Understanding GASB 34's Infrastructure Reporting Requirements

By: Patrick McNamee, Daniel Dornan, Daniel Bajadek, and Edward Chait
PricewaterhouseCoopers LLP

Introduction

The most significant pronouncement in the history of financial reporting requirements for the more than 84,000 state and local governments in the United States was issued in June 1999 when the Governmental Accounting Standards Board (GASB) unanimously approved Statement No. 34 (GASB 34): *Basic Financial Statements—and Management's Discussion and Analysis—for State and Local Governments*. Among its many new provisions, GASB 34 required that state and local governments begin to report on the value of their infrastructure assets, including roads, bridges, water and sewer facilities, and dams.

GASB 34 provides wide latitude in how infrastructure assets must be reported. However, for state and local governments to comply, it may take significant efforts to define appropriate policies, develop consistent methodologies, deploy asset management systems, and assemble necessary documentation.

This paper is written for state and local officials who will be involved in efforts to respond to, and comply with, the infrastructure reporting requirements of GASB 34. The focus and emphasis of this paper is on transportation infrastructure, which represents the largest category of infrastructure assets owned by many state and local governments. The paper summarizes the key aspects of GASB 34's infrastructure reporting requirements, discusses the rationale for these requirements, and identifies issues and challenges associated with implementing these requirements in a rational, consistent, and cost-effective manner.

The major sections of this paper are listed in the following box.

Table of Contents

1. Governmental Accounting Standards Board

The Governmental Accounting Standards Board is a private, nonprofit organization formed in 1984 to develop and improve accounting and financial reporting standards for state and local governments. The Board comprises seven members, supported by a full-time staff. Board members include users, preparers, and auditors of state and local government financial statements, as well as a member of academia. It is the governmental equivalent of the Financial Accounting Standards Board (FASB), which sets accounting standards for the private sector. Both organizations operate under the auspices of the non-profit Financial Accounting Foundation, which is supported by private funding.

GASB is responsible for setting generally accepted accounting principles (GAAP) for both state and local governments. Governments must follow GASB standards to obtain clean opinions from their auditors. The laws of certain state and local governments require their financial statements to be prepared according to GAAP standards.

2. GASB Statement No. 34

On June 10, 1999, the seven members of GASB unanimously approved the issuance of GASB 34. Crowning many years of effort, this long-anticipated Statement establishes new financial reporting requirements for state and local governments

throughout the United States. While retaining some of the information currently provided by governments in their annual financial reports, the Statement requires additional information intended to make the annual reports more comprehensive and easier to understand and use. It represents the most comprehensive and far-reaching accounting rule for government ever developed, with ramifications far beyond the realm of fiscal accounting and reporting.

In developing these new requirements, GASB referred to its initial Concepts Statement, *Objectives of Financial Reporting*, which established accountability as the principal objective of governmental financial reporting. To meet their obligation to be accountable, governments are required to provide useful, relevant, reliable, and understandable information that addresses the *principal* needs of a variety of users.[1] Concepts Statement No. 1 further noted that annual financial reports should allow users to assess a government's accountability by assisting them in determining compliance with finance-related laws, rules, and regulations, as well as in making economic, social, and political decisions. The three groups of primary users identified by GASB are citizens, legislative and oversight bodies, and investors and creditors.[2]

In addition to continuing the requirement for fund financial statement reporting, GASB 34 requires new governmentwide financial statements to use accrual accounting for all government activities. Hence, all revenue earned and costs incurred in providing government services in a year will be reported—not just those received or paid for in the current year. In addition, all current and long-term assets and liabilities, such as infrastructure and general obligation debt, will be reported within the balance sheet of the governmentwide financial statements. This will give government officials a more comprehensive way to demonstrate their long-term stewardship of public resources**,** which GASB defines in terms of both fiscal and operational accountability. GASB defines fiscal accountability as ensuring the safekeeping and appropriate use of public resources and operational accountability as the efficient and effective use of public resources to meet authorized service objectives and obligations of the government on an ongoing basis.[3]

Among the new requirements of GASB 34, perhaps the most significant and far reaching are those dealing with the reporting of general infrastructure assets. GASB defines infrastructure assets as long-lived capital assets associated with governmental activities that normally are stationary in nature and can be preserved for a significantly greater number of years than most capital assets. Examples of infrastructure assets include roads, bridges, tunnels, drainage systems, water and sewer systems, dams, and lighting systems. Buildings are excluded from the definition of infrastructure assets, unless they are an ancillary part of a network of infrastructure.[4]

3. Background

A nation's economy depends heavily on the proper functioning of its infrastructure. Infrastructure assets significantly affect the viability of our nation's economy and the competitiveness of individual states and localities. Having constructed the world's finest highway system during the last half century, the United States is faced with the choice of preserving this invaluable asset at reasonable cost or deferring maintenance and having to prematurely replace the asset at much higher cost.

3a. Cost-Effectiveness of Long-Term Preservation versus Replacement. Research has long shown that deferred maintenance of infrastructure assets, such as highways and bridges, is much more expensive over the long term than investing in an ongoing program of preventive maintenance and renewal.

Exhibit 1: Typical Pavement Performance Curve

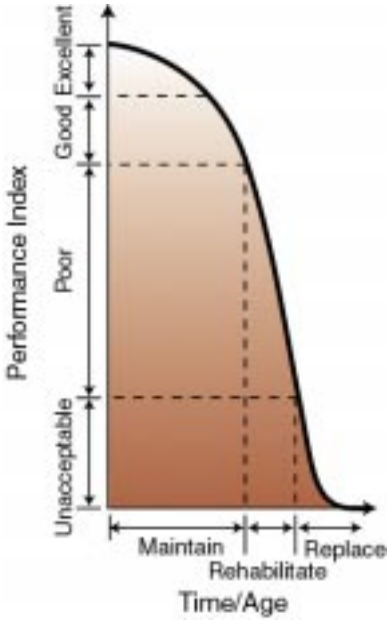


Exhibit 1 shows a typical performance curve for highway pavement. As indicated by this S-shaped curve, pavements generally remain in good-to-excellent condition for several years following construction or rehabilitation, with little or no upkeep. However, after 7 to 10 years, the rate of deterioration rapidly increases, until the entire pavement structure must be replaced at high costs at approximately 20 years.

Exhibit 2: Life-Cycle Asset Management Approach

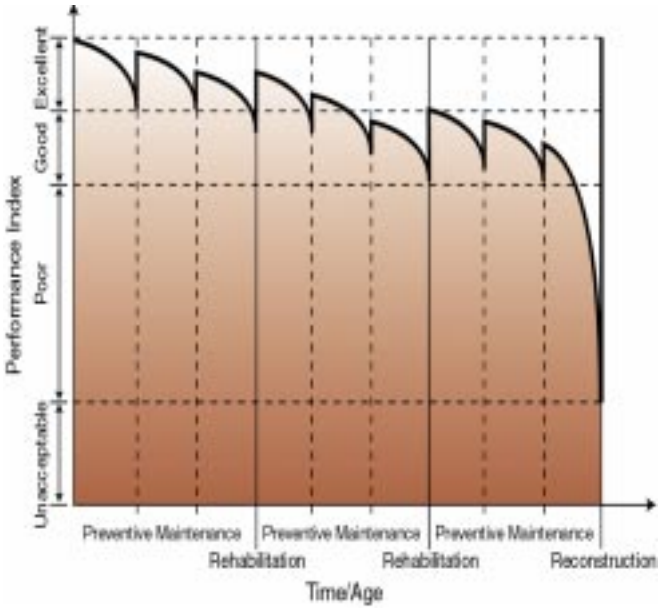


Exhibit 2 demonstrates the impact of periodic preventive maintenance treatments (such as crack sealing, drainage cleaning, or the application of thin overlays) on the longevity of pavements. As indicated by this sawtooth-shaped curve, these interim actions can substantially extend the service life of pavements to up to 60 years, and forestall the high costs of replacement.

For example, several studies have indicated that one dollar spent on preventive maintenance at the appropriate time in the life of pavement may save up to four dollars in future rehabilitation costs.[5] When the costs of accidents, construction-related delays, vehicle damage, and driver inconvenience are included, the benefit/cost ratio of preventive maintenance becomes even larger. Consequently, transportation agencies at all levels of government are placing greater emphasis on maintenance and beginning to apply life-cycle asset management techniques to extend the service life of existing infrastructure assets.

3b. Transition from a Focus on Capital Formation to an Emphasis on Rehabilitation and Preservation. In the case of transportation infrastructure, much of the road system in this country was built on a pay-as-you-go basis. Funding came primarily from user fees and taxes, such as motor fuel taxes, motor vehicle registration fees, and driver license fees. With the initiation of the Interstate Highway Program in the late 1950s, federal funding of highways and bridges focused on new construction. State and local funding was primarily used to match available federal capital funds and to maintain and repair the resulting roadways. These funding arrangements focused efforts on capital projects over maintenance and preservation during the 1960s and 1970s.

During the 1980s, as the nation's highway system began to age and deteriorate, federal funds became available for major rehabilitation projects. As infrastructure needs began to outpace traditional funding sources, state and local governments began to experiment with alternative ways to finance transportation infrastructure. These included establishing special assessment districts, dedicating sales tax increments, entering into design-build-operate-maintain-finance contracts, and issuing bonds secured by future federal transportation funding.

Where infrastructure is financed using revenue bonds (such as toll roads and water treatment facilities), there is typically greater scrutiny over how well governments preserve their infrastructure. This is to ensure adequate patron-provided revenue to support ongoing operation and maintenance and to service the outstanding debt.

Where infrastructure is financed out of general revenues, there are significant cost and service-life benefits to ongoing preservation efforts. The resulting cost savings can be used elsewhere.

3c. Legislative Impetus for Change. In 1991, Congress passed the Intermodal Surface Transportation Efficiency Act (ISTEA), which prescribed the federal funding program for surface transportation modes for the next six years. Among its requirements, ISTEA mandated that all state transportation agencies designated to administer Federal Transportation Trust Fund monies implement a number of management systems to improve the cost-effectiveness of their programs. Among these were pavement management systems and bridge management systems, which were intended to provide structured approaches and documentation to better manage the preservation of pavements and bridges. While this mandate was subsequently removed because of the difficulty of enforcement, the Federal Highway Administration continues to support these initiatives through training and technical assistance.

Since the late 1970s, state transportation agencies have been introducing pavement management systems to guide pavement maintenance and rehabilitation budgets and programs. However, most state departments of transportation (DOTs) continue to rely on the experience of their maintenance engineers to determine pavement maintenance

treatments and strategies. While changing established habits takes time, the growing emphasis on infrastructure preservation has led some state DOTs, such as PennDOT, to proclaim "maintenance first" as a core strategic focus.[6] Supporting these efforts are various analytical methodologies and tools to help agencies develop more cost-effective strategies for infrastructure maintenance.

Several of these methodologies are listed below.

Asset Management Methodologies

- Life-cycle costing
- Cost-effectiveness analysis
- Equivalent annual costing
- Longevity cost indexing
- Pavement management systems
- Bridge management systems
- Highway maintenance management systems
- Asset management systems

In two states, New York and Washington, the State legislatures require that their DOTs use life-cycle costing or preventive maintenance strategies.[7]

3d. Administrative Responses to Change. Recognizing the increasing emphasis on asset management, the Federal Highway Administration recently established an Office of Asset Management to focus on the management, economic, and systems implications of asset management approaches applied to transportation agencies at the federal, state, and local levels.

Several years ago, the American Association of State Highway and Transportation Officials (AASHTO) established a Task Force on Asset Management to document and promote asset management techniques among state transportation agencies, following several successful conferences on asset management held during the past decade. At its 1999 Annual Meeting held in Tulsa, the AASHTO Board endorsed the establishment of a new task force to work with GASB in the development of future guidance relative to the infrastructure reporting requirements of GASB Statement No. 34.

These initiatives are consistent with the Modified Approach described in GASB 34, which allows state and local governments to report on the condition of their infrastructure assets and the effectiveness of ongoing efforts to preserve these assets as an alternative to the more traditional accounting practice of depreciation. By allowing state and local governments to report on efforts to preserve existing infrastructure assets, instead of merely noting the costs associated with infrastructure depreciation, the application of the Modified Approach might encourage preventive maintenance and other asset management approaches and discourage deferred maintenance of critical infrastructure assets. This emphasis would mirror what maintenance engineers have been advocating for many years: that it is more cost-effective over the long term to perform preventive maintenance on infrastructure than to defer maintenance.

3e. Investment-Based Reporting Needs. The infrastructure reporting requirements of GASB 34 are intended to provide public accountability over the costs and financing of public investments in infrastructure, such as roads, bridges, water and sewer facilities, and dams. Beyond the general public's interest in ensuring that infrastructure is properly maintained, GASB cites the needs of public finance firms, individual investors, and bond-rating agencies that assess the credit worthiness of governments when considering public-financing opportunities.[8]

GASB 34's infrastructure reporting requirements are aimed at providing more comprehensive cost information upon which to make informed judgments about the ability of governments to repay their debts and support their service obligations. For infrastructure financed by borrowing, such as municipal bonds or general obligation bonds, there is potential value to the investment community in understanding that the government is capable of servicing the debt and properly caring for the infrastructure asset, once built. For other infrastructure paid by various user fees and taxes, the general public and those paying the user fees and taxes want to ensure that what they are paying for will provide lasting service.

4. Key Infrastructure Reporting Requirements of GASB Statement No. 34

Here is a summary of the key features of GASB 34's infrastructure reporting requirements:

4a. Infrastructure must be included in the asset base reported in the annual financial statements of state and local governments.

- The asset base must include the value of all general infrastructure assets that were acquired (purchased, constructed, or donated), renovated, restored, or improved after the effective date of implementing Statement No. 34. This is to be reported on a **prospective** basis.[9]
- Four years after the effective date of implementing Statement No. 34, the asset base must include the value of all existing major general infrastructure assets that were acquired (purchased, constructed, or donated), renovated, restored, or improved in fiscal years ending after June 30, 1980. This is to be **retroactively** reported on either a depreciated basis or according to a Modified Approach. The two-thirds of state and local governments with less than $10 million in total annual revenues are exempted from this requirement, as discussed later.[10]
- Infrastructure assets can be reported on the basis of a network or a subsystem of a network.[11]

4b. Infrastructure assets should be reported at historical cost or estimated historical cost.[12]

- Historical costs represent the total cost of construction, addition, and improvement since June 30, 1980, plus capitalized interest and ancillary charges necessary to place the asset into its intended location and condition for use.[13]
- If records are inadequate, historical costs may be estimated by calculating the current replacement value of a similar asset and deflating the cost by applying price-level indices to the year of acquisition or most recent improvement.[14]

4c. At the transition date for retroactively reporting on the value of infrastructure built or improved in the fiscal years ending after June 30, 1980, the determination of major general infrastructure assets should be at either the network or subsystem level.

- Major general infrastructure assets should be reported at the network level if the cost or estimated cost of the network is expected to be at least 10 percent of the total cost of all general capital assets of the government reported in the first fiscal year ending after June 15, 1999.[15]
- Major general infrastructure assets should be reported at the subsystem level if the cost or estimated cost of the subsystem is expected to be at least 5 percent of the total cost of all general capital assets of the government reported in the first fiscal year ending after June 15, 1999.[16]

4d. Following initial capitalization, infrastructure assets should either be depreciated, or reported using a Modified Approach.[17]

- GASB requires historical cost depreciation to be measured by allocating the net cost of depreciable assets over their estimated useful lives in a systematic and rational manner.[18]
- The net cost of an asset is the historical cost of the asset less its estimated salvage value at the end of the asset's useful life.[19]
- The useful life of an asset should consider the current condition of the asset and how long it is likely to meet service demands.[20]
- Governments may use any established method of depreciation (such as straight-line or sum-of-the-years'-digits) that is based on the estimated remaining useful life of a class of assets, network of assets, subsystem of a network of assets, or individual asset.[21]

- Composite methods may be used when depreciating groups of assets with different remaining service lives.[22]
- Capital assets that do not need to be reported using the depreciation approach include:
  - Inexhaustible assets, such as land and land improvements that do not depreciate in value
  - Infrastructure assets that are being effectively preserved, as reported using the Modified Approach[23]
- Eligible infrastructure assets not depreciated should have their maintenance and preservation costs expensed in the period incurred, while the costs of additions or improvements that increase the capacity or efficiency of infrastructure assets should be capitalized.[24]
- Infrastructure assets not being depreciated should be reported separately from those that are being depreciated.[25]

4e. The Modified Approach allows governments to record the current costs of preserving eligible infrastructure in lieu of depreciation. To use this alternative approach, the government must do the following:

- To manage eligible infrastructure assets, use an asset management system or process that has the following components:[26]
  - Maintains an up-to-date inventory of eligible infrastructure assets[27]
  - Performs condition assessments of eligible infrastructure assets at least every three years, using a replicable basis of measurement and measurement scale[28]
  - Summarizes the results, noting any factors that may influence trends in the information reported[29]
  - Estimates each year the annual amount to maintain and preserve the eligible infrastructure assets at or above a prescribed level[30]
- Document that the government is providing sufficient maintenance efforts to preserve the assets through the following efforts:
  - Ensure that the results of the three most recent condition assessments meet or exceed the established condition level[31]
  - Compare the estimated amount required to maintain and preserve eligible infrastructure assets at or above the established level with the amounts actually expensed for each of the past five reporting periods[32]

4f. The effective date for complying with GASB 34's *prospective reporting requirements* for newly acquired general infrastructure assets depends on the size of the government, as measured by the government's total annual revenues in the first fiscal year ending after June 15, 1999:[33]

- For governments with $100 million or more in total annual revenues, the effective date is the fiscal year beginning after June 15, 2001.
- For governments with at least $10 million, but less than $100 million, in total annual revenues, the effective date is the fiscal year beginning after June 15, 2002.
- For governments with less than $10 million in total annual revenues, the effective date is the fiscal year beginning after June 15, 2003.

4g. The effective date for complying with GASB 34's *retroactive reporting requirements* for existing major general infrastructure assets is four years later:[34]

- For governments with $100 million or more in total annual revenues, the effective date is the fiscal year beginning after June 15, 2005.
- For governments with at least $10 million, but less than $100 million, in total annual revenues, the effective date is the fiscal year beginning after June 15, 2006.
- For governments with less than $10 million in total annual revenues, they are encouraged, but not required, to retroactively report on their existing major general infrastructure assets.

5. Rationale for Reporting Infrastructure in Annual Financial Statements

GASB instituted the infrastructure reporting requirements of GASB 34 to assist users of state and local governmental financial reports perform the following functions with respect to the government's infrastructure assets:[35]

GASB Rationale for Infrastructure Reporting

- Determine whether current-year revenues were sufficient to cover the cost of current-year services
- Assess the service efforts and costs of programs
- Determine whether the government's financial position improved or deteriorated as a result of the year's operations
- Assess the government's financial position and condition
- Assess the service potential of physical resources having useful lives that extend beyond the current period

The following paragraphs discuss some of the background and rationale behind GASB's inclusion of infrastructure in the new financial reporting requirements for state and local governments.

5a. GASB Response to Exposure Draft Critics. In developing the new guidelines, GASB worked closely with the Governmental Accounting Standards Advisory Council, whose members are drawn from major organizations of financial statement users, auditors and preparers. GASB also involved people from all areas of state and local government finance, the public financial community, accounting and auditing associations, citizen groups, as well as infrastructure experts. These included government transportation and infrastructure officials, private sector consultants and appraisers, and officials of the Federal Highway Administration, the American Public Works Association, and the American Association of State Highway and Transportation Officials.

Even before the release of the Exposure Draft of Statement No. 34, certain respondents expressed concerns about the following:

- The value of reporting public infrastructure assets
- The value of developing historical costs for infrastructure assets already constructed or improved
- The relevance of depreciating infrastructure assets already reported as an expenditure

Some thought that the costs of reporting on general infrastructure assets might be prohibitive and might not be justified by the expected benefits. Others expressed the concern that GASB 34 might encroach on public policy rights of governmental entities (e.g., the right to make spending allocation decisions)[36] and suggested other ways of encouraging infrastructure preservation.

In deciding to proceed with the infrastructure reporting requirements contained in Statement No. 34, GASB concluded that infrastructure asset reporting was "essential to provide information for assessing financial position and changes in financial position, and for reporting the cost of programs and functions."[37] In addressing some of these concerns, GASB made the following changes:

- Limited the requirement for retroactive capitalization of infrastructure assets to those built or improved since June 30, 1980
- Extended the transition period for retroactive infrastructure reporting
- Removed the retroactive reporting requirement completely for governments with less than $10 million in total annual revenues
- Allowed the Modified Approach as an alternative to the reporting of annual depreciation costs

5b. Depreciation Approach Versus the Modified Approach. GASB originally intended to account for the use of all exhaustible capital assets, including infrastructure, through the recording of historical cost depreciation. However, respondents to the GASB 34 Exposure Draft who are responsible for the development and maintenance of infrastructure argued that the recording of historical cost depreciation was not appropriate for long-lived infrastructure assets such as roads and bridges because these assets are generally maintained to a certain level of service over their useful lives. In response, GASB adopted the Modified Approach as an alternative to the reporting of depreciation expense to account for infrastructure preservation efforts.

The depreciation approach may be less costly and easier to use than the Modified Approach, depending on the availability of documentation required by the Modified Approach. However, depreciation expense by itself may not recognize the fiscal benefits of ongoing preservation efforts. In addition, depreciation expense might be interpreted as an indication that the asset is being allowed to gradually deteriorate. For many agencies responsible for infrastructure, this may not be an acceptable asset management strategy.

The Modified Approach may provide a more meaningful gauge of the government's ongoing stewardship of its infrastructure assets. It requires documentation that will enable state and local governments to more cost-effectively manage their infrastructure assets and to take credit for the results.

6. Implementation Issues and Considerations

Outside of enterprise funds, most governmental units have never accounted for infrastructure in their financial statements. Consequently, there is no consistency in the documentation of infrastructure projects or the service methods and accomplishments associated with the maintenance or preservation of these long-lived assets. The issues surrounding implementation of such accounting are numerous and complex. They pose many challenges to both state and local governments seeking to comply with the new financial reporting model.

Here are some of the key issues that will need to be addressed by responding government agencies before implementation can be attempted or compliance assessed.

6a. The identification and valuation of infrastructure assets is an important requirement of GASB 34. These are the key issues for governments to consider:

- How infrastructure assets are to be identified and valued, particularly those built or improved since 1980
- Whether to include infrastructure assets built or improved before 1980
- Level of detail for identifying and valuing assets:
  - Type and combination of infrastructure assets to be included (e.g., highways by type, bridges by type, or highways and bridges together)
  - Specific features to be included by infrastructure asset group (e.g., pavement surface/base/subbase, bridge deck/superstructure/piers, drainage facilities, guard rail, signs, etc.)
  - Difficulty of segregating cost components of infrastructure assets (e.g., pavement, bridges, drainage structures, sound barriers, and other costs)
  - Appropriate extent of sampling and frequency of data collection efforts to comply with GASB 34's infrastructure reporting requirements
- Personnel qualifications for making required valuation estimates
- Documentation to support asset identification and valuation
- For infrastructure built under a cooperative agreement with another government (e.g., bi-state authority, regional authority, county, or city), the allocable value to each government
- Integration of inventory and valuation records by different units of government to produce a consistent basis for infrastructure reporting
- Time and resources required to complete asset identification and valuation

6b. Where the Modified Approach is used, governments should determine whether currently available information on the inventory and condition of their infrastructure assets would satisfy the requirements of GASB 34. These are the key issues for governments to consider:

- Types of inventory data to be used:
  - Physical characteristics
  - Usage information
  - Accident history
  - Past maintenance efforts
- Types of condition data to be used:
  - Consistency of methodology for condition assessments performed over time on a cyclical basis
  - Ability to replicate condition assessments
  - Documentation required by the auditors
  - Simplicity or complexity of the assessment methodology
  - Adequacy of surface condition information versus structural condition information
  - Condition criteria to be used (e.g., Pavement Serviceability Index, International Roughness Index, bridge load capacity rating, or remaining service life)
  - Use of statistical sampling or judgmental sampling in conducting condition assessments
  - Whether to spread the sampling effort over three years
- Sources of information available to provide inventory, condition, or performance data regarding transportation infrastructure:
  - Highway Performance Monitoring System data submitted to the Federal Highway Administration
  - Pavement management system data
  - Bridge management system data
  - Asset management system data (e.g., inventory, valuation, usage, condition, and deterioration curves)

6c. Where the Modified Approach is not permitted or elected, governments will have to address the following infrastructure depreciation issues:

- Method of depreciation to be used
- Use of different depreciation methods for different types of infrastructure assets
- Service lives assigned to infrastructure assets or their components
- Remaining service life of infrastructure assets owned by government
- Salvage value assigned to infrastructure assets
- Applicability of depreciation approaches currently used by government for other capital assets

6d. Ability of governments to alternate between the historical cost depreciation approach and the Modified Approach in reporting on their infrastructure assets requires clarification:

- Ability to apply the depreciation approach to certain types of infrastructure assets and the Modified Approach to other types of infrastructure assets in the same reporting year
- Ability of a government that starts with the depreciation approach for prospective reporting purposes to shift to the Modified Approach when retroactive reporting is required
- Approach required if a condition assessment does not satisfy the performance standards established by the government in a particular fiscal year

6e. Extent to which governments must develop new infrastructure inventories and condition assessment programs/systems to comply with GASB 34, depending on the reporting approach used:

- Adequacy of present documentation and systems for meeting prescribed reporting requirements
- Adequacy of infrastructure inventory, condition, and valuation documentation for meeting requirements defined by GASB or appropriate industry groups
- Improvements needed to make present documentation and systems conform with reporting requirements and methodologies

6f. Aspects of the overall infrastructure reporting requirements needed to be in place as early as 2001 versus what can be deferred until 2005 or later, depending on the reporting approach used:

- Mechanisms that governments will need to document and account for new or improved infrastructure assets
- Mechanisms that governments will need to document and account for existing infrastructure built or improved since 1980

6g. Plan of action for achieving compliance with GASB 34's infrastructure reporting requirements, depending on the reporting approach used:

- Responsibility for determining the standards and methodologies for complying with GASB 34 and the timetable for their development
- Timetable for governments to start the process of compiling infrastructure asset records and assessing their adequacy
- Timetable for governments to institute an asset management system or process to comply with GASB 34
- Strategies for integrating the asset management system with the government's financial reporting system

6h. Expected level of financial and technical staff resources required to enable the government to comply with GASB 34's infrastructure reporting requirements:

- Up to the time of compliance
- Annually thereafter

While GASB 34 addresses many of these issues in a broad sense, GASB provides wide latitude to each state and local governments to adapt the requirements of the new Standard to the specifics of its circumstances. Here are some examples:

- Paragraph 24 of GASB 34 says that condition assessments of eligible infrastructure assets must be performed in each of the three years in a "consistent manner," but did not define the term.
- Footnote 18 indicates that replicability means that condition assessment measurement methods are such that at a point in time different measurers using the same methods would arrive at "substantially similar results," but did not define the term.
- Footnote 20 suggests that a condition assessment methodology can be a simple two-criterion system without indicating under what conditions this might be appropriate.
- Paragraph 24 requires a complete condition assessment of eligible infrastructure assets every three years and allows for a cyclical testing basis, but leaves the decision as to appropriate methodology to the individual government.
- GASB 34 does not specifically address what happens if there are unfavorable condition assessment results in only one of the three years. Nor does GASB 34 address the type of statistical sampling that can be used.

These issues demonstrate the need for proper planning and coordination by controller, auditor, and infrastructure agencies to understand what they have to do to comply with GASB 34 and how they can build on existing methodologies, systems, and databases. GASB has announced that it will issue supplemental guidelines for GASB 34 implementation in March or April 2000 that will comprise responses to questions and issues raised by interested parties following the issuance of Statement No. 34. GASB may or may not address these and other issues in the published guidelines.

Here are other significant infrastructure issues that governments must address:

- The Management Discussion and Analysis section of the financial reports must include a description of major additions to capital assets, including infrastructure. Governments may have to develop a methodology to provide this information.
- Net asset reserves must include a reserve for capital assets net of related debt. Since some portion of debt is often issued for noncapital purposes, governments may have to develop a methodology to determine how much of outstanding debt is attributable to noncapital purposes.
- Component unit and individual enterprise funds often have their own accounting systems and will start accounting for their infrastructure separately from the accounting of the primary government. Coordination of the process will be required.

GASB will likely leave it to each government to decide many of these issues for themselves or to others, such as AASHTO, to promulgate a range of acceptable practices. Consequently, governments will need to disclose the methods and assumptions they apply in footnotes to the financial statements or required supplementary information to help users understand the accounting and reporting results. This practice will be of particular importance if there are changes in methods or assumptions from year to year.

7. Implications for State and Local Governments

Following the release of GASB Statement No. 34, PricewaterhouseCoopers (PwC) conducted a series of group meetings and individual discussions with representatives of financial, audit, and transportation agencies from several major states. We also discussed GASB 34 issues with representatives of GASB, the financial community, the Federal Highway Administration's Office of Asset Management, and the American Association of State Highway and Transportation Officials (AASHTO). These discussions produced the following observations regarding the implications and challenges facing state and local governments due to GASB 34's infrastructure reporting requirements:

- A number of state governments have constitutional mandates to comply with generally accepted accounting procedures (GAAP) and therefore must comply with GASB 34.
- Little action has been taken to date regarding state or local responses to GASB 34. However, early group meetings have been held in certain states to initiate dialogue among agencies likely to be affected by GASB 34.
- The Year 2000 (Y2K) issue will likely dominate state and local government information technology (IT) agendas until the end of 1999. Some of the IT resources formerly devoted to the Y2K issue may then become available to help tackle GASB 34 issues and requirements early in 2000, provided that they are budgeted and appropriated by the government.
- The financial community will welcome better data to support their assessment of the creditworthiness of an individual state or local government, including information on its infrastructure. Reviews of a government's long-term capital plan may be enhanced by the new infrastructure information.
- It is unclear at this time what the impact of infrastructure information or the absence of it will have on government credit ratings and cost of debt. However, the long-term view provided by this information may allow trends and changes in infrastructure value and condition to be determined, thereby enhancing the rating process.
- The financial community may want governments that report depreciation for their infrastructure to

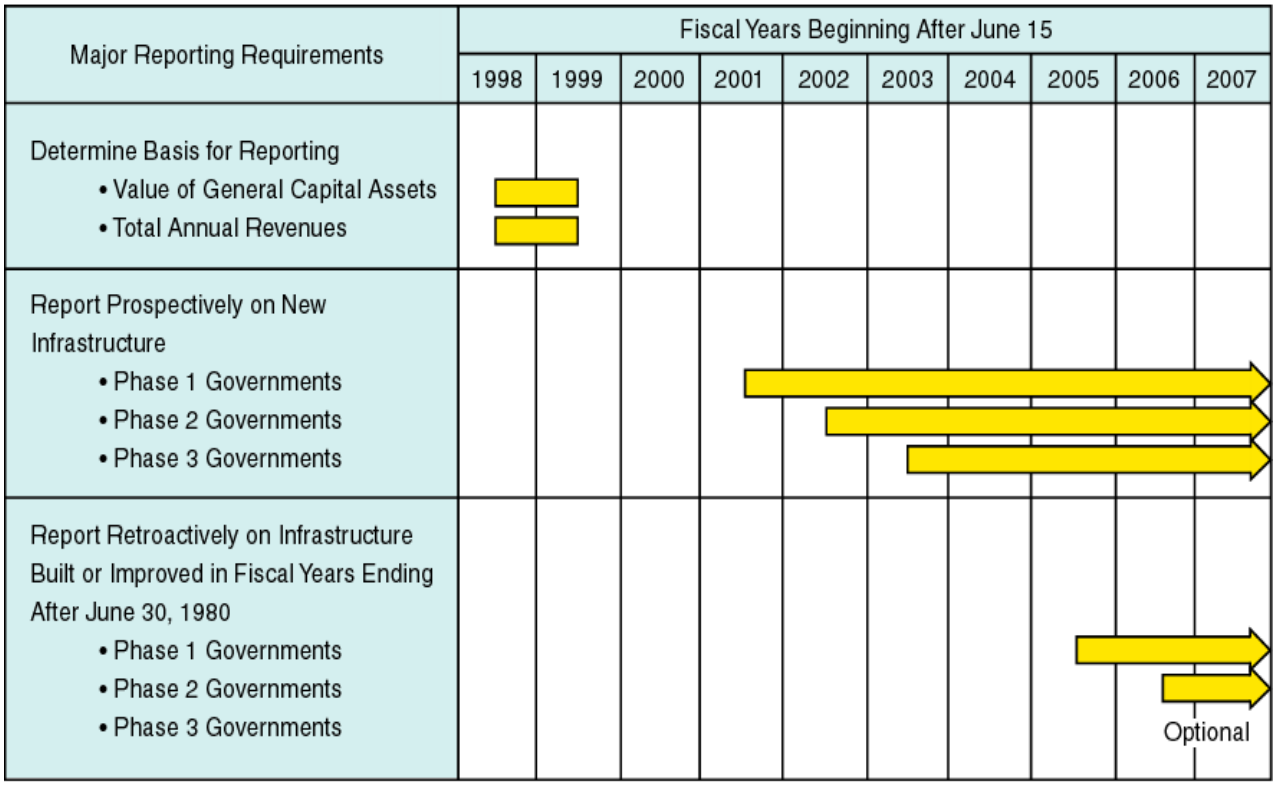
indicate whether they are performing preventive maintenance to keep the assets in serviceable condition or setting aside adequate funds for future replacement.

- The degree of consistency among reporting entities in how and when they respond to GASB 34 will affect the usefulness of reported infrastructure information for rating analysis or peer group comparisons. It is critical that reporting entities clearly describe the assumptions and methodologies used to report on the value and condition of their infrastructure assets so that differences may be taken into account in assessing the results. This information must be disclosed in the notes to the financial statements.[38]
- Traditionally during program budget development, preventive maintenance has not done well in competing with demand maintenance; capital improvement; or other governmental programs such as safety, education, or social services.[39] GASB 34 has the potential to improve the competitive position of preventive maintenance. As a result, there may be public policy implications of GASB 34's infrastructure reporting requirements as they relate to budgeting and allocating fiscal resources between infrastructure construction and maintenance, as well as between infrastructure and noninfrastructure programs.
- Major issues exist regarding the use of the Modified Approach:
  - Type, level of detail, and aggregation of infrastructure assets that must be reported
  - Criteria for assessing infrastructure asset conditions
  - Basis for determining the adequacy of maintenance efforts
  - Consistency with which data, valuation and condition assessment methodologies, and service-level standards are used by different agencies to report on their infrastructure assets (e.g., basic criteria currently used to report the condition of the nation's highways appear to lack the necessary consistency and accuracy to provide a useful basis for comparison[40])
- Controllers, auditors, and agencies responsible for infrastructure are recognizing the importance of working together to successfully implement GASB 34.
- State transportation agencies are expecting industrywide groups such as AASHTO to provide examples of possible approaches and methodologies for responding to GASB 34's infrastructure reporting requirements.
- States want methodologies for complying with GASB 34's infrastructure reporting requirements to be fairly simple and straightforward, based as much as possible on readily available data.
- Among state agencies, transportation agencies will likely be the most affected by GASB 34's infrastructure reporting requirements, because road networks are generally the most significant infrastructure assets owned by state government. Other affected agencies include public utilities and natural resources agencies responsible for dams and other flood-control facilities.
- The level and value of infrastructure assets will vary widely among local governments. The impact of GASB 34's infrastructure reporting requirements will vary accordingly. Those local entities most likely to have infrastructure that must be reported on include transit and toll highway authorities, airport and port authorities, public water and sewer utilities, and local highway departments.

The consensus among government officials whom we interviewed is that GASB 34's infrastructure reporting requirements will have far-reaching implications for both state and local governments. In particular, state and local transportation, utility, and natural resources agencies will be challenged to come up with acceptable methodologies, systems, and documentation to apply either historical cost depreciation or the Modified Approach to infrastructure reporting. This effort may have significant resource implications for state and local governments in terms of internal support systems, personnel, and technical support services.

Beyond the challenges of compliance, GASB 34 has the potential to focus greater attention by legislators, budget analysts, infrastructure agency managers, and the investment community on infrastructure maintenance and preservation. Governments may become more accountable for the condition of their roads, bridges, and other major types of infrastructure to taxpayers, businesses, rating agencies, creditors, and investors.

Exhibit 3: GASB 34 Infrastructure Reporting Schedule



Note: Phase 1 Governments have total annual revenues of $100 million or more in fiscal year 1999
Phase 2 Governments have total annual revenues of $10 million up to $100 million in fiscal year 1999
Phase 3 Governments have total annual revenues of less than $10 million in fiscal year 1999

8. Implementation Timeframe

From now until March or April 2000, GASB staff will be assembling a comprehensive implementation guide that will address many of the questions now being raised regarding how to interpret and implement the requirements of GASB 34. While GASB 34 is still fairly new and the details of its application remain to be fully defined, a significant effort will be required by state and local governments to digest and respond to these requirements over the next two to six years.

Exhibit 3 illustrates the major milestones associated with this process. The effective dates for the infrastructure reporting requirements of GASB 34 are defined in terms of the size of the government and the type of reporting.

The GASB 34 implementation milestones are described in more detail here:

Key Dates for GASB 34 Infrastructure Reporting

Fiscal Year Ending after June 15, 1999

- The value of general capital assets reported in the fiscal year ending after June 15, 1999, will provide the basis for determining those major general infrastructure assets that must be reported on in the fiscal year beginning after June 15, 2001, for governments with the largest annual revenues, later for governments with smaller revenues.

Key Dates for GASB 34 Infrastructure Reporting (continued)

Fiscal Year Ending after June 15, 1999

- To determine the year when infrastructure reporting must begin, governments will have to determine their total annual revenues for the first fiscal year ending after June 15, 1999.[41]

Fiscal Year Beginning after June 15, 2001

- Large-sized governments ($100 million or more in total annual revenues) must provide **prospective** reporting for all major general infrastructure assets built or improved during the fiscal year and report on these assets in subsequent years, using either the depreciation approach or the Modified Approach.

Fiscal Year Beginning after June 15, 2002

- Medium-sized governments (at least $10 million, but less than $100 million, in total annual revenues) must provide **prospective** reporting for all major general infrastructure assets built or improved during the fiscal year and report on these assets in subsequent years, using either the depreciation approach or the Modified Approach.

Fiscal Year Beginning after June 15, 2003

- Small-sized governments (less than $10 million in total annual revenues) must provide **prospective** reporting for all major general infrastructure assets built or improved during the fiscal year and report on these assets in subsequent years, using either the depreciation approach or the Modified Approach.

Fiscal Year Beginning after June 15, 2005

- Large-sized governments ($100 million or more in total annual revenues) must **retroactively** capitalize and report all major general infrastructure assets acquired, renovated, or improved in fiscal years ending after June 30, 1980, and report on these assets in subsequent years, using either the depreciation approach or the Modified Approach.

Fiscal Year Beginning after June 15, 2006

- Medium-sized governments (at least $10 million, but less than $100 million, in total annual revenues) must **retroactively** capitalize and report all major general infrastructure assets acquired, renovated, or improved in fiscal years ending after June 30, 1980, and report on these assets in subsequent years, using either the depreciation approach or the Modified Approach.

9. Possible Next Steps

Between now and 2001, as the requirements of GASB 34 become better defined, state and local governments should formulate action plans so they are prepared to comply when the deadlines arrive. Immediate actions might include the following:

- Perform a requirements analysis to determine what data and systems currently exist that can be used to help meet the infrastructure reporting requirements of GASB 34.
- Assess data and system gaps to be closed.
- Develop a process for documenting and reporting the costs of infrastructure assets.

Governments will need to determine whether they plan to report depreciation or use the Modified Approach for their infrastructure assets. Depending on the approach selected, they will need to decide which standards, methodologies, and systems to use for developing and reporting this information.

Here is a suggested list of actions that governments might take to mobilize for GASB 34:

9a. Develop/Refine Inventory and Valuation Capabilities

- Assess the condition and adequacy of current infrastructure inventory records
- Assess the capability of systems for maintaining infrastructure inventory records
- Implement required modifications or enhancements to systems for inventory documentation, valuation, and reporting
- Develop policies, procedures, and training on inventory documentation, valuation, and reporting
- Plan and execute inventory taking and valuation

9b. Develop/Refine Asset Management Capabilities

- Develop condition assessment standards and methodology
- Develop maintenance estimation methods
- Assess performance measures for infrastructure asset maintenance and preservation and refine as appropriate
- Develop, integrate, and implement asset management systems

- Assess current asset management systems relative to GASB 34 requirements
- Implement required modifications or enhancements to asset management systems
- Develop policies, procedures, and training to support asset management systems
- Plan resources for conducting infrastructure condition assessments

9c. Develop/Refine Financial Management Capabilities

- Review depreciation approaches already used for other capital assets and assess their applicability to infrastructure assets
- Assess system capacity and documentation for processing infrastructure asset depreciation
- Implement required modifications or enhancements to financial management systems
- Develop accounting policy advice for developing and reporting on infrastructure
- Develop cross-functional training for financial and infrastructure asset management staff
- Provide securitization services as required

The following box lists key components that might constitute an asset management system for supporting GASB 34's infrastructure reporting requirements.

Key Asset Management System Components

- Asset Inventory Database linked to a Geographic Information System (GIS)
- Asset Valuation Processes
- Performance Measures and Standards
- Condition Assessment Processes
- Asset Management Planning/Programming Systems
  - Pavement Management System
  - Bridge Management System
  - Maintenance Management System
- Asset Renewal/Replacement Analysis Methods
  - Life-Cycle Costing
  - Cost-Effectiveness Analysis
  - Equivalent Annual Cost
  - Longevity Cost Index
- Asset Disposal Policies and Procedures

Exhibit 4 shows how these components might integrate with the life-cycle phases of infrastructure development, maintenance, and disposal.

Exhibit 4: Integration of Asset Management System Components with Life-Cycle Phases

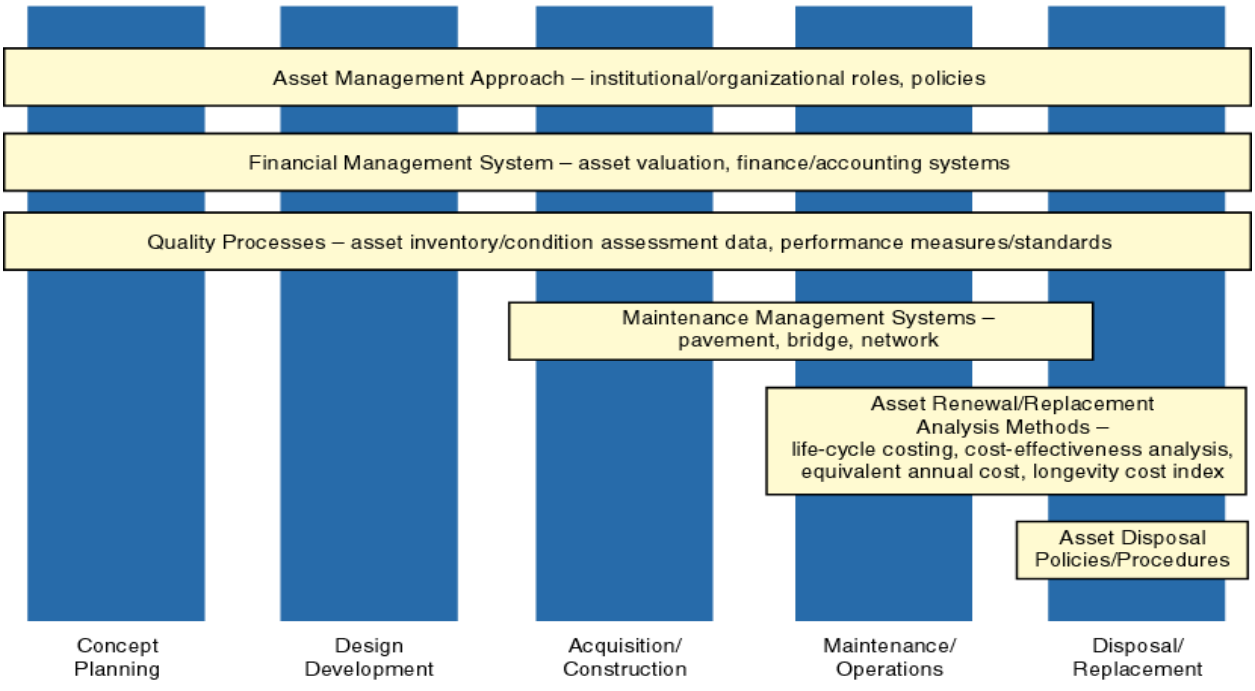
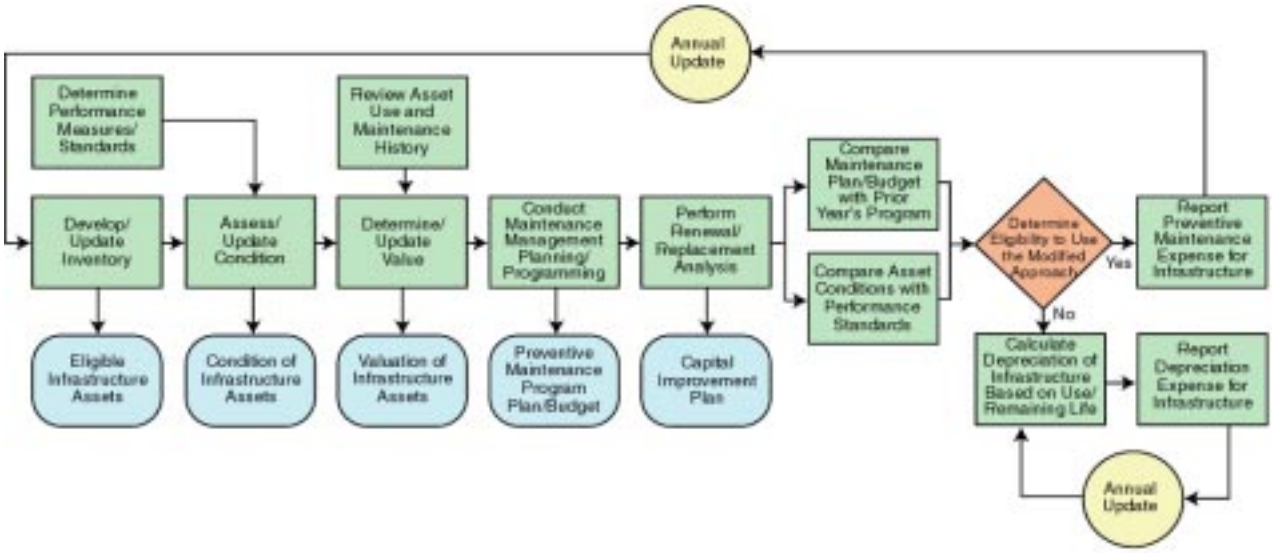


Exhibit 5 presents a model for describing the major steps and dependencies associated with infrastructure asset management and reporting under GASB 34.

Exhibit 5: Infrastructure Asset Management and Reporting Model



Implementing GASB 34 may be a major effort. Those who succeed will do so only by proper advanced planning and organization.

10. Conclusion

GASB's issuance of Statement No. 34 represents both an opportunity and challenge to state and local governments across the nation. The opportunity is to provide a more complete reporting of their financial situation by including significant capital assets that have traditionally been omitted from prior financial statements. By keeping track of the value of these long-lived assets and efforts to preserve them for the benefit of future generations, governments will be able to demonstrate prudent stewardship of their infrastructure. As Tom Peters noted in his book, *Thriving on Chaos*, "what gets measured gets done."

The challenge is to develop a practical set of policies and methodologies to guide efforts to develop consistent documentation about the value (estimated historical cost) of these critical assets and what is being done to ensure that they are being properly maintained and preserved. Also, during the years leading up to full implementation, the costs of inventory and valuation efforts, engineering studies of infrastructure conditions, computer system applications, and staff training are certain to have budgetary consequences for governments, which therefore should make the necessary provisions. The timing is fortuitous given the diminishing efforts needed to make computer systems Y2K-compliant after this year. As noted earlier, some of the resources currently devoted to the Y2K issue may be able to be reassigned in early 2000 to help governments comply with GASB 34.

The next five years may see major efforts being undertaken, particularly among state and local transportation agencies, to develop appropriate standards, methodologies, and systems for infrastructure valuation and reporting. In many instances, these efforts will accelerate what a number of state transportation agencies have already begun to institute in the areas of highway preservation and asset management. The use of pavement and bridge management systems and the expansion of federal funding eligibility to highway preservation efforts during this past decade reflect the growing emphasis on asset management practices. States that have already implemented significant asset preservation

approaches are already seeing the benefits of extended pavement service life and lower costs of rehabilitation and replacement.

The implementation of GASB 34 provides state and local governments the opportunity to build on these earlier efforts and encourages the development and implementation of a consistent set of policies and methodologies for reporting on infrastructure over the long term.

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As the world's largest professional services firm, **PricewaterhouseCoopers LLP (PwC)** has broad expertise in state and local government accounting, asset valuation, resource management, and information systems. Through the application of proven techniques and tools, PwC is ready to assist state and local governments understand, plan for, respond to, and comply with the requirements of GASB Statement No. 34 in a timely and cost-effective manner.

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About the Authors:

Patrick McNamee, CPA, is a Partner in PwC's Assurance Practice. During the past 17 years, he has played a key leadership role in setting the standards governing performance and financial audits at all levels of government, as well as in setting audit standards for the private sector. Mr. McNamee has contributed to the development of policy for performance and financial reviews at the U.S. General Accounting Office (GAO) and at several federal and state audit organizations. He leads PwC's GASB 34 Support Team. **Telephone No.:** (703) 741-2297. **E-Mail No**.: pat.l.mcnamee@us.pwcglobal.com

Daniel Dornan, PE, a Director in PwC's State and Local Government Practice, is responsible for the Firm's consulting services to state and local transportation agencies. He has more than 23 years of experience in providing resource management services to state and local infrastructure agencies, including state departments of transportation; toll, transit, and port authorities; and local public works departments.

Mr. Dornan's expertise includes asset management, organizational transformation, business process improvement, performance auditing and measurement, and strategic planning. He is a member of PwC's GASB 34 Support Team, with a particular focus on the infrastructure reporting requirements of the Standard. **Telephone No.:** (703) 322-5482. **E-Mail No**.: daniel.dornan@us.pwcglobal.com

Daniel Bajadek, MAI, is a Director in PwC's Real Estate Valuation and Consulting Services Practice. He has 20 years of valuation and counseling experience conducted on behalf of major financial institutions, government agencies, major corporations, individual investors, and legal firms.

Mr. Bajadek has performed assignments in the areas of mortgage loan underwriting, loan workouts, real estate owned, and asset valuation of failed institutions; individual and portfolio acquisitions and dispositions from both the public and private sectors; and asset securitization. He is a member of PwC's GASB 34 Support Team, with a particular focus on asset valuation. **Telephone No.:** (312) 540-2501. **E-Mail No**.: dan.bajadek@us.pwcglobal.com

Edward Chait, CPA, is a Director in PwC's Government Auditing Standards and Support Services Practice and is the Firm's liaison to GASB. Mr. Chait has 34 years of public accounting experience with a wide variety of public-sector, commercial, and not-for-profit organizations. He is responsible for research and consultation with all offices of PwC regarding (1) accounting and auditing matters for state and local government and (2) federal requirements that relate to state and local government, such as "Single Audit."

Mr. Chait recently served as a member of the Governmental Accounting and Auditing Committee of AICPA, and he currently serves on an AICPA task force to rewrite the audit guide, *Audits of State and Local Governmental Units*, for changes made by GASB Statement No. 34. He is a member of PwC's GASB 34 Support Team, with a particular focus on accounting and auditing standards. **Telephone No.:** (703) 641-5581. **E-Mail No**. edward.chait@us.pwcglobal.com

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