulated ones, of the company as a whole and are more focussed on the requirements of investors.
- 6.7 The main focus of the regulatory accounts is to provide information to assist in dealing with price regulation, to monitor performance against the assumptions underlying a current price control, inform future price control reviews and address competition issues, both anti-competitive behaviour and comparative performance benchmarking. The regulatory regimes for water and other utilities create very strong links between financial management, physical asset management and investment, and service delivery, with the same financial (regulatory accounts based) information serving all purposes.
- 6.8 Further information about accounting arrangements for both water and rail is given in Annex J. A key point to note is that the water industry, where asset management is well developed, uses an AMP based approach to calculate 'depreciation'.
- 6.9 On the face of it the regulation of a private sector utility and the provision of public services by local government and other public sector bodies might seem to be very different activities. In practice if one substitutes cost control for price control and self-regulation for independent regulation, the objectives and drivers of both are very much the same. Both water and rail face very similar issues to the holders of other transport infrastructure — ageing infrastructure, legacies of under-investment, efficiency drivers and the need to get more out of the assets to meet rising demand and improve service delivery for customers. There is therefore the potential to learn lessons from the way in which they manage their assets.
- 6.10 The water and rail industries provide interesting contrasts. In the water industry, asset management has been practiced since the late 1980s, having originated in the early stages of privatisation, and it is therefore now very well established. Although inevitably performance varies between companies, the best have very highly developed well-integrated systems, processes and data. As part of the regulatory process, water authorities are required to submit their asset management plans to Ofwat, who in addition to using them to inform price reviews, actually score the individual plans. On the basis of this scoring, we asked Ofwat to suggest two companies who exemplified best practice. As a result we visited Three Valleys Water, one of the smaller water only companies though part of a very large international group, and a very large water and sewage company, Yorkshire Water. Some examples of their work are described in Box 6.2 below.

Box 6.2 Three Valleys Water and Yorkshire Water

Good asset management includes putting in place comprehensive and consistent approaches to whole life cost based risk assessment.

Before 2003 **Three Valleys'** approach to capital maintenance was based on condition assessment and reaction to failure. Since 2003 they have developed a risk based approach based on condition assessment, reaction to failure, planned Failure Mode and Effects Analysis (a model for predicting failure potential in systems, processes or components) and criticality assessments and prioritisation of investment based on business risk. The advantages of the new approach include: a better understanding of asset deterioration and failure rates and the use of that information to support risk based decision making; a more comprehensive assessment of 'criticality'; whole life cost based approach is enhanced; and a highly visible audit trail of total programme build up. The approach can be applied at different operational levels – whole company; area level (3); individual sites (400) or components (20,000) and supports scenario planning.

Yorkshire Water have developed their asset management approach over several years in order to embed it within their investment decision making process. Information from their asset management system is linked with a failure prediction system, a risk management system and a customer survey system to generate a vast but highly user-friendly database about the entity's assets, the risks and costs to the business of their failure and the cost/benefit appetite of their customers to different levels of service.

The system can be interrogated to generate a prioritised list of investment projects, using a whole life based cost/benefit financial analysis but also governed by other constraints set by management e.g. total capital funding available. The resulting list is ranked in order of the marginal benefit of each scheme, and in effect provides the capital investment programme for the company. The schemes at the top are essentially the highest priority ones that must be done in order to continue to meet service levels and comply with regulatory requirements. This allows human intervention to focus on those projects that fall close to the pass/fail line.

The system has removed the need for ad hoc exercises and is capable of doing even highly complex 'what if' scenario planning within 24 hours.

The database is also continually updated with data captured from live projects e.g. the actual cost of supplies purchased. The whole process essentially works through the discipline and processes to capture information from all sources and to feed it into the systems to maintain an up to date database of the company's asset information, business risks and costs. This approach has helped the company to target its capital investment far more effectively than before and to reduce the estimated amount of overall capital investment required when compared with previous, more limited, modelling techniques. The information generated – particularly the failure prediction model – has meant that the company has been able to reduce to approximately 2% the proportion of its annual capital budget that it holds back for reactive work.

- 6.11 The rail industry has started to implement asset management much more recently. We were informed by Network Rail that comprehensive asset management was not something either British Railways or, post-privatisation, Railtrack, really gave much attention to. Since the creation of Network Rail as a not-for-dividend company, both Network Rail and the Office of Rail Regulation (ORR) have put significant effort into developing asset management and using it to improve safety, availability, reliability and cost effectiveness of the network. Network Rail are still working to implement asset management fully and have some way to go before they are comparable with the best companies in the water industry, but essentially what they are working to put in place is very similar.
- 6.12 The effort being put into asset management is already delivering results. Network Rail has delivered a 24% efficiency saving over the three years to 2007, equivalent to a £1.3 billion cash saving. Their experience in building up asset management quickly and its key role in transforming the performance of the network offers some particularly interesting lessons for our review as discussed in Boxes 6.3 to 6.5.

Box 6.3 Network Rail Infrastructure Cost Model

Network Rail has developed a new Infrastructure Cost Model (ICM) to estimate the costs of operating, maintaining and renewing the network for different specifications of usage and capability. It produces forecasts of activities, expenditure and network output measures over the long-term (up to 40 years), and can disaggregate these forecasts to segments of the network.

Key inputs to the model include detailed asset information (location, type, age etc mapped to a common definition of the network), current and forecast traffic levels, unit costs of key activities and assumptions about trends in input prices and efficiency. The model predicts the level of maintenance and renewal activity associated with applying the company's asset policies, using inputs including estimated service lives, activity frequencies and expected failure rates.

ICM provides the activity and expenditure forecasts in the strategic business plan. The model has delivered a step change in NR's business planning processes by:

- Integrating existing forecasting models, ensuring consistent assumptions and increasing speed and flexibility of scenario testing;
- Increasing transparency of costs and underlying assumptions; and flexibility to change critical assumptions such as unit rates and asset lives;
- Much more detailed geographic disaggregation of the network, allowing NR's 26 strategic routes to be further split into some 300 segments.

As well as informing NR's business planning processes, ICM is used to assist Government and ORR funders to make decisions on levels of funding and rail outputs by demonstrating the cost and funding implications of different service outputs.

Source: Network Rail Strategic Business Plan

Box 6.4: Development of unit cost data

Network Rail is also establishing a uniform Cost Analysis Framework (CAF) to support renewals. A key reason for the previous lack of robust unit cost data was the difficulty in establishing consistent definitions and associated reporting processes, so the key first step was to define the units of volume.

In each asset area the CAF aims to identify the major repeatable work activities for which meaningful volumes can be defined and which will account for the majority of asset expenditure. Unit cost can then be generated and reported for all these repeatable work types. The overall coverage of unit cost reporting is being extended to cover around 80% of asset renewal expenditure. Unit cost reporting will not be extended to cover activities which are low volume or not repeated regularly, or are low value minor works.

Box 6.5: Improving service availability

Improving service availability is a key driver for both the water and rail industries.

For Network Rail all whole life evaluations for maintenance and renewal work will include consideration of both the cost of the work and the track possessions required to enable its implementation. This will help to make sure that work is carried out efficiently while encouraging innovation in reducing possession time.

Signalling renewals can provide opportunities to improve the capacity and capability of a route for a relatively low incremental cost. Route value improvement options are therefore now considered as part of asset renewal schemes.

Conclusions – water and rail

- 6.13 The water and rail sectors have a number of useful lessons for local transport asset management. Although implementation is at different stages, the asset management frameworks, the principles to which they operate and the kind of detailed systems and information needed to support them are conceptually much the same across all three sectors. Water in particular is much longer established and, while performance varies between companies, the quality of their asset management is a key factor in marking the best out from the rest. This provides further evidence of the benefits that asset management can deliver – benefits which are also starting to be seen with Network Rail. The experience with regulatory accounts also provides further support for the merits of an asset management plan based approach underpinned by systematic, reported and audited financial information.
- 6.14 The rail and water industries also offer a number of more detailed lessons for local transport infrastructure.
- (i) effective infrastructure asset management depends on it being given sufficient priority, including attention at the most senior levels in the organisation. For both water and rail, asset management is a core function, a key driver of business planning, management and service delivery, not simply an add on tool; it therefore receives close attention from the most senior people in the businesses and their regulatory bodies.

- (ii) asset management is most effective when it is integrated properly with other key business processes, particularly finance and customer service; one set of information, including financial information, should serve all business needs. Although both the water companies and National Rail also produce commercial accounts, it is the regulatory accounts and the information that underpins them that support asset management and other business processes.
- (iii) investing more to develop more and better quality information and systems has a cost, but delivers very big returns. In particular the best practice water companies have been implementing comprehensive asset management for a long time and highly sophisticated, well integrated systems supported by a lot of detailed data. Nonetheless they are clear that they will continue to invest in further and better systems and data because these are still delivering high returns in terms of cost savings and better service performance for customers.
- (iv) Network Rail's rapid progress and early successes demonstrate that it is possible to achieve significant benefits quickly from asset management if implementation is well structured and has strong leadership and support from the top of the organisation.

(iii) Major Repairs Allowance

- 6.15 The final area where we were asked to look at wider experience was local authority housing, particularly the Major Repairs Allowance regime (MRA). The MRA regime provides a methodology, set within an asset management planning framework, for calculating the capital cost of keeping stock at steady state and is based on the annual cost of replacing individual building components as they reach the end of their useful life. It has been accepted by CIPFA/LASAAC as a reasonable estimate/measure of depreciation. This is then fed into the Housing Revenue Account subsidy calculation. Support to deal with backlogs of work needed to bring all homes up to standard is given separately.
- 6.16 The MRA is relevant to this review because, although the nature of housing assets is very different, the approach adopted and the principles that underpin the system has a lot in common with the principles and framework that underpin the CSS/TAG approach to the calculation of annual spending need (i.e. the measure of depreciation) for highway infrastructure. Both systems are designed to operate within the context of Resource Accounting and Budgeting, both promote whole life cost principles, and both operate within the context of comprehensive asset management planning.

Background

- 6.17 From April 2001, following a consultation exercise the Government introduced a new financial framework for local authority housing based on a form of resource accounting. Under this system the Housing Revenue Account (HRA), which records revenue expenditure and income relating to an authority's own stock, was changed to reflect on a consistent basis the resource used over the lifetime of the assets rather than simply the annual cash spend. Whereas the previous system showed historic debt charges, the HRA now reflects both the cost of capital employed and the cost of wear and tear or deterioration of those assets.
- 6.18 MRA subsidy can be used for any HRA capital expenditure but the guidance makes clear that authorities are expected to use it in line with the priorities they have set in their HRA business plans and in a way consistent with the purposes for

which the MRA is provided. There is flexibility to spend resources outside the financial year in which they are allocated. This allows works to be planned with maximum timeliness and efficiency, consistent with the best value/whole life cost approach that underpins the methodology and the wider housing management reforms.

MRA calculation

- 6.19 MRA is calculated by allocating each property in an authority's stock to one of 13 building archetypes. These are derived from the type of dwelling, form of construction, age and size. Each is divided into a series of building elements or components, each of which is assigned a standard life and a replacement cost. The data is then used to calculate an equated annual allowance for each archetype sufficient over a 30 year period to meet the cost of all the elements that will fall due for replacement in that period. (The approach is described in greater detail in Annex K.)
- 6.20 MRA is accepted as a reasonable estimate of depreciation, although authorities are free to calculate their own charge for depreciation in the HRA and should do so if for some reason they feel that their own authority's position is out of line with the MRA calculation. However, experience of operating the system shows that generally the MRA figure is considered appropriate.
- 6.21 The MRA does appear to have provided a robust basis for determining what needs to be spent on a whole life cost basis to maintain the stock in a steady state and for allocating Government support. It fits in a fully integrated way into the wider Housing Business Planning process. The experience of using it seems to have generally been very positive. According to CLG, the calculations that the methodology produces are accepted by both central and local government as robust.

Conclusions — MRA

- 6.22 The approach to calculating depreciation for transport infrastructure in the CSS/TAG guidance and the MRA approach are very similar, as is the asset management context in which each operates. The fact that the MRA has now been in place for several years and commands confidence among practitioners is further evidence that the CSS/TAG approach should be capable of delivering comparable results.
- 6.23 One of the detailed issues that has been raised as a concern about the implementation of the CSS/TAG approach is that the depreciation calculation can be subject to annual fluctuations due to short term price movements. While this does not create a budgeting problem for local authorities so long as depreciation continues to be reversed out instead of hitting the bottom line in authorities' accounts, it does make it harder to distinguish the long term impact of spending from short term effects. We were therefore particularly interested to see that the MRA system smoothes expenditure profiles to reflect the long term, life cycle nature of the approach. We recommend that it would be worth looking at whether a similar approach might be appropriate for transport infrastructure.

(iv) Possible lessons for other assets

- 6.24 Having information on a robust and consistent basis on what needs to be spent to maintain operational assets in a steady state is a highly desirable objective for all the stakeholders that we have talked to. The lack of such information is a major concern for both central and local government when it comes to seeking evidence to inform decisions on local government capital programme allocations during spending reviews. Similar issues arise in determining spending needs and priorities at the local level. Even achieving good quality, comparable data with a particular type of asset, such as transport infrastructure, would be a big step forward compared to the present situation. But there remains a need for consistency of financial information between asset types.
- 6.25 If a comparable approach can work successfully for such different types of assets as highways and housing, it should in principle be capable of working for other local authority operational assets. And, since the approach is AMP based, its extension to other asset types would help to further embed asset management, strengthen the links between asset management and financial management, and promote a more integrated, corporate approach across both property and infrastructure assets. It would also provide a methodology to support the Government's objective that in the longer term depreciation should hit the bottom line in local authority accounts.
- 6.26 It is beyond the remit of the present study to examine this in detail. We have however raised the idea informally with experts in both valuation and public sector asset management within RICS, who support the proposition that it merits further investigation. We also note the experience of New Zealand, which operates common asset management and valuation frameworks across its public sector fixed assets.
- 6.27 We therefore sought views from consultees on whether this idea should be investigated further. The results of the consultation exercise are considered in Section 7, which also comments on other relevant developments since the consultation draft of the draft of the report was published.

7 CONSULTATION AND FOLLOW UP

Introduction

- 7.1 This Section reports on the outcome of the consultation exercise and the key issues raised. In some cases action has already been taken to progress or develop recommendations originally made in the draft report or to address issues raised in the consultation. These are also reported on in this Section.

Responses to the consultation

- 7.2 A consultation draft of this report was published in July 2007. The closing date for comments was 28 September, and although a number of responses were received after that date, these were still taken into account. In all, 63 responses were received.

- 7.3 These reflected a good coverage of stakeholder interests, as follows:

- 41 local authorities, 2 PTA/PTE bodies, 14 representative/professional bodies and working groups, 2 devolved administration executives, 3 audit bodies, and 1 personal response.
- In terms of national distribution, there were 7 respondents with a locus encompassing the UK or England and Wales jointly, plus 33 English, 13 Scottish and 9 Welsh bodies.

A list of respondents is included in Annex N, which also provides more detailed information about the content of responses. The rest of Section 7 considers some of the key issues raised by the consultation, including action taken to address some of the points raised and to progress some of the recommendations.

- 7.4 CIPFA has also discussed the draft report findings and recommendations with key stakeholder groups including HM Treasury and the Department for Transport, the UK Roads Liaison Group, UK Roads Board and the CSS/TAG Asset Management Working Group. As recorded below, action is already being taken to take forward some of our recommendations.

Support for transport asset management

- 7.5 Consultation responses showed strong support for the concept of transport asset management planning, and we are encouraged that the review has helped to raise awareness of the subject and of its potential benefits. While no respondents argued against transport asset management, some wanted more evidence of the costs and benefits that would be involved in implementing the approach.

Costs and benefits

- 7.6 Costs will vary depending on the scale and variety of assets held by individual authorities, the extent and quality of the information already held (which varies greatly between authorities), as well as the extent to which authorities reduce implementation costs by working together to develop and share methodologies and best practice, and undertake joint procurement. The benefits achieved will also vary, depending upon how successfully individual authorities exploit new and better information. In addition, asset management is being implemented progressively and authorities have not generally kept comprehensive records of costs and benefits.

7.7 All this makes its extremely difficult to provide firm figures. Nonetheless we have found one case study which quantifies the costs of implementing transport asset management in a single authority – Newcastle upon Tyne. Box 7.1 sets out the implementation costs alongside some of the early benefits achieved.

Box 7.1: Quantification of highways asset management costs and benefits in Newcastle upon Tyne

Newcastle upon Tyne City Council has a substantial highways network as well as a number of other types of transport infrastructure. Newcastle’s total set up costs for implementing highways asset management are:

	£K
Preparation of the HAMP	
External consultant fees	120
Internal staff costs	60
Data collection	
(video survey, software hand held computers, additional staff costs)	74
Anticipated costs to complete inventory collection/verification	
video survey	120
additional staff costs	6
Gully survey	1
Tree survey (inc purchase of meters)	47
Snow & Ice Plan review and reassessment of cleaning regime	
additional staff costs	6
additional operational costs for street sweepers and low pressure power washers	60
Total set up costs	£ 494K
Additional ongoing costs per annum	
data management	4
additional staff costs	10

Early benefits achieved include:

- a substantial reduction in the number and cost of dealing with insurance claims (down from 838 in 2003 to 299 in 2006). As a result Newcastle’s annual insurance premium reduced from £1.8m in 2004 to £1.2m in 2006.
- a reduction in reactive maintenance (from 16,000 defects in 2003/4 to 13,000 in 2006/7 releasing £200k for use elsewhere.
- an increase in the number of planned resurfacing schemes, slowing network deterioration, with the aim of reducing costs in the medium term as less full reconstruction is required.
- changes to procurement practices as a result of better network data delivering better value for money.

As well as completing the development and collection of inventory, which will include data capture from CAD drawings, Newcastle intend to review the development and outcomes from their asset management plan and will produce an annual progress report.

- 7.8 Newcastle's experience and the case studies from other authorities cited in Section 4 indicate that it is possible to gain substantial early wins from transport asset management if activity is targeted appropriately. 'Best buys' appear to include activity targeted at prioritising capital maintenance expenditure on a whole life cost basis instead of tackling 'worst first' and targeting activities/assets which give rise to successful insurance claims. However, there is also evidence, in particular in the UK from the water industry, that even when asset management is well established, well-managed further improvement in data and systems gives a high additional return.
- 7.9 Although we have been unable to find any quantification of their costs and benefits, indirect evidence of the beneficial impact of asset management is provided by the commitment to the approach in New Zealand and Australia. New Zealand has been pursuing infrastructure asset management for a number of years, with the process being driven by a change in accounting, and there is strong support from central and local government and from the audit bodies. A similar view of asset management prevails in Australia where the public sector guidance is actually produced by the Auditor General.

Changing the SORP

- 7.10 Although there were some important dissenters, the majority of respondents favoured an early change to the SORP as being the best way to achieve a robust, consistent framework for producing the financial information needed to support effective asset management and delivering it to a fixed timetable. From the minority against, the main argument advanced against an early change was that it would turn the process into an accounting exercise and thus detract from asset management. Paradoxically, this concern came from some parts of the finance community rather than from asset managers. Some of those who said 'no' to a change in the SORP saw it as a longer term possibility but felt that it should be implemented administratively first.
- 7.11 Some respondents also had concerns about proceeding in advance of decisions on changes to accounting for central government infrastructure. To address this concern the Project Steering Group decided to defer completion of this final report while the parallel work taking place on accounting for national roads was progressed. At its February 2008 meeting, the FRAB approved a depreciation-based approach for national roads that would be compatible with the one proposed in this report for local roads, so removing the risk of local government having to change its approach again. In particular, the national agencies will in future also be adopting a component based approach to accounting for their network assets.
- 7.12 Some respondents felt that the timetable for any change to infrastructure accounting needed to recognise that the move to International Financial Reporting Standards (IFRS) for public sector accounts was creating other significant and difficult changes to local authority accounts. CIPFA intends that the move to IFRS should seek to identify and pursue opportunities for simplifying aspects of local authority accounting. Nonetheless we accept that the move to IFRS creates significant challenges and that this needs to be taken into account in setting a timetable for a change to the SORP. Since the draft report was published for consultation, CIPFA/LASAAC has decided that the move to IFRS in local government should be completed in 2010/11. In addition the Government has recently reviewed the timetable for implementing IFRS in central government and the NHS and the 2008 Budget included an announcement that implementation would move back from 2008/09 to 2009/10. This will now also be the first year of WGA publication.

- 7.13 Overall, the consultation responses provide strong support for a change to an AMP based accounting approach in the SORP, but suggest that a slower timetable is desirable. This is reflected in the final recommendations in Section 8.
- 7.14 A slower timetable for implementing a change to the SORP would also have implications for the proposed interim approach proposed for providing local roads information for Whole of Government Accounts. Work to explore the interim approach has also been started, and to date two meetings have been held, under CIPFA chairmanship, involving HM Treasury, Department for Transport, Communities and Local Government, the National Audit Office, Audit Commission and some local government practitioners (from MSIG, the South East Group and SCOTS). These meetings have also informed the recommendation on providing information for WGA in Section 8.

Further Guidance, Development Work and Training

- 7.15 The recommendations for further guidance and development work received strong support. There was a clear view, even among those who had concerns about a SORP change, that this should be progressed urgently to support the development of asset management, whatever view is taken about the larger funding for and timing of any SORP change.
- 7.16 Some of the responses raised detailed questions and concerns about how the further work would fit in with the work that authorities themselves are already doing in the national groups in Scotland and Wales and the various English regional groups. In England, a number of responses referred in particular to the work being done by the Midlands Service Improvement Group, which was seen as being a further potential building block that would be as or even more important than the SECE project. MSIG are further forward than most groups in starting to tackle depreciation and have the advantage of having had significant professional finance input to their work. A presentation on their work was made to the January meeting of the CSS/TAG Asset Management Working Group and was then circulated to other national/regional groups for comment. Representatives of MSIG and the South East Group subsequently met to share experience and look at the possibility of some joint working. Representatives from Scotland, Wales, some other English groups and CIPFA also attended. The Group intends to hold further meetings with a view to developing some joint approaches.
- 7.17 Consultees were also strongly supportive of the proposed further work by CSS/TAG, including the production of 'Quickstart' guidance. CIPFA are pleased to report that CSS/TAG are taking forward this recommendation and other actions to support the further development of financial information in the Asset Management Working Group's work plan for 2008/9.
- 7.18 The consultation responses also reinforced the need, identified in the draft report, for more training and education for those involved in implementation to give them confidence in the process. This should be addressed by central and local government and the professional bodies.

Funding issues

- 7.19 Not surprisingly, consultation responses showed very strong support for the view expressed in the draft report that any change to the SORP (or other formal requirement to implement asset management to a fixed timetable) can only be achieved if up-front funding is made available. A number of responses make the point that the proposed £15m would only be a contribution and pressed for more

funding, but others recognised that it was only intended as 'pump-priming' and that funding to develop AMPs further would have to come from efficiency gains. Some responses have questioned the basis of the £15m figure but no-one suggested an alternative methodology.

- 7.20 In England, Ministers have already responded to the draft CIPFA report by announcing in January 2008 that £15m would be made available to authorities to support the development of transport asset management. We warmly welcome this move, both as a significant boost to implementation and as further evidence of the importance that the Government attaches to transport asset management. However, an announcement is yet to be made about when and how this funding will be made available. And it is only for England. This still leaves the question of funding in Scotland and Wales, though authorities there already have national projects in place to take forward asset management. Funding will also be needed across Great Britain to support training and the production of further central guidance.
- 7.21 Consultees also raised a lot of detailed points and issues arising from experiences so far in taking forward asset management and valuation. These do not affect the substance of the report recommendations but will provide a valuable checklist of issues that will need to be addressed in developing the further guidance.

Local Transport Infrastructure not covered by the SORP

- 7.22 The consultation draft sought views on this but made no specific recommendation. Not all respondents commented on this question – for instance Welsh respondents did not comment because it is not an issue in Wales. Among consultees who did respond, most felt that there was a clear case for applying the AMP based approach to all local transport infrastructure, and the rest felt that the issue should at least be investigated further although not necessarily with a view to changing accounting arrangements. As a result, a recommendation for further work is now made in Section 8.

Other (Non-Transport) Local Authority Operational Assets

- 7.23 The draft report raised somewhat tentatively the question of whether the idea of expending an AMP based approach to other assets should be investigated further. However, the issue attracted a surprisingly strong response. 80% of respondents were in favour of this being looked at, and of these many went further and said that there was a strong case for putting all local authority assets onto a comparable basis.
- 7.24 Elsewhere too there is evidence of growing interest in taking a more comprehensive and consistent approach to management of local authority assets. For example, COSLA has recently decided that action to follow up on an Improvement Service report on property asset management will be extended to include infrastructure assets and IT. CLG has recently published a new Asset Management Framework Document which covers infrastructure as well as property assets.
- 7.25 In the light of the responses to the consultation, a specific recommendation is made in Section 8.

8 IMPLEMENTING AN AMP BASED APPROACH

- 8.1 In Section 4 we concluded that implementing an AMP based approach to managing all transport infrastructure assets is worthwhile in its own right because of the ongoing savings and further improvements it can deliver. In Section 5 we further concluded that an early change to the current SORP accounting treatment is necessary to ensure that the benefits of an AMP based approach are realised quickly and in full. As discussed in Section 7, these conclusions were supported by the majority of those who responded to the consultation.
- 8.2 As discussed in Sections 4 and 5, while some authorities have made significant progress, many authorities are still at a relatively early stage in developing transport asset management, and many have not yet really got to grips with valuation issues. They need sufficient time to develop inventories and unit cost rates. On the other hand, there is now a substantial and growing body of experience and best practice which, if brought together in further guidance, would allow a more streamlined and standardised process to be established, delivering much more consistent implementation of the CSS/TAG principles and making it easier for those authorities still at an early stage on valuation to catch up.
- 8.3 This final section considers what further actions need to be taken to support consistent implementation of an AMP based approach to managing both highways and other transport infrastructure assets. It then assesses the changes required to implement an AMP based accounting treatment for transport infrastructure in the SORP, taking account also of the requirements and timetable for implementing WGA. Finally it looks at the position of local transport assets that are not covered by the SORP and whether an AMP-based approach might have benefits for other operational assets.

Recommended actions to support consistent AMP implementation

- 8.4 The way in which implementation is approached could have a big influence on how quickly asset management planning starts to deliver worthwhile information that can begin to support better management of all forms of transport assets locally, deliver efficiency savings and provide useful financial information for wider purposes. Work in other sectors, and by those furthest forward in local highways asset management, demonstrates that the key to success is effective prioritisation of work, concentrating initially on the high value/high spend assets, and then gradually extending the coverage and detail over time.
- 8.5 To allow the benefits of an AMP based approach to be delivered quickly and securely and to address the particular issues and concerns identified in Section 5, we recommend that the following actions should be taken:
- (i) **'Quickstart' guidance should be prepared by CSS/TAG for those local authorities yet to start asset valuation or still in the initial stages.** This should cover key processes and issues such as how to use and build on information already collected, but ideally should also cover approaches to developing inventories — advice on sampling, how to prioritise data collection etc, so that authorities can start to get a worthwhile payback from their efforts even before fully developed inventories and systems are in place. Work to develop Quickstart guidance has been included in the CSS/TAG Asset Management Working Group's work programme for 2008/9.
 - (ii) **Further work should be undertaken to refine the elements to be included in the calculation of Gross Replacement Cost and to develop the approach to address initial Depreciated Replacement Cost and**

annual depreciation. This should simplify and streamline the valuation process in the existing CSS/TAG guidance, as well as helping to promote greater consistency. This work should be project managed by CIPFA, and the project team would need to include accountancy as well as engineering expertise. It should be a national project, drawing on information from regional groups across the UK.

In the light of the consultation responses discussed in Section 7, CIPFA proposes to invite MSIG to work with them as lead regional group in developing further valuation guidance, with support from the South East Group, drawing on their Centre of Excellence project. Potentially, the newly established MSIG/South East working group described in Section 7.14 would provide a good basis for taking forward joint working and could bring in some wider representation, including from Scotland and Wales. The work of this core group would need to be supplemented by other arrangements to ensure that other regional groups and authorities are able to contribute experience and data, and participate in the development and testing of the further guidance. This is likely to involve a combination of electronic communication and occasional workshop sessions.

The proposed CIPFA steering group (see recommendation vi) and the CSS/TAG Asset Management Working Group, which has UK wide representation, including from the national agencies, should both have responsibilities for making sure that the interests and experience across the UK are properly reflected as further work is taken forward.

Guidance should be promulgated as each new part is produced, rather than waiting until the process is complete. A consolidated version should be produced at the end of the project.

- (iii) **Other work is needed to develop consistent approaches to depreciation**, for example to ensure appropriate consistency of treatment in respect of non-depreciable elements. This work should be taken forward jointly by the CSS/TAG Asset Management Working Group and CIPFA. CSS/TAG should be responsible for liaising as necessary with the Boards of the UK Roads Liaison Group to draw on their specialist expertise where needed and to ensure that the guidance fits with and is reflected as appropriate in the various engineering Codes of Practice.
- (iv) **Appropriate training and support should be provided for local authority transport and finance staff involved in transport asset AMP implementation.** There is also a need for more to be done to raise awareness among members and officers more generally of the importance of transport asset management and what it can contribute to the achievement of strategic objectives.
- (v) **In England, consideration should be given to involving the Regional Improvement and Efficiency Partnerships** (successors to the Regional Centres of Excellence), since transport asset management has the potential to make an important contribution to the delivery of their core objectives and would benefit from their collective engagement and support. Areas where they might have a role include supporting further regional projects as has already happened in the South East, and considering the scope for joint procurements, e.g. of systems and inventory data.
- (vi) **An implementation steering group should be established to co-ordinate implementation of the recommendations.** This should have

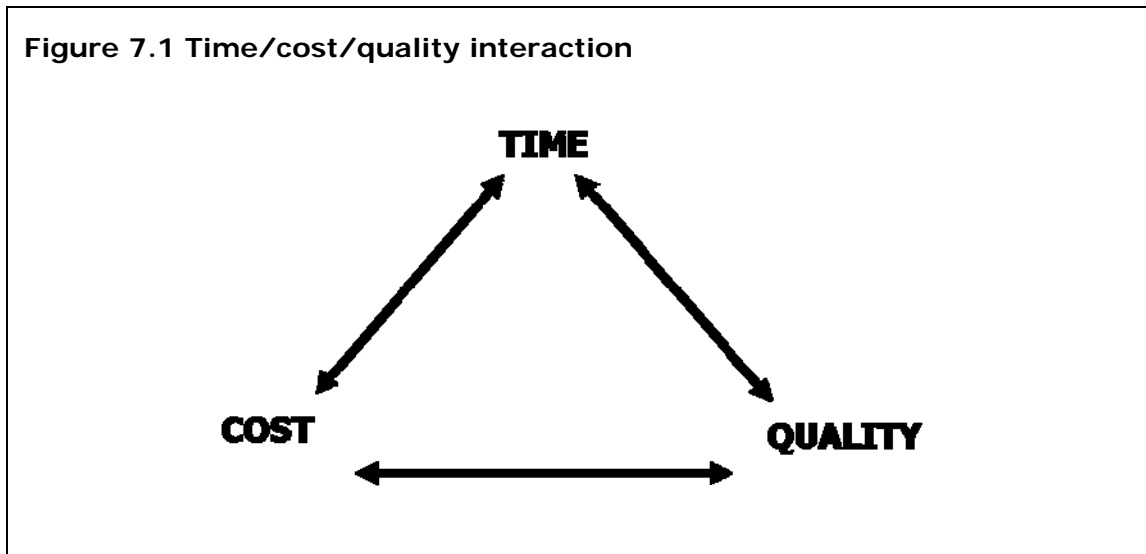
similar membership to that which has overseen this review, although some modification may be needed to reflect the somewhat different nature of its work and to make sure that it properly reflects the various national and local stakeholders in implementation. It should meet at least quarterly to oversee implementation, address common issues including policy type issues such as the appropriate treatment of land, ensure that the end products are robust, acceptable to the various stakeholder interests and achieve the objectives of the work programme.

- 8.6 This group of recommendations should be pursued quickly, in order to allow the efficiency benefits from an AMP based approach to be delivered as soon as possible. In particular, items (ii) and (iii) need to be completed for highways by early 2009 to support the development of local asset management and implementation of the interim approach to WGA (see below). Some additional work will also be required to expand the guidance to cover valuation of other (non-highways) transport assets that fall within the scope of the SORP. It is proposed that this should be tackled after highways, so that it can build upon the further guidance developed for highways. However, some preliminary work will be needed to extend the present highways asset categorisation and identify any issues that are unique to non-highways infrastructure in order to ensure the approach adopted for highways does not cause unnecessary problems for other transport asset types at a later date.
- 8.7 Throughout this report we have used the term 'asset valuation' since it has been used in the existing guidance and therefore adopted by those seeking to implement it. However, in some quarters at least, the phrase 'guidance on asset valuation' implies that its prime purpose is to produce the high level values needed for the accounts and on this basis have questioned whether the effort involved in implementing it is really worthwhile. It is important that the guidance and its application is recognised as having a much bigger objective, namely to support the production of robust, consistent, comparable financial information that meets the requirements of asset management, wider financial and policy decision making, and local and national financial reporting. We therefore recommend that the term 'asset valuation' should cease to be used as a shorthand for this wider purpose and that something broader such as 'asset financial management and reporting' would give a better sense of what stakeholders collectively want to achieve.
- 8.8 In the longer term the existing CSS/TAG asset management guidance will need to be revised fully, to provide clarification where required and to promulgate developing best practice. However, a full revision will be a significant piece of work and will take time to deliver. An appropriate timetable will need to be set to allow the results of recommendations (i) (ii) and (iii) above to be taken into account.

Requirements for changing the current SORP accounting treatment

- 8.9 In Section 5 we concluded that an asset management plan based approach to accounting for transport infrastructure assets has the potential to be consistent with IFRS and to be suitable for WGA purposes. We also concluded that an early change to the current SORP accounting treatment is necessary to ensure that the benefits of an AMP based approach for transport assets are realised quickly and in full. The majority of consultation responses supported this view.
- 8.10 However, the timetable for any SORP change depends on how quickly good quality, consistent auditable information and systems can be put in place; and how much priority — including funding and other resources — stakeholders are

willing to give to the work. The issues of time, cost and quality are inter-related as shown in figure 7.1.



- 8.11 The proposed measures to streamline and standardise aspects of the valuation process are intended to produce more robust and consistent financial information, be cheaper to implement and help those at early stages of implementation to progress more rapidly. However even with a prioritised approach to data collection and systems development, there will be upfront costs that must be incurred to set up the systems, and to collect and input the inventory data required if all local authorities must deliver information of auditable quality to a fixed timetable.

Timetable for changing the SORP

- 8.12 The consultation draft suggested that, given reasonable notice, and subject to early implementation of the recommendations on funding and further guidance and support, it should be possible for authorities to develop inventories to a level which would allow the SORP to be changed from 2009/10. The consultation responses raised a number of concerns about proceeding this quickly. On the other hand, there is still a need for authorities to make significant early progress to start to deliver useful information to support better asset management and inform resource allocations, as well as to provide information to support WGA, even though the period for the first published accounts has been delayed by a year until 2009/10.
- 8.13 In the light of the fact that it has now been announced that 2010/11 will be the year in which local authorities complete the transition to IFRS, we propose that the first year for which current value information on transport infrastructure assets should be reported should also be 2010/11 but that this should be treated as a 'dry run' year. The main transport infrastructure asset information reported in local authority balance sheets (and elsewhere in their accounts) would continue to be on a historic cost basis, but authorities would also disclose valuation information on a current (AMP based) accounting basis in the notes to their accounts. The change to the SORP treatment could then be implemented in 2011/12. In view of the likely significance of the new data in highways authority accounts, a 'prepare and decide' approach should be adopted, with the possibility kept open of making 2011/12 a further dry run year. The final 'switchover' decision would then be made in the light of progress made for the 2010/11 dry run year. This approach should strike an appropriate balance between concerns

about the work involved in implementing a significant change to infrastructure accounting alongside the move to IFRS based accounts, and the need to make early progress in developing sound financial information to support better asset management.

- 8.14 Once a firm timetable is set for changing the SORP, treatment of transport infrastructure assets progress in implementing transport asset management should, like property asset management, be taken into account in the auditors' assessment of authorities' performance in a way that properly reflects the value of the assets.

Interim WGA approach to highways assets

- 8.15 In 2010/11 the year before the proposed full adoption of the new AMP based accounting policies, local AMP based information from the 'dry run' disclosures in local authorities' own accounts would be used to inform WGA consolidation returns. However an interim approach to providing data for WGA will be required for 2009/10, which will now be the first year of published WGA data as well as for the 2008/09 dry run. A high level modelling approach to producing auditable data on highways infrastructure for WGA is described in Annex L. The approach would draw on nationally specified unit costs, and national assumptions in respect of road widths, footways etc. This data would be combined with asset inventory and condition information already held by local authorities to produce financial data for the WGA consolidation, which would be materially correct information on highways at the whole of government level. As noted in Section 7, work to develop an approach of this kind has recently started. The approach does not cover non-highways infrastructure assets which would need to remain on a historic cost basis for these two years.

Funding

- 8.16 Delivery of the timetable, described in 8.13, would need an early decision in principle by CIPFA/LASAAC to change the current SORP accounting treatment. The CIPFA/LASAAC decision would inevitably be influenced by the willingness of stakeholders to commit necessary resources. On the basis of the approach described in Annex M, we estimated possible up-front expenditure of around £15m would be required to support the production of the basic inventory data across Great Britain required as the start point for establishing basic asset management and producing auditable accounts for individual local authorities. The UK administrations will need to consider whether and how to support these up front costs in order to obtain the benefits from having asset management planning and the accounting change implemented to an early fixed timetable. This one off figure of £15m needs to be seen in the context of the £5bn of expenditure made on roads by GB local authorities in 2005/06.
- 8.17 The alternative would be to allow authorities to continue developing AMPs and taking forward asset valuation at their own pace, albeit with continued encouragement from the UK administrations and the Roads Liaison Group and, we hope, with the benefit of the further support and guidance we recommended in paragraphs 8.5-8.8 above. Without appropriate up-front funding support, the timetable for any eventual change to the SORP accounting treatment would depend on the progress of the slower authorities, and the substantial potential benefits from an AMP approach are unlikely to be realised for some years. This view is supported by the findings of the Atkins study referred to in Section 4 and 5.

- 8.18 The funding announcement by the Minister for Transport referred to in paragraph 7.20 is therefore a substantial and welcome development although decisions have yet to be taken on when and how it will be allocated. Also it only applies to England. In addition to inventory collection, there is a need for funding to support development of further guidance, and for training and support. After 2009/10, the cost of further local development work could increasingly be afforded by authorities themselves and funded out of the savings from better asset management, though there would still be a role for Government in supporting research into issues such as techniques to improve condition assessment and whole life cycle modelling

Transport infrastructure assets not covered by the SORP

- 8.19 The case for any change in accounting approach is probably not strong in respect of non-network transport infrastructure, such as airports, held in local authority companies. In many cases these assets are owned by local authorities for wider reasons — income generation or local economic benefits — rather than because of the contribution they make to local transport. For such assets the present accounting treatment may be the most appropriate one, since it achieves consistency of approach with private firms operating similar businesses.
- 8.20 Nonetheless the authorities, principally the PTEs, who do hold significant non-network transport infrastructure assets, have the same need as highways authorities to develop transport asset management plans and processes, to understand the cost of holding their assets, whether this is being done cost-effectively and so on. And they are competing for funding with highways and other local transport services. The Local Transport Bill currently before Parliament includes various measures, including changes to Local Transport Plan arrangements and to governance arrangements for the PTAs/PTEs which are designed to promote and facilitate more integrated approaches to planning and delivery of local transport services. Common approaches to asset management underpinned by common approaches to financial information should facilitate this and would provide better, more consistent information to support resource allocation decisions both locally and centrally.
- 8.21 In principle therefore it would seem desirable that all local transport assets should be covered by AMPs. Many PTAs/PTEs and TfL are already pursuing asset management, but there is a need for greater consistency, including generating financial information on the same basis and to the same standard as will apply to local authority assets within the SORP. As reported in Section 7, the consultation showed strong support for pursuing this. In the absence of any Government imposed requirement, it would be for individual PTAs/PTEs and relevant local authority companies to take this recommendation forward as a matter of best practice. Much of the existing guidance and the proposed further work in respect of management and valuation of transport assets covered by the SORP will be applicable to assets outside the SORP. However, we recommend that the CSS/TAG guidance on asset valuation should be extended where necessary so that it provides appropriate coverage across the whole spectrum of local transport assets.
- 8.22 In the light of the consultation response reported in Section 7, we recommend that research should be undertaken by the national administrations to look at the scope for applying a consistent AMP based approach to all local authority operational assets, with a view to establishing consistent financial information to support asset management, financial management, resource allocation and policy decision making across the full range of assets. The approach adopted for the local authority housing Major Repairs Allowance, discussed in Section 6 of the

Report, would provide a useful starting point for such research, which should of course also take account of the existing CSS/TAG guidance on transport infrastructure assets and any subsequent revisions to this.

Conclusion

- 8.23 Transport asset management has significant but as yet largely untapped potential. An AMP based approach, supported by an early change to the current SORP accounting treatment for transport-related infrastructure assets would be the best way to ensure that the benefits — better service delivery, efficiency gains, and high quality financial information to support better decision making locally and nationally — are realised as quickly as possible and in full. We have been greatly encouraged by the response to the consultation draft of the report and the steps already being taken to pursue some of our recommendations. We hope that this final report will command widespread support in local government, in the relevant Departments, and with other stakeholders across the UK, and that implementation can now move forward quickly for the benefit of those who use, provide and fund these vitally important assets.

TERMS OF REFERENCE

Background

Transport Asset Management Plans (AMPs) and the underlying records and systems to support them are already in place or being developed by local authorities. As well as their local role, these plans may be used by central government in policy development and to inform resource allocation. However a small initial study by HM Treasury in 2005 suggested linking local authorities accounting and financial management information to the AMPs would enhance information for a wide range of users.

Objectives

To evaluate the issues associated with implementing an asset management plan-based approach to accounting, managing and financing local authority transport infrastructure assets, including the best way to use such information to:

- Support good financial management locally;
- Provide good information to support policy development and resource allocations;
- Produce financial accounts complying with relevant IFRS requirements; and
- Deliver consistent high quality information for consolidation into WGA.

For the avoidance of doubt, it is not the intention that this work would deal with the issue of depreciation hitting the 'bottom line' of local authority accounts.

Approach

A two stage approach will be adopted, comprising fieldwork and production of a draft report, followed by consultation and production of the final report. The final report will include recommendations on implementation and the content and timing of any further work in this or other areas.

The fieldwork will comprise documentation of the information required to meet the above objectives and the extent to which current mechanisms deliver these through review of:

- Types of infrastructure assets encompassed (in particular, but not only the roads network);
- Local and National asset management and financial management requirements;
- Requirements to support policy development and effective resource allocation in England, Scotland, Wales and Northern Ireland;
- County Surveyors Society — Technical Advisory Group work including in particular the Guidance Document for Highway Infrastructure Asset Valuation published by the Roads Liaison Group in July 2005;
- Results from the Transport AMPs study to be undertaken by Atkins;
- Existing LA SORP and central government FReM (renewals accounting) requirements against what is permitted under IFRS
- Experience in local authority housing, other industries (Water, Rail etc), and in the Highways Agency and Devolved Administrations, including the interaction of the policy and regulatory environments with accounting practices;

- International accounting practices and the interactions between these and the policy and regulatory requirements (Canadian Institute of Chartered Accountants paper, NZ, Australia, France, etc) e.g. consider benefits of current value / historic cost, renewals vs. depreciation;
- National Accounts requirements (Eurostat and ONS); and
- Possible lessons for other types of assets.

Outputs

- Draft report for consultation summarising findings and draft recommendations for the way forward (including implementation and the content and timing of any further work in this or other areas);
- Consultation process and review of draft recommendations; and
- Final report.

Governance / stakeholders

Project Steering Group (PSG) with representatives of relevant stakeholder groups — to meet five times in the period to the end of June 2007 during the development of the draft report, and again in October 2007 to consider the results of the consultation and the final report, under the auspices of the CIPFA Public Finance Management Board. Updates will also be provided to the CIPFA/LASAAC Joint Committee as the project progresses.

Timetable

The draft report will be produced in early July 2007, with the final report produced by November 2007*, following consultation with relevant stakeholders in the intervening period.

Recommendations on the timetable for implementation and any further work in this or other areas will be developed in the light of the results of the main fieldwork and the outcome of the consultation on the draft report.

* Subsequently extended in the light of consultation responses and changes to timetables for implementing IFRS and WGA publication (see paragraph 7.12).

PROJECT STEERING GROUP MEMBERSHIP

SECTOR/NAME	ORGANISATION
Chairman	
Rob Whiteman	Barking & Dagenham LBC
Local Government — Infrastructure/ Asset Management	
David Baker	Transport for London
Anthony Radford-Foley	Bracknell Forest
Garry Sterritt	Atkins
Lester Willmington	Devon CC
Local Government — Finance	
Malcolm Crawford	Chiltern DC
Nick Dawe	Cambridgeshire CC
Mark Lewis	Pembrokeshire
Angus Milne	Tayside Contracts
Mike Owen	Society of Municipal Treasurers
Local Government — Representative Bodies	
Keith Beaumont	Local Government Association
Stephen Lord	London Councils
Government Departments	
Charlotte Dixon	Department for Transport
Graham Fletcher	Communities and Local Government
Malcolm Lowe	Department for Transport
Robin Lynch	Office for National Statistics
Kieran Rix / David Watkins	HM Treasury
Audit Bodies	
Alison Butler	Wales Audit Office
Russell Frith	Audit Scotland
Keith Lloyd	National Audit Office
Andy Walford	Audit Commission
Devolved Administrations	
Hazel Black	Scottish Executive
John McNeill / Jean McKay	Department for Regional Development NI
Alex Ramage	Transport Scotland
Ian Skinner	National Assembly for Wales
Secretariat	
Ian Carruthers	CIPFA
Mike Simpson	PricewaterhouseCoopers
Pam Williams	Independent consultant
Steven Cain	CIPFA

CONDUCT OF THE REVIEW AND PARTICIPATING ORGANISATIONS

The review has been carried out through a combination of desk research and meetings with relevant practitioners in, or working with, local and central government, and in the rail and water sectors. Information on international experience has been gathered by means of a questionnaire circulated to a number of overseas administrations and from other published material. Information on the development of Transport Asset Management Plans (TAMPs) in local government in England has come from a study conducted in parallel with CIPFA's work by Atkins Global on behalf of the Department for Transport. Information on developments in Scotland and Wales came from the relevant local and national government bodies. In the course of its own meetings the Project Steering Group had the benefit of presentations on the Atkins study, the development of SCANNER, Hertfordshire County Council's asset management planning system, and valuation of roads in Northern Ireland.

Representatives of the following organisations were interviewed/consulted during the fieldwork for the review: -

Communities and Local Government

Department for Regional Development (Northern Ireland) Roads Service

Department for Transport

H M Treasury

Hertfordshire County Council

Highways Agency

Kent County Council

Leicestershire County Council

Network Rail

Office of Rail Regulation/Office of the PPP Arbiter

Ofwat

Royal Institute of Chartered Surveyors

Scottish Executive

Scottish local government representatives

Strathclyde Partnership for Transport

Three Valleys Water

Transport Scotland

Transport for London

Welsh Assembly Government

Welsh LGA and Welsh local government representatives

Yorkshire Water

The project team has also kept in close touch with the CSS/TAG Asset Management Working Group. This is a joint group of the County Surveyors Society (CSS) and the (non-counties) Local Government Technical Advisers Group (TAG) and its members include representatives from local transport authorities across the UK, together with representatives of the national roads and transport agencies, the Department for Transport and HM Treasury. In addition to its role in providing the two guidance documents on asset management and valuation it has a wider role in supporting and monitoring the development of asset management for public sector transport infrastructure.

As recommended in the CSS/TAG guidance, most local authorities are now participating in regional groups, (national groups in the case of Scotland and Wales), so that authorities can work together in developing unit cost rates and approaches to data collection. Representatives of these groups attended a CIPFA review workshop in February 2007 to discuss valuation issues, to give us the benefit of their experience so

far, to identify areas where further work and guidance was needed and to look at some possible ways forward.

We have been able to draw on the experience and views of many individual highway authorities through CIPFA Commercial Services' Highways Asset Management Planning Network, which was established to help highway authorities to share experience and best practice in the development of asset management on the same lines as CIPFA's Property Asset Management Network. In particular the Network's last round of regional workshops in May 2007 included presentations/discussions on: the CIPFA review and potential recommendations on implementing asset valuation; the SECE project; and the Atkins review.

CIPFA are very grateful to all those who have contributed to the review, either directly or by responding to the consultation.

CSS/TAG GUIDANCE ON HIGHWAY INFRASTRUCTURE ASSET VALUATION

INTRODUCTION

This annex gives a high level summary of the key features of the approach to valuation of highway infrastructure that is set out in the Guidance Document produced by the County Surveyors Society/TAG Asset Management Working Group. The full document is available as a Stationery Office publication (ISBN 0 11 552695 1) or on-line.

BACKGROUND

The Guidance Document was published in July 2005 to provide guidance to local authorities on the valuation of highway assets. It is a companion document to the 'Framework for Highways Asset Management' published by the County Surveyors' Society (CSS) in 2004. Preparation of the Guidance Document was overseen by a steering group whose members included representatives of the CSS, the Local Government Technical Advisers Group (TAG) and H M Treasury, Department for Transport and the Scottish Executive. The project consultants were Atkins Global with PKF as accountancy advisers. The Guidance Document was endorsed prior to publication by the Treasury, Office of the Deputy Prime Minister, Department for Transport and the relevant professional bodies — CSS, TAG and the Society of Chief Officers of Transportation in Scotland (SCOTS). It is published by the UK Roads Liaison Group which brings together representatives of the four national governments and the relevant professional bodies to advise on roads infrastructure engineering and operational matters.

The purpose is to provide guidance that aligns valuation of highways infrastructure assets with financial and asset management requirements and provides a common framework for highways authorities across the UK. It covers all fixed assets, e.g. road pavements, footways, cycleways, structures, streetlighting, traffic and communications equipment and street furniture. The Guidance Document provides a step by step procedure that covers asset classification, data requirements, calculations of Gross Replacement Cost, depreciation and impairment, and reporting and monitoring of asset value. The approach is consistent with Financial Reporting Standard (FRS) 15.

VALUATION REGIME

The Guidance Document recommends that an authority should establish a valuation regime which, as a minimum, should include a full benchmark valuation every five years with annual adjustments to take account of changes to the asset stock and fluctuations in construction prices.

A SIX STEP PROCESS

The Guidance Document recommends that the process should consist of the following steps.

- 1 **Establish the principles, basis and rules for valuation.** These need to: - comply with relevant accounting standards; provide a true and fair current value of the assets, following the established accounting principles of reliability, comparability and materiality; reflect good engineering practice and support the right investment choices for maintenance, renewal and improvement works; support decision making and long term investment planning; be consistent with and contribute to the other asset management processes, including whole life costing; be relatively

straightforward and operate on data that is readily available or can be collected with marginal effort.

- 2 **Compile an asset inventory** that provides the base data for calculating values for all owned assets. These should be appropriately classified and grouped in accordance with the table at the end of this annex.
- 3 **Produce an initial value for the assets.** This involves deriving appropriate Unit Rates for the different asset groups and sub-groups. Then **calculate the Gross Replacement Cost** for each asset within a group or sub-group. Gross Replacement Cost (GRC) is the total admissible cost of replacing an asset as part of the existing highway network. The replacement asset should normally have a potential performance broadly similar to the existing asset but take account of up to date technology, i.e. it should be a Modern Equivalent Asset.
- 4 **Calculate the consumption of the assets.** This involves
 - (a) calculating in-year depreciation; and
 - (b) assessing in year impairment and calculating any loss in value.

Depreciation is defined as the systematic consumption of the economic benefits embodied in an asset over its service life arising from use, ageing, deterioration or obsolescence. Two different approaches can be used. The Conventional Method is used to depreciate individual assets or components over their life, normally using straight line depreciation. It is recommended for highway lighting, street furniture, off-highway drainage, traffic management systems and land. Renewals Accounting is used to depreciate groups of assets. It is recommended for roads, segregated footpaths and cycle routes, and for most structures, because these all form an integrated part of the highway network and meet the requirements set down in the relevant Financial Reporting Standard, FRS15. Under this approach the amount of expenditure required to maintain the level of service for the asset is treated as the depreciation charge. Thus if the authority actually spends this amount there will be no change in the Net Book Value.

Impairment is a reduction in Net Asset Value due to a sudden or unforeseen decrease in the condition and/or performance of an asset that has not already been accounted for through depreciation, e.g. where an asset is damaged by landslide. Impairment should also be calculated using either the Conventional Method or Renewals Accounting depending on whether one is dealing with individual assets or a network.

- 5 **Calculate the Depreciated Replacement Cost (DRC).** This involves:-
 - (a) on the introduction of the asset valuation regime, calculating the DRC by reducing the Gross Replacement Cost to reflect the current age, condition and performance of assets; and
 - (b) annual adjustments to the asset value to account for in-year depreciation and impairment.

The DRC is also referred to in the Guidance Document as the Net Book Value, Net Asset Value and Asset Value. To calculate the initial DRC it is necessary to know the current condition and performance of the assets. The condition and performance data are then used to assess the cost of work required to restore the assets to the full performance or as new condition. Such information is an essential component of asset management; but without asset management to provide consistent data covering all the asset types the calculation cannot be done.

- 6 **Prepare the Valuation Report.** This should be a stand alone document that presents the results of valuation with supporting information. It should act as the key supporting document to the highways infrastructure asset values reported in the Balance Sheet. It is recommended that it is produced annually. The Guidance gives a list of the information that should as a minimum be included in the report.

OTHER MATTERS

The Guidance Document provides more detailed advice on the implementation of the valuation process for each of the main asset types — roads, structures etc, as well as on matters such as heritage assets, assets under construction and the treatment of assets under a PFI scheme. It also provides some sample calculations and advice on the processes for deriving unit rates. It recommends that groups of authorities in an area should work together to develop local unit rates and to share experience and learning.

Finally the Guidance Document provides a model implementation plan which suggests the activities that authorities might undertake. This is spread across a three year period, which in summary involves:

- Year 1 – Interim asset valuation
- Year 2 – Undertake benchmark valuation and calculate the GRC and initial DRC for the end of this financial year.
- Year 3 - calculate in year movements including depreciation, impairment, indexation, additions and produce a Valuation Report for the year end.

There is also advice on IT systems and resource requirements.

CSS/TAG Classification of Highway Assets

Level 1: Asset Type	Level 2: Asset Group	Level 3: Components that Level 2 implicitly covers in valuation
Road	<ul style="list-style-type: none"> • Flexible pavements • Flexible composite pavements • Rigid concrete pavements • Rigid composite pavements 	<ul style="list-style-type: none"> • Pavement layers (formation, roadbase, binder course, surface course) • Other surface types e.g. paved • Hard strip/shoulder • Footway/cycleway attached to road • Central reservation, roundabout, lay-by etc. • Markings • Kerbs • Earthworks (embankments & cuttings) • Vegetation • Drainage • Safety fences • Boundary fences and hedges • Verges
Segregated footpaths and cycle routes	<ul style="list-style-type: none"> • Footpath (including PROW) • Bridleways (including PROW) • Off road cycle routes • Pedestrian areas 	<ul style="list-style-type: none"> • Binder course and surface course • Formation
Structures	<ul style="list-style-type: none"> • Bridges (includes subways) • Culverts (span < 1.5m) • Retaining walls • Sign/signal gantries and cantilever road signs 	All elements identified on the CSS inspection pro forma

Level 1: Asset Type	Level 2: Asset Group	Level 3: Components that Level 2 implicitly covers in valuation
	Other assets included in this group: <ul style="list-style-type: none"> • Tunnels • Structural earthworks, e.g. strengthened/reinforced soils • Fords and causeways • Cattle grids 	Should include all components considered in the maintenance and management of these assets. Smaller water carrying structures are considered as road drainage
Highway lighting and high mast lighting	<ul style="list-style-type: none"> • Lighting columns • Lighting unit attached to wall • High mast lighting 	<ul style="list-style-type: none"> • Column and foundations • Bracket • Luminaire (or other fixtures, e.g. CCTV) • Control gear, switching and internal wiring cabling (may depend on ownership)
Street furniture	<ul style="list-style-type: none"> • Town/city centre street/road • Suburban/village street/road • Rural road 	<ul style="list-style-type: none"> • Bus Shelters • Seating • Bins • Bollards • Marker Posts • Street name plates • Tree protection etc.
Traffic management	<ul style="list-style-type: none"> • Traffic signals • Pedestrian signals • Illuminated traffic signs • Non-illuminated traffic signs • Illuminated pedestrian signs • Non-illuminated pedestrian signs 	<ul style="list-style-type: none"> • Signal, column and foundation • Control equipment and cables • Bulbs • Sign, column and foundation • Control equipment and cables

Level 1: Asset Type	Level 2: Asset Group	Level 3: Components that Level 2 implicitly covers in valuation
	<ul style="list-style-type: none"> • Traffic calming • Communication systems 	<ul style="list-style-type: none"> • Speed bumps • Speed cameras • All components
Off-highway drainage	<ul style="list-style-type: none"> • Sustainable Urban Drainage Systems (SUDS) • Soakaways • Pumping stations 	All components
Land	<ul style="list-style-type: none"> • Freehold land • Rights land 	Features on the land are not taken into account in the valuation

* These assets are only included in highway infrastructure asset valuation where they are maintained as part of the highway infrastructure asset, e.g. surfaced Public Right of Way (PROW)

Level 1: Asset Types — broad categories based on the general function of the assets. They divide the asset base into categories that may be suitable for reporting in the financial statements and provide an appropriate basis for high level management information.

Level 2: Assets Groups — used to distinguish between assets that have a similar function and form. The asset groups should distinguish between assets that are likely to require different Unit Rates and Gross Replacement Cost models. Each asset group may need to be further divided into sub-groups if the Unit Rates are likely to vary significantly between assets in a group.

Level 3: Components — distinguishes between components that are likely to require different depreciation and impairment models, e.g. different service lives and/or rates of deterioration.

PASSENGER TRANSPORT EXECUTIVE ACCOUNTING PRACTICES

A brief review was undertaken of the accounts of the six English passenger transport executives to identify the types of transport infrastructure assets recognised and the methods by which the entities account for them. The following information was obtained from the 2005/06 accounts of the PTEs obtained from their websites, with the exception of Greater Manchester PTE for which the 2004/05 accounts were used.

Passenger Transport Executives own and operate a variety of different transport assets. Most have a form of light rail or tram system, although these are not always sufficiently within the control of the PTE to warrant inclusion in the consolidated accounts. The assets are generally held at depreciated historic cost, although most hold operational land and buildings at valuation, but it is not always clear from the financial statements whether buildings such as bus stations fall into the property or infrastructure category. Renewals accounting does not appear to be used, with the PTE instead adopting a conventional depreciation approach to their assets and capitalising expenditure only where it creates a new asset or improves an existing one beyond its original specification.

An issue that has yet to be resolved is whether Passenger Transport Authorities (PTAs) have a sufficient degree of control over their PTEs to warrant including them in their consolidated accounts. If they were to be consolidated, any change to the SORP accounting arrangements for infrastructure assets would mean that PTE transport infrastructure assets would need to be measured at current value, at least within the PTA consolidated accounts. The introduction of IFRS may have an impact on this area.

GREATER MANCHESTER PTE

Infrastructure assets recognised

The main infrastructure asset recognised is Metrolink, the light rail/tram system. The PTE is also responsible for meeting the costs of upgrading passenger transport facilities in its area, including rail and highway infrastructure. However, this expenditure is offset by grants and does not pass through the PTE's accounts (although it is recorded in memorandum form).

Measurement

The assets are measured at depreciated historic cost, with the exception of some land and buildings which are measured at valuation.

Accounting

All fixed assets except land are depreciated over their useful economic lives, as follows:

Freehold & Long leasehold buildings	40 to 50 years
Short leasehold buildings	over the lease term
Metrolink	30 years (except land)
Plant and Equipment	3 to 10 years
Vehicles held for operating leases	3 to 5 years

SOUTH YORKSHIRE PTE

Infrastructure assets recognised

The PTE itself recognises infrastructure assets in relation to the light rail system and park and ride facilities.

The accounts of Supertram Assets Ltd are consolidated into the PTE's accounts. Infrastructure assets of this company include rolling stock, trackbed and systems.

Measurement

Fixed assets are held at a combination of depreciated historic cost or current value. In the latter instance most assets are valued at depreciated replacement cost.

Accounting

Fixed assets are depreciated over their useful economic lives, as follows:

Buildings	40 years
Park & Ride	15 years
Operational Equipment	10 years
Route Equipment	10 years
Plant and Machinery	5 years

The infrastructure assets of Supertram are depreciated over 25 years

TYNE AND WEAR PTE

Infrastructure assets recognised

Assets recognised include the infrastructure for the Metro system, including the rolling stock, and plant and machinery, and also the Shields Ferry.

Measurement

Assets are held at depreciated historic cost or where the assets were transferred to the PTE, the transfer value adjusted for subsequent depreciation.

Accounting

Fixed assets are depreciated over their useful economic lives, as follows:

Infrastructure	30-50 years
Freehold Buildings	40 years
Rail Cars	30 years
Vehicles	5-10 years
Marine vessels	20-30 years
Plant and equipment	5-50 years
Public use assets	10-30 years

WEST YORKSHIRE PTE

Infrastructure assets recognised

The leased rail rolling stock is recognised as a fixed asset. Rail infrastructure assets are not recognised, apparently due to the lack of any legal or ownership rights in respect of the assets.

Capital expenditure to date in respect of the Supertram project had been capitalised but was written-out to revenue in 2005/06 following the cancellation of the scheme.

Measurement

Leased rolling stock appears to be measured in accordance with SSAP 21 i.e. Historic Cost/Fair Value less accumulated depreciation.

Accounting

Assets are depreciated over their useful economic lives as follows:

Freehold and Long Leasehold Buildings	between 5 and 50 years
On-street Furniture and Infrastructure	20 years
Rail Units Leased	10 years
Vehicles	Between 4 and 16 years
Plant and Equipment	Between 5 and 10 years

Expenditure on the rail infrastructure is simply expensed to revenue.

WEST MIDLANDS PTE

Infrastructure assets recognised

Infrastructure assets recognised comprise mainly the light rail system — Midlands Metro, including the underlying land. Both the accounting policy note and the tangible fixed assets note indicate that the Trams for the system which are leased are recognised as finance leases (although the operating leases note to the accounts seems to contradict this).

Measurement

The Midland Metro Infrastructure is held at depreciated historic cost. All other assets are held at either open market value (existing use) or in the case of specialised assets depreciated replacement cost.

Accounting

Assets are depreciated on a straight-line basis over their useful economic lives, as follows:

Freehold Buildings	10-40 years
Leasehold land and buildings	40 years (or period of lease)
Miscellaneous Equipment	3-5 years
Midland Metro	
Land	not depreciated
Line 1	23 years (life of the DBO contract)
Other	30 years

Land is not depreciated

The notes to the accounts indicate that the Trams for the Metro system are on 20 year finance leases, and so under UK GAAP should be depreciated over this period, although this seems to be inconsistent with the lives stated above.

MERSEYSIDE PTE

Infrastructure assets recognised

The assets recognised include several bus stations, several bus turning circles, two rail stations, three ferry terminals and three ferries.

Measurement

The assets are revalued at five-year intervals. The majority of assets are specialised and valued on the basis of depreciated replacement cost. The accounts also note that infrastructure assets are held at depreciated historic cost, but the tangible fixed assets note does not separately identify this as an asset class and there is no other indication in the accounts as to which assets fall within this definition.

Accounting

Assets are depreciated on a straight-line basis of their useful economic lives as follows:

Freehold and Leasehold Buildings	
- Various turning circles	8-15
- Various bus stations	31-40
- Various ferry buildings etc	16-51
- Other buildings	27-41
Vessels	10-19
Passenger Vehicles	10
Vehicles	5

ACCOUNTING FOR TRANSPORT INFRASTRUCTURE ASSETS IN THE UK

LOCAL GOVERNMENT

Infrastructure assets recognised

The CIPFA local authority SORP does not define which assets should be considered as infrastructure assets. Experience from the project fieldwork indicates that transport infrastructure assets held by local authorities generally include:

- Highways, including road pavement, structures and associated elements such as footways, embankments and retaining walls
- Urban transport systems such as sub-surface railways, Light Rail and Tramways

Measurement

The Local Authority SORP does not permit the use of current values for infrastructure assets, and requires instead that they be measured on the basis of depreciated historical cost. However, in practice the historic cost used as the starting point is an aggregate of two different measures, depending on whether the infrastructure assets were acquired before or after the introduction of the current capital accounting arrangements in 1994/95:

- For assets acquired before 1 April 1994, the depreciated historical cost was crystallised as the carrying amount at 31 March 1994. That value represented the 'net capital outlay' under the capital finance regime and was effectively the value of outstanding loans used to finance the assets. This value was unrelated to the either the gross historic cost of the assets or the cumulative consumption of the assets.
- For assets acquired on or after 1 April 1994, the gross historic cost is simply the capital expenditure incurred on the assets.

Accounting

The SORP states that definable major assets or components within an infrastructure system should be separated out and depreciated over their useful economic lives.

For the remaining assets within the system, renewals accounting can be used to estimate depreciation as follows:

- The infrastructure asset is a system or network that as a whole is intended to be maintained at a specified level of service potential by the continuing replacement and refurbishment of its components; and
- the level of annual expenditure required to maintain the operating capacity (or service capability) of the infrastructure asset is calculated from the asset management plan that is certified by a person who is appropriately qualified; and
- the system is in a mature or steady state.

CENTRAL GOVERNMENT BODIES

The Treasury's Government Financial Reporting Manual (FReM) prescribes the accounting for Government and other public bodies to which it applies. As discussed elsewhere in the main report, the current UK GAAP-based treatment of roads assets is being changed from the start of 2009/10 to make it IFRS compliant. The following describes the approach adopted at present:

'Renewals accounting as currently applied to roads is an adaptation of FRS15. The relevant authorities have determined that renewals accounting as set out in FRS15 shall be used as a method of estimating depreciation for infrastructure assets, even where entities do not calculate the level of annual maintenance expenditure by reference to an asset management plan.

The road network is carried on the balance sheet at current replacement cost, adjusted to reflect the condition of the network. A full valuation of the network shall be undertaken at least every five years, supplemented by annual condition surveys. The condition surveys must be undertaken on a consistent basis and cover a significant and representative proportion of the road network. All renewals expenditure should be charged to the operating cost statement. If a condition survey reveals that the network has been maintained in a steady state since the previous survey, then no depreciation charge is required. However, if the condition of the network has deteriorated/improved between condition surveys, the value of the deterioration/improvement, if material, should be charged/credited to the operating cost statement and the carrying value of the assets adjusted accordingly.

In the years between the full valuations, the value of the network should be adjusted to reflect:

- a) movements in prices using appropriate published indices;
- b) any expenditure on new schemes or enhancements which increase the capacity of the network;
- c) detrunkings.'

Despite the standard approach set out in the FReM, each of the central government highways agencies in the UK has adopted slightly different approaches to valuing and accounting for their roads assets.

HIGHWAYS AGENCY (ENGLAND)

Infrastructure assets recognised

The infrastructure network assets that are recognised comprise carriageways, including earthworks, tunnelling and road pavements, roadside communications, bridges and other structures and land and buildings within the highway's perimeter.

Measurement

The network infrastructure is valued at depreciated replacement cost, derived by a full valuation every 5 years. The most recent was performed in 2004/05 by external consultants but using the Agency's unit costings and asset records.

Between valuations, indexation is applied to roads and structures using the Resource Cost Index of Road Construction (ROCOS) published by DTI.

Land within the highway perimeter is valued using standard carriageway widths. A distinction is made between urban and rural land. Between the five-yearly valuations, land values are indexed in accordance with Valuation Office indices.

Certain large structures are valued on the basis of indexed historic cost or insurance valuations.

Accounting

A combination of FReM renewals accounting and conventional depreciation is used for network assets.

Renewals accounting is applied to:

- the surface layer of flexible pavements
- sub-pavement layers of determinate life pavements
- Rigid concrete pavements
- Fencing
- Drainage
- Lighting
- Signage
- Kerbs
- Footways
- Road markings and studs

These assets are not depreciated, but an assertion of steady state is made. The actual expenditure on these assets is charged to the revenue account.

Conventional depreciation is applied to the following assets, with economic lives of between 20 and 120 years.

- Road bridges
- Tunnels
- Underpasses
- Culverts
- Retaining walls
- Gantries

In addition, road communications assets are depreciated over their economic lives of between 15 and 50 years.

Actual expenditure on network structures and road communications is capitalised where it restores the service potential or enhances the asset beyond its original specification. Other expenditure on these assets is charged to the revenue account.

Certain assets are not depreciated as they are considered to have an indefinite life:

- Freehold land;
- The sub-pavement layer of long life pavements; and
- Earthworks.

NORTHERN IRELAND ROADS SERVICE

Infrastructure assets recognised

The assets recognised include the motorway, trunk and non-trunk network, comprising roads, structures, communications, lighting etc.

Measurement

The network is valued on the basis of the 'new build cost' or gross replacement cost, which is then adjusted to take account of the current condition to arrive at a depreciated replacement cost.

The valuation is determined using unit rates which are composite rates taken from previous projects. These past project costs are rebased to current values using the Baxter Formula, which the roads service has determined is the most appropriate approach. Where data from projects is limited, data from Transport Scotland is used to fill the gaps.

The composite rates for particular road types include the cost of:

- road interchanges
- drainage
- fencing
- lighting
- signs
- culverts <2m diameter
- retaining walls <1m in height

For roads classified as motorways or A-roads, the gross value is calculated based on:

- road length
- road width
- number of lanes
- design standard
- construction type

Road length and width is obtained from the Roads Maintenance System. The road width is compared with standard design widths to categorise the roads into sub-types e.g. single carriageway, dual carriageway. Standard unit rates per km for each type are then applied to the road length to determine the gross value.

For other classifications of roads, the actual areas are obtained from the Roads Maintenance System, and the unit rates applied.

Land underlying roads is classified between urban and rural (for Belfast: City Centre, Inner City and Outer City) and separately valued on the basis of adjoining land value.

Accounting

The road network is not depreciated, and instead the Income and Expenditure account is charged each year with the full value of the maintenance expenditure each year required to maintain the network in a steady-state. An exception to this is the A2 Coastal Road, which due to the difficult terrain along which it is constructed is treated as a separate asset for its entire length.

Other infrastructure assets are depreciated over their useful economic lives as follows:

- Bridges 120 years
- Bridges (non-arch) 300 years

- Retaining walls >1m height 120 years
- Gantries 120 years
- Special structures individually assessed
- Communications individually assessed

TRANSPORT SCOTLAND

Infrastructure assets recognised

Transport Scotland are responsible for Trunk roads and motorways, comprising the carriageway and all associated structures.

Measurement

The roads are measured on the basis of depreciated replacement cost. The valuation includes all elements related to the roads e.g. embankments, retaining walls, together with roundabouts and slip roads. The unit costs used are derived using data from a basket of new construction schemes during the last 25 years. These rates are 'all-inclusive', and the asset is then valued based on the length of the roads. The asset value is then adjusted to reflect condition to arrive at a depreciated replacement cost.

Land under the roads is included, valued at alternative use value, reflecting the adjacent land.

Accounting

Expenditure that creates new assets or improves the specification of existing assets is capitalised. Other expenditure on the assets is expensed to revenue.

Annual movements in the DRC due to changes in the road condition are reflected in the revenue account.

Structures and communications equipment are depreciated on a straight line basis of between 120 and 20 years.

WELSH ASSEMBLY GOVERNMENT

Infrastructure assets recognised

The assets recognised include road pavement, footways, structures and the underlying land.

Measurement

The assets are measured on the basis of depreciated replacement cost. WAG has developed a computer model to estimate the value of the roads network using all-inclusive rates. The DRC is calculated from condition data.

Accounting

The annual depreciation credited against the asset carrying value comprises three elements:

- The annual maintenance charge for maintaining the assets
- An estimate of the permanent deterioration in the network's condition, based on the computer modelling and using latest condition data
- Calculated depreciation of the structures

The accounting treatment for the annual maintenance charge element is unusual. The annual maintenance costs are charged (debited) to operating expenses when the costs are incurred. However, the charge is also used as an estimate of depreciation and, as noted above, is included in the depreciation amount credited against the asset carrying value. The corresponding debit entry cannot be taken to operating expenses, as this would double-count the cost in revenue. Consequently, the debit entry is added onto the GRC of the asset as an upward revaluation.

The depreciation charges arising from the estimate of permanent deterioration in the asset and from depreciation of the structures are charged to operating expenses in the normal manner. Structures comprise items such as bridges, culverts, retaining walls etc and are depreciated over the expected lives. A degree of component depreciation is applied, in respect of bridges where the main structure is depreciated over typically 100 years, but the road surface on top of them is depreciated over 20 years.

Expenditure on the assets is capitalised where it represents new assets or an enhancement of the existing assets.'

CONSISTENCY OF AN ASSET MANAGEMENT PLAN BASED APPROACH WITH IFRS REQUIREMENTS

The international accounting standard that deals with fixed assets is IAS 16 'Property, Plant and Equipment'. IAS 16 adopts a similar approach to fixed assets as UK GAAP. However, a significant difference is that the international standard does not contain provisions in respect of renewals accounting.

CONVENTIONAL DEPRECIATION V. RENEWALS

The purpose of depreciation is to charge the cost or value of a fixed asset to revenue expenditure in a manner consistent with the consumption of that asset. Although it has a direct impact on the value of the asset, that effect is secondary, as an asset's value is also governed through valuations (where used) and impairments.

Conventional approach

Under a conventional depreciation approach, the amount of the cost/value to be depreciated is known as the 'depreciable amount' which is the cost/value less any residual value of the asset which can be realised on disposal. For plant and equipment, this residual value is often nil or scrap value. For buildings, the residual value may be significant. Land is usually considered to have an infinite useful life and thus is not normally depreciated.

The allocation of this depreciation over the useful economic life should reflect the manner in which the economic benefits of the asset are consumed. In practice, a straight-line approach is often adopted whereby equal amounts are allocated to each period.

Renewals approach

UK GAAP contains specific provisions in respect of renewals accounting which can be used where an entity has a network or infrastructure system. Major components in the system with determinable finite lives should be separately identified and depreciated. For the remaining components in the network or system, renewals accounting can be used as a method of estimating depreciation provided that;

- The infrastructure asset as a whole is intended to be maintained at a specified level of services potential by the continuing replacement and refurbishment of its components;
- The level of annual expenditure required to maintain the operating capacity (or service capability) is calculated from an asset management plan that is certified by a person who is appropriately qualified and independent; and
- The system or network is in a mature or steady state.

In this circumstance, the estimated required annual expenditure from the AMP is charged as depreciation and deducted from the carrying amount of the asset (as part of the accumulated depreciation) The actual expenditure incurred each year is then capitalised as part of the cost of the asset. The accounting entries are therefore:

Dr	Revenue Expenditure	£x
Cr	Fixed Asset	£x

To record the depreciation charge against the asset value, with the cost being charged to revenue expenditure.

And

Dr	Fixed Asset	£y
Cr	Cash	£y

To capitalise the actual expenditure incurred on the asset.

From this it can be seen that if the amount actually spent is less than that required, the asset will suffer a net fall in value, reflecting the deterioration of its condition. Similarly, if the amount spent is greater, then a net increase in the asset value will occur, to reflect an increase in its condition.

The difference in accounting — an example:

At the start of the 40 year period covered by the Asset Management Plan, a road has a Gross Replacement Cost of £2,000,000. However, the surface and binder courses ('top layers') are worn out which results in a Depreciated Replacement Cost of £1,500,000 representing the £500,000 cost of reinstatement of these layers. The AMP includes £500,000 expenditure on the replacement of the top layers in year 1 to bring the value back to the £2m amount. Without the year 1 expenditure, the existing road layers would have a useful life of 30 years. The expenditure in year 1 has the effect of increasing the useful life of the existing road to 60 years. The top layers have an estimated useful life of 20 years, and therefore the AMP anticipates a further £500,000 to be spent in year 21 to renew these elements.

Conventional depreciation — whole asset

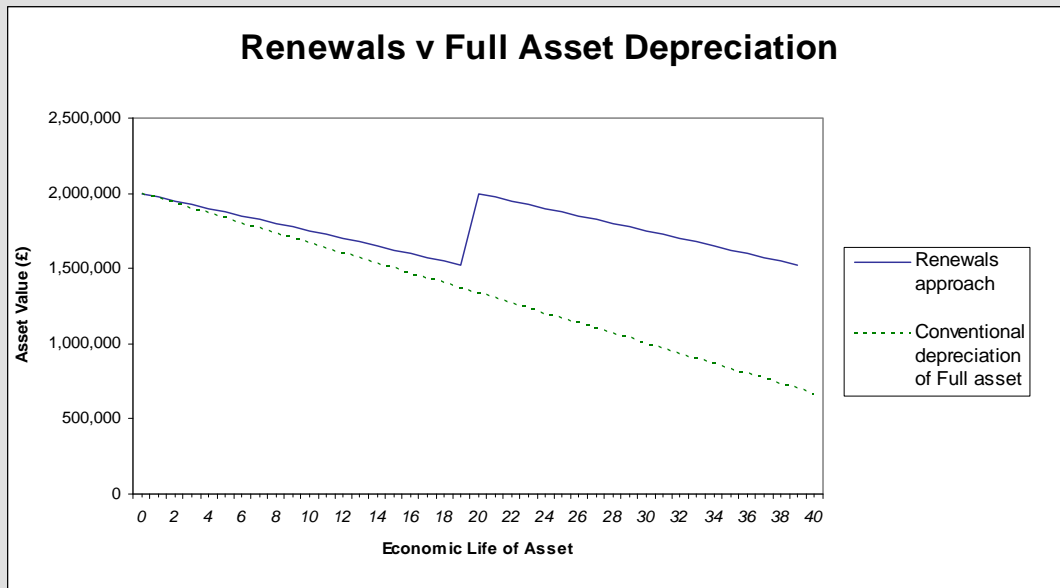
The year 1 expenditure is capitalised and the whole asset value depreciated over the following 60 year period. The expenditure in year 21 to renew the top layers is not capitalised as this simply restores the asset to the condition anticipated by the useful economic life (60 years) assumed in the depreciation policy.

Renewals accounting:

A The amount of depreciation charged is the annual estimate amount of expenditure required to keep the asset in a 'steady state' condition as recorded in the AMP. This annual expenditure can be calculated as the total AMP expenditure for that asset divided by the period covered by the AMP i.e.
 $(2 \times £500,000) / 40 \text{ years} = £25,000 \text{ per annum.}$

B The actual expenditure incurred on the asset in years 1 and 21 is capitalised.

The graph below contrasts the results that the two approaches generate (the initial capital expenditure is assumed to occur at the start of year 1 and is included in the opening asset value but not separately identified).



It can be seen that under conventional depreciation, the results are not vastly dissimilar initially, but once further capital works occur, the gap widens.

Under conventional depreciation, a total of £1.333m depreciation is provided against the asset and charged to the revenue account in this period. The £500,000 reinstatement costs in year 21 are also charged to revenue rather than being capitalised. At the end of year 40, the asset has a DRC of £666k.

Under renewals accounting, a total of £1.0m depreciation is provided and charged to revenue in this period. At the end of year 40, the asset has a DRC of £1.5m.

Thus it can be seen that conventional depreciation and renewals accounting can generate substantially different revenue charges and asset values.

It can be argued, however, that applying conventional depreciation to the whole of the road asset does not reflect the underlying pattern of consumption of the asset. Instead, it may be more appropriate to consider separately the individual components of a road and the periods over which they are 'used-up'. This is consistent with the component depreciation approach in both IAS 16 and UK GAAP.

WHAT DO WE MEAN BY 'COMPONENTS'?

IAS 16 requires that where an asset can be broken down into identifiable components with different useful lives, then these components should be accounted for separately:

- 43 Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item shall be depreciated separately.
- 44 An entity allocates the amount initially recognised in respect of an item of property, plant and equipment to its significant parts and depreciates separately each such part.

For practical purposes, where one or more components, can be separately identified, but have the same useful economic lives, then they may be grouped together for depreciation purposes.

An example of a component approach to depreciation is an office building with integrated plant and equipment e.g. lifts. The building itself may have a life of 50 years, but the lifts require overhaul or replacement every 15 years. Each element is therefore depreciated over its respective life. When the lifts are overhauled or replaced after 15 years, the cost of this work can be capitalised and this is then depreciated over the expected economic life, for example another 15 years. Where routine maintenance is performed which keeps the asset in the condition assumed by the depreciation policy, this cost is expensed rather than capitalised. This has important implications if a component approach is not adopted. Thus if the whole asset is depreciated over the 50 years, then this assumes that the lifts will last for this period, and thus the lift overhaul/replacement expenditure at 15 year intervals cannot be capitalised but must instead be expensed.

For highway infrastructure assets, components can be identified in a number of ways. At the simplest level, this would be to split the infrastructure between the types of assets, for example the CSS/TAG document identifies the following general types (described as Level 1 in the document):

- Roads
- Segregated footpaths and cycle routes
- Structures
- Highway lighting and high mast lighting
- Street furniture
- Traffic management
- Off-highway drainage
- Land

Each type may be capable of separation into smaller components. However, for the purposes of the accounting requirements, we need only concern ourselves with components that are significant i.e. those which have a material asset value and/or generate material depreciation charges.

ROADS

The road pavement comprises generally four layers which, from top to bottom, are:

- Surface Course
- Binder Course
- Base Course
- Roadbase

The surface course is the element that is subject to the greatest wear and tear and has a limited useful life. From discussions with highways practitioners, a typical estimate of the life of a surface course is in the region of 20 years, as used in the example earlier in this document, although this can and does vary depending on e.g. traffic and climate conditions.

The next layer is the binder course, which can suffer a significant degree of deterioration depending on factors such as the traffic it carries e.g. number and weight of vehicles, and its location, e.g. urban roads are generally dug-up by utility companies more frequently than rural roads and the cumulative effect reduces the useful life of the binder course.

Finally, according to highway practitioners, in most cases the lower layers of the road rarely, if ever, need replacement and renewal. Provided that the layers above them are adequately maintained, the lower layers can be said to have an indefinite life. In this context 'adequate' means sufficient to prevent deterioration of the lower layers rather than a measure of the quality of the upper road surface. However, there are exceptions to this, e.g. roads constructed before 1970 on weak ground, such as in peat areas or estuarine flood planes, where sub bases may also need to be replaced.

USEFUL ECONOMIC LIVES

IAS 16 requires an asset's 'depreciable amount' to be allocated on a systematic basis over its useful life. Importantly, the depreciable amount is not necessarily the whole carrying value of the asset but is instead the carrying value less the estimated residual value of the asset.

For most assets, the residual value is usually not significant and thus the whole carrying value is depreciated. However, where the residual value is significant, then the depreciable amount is also significantly reduced.

Taken to the extreme, where the residual value is equal to or greater than the carrying value, then no depreciation is chargeable. This is generally the situation with land, which is assumed to retain its value, and thus the standard notes that, with some exceptions, land has an unlimited useful life and therefore is not depreciable.

This principle is significant when considering the depreciable amount for roads. As described above, in many cases the lower layers of a road can be considered to have indefinite lives provided that the upper layers are maintained to an adequate standard. In those cases the value of the road attributable to these layers would be non-depreciable. This also reflects the actual approach taken by highway engineers to the maintenance of roads. Where lower layers do not have indefinite lives, approaches to depreciation will need to reflect these local circumstances.

IDENTIFYING THE VALUE OF THE LAYERS

The CSS/TAG approach requires the GRC to be based on the full cost of providing a new road, calculated using Unit Costs derived from contracts for new construction. It thus incorporates the cost of building the lower layers of roads.

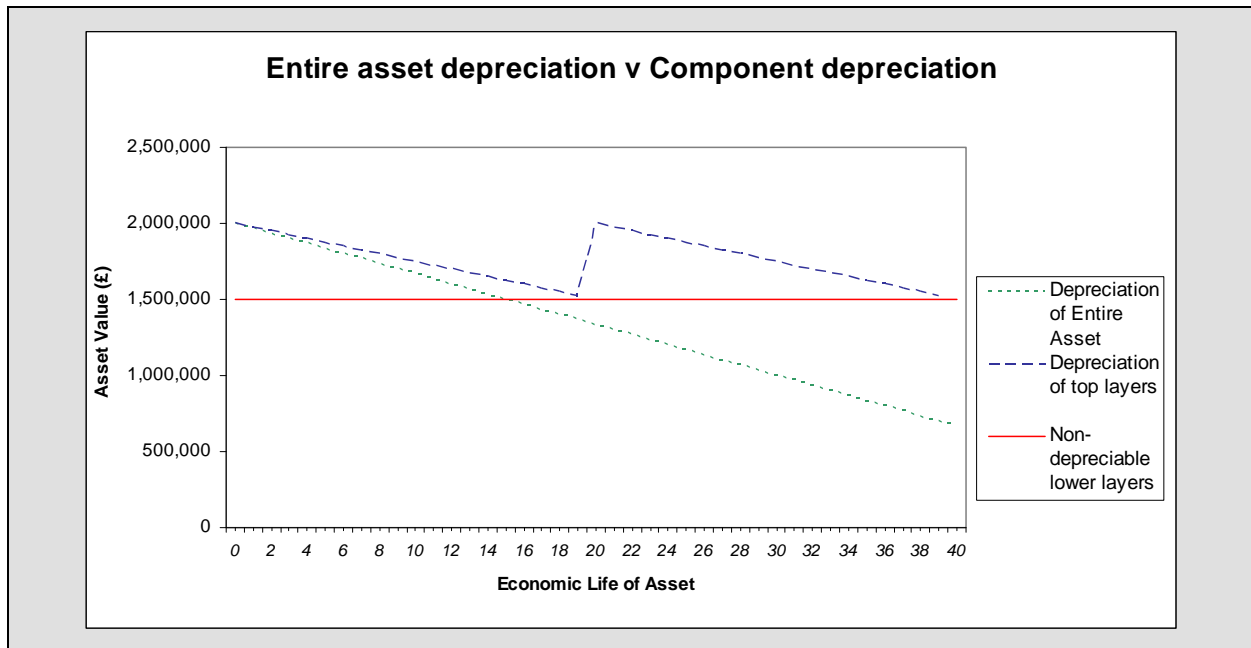
The amounts included within the Asset Management Plan reflect the replacement cost of the road layers that wear out i.e. the depreciating elements. These costs are also derived from Unit Costs, but typically these are unit costs from maintenance — rather than new build — contracts or in-house scale costs. These lower rates reflect the lower cost associated with simply replacing the upper layers rather than building the entire road from new.

The asset value of the upper layers is therefore the replacement cost of these layers as identified in the AMP. The value of lower layers is then simply the GRC less this amount.

Applying this approach to the example from earlier in the Annex, the GRC of £2m is split between the replacement cost of the upper layers — £500,000 and the £1.5m representing the replacement cost of the lower layers.

Applying component depreciation, the £1.5m lower layers retain an indefinite life (on the assumption that the top layers are replaced as necessary) and thus no depreciation is applied to this component. By contrast, the top layers are depreciated over their estimated useful life of 20 years.

The graph below shows the effect of this, with the component approach represented by the two lines for the top and lower layers and compared with the 'entire asset depreciation' shown earlier.



It can be seen that the asset value profile and depreciation amounts generated by a component depreciation approach are identical to those generated by the 'renewals approach' in the earlier example.

If the expenditure to replace the top layers at year 21 is not incurred, then the lower layers may start to deteriorate. Depreciation would therefore then need to be applied to these lower layers, representing the expected consumption of this part of the asset up to the time when work is expected to be carried out to restore it.

UNEXPECTED EARLY REPLACEMENT OF SURFACE

Where evidence e.g. from surveying, reveals that a particular road is in need of resurfacing earlier than originally predicted, an adjustment to the carrying value and depreciation amounts will be necessary.

Where the top layers are to be replaced immediately:

- their remaining value should be impaired to zero to reflect the fact that the surface no longer has a useful life. This will require a calculation but should represent the replacement cost written-out e.g. if the assumed life was 20 years but replacement was required after 15 years the value to be written out would be approximately:

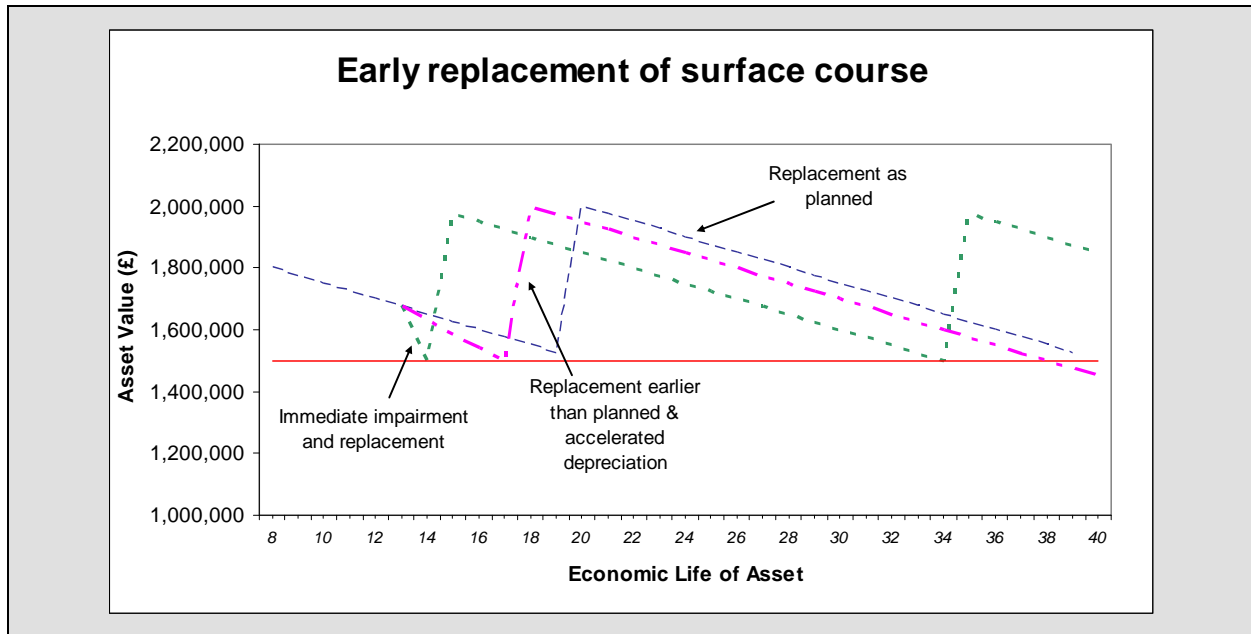
Replacement Cost of components x (5 / 20)

- the subsequent expenditure on resurfacing should be capitalised and the new surface component then depreciated over its expected economic useful life. This may be different to that estimated for the original asset if the early replacement was due, for example, to changes in traffic conditions.

Where the surface course is not planned to be resurfaced immediately, but nevertheless earlier than planned:

- its remaining useful life is revised and the asset value for the component is depreciated over this shorter life ('accelerated depreciation').
- as above, the subsequent expenditure would be capitalised and depreciated over its expected economic life.

These scenarios can be seen in the graph below.



CONCLUSION

Road asset valuation and depreciation based on amounts derived from an Asset Management Plan approach appears to be consistent with a component depreciation approach under IAS 16 in the following circumstance:

- The road can be sub-divided into its various layers, which can be shown either to have an indefinite life, where upper layers are maintained to an appropriate standard or to be subject to deterioration.
- The AMP includes amounts that reflect the replacement cost of the layers that do not have an indefinite life and therefore allows identification of the proportion of the overall asset value attributable to those layers
- The required annual expenditure on maintaining the deteriorating layers in the condition assumed in the plan is calculated as the replacement cost of these layers divided by the economic useful lives of these layers.
- The approach is applied at the level of individual roads rather than for the whole network.
- In the event that the above assumptions do not hold true, for example because the top layers are wearing faster than predicted or they are not replaced in accordance with the AMP so that the lower levels start to deteriorate, then adjustments will need to be made to the asset lives and/or impairments recognised. These amounts will have to be calculated separately for the individual assets.

SURVEY METHODS FOR ASSESSING THE CONDITION OF ROADS

There are essentially four methods that are commonly used to identify the condition of roads:

- High speed surveys (SCANNER)
- Deflectograph surveys
- Coarse Visual Inspection
- Detailed Visual Inspection

SCANNER/TRACS/RAV HIGH SPEED SURVEY

SCANNER is a survey method that measures the surface condition of the road and is performed using a specially equipped vehicle moving at normal road speed. The equipment captures the surface condition through sensors to detect cracks and to measure road feature such as surface texture, road geometry and visible defects.

The advantages of the survey are that a large proportion of the network can be measured in a relatively short period of time and that it is considered within the industry to be robust and to provide repeatable results. The surveys are performed by private companies and therefore authorities do not need to own the vehicles themselves. The disadvantages are that due to the vehicle's size, the method is only really suitable for A, B and C roads, and also that due to the considerable cost of the equipping the vehicles there are currently few in the UK.

DEFLECTOGRAPH SURVEYS

This approach involves the use of a special vehicle travelling at low speed which exerts a known force on the road surface and uses sensors to measure the extent to which the road is deflected by the weight. From this the integrity of the road structure is evaluated. Due to the size of the vehicle, deflectograph surveys are really only suitable for A and B classification roads and have largely been superseded in recent years by SCANNER for local roads.

COARSE VISUAL INSPECTION (CVI)

This is a visual inspection technique performed from a slow speed vehicle with a suitably trained individual recording the details of road surface condition. The advantage of this approach is that it is relatively inexpensive and the use of a vehicle allows a significant amount of the network to be surveyed. However, there is scepticism within the industry that CVIs can provide repeatable results, due to the limitations of observing from the vehicle, leading in turn to a significant risk of condition features being missed.

DETAILED VISUAL INSPECTION (DVI)

This visual inspection technique involves suitably trained individuals walking the roads and recording the defects found. It is considered to provide greater repeatability of results than a CVI as the walking pace at which it is carried out means that defects should be less likely to be missed.

The key disadvantages of DVI are that it is labour-intensive and therefore potentially costly, and that there are risks arising from individuals being exposed to road traffic, particularly in rural roads with no footways. For these reasons, DVI has been superseded by CVI in most authorities.

PRACTICAL EXAMPLES

To date, very few local authorities have prepared a depreciated replacement cost value for their road network. Two that have are Leicestershire County Council and Hertfordshire County Council:

Leicestershire CC

Leicestershire use SCANNER to survey all of their A and B roads and 50% of their C roads each year. They survey 25% of their unclassified roads each year, using walked CVI, thus achieving full coverage over a rolling 4-year period. In applying CVI, they employ temporary staff with appropriate supervision, which enables them to manage the cost of a walked CVI approach. The Authority monitors the work through sample re-inspections and is satisfied with the quality and consistency of the results obtained — in part this is due to the fact that often the same temporary staff are employed from one year to the next.

Hertfordshire CC

Hertfordshire use SCANNER to survey each year all of their A and B classification roads and much of their C classification roads which are generally quite wide and therefore capable of accommodating the vehicles. They survey the remainder of their C classification and all unclassified roads each year using CVI. They also use CVI on a sample of their A and B roads, to compare with the SCANNER results and act as quality check on the CVI results as a whole. However, the variability of the CVI approach can produce significant year-on-year movements in the condition measurement and consequently on the DRC. DVI methods are used for the footways.

In both examples, the surveys provide data on the extent to which the roads are in 'less than new' condition. The cost of restoring the assets to new condition are then determined using maintenance unit costs, and this cost is then deducted from the GRC to produce the depreciated replacement cost value.

INTERNATIONAL EXPERIENCE — RESULTS OF THE SURVEY QUESTIONNAIRE

AUSTRALIA

Australian Federal and State governments have adopted International Financial Reporting Standards, although the former does not have any infrastructure assets.

The Victoria State Government has two companies that deal with the road and rail infrastructure — VicRoads and VicTrack.

VicRoads

Infrastructure assets recognised

Within VicRoads accounts, the infrastructure assets encompass 'Victoria's declared road network and include road pavements, earthworks, bridges, traffic control systems and sound barriers'. The land underlying the roads is not recognised in the balance sheet. The reason is cited in the financial statements: 'A number of practitioners and members of the valuation profession have expressed concern as to whether land under roads can be reliably measured. In view of this uncertainty, the Corporation has not valued roads and recognised these assets in the 'Balance Sheet'.'

Measurement

The assets are valued at 'fair value', which is based on the current replacement cost of equivalent assets capable of providing the same service level as the existing assets and is written-down to take account of the expired service life. The assets are formally revalued by external engineers every 3 years and assessed annually in the intervening years, applying indexation or a full revaluation to ensure that the carrying values remain consistent with their fair values. All assets are assessed annually for impairment.

Accounting

A component approach to depreciation is adopted, with the following assets lives:

- Road pavement 60 years
- Sound barriers 30 to 90 years
- Bridges 90 years
- Traffic control systems 15 to 24 years

Earthworks and earth mound barriers are determined to have an infinite useful life and therefore are not depreciated.

VicTrack

Infrastructure assets recognised

The accounting policies to the financial statements do not explicitly state which assets are included within the definition of infrastructure assets, but from a reading of the surrounding commentary and the analysis of movements in fixed assets, they would appear to include track, signals and communications, buildings and structures and rail corridor land.

Measurement

Infrastructure assets (except land) are measured at depreciated historic cost. Where such assets were inherited by VicTrack, the transfer value has been taken as the deemed cost. Infrastructure assets leased to train operators continue to be recognised by VicTrack and improvements to the assets by the lessees are also recognised in the balance sheet of VicTrack, at cost.

Rail corridor land is based on the assessed market value of the land i.e. the value of the land were it to be sold to the adjoining landowners, net of the costs of selling the land.

Accounting

A component approach to depreciation is adopted, with the following assets lives:

- Buildings and structures 20 to 60 years
- Track 20 to 50 years
- Signals and communication 3 to 50 years

Rail corridor land is not depreciated but is subject to periodic revaluation to ensure that the carrying value does not differ materially from the fair value. Revaluation gains and losses within a class of assets are offset against each other. Revaluation gains are taken to the revaluation reserve except to the extent that they reverse a similar class loss recognised in the revenue account, in which circumstance that amount is credited to revenue. Revaluation losses are recognised in the revaluation reserve to the extent that there is an available balance for this class of asset, and thereafter recognised in the revenue account.

CANADA

In Canada, the central and provincial governments have previously not recorded tangible fixed assets in their balance sheets. PS 3150 'Tangible Capital Assets' issued by the Canadian Institute of Chartered Accountants (CICA) has recently been revised, for implementation from 2009.

Treasury Board of Canada accounting standards (TBASs) set capitalisation thresholds and useful economic lives.

Provincial Government

Infrastructure assets to be recognised

These generally include roads, transit systems, water and sewerage networks along with forestry, parks and waste collection and disposal. The roads assets themselves include the pavement, bridges, culverts, traffic management, street lighting and footways.

Measurement

Not currently included on the balance sheet, but CICA PS 3150 will bring them on and measured at fair value. How the fair value is determined is for the judgement of individual bodies, but methods being considered include depreciated replacement cost (gross replacement cost adjusted for condition) or using a deflated replacement cost methodology i.e. current discounted cost of future replacement of the asset.

For newly purchased or constructed assets, the cost is deemed to equate to fair value. The costs that can be capitalised include direct construction costs such as materials and labour and direct overheads, but can also include technical and administrative work prior to and during construction.

The standard notes that where assets form part of a complex network they may represent a number of components. It is for the individual body to decide whether to record and account for each individual components separately, taking into account the usefulness of the information and the cost and benefit of collecting and maintaining the data.

Accounting

PS 3150 requires that assets the cost/value of assets (less and residual value) is amortised over their useful economic lives. Land is normally not amortised. The standard notes that this amortisation should match the consumption of the asset and need not be a straight-line basis. There are no specific provisions in respect of accounting for infrastructure assets or renewals accounting.

USA

State and local governments

Accounting standards for State and local governments within the USA are issued by the Government Accounting Standards Board. The GASB, together with its private sector counterpart the Financial Accounting Standards Board (FASB) operates under the oversight of the Financial Accounting Federation (FAF). The GASB standards are not mandatory, but many state and local governments appear to have adopted them.

Infrastructure assets recognised

The main standard — which includes within its scope tangible fixed assets — is GASB 34 'Basic Financial Statements-and Management's Discussion and Analysis-for State and Local Governments'. GASB 34 notes that:

'Infrastructure assets are 'long-lived capital assets that normally are stationary in nature and normally can be preserved for a significantly greater number of years than most capital assets'.'

It notes that these include 'roads, bridges, tunnels, drainage systems, water and sewer systems, dams, and lighting systems'.

Measurement and accounting

Under the standard, two accounting approaches are permitted. The main approach is to depreciate assets over their useful economic lives.

Alternatively, under the 'Modified Approach' infrastructure assets that are part of a network or of a sub-network do not need to be depreciated provided that two conditions are met:

- (a) the entity manages the infrastructure asset in accordance with an asset management plan that has the following characteristics:
 - the inventory of assets is up to date;

- condition assessments are performed using a method that can produce replicable results, and are summarised using a measurement scale; and
- the plan includes an estimate of the annual expenditure required to maintain the asset in a condition specified and disclosed by the entity.

and

- (b) the entity documents e.g. through a policy, that the asset is being maintained at, or slightly above, a level that it has determined and disclosed.

If these conditions are met, then the annual expenditure to maintain the asset is expensed. Any expenditure that improves the asset beyond the assessed standard is capitalised.

Examples

A brief review of the financial statements on the websites of two state governments — Pennsylvania and California — shows that:

- Pennsylvania adopts the Standard approach, measuring its infrastructure assets at cost and depreciating them over their useful economic lives as follows:

— Highway infrastructure	25 years
— Bridge infrastructure	50 years
— Dams, dikes and pier infrastructure	50 years
— Other infrastructure	20 years
- California adopts the Modified approach. For the 2004/05 financial year it reported that the actual amount it spent on preserving the infrastructure assets was 78.3% of the estimated amount needed, but that the condition of the assets nevertheless remained above its baseline condition.

NEW ZEALAND CENTRAL GOVERNMENT

New Zealand IFRS, specifically NZ IAS 16 which provides more information on Depreciated Replacement Cost than the existing IAS 16.

Infrastructure assets recognised

Electricity distribution network, electricity generation assets, State Highways (Transit New Zealand), rail network (ONTRACK NZ). Underlying land is included.

Measurement

Valued at depreciated replacement cost, in accordance with International Valuation Standards. Five-yearly valuations with interim valuations. In practice assets are revalued on a rolling basis of 20% each year, with the other 80% subject to indexation. Underlying land is valued based on adjacent land values.

Accounting

Component depreciation:

- State Highways —

— Pavement base	50 years
— Surface course	7 years
— Drainage	60 years
— Traffic facilities	15 years
— Bridges	90 to 100 years
— Culverts and subways	50 to 75 years
— Other structures	100 years

FRANCE

National Government

The accounts reflect the Commercial Code and French Chart of Accounts for all French entities and persons, and supplemented by the Central Government Accounting Standards Compendium.

Infrastructure assets recognised

Motorways and national highway network to the extent that it is not devolved to local government are recognised, together with Rail infrastructure, airports and dams. Underlying land is also recognised.

Measurement

Assets are held at depreciated replacement cost (DRC) for roads (measured as gross replacement cost less 'restoration' costs). All other infrastructure assets are recorded at 'fair value'.

Accounting

The assets are not depreciated, but the DRC is re-evaluated each year.

Local Government

This classification covers the Régions, Départements and Communes. The latter two categories can be thought of as equivalent to districts and parishes in the UK.

The accounting requirements are driven by the French Chart of Accounts, with additional specific requirements for Départements and Communes. (The specific requirements for Régions are under development).

Infrastructure assets recognised

Roads, harbours and other transport e.g. railways and tramways. Underlying land is recognised except for roads.

Measurement

Assets are held at historic cost, with no revaluations.

Accounting

Assets that do not have a determinable useful life are not depreciated. This includes roads.

EXPERIENCE IN OTHER UK SECTORS — WATER AND RAIL

THE WATER INDUSTRY

Infrastructure assets recognised

The UK water industry has for many years had to deal with the issue of accounting for water infrastructure assets. Within the industry, such assets generally comprise:

- Underground systems of mains and sewers;
- Impounding and pumped raw water storage reservoirs;
- Dams;
- Sludge pipelines;
- Sea outfalls; and
- Information and infrastructure assets e.g. zonal investigation records

(Source: OFWAT Regulatory Accounting Guideline 2.03)

Water companies prepare two different forms of financial statements. Their statutory company accounts are compiled in accordance with either UK GAAP or with International Financial Reporting Standards (IFRS), as required by the Companies Act. They also prepare Regulatory Accounts which are submitted to the Office of Water Services (OFWAT) for the purposes of regulatory monitoring.

Measurement and accounting

i) Statutory accounts — UK GAAP

Where the statutory company accounts are prepared under UK GAAP, it is common for companies to use historic cost accounting and within this to use the renewals accounting provisions under FRS 15. i.e.

- The assets are recorded at historic cost with an adjustment to take account of the asset's condition.
- The estimated annual expenditure required to maintain the asset in its steady state is derived from the company's asset management plan and represents the depreciation amount for the year.
- This depreciation amount is deducted from the cost of the asset and charged to the profit and loss account.
- The actual expenditure on the asset during the year is then capitalised and added to the asset's cost.

ii) Statutory accounts — IFRS

IFRS must be used where the water company is a listed entity that prepares group accounts, and it may be used in other cases where the company so elects. At the time of transition to IFRS, there was consensus within the water industry that renewals accounting was not possible under the international standards. Most water companies have therefore adopted historic cost accounting for their infrastructure assets by utilising the provision that allows them to treat the carrying value at the date of transition as the 'deemed cost' under IFRS. Thereafter, the assets are not revalued but are depreciated over their estimated useful lives. There is, however, no

real consensus in the industry as to the extent to which the overall infrastructure asset should be broken down into significant components, and the full spectrum exists — from companies treating their network as one entire asset to others disaggregating theirs into multiple components.

iii) Regulatory accounts

For the Regulatory Accounts, the requirements for infrastructure accounting are set out in the 'Regulatory Accounting Guidelines' issued by OFWAT. These accounts cover only those elements of a water company's operations which are subject to the regulatory regime and comprise both current cost and historic cost accounts. The current cost accounts mirror the price-setting regime, and the historic cost accounts are used to assess financial performance in a manner similar to the statutory accounts.

Both sets of regulatory accounts use a modified form of renewals accounting for the infrastructure assets, as follows:

- The asset is recorded at current replacement cost or historic cost as appropriate, with an adjustment to the asset value to reflect the asset's condition.
- For the current cost accounts, the asset values are subject to annual indexation.
- The estimated annual amount from the asset management plan necessary to maintain the asset in its steady-state condition is charged to the profit and loss account with the credit entry establishing a provision. For the current cost accounts, the amount from the plan is updated to current prices.
- The actual expenditure on the asset during the year is charged to this provision. On a rolling basis, therefore the accounts may contain a provision or an 'payment in advance'.

In practice, the difference between the historic cost regulatory accounts and the historic cost UK GAAP accounts using renewals accounting is that any shortfall or excess between the estimated and the actual expenditure on the asset in any one year is reflected within 'net current assets' in the regulatory accounts and within the fixed asset balance in the UK GAAP accounts.

NATIONAL RAIL NETWORK

The national rail network is owned and operated by Network Rail through its subsidiary infrastructure company. Network Rail prepares its statutory group accounts in accordance with IFRS and measures its infrastructure asset at its 'value in use' rather than depreciated replacement cost. For financial reporting purposes, it treats its infrastructure as one entire asset, and thus comprises all elements such as track, track bed, embankments, cuttings, signalling systems etc.

Network rail's income is derived wholly from the track access charges paid to them by the Train Operating Companies (TOCs). The fees are set in agreement with the Office of the Rail Regulator (ORR) and reflect the operating costs, the cost of investment in the asset and a return on the net assets. The infrastructure asset is therefore an income-generating asset and is thus unlike most other public sector assets which are held for the purposes of service delivery.

Network Rail consequently applies 'IAS 36: Impairments' to consider whether the 'recoverable amount' of the asset is less than the carrying amount (Depreciated replacement cost). The recoverable amount is the greater of the value that could be

obtained from selling the asset ('net realisable value'), and the present value of future income that can be obtained from continuing to use the asset ('value in use'). For Network Rail, the former measure is not relevant, so the value in use is calculated based on the present value of future track access charges, assuming that the asset is maintained in the required condition. The value in use of the asset is indeed lower than the DRC and thus this is the value at which the asset is measured in Network Rail's accounts.

The asset is then depreciated over its useful economic life of 25 years, which is calculated on a weighted average basis of the underlying network components.

OPERATION OF THE MAJOR REPAIRS ALLOWANCE FOR LOCAL AUTHORITY HOUSING

MRA is calculated as follows. First, at the national level, each property in an authority's housing stock is classed as one of 13 building archetypes derived from the following factors:

- **the type of dwelling** — terraced/semi-detached/detached house, bungalow or low/medium/high rise flat: this reflects different elements, e.g. lifts and flat roofs in high rise flats;
- **traditional or non-traditional construction** — because they are made up of certain different materials which have different lives;
- **age** — for a given dwelling type size will vary depending on the period when the property was built; also the range of elements varies with age; and dwellings of different ages have elements of different ages and hence have very different replacement profiles;
- **size** — even when account has been taken of the property type and age, there can still be substantial variation in size. Size is classified by reference to floor area rather than, say, number of rooms, because floor size relates best to the size or number of individual elements, e.g. larger properties have bigger kitchens and more windows, and therefore greater replacement costs.

Dwellings are also divided into a series of building elements or components, e.g. wall structure and finish, roof structure, windows, kitchens, heating, lifts, communal areas.

Each element is assigned a standard life, based on a consensus view by building professionals as to the age at which the component typically fails, and average national element replacement costs are applied to each component for each archetype. Costs include allowances for additional costs, such as scaffolding and administrative fees directly associated with the works. Elemental lives and replacement costs were calculated by the Valuation Office Agency (VOA) in consultation with various building professionals and were subject to consultation.

The data is then used to calculate an equated annual allowance for each archetype sufficient over a 30 year period to meet the cost of all the elements that will fall due for replacement in that period. Using these allowances central government then calculates the MRA payable to each housing authority according to the number of each archetype in its housing stock, using English House Condition Survey information. Sub-regional cost differentials are applied based on data from the Building Cost Index Price Indices for Public Sector Housing.

The expenditure profile is annuitised over 30 years to give a constant cash figure which, paid annually over the period, provides the same present value as that of the initial expenditure profile. This smoothes out the profile which might otherwise vary significantly from year to year, thereby better reflecting the long term nature of the MRA rather than short term price fluctuations. For the same reason, annual uprating of costs is done by the GDP deflator rather than annual changes in building prices, since this tends to be a better match for general inflation over the longer term.

AN INTERIM APPROACH TO PROVIDING TRANSPORT INFRASTRUCTURE INFORMATION FOR WGA PURPOSES

Since the central government agencies' valuations are primarily in respect of motorways and trunk roads, we initially considered whether an initial approach to providing transport infrastructure information for WGA purposes might be to include only A and B classification local roads for WGA. However, the data from the various national and regional groups show A and B roads to represent only about 30% of the total roads GRC value. This approach would, therefore, leave out approximately 70% of the local roads value from WGA, and has therefore been rejected.

Instead, in the absence of detailed highway inventory and condition data, we believe that a high level DRC valuation for WGA purposes could be produced in a way that uses mostly existing data from local authorities, and is based on determining valuations for the road pavement and underlying land which, experience suggests, together comprise the overwhelming majority of the highway infrastructure asset value.

This interim approach involves applying nationally specified unit costs and assumptions in respect of road widths, footways, lighting and other components which together make up the local highway network. All highways authorities would need to provide information about road lengths and condition data for carriageways, both of which are already submitted annually.

The nationally specified figures would be produced by taking information from those authorities who are already collecting inventory data and developing valuations and using these to construct average rates. Although the position on valuation varies enormously between authorities, particularly in England, with some having done little or nothing, a reasonable number are pursuing valuation and making sufficient progress to be able to contribute data.

The approach is described below.

ROADS — GROSS REPLACEMENT COST

To calculate the GRC, four pieces of information are required:

- Road lengths;
- Road types;
- Road widths; and
- Unit construction costs.

All English highways authorities have reasonably accurate data on the types and lengths of their roads. This data has been collected in the past for Best Value Performance Indicator purposes and is held on authorities' Pavement Management Systems (PMS).

Road widths can however vary significantly and many authorities have limited data. One solution to this problem would be to derive average road widths from an analysis of the data from those authorities who have already collected good information (or will have done so during 2008/09 and 2009/10). An alternative approach would be to adopt the current standard design widths for new roads, following the principle of the modern equivalent asset. However, there are issues about applying this approach to unclassified roads, and even if standard widths are assumed, there is then a problem about how to depreciate them to reflect the difference between the design standard and the actual width. The treatment of road widths also has an impact on the calculation of land values. Overall, based on work to date we conclude that the first approach is simpler and more likely to produce realistic valuations.

There exists a growing body of data among local authorities in respect of unit costs for new highway construction. As more information becomes available, this data can be used to determine national average unit costs that could then be applied centrally together with the data above to determine the national gross replacement cost of the local road network.

ROADS — DEPRECIATED REPLACEMENT COST

Determining the depreciated replacement cost of the network requires information on the condition of the roads. For the purposes of calculating and reporting on Best Value Performance Indicators (BVPIs) highways authorities have to undertake condition surveys of their road networks. Further detail is provided in the box below. Authorities thus have a considerable amount of data on the condition of their roads and update a substantial proportion of this each year. This data could be used as a starting point to calculate the restoration costs of their road networks.

Condition data obtained currently for the purposes of Roads Performance Indicators

England

In England, there are three Best Value Performance Indicators (BVPIs) that address the condition of local roads:

BV 223 (formerly BV96) — Condition of principal roads in England

This indicator measures the percentage of each authority's principal road network (i.e. its A class roads) that are at or above a specified condition. It is calculated from data derived from SCANNER surveys. Authorities were required to undertake SCANNER surveys of 50% of their principal road network in 2006/07 (50% of the roads in both directions or 100% of the roads in one direction only), with the other 50% measured for 2007/8.

BV 224a (formerly BV97a) — Condition of Non Principal classified roads in England

This indicator applies to an authority's B and C class roads. The survey requirements were for SCANNER surveys in 2006/07 of 100% of the B roads in one direction only, with the opposite direction to be 100% surveyed in 2007/08. For C class roads, a SCANNER survey of 50% of the roads in one direction was required for 2006/07, with the remaining 50% to be surveyed in one direction only in 2007/08.

BV 224b (formerly BV97b) — Condition of unclassified roads in England

This indicator applies to an authority's unclassified roads. Commencing in 2002/03 authorities are required to survey visually (using CVI or DVI) 25% of their unclassified road network each year, thereby obtaining full coverage over a four year period.

Scotland

In Scotland, Statutory Performance Indicator (SPI) RL 1 measures an authority's overall road network, and is similar to the BVPIs above in aggregate. The condition data is obtained via the Scottish Road Maintenance Condition Survey (SRMCS) which is undertaken on behalf of authorities each year by the Society of Chief Officers of Transportation in Scotland (SCOTS). It aims to survey each year, in one direction only, 100% of A roads, 50% of B and C roads and 10% of unclassified roads. The classified roads are surveyed using SCANNER (the survey uses the term Roads Assessment Vehicle).

Wales

In Wales, THS/010a and b (formerly THS/001a and b) measure the condition of authorities' A roads and other classified roads (i.e. B & C) respectively. From this year surveys have been extended to cover all roads and performance indicators are being amended to reflect the wider network.

Land

The footprint of the land under the road pavement can be determined from the road area calculations above, and an allowance made – again based on data from those authorities who have it – for footways and other land within the highways boundary.

Auditability

The approach set out above would use a substantial amount of national data and standard assumptions instead of actual local data, and would therefore produce values that were subject to a significant degree of uncertainty. This would need to be appropriately disclosed in the WGA notes and commentary, and might even need to be referred to in the audit opinion. A judgement will need to be made as to whether this approach could deliver sufficiently robust data to be used in the main WGA statements, or instead it could only be used in the notes and/or management commentary. A decision on this may depend on the degree of progress that can be made over the next 12 months to develop local asset management information and to put financial information onto a more robust and consistent basis. However, the announcement in the 2008 Budget that the first year of published WGA will now be 2009/10 means that there should be more and better data to draw on.

This is only an interim approach to obtaining WGA figures and would need to be refined over time as more local data and valuations were available, as part of an overall move to the adoption of new AMP-based accounting policies in local authorities' own accounts that we have recommended in Section 8.

ESTIMATED COST OF SUPPORTING EARLY IMPLEMENTATION OF A CHANGE TO THE SORP

This annex explains the basis of the estimated one off cost of £15m to support early implementation of asset management as discussed in the main report. This is an estimate of the cost of collecting basic inventory data for Great Britain, based on road lengths and categories. Northern Ireland has not been included in the calculation because at present all its roads are the responsibility of the Northern Ireland Roads Service and are outside the SORP. In practice, the issue of additional funding would need to be considered as a possible New Burden. Any support would be allocated to England with the usual consequential effects on funding of the other administrations.

As the report shows, there is huge variation in the progress made by individual authorities in implementing asset management; and even authorities who have made broadly equivalent progress overall will often have very different data gaps from each other.

Our own cost estimate is based on the following assumptions.

Asset management broadly requires three basic types of information: inventory data; condition information; and unit cost rates.

Authorities generally have good information about the condition of their big value assets, particularly carriageways, and can make reasonable assumptions about the rest, if necessary drawing on experience from elsewhere. Similarly, where authorities do not initially have sufficient cost data of their own, there is scope for drawing on work done by others, through the various regional groups. Our recommendations to support and streamline the valuation process, particularly the proposed extension of the MSIG and SECE projects, are designed to facilitate this. However, each authority still needs a basic level of inventory data to start delivering benefits from asset management and to provide data of auditable quality for the accounts. Our cost estimate is therefore based on the cost of collecting a basic level of inventory across the whole local roads network since this is the significant element of additional cost that would be needed to support an early change to the SORP.

The figures below are based on unit rates put together for CIPFA by one of the regional groups have been discussed with the CSS/TAG Asset Management Working Group. They are based on some up to date price rates for video based surveys, and the unit rates (expressed as £s per km) are a combination of the cost of making the video and then processing sufficient data to provide a decent basic level of inventory. We are advised that, even if funding was not an issue, it makes sense to stage the amount of data extracted at any one time, since otherwise the volume would be far greater than could be used at one go and video processing offers the capability for capturing additional characteristics later.

There are of course other approaches to collecting inventory data, and it would be for individual authorities to decide what information they needed and how they wished to procure it. However, we have used this particular approach because the rates are competitive and up to date, authorities who have used it have done sample testing to verify the results, and as well as providing the capability for further data processing later, the video itself can be a useful aid, e.g. viewing a route first on video can reduce the time spent doing a live investigation.

The costs are:

Road type	Unit rate(£)	km	Cost (£m)
A (U)	45	10663	0.5
A (R)	35	27312	1.0
B (U)	40	5550	0.2
B (R)	32	24639	0.8
C (U)	35	10878	0.4
C (R)	30	73581	2.2
U/C (U)	50	113757	5.7
U/C (R)	30	109426	3.3
Total			<hr/> <hr/> 14.1 <hr/> <hr/>

Road lengths based on local roads GB (2005), taken from Transport Statistics GB.

This figure has been increased to £15m to allow for incidental additional costs, such as setting up and managing contracts, data verification and handling.

We have considered whether it is necessary to survey all roads initially, or whether it might be sufficient to sample only a proportion, say 50%, of unclassified roads. However, we have found that this would not produce significantly lower costs because the biggest cost element of the surveys is in the time and distance travelled, so sampling only a proportion of roads would involve paying for a lot of unproductive time travelling between surveyed sections. And of course sample information is less robust than a full survey, and to maximise the benefits of asset management, authorities would need to go back and survey the rest later. We have therefore concluded that a survey covering all roads would give much better value.

RESPONSES TO THE CONSULTATION DRAFT

63 responses were received as shown below.

Appendix 1 to this note provides a summary of responses to the specific consultation questions. Appendix 2 looks at other key matters raised by consultees.

LIST OF RESPONDENTS

Argyll and Bute Council
Audit Scotland
Bedfordshire CC
Bracknell Forest
Bradford
Bridgend
Caerphilly
Cardiff
Cheshire CC
CIPFA Scotland FDs
Cornwall CC
CSS Engineering Committee
CSS Wales Engineering Group
Cumbria CC
Dorset CC
Dumfries and Galloway
Durham
East Ayrshire
East Riding
ERAVG
Hants CC
Haringey
The Highland Council
Hounslow London Borough
Institute of Asset Management (IAM)
The Institution of Highways and Transportation
Kensington and Chelsea
Kent CC
Knowsley
Lancashire
LASAAC

LIST OF RESPONDENTS

Leeds

Lewisham

Local Government Association

Midlands Service Improvement Group (MSIG)

The Moray Council

National Audit Office (NAO)

Newcastle City Council

Norfolk County Council

North Yorkshire

Northumberland CC

Pembrokeshire

PTE Finance Directors Group

Rhondda Cynon Taff

RICS

Scottish Government

Sefton Met BC

Sheffield City Council

Society of Chief Officers of Transportation in Scotland (SCOTS)

Society of London Treasurers

Somerset County Council

South Ayrshire

South Lanarkshire CC

Stockport CC

Strathclyde Passenger Transport

Sunderland

TAG

Tameside

Transport for London

Wales Assembly Government

Wales Audit Office (WAO)

Harry Wilkinson (personal response)

Wrexham Council

REVIEW OF SUPPORT FOR REPORT PROPOSALS

Most respondents provided specific answers to the six questions in the consultation draft. Simple quantitative analysis of these provides some useful information. The main points from this analysis show very strong support for the AMP approach, and strong but not uniform support for linkage with a change to the SORP. Extension to other assets is supported in principle.

In some cases, key respondents are noted.

(i) In terms of supporting better financial management of transport infrastructure assets and meeting other objectives of the review, do you agree that an AMP based approach has significant advantages compared with either the present local authority or national roads approaches?

58 respondents supported an AMP based approach, although many expressed subsequent concerns about resourcing, practical implementation, and whether savings would be cashable.

2 responses questioned the approach, on the basis that the cost benefit argument had yet to be proven. In addition to comments on resourcing, implementation and savings, the Scottish Government response made a specific reference to the fact that the central government approach to infrastructure under IFRS had yet to be determined.

(Scottish Government, CIPFA Scottish FDs; a small number of other responses are apparently supportive but slightly unclear)

(ii) Do you agree that the benefits of an AMP based approach would be realised more quickly and fully by a change to the way infrastructure is treated under the SORP?

47 respondents viewed linkage between the AMP approach and the SORP as essential, desirable or natural.

17 responses expressed varying degrees of concern over this linkage. Some reflected a view that there were risks that accounting aspects might dominate.

9 considered that linkage with the SORP would damage AMP implementation. The Scottish Government suggested that, rather than following an AMP based approach, the SORP should concentrate on developing component depreciation. The LASAAC response may incorporate a view that cash based reporting is more appropriate for these assets. The Audit Scotland approach suggested that additional incentives and regulation would be required. TfL consider the lack of IFRsM guidance problematic.

The 'non-supportive' responses were fairly evenly split geographically, but were about 50% of the Scottish responses (6/13). All of the 'non-supportive' responses appeared to be Finance-led.

(Scottish Government, LASAAC, Society of London Treasurers, Transport for London)

(iii) Do you agree with the recommendations for further guidance and development work identified in paragraph 7.5, and are there further issues that should be addressed here?

Responses to this question were generally supportive of the principle of producing further guidance and carrying out further development work. Specific points raised included:

- doubts as to whether 'quickstart' guidance represented a feasible approach (2 responses)
- concern that the SECE project was not the only (or necessarily the best) starting point for guidance, and that considerable work had already been done elsewhere
- HAMPs being progressed as an all-Wales project
- various comments on the need to balance standardisation with the requirement to incorporate local differences.

Other points arising from responses to question (iii) are included in subsequent analysis of other key matters, in Appendix 2.

(iv) What are your views on the proposed way forward described in paragraphs 7.6 – 7.18 for implementing a change to the SORP? And are there other actions that would need to be taken to support implementation?

In general, those respondents who were supportive of the SORP approach at question (ii) were supportive of the proposed way forward, while offering a large number of detailed comments on implementation and resourcing issues.

All but one respondent were content with the proposed delay in implementation, while many suggested that implementation should be delayed further, for example until the targeted implementation of AMPs in Scotland in November 2011. A number of bodies raised concerns that interim solutions might reduce the impetus to implement properly managed solutions

Other points arising from responses to question (iv) are included in subsequent analysis of other key matters, in Appendix 2.

(v) What are your views on the treatment of transport infrastructure assets that are not covered by the SORP – would they also benefit from an AMP based approach and, if so, how should this be achieved?

17 respondents did not comment on this question, or indicated that they had no view.

32 respondents suggested that there was a clear case for extending the AMP based approach.

The other 13 respondents expressed support in principle subject to further analysis.

The PTE Finance Director's Group, while generally supporting AMP based approaches for local authorities, and for asset management within PTEs, was not convinced about extension to PTE financial reporting, citing cost benefit issues in obtaining replacement cost information. However, where such information was available, AMP based financial reporting was supported.

Some responses included suggestions on the approaches which might be applied to specific assets.

(vi) Should the idea of extending an AMP based approach to other local authority operational property assets, building on the experience of the MRA for housing, be investigated further?

11 respondents did not comment on this question, or indicated that they had no view.

1 respondent suggested that the MRA approach was so specific that it would not generalise to assets with rather different characteristics.

37 respondents suggested that there was a clear case for investigation.

The other 15 respondents expressed support in principle subject to further analysis.

OTHER KEY MATTERS RAISED IN CONSULTATION RESPONSES

<p>Resourcing and implementation matters</p>
<p>Cashable savings: 12 respondents expressed concern that, notwithstanding the scope for improved efficiency offered by an AMP approach, the scope for cashable savings was rather less. LASAAC explain that this is particularly an issue for authorities where a substantial fraction of annual spend is reactive emergency maintenance.</p>
<p>£15 million pump priming: 12 respondents expressed concern that £15 million 'pump priming' would not be sufficient.</p> <p>(SCOTS and LASAAC provide costings, although these may not strictly compare with the pump priming proposal).</p>
<p>Resourcing and Funding Matters: 25 respondents (mainly local authorities and their representative bodies) expressed concern that substantial additional resources would be required, and that grant funding arrangements might stop pump priming monies finding their way into increased allocations for some authorities.</p>
<p>Implementation and data quality issues, including auditability: 10 respondents identified problems arising from data quality. MSIG (among others) suggested that material and important matters should be prioritised as a means of addressing this. Audit Scotland observed that data quality issues could raise auditability questions, both for interim and developed systems.</p>
<p>Concern over timing: 23 respondents expressed concern over the proposed timetable, sometimes linked to data quality concerns or resourcing issues. 3 respondents made the specific point that 'interim solutions' might reduce the impetus for more developed solutions.</p> <p>37 respondents considered the 2009-10 timetable achievable or elected not to comment. Only 1 response clearly indicated that earlier adoption would be a better approach.</p> <p>4 respondents commented on the 'handling' issues arising from material SORP changes soon after the 2006 and 2007 SORP reforms.</p>
<p>Availability of Expertise: 3 respondents highlighted difficulties that might arise in respect of expertise. This was considered a particular problem in respect of smaller authorities in Wales. 1 respondent also suggested that initial data gathering requirement for AMP might exceed the annual capacity of consultants and equipment providers.</p>
<p>Technical concerns</p>
<p>Non-road infrastructure: 11 respondents (6 from Scotland) suggested that the draft report did not fully address issues for authorities which are substantial holders of non-pavement road related infrastructure assets such as bridges, as well as harbours and airports.</p>
<p>Component questions: 5 respondents raised explicit concerns about the reports assumptions about lower layers, suggesting that these do not apply to some older and 'evolved' road structures. They highlighted a need for further guidance. 1 respondent suggested that these issues might significantly affect IFRS compliance.</p>

Depreciation Issues: 9 respondents made specific reference to the need to develop guidance in respect of depreciation. 10 referred to the desirability or the inevitability of depreciation hitting the bottom line, and the need to very carefully manage transition in such a case.

Heritage issues: 2 respondents commented on the special issues arising for 'iconic' infrastructure such as the Tyne Bridge.

(Newcastle, Leeds)

Land values: 3 respondents commented on matters relating to valuation of land. RICS offered to contribute to the development of a practical approach.

(RICS)

GLOSSARY

Asset management	A strategic approach that identifies the optional allocation of resources for the management, operation, preservation and enhancement of groups of assets to meet the needs of current and future customers.
AMP	Asset Management Plan.
Classified roads	These comprise motorways together with A, B and C class roads.
Component depreciation	An approach under both UK GAAP and IFRS whereby elements of an asset with significantly different lives are separately accounted for by depreciating (writing-off) the cost or value (less any residual value) of these elements over their respective estimated useful lives.
CSS/TAG	A joint working group of the County Surveyors Society (CSS) and the Local Authority Technical Advisors Group (TAG).
CVI	Coarse Visual Inspection. A road surveying method performed by individuals in a vehicle driving along the road and recording details of visual defects.
Depreciation	The measure of the extent by which an asset has been consumed in an accounting period.
DVI	Detailed visual inspection. A road surveying method performed by individuals walking along or adjacent to the road and recording visual defects.
Deflectograph survey	A low speed automated road survey method whereby a vehicle passes a known mass along the road and sensors record the extent to which the road surface is deflected.
DRC — Depreciated Replacement Cost	A method use for placing a current market value on physical fixed assets. This method is commonly used in the public sector where assets are specialised or are held for the purposes of delivering services rather than generating income and thus there is little or no market information on which to base a market valuation. The DRC is thus calculated as the Gross Replacement Cost, adjusted to take into account the actual condition of the asset.
FReM	Financial Reporting Manual. The document issued by HM Treasury which sets out the accounting policies and practices that government bodies must follow when preparing their financial statements. The FReM is currently based on UK GAAP but has some important interpretations and adaptations. The new IFRS-based version will come into effect from 1 April 2009.
Gross Replacement Cost	The estimate of the current cost of replacing an existing physical fixed asset with an equivalent new asset.
HAMP	Highway Asset Management Plan.

Highways Agency	The central government agency that owns and maintains the trunk road network in England.
IFRS	International Financial Reporting Standards. An acronym commonly used for international accounting standards and other requirements of the International Accounting Standards Board.
LA SORP	The Local Authority Statement of Recommended Practice (the SORP). The term commonly used for the local government accounting requirements published by CIPFA. The full name is the 'Code of Practice on Local Authority Accounting in the United Kingdom 200#. A Statement of Recommended Practice.'
Local Roads	A term used to describe all roads maintained by local authorities in England, Scotland and Wales and the equivalent roads maintained by the Northern Ireland Roads Agency. Local roads comprise non-trunk A, B and C class roads, together with unclassified roads, but exclude private roads.
LTP	Local Transport Plan — a Statutory Plan setting out an authority's local transport strategies and policies and an implementation programme, covering a five year period.
National accounts	Accounts prepared by the Office of National Statistics in accordance with an EU standard (ESA 95), which include the output of the entire UK economy.
Northern Ireland Roads Agency	Unlike elsewhere in the UK, the agency owns and maintains both the trunk road network and the local road network.
ONS	The Office for National Statistics, responsible for the publication of the UK national accounts.
The Prudential Code	Statutory Code, produced by CIPFA, to which authorities must have regard in carrying out their statutory duty to determine affordable borrowing limits.
PTA	Passenger Transport Authority. Authorities that are typically centred around major urban conurbations which have special powers and responsibilities in connection with transport for their area. PTAs must prepare their accounts in accordance with the SORP.
PTE	Passenger Transport Executives. The vehicles through which PTAs typically deliver their services and discharge their responsibilities. PTEs do not prepare their accounts in accordance with the LA SORP.
RAB	Resource Accounting and Budgeting.
Renewals Accounting	A form of accounting for infrastructure assets permitted under UK GAAP. The estimated annual expenditure needed to maintain the asset as contained in the asset management plan is used as the estimate of the annual depreciation charge. Actual expenditure to restore the asset's condition is capitalised i.e. added to the asset's carrying value.

SCANNER	Surface Condition Assessment of the National Network of Roads. A high speed visual survey method for assessing road condition.
SECE	South East Centre of Excellence.
TAMP	Transport Asset Management Plan.
Transport Scotland	The Scottish Executive's transport agency. In respect of roads, the agency owns and maintains the trunk road network in Scotland.
Trunk Roads	These comprise most motorways and specific classified roads which represent strategic routes in the national road network. Trunk roads are maintained by Highways Agency, Transport Scotland, Transport Wales and Northern Ireland Roads Agency.
UK GAAP	UK Generally Accepted Accounting Practice. There is no wholly definitive catalogue of what constitutes GAAP. In the UK, the main sources of GAAP are the accounting standards issued by the Accounting Standards Board (ASB), as well as the Companies Act 1985. Specialist sectors may also have other sources of GAAP such as specific legislation or accounting frameworks that interpret GAAP in their sector — know as Statements of Recommended Practice (SORPs).
WGA	Whole of Government Accounts. The consolidated financial statements of the whole of the UK Public Sector, including both central and local government.