Applying the Government Accounting Standards Board Statement 34: Lessons From the Field

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Prepared for the Transportation Research Board Annual Meeting
Washington DC

Abstract

In June 1999, the Government Accounting Standards Board (GASB) issued a reporting requirement that state and local governments show the value of the infrastructure assets that they own. The use of these guidelines is very controversial. However, it is mandated in most state statutes for state and local agencies to follow the guidelines. In this paper we show that the application of GASB Statement 34 is consistent with principles of good asset management. We use data and procedures from the pavement management system for the City of Hopkins, Minnesota to illustrate the application of the GASB requirements.

INTRODUCTION

In June 1999, the Government Accounting Standards Board (GASB) issued a reporting requirement that state and local governments show the value of the infrastructure assets that they own. Historically, public sector agencies have used revenue and expense reports and have not reported the value of their investments or assets. However, consistent with other business principles, there is considerable interest in moving to a balance sheet that includes assets and enhances public accountability. Also, asset valuation is a key element for evaluating success within organizations (1).

The GASB reporting guidelines are controversial. At the July 1999 meeting of the National Association of County Engineers (NACE), the Board and Executive Committee passed a resolution to recommend that GASB reconsider and rescind the infrastructure reporting requirements:

http://www.naco.org/affils/nace/leg/GASBres.htm

The Washington Financial Officers Association initially recommended that state and local agencies not implement the guidelines if significant costs will be incurred but has since deemed the regulations "appropriate."

During the fifteen years that the GASB requirements have been under discussion, interest in asset management has also independently generated considerable activity in professional organizations (such as the American Association of State Highway and Transportation Officials, and the American Public Works Association), agencies and supporting organizations. This paper develops the relationships among the existing work on asset management, ongoing efforts on asset valuation and the GASB requirements. We also show how the guidelines are applied using data from the City of Hopkins, Minnesota.

GASB STATEMENT 34

GASB is a private non-profit organization that determines commonly accepted practices for government financial reporting. Reporting of infrastructure assets has been an option since 1974 but less than 1% of agencies actually report and fewer actually depreciate assets. The intent of the new requirements, known as Statement No. 34, is to make annual financial reports more useful to legislators, investors and creditors (1) and support assessment of whether costs are being shifted to future generations, and the relative change in the agency's financial position. Statement No. 34 requires government financial managers to provide a narrative, known as management's discussion and analysis (MDA), summarizing the overall financial position and contrasting it with the previous year's situation. Revised financial statements based on full accrual accounting for all government activities, specifically physical assets, will support the MDA. Examples are presented in (2).

While the GASB does not have any mechanism for enforcing the reporting requirements, state statutes commonly require states and local agencies to follow generally accepted practices; in other words, the GASB requirements. For example, in Minnesota state statutes require local governments to follow "generally accepted accounting principles."

No matter what approach is taken, Madeleine Bloom, the director of FHWA's Office of Asset Management, summed up the issues in a report to the AASHTO Asset Management Task Force (3):

Adding highway infrastructure to the balance sheets of states will heighten the importance of these assets and draw attention to the need to maintain their condition, which is positive.

VALUING ASSETS

Like asset management, valuing assets can be interpreted in many different ways. The value of an asset depends on whether you are interested in the financial or the economic value. There are also many different methods for determining the value of an asset including (4):

- Book value - current value based on historical cost adjusted for depreciation,
- Written down replacement cost - current value based on replacement cost depreciated to current condition,
- Market value - price buyer is willing to pay,
- equivalent present worth in place - historic cost adjusted for inflation and wear,
- Productivity realized value - net present value of benefit stream for remaining service life.

Public agencies are required to report the value of infrastructure assets such as roads, bridges, and tunnels (5). Although the requirements are effective June 1999, a transition period has been defined and the earliest implementation is June 2002. The value may be reported as an historical cost minus depreciation, or using a modified approach. Using the modified approach (1):

> *Infrastructure assets are not required to be depreciated if (1) the government manages those assets using an asset management system that has certain characteristics and (2) the government can document that the assets are being preserved approximately at (or above) a condition level established and disclosed by the government. Qualifying governments will make disclosures about infrastructure assets in required supplementary information (RSI), including the physical condition of the assets and the amounts spent to maintain and preserve them over time.*

The asset management system must have an up-to-date inventory, include condition assessments and estimate the annual amount required each year to preserve these assets at some level of performance specified by the reporting agency.

Statement No 34 provides an example of asset value based on book value using an estimated historical cost and straight line depreciation as follows (1):

> *In 1998, a government has sixty-five lane miles of roads in a secondary road subsystem, and the current construction cost of similar roads I $1 million per lane-mile. The estimated total current replacement cost of the secondary road subsystem of a highway network, therefore, is $65 million. The roads have an estimated weighted average age of fifteen years. Therefore, 1983 is considered to be the acquisition year. Based on US Department of Transportation, Federal Highway Administration's "Price Trend Information for Federal Aid highway Construction for 1983 and 1998, 1983 constructions costs were 69.03 percent of 1998 costs. The estimated historical cost of the subsystem, therefore, is $44,869,500. In 1998, the government would have report the subsystem in it s financial statements to have an estimated cost of $44,869,500 less accumulated depreciation for fifteen years based on that deflated amount. ii assume that the road system had a total useful life of twenty-five years. Assuming no residual value at the end of the time the straight-line depreciation expense would be $1,794,780 per year, and accumulated depreciation in 1998 would be $26,921,700.*

In deciding on a method, the availability of data, and what the results will be used for are critical factors. The value of the asset can be used for establishing accountability, decision making and decision support. It is important to recognize that the value of an asset should also include the question "to whom?" Answering this question requires knowledge of the users of the asset and consideration of time in the sense of whether or not the value of the asset should reflect its value for future generations. For example, an underutilized section of roadway may be in the same condition as a heavily traveled section. To the user they have very different values, but their value based on condition may be the same.

Tennessee's Experience

Using existing management systems data, Tennessee Department of Transportation has explored the effort required to value right of way, structures, pavement and buildings as required to meet GASB 34 (6). The exploratory analysis was based on the assumption that the modified method will be used with broad classes of infrastructure, for example, long span bridges being grouped together. It was determined that adequate supporting data already available to be able to meet the reporting requirements including the RSI.

Using Micro PAVER

As illustrated by Tennessee DOT's experience, much of the existing data to support the GASB Statement 34 requirements already resides in existing asset management systems. The Micro PAVER pavement management system (7) provides a simple tool that provides the data to meet the GASB requirements. Specifically, and like other pavement management systems, Mico PAVER includes inventory, condition assessment, and tools for estimating the investment required to meet a specified level of pavement performance. Micro PAVER also illustrates some

of the differences between the GASB requirements and asset management. While Micro PAVER meets the GASB requirements and it is an asset management system for managing a particular type of asset, it is not asset management in the broader sense of the word. It encourages decision-makers to focus on traditional stovepipe decision-making and relies heavily on engineering judgement.

Another Role for the Highway Economic Requirements System (HERS)

One of the important concepts of asset management is that there is some value to looking at highway assets as a whole rather than in terms of specific types of assets such as pavements and bridges. FHWA is exploring the role the Highway Economic Requirements System (HERS) may play in this (8). HERS is an elaborate benefit costs analysis model used to make recommendations to congress regarding the federal highway budget and considers highway performance in terms of safety, pavement preservation and congestion. The calculation of residual value is particularly interesting but as it currently stands, represents an economic value of a particular segment, rather than a financial value. However, HERS clearly has raw building blocks that are appropriate for developing asset value and for providing supporting information so that agencies do not have to depreciate their assets.

USING DATA FROM A PAVEMENT MANAGEMENT SYSTEM TO MEET GASB REQUIREMENTS

Pavement management systems typically define homogeneous pavement segments. The segments are used grouped into functional classes. Within each functional class, segments have similar design standards and usage. Related to each segment are data on the pavement condition and age. This data can be used to calculate the value of the asset and then to devise a strategy to maintain condition at an acceptable level.

Calculating the Value of Assets

For each pavement segment constructed or reconstructed since 1980:

1. Compute replacement cost (Cost repl)

2. Convert to historical (Cost hist)

- Cost hist = Cost repl * CCI yr_const / CCI 2000
- CCI 2000 = construction cost index in year 2000
- CCI yr_const = construction cost index in year pavement was constructed

Several different construction cost indices (CCI) are available. For example, Engineering News Record (ENR) publishes a monthly index for various cities. Perhaps the most logical cost index is the highway construction cost index that tracks price trends for highway construction. This is available on the Bureau of Transportation Statistics website (www.bts.gov) under Highway Statistics. However, this data is undergoing a transition and the most recent data is for 1997.

3. Convert to book value (Cost book)

Cost book = Cost hist * (life - age)/ life

Life = life of the pavement

Age = age of the pavement

Example

To illustrate the application of this procedure, consider the example from GASB:

- Replacement cost for a highway-$1m/mile
- Historical cost
  - 15 year old highway
  - CCI 1983 / CCI 1998 = 0.6903
  - Cost hist = $0.69 m/mile
- Book value
  - Expected life 25 years
  - Depreciation = 60% (straight line)
  - Cost book = $0.27m/mile

Demonstrating that Pavement is Adequately Maintained

To demonstrate that the pavement is adequately maintained and therefore, the value does not have to be depreciated, set minimum average acceptable condition (PCI) for each functional class (local and collector). Setting the minimum acceptable level of condition requires expert judgement and a consensus on what is appropriate for a specific functional class and a specific location. The pavement management system is then used with typical scenarios to demonstrate that this condition is maintained over say a 10-year period and generate required budgets to maintain condition. Some iteration will be required to find the appropriate condition and expenditure levels.

The state of local government will have to demonstrate in the narrative that is attached to the typical financial reports that:

- The recommended levels of funding to maintain the system have actually been spent, and
- Condition inspections show that on the average the minimum acceptable level of condition has been maintained.

A CASE STUDY: PAVEMENTS IN THE CITY OF HOPKINS, MINNESOTA

The following case study is offered to illustrate how a local government agency, the City of Hopkins, Minnesota is working to apply the "modified" approach of GASB Statement No. 34 using its pavement management system (PMS).

Although Hopkins, which is located a few miles west of Minneapolis, has an accurate inventory of infrastructure assets, which resides in a PMS relational database management system and a fully integrated Geographic Information System (GIS), it does not have a readily accessible record of historical cost data. Hopkins currently has an AA bond rating.

The first settlers of Hopkins arrived in 1854; roots of the town began in 1887. In 1893, the area was incorporated as the village of West Minneapolis and in 1928; the name of the village was changed to Hopkins. The population at the time of its incorporation was 1,105; today it is 16,500. The average age of its residents is 31.

Infrastructure Network

The original village was comprised of three square miles, and it has been enlarged by annexation to its present size of about four square miles. Table 1 describes the City's pavement network.

TABLE 1. PAVEMENT NETWORK, CITY OF HOPKINS

Functional Class	**Number of Sections (Street Blocks)**	**CenterlineMileage**
Local	384	41.8
Collector	95	9.5
Total	**479**	**51.3**