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1 June 2018

Committee Secretary
Joint Standing Committee on the National Capital and External Territories
PO Box 6021
Parliament House
Canberra ACT 2600

Copy: National Capital Authority
Senator the Honourable Zed Seselja

Committee Secretary

ACT Light Rail Stage 2

I am writing to the Joint Standing Committee on the National Capital and External Territories (JSCNCET) on behalf of Canberra taxpayers who strongly contest the need for and the economic viability of the light rail program being pursued by the ACT Government and, in particular, its Stage 2 through Designated Areas controlled by the Federal Government.

The enclosure hereto provides the more important elements of a case against any extension of the light rail network planned by the ACT Government, particularly Stage 2 Option B that is expected to traverse major parts of the Designated Areas.

For any major project, a Business Case is an essential and fundamental document which, among other things, needs to set out the economic case for the project in terms of real benefits and costs. Its importance cannot be overstated. The JSCNCET should insist that there be a proper and valid Business Case raised for Stage 2 and that it be made available in its entirety for review before any decision by the Federal Parliament.

Should the Federal Parliament approve Stage 2, it could well expect a claim from the ACT Government to fund the Federal portion (about 65 per cent) of the Stage 2 Option B route and a significant ongoing Federal commitment to subsidise operations over the life of Stage 2.

I trust that the information provided in this letter will be helpful in your deliberations on this matter. I would be prepared to answer questions you may have or to meet with you to provide more information.

I would welcome your response in due course.

Yours faithfully

Max Flint
Co-ordinator
Smart Canberra Transport (SCT)

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Encl: A. A case against Stage 2 of light rail in Designated Areas

Max Flint is a retired senior officer of the RAAF, who is a qualified engineer and has a Master of Science Degree (Logistics Management with distinction). He was an acquisition manager of major capital projects in Department of Defence and for many years was a private consultant, specializing in support systems and life cycle costing for major projects.

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SCT-JSTNCET_1JUN18_1.0

A CASE AGAINST STAGE 2 OF LIGHT RAIL IN DESIGNATED AREAS

Committee Terms of Reference

This brief paper will present a case against Stage 2 of the ACT light rail program, being from Civic to Woden, via Barton, in accordance with the terms of reference for the Committee inquiry.

The Joint Standing Committee on the National Capital and External Territories will inquire into and report on the development of stage two of the Australian Capital Territory light rail project, with regard to:

1. *the relevant parliamentary approval processes for works within the Parliamentary zone;*
 2. *the roles of the National Capital Authority and the Australian Government, and the associated approval processes;*
 3. *possible impacts on the Parliamentary zone and Parliamentary precincts, including any impacts on the heritage values and national importance of the Parliamentary zone and our national capital; and*
 4. *the identification of matters that may be of concern prior to formal parliamentary or Australian Government consideration of the project; and*
- any other relevant matter the Committee wishes to examine.*

Background

The ACT Government is currently planning a light rail network of some eight stages, as shown in Table 1.

Note: It is to be expected that the definition of stages could well alter with time.

TABLE 1			
PLANNED LIGHT RAIL NETWORK - CANBERRA [April 2018]			
Corridor Stage	Route	Length KM	Length %
1	Gungahlin-Civic	12	16%
2A	Woden-Civic - Opt A [1]	[11.1]	
2A1	In NCA Designated Area	7.85	65%
2A2	In ACT Government area	4.25	35%
2B	Woden-Civic - Opt B [2]	12.1	15.9%
3	Triangle-Addition (Civic-Russell-Cap Hill)	4	5%
4	Belconnen -Civic	13	17%
5	(Russell- Canberra Airport)	4	5%
6	Eastern connection (Capital Hill-Fyshwick)	4	5%
7	Woden-Tuggeranong (Athllon Corridor)	8	11%
8	Civic-Molonglo-Weston Creek-Woden	19	25%
1-8	Network (Stage 2 Opt B)	76.1	100%
Notes			
1	Stage 2 Option A - Capital Circle [non-preferred]		
2	Stage 2 Option B - through Barton [now preferred by ACT Government]		

Stage 1 is under construction and due to be commissioned by the end of 2018.

For the proposed Stage 2, two routes have been under consideration:

- Option A: Civic, west around London Circuit, Commonwealth Avenue and bridge, east around Capital Circle to Adelaide Avenue, to Woden via Yamba Drive, for an estimated distance of 11.1 km;
- Option B: Civic, west around London Circuit, Commonwealth Avenue and bridge, King George Terrace, Kings Avenue, Windsor Walk. John McEwen Crescent, Canberra Avenue, Capital Circle, to Adelaide Avenue, then to Woden via Yamba Drive, for an estimated distance of 12.1 km.

On 19 April 2018, the ACT Government announced that it preferred the Option B route. See Table 2 and the planned Stage 2 route map – Civic-Woden.

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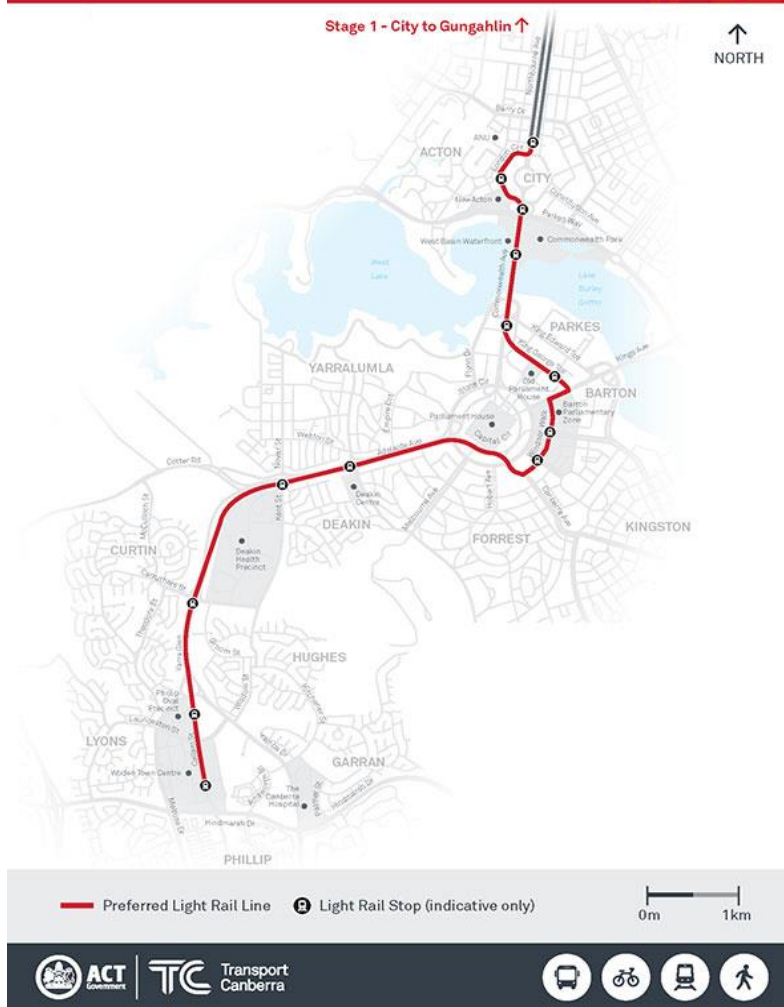
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TABLE 2

Light Rail Stage 2 - NCA Designated Areas

	Segment	OptA Km	OptB Km
	NCA Designated area	6.85	7.85
1	London Cct - Commonwealth Ave bridge	1.5	1.5
2	Commonwealth Ave bridge	0.6	0.6
3	Commonwealth Ave bridge - King George Tce	0.5	0.5
4	King George Tce - Adelaide Ave		
4a	Option A via Capital Circle	2.25	
4B	Option B - via King George Tce		3.25
5	Adelaide Ave - Yamba Drive	2	2
	Non-Designated	4.25	4.25
6	Alinga St - London Cct	0.25	0.25
7	Yamba Drive - Corinna St	3.5	3.5
8	Corinna St - Woden centre	0.5	0.5
	Total	11.1	12.1
	% Designated Area	62%	65%
	% ACT Jurisdiction	38%	35%

Stage 2 Route Map: City - Woden



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Relevant parliamentary approval processes

No comment

the roles of the National Capital Authority and the Australian Government, and the associated approval processes

No comment except that the content of this submission is cognisant of the roles of the NCA, as summarised at Annex B and of the contents of the Consolidated National Plan, in particular Part Four – Designated Areas and Special Requirements - 4.1 The Central National Area, which would be most affected by Stage 2, Option B light rail.

Impacts on the Parliamentary zone and Parliamentary precincts

As may be noted from Table 2 that, of the 12.1 km for Stage 2 Option B, some 7.9 km (65 per cent) is through Designated Areas (and the Central National Area) controlled by the NCA.

Stage 2 Option B would, of necessity, mean major changes to and disruption of Designated Areas along the planned corridor, particularly those principal assets in which all Australians have a major interest and investment within Canberra as the National Capital.

It is a question of whether light rail enhances or damages the public perceptions of what comprises the National Capital as an enclave within the Australian Capital Territory (ACT).

It is noted that, for Designated Areas, the NCA manages development and renewal projects for the special purposes of the National Capital. These works include regular maintenance, works to enhance or protect prior Commonwealth Government investment in national assets (eg refurbishment of monuments and fountains), construction of public infrastructure (eg roads, parking, pathways and lighting) and development of the landscape settings for new building sites, public parks and places, commemoration and celebration.

The foregoing statement implies that, should Stage 2 Option B be approved by Federal Parliament, the NCA would need to have a significant role in both construction and through-life maintenance of the light rail surrounds, at considerable cost to federal taxpayers.

It would appear that the critical questions for the NCA and JSCNCET to answer are:

- Could the planned Option B route through Designated Areas be achieved while continually meeting the responsibilities of the NCA, including esthetical requirements of the Areas?
- Would this light rail route provide worthwhile service value to residents, Commonwealth employees, visitors to the Areas and Australian taxpayers, to offset potential aesthetic disruption and life-time costs?
 - The majority of local residents may but not necessarily favour the Stage 2, Option B route, given the grossly uneconomic nature of the project.
 - Parliamentarians would rarely if ever benefit but would suffer traffic and noise disruption for at least two years during construction.
 - Workers commuting from along the corridor could benefit but numbers could be relatively few compared to the patronage required for economic operations. The expected low speed and longer travel times for light rail, compared to current rapid bus and private transport would militate against such patronage. The Option B route would take at least an average of 35 minutes from Civic to Woden and vice versa and average less than 20 km per hour; significantly longer at peak hours. Note also, as is the case for Stage 1, that the current efficient rapid bus services could be sacrificed to force people onto light rail.
 - Would the proposed corridor adequately serve tourism to major national assets in the Area, besides the Parliament House? This would be somewhat unlikely, given the walking distances from light rail to attractions. Local visitors could benefit in respect of Parliament House but not for other major attractions in the Areas. Interstate visitors would almost all be by private vehicle and unlikely to use light rail very much, except perhaps for a joyride. Interstate visitors and taxpayers will also judge value for money. Internationals wanting to visit Parliament House could benefit but numbers would be relatively low.
- Would the Federal Government be interested in allowing aggressive property development in the Areas? While it would be able to permit some development, that would need to meet strict planning structural and esthetical guidelines. The NCA would not want to permit the poor building standards reported to be prevalent in Canberra outside the Areas. Note that for Stage 1, the ACT Government

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business case was highly dependent on future clawback of costs from land sales and ongoing rates for new property along the corridor. Could the Commonwealth so benefit and would it be worthwhile? Would the Commonwealth be willing to lease land for significant increases of dwellings in the Areas?

- How would the lake be crossed without detracting from the structural and esthetical balance of the Areas? However approached, a bridge across the lake for two light rail tracks would pose major architectural, engineering and financial difficulties. Reserving two of the existing lanes on Commonwealth Avenue bridge for light rail would not be acceptable to the many daily vehicle users of this major North-South artery. A new bridge would be needed but where and at what cost?
- Would the Federal Government ever consider approval of overhead power lines for light rail that would not sit well with the aesthetics of the Areas? The alternative is catenary free power, the provision of which would not necessarily be simple and would certainly be disruptive and costly.
- Would the Federal Government want to put itself in a position of having supported and, possibly, significantly funded what independent analysts believe to be the worst option, in light rail Option B, for public transport through the Areas?
- Why would a Federal Government, of either persuasion, be prepared, at considerable expense, to facilitate an ACT Government project that would certainly be grossly uneconomic and which has been proposed for political purposes only?

Matters of concern prior to parliamentary or Australian Government consideration of the project

Should the Federal Government approve the Stage 2 project, its agencies, particularly the NCA, will, unavoidably, be required to expend very considerable resources, both personnel and taxes, throughout the life of the project:

- Pre-contract, the NCA would need to:
 - draft stringent requirements and specifications for the corridor in the Areas to be met by construction contractors and post-construction operators,
 - insist on agreeing relevant requirements specified in all Requests for Tender,
 - insist on being involved as an equal partner in the evaluation, selection and negotiation of contracts, and
 - perhaps provide very substantial investment dollars (see later figures).
- During construction (three years) and on-going operations (for at least 20 years) being:
 - directly involved in monitoring construction and operations to assure that Federal requirement are being met, and
 - involved in any industrial disputes.

In short, the NCA, on behalf of and in the interests of the Commonwealth, would need to be a co-sponsor and co-manager of the project, for its lifetime.

Should the JSCNCET decide to recommend acceptance of the project to the Parliament, it must insist that the ACT Government produce a valid Business Case as the basis of consideration and decision by both Houses. A valid Business Case is an essential and fundamental document to any major project, which among other things, needs to set out clearly the economic case for the project in terms of real benefits and costs. See Annex A for further comment on the need for the business case.

Obviously, the JSCNCET, in its deliberations, will need to weigh up perceived benefits to the nation as a whole and not just to the ACT Government, against the ongoing administrative involvement and investment needed.

This submission makes no comment on the value of perceived benefits other than to say that they would prove to be grossly uneconomic.

In respect of costs, from Table 3, Annex A, best estimates for the construction cost alone of Stage 2 Option B is a minimum of \$0.900 billion, and plus a minimum cost for 20-year operations of \$0.680 billion, for a total LCC of \$1.580 billion (2018 prices). Should the Federal Parliament endorse Stage 2 of light rail, it could well expect a claim from the ACT Government to fund that portion of the Stage 2 route, as may be determined, that traverses the Designated Areas under Federal Government control. That sum would be quite substantial. Given that 65 per cent of the Stage 2 Option B route traverses Commonwealth-controlled land, one estimate for the cost to the Federal Government is a minimum of \$0.59 billion for construction and \$0.44 billion for operations (less revenue) over 20 years, for a minimum LCC of \$1.03 billion (2018 prices).

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Note: *These Stage 2 cost estimates do not include pre-contract or post-contract administrative costs that would be incurred by Federal agencies or consideration of clawback from land sales or subsequent property taxes.*

While this submission has provided its best cost estimates for Stage 2, Option B as constrained by limited data, it does not make any recommendation as to whether the Federal Government should subsidise the project, let alone suggest an investment sum. Nevertheless, even if the Commonwealth approves the project but chooses not to invest in its construction nor subsidise operations, it would still incur significant costs in the interests of meeting the NCA responsibilities for Commonwealth affected assets, as a co-sponsor of the project.

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- Annexes:**
- A. Reasons why Stage 2 should not proceed
 - B. A resumé of the Roles of the National Capital Authority (NCA)
 - C. ACT Auditor-General's Report – Initiation of light rail project, Report No 5/2016.

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ANNEX A TO
SCT-JSTNCET_1JUN18_1.0

REASONS WHY STAGE 2 SHOULD NOT PROCEED

Introduction

There are many reasons why the ACT Government should not proceed with Stage 2 or be endorsed by the Federal Parliament. Those more relevant to JSCNCET deliberations are:

- In distributed, low population density cities such as Canberra, trams are a superseded, totally inflexible technology, soon to be made obsolete by rapidly developing, flexible transport modes and systems, enabled by advances in digital technologies and artificial intelligence.
- The Stage 1 (Gungahlin-Civic) route was chosen because it was thought to be the most cost-beneficial of all the planned routes. But the ACT Auditor-General and independent analysts have put the Benefit to cost Ratio (BCR) for Stage 1 at less than 0.6, thus very uneconomic in real benefits. By definition, Stage 2 and any other route must be even less economic.
- Federal financial assistance for Stage 1 has been minimal, at \$65 million, and subject to strict terms of the National Partnership Agreement on asset recycling, to be met by 30 June 2018.
- If the Federal parliament approves Stage 2, it could logically expect a request from the ACT Government to pay for the portion of Stage 2 that traverses Designated Areas controlled by the NCA. [see Table 5].
- It is understood that the NCA has advised the ACT Government that appropriating two lanes of the Commonwealth Ave bridge for light rail is not an option and that a new bridge (some 600 metres in length) would be needed. Otherwise, congestion on the bridge and the principal north-south artery would be untenable.

Politics

While the Civic-Woden link of light rail was always part of the ACT Government's planned network, it was not so planned as Stage 2. During the 2016 ACT election campaign, the Labor Party and Greens Party peremptorily changed Stage 2 to be the Civic-Woden link, for purely political reasons and without any consideration of real need or cost or, apparently, consultation with other jurisdictions. It is now expecting the Federal Government to endorse an ACT political decision.

Technology

Advances in transport technology are rapidly making trams obsolete. Autonomous, electric buses are already available, which are more flexible in connectivity, faster and cheaper, especially in a city with the geographics of Canberra. Public transport systems of the future will, of necessity, be an integrated mix of autonomous buses, ride sharing entities such as Uber® and private vehicles (mostly electric and eventually autonomous), but not including new light rail.

Studies conducted during the early stages of Stage 1 showed that a Bus Rapid Transit (BRT) system was a far superior option to light rail, being available at half the cost and twice the cost-effectiveness. That would still be the case, especially with advances in electric buses. The JSCNCET should insist that the business case presented by the ACT Government provides for a BRT option as well as the light rail option for Stage 2. It can be argued that a BRT option is more aesthetic, less intrusive, more effective, faster and certainly less costly than light rail.

Note that the ACT Government has often cited the main benefit of the light rail to be the potential for development of the corridor, rather than as the most desirable transport system. It was also contended by some analysts, at the time, that a BRT could enhance real estate development along a corridor just as well if not better than light rail. One example of how cost-effective modern bus routes can be is the Healthline in Cleveland, USA, which is a dedicated BRT of 9.2 miles (14.7km), commissioned in 2008 for about US\$200 million (AU\$270 million - far less than for light rail), using 63-foot hybrid-electric Rapid Transit Vehicles.

<http://www.riderta.com/healthline/about>.

This example helps to show that flexible BRT systems are better solutions for public transport than inflexible light rail, in the developing technological age. Light rail projects around the world, eg in Edmonton, Canada, are proving to be financial and congestion disasters.

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Business Case

A valid business case is an essential and fundamental document to any major project, which among other things, needs to set out clearly the economic case for the project in terms of real benefits and costs. In its deliberation, the JSCNCET and Federal Parliament must insist that:

- there be a valid business case raised for Stage 2 and that it be made available in its entirety for review by the Federal Parliament;
- that the business case includes both a light rail and Bus Rapid Transit (BRT) option for the planned corridor;
- the ACT Government provides access to all data supporting analyses, conclusions and recommendations of its Business Case;
- the ACT Government make no decision or contractual commitment for the construction of any part of Stage 2 until the Federal Parliament has completed its review and handed down a decision or decisions; and
- during its deliberations, engages truly independent cost and other analysts to analyse the Case presented and to advise it accordingly on the validity of the Case and estimated benefits and costs presented therein.

One may recall that the Business Case for Stage I was severely criticised at the time, with some external analysts considering it to be extremely poorly done and not at all a valid basis for the Government to have made a decision to spend \$1.78 billion (nominal total) over the contract period. That decision was based on a very flimsy and invalid case purporting to achieve a BCR of only 1.2 whereas independents analysts estimated a BCR of 0.6 at best. The Government's claimed BCR was heavily padded with 'estimates' of 'wider economic benefits' which completely obscured the real, very much lower BCR. The Auditor-General's Report 5/2016 into Stage 1 estimated the BCR at only 0.49 (see Annex C for conclusions of the Auditor-General's report). Nevertheless, the ACT Government continually defended its very flawed Business Case.

Costs and Benefits

Real Costs

While estimates herein have been done with certain rigour, they recognise the paucity of detail allowed the public to date by the ACT Government. They are based on the preferred, Option B route for Stage 2, including a large bridge to cross, the published costs for Stage 1 and of similar projects in the Gold Coast and in Sydney. All cost estimates should be subject to independent (non-Government) peer review.

Stage 1

The published costs for Stage 1 are \$710 million for construction of (12 km) and \$939 million as the total through-life cost (Present Valued prices in 2016). The figure of \$710 million is a presumed minimum in that it provides only for modest cost escalation during construction. In 2018 prices, the expected minimum construction cost for Stage 1 is \$750 million.

The nominal cost of Stage 1 of \$1.78 billion, comprises \$0.375 billion as a Territory capital contribution, \$1.274 billion in availability payments over 20 years, and \$0.130 billion as Territory- retained risk, ie contingency (A-G Report No 5/2016 refers).

After discounting to 2016 Present Values, at an annual rate of 7.52 per cent over 20 years, the official figure for the 20-year Life Cycle Cost (LCC) of \$939 million. While present value analysis is a widely accepted methodology for comparison of competing projects, the choice of a valid discount rate is arguably the most controversial aspect thereof and can lead to different results and decision.

For Stage 1, the Present Value 2016 figure of \$939 million is considered by some analysts to be fallacious, it having been derived by using an erroneous discounting percentage, namely, the use of a discount rate of 7.52 per cent when it should have been discounted at the expected, average applicable cost escalation indices, being about 3 per cent per annum. Correct discounting produces a through-life cost for Stage 1 of \$1.35 billion (2016 prices; \$1.42 billion in 2018 prices).

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Stage 2

For Stage 2, there are two routes under consideration. Either route has to provide for battery-driven trams and the same major bridge to cross and difficulties getting around the Parliamentary triangle or through Barton, which push up construction costs by an estimated minimum of 20 per cent, compared to Stage 1.

Best estimates for build plus 20 years of operations, for Stages 1, Stage 2 Option B and the complete network as planned, are shown in Table 3.

The construction cost alone of Stage 2 Option B is a minimum of \$0.900 billion, plus a minimum cost for 20-year operations of \$0.680 billion, for a total LCC of \$1.580 billion (2018 prices).

TABLE 3							
PLANNED LIGHT RAIL NETWORK - STAGE 2				2018 Prices		20	Pay back period
Stage	Route	Length KM	Build Min \$B	Ops Min \$B	LCC Min \$B	Net Cost Min pa \$M	Extras affecting adjust factor Includes cost effect of \$375m down payment (applicable Stage 1 only)
1	Gungahlin-Civic	\$710 m (2016 prices)	12	0.75	0.67	1.42	70.9
2B	Woden-Civic - OptB	12.1	0.90	0.68	1.58	79.0	small bridges; flat
1-8	Network B	76.10	5.35	4.26	9.61	480.6	CTH Ave bridge; battery trams
Stage 2 - Probable Federal Share (if Approved)				65%	NCA share [1]		Approx only. Depends on scheduling of system roll-out
Stage	Route	Length KM	Build Min \$B	Ops Min \$B	LCC Min \$B	Net Cost Min pa \$M	Comment
2B	Woden-Civic - OptB	12.1	0.90	0.68	1.58	79.0	
2A1	NCA Share	7.85	0.59	0.44	1.03	51.3	[2]
2A2	ACT Gov share	4.25	0.32	0.24	0.56	27.8	
Notes:							
1. NCA share - distance = 7.85/12.1 (65%).							
2. NCA share - potential cost (includes the bridge as the most expensive part of the construction) = \$1.03 billion							

Should the Federal Parliament endorse Stage 2 of light rail, it could well expect a claim from the ACT Government to fund that portion of the Stage 2 route, as may be determined, that traverses the Designated Areas under Federal Government control. That sum would be quite substantial. Given that 65 per cent of the Stage 2 Option B route traverses Commonwealth-controlled land, one estimate for the cost to the Federal Government is a minimum of \$0.59 billion for construction and \$0.44 billion for operations over 20 years, for a minimum LCC of \$1.03 billion (2018 prices).

Opportunity Costs

Opportunity costs of investment in a particular project comprise the differential values of other projects or services foregone. These can be very substantial, given the high cost and very poor BCRs estimated by analysts for light rail in Canberra. In particular, opponents cite continual reports on the dire state of hospital care in the ACT, lack of affordable housing, a struggling public bus network, homelessness and the general poor state of maintenance of city infrastructure, as more worthy areas of expenditure. While the NCA may not be involved in how the ACT Government conducts its affairs, the Federal Government surely has a responsibility to assure the best outcomes for ACT citizens as payers of federal taxes.

Benefits

As was the case for Stage 1, the Business Case for Stage 2 can be expected to identify and attempt to put dollar values on myriad benefits, including those claimed to have Wider Economic Impacts (WEI), in an attempt to justify the investment. Benefits may be defined as tangible and quantifiable, tangible but unquantifiable (thus requiring a qualitative judgement of value) and intangibles for which any quantification in dollar terms is highly suspect and can lead to double-counting. Every claim of a 'benefit' in the Business Case for Stage 2, however identified, should be closely examined for validity.

Who uses and who pays

Patronage of Stage 1, let alone of Stage 2, is expected to be modest, hence the acceptance before contract by the ACT Government of all patronage risk. It has been estimated that less than five per cent of Canberrans are

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expected to ever use Stage 1. During a 2CC Podcast interview, 18May18, the Chief Minister, Mr Barr, in effect admitted that light rail in Canberra would be subsidised.

Even fewer patrons would make use of a Stage 2, but the ACT Government expects all taxpayers to pay for it as it did for Stage 1.

Federal Government assistance

Under the National Partnership Agreement on asset recycling with the states and territories, the Federal Government agreed to pay towards Stage 1, 15 per cent of the value of public assets that the ACT Government said it would sell and put towards Stage 1 of light rail. The Agreement valued those assets at about \$393 million. Under the Agreement, the ACT Government must ensure that the total stock of public housing does not fall below 10,848 dwellings and that the tenants are to be relocated into suitable replacement housing before sale of public housing assets, all before 30 June 2019. As a result of the agreement, the ACT Government has a program running to rehouse some 1,300 public tenants, at an acknowledged cost of \$600 million.

Some assets have been sold and it is presumed the ACT Government has received some funds from the Federal Government (exact status not known). It should be noted that the ACT Government is committed contractually to pay a lump sum of \$375 million to the Stage 1 contractor, upon acceptance of Stage1 after commissioning.

In respect of Stage 2, as mentioned under 'Real Costs', the Federal Government could also be open to a claim from the ACT Government to fund that portion of the Stage 2 route, as may be determined, that traverses the Designated Areas under Federal Government control. That sum would be quite substantial.

Designated Areas under Commonwealth control

Within Designated Areas the National Capital Authority has responsibility for determining detailed planning policy, and for Works Approval (otherwise known as development assessment).

[\[https://www.nca.gov.au/planning-heritage/about-planning-act/designated-areas\]](https://www.nca.gov.au/planning-heritage/about-planning-act/designated-areas)

The Designated Areas currently comprise:

- Lake Burley Griffin and its foreshores
- the Parliamentary Zone
- the Inner Hills which form the landscape setting of the city
- urban areas immediately adjoining the Parliamentary Zone and Lake Burley Griffin (including West Basin, City Hill, Constitution Avenue and Anzac Parade, Russell, and parts of Barton and Forrest)
- diplomatic estates in Yarralumla, Deakin and O'Malley
- the road reservations of the Main Avenues and Approach Routes (for example, Northbourne Avenue, Canberra Avenue, and the Federal and Barton Highways).

RESUMÉ OF ROLES OF THE NATIONAL CAPITAL AUTHORITY (NCA)

Under the Australian Capital Territory (Planning and Land Management) Act 1988, the functions of the National Capital Authority (NCA) are:

- to prepare and administer the National Capital Plan;
- to keep the Plan under constant review and propose amendments to it when necessary;
- on behalf of the Australian Government, to commission works to be carried out in designated areas in accordance with the Plan, where neither a department of State of the Commonwealth nor any Commonwealth authority has the responsibility to commission those works;
- recommend to the Minister the carrying out of works it considers desirable to maintain or enhance the character of the National Capital;
- to foster an awareness of Canberra as the National Capital;
- with the approval of the Minister, to perform planning services for any person or body, whether within Australia or overseas;
- with the approval of the Minister, on behalf of the Commonwealth to manage National Land designated in writing by the Minister as land required for the special purposes of Canberra as the National Capital; and
- maintain and enhance the Capital.

In performance of its roles, the NCA:

- manages the National Capital estate;
- promotes the capital; and
- maintains and enhances the Capital, through advocacy, enhancement and management of the National Capital estate and Asset and land management and Capital enhancement services

As such, it is recognised that the Australian Government has a direct interest in developing and maintaining the National Capital as an asset in which all Australians have a major investment. Assets are maintained to enhance and protect the unique qualities of the Capital, and to support activities and events that spread an awareness of Canberra as the National Capital.

The NCA ensures that national assets are of an appropriate standard and meet the expectations of users.

On National Land the NCA manages development and renewal projects for the special purposes of the National Capital. These works include regular maintenance, works to enhance or protect prior Commonwealth Government investment in national assets (eg refurbishment of monuments and fountains), construction of public infrastructure (eg roads, parking, pathways and lighting) and development of the landscape settings for new building sites, public parks and places, commemoration and celebration.

**ACT AUDITOR-GENERAL'S REPORT
INITIATION OF THE LIGHT RAIL PROJECT
REPORT NO. 5 / 2016**

Overall conclusion

The Capital Metro Light Rail Project's governance, administrative and project management framework is sound and generally accords with better practice. Although improvements can be made, it positions the Capital Metro Agency to be able to meet the challenges of implementing light rail in the ACT. The integrity of the framework will need to be retained under revised 1 July 2016 Administrative Arrangements, whereby functions of the Capital Metro Agency and Territory and Municipal Services Directorate are merged.

Benefits management needs to be given priority and a whole- of- government Benefits Realisation Plan, and associated documentation, developed and implemented to guide the management and realisation of the project's benefits. This is important as considering only the project's transport benefits the benefit- cost ratio is 0.49, with an estimated 49.3 cents in transport benefits gained for every \$1 spent; and considering transport benefits and wider economic benefits (including land use benefits), the benefit- cost ratio is 1.20, with an estimated \$1.20 in benefits for every \$1 spent. However, the benefit- cost ratio of 1.20 needs to be used with caution as there is a lack of an agreed methodology and robust data in Australia for calculating wider economic benefits (including land use benefits). In the 1.20 benefit- cost ratio approximately 60 percent of the project's benefits are not transport- related. This is large compared with other transport infrastructure projects for which information was publicly available.

Derived by \$406.0 million in transport- related benefits divided by \$823.0 million in estimated total project costs (as per Table 29 in the Capital Metro Full Business Case).

Although the ACT Government publicly released the Full Business Case, even though there was no requirement to do so, providing a discussion and explanation of the limitations of including wider economic benefits (including land use benefits) in the cost- benefit analysis would have provided more comprehensive information. Infrastructure Australia's approach is that wider economic benefits can add 'texture' for certain initiatives but need to be considered separately when considering a project.

Realising the project's benefits will involve a wide range of activities related to 'land development decisions undertaken by ACT Government; ticketing and fare setting; bus and park & ride integration; parking charges; value capture activities; signalling priorities; the location of ACT Government staff in the corridor; and other undertakings to promote economic activity in the ACT'. Accordingly, a Benefits Realisation Plan that captures such activities will require a concerted

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and sustained whole- of- government approach to be effectively implemented.

While actions may have commenced to realise benefits associated with the Capital Metro Light Rail Project, without a Benefits Realisation Plan there is a lack of transparency and accountability as to what needs to be done, when and by whom. The implementation of the Benefits Realisation Plan needs to be monitored (with benefits and costs clearly articulated and measured) and at key stages evaluated.

The estimated value of the project's benefits changed between various versions of the Full Business Case, including those considered by decision makers and that presented to the ACT community. While changes over time should be expected, the changes that occurred were made in a relatively short period of time, indicating that assumptions on which the benefits were being calculated were changing rather than circumstances associated with the project.

In order to achieve the benefit- cost ratio figures presented for the Capital Metro Light Rail Project, in addition to continuously monitoring and evaluating the expected benefits through a Benefits Realisation Plan, it will be important to ensure that project costs are effectively controlled. The ACT Budget will need to accommodate the expected cost of the Capital Metro Light Project of approximately \$939 million (present value, January 2016) or \$1.78 billion (nominal value) over 20 years.^{2 3}

This does not include ACT Government agency costs for managing the implementation of the project. Revenue from fares will partially offset the costs of the Capital Metro Light Rail Project. The Full Business Case identified a total of \$81 million in revenue from fares (present value, July 2014) over 20 years.

² *The 2014 cost estimates are the focus in this audit as they were relevant at the time of audit field work and to the audit objective. However, in May 2016, following the signing of a contract with the successful consortium and financial close on the project's procurement phase, the Audit Office obtained updated information from the Capital Metro Agency with respect to expected project costs as at January 2016. This is presented for completeness.*

³ *The nominal cost estimate of the project is not discounted, i.e. the time value of money is not reflected. The present value estimate represents the discounted value of the nominal cost estimate of the project and is, in part, dependent on the timing of expenditure and the discount rate applied. The Capital Metro Agency has used a discount rate of 7.52 percent per year to calculate the present value estimate.*