

Road Asset Management Planning – Dream or Reality?

Ken Russell
Transport Scotland
Hugh Murdoch
Aberdeen City Council

Introduction

The concept of roads asset management is becoming increasingly important for those responsible for managing road networks. Asset management is not a new concept and most roads authorities are already practicing elements of asset management. However the service wide application of asset management is a new concept and the following will set out why asset management is coming to the forefront of transport planning and what steps are being taken to address the need for adoption of such principles.

The Background

The contribution our road and transport systems have on the economic, social and environmental well being of Scotland are considerable. While we have densely developed towns and cities, we also have to be able to deal with the needs of communities in very rural areas. Well managed roads contribute to regeneration, social inclusion, community safety, health and our local environment.

As traffic levels continue to grow, transport planners and engineers face increasing pressures to find the means of maintaining and improving our road infrastructure. The lack of an adequately funded programme will not just affect the safety, reliability, and quality of our road system it will also have serious consequences for the economy of this country.

The statutory framework for Best Value provided by the Local Government in Scotland at 2003¹ puts in place formal links between:

- statutory guidance to authorities on what arrangements should support Best Value, and how best to maintain an appropriate balance between the factors to which local authorities must have regard in securing that duty;
- what are, whether by reference to any generally recognised, published code or otherwise, regarded as proper arrangements for Best Value, agreements for the construction or maintenance of buildings or works, accounting practices, and issues such as the prudential management of capital expenditure and treasury investments;
- the powers and audit duties of the Accounts Commission for Scotland;
- arrangements for scrutiny bodies to make public comment on the adequacy of local authority arrangements for securing Best Value and related statutory duties; and
- on an exceptional basis, arrangements for intervention by the Scottish Ministers on the grounds of unsatisfactory performance.

The statutory guidance issued by the Scottish Ministers² tells local authorities what they are expected to demonstrate in fulfilment of the statutory duties which make up the Best Value 'regime' provided by the Act. These statutory duties are:

- the duty of Best Value, being to make arrangements to secure continuous improvement in performance (while maintaining an appropriate balance between quality and cost); and in making those arrangements and securing that balance, to have regard to economy, efficiency, effectiveness, the equal opportunities requirements and to contribute to the achievement of sustainable development;
- the duty to achieve break-even in trading accounts subject to mandatory disclosure;
- the duty to observe proper accounting practices;
- the duty to make arrangements for the reporting to the public of the outcome of the performance of functions.

A key element of the Best Value regime is the demonstration that the authority is 'responsive to the needs of its communities, citizens, customers, employees and other stakeholders, so that plans, priorities and actions are informed by an understanding of those needs'². So it is no longer the case that authorities plan their services on the basis of 'we know best'. They have to engage in a dialog with those affected by services to identify what people desire and the level of service people expect before getting to the planning stage. Most authorities have gone through such a process in developing transport strategies, most recently the Scottish Executive undertook extensive consultation in regard to the potential contents of the National Transport Strategy, however, very few take this to its natural conclusion of asking what people expect in terms of maintenance activities. In 2005, NESTRANS (the voluntary North East of Scotland Transport Partnership) sought the views of stakeholders in regard to priorities for spending. Road maintenance was identified as being the highest priority from a list of options including new road improvements, public transport measures etc. However when asked to split a notional proportion of funding, road safety came top with road maintenance further down the priorities. Clearly there is some work to be done in this area as the collective group surveyed included a wide range of organisations and drew few areas where there was little understanding of spending limitations.

In November 2004 Audit Scotland published its report 'Maintaining Scotland's Roads'³. The report drew heavily on returns from individual authorities with further information provided by the Scottish Executive. Following on the heels of the first full round of results from the Scottish Road Maintenance Condition Survey (SRMCS), a machine based survey established by The Society of Chief Officials in Transportation in Scotland (SCOTS), it was the first occasion that such a report was able to make comparisons on the condition of roads in different authorities. The SRMCS is a five year programme of repeatable surveys looking at different aspect of condition information and identifying sections of roads in relation to condition, banding them into three categories, red, amber or green. The report also considered issues of procurement of services, costs and expenditure and best practice in terms of maintenance activities. The reports key findings and recommendations were:

Councils and the Executive should:

- publicly report the condition of their road network and maintenance backlog on an annual basis.
- calculate the size of the structural maintenance backlog using a common accepted methodology.

Councils need to:

- establish a long-term strategy for road maintenance in the overall context of their transportation and roads asset management strategies
- meet the recommendations set out in *Delivering Best Value in Highway Maintenance – Code of Practice for Maintenance Management*
- review budget-setting procedures within roads and transportation services, ensuring they allocate sufficient priority to structural maintenance to achieve long-term value for money
- conduct an option appraisal for procuring and financing road maintenance services
 - improve information about the assets they manage, including roads, bridges and street lighting
- use asset management systems linked to GIS and financial systems to improve the management of road maintenance
- consider whether their road maintenance service could be improved by entering into consortia arrangements with other councils to achieve economies of scale in road maintenance.

Since the report's publication the 'Code of Practice for Maintenance Management' has been updated and republished as 'Well Maintained Roads – Code of Practice for Highway Maintenance Management'⁴.

The development of a Code of Practice dates back to 1983, when the first Code was published following its endorsement by the local government associations. The current document has been developed by the Roads Board and has the support from all of the public bodies and professional organisations within the public sector in the UK who would have a responsibility for the maintenance and management of the road network.

The objectives of the Code of Practice are:

- To encourage the adoption of asset management planning as a means of demonstrating value for money in the delivery of highway maintenance;
- To encourage the development, adoption and regular review of policies for highway maintenance, consistent with the wider principles of integrated transport, sustainability and best value;
- To encourage a focus on the needs of users and the community, and their active involvement in the development and review of policies, priorities and programmes;

- To encourage harmonisation of highway maintenance practice and standards, where this is consistent with users' expectations, whilst retaining reasonable diversity consistent with local choice;
- To encourage the adoption of an efficient and consistent approach in the collection, processing and recording of highway inventory, highway condition and status information for the purposes of both local and national needs assessment, management and performance monitoring;
- To encourage the adoption and regular review of a risk management regime in the determination of local technical and operational standards, rectification of the defects arising from safety and serviceability inspections, and investment priorities;
- To encourage continuing innovation in the procurement of highway maintenance contracts, whilst complying with high standards of corporate governance.

As highlighted the Code is based on the principles that road maintenance should be managed in accordance with the principles of best value and continuous improvement, as an important component of a more broadly based Highways Asset Management Plan.

Those who think that Asset Management Plans are just about the maintenance of the network and keeps records of where things are need to think again. The Framework for Asset Management was published by the County Surveyors' Society in the summer of 2004¹. Drawing from best practices from around the world it sets out the process of how to develop an asset management plan.

The Dream

There are many definitions of Asset Management. The Framework for Asset Management document describes it as:

- A strategic approach that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the road infrastructure to meet the needs of current and future customers.

At a time when our road networks, whether trunk or local roads, are mature and are suffering from a backlog of required maintenance, we need to consider a wider perspective on how to best spend limited funding streams. Without adopting a proper asset management regime that allows us to direct funding to areas most in need, to show that we are adopting a sound stewardship approach and makes us accountable for our decisions we will not gain the necessary level of funding or convince our customers that we are doing a good job.

If we look at some of the key aspects of this definition we get a better idea of why the holistic concepts of roads asset management are so important:

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- A strategic approach relates to a systematic process that takes a long term view. This important to allow for proper planning and decision making to take place.
- The need to consider the whole of life cycle of an asset, i.e. from planning to disposal, is also implied. This allows the total cost throughout the life of an asset to be taking account of including the likes of the road pavement, structures, streetlights, earthworks, signs and lines, drainage and verges.
- By referring to optimisation we relate to maximising benefits by balancing competing demands. This looks at the adequacy of existing levels of service and desired levels of service (including customers' expectations) and having to balance these against available funding.
- Resource allocation implies that resources are allocated on a needs basis. This implies that we need to have sufficient knowledge of our asset base (including quantity and quality) and using a mix of risk assessment and defined need come up with an affordable forward programme of remedial works. We have to tailor our data and systems requirements to our needs. We have to gather sufficient data with a sufficient degree of accuracy and have them analysed to a sufficient degree in an adequate system to enable us to make balanced decisions on investment levels to enable our networks to be fit for purpose.
- Customer focus relates to the explicit consideration of customer expectations. As customers generally become more knowledgeable and demanding their expectations and needs should be taken into account when assessing desired levels of service.

All these aspects are key drivers in an asset management approach.

Again there are many reasons and responses to 'why asset management?' some of which are referred elsewhere in the paper:

- It provides a more structured way to manage the road asset. Without this we cannot be expected to justify what is an appropriate level of service at an affordable price.
- It provides a means of delivering outcomes to customers. We need to become more accountable for our actions and how we spend hard earned public funds.
- Changes in accountancy rules require us to measure the value of the road asset and report in our annual accounts. This requires a systematic process to be in place to be able to measure the extent of the whole road network, its rate of depreciation and put a value on it.
- It provides a more structured way of proving that Best Value is being achieved. By implication the ethos of Best Value is an integral part of the asset management concept.
- The new Code of Practice for Highway Maintenance advocates the use of asset management as a key tool in support of an effective and efficient road network.
- Rethinking Construction advocates a more integrated approach to the planning and delivery of asset management.

There are also many benefits:

- It can deliver a better level of service for the same amount of money. By understanding the extent and condition of the road asset we are better able to target money at the areas most in need and by implication avoid wasteful expenditure on areas that have less need or are not so high a priority. By so doing we can enhance levels of service by carrying out more work for the same amount of money.
- It can deliver the same service for less money. By implication from the previous point savings can be accrued by properly targeting money to assets most in need of repair hence delivering the existing levels of service and reducing the required budget.
- It can deliver reduced lifecycle costs. Again by properly considering the costs associated with the upkeep of the road asset over the whole of its life based on accurate and up to date data on its extent and condition, funding can be more effectively targeted throughout its life hence reducing total costs.
- It helps to deliver defined levels of service. By understanding the extent and condition of your asset and carrying out work in accordance with a prescribed level of service you are able to track delivery of actual standards.
- It provides an ability to track levels of performance. With reference to the previous point you have the ability to assess when work is or isn't being carried out to prescribed standards.
- It improves transparency in decision making. For example, by having full asset data available (extent and condition) and set levels of service decisions regarding setting priorities can be assessed, checked and reported on.
- It provides a mechanism to predict the consequences of funding decisions. If work is not carried out when predicted against pre-set levels of service because of lack of funding performance levels drop. Conversely by setting levels of service and knowing the extent and condition of your asset you are able to predict and price forwards plans of work and hence submit programmes for approval to elected members.
- It decreases financial, operational and legal risks. Full blown asset management planning as described above results in financial certainty for forward plans, reduced levels of disruption to users of the road network because work can be better planned and less chance of excessive 3rd party claims due to a poorly maintained network.
- It provides a means to asset valuation and financial reporting. By having full asset data and cost you are able to assess the gross value of your network and the rate at which individual elements depreciate and hence assess its net (or depreciated) value.

Some will say that it puts the decision making into the hands of officers rather than elected members. While it will be difficult for elected members to ignore the evidence and advice given to them about required funding levels resulting from having a properly constructed asset management regime in place, they will still have the ultimate sanction. On the other hand they will need to be convinced that proposed levels of service are necessary.

The Reality

So how far away are the various authorities in Scotland from producing asset management plans and if things are some way off what is being developed to address this need in the longer term.

In 2003, as part of the process of developing an assessment of the backlog of repairs on local roads, SCOTS undertook a survey of its members to identify the availability of condition information of the various elements of infrastructure that go to make up roads as we would know them. While the carriageway condition was being addressed through the SRMCS, no similar exercise was underway to give repeatable condition surveys of the rest of the infrastructure. So authorities were asked what information and to what detail was it available for items such as footways, street lighting, bridges, traffic lights, drainage, verges, road markings, signs etc. Not unsurprisingly the returns that were received revealed that there were few authorities that had detailed condition information for all parts of their asset. Indeed it's fair to say that of the information that was available, no one authority had all of the details available to it to identify what was in need of repair. This is not intended as a criticism of authorities as not every council had the resources available to it since the reorganisation of local government in 1996 to produced detailed condition inventories. It became clear that in order to develop a backlog calculation that was sufficiently robust to stand examination by various bodies including the Scottish Executive and the Scottish Parliament, a methodology had to be developed that allowed the available data to be used to its best effect.

Looking at the range of information and availability, some form of grouping was required to allow like for like comparisons to be made. Family groups of authorities were developed, two distinct groups being created for the city and island councils with the remainder being split into three groups based on proportion of urban road length. This process allowed comparison within the groups and across groups, both in terms of condition information and costs. This also fulfilled the need to identify costs of repairs for the various treatments likely within the SRMCS work and the costs of works could be apportioned appropriately based on the condition information.

In 2005 SCOTS published their report on their analysis of the backlog of repairs on the local road network. It identified the opportunities created by the use of the family groupings and the scope for use in other activities of SCOTS; to clarify further the information held by councils; to work with others on issues of whole life costs of different parts of the asset; to repeat surveys in conjunction with Audit Scotland on costs of activities and to repeat the backlog assessment in three years time.

So pulling all of the various strands together, by 2005 we have legislation pointing to the need to develop asset based strategies and to deliver them in accordance with the principles of Best Value, recommendations from Audit Scotland pointing to the need for more collaborative working and an asset

management based approach, an updated Code of Practice stressing the importance of adopting the principles behind asset management planning. With Best Value audits ongoing in local authorities and a second contract for SRMCS in need of planning, SCOTS in conjunction with the Scottish Executive Transport teams identified an opportunity to take forward a collective approach to asset management planning. The Efficient Government Fund was established in 2004 by the Minister for Finance and Public Service Reform with the principles of public service reform being focused on people, ensuring excellence, maximising choice, and getting best value for the public pound.

In July 2005 SCOTS, supported by the Scottish Executive, submitted a Stage 1 bid, seeking support for the development of a common system for asset management plans for all local authorities in Scotland. It was considered that such a bid met with all of the principles highlighted above. It would draw on the experience of the Scottish Executive and would look to collectively procure, systems and services to gather the outstanding inventory data, and development of asset management plans for councils' road assets within a period of five years. A project estimated at £27M over five years is identified to save around £20M. The Stage 1 bid was successful and a detailed business case is currently being developed. A successful bid at this next stage will not only require detailed project management and delivery of the various contracts etc, it will also require input at all stages from each council.

With this approach, asset management plans will become more than just a dream and they will ensure that all of the benefits of such a strategy are achieved.