

<b>Title</b>	<b>Demonstrate knowledge of financial and economic analysis for infrastructure asset management</b>		
<b>Level</b>	<b>6</b>	<b>Credits</b>	<b>15</b>

<b>Purpose</b>	<p>This unit standard is for people who work within the infrastructure asset management sector.</p> <p>People credited with this unit standard are able to demonstrate knowledge of: valuation and depreciation of infrastructure assets; and components of life-cycle financial models for infrastructure assets.</p>
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<b>Classification</b>	Infrastructure Civil Engineering > Infrastructure Asset Management
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 The following requirements apply to this unit standard:  
*International Infrastructure Management Manual (IIMM)* guidelines available at <https://www.ipwea.org/>;  
 New Zealand Equivalent to International Financial Reporting Standard NZIAS-16, *Accounting for Property, Plant and Equipment (NZIAS-16)*;  
 the ethical codes and standards relevant to a professional body or bodies;  
 and legislative requirements which may include but are not limited to:  
 Employment Relations Act 2000,  
 Human Rights Act 1993,  
 Equal Pay Act 1972,  
 Treaty of Waitangi Act 1975,  
 Health and Safety at Work Act 2015,  
 Resource Management Act 1991,  
 Building Act 2004,  
 Public Works Act 1981,  
 Copyright Act 1994,  
 Land Transport Management Act 2003, and subsequent amendments.
- 2 Assessment against this unit standard may be based on evidence from provider and/or workplace contexts. Evidence must be in accordance with organisational requirements and/or IIMM guidelines.
- 3 Definitions  
*Infrastructure asset management* is the combination of management, financial, economic, engineering, and other practices applied to infrastructure assets with the

objective of providing the required levels of service in the most cost effective and sustainable manner.

*Infrastructure assets* typically refer, but are not limited, to asset groups such as roads and bridges, airports, railways, ports, parks and recreation facilities, water supply systems, stormwater systems, wastewater systems, flood and land drainage systems, solid waste management, telecommunications, energy, and infrastructure buildings and facilities.

*Organisational requirements* refer to strategies, policies, procedures, and requirements of the candidate's organisation.

## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of valuation and depreciation of infrastructure assets.

#### Performance criteria

- 1.1 Valuation and depreciation of infrastructure assets are described in relation to the regulatory valuation framework.
- Range fair value, market value, depreciated replacement cost, book value, optimised deprival value; NZIAS-16.
- 1.2 Establishment of component levels and basis for valuation of infrastructure assets are described.
- Range material types, age, condition, performance, unit rates.
- 1.3 Determination of asset component remaining lives is described.
- Range includes but is not limited to – material type, method of installation, operating range, maintenance history, criticality, obsolescence, optimisation.

### Outcome 2

Demonstrate knowledge of components of life-cycle financial models for infrastructure assets.

#### Performance criteria

- 2.1 Components of life-cycle financial models are explained.
- Range operational costs, depreciation, maintenance costs, renewals, cost of finance, capital improvements, disposal, sensitivity analysis, basis of assumptions.

2.2 Economic analysis of infrastructure assets is used to develop a life-cycle financial model.

Range includes but is not limited to – net present value analysis, total life costs of infrastructure assets and influence of asset type.

<b>Planned review date</b>	31 December 2025
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 March 2007	31 December 2017
Review	2	19 May 2016	31 December 2022
Revision	3	28 September 2017	31 December 2022
Review	4	22 October 2020	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0101
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

#### Comments on this unit standard

Please contact Connexis - Infrastructure Industry Training Organisation [qualifications@connexis.org.nz](mailto:qualifications@connexis.org.nz) if you wish to suggest changes to the content of this unit standard.