

3.5 Guideline #5 - Networks, Components and Segmentation

Municipalities will need to decide how to record assets such as engineered structures and systems. The options available are the network approach or component approach. The network approach is also referred to as single asset or total asset. The approach used will also determine the treatment of subsequent expenditures to the asset and whether these expenditures will be considered 'maintenance' or a 'betterment' of the respective asset. Another important decision will be whether the system should be recorded in segments.

Detailed information on this topic is available in the documents of Ontario Municipal Benchmarking Initiative (OMBI) (www.ombi.ca/accounting.asp) and the Canadian Institute of Chartered Accountants (CICA) (www.psab-ccsp.ca/index.cfm/ci_id/37536/la_id/1.htm and www.menet.ab.ca/docs/PSG-7_Accounting_Guideline_for_TCA.pdf).



Those details will not be restated here, but the following is a brief summary that includes some of the considerations for each approach to help municipalities in make the necessary decisions on how to record infrastructure assets.

1. Network Approach

This approach views an asset as one unit even if the respective asset is comprised of a number of significant components. This is the simplest form of recording assets.

- Less intensive, less detail
- Easier to track
- Historically easier to value
- Easier to value donated assets such as subdivision infrastructure
- More difficult to establish capitalization thresholds
- More difficult to determine the value of the portion of the asset replaced (see betterment or maintenance section).

2. Component Approach

This approach identifies major, significant components of an asset. Each component with a unique historical cost, useful life or amortization method is recorded separately.

- Provides a better basis for asset management
- Easier to be more accurate in amortization and determining useful life, resulting in more accurate financial reporting
- Easier to deal with the uniqueness of components
- Achieves program costing
- Better matching of cash outlay with replacement
- More detail, resulting in more time required to maintain the asset recording system.

3. Segments

Linear systems may be divided into segments or sections. These segments are generally determined by geographical location.

- Provides a better basis for asset management
- Easier to provide more accurate information
- Easier to identify costs of the asset replaced
- More detail information is required, resulting in additional time to maintain the asset recording system.

4. Betterment or Maintenance

The information in PS Handbook Sections 3150.19-21 and supporting documents provide sufficient explanations on the decisions regarding betterment or maintenance expenditures. It is important to state in policy what constitutes maintenance and betterments and that the municipality and its auditor have a common understanding of how to consistently apply the policy.

1. Municipalities may decide to record less detail on some existing assets by using a combination of the network and component approach. However, as municipalities continue with the project, they may decide to record more detailed component and segmented information going forward.

It is important to note that a 'loss on disposal' may occur when a network is subsequently disaggregated into components. The reason is that some of the components are likely to have a shorter useful life than the total asset and the total asset will not be fully amortized when the component needs to be replaced and is removed from the total asset and recorded separately.

The following example demonstrates how a loss on disposal can occur:

- Assume that a road is initially recorded as a total asset at a cost of \$100,000 with a useful life of 40 years. The annual amortization is \$2,500 per year. The surface is ACP – cold mix which has a useful life of 10 years. The cost of the surface is 40% of the total cost; i.e., \$40,000. If the road continued to be treated as a network/total asset, the costs of resurfacing the road every 10 years would be recorded as a maintenance expense. A decision was made to record the surface as a separate component of the road when it needed to be resurfaced at the end of its useful life of 10 years. The entries required would be to remove the value of the surface from the original total cost of the asset and its accumulated amortization.
- These amounts would be:

Original cost of the surface	\$40,000
Accumulated amortization of the surface	\$10,000

(\$40,000 over 40 years is \$1,000 amortization expense per year for 10 years.)

- The useful life of the surface has been completed but the recorded amortization has been based on the 40 year life of the road; therefore, a loss on disposal in the amount of \$30,000 will be recorded when the surface starts to be treated as a component.
6. An important principle to remember is that recording more reasonable and manageable amounts of detail increases the potential of an improved asset management system and improved financial reporting.
 7. There are some criteria municipalities should consider when making decisions on how to network assets such as linear structures.

Criteria for roads may include:

- Year of construction
- Type of roads with similar specifications
- Surface materials
- Location

Criteria for water distribution and waste water collection may include:

- Year of construction
- Size of pipe
- Pipe material
- Location

8. Some suggested examples of networks are:

- Road systems
 - Urban – streets, subdivision, neighbourhood
 - Rural – type of roads within intersections or townships, by each mile
- Water and Wastewater systems
 - Location, subdivision
 - Create pools of pipe based on common year of construction and common specifications such as pipe size and material

9. Additional information and examples of recording engineered structures and systems can be found in other documents such as:

OMBI Implementation Guide – Version 2 Chapter 2, pages 13-19

(www.ombi.ca/docs/db2file.asp?fileid=183);

CICA/PSAB *Guide to Accounting For and Reporting Tangible Capital Assets* (www.psab-ccsp.ca/index.cfm/ci_id/37536/la_id/1.htm)

Chapter 2, Section 5.0, page 20

Chapter 4, Section 2.0, pages 39-44 ; and

AMCTO, PSAB/Asset Management/Newsletters/No.22 - Aggregation and Disaggregation of Assets.

