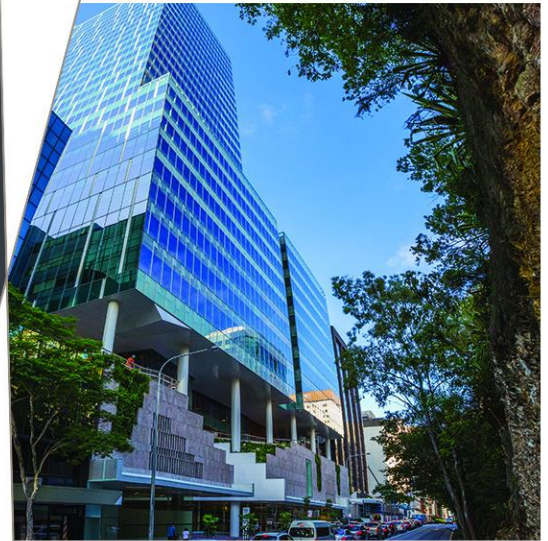


Valuation of Infrastructure Assets

For Financial Year 2018-19

3604-99.005



Prepared for
Ipswich City Council

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1 Introduction

1.1 Overview and Scope

Cardno was commissioned by Ipswich City Council (ICC) to undertake an interim indexation for 2018/19 on the following asset classes:

- > Flooding and drainage
- > Roads and bridges
- > Land
- > Buildings
- > Other structures

This report presents the methodology and any underlying assumptions which were adopted for the indexation of these assets.

1.2 Objective

The primary objective of this project is to comply with the legislative requirements for carrying out an annual assessment on the cost movements of ICC's assets and to produce a reliable opinion on the movement in costs of the nominated asset classes.

The objectives of revaluing ICC's assets are to:

- > Provide ICC with an updated asset register
- > Provide fair values as well as annual depreciation of assets owned by ICC as at 30th of June 2019
- > Carry out an annual assessment on the cost movements
- > Produce a reliable opinion on the movement in costs of the nominated asset classes
- > Place ICC in a position to pass external audit for asset valuation without qualification

2 Statutory and Legislative Framework for Valuation

In developing an appropriate methodology for the valuation of ICC's assets, there is a range of statutory requirements relevant to public sector agencies that need to be taken into consideration. These include the following Australian Accounting Standards:

- > AASB 116 - "Property, Plant and Equipment"
- > AASB 13 - "Fair Value Measurement"
- > AASB 136 - "Impairment of Assets"

2.1 AASB 116 – "Property, Plant and Equipment"

1.1.1 Fair Value

Fair value is defined in AASB116 as follows:

"Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date."

1.1.2 Revaluation Model

Section 31 of AASB 116 states the following:

"After recognition as an asset, an item of property, plant and equipment whose fair value can be measured reliably shall be carried at a revalued amount, being its fair value at the date of the revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Revaluations shall be made with sufficient regularity to ensure that the carrying amount does not differ materially from that which would be determined using fair value at the end of the reporting period."

1.1.3 Depreciation

AASB 116 defines depreciation as such:

"Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life".

AASB 116 requires that each significant part of an item of property, plant and equipment be depreciated separately. Infrastructure assets are broken down into significant components with similar physical and operating characteristics. A separate useful life is applied to each component and they are depreciated separately.

The depreciable amount of an asset is allocated on a systematic basis over its useful life. The remaining useful life of an asset is to be reviewed at least at the end of each annual reporting period and, if expectations differ from previous estimates, and if impacts on the carrying amount are significant, appropriate adjustments to accounts are made.

2.2 AASB 13 – "Fair Value Measurement"

AASB 13 defines fair value as follows:

"Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction in the principal (or most advantageous) market at the measurement date under current market conditions (i.e. an exit price). A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use."

AASB 13 identifies three valuation input levels as follows:

- > Level 1 inputs are quoted prices in active markets for identical assets.
- > Level 2 inputs are inputs other than quoted market prices included within Level 1. Those inputs are observable to the asset either directly or indirectly.
- > Level 3 inputs are unobservable inputs for the asset, such as where there is little or no market activity for the asset at the measurement date. Most public infrastructure is valued using this level of input.

AASB 13 also requires disclosure of the actual inputs used and their categorisation as level 1, 2 or 3 inputs.

AASB 13 paragraph 29 states the following:

“Highest and best use is determined from the perspective of market participants, even if the entity intends a different use. However, an entity’s current use of a non-financial asset is presumed to be its highest and best use unless market or other factors suggest that a different use by market participants would maximise the value of the asset.”

AASB 13 Appendix A defines observable inputs as the “Inputs that are developed using market data, such as publicly available information about actual events or transactions, and that reflect the assumptions that market participants would use when pricing the asset or liability” and unobservable inputs as “Inputs for which market data are not available and that are developed using the best information available about the assumptions that market participants would use when pricing the asset or liability.”

2.3 AASB 136 – “Impairment of Assets”

AASB 136 requires that an entity assesses at the end of each reporting period whether there is any indication that an asset may be impaired. If any such indication exists, the entity shall estimate the recoverable amount of the asset. Where the carrying amount exceeds the recoverable amount, the asset must be written down to its recoverable amount. In assessing whether there is any indication that an asset may be impaired, the standard states the minimum external and internal indications that must be considered. For example:

- > A decline in market value of the asset;
- > Changes in the technological, market, economic, or legal environment in which the entity operates; and
- > Evidence that the asset is obsolete or asset has been damaged

3 Valuation Status

ICC undertakes valuations on a rolling basis. Table 3-1 details the valuation status of each asset class.

Table 3-1 Valuation program by asset class

Asset Revaluation Schedule					
	30/06/2015	30/06/2016	30/06/2017	30/06/2018	30/06/2019
Land					
Land	Formal Valuation	Desktop Valuation	Desktop Valuation	Desktop Valuation	Desktop Valuation
Roads, bridges, and footpaths					
Bridges	Desktop Valuation	Formal Valuation	Desktop Valuation	Desktop Valuation	Desktop Valuation
Sealed roads	Desktop Valuation	Formal Valuation	Desktop Valuation	Desktop Valuation	Desktop Valuation
Unsealed roads	Desktop Valuation	Formal Valuation	Desktop Valuation	Desktop Valuation	Desktop Valuation
Traffic signals	Desktop Valuation	Formal Valuation	Desktop Valuation	Desktop Valuation	Desktop Valuation
Road kerb	Desktop Valuation	Formal Valuation	Desktop Valuation	Desktop Valuation	Desktop Valuation
Footpaths	Desktop Valuation	Formal Valuation	Desktop Valuation	Desktop Valuation	Desktop Valuation
Medians	Desktop Valuation	Formal Valuation	Desktop Valuation	Desktop Valuation	Desktop Valuation
Buildings and other structures					
Buildings*	Desktop Valuation	Desktop Valuation	Formal Valuation	Desktop Valuation	Desktop Valuation
Bus stops	Desktop Valuation	Formal Valuation	Desktop Valuation	Desktop Valuation	Desktop Valuation
Flooding and drainage					
Drainage mains	Desktop Valuation	Desktop Valuation	Desktop Valuation	Formal Valuation	Desktop Valuation
Open drains	Desktop Valuation	Desktop Valuation	Desktop Valuation	Formal Valuation	Desktop Valuation
Open drain inverts	Desktop Valuation	Desktop Valuation	Desktop Valuation	Formal Valuation	Desktop Valuation
Drainage structures	Desktop Valuation	Desktop Valuation	Desktop Valuation	Formal Valuation	Desktop Valuation

* Buildings include buildings, amenities blocks, traffic signs, sheds, and shelters

4 Valuation methodology – desktop

4.1 Overview

All asset classes formed part of the desktop valuation for the 2018-19 financial year. Various approaches were implemented to derive the updated replacement costs of the infrastructure assets found within the scope of this project.

Cardno analyses various indices as well as actual cost movements to base our professional judgement on. Our methodology to undertake the desktop valuation is described in the sections that follow.

4.2 Determining Appropriate Indices

Accounting and finance standards allow appropriate indices to be used between full revaluations. Such indices should take into account the effects of specific or general price levels, but also technological change and local conditions. In particular the following items should be considered when selecting an index:

- > The type of assets to be revalued
- > Location of the assets
- > Timing of when the index will be available
- > Components used in arriving at the index

4.2.1 Building Price Index

This index has been developed by Rawlinson's over a number of years to reflect the movement of building and construction costs. It is based on the analysis of building and construction rates in the capital cities. The overall anticipated movement in BPI during 2018-19 is 4.0%. The analysis however of the cost movements of the components found in those assets within Rawlinson's indicated an average increase of 2% for the 2018-19 financial year.

4.2.2 Implicit Price Deflator - Asset Revaluation Index

Queensland Treasury's Office of Economics and Statistical Research produce this index on a quarterly basis. For 2018-19 financial year, the non-residential index reflects a movement of -0.1% whereas the engineering index reflected a 2.84% increase

4.2.3 Producer Price Index

Producer Price Index Australia is an index issued by the Australian Bureau of Statistics. This is another index that is commonly used for assessing cost movements. Cardno looks at this index in conjunction with other indices to form an opinion on cost movement trends. For the 2018-19 financial year, the non-residential building construction reflects a movement of -0.09% whereas the roads and bridges index reflects a 2.22% movement.

The movement in these indexes are listed in the following table.

Table 4-1 Indices movement

Source	Jun-18	Jun-19	July 2018 to June 2019
Rawlinsons Building Price Index (BPI) *	118.780	123.555	1.0402
Implicit Price Deflator **			
Non Residential	102.200	102.100	0.9990
Engineering	105.700	108.700	1.0284
Producer Price Index (ABS Catalogue 6427.00) ***			
Series A2333721X. Index Number 3020 Non-residential building construction Queensland	116.700	116.600	0.9991
Series A2333727L. Index Number 3101 Road and bridge construction Queensland	112.500	115.000	1.0222

Footnotes:

* Index for December 2018 is forecast. Index for June 2019 is anticipated.

** 2018-19 indices are available for two quarters only (June to December 2018).

4.3 Other Cost Movements

Another approach was analysing the cost movement and materiality of the components that are used in constructing the assets such as:

- > Supply cost
- > Labour costs
- > Excavation
- > Plant hire

4.4 Valuations

For the roads, footpaths, and open drain inverts, the updated 2019 unit rates were applied to the existing assets and the replacement cost calculated.

4.5 Application of Indices to the FAR

Professional judgement was then undertaken to determine the index to be applied for each asset class. (Refer to Table 4-2)

4.6 Updating replacement costs and fair values

The methodology adopted for the updating the replacement costs of the infrastructure assets is as follows:

- > Cardno was provided with an updated Technical FAR including additions to June 2019
- > Cardno was also provided by recent roads condition data
- > The 2019 FAR was reconciled to the previous comprehensive valuation to confirm the asset movements (additions/ disposals)
- > Recommended indices were applied to the relevant assets to derive the updated replacement cost
- > Updated unit rates were applied to the roads and footpaths assets
- > Fair value was updated. The update was based on condition for the roads and age for the remaining assets
- > Data was presented to ICC for review

Table 4-2 reflects the indices applied to each asset type

Table 4-2 Indices by asset type

Asset class	Asset type	Formal valuation year	Index range	Index adopted	Comment
Buildings and other structures	Buildings	2017	2017-19	1.0275 - 1.036	
	Bus stops	2016	n/a		Valued using 2019 rates
Flooding and drainage	Drainage structures - Gross Pollutant Trap	2018	2018-19	1.0283	
	Drainage structures - Headwall Structural	2018	2018-19	1.0145	
	Drainage structures - Kerb Inlet Pit	2018	2018-19	1.0375	
	Drainage structures - Manhole	2018	2018-19	1.0350	
	Drainage structures - Surface Inlet Pit	2018	2018-19	1.0354	
	Drainage structures - Trash Rack	2018	2018-19	1.0283	
	Drainage structures - Valve Pit	2018	2018-19	1.0283	
	Open drains	2018	2018-19	1.0000	
	Drainage mains	2018	2018-19	1.0000	
	Open drain inverts	2018	n/a		Valued using 2019 rates
Roads, bridges and footpaths	Bridges	2016	2018-19	1.0222	
	Roads	2016	n/a		Valued using 2019 rates
	Kerb assets	2016	n/a		Valued using 2019 rates
	Footpaths	2016	n/a		Valued using 2019 rates
	Medians	2016	n/a		Valued using 2019 rates
	Traffic signals	2016	n/a		Valued using 2019 rates

4.7 Land Assets

The land cost movement analysis was undertaken by our property valuer Neil Teves AAPI, registered valuer no. 382. The methodology for indexing the land parcels was presented in a separate report titled "ICC - Land Indices 2018-19" This report was issued to Council on the 25th of March 2019.

4.8 Results

Table 4-3 contains the results of the desktop valuation/ indexation as at 30 June 2019.

Table 4-3 2018-19 Results

Description	Replacement cost	Fair value	Accumulated depreciation	Future annual depreciation
Flooding and drainage				
Drainage structures	\$137,788,474.72	\$105,387,166.81	\$32,401,307.91	\$1,432,017.76
Open drain inverts	\$15,005,796.94	\$8,757,155.68	\$6,248,641.26	\$177,456.85
Open drains	\$16,685,094.80	\$16,413,849.97	\$271,244.83	\$57,008.91
Drainage mains	\$682,070,582.44	\$511,805,672.24	\$170,264,910.20	\$7,102,269.53
	\$851,549,948.90	\$642,363,844.70	\$209,186,104.20	\$8,768,753.05
Roads and Bridges				
Bridges	\$111,928,657.41	\$83,547,884.55	\$28,380,772.85	\$1,439,530.05
Footpaths	\$208,768,456.23	\$166,176,791.61	\$42,591,664.62	\$3,609,042.70
Kerbs	\$118,060,236.32	\$75,347,800.30	\$42,712,436.01	\$1,491,573.41
Medians	\$16,334,140.54	\$12,711,030.93	\$3,623,109.61	\$212,102.63
Roads	\$807,177,571.19	\$576,778,867.71	\$230,398,703.48	\$16,255,564.60
Traffic signals	\$26,205,000.00	\$12,444,870.00	\$13,760,130.00	\$1,310,250.00
	\$1,288,474,061.68	\$927,007,245.10	\$361,466,816.57	\$24,318,063.40
Buildings and other structures				
Buildings*	\$211,845,887.71	\$123,359,044.11	\$88,486,843.60	\$6,968,371.57
Bus Stops	\$2,268,005.25	\$694,673.75	\$1,573,331.51	\$90,720.21
	\$214,113,892.96	\$124,053,717.86	\$90,060,175.11	\$7,059,091.78
Land assets				
Land Indexation	\$295,078,729.47	\$295,078,729.47		
Land Valuations	\$7,514,500.00	\$7,514,500.00		
	\$302,593,229.47	\$302,593,229.47	\$0.00	\$0.00
Total	\$2,656,731,133.01	\$1,996,018,037.13	\$660,713,095.88	\$40,145,908.22

* Buildings include buildings, amenities blocks, traffic signs, sheds, and shelters

5 Qualifications

Table 5-1 lists the qualifications Cardno's staff members who were involved in this project.

Table 5-1 Staff qualifications

Name	Position	Qualification	Memberships
Rula Atweh	Senior Financial Consultant/ Principal - Asset Valuations	BSc Business Administration	
Adrian Kho	Geotechnical Engineer	PhD, BEng Civil (Hons)	CPEng, MIEAust, NPER, RPEQ 12676
Trevor Chiang	Asset Management Engineer	BE Chemical Engineering (Hons)	GradIEAust
Tom Sitprasert	Engineer I/Graduate Engineer	PhD Chemical Engineering, MEng, BEng (Hons) Mechanical	