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**ACT LIGHT RAIL COST ESTIMATES (11 MARCH 2024)**

**STAGES 1 & 2**

**Purpose**

This document provides and discusses the latest independent cost estimates by Smart Canberra Transport and Australian Logistics Study Centre (ALSC) for ACT light rail Stages 1 and 2, based mostly on information released by the ACT Government, reports in the media and on independent life-cycle cost analysis. However, it should be noted by readers that the ACT Government is parsimonious at best in release of any cost information and contract details in respect of light rail.

This review was prompted by the release on 7 December 2023 of the contract price for the Delivery Phase of Stage 2A, at \$577M for 1.7 km of track, which was a watering eye-opener. This figure is over twice the estimate of \$254M, made previously in the update of 21 May 2023.

**Stage 1**

Stage 1 (Gungahlin-Civic) followed the Parliamentary Agreement between the Greens and Labor after the 2012 election that construction of Stage 1 would start before the 2016 election, which it did. It has been operating since April 2019, quite successfully, given the effects of the unpredicted COVID-19 pandemic which cut patronage considerably. Best annual patronage to date has been 4.6 million. Given a 20-year cost of \$1.78B, being \$89M a year, the passenger subsidy is \$19.34 per boarding. However, note that, because the ACT Government made a lump-sum payment on commissioning of \$350M, the annual budget figure averages about \$71.15  $((1.78-.350)/20)$ .

One should note also that for Stage 1, it has been estimated that some \$100M has been expended in off-main contract costs directly attributable to Stage 1, namely for consultancies, works and project management, giving a total estimated cost (2016 dollars) of \$1.88B.

**Stage 2**

Stage 2 – Civic to Woden was announced in a brain snap, during an 11<sup>th</sup> hour, 2016 election speech by the Chief Minister.

Once the sheer difficulty and probable cost of Stage 2 dawned on the Government after the 2016 election, the Government split Stage 2 into two sub-stages, with Stage 2A limited to a technically feasible but expensive leg from Civic to Regatta Point.

Detailed, revised estimates for Stage 2A and 2B are shown in **Table 2**.

**Stage 2A**

Although only 1.7Km<sup>1</sup>, it is very expensive in incurring the decision to raise London Circuit and install a complicated intersection at a cost of some \$100M. In addition, there would be a bridge needed across Parkes Way and upgrading of the Acton waterfront, as well as the purchase of five additional trams and modification of the existing 14 trams.

In respect of raising London Circuit, one should note that it was not really needed for light rail but, rather, was a political decision to capture the valuable land now taken up by the clover-leaf access to Commonwealth Ave.

The Canberra Times (8Dec23) reported a contract price for Light Rail Stage 2A of \$577M, of which \$519M was for “Building and Facility Construction and Maintenance Services”, albeit the composition of these is unknown. In the absence of government clarifications, this figure is taken not to include a 20-year Operations & Maintenance (O&M) cost. Nor does it include the cost of raising London Circuit (\$82M) and myriad other related contracts and administration. See the detailed list (and references) under Stage 2A in Table 2 [Part 1].

The \$577M contract figure for Stage 2A grossly misrepresents the real total costs associated with this project. From Table 2 [Part 1], Stage 2A will in fact attract total build and related expenditures totalling \$1.29B,

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<sup>1</sup> Km = kilometre



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identifiable in published material by the Government. To this has to be added an estimated \$0.370B for 20 years of O&M,<sup>2</sup> for a total projected cost of \$1.66B, for 1.7 km of track.

To put this enormous sum into perspective, the equivalent build cost for Stage 1 from Gungahlin to Civic was \$69.2M per km. The figure for Stage 2A is \$305M per km (\$519M/2). How the Government can accept such a huge jump in construction costs demands answers, but none can be expected to be forthcoming. It should at least make public the cost composition of the \$577M contract, especially whether it includes 20 years of O&M, but is expected, as usual, to hide behind contract confidentiality.

## Stage 2B

Based on the comparative build cost figures for Stages 1 and 2A, estimates for the build of Stage 2B is notionally taken as \$150M for each of its 10.1 km. However, this assumed figure could well be in considerable error.

This translates into a cost for build, related contracts and administration of \$2.33B plus \$1.172B for O&M, for an expected total of \$3.5B.

## Stage 2B – Mawson extension

A mooted extension from Woden town centre to Mawson (2km) would add an extra \$0.55B over construction plus 20 years of O&M.

## Stage 2

Together, Stages 2A and 2B could reach \$5.163B, including 20 years of O&M.

## Stage 1 and Stage 2

Together, Stages 1 and 2 could reach \$6.943B, including 20 years of O&M.

## Financial Commitment to date.

It can be shown, from published records, that the financial commitment (approved expenditure) to date for light rail has been \$1.78B nominal (\$1.311B PV, Jan24<sup>3</sup>) for Stage 1 and \$1.496B for Stage 2, for a verifiable total of \$3.276B.

Stage	Build + Project \$B	20Y O&M \$B	20Y Total \$B	Notes
<b>\$Commitment to date</b>			<b>3.276</b>	0
Stage 1			1.780	1
Stage 2			1.496	2
<b>Stages 1 &amp; 2</b>			<b>6.943</b>	
<b>Stage 1</b>			<b>1.780</b>	
<b>Stage 2 - Civic-Woden</b>	<b>3.621</b>	<b>1.542</b>	<b>5.163</b>	
Stage 2A	1.291	0.370	1.661	3, 4
Stage 2B - Regatta Point-Woden	2.330	1.172	3.502	5
<b>Stage 2B Mawson extension</b>	0.324	0.226	0.550	6
<b>Notes:</b>				
0. Includes attendant non-build contracts, consultancies and project management				
1. Auditor-General Report on Stage 1, June 2016. \$1.78 B nominal; \$0.913B PV2016				
2. Includes \$519M build contract plus attendant contracts committed to date				
3. \$519M build contract plus attendant contracts for trams, facilities and services				
4. O&M at 50% of build, equipment & facilities (marginal costs on Stage 1)				
5. O&M at 75% of build, equipment & facilities				
6. O&M at 75% of build, equipment & facilities				

<sup>2</sup> While not published, one can expect four of the five extra trams to be operated three shifts per day. This will require at least 20 drivers at a cost of \$150K pa each (salary \$75K), for 20 years, being \$60 million for drivers alone.

<sup>3</sup> <https://www.tenders.act.gov.au/contract/view?id=130871>, click "Attachments", Variation #5



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### **Summary**

When are Canberrans ever going to wake up to how we as taxpayers are being fleeced on light rail by the sole-source, contractor/unions consortium, with the impotent compliance of the Labor/Greens government. It can be shown from published sources that, to date, some \$3.27B has been committed (much of it spent) on Stage 1 (\$1.78B) and on stage 2 planning and build contracts (\$1.496B).

To date, \$1.29B has been committed for Stage 2A (Civic-Regatta Point) for planning and a build contract alone. To this must be added the Operations & Maintenance (O&M) (20 years nominal) of \$0.370B, for a total cost of Stage 2A of \$1.66B. Not bad for 1.7km of track. For comparison (and a source of wonder), Stage 1 (12km) cost \$69M per km to build. Stage 2A (1.7km) will be \$305M per km to build (excluding raising London Circuit). How could that be short of snouts in the trough?

The outrageous contract price of \$519M to build Stage 2A (excluding raising London Circuit, five extra trams and facilities), for only 1.7km has prompted a revision of probable costs of Stage 2B, Regatta Point to Woden. The most probable build cost now for Stage 2B (10.1km) is \$2.33B. By the time 20 years of O&M and off contract expenditures are included, Stage 2B will be about \$3.5B.

An extension from Woden to Mawson (2km) would be another \$0.32B to build plus \$0.226B for a total of \$0.55B.

All up (build plus 20 years O&M), Stage 2 to Woden will be about \$5.16B (\$1.66B for 2A and \$3.5B for 2B).

All up (build plus 20 years O&M), Stages 1 & 2 to be about \$6.94B (\$1.78B for Stage 1 and \$5.16B for Stage 2).

Hair-raising stuff!

M.R. Flint

Principal, Australian Logistics Study Centre, an  
Coordinator, Smart Canberra Transport

Canberra, 11 March 2024



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		Reference	3% pa for 7 years	Constants	1.230	Esc factor 2016/2023
Major assumption based on St1 and St2A known costs				\$M/Km	\$M	Work
<b>TABLE 2 [Part 1]</b>		Stage 1 actual build cost (2016 prices)		56.3		12Km Track & Stations
<b>LIGHT RAIL COST ESTIMATES - BUILD AND PLANNING</b>		Stage 1 actual build cost (2023 prices)		69.2		12Km Track & Stations
<b>STAGE 1 - GUNGAHLIN-CIVIC</b>		Stage 2A actual build cost (2023 prices)		305.3		1.7Km Track & Stations
<b>STAGE 2A - CIVIC-REGATTA POINT</b>		Stage 2B actual build cost (2023 prices)		150.0		10.1 Km Track & Stations
<b>STAGE 2B - REGATTA POINT TO WODEN TOWN CENTRE</b>		Australian Cases (max)	[2]		7.5	Intersection + Lights
<b>STAGE 2B EXTENSION - WODEN TO MAWSON</b>		Australian Cases (min)	[2]		4.0	
		BITRE Report (See Table A3)		4.7		Earthworks (signif)
		BITRE Report (See Table A3)		6.6		Earthworks (major)
<b>ESTIMATES UPDATED 8MAR24</b>		BITRE Report (See Table A3)		8.4		Earthworks(extends)
<b>POST ACTUAL CONTRACT PRICE FOR STAGE 2A CONSTRUCTION</b>		1. Based on actual contracted build cost of \$675M (2016 prices)				
		2. Sunshine Coast Council (up to \$5M); Victorian government (\$5M to \$11M)				
Stage Leg	Km	Work required		Build Estimate \$M	[note] Comments	Stops
<b>Stage 1 &amp; Stage 2 Commitment (at 10Mar240)</b>						
Stage 1 Commitment		\$69M per km (build only)		3,276		
Stage 2 Commitment				1,780	0, 1	
				1,496		
<b>Stages 2A, 2B + 2B Extension to Mawson</b>	13.8			3,945		
<b>Stages 2A, 2B</b>	11.8	\$306M per Km (build only)		3,621		
<b>Stages 2A</b>	1.7	<b>\$305 per Km (construct only)</b>		<b>1,290.8</b>		
<b>Construction, Equipment, facilities</b>		<b>[excluded raising London Cct ]</b>		<b>732.0</b>		
Construction contract				519.0	2	
More trams, expand depot, retrofit batteries				199.0	3	
Certification				14.0	4	
<b>Planning and administration</b>				<b>374.3</b>		
Stage 1 and 2A interface contract "Tripartite Deed				162.0	5	
Augmentation Deed Stage 2A				7.7	6	
Augmentation Deed Stage 2A				7.3	7	
Stage 2A Advice				2.7	8	
Stage 2A development agreement				7.2	9	
Augmentation Deed Stage 2A				9.4	10	
Project Design and Technical Advisory Consultant				93.0	11	
Technical Advisors Panel contract,				85.0	12	
<b>Enabling Works</b>				<b>82.0</b>		
Raising London Cct				82.0	13	
<b>Stage 2A Planning</b>	50%	Stage 2A portion of Stage 2 planning		102.5		



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Table 2 [Part 2]

<b>Stage 2 Planning</b>				<b>205.0</b>		
Project Design, TechAdvisory Consultant City to Woden				93.0	14	
Technical Advisors Panel contract, Nov 2017 - June 2024				85.0	15	
Working on stage 2 since 2016				27.0	16	
<b>Stage 2B + 2B Extension to Mawson</b>		<b>12.1</b>		<b>2,654</b>		
<b>Stage 2B</b>			[Assumes graded right-of-way]	<b>2,330</b>		
<b>Stage 2B Planning</b>				103		
All Track (10.1Km) + Stations	<b>10.1</b>	\$150 per KM		1,515		
<b>Regatta Point to Comm Ave bridge</b>	<b>0.25</b>	Earthworks (significant)		1		
Reworked intersection and traffic lights				8		1. Hyatt Hotel
<b>Bridge across lake</b>	<b>0.3</b>			350	17	
<b>Lake to State Cct</b>	<b>1.25</b>			13		
Leaves Cth Ave at Coronation Dve		Intersection and lights		8		
Along left side of Cth Ave to State Cir		Earthworks (significant)		6		
<b>State Ccr to Adelaide Ave</b>	<b>2.3</b>			<b>72</b>		
To State Cir		Earthworks (significant)		11		
Over State Cir to inside thereof		Intersection and lights		8		
Under two Mall bridges		MUST fit - work on bridges not feasible				
To Kings Ave		Intersection and lights		8		2. Kings Ave
To Sydney Ave		[no intersection]				3. Sydney Ave
To Canberra Ave		Intersection and lights		8		
To Melbourne Ave		Intersection and lights		8		4. Melbourne Ave
To Capital Cir (under or over?)		Bridge or Intersection and lights		20		
Up onto Adelaide Ave (centre)		Earthworks (significant)		11		
<b>Along centre of Adelaide Ave</b>	<b>2</b>			<b>119</b>		
To Yarra Glen		Earthworks (significant)		9		
To Hopetoun Cct bridge (Over)		Centre bridge span required		50		5. Hopetoun Cct
Ditto		Footbridge/elevator access		20		
Novar St bridge (under)		Rework of bridge supports possible		20		6. Novar St
Ditto		Footbridge/elevator access		20		
<b>Along centre of Yarra Glen</b>	<b>2.75</b>			<b>28</b>		
Yarra Glen/Yamba Dve roundabout		Earthworks (major)		18		
Carruthers St bridge		Rework of bridge supports needed		10		7. Carruthers St
<b>Across roundabout 0.75 km</b>	<b>0.75</b>			<b>106</b>		
Across culverts etc		Earthworks (extensive)		6		
Ditto		Bridging (extensive)		100		
<b>Launceston St to Bradle St</b>	<b>0.5</b>			<b>15</b>		8 Canberra College
Callum St		Intersection and lights		8		
Bowes St		Intersection and lights		8		
<b>Town Centre</b>						9 Terminal Woden
<b>Stage 2B Extension to Mawson (2Km)</b>			\$150M per KM	<b>324</b>		
All Track (2Km) + Stations	<b>2</b>			300		
<b>Extra work</b>				<b>24</b>		
Bradle St to Neptune St		Intersection and lights		4		
Neptune St to Corinna St		Intersection and lights		4		10. Parramatta St (?)
Corinna St to Hindmarsh Dve		Intersection and lights		4		
Centre of Athlon Dve to Shea St		Intersection and lights		4		
Centre of Athlon Dve to Melrose Dve		Intersection and lights		4		
Centre of Athlon Dve to Mawson Dve		Intersection and lights and Terminal		4		11 Terminal Woden
<b>Notes:</b>						
0. Auditor-General report Stage 1, june 2016						
1. <a href="https://www.tenders.act.gov.au/contract/view?id=130871">https://www.tenders.act.gov.au/contract/view?id=130871</a> , click "Attachments", Variation #5						
2. <a href="https://www.tenders.act.gov.au/contract/view?id=210200">https://www.tenders.act.gov.au/contract/view?id=210200</a>						
3. Exact reference to be located						
4. <a href="https://www.tenders.act.gov.au/contract/view?id=210191">https://www.tenders.act.gov.au/contract/view?id=210191</a>						
5. Tripartite deed - exact reference to be located						
6. <a href="https://www.tenders.act.gov.au/contract/view?id=184674">https://www.tenders.act.gov.au/contract/view?id=184674</a>						
7. <a href="https://www.tenders.act.gov.au/contract/view?id=186009">https://www.tenders.act.gov.au/contract/view?id=186009</a>						
8. <a href="https://www.tenders.act.gov.au/contract/view?id=192956">https://www.tenders.act.gov.au/contract/view?id=192956</a>						
9. <a href="https://www.tenders.act.gov.au/contract/view?id=199759">https://www.tenders.act.gov.au/contract/view?id=199759</a>						
10. <a href="https://www.tenders.act.gov.au/contract/view?id=205448">https://www.tenders.act.gov.au/contract/view?id=205448</a>						
11. <a href="https://www.tenders.act.gov.au/contract/view?id=190820">https://www.tenders.act.gov.au/contract/view?id=190820</a>						
12. <a href="https://www.tenders.act.gov.au/contract/view?id=151511">https://www.tenders.act.gov.au/contract/view?id=151511</a>						
13. <a href="https://www.tenders.act.gov.au/contract/view?id=199210">https://www.tenders.act.gov.au/contract/view?id=199210</a>						
14 <a href="https://www.tenders.act.gov.au/contract/view?id=190820">https://www.tenders.act.gov.au/contract/view?id=190820</a>						
15. <a href="https://www.tenders.act.gov.au/contract/view?id=151511">https://www.tenders.act.gov.au/contract/view?id=151511</a>						
16. <a href="https://www.canberratimes.com.au/story/6033674/act-government-signs-suite-of-light-rail-stage-2-contracts/">https://www.canberratimes.com.au/story/6033674/act-government-signs-suite-of-light-rail-stage-2-contracts/</a>						
17. Estimate based on anecdotal evidence.						