

TO: ALL COUNTY AUDITORS
ALL CITY AUDITORS AND FINANCE DIRECTORS
ALL COUNTY ENGINEERS
ALL INDEPENDENT PUBLIC ACCOUNTANTS

Also see
amendments to
this guidance in
2008-05 and
2008-07.

SUBJECT: INFRASTRUCTURE REPORTING UNDER GASB STATEMENT NO. 34

SUMMARY

The new financial reporting model established by GASB Statement No. 34 requires governments preparing their external financial reports in accordance with generally accepted accounting principles [GAAP]¹ to begin reporting general infrastructure assets on their financial statements. The reporting of general infrastructure assets is not required immediately upon the adoption of the new model; the Statement provides for a 3-phase transition period.

Infrastructure assets are long-lived capital assets that normally are stationary in nature and normally can be preserved for a significantly greater number of years than most capital assets. They include roads, bridges, lighting systems, drainage systems, dams, tunnels and water and sewer systems. General infrastructure assets are infrastructure assets that are associated with and generally arise from governmental (rather than proprietary) activities.

Infrastructure assets are reported at historical cost or estimated historical cost, generally net of accumulated depreciation. Estimated historical cost may be based on currently available documentation including financial reports, bond issuance information, construction contracts and engineering reports. Estimated historical cost also may be established by deflating current estimated replacement cost back to an estimated year of construction. Estimated or actual historical costs and depreciation may be established for individual infrastructure assets or for networks or subsystems of infrastructure assets.

Governments are required to report only major general infrastructure assets acquired or constructed in fiscal years ending on or after June 30, 1980 (i.e., for cities and counties, in fiscal years beginning on or after January 1, 1980). Major general infrastructure assets are networks or subsystems that represent either 10% (for a network) or 5% (for a subsystem) of general capital assets being reported at June 30, 1999 or December 31, 1999.

¹ In Ohio, the State and its component units, including state community colleges and universities, local community colleges, and technical colleges; and cities, counties, school districts, and educational service centers all are required to report in accordance with GAAP. Generally, schools and ESCs do not have infrastructure as defined. Other units of government that choose to report in accordance with GAAP should apply the guidance in this Bulletin to their infrastructure asset reporting.

The Auditor of State, in consultation with the Ohio Department of Transportation and interested constituent groups, has determined whether cities, counties, or the State of Ohio should report certain highway and bridge infrastructure assets.

Calculating depreciation is not necessary for assets that are inexhaustible, such as land and some land improvements, construction-in-progress, and for infrastructure assets reported using the “modified approach”.² The modified approach may only be applied to eligible assets and includes performing annual condition assessments and preserving the assets at a condition level adopted by governments. Instead of recording depreciation expense for these assets, the costs of maintenance and preservation are expensed.

REPORTING INFRASTRUCTURE

Under the current financial reporting model, most governments do not report general infrastructure assets. Under the new model created by GASB Statement No. 34 (the Statement), governments will be required to include general infrastructure assets as part of their annual financial statements.

DEFINITIONS

Capital assets are tangible or intangible assets that are used in operations and that have initial useful lives beyond one year. Capital assets include land and land improvements, buildings and building improvements, easements, vehicles, machinery, equipment, and infrastructure.

Infrastructure assets are long-lived capital assets that normally are stationary in nature and normally can be preserved for a significantly greater number of years than most capital assets. Examples of infrastructure assets include roads, bridges, tunnels, drainage systems, water and sewer systems, dams and lighting systems.

General infrastructure assets are infrastructure assets that are associated with and generally arise from governmental activities³.

² In certain circumstances, monuments and works of art and historical treasures also do not have to be depreciated.

³ Governments already report infrastructure assets associated with proprietary activities in the proprietary funds.

CLASSIFYING INFRASTRUCTURE ASSETS

The Statement allows governments to group infrastructure assets by *networks* and by *subsystems*.

A **network** of infrastructure assets is composed of all assets that provide a particular type of service for governments, such as a water distribution system or a sewage collection system. An infrastructure network may be comprised of dissimilar assets, such as a road network consisting of pavements, traffic control devices and signage. A network of infrastructure assets may also consist of only one infrastructure asset that is composed of many components. For example, a network of infrastructure assets may be a dam composed of a concrete dam, a concrete spillway and a series of locks.

A **subsystem** of a network of assets is composed of all assets that make up a similar portion or segment of a network of assets. For example, all roads of a government could be considered a network of assets and then divided into subsystems by type or by region.

The way governments elect to group general infrastructure is significant because the groups may be used to simplify calculations of estimated historical cost and depreciation. It is equally important to recognize that the way governments elect to group assets to satisfy financial reporting requirements may differ from the method used for management purposes.

Once classified by network and subsystem, governments can then identify what the Statement calls **major general infrastructure assets**. Major general infrastructure assets are defined as general infrastructure assets classified by subsystem or network that meet one of the following criteria:

The cost or estimated cost of the subsystem is expected to be at least 5% of the total cost of all general capital assets reported by the government at June 30, 1999, or December 31, 1999; or

The cost or estimated cost of the network is expected to be at least 10% of the total cost of all general capital assets reported by the government at June 30, 1999, or December 31, 1999.

The “cost of all general fixed assets” is the total reported cost of all general capital assets before any previously unreported infrastructure has been capitalized. The identification of major general infrastructure assets is critical because only major general infrastructure assets are required to be reported.

REPORTING REQUIREMENTS

Governments are *required* to report *major* general infrastructure assets that were acquired (purchased, constructed, or donated) or significantly reconstructed, renovated or restored, or that received significant improvements, from fiscal years ending June 30, 1980, and thereafter. Governments *may* report non-major assets and/or may extend the period into years prior to 1980 if records are available.

In general, infrastructure assets should be reported on the financial statements of the government responsible for managing⁴ the assets.

TRANSITION REPORTING REQUIREMENTS

The Statement requires a government to begin reporting general infrastructure assets *prospectively* from the date the government first implements the new reporting model. For affected Ohio governments, this will mean tracking and reporting newly constructed or acquired general infrastructure assets for the year of implementation and thereafter. (This would also include significant improvements, additions, renovations etc.)

The Statement does not require the immediate reporting of major general infrastructure assets acquired or constructed prior to the year the Statement is first implemented. Instead, the Statement creates a transition period for the retroactive reporting of major general infrastructure assets. Based on the Statement guidelines, governments are not required to report major general infrastructure assets acquired, reconstructed, improved etc. between 1980 and the year of implementation until 2006 or 2007⁵.

During this transition period, information for those networks of general infrastructure assets for which information is available may be reported. It is hoped that governments have sufficient records to report most, if not all, retroactive general infrastructure networks in the year of implementation of the Statement.

HIGHWAYS AND BRIDGES

Highways and bridges represent a major infrastructure investment of the State, counties, cities, and other units of government. As it is not always clear which of these entities is responsible for managing the assets, the Auditor of State, in consultation with the Ohio Department of Transportation and various groups representing counties, cities, and others, has determined which of these entities are most appropriately required to report these assets in accordance with GASB Statement No. 34. This determination is included as Appendix 1 to this Bulletin.

⁴ The GASB did not define “managing”. It is generally thought to mean, “...maintained in a condition that will allow them to be used longer than most other capital assets.” Simple maintenance such as snow removal is probably not managing, whereas, assessing the condition of and repairing an asset so it may be used in the manner intended probably is “managing”.

⁵ The transition period varies depending upon the government’s 1999 revenues as defined in GASB Statement No. 34. For governments with such revenues of \$100 million or more, the required year to fully report retroactive infrastructure assets is 12/31/2006. For governments with such revenues of \$10 million - \$100 million, the required year to fully report retroactive infrastructure assets is 12/31/2007. Governments with less than \$10 million of such revenues are exempt from required *retroactive* reporting of infrastructure assets.

GASB Implementation Guide 7.12.2 (reproduced on the next page) clarifies whether the legal owner vs. entity responsible for managing infrastructure should report it. However, AOS will not require restatements if entities responsible for managing or maintaining infrastructure have reported it since adopting these requirements.

7.12.2. Q—[Footnote 67](#) of Statement 34 states that the government that has the primary responsibility for managing an infrastructure asset should report the asset. What is the significance of ownership to the responsibility for managing and maintaining an asset?

A—The guidance in footnote 67 applies only in instances when ownership is unclear. Ownership of land and buildings, for example, can usually be clearly determined through review of appropriate documents, such as deeds, easements, and contracts. Ownership of infrastructure associated with land, such as roads, sidewalks, and sewers, may not be as clearly documented. In such cases, the government with primary responsibility for managing the asset should report the asset.

REPORT PRESENTATION

Infrastructure assets that have been or are being depreciated are reported on the Statement of Net Assets net of accumulated depreciation.

Infrastructure assets that are not being depreciated are also reported on the Statement of Net Assets but in a separate account.

Depreciation expense for infrastructure assets is included on the Statement of Activities in the direct expenses of the function that the government normally associates with capital outlays for, and maintenance of, infrastructure assets. If an asset serves many functions, it may be reported as a separate line, or in the General Government line, in the Statement of Activities.

The initial capitalization amount for general infrastructure assets should be based on historical cost. If adequate records are not available to establish historical cost, governments may report estimated historical cost.

ESTABLISHING HISTORICAL COST OR ESTIMATED HISTORICAL COST

Cost should include ancillary charges⁶ necessary to place the asset in its intended location and condition for use. These charges include freight and transportation, site preparation costs, and professional fees.

There is no prescribed method for establishing estimated historical cost. Any method “that complies with the intent” of GASB Statement No. 34 is acceptable. The intent of GASB Statement No. 34 is to require the reporting of a beginning general infrastructure asset balance that is based on reasonable assumptions using whatever documentation is currently available. Since governments will be required to report general infrastructure assets acquired in or after the first year of implementation using actual cost, the expectation is that this initial amount will improve over time.

Estimated cost may be based on documents related to a bond issue for obtaining financing for the construction or acquisition of infrastructure assets, expenditures reported in capital projects funds or capital outlays in governmental funds, capital budgets, engineering documents and evidence of contract awards.

One method for establishing estimated cost described in the Statement is to estimate current replacement cost and then deflate that cost back to an estimated year of construction or acquisition using a price index. For example, assume that in 1998 a government has 65 lane-miles of roads in a secondary road system and that current construction cost is \$1 million per lane-mile. The roads

⁶ GASB Statement No. 37 removed the requirement to capitalize interest on general infrastructure assets

have an estimated weighted average age of 15 years. Based on the Federal Highway Administration's *Price Trend Information for Federal Aid Highway Construction* for 1983 and 1998, 1983 construction costs were 69.03% of 1998 costs. The estimated cost of the subsystem is \$44,869,500 (65,000,000*.6903).

Similar estimates could be used for other types of infrastructure assets such as sidewalks using square footage, curbs using lineal footage or miles, and bridges using the span footage or deck area.

DEPRECIATION

In general, capital assets should be depreciated by allocating their net cost (historical cost less estimated salvage value) over their estimated useful lives. Inexhaustible capital assets, that is, assets whose economic benefit or service potential is used up extremely slowly, are not depreciated. Examples of inexhaustible assets are land and some land improvements, construction-in-progress, and, in certain circumstances, certain monuments and works of art and historical treasures. Land improvements that would not be depreciable include such things as excavation, fill, and grading.

Appendix 2 to this Bulletin provides examples of calculations for estimating historical cost and for calculating accumulated depreciation and depreciation expense.

THE MODIFIED APPROACH

GASB Statement No. 34 provides an alternative to recording depreciation for infrastructure fixed assets under what is described as the modified approach. Under the modified approach, infrastructure assets that are part of a network or a subsystem of a network (eligible assets) are not depreciated. Instead of recording depreciation expense, all maintenance and preservation⁷ expenditures for these eligible assets are expensed.

Expenditures that are additions or improvements to those assets are capitalized. Additions and improvements are defined as expenditures that increase the capacities or the efficiency of the assets. A change in capacities increases the level of service provided by an asset. An increase in efficiency maintains the same level of service but at a reduced cost. In order to use the modified approach, governments must meet the following requirements:

First, governments must:

maintain an up-to-date inventory of the eligible infrastructure assets;

⁷

Preservation expenditures extend the useful life of an asset beyond its original estimated useful life.

perform condition assessments⁸ of the eligible assets and summarize the results using a measurement scale; *and*

estimate each year the annual amount to maintain and preserve the eligible assets at the condition level established and disclosed by governments.

Second, governments must document that the eligible assets are being preserved approximately at, or above, a condition level formally established and disclosed by the government.

The documentation must substantiate that complete condition assessments of eligible assets are performed in a consistent manner at least every three years and that the results of the three most recent condition assessments provide reasonable assurance that the eligible assets are being preserved approximately at, or above, the condition level established and disclosed by the government. Condition assessments must be documented in such a manner that they can be replicated. The assessments must be based on sufficiently understandable and complete measurement methods that different measurers using the same methods would reach substantially similar results.

There are additional *disclosure* requirements if a government elects to use the modified approach⁹. There are also additional transition guidelines that allow the modified approach to be used if at least one complete condition assessment is available, the assessment was completed within the last three years, and the government can document that the eligible assets are being preserved at or above the established condition level. If a government elects to report a network or subsystem of infrastructure assets using the modified approach, the assets would be capitalized and presented on the financial statements at full estimated cost (not net of accumulated depreciation).

Your independent auditor or regional Auditor of State's office.

If you have any questions about this Bulletin, please contact ~~Mike Howard at (614) 466-5085 or (800) 282-0370.~~

Appendix 1 - GASB 34 Infrastructure Reporting

Infrastructure Type	Legal Ref.	Political Subdivision to Report					Comment
		State	County	City	Village	Township	
Interstate Highway (Within Corporation Limits)	ORC 5511.01, 5521.01	X					1
Interstate Highway (Outside Corporation Limits)	23 USC 116, ORC 5511.01	X					
US Routes & State Highway In City (>5,000) Corp. Limits	ORC 5511.01, 703.01			X			1
US Routes & State Highway In village(< 5,000) Corp. Limits	ORC 5521.01, 703.01	X					1
US Routes & State Highway (Outside Corporation Limits)	ORC 5511.01	X					
Toll Road	ORC 5537.17, 5537.21	X					2
County Road Outside Municipal Corporations	ORC 5541.02		X				3
County Road Inside Municipal Corporations	Comment 9			X	X		9
City Street	ORC 723.01			X			
Village Street	ORC 723.01				X		

⁸ As described in GASB Statement No. 34, ¶ 341, “Governments may use a variety of methods to measure the condition of their infrastructure assets. For example, several different approaches may be taken to measure the condition of paved roads. Some measure only road smoothness, others measure the distress on the pavement’s surface, and others use a combination of these measures. For purposes of this Statement, any of these methods would be acceptable...”. See GASB 34, pages 275 - 277 for an example.

⁹ See GASB Statement No. 34, pages 275 - 277 for a sample of required disclosures.

Infrastructure Type	Legal Ref.	Political Subdivision to Report					Comment
		State	County	City	Village	Township	
Township Road	ORC 5535.08					X	4
Interstate Highway Bridge	23 USC 101, 23 USC 116	X					
Interstate Bridge (between two States EXCEPT bridges from transferred from the Ohio Bridge Commission)	ORC 5501.44	X					7
Interstate Bridges (transferred from the Ohio Bridge Commission)	Am. Sub. HB 98 (1982) Section 4	X					8
State Highway Bridge (Within Corporation Limits)	ORC 5591.02 & OAG 74-007 ORC 5591.21		X				
State Highway Bridge (Outside Corporation Limits)	ORC 5511.01, 5535.01	X					
County Road Bridge	ORC 5591.02 & OAG 74-007 ORC 5591.21		X				
Township Road Bridge	ORC 5591.21, 5535.01		X				
Village Street Bridge (with or without stream or canal)	ORC 5591.02, 5591.21		X				†
City Street Bridge Not Crossing a Stream or Canal	ORC 723.01			X			
City Street Bridge Crossing a Stream or Canal	ORC 5591.21		X				
Lift Bridge (on a state highway within a municipal corporation)	ORC 5501.49 & 5591.02	X	X	X	X		5
Toll Bridge Built by State (part of the state highway system)		X					
Toll Bridge Built by County or City Bridge Commission	ORC 5593.23	X					6
Interstate Highway Land	ORC 5501.31	X					
State Highway Land	ORC 5501.31	X					
Toll Road Land	ORC 5537.04 (A)(8) & ORC 5537.06	X					2
County Road Land	ORC 5535.01 (B) & ORC 5501.01		X				
City Street Land	ORC 719.01 & ORC 723.01			X			
Village Street Land	ORC 719.01 & ORC 723.01				X		
Township Road Land	ORC 5535.01 (C) & ORC 5501.01					X	

See amendments regarding these bridges in Bulletins 2008-05 & 2008-07.

Comments:

1. While cities are required to maintain these roads by statute, they may enter into agreements with ODOT to assist. Any assistance by ODOT is purely discretionary. (See *Harris v. ODOT*, 83 Ohio App.3d 125 for additional discussion.) ODOT has responsibility for the maintenance of state highways within a village if a village passes a resolution requesting ODOT's assistance. Traditionally, ODOT has taken responsibility for the maintenance of all interstate highways and all US routes and state highways within villages.
2. Reported by the Ohio Turnpike Commission, which is not part of the State of Ohio Reporting Entity, per GASB 14 criteria.
3. County may take responsibility, with ODOT's approval, for any road and designate them as a county road, within requirements of ORC 5541.01 and 5541.02.
4. Those roads not designated as part of the state or county highway system are, by default, township roads. This does not include city or village streets within the municipal corporations. See ORC 5535.01 for definitions.
5. Only lift bridges necessary for state highway system are the responsibility of the state. Otherwise, the county or other person responsible for maintaining pavements on either end of the bridge are responsible for maintaining the lift bridge, unless otherwise specified.
6. Prior to the extinguishment of the bridge revenue bonds, the maintenance of the bridge is the responsibility of the bridge commission. State of Ohio management is not aware of any bridge commissions operating in Ohio.
7. For bridges that connect two states, ODOT enters into an agreement, on behalf of the State of Ohio, to complete maintenance of these facilities. Generally, the agreement states that each State is responsible for 50% of the maintenance costs of the bridge structure.
8. Amended Substitute House Bill 98 (1982) Section 4 transferred responsibilities for bridges formerly maintained by the Ohio Bridge Commission to ODOT.

9. County roads within municipal corporations are the responsibility of the municipal corporation. In effect they lose their status as county roads within municipal corporations and become city/village roads. (See *Peninsula v. Summit Cty.*, (1985), 27 Ohio App.3d 252, and *Sanders v. Butler County Com'rs.*, 2000 WL 1145469, Ohio App. 12 Dist., Aug. 14, 2000)

Definitions:

State roads include the roads and highways on the state highway system. (ORC 5535.01 (A))

County roads include all roads which are or may be established as part of the county system of roads as provided in ORC 5541.01 to 5541.03. (ORC 5535.01 (B))

Township roads include all public highways other than state or county roads. (ORC 5535.01 (C))

A road or highway includes "bridges, viaducts, grade separations, appurtenances and approaches on or to such road or highway." (ORC 5501.01 (C))

The state highway system is not defined in the Ohio Revised Code. However, ORC 5511.01 does state that the ODOT director shall make a map showing all state highways and thus the state highway system. This map is distributed to the public as the official Ohio Transportation map.

Limited Access Highway is a highway especially designed for through traffic and over which abutting property owners have no easement or right of access by reason of the fact that their property abuts upon such highway, and access to which may be allowed only at highway intersections designated by the Director. All interstate highways and some Federal and state highways are limited access.

APPENDIX 2 - DEPRECIATION EXPENSE

Depreciation expense for a capital asset that can be specifically identified with a function is included in its direct expenses reported on the Statement of Activities. The depreciation expense of a capital asset that is shared among several functions is included ratably in the direct expenses of those functions. The depreciation expense of capital assets that essentially serve all functions, such as a government's hall, is not required to be allocated. This expense may be presented in a separate line on the Statement of Activities or it may be included in the general government function.

The depreciation expense for general infrastructure assets should be reported as a direct expense of the function that governments normally associate with capital outlays for, and maintenance of, infrastructure assets, such as public works.

CALCULATING DEPRECIATION

Governments may use any established depreciation method. Depreciation may be based on the estimated useful life of a class of assets, a network of assets, a subsystem of assets or individual assets. For useful lives, governments can use: a) general guidelines obtained from professional or industry organizations, b) information for comparable assets of other governments, or c) internal information. In determining useful life, governments should also consider an asset's present condition and how long it is expected to meet service demands.

To finish the example from page 6, above, assume that the road subsystem had an estimated useful life of 25 years and no residual value. Using straight line depreciation, annual depreciation expense would be \$1,794,780 ($\$44,869,500 / 25$). Accumulated depreciation in 1998 would be \$26,921,700 ($\$1,794,780 * 15$) and the subsystem would be reported at \$17,947,800.

Group and Composite Methods

Governments may calculate depreciation expense using either a group or composite depreciation method. Group depreciation refers to calculating depreciation for a collection of similar assets, such as traffic signals or lane-miles of pavement in a roadway system. Composite depreciation refers to calculating depreciation for a collection of dissimilar assets, such as all assets composing a transportation network or a building. The accounting is the same for both the group or composite method. Depreciation expense is calculated by multiplying a composite depreciation rate times the cost of the collection as a whole.

A composite depreciation rate can be calculated using a weighted average or an unweighted average estimate of the useful lives of the assets in the composite. A composite rate could also be based on an assessment of the useful lives of the collection. This assessment could be based on condition assessments or experience with the useful lives of the assets in the collection. For example, engineers may determine that highways have estimated remaining useful lives of twenty years based on experience. The annual depreciation rate for the highways would be 5%.

DEPRECIATION EXAMPLES

The following samples are taken from the GASB Implementation Guide for GASB Statement No. 34.

1. Calculating Composite Depreciation Rates

Statement of facts:

The government applies the composite depreciation method to its transportation infrastructure network. The network consists of the following components:

<u>Component</u>	<u>Estimated Useful Life</u>	<u>Estimated Cost</u>
Bridges	50	\$2,000,000
Roadways	25	10,000,000
Curbs/gutters	15	1,000,000
Street lights	15	750,000
Traffic signals	18	750,000
Street signs	<u>10</u>	<u>250,000</u>
	<u>133</u>	<u>\$14,750,000</u>

Unweighted-average method:

The average estimated life of the components is 22.17 years (133 / 6). The composite depreciation rate would be $1/22.17 = 4.5\%$ per year.

Weighted average method:

The composite rate is calculated by weighting estimated useful lives by the depreciable cost of the asset.

<u>Estimated Useful Life</u>	<u>Estimated Cost</u>	<u>Salvage Value</u>	<u>Depreciable Cost</u>	<u>Column 1 X Column 4</u>
50	\$2,000,000	\$ -	\$2,000,000	\$100,000,000
25	10,000,000	-	10,000,000	250,000,000
15	1,000,000	-	1,000,000	15,000,000
15	750,000	750	749,250	11,238,750
18	750,000	-	750,000	13,500,000
10	<u>250,000</u>	<u>250</u>	<u>249,750</u>	<u>2,497,500</u>
	<u>\$14,750,000</u>	<u>\$1,000</u>	<u>\$14,749,000</u>	<u>\$392,236,250</u>

The weighted average estimated useful life of the components is: $\$392,236,250 / \$14,750,000 = 26.59$ years. The composite depreciation rate using the weighted average life is $1 / 26.59 = 3.8\%$.

2. Applying Group Depreciation to Infrastructure Assets at Transition and in Subsequent Years

This example illustrates the entries to record infrastructure assets at transition, to calculate depreciation using a group method, and to record the subsequent removal and replacement of a portion of the infrastructure.

Summary of Facts:

The government is adopting GABS Statement No. 34 and retroactively recording its general infrastructure for the year ending December 31, 2002. During the period January 1, 1980 through December 31, 2001, the government made improvements to 855 lane-miles of secondary roads in accordance with its biennial capital budget as shown below. The government plans to account for these improvements as a group and to apply the straight line method of depreciation.

The engineer estimates that roads have a useful life of 25 years and no salvage value. Historical cost has been estimated as follows:

<u>Project Year</u>	<u>Total Project Budget</u>	<u>Lane-miles</u>
2001	\$ 40,125,000	75
1999	36,075,000	65
1997	53,675,000	95
1995	55,500,000	100
1993	22,000,000	40
1991	35,425,000	65
1989	54,000,000	100
1987	34,775,000	65
1985	50,350,000	95
1983	39,375,000	75
1981	<u>42,000,000</u>	<u>80</u>
	<u>\$463,300,000</u>	<u>855</u>

The next project to be completed is the removal and replacement of 80 lane-miles of secondary roads at a cost of \$45,600,000 on December 31, 2003.

Recording Assets at Transition

In order to record the secondary roads at transition, the accumulated depreciation at December 31, 2001 should be computed. Using the straight line method, the annual depreciation rate is determined directly from the estimated useful life as follows: $1 / 25 = .04$ per year.

The government assumes that each project was completed at the end of the project year and, therefore, no depreciation is recognized in that year.

<u>Project Year</u>	<u>Estimated Cost</u>	<u>Years of Acc. Depreciation</u>	<u>Rate</u>	<u>Total Acc. Depreciation</u>
2001	\$ 40,125,000	0	.04	\$ 0
1999	36,075,000	2	.04	2,886,000
1997	53,675,000	4	.04	8,588,000
1995	55,500,000	6	.04	13,320,000
1993	22,000,000	8	.04	7,040,000
1991	35,425,000	10	.04	14,170,000
1989	54,000,000	12	.04	25,920,000
1987	34,775,000	14	.04	19,474,000
1985	50,350,000	16	.04	32,224,000
1983	39,375,000	18	.04	28,350,000
1981	<u>42,000,000</u>	20	.04	<u>33,600,000</u>
	<u>\$463,300,000</u>			<u>\$185,572,000</u>

The government would record the network of roads at \$277,728,000 which equals the estimated cost less the accumulated depreciation. Depreciation expense for 2002 would be \$18,532,000 (\$463,300,000 X .04) and would be assigned to the program that the government normally associates with capital outlays for, and maintenance of, roads, such as public works.

Recording the Replacement of 80 Lane-miles of Road

Using group or composite methods, no gain or loss is recorded upon the retirement of assets within the group. Accordingly, cost (or, in this case, average cost) is removed from the asset account and charged to accumulated depreciation. The entry to record the replacement of the 80 lane-miles of secondary roads at December 31, 2003 would be:

Accumulated depreciation (80 lane-miles X average cost [\$463,300,000 / 855])	43,349,708
Infrastructure - secondary roads	43,349,708
Infrastructure - secondary roads	45,600,000
Cash	45,600,000

Calculating Annual Depreciation Expense in Future Years

Depreciation expense in future years would be computed by applying the annual depreciation rate to the current balance in the infrastructure - secondary road account as follows:

Beginning balance of infrastructure - secondary roads	\$463,300,000
Retirements	(43,349,708)
Additions	<u>45,600,000</u>
	465,550,292
Depreciation Rate	<u>.04</u>
Depreciation Expense	<u>\$ 18,622,012</u>

3. Calculating Weighted Average Age for General Infrastructure Assets at Transition

Use of an average age of general infrastructure assets can simplify the calculation of accumulated depreciation at transition.

Summary of Facts:

A government has a 35 mile arterial road that has been subject to multiple construction projects that overlap earlier projects since 1980, as shown in the following schedule:

<u>Year</u>	<u>Project</u>	<u>Mileposts</u>
1980	1	1 - 15
1982	2	16 - 25
1984	3	26 - 30
1988	4	6 - 12
1989	5	26 - 35

If construction costs are known, weighted average age may be computed on the proportion of costs to the total. Alternatively, weighted average may be calculated in proportion to the number of miles constructed.

<u>Year</u>	<u>Project</u>	<u>Mileposts</u>	<u>Age in 2002</u>	<u>Age Weighted by Cost</u>		<u>Age Weighted by Miles</u>	
				<u>Cost (in 000s)</u>	<u>Cost X Age</u>	<u>Number of Miles</u>	<u>Miles X Age</u>
1980	1	1 - 15	22	\$15,000	\$330,000	15	330
1982	2	16 - 25	20	10,300	206,000	10	200
1984	3	26 - 30	18	5,500	99,000	5	90
1988	4	6 - 12	14	10,500	147,000	7	98
1989	5	26 - 35	13	<u>16,000</u>	<u>208,000</u>	<u>10</u>	<u>130</u>
				<u>\$57,300</u>	<u>\$990,000</u>	<u>47</u>	<u>848</u>
Average Age:					<u>17.28</u>		<u>18.04</u>

Neither method of computing an average age is recommended over the other. Governments should consider their own facts and circumstances including the costs of obtaining the information needed by the alternative methods.