



Australian Government
National Capital Authority

Consultation Report

Works Approval No 100360

Northbourne Avenue and Federal Highway
(between Elouera Street and Flemington Road)

Construction of Stage 1 light rail stops and mid-block crossings

June 2017

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Introduction

Under the *Australian Capital Territory (Planning and Land Management) Act 1988*, the National Capital Authority (NCA) prepares and administers the National Capital Plan (the Plan) to ensure Canberra and the Territory are planned and developed in accordance with their national significance.

The Plan sets out the broad planning framework for the Australian Capital Territory (ACT). Areas designated as having special characteristics of the National Capital are subject to detailed planning policies and guidelines.

Any buildings or structures, demolition, landscaping or excavation works in Designated Areas require the approval of the NCA. The NCA considers such proposals in the context of the relevant provisions of the Plan.

On 8 May 2017, Transport Canberra and City Services Directorate submitted an application for Works Approval for the detailed design of Stage 1 light rail stops and mid-block crossings to be located on Northbourne Avenue and Federal Highway between Elouera Street and Flemington Road.

The following six stops are subject of this application:

- Phillip Avenue stop
- Swinden Street stop
- Dickson Interchange stop
- Macarthur Avenue stop
- Ipima Street stop
- Elouera Street stop.

The design for the Alinga Street (Civic) terminus will be subject to a separate WA application.

The key elements of the stops include:

- Platform
- Canopy
- Integrated services cabinet
- Customer facilities/furniture:
 - Bench Seating
 - Bin
 - Drinking fountain
 - Balustrades and handrails
- Public Art
- Electronic ticketing
- Signage including wayfinding signage.
- Lighting

The application does not seek approval for the following elements which are still under design development and will be subject to separate Works Approval applications:

- Wayfinding signage, including stop signage; street lighting, and overhead line equipment poles.
- Tactile Ground Surface Indicators.

Key elements of the ten mid-block crossings include:

- 'Pedestrian race' / retaining wall

- Pavements
- Kerbs
- Grading
- Soft landscaping

Lighting for the mid-block crossings will be the subject of a further application.

Public Consultation requirements

1.1 National Capital Plan

Under the Plan, requirements for public consultation apply to:

- Major developments proposed for Section 9 Barton;
- A landmark building to RL617 adjacent to Commonwealth Avenue (within the Constitution Avenue and Anzac Parade Precinct);
- Detailed plans for development at Academy Close, Campbell;
- High-impact telecommunications facilities;
- All residential proposals within the Deakin/Forrest Residential Area Precinct; and
- All residential and commercial development proposed for Section 5 Campbell.

None of these requirements are applicable to the Works Approval application.

1.2 Commitment to Community Engagement

The NCA's 'Commitment to Community Engagement' details how the NCA conducts consultation. The purpose is to achieve a greater level of consistency and transparency in the NCA's decision making process.

The 'Commitment to Community Engagement' describes the minimum requirements for consultation, and the process by which WA applications that are released for public consultation will be assessed.

Part 2.7 *Works Applications* and Attachment C *Protocol for Development Applications for Works Which Require Consultation* of the NCA's 'Commitment to Community Engagement' describes the consultation process for WA applications. The NCA will make an assessment of whether a proposal is consistent with the National Capital Plan and if it requires public consultation. An assessment is made in relation to adverse impacts on:

- public space and community amenity;
- environment, heritage or landscape values;
- amenity of the locality in terms of materials, finishes, scale, massing, design and quality; and
- consistency with an existing Heritage Management Plan.

When an application for works is lodged and consultation is required, consultation with the community and stakeholders will be undertaken by the applicant, the NCA or both. Where consultation is undertaken by the applicant, the NCA may choose to stipulate specific requirements that the applicant is required to implement.

The NCA may set aside the requirement to undertake full public consultation where:

- previous consultation has been undertaken on the proposal;
- minor amendments to previously approved works are required;
- the NCA determines no stakeholders will be affected; and

- proposals are given exemption, as outlined in Part 2.3 of the 'Commitment to Community Engagement'.

Public consultation was undertaken on the application as the proposal may have adverse impacts on public space, community amenity, and environment and landscape values.

Summary of Public Consultation

2.1 The public consultation process

Public consultation was undertaken by the NCA between 13 May and 2 June 2017 in the following manner:

- On Saturday 13 May 2017, publishing a public notice in *The Canberra Times* detailing the proposed works and inviting submissions to be made to the NCA in relation to the proposal ([Attachment A](#))
- Between 13 May and 2 June 2017, publishing details of the proposal on the NCA's website
- Between 13 May and 2 June 2017, placing twenty A1 size sign on site ([Attachment A](#))
- The NCA writing to interested stakeholders advising of the consultation process and inviting comments.

An article was published in the Canberra Times on 12 May 2017 outlining the design proposal for the light rail stops.

2.2 Key issues raised in public submission and NCA response

The NCA received a total of twenty one submission on the proposals. The key issues raised in submissions about the proposed designs for the stops and mid-block crossings include:

- Lack of stop in Mitchell
- Lack of weather protection afforded by the stop design
- Design of the stop
- Design of the mid-block crossings
- Design considerations for pedestrians and cyclist crossing the tracks
- Lack of bike parking facilities

Emails of acknowledgments were sent to the submitter advising them that their submission would be taken into consideration before a decision is made on the application. The issues raised in the submissions and NCA response to the issue is detailed in [Attachment B](#) of this report.

Conclusion

The NCA's consultation process was carried out in accordance with the Plan and the NCA's 'Commitment to Community Engagement'. The NCA has assessed the issue raised by the submitter and this have been taken into account as part of the assessment process. The NCA is satisfied that the concerns of the community have been addressed.

The proposal is not inconsistent with the provisions of the National Capital Plan, and is supported by the NCA.

Attachment A – The Canberra Times Public Notice and Site Notice



Australian Government
National Capital Authority

WORKS APPROVAL

Open for Public Consultation

Stage 1 Light Rail stops and mid-block crossings Northbourne Avenue and Federal Highway corridors (between Eloura Street and Flemington Road)

The National Capital Authority (NCA) has received a Works Approval (WA) application from the Transport Canberra and City Services Directorate. This application relates to proposed works for Stage 1 Light Rail along the Federal Highway and Northbourne Avenue corridors, between Eloura Street and Flemington Road. Works under consideration include the detailed design for six light rail stops and the mid-block crossings. The plans and supporting documentation for this WA application can be viewed on the NCA's website.

The design of the Alinga Street terminus is excluded from this application and will be considered as part of a separate WA application.

The NCA welcomes feedback on this application **by close of business Friday, 2 June 2017**. Submissions can be made via email to lightrail@natcap.gov.au or GPO Box 373, Canberra ACT 2601.

Please contact the NCA for further information on (02) 6271 2888.



@NCA_Media



NCA.gov

www.nca.gov.au

Attachment B

The National Capital Authority (NCA) undertakes an open and transparent works approval application process. As part of this process the NCA prepares a Consultation Report for publication on the NCA website, which includes a summary of each submission, along with the name of each person making the submission. Names of submitters have been omitted where a submitter requested confidentiality.

Submission	Issue	NCA Response
1.	Rhod McDonald	
1.1	<p>The submitter comments that the light rail route does not provide for a stop at Mitchell, a suburb where many people work and shop.</p> <p>The submitter also comments about Fyshwick and its lack of bus. How do people without a car get to work?</p>	<p>The provision of a stop at Mitchell is not a matter for consideration by the NCA, given that Mitchell is outside the Designated Area and subject to ACT Government planning controls. However the applicant has advised however that provision has been made for a future stop in Mitchell at Sandford Street, aligning the tracks around a future stop platform footprint. This stop could be delivered at a time when the patronage demand warrants.</p> <p>The lack of bus service to Fyshwick is not a matter for consideration as part of this Works Approval application.</p>
2.	Clinton Davies	
2.1	<p>The submitter raises concerns that the design does not address the basic purpose of a bus/tram stop which is to protect passengers from adverse weather. The proposal seems even worse that the useless bus stops being rolled out by ACTION. The submitter suggests that users should be directly involved in the design and asks how many people can properly be protected from wind, rain and sun.</p>	<p>Although not fulling enclosed the NCA is satisfied that design provides adequate sun, rain and wind protection.</p>

Submission	Issue	NCA Response
3.	Melissa Jury	
3.1	The submitter raises concerns about the lack of weather protection at the rail stops.	Refer to response to Submission 2.
4.	Rob Wilton	
4.1	The submitter comments that there is no stop in Mitchell and that everyone who works or shops in Mitchell will have to drive. At the moment the submitter can catch a bus but when the light rail commences operations, he'll have to drive.	The provision of a stop at Mitchell is not a matter for consideration by the NCA, given that Mitchell is outside the Designated Area and subject to ACT Government planning controls. However, the applicant has advised however that provision has been made for a future stop in Mitchell at Sandford Street, aligning the tracks around a future stop platform footprint. This stop could be delivered at a time when the patronage demand warrants.
5.	Mudita	
5.1	The submitter comments that the stop design should incorporate rainwater harvesting capabilities and provides a link to the following website article. The article provides details on an Iran Based designer's solution to harvesting water through a concave roof system which has steep slopes resembling a bowl for rainwater collection. https://www.designswan.com/archives/bowl-shaped-roof-for-rainwater-collection-and-natural-cooling-in-arid-environments.html	The design considers measures for rainwater reuse. Due to operational considerations on-site water detention cannot be provided. The design of light rail tracks allows for stormwater runoff to flow directly to adjacent landscaping along the alignment. Rainwater captured by the platform canopy structures at side platform light rail stops diverts to the surrounding landscape for tree watering as part of an integrated water sensitive urban design approach.

Submission	Issue	NCA Response
6.	Bryn Challis	
	<p>The submitter raises concerns with the mid-block crossing design and points and points out the difficulties and dangers of the proposed design for cyclists. The submitter suggests an alternative solution as detailed in Attachment C.</p>	<p>A number of mid-block crossings currently exist along Northbourne Avenue providing unsignalised east-west connections across the road corridor (i.e. not at intersections). The light rail project will consolidate and formalise mid-block crossings to provide an upgraded facility whilst maintaining unsignalised access. Transport Canberra supports unsignalised access at the midblock facilities due to the nature of the crossing, the number of users expected, traffic conditions, and sight lines along Northbourne Avenue. Provision of mid-block crossings intends to draw demand for unfettered access across the corridor to formalised locations, with increased width and improved lighting for users.</p>
		<p>The design has been developed in accordance with Australian Standards and road design guidelines where the design includes a stagger arrangement. Staggered crossing arrangements are a common form of treatment to ensure that pedestrians (and any other users) have full view of oncoming trains and minimises the risk of pedestrians and cyclists being unintentionally hit by a passing light rail vehicle.</p>
		<p>The midblock crossing design considers Disability Discrimination Act (DDA) requirements with respect to disabled users by minimising grades. Crossing widths vary between 1.85m and 2m in width enabling sufficient access for all users whilst minimising the impact of the facility on the surrounding urban landscape.</p>
7.	Sally Fitzmaurice	
7.1	<p>The submitter comments what while she thinks the light rail stop is safe she suggests that an iconic design be used like the old concrete bus stops. The submitter notes that Trevor Dickenson (artist) has really brought the old bus stop into an icon with his art and would not it be great to inspire more</p>	<p>The design inspiration for the Light Rail stops draws on Canberra’s landscape setting including the undulating Brindabella Ranges and the trees of the bush capital. The design is a deliberately subtle intervention that integrates with, rather than dominates the surrounding landscape. Images and renderings seek to demonstrate the architectural qualities of the stop design within the future</p>

Submission	Issue	NCA Response
	<p>artists with the design.</p> <p>The submitter comments that she is excited about the light rail however will not use it if the weather is not good as there is a lack of weather protection. The submitter notes that the design may discourage homeless people from sleeping at the stop however the real way to stop this issue is to provide the support and housing they require.</p>	<p>landscape context.</p> <p>Key features include the shape and effect of the soffit/ceiling and roof glazing that seeks to create interest in the roof line and enhance the sense of enclosure/shelter. The inclusion of glazed panels creates dappled light across the platform, providing a mix of light and shade under shelter, for comfort in all seasons.</p> <p>The selection of building materials makes reference to iconic Canberra buildings and places including the War Memorial, Shine Dome and Portrait Gallery. The combination of bronze, timber and pre-cast concrete are selected for their timeless qualities. The natural variation in the Bungendore Brown stone aggregate will feature in the polished concrete of the platform furniture and services cabinet.</p> <p>Refer to Submission 2 for response regarding weather protection.</p>
8.	Stephen Beresford	
8.1	<p>The submitter provides the following views on the proposed application.</p> <p>The regular clean and minimal design provide a sleek appearance but robs the stops of unique character. This is a great opportunity to be a little bolder in the approach and the submitter considers the current designs are flat and unexpressive. The submitter could detect no compelling theme to the design of these stops. The submitter asks whether it would be possible to integrate a design theme that reflects Canberra or the region. The submitter suggests the use of iconic local materials such as local granite, shale or quartz turbidite in this feature could be one option, introducing a native colour palette (such as local eucalyptus)</p>	<p>The design inspiration for the Light Rail stops draws on Canberra’s landscape setting including the undulating Brindabella Ranges and the trees of the bush capital. The design is a deliberately subtle intervention that integrates with, rather than dominates the surrounding landscape. Images and renderings seek to demonstrate the architectural qualities of the stop design within the future landscape context. Key features include the shape and effect of the soffit/ceiling and roof glazing that seeks to create interest in the roof line and enhance the sense of enclosure/shelter. The inclusion of glazed panels creates dappled light across the platform, providing a mix of light and shade under shelter, for comfort in all seasons.</p> <p>The selection of building materials makes reference to iconic Canberra buildings and places including the War Memorial, Shine Dome and Portrait Gallery. The combination of bronze, timber and pre-cast concrete are selected for their</p>

Submission	Issue	NCA Response
	could be another.	timeless qualities. The natural variation in the Bungendore Brown stone aggregate will feature in the polished concrete of the platform furniture and services cabinet.
8.2	<p>The light, high roofed design provides an open feel, but this should not compromise the function of these shelters, and the submitter raises concern about the limited amount of protection they offer.</p> <p>In particular the designs shown to not seem to provide much protection from the Sun unless directly overhead. The use of transparent wall panels and the inability of for patrons to stand on both sides of the vertical structures (for non-island stops) will mean that passengers may have little to no shade when the sun is low in the sky. The Adshell bus stop at Russell is a excellent example of this issue. The stop provides zero sun protection in the afternoons when travellers are most using it. Thus on warm days, passengers often stand under nearby trees well away from the stop.</p>	Refer to Submission 2 for response regarding weather protection.
8.3	The submitter has asked if a sun-line analysis been done for each stop. The use of an identical designs across the route each stop regardless of orientation would indicate possibly no. The submitter would much prefer each stop to be configured with some strategically placed panels or enclosure to improve wind, rain and sun protection over an identical design for all.	Refer to Submission 2 for response regarding weather protection.

Submission	Issue	NCA Response
9.	Paul Cositgan	
	<p>The submitter provided feedback/comments within RiotACT blog post. https://the-riotact.com/tram-stop-design-not-exciting/203740</p>	
9.1	<p>The submitter provided the following comments:</p> <ul style="list-style-type: none"> • There are not too many places that have light rail stops that are exciting designs. Most are functional and are usually simply places marked where you stand to catch the tram. • Is very impressed with some of the Metro stops in Los Angeles and Pasadena – some being designed for the location and many have public artworks that reflected the locality. • Melbourne trams are fabulous but their tram stops can vary a lot in the experience they provide. • Believes there is scope to be adventurous with the design as the new stops in Canberra will mostly be on green spaces down the centre of the streets. • Canberra did have those iconic concrete cylinders for bus stops – some still exist but I think they are gradually being taken out. We got used to them and can now appreciate that they had more character than the standard metal and glass bus shelters that have been replacing them. • It is going to be very important that the stops are designed as part of the entrance to Canberra along Northbourne Ave. • The design should be something very distinctive that 	<p>The design inspiration for the Light Rail stops draws on Canberra’s landscape setting including the undulating Brindabella Ranges and the trees of the bush capital. The design is a deliberately subtle intervention that integrates with, rather than dominates the surrounding landscape. Images and renderings seek to demonstrate the architectural qualities of the stop design within the future landscape context. Key features include the shape and effect of the soffit/ceiling and roof glazing that seeks to create interest in the roof line and enhance the sense of enclosure/shelter. The inclusion of glazed panels creates dappled light across the platform, providing a mix of light and shade under shelter, for comfort in all seasons.</p> <p>The selection of building materials makes reference to iconic Canberra buildings and places including the War Memorial, Shine Dome and Portrait Gallery. The combination of bronze, timber and pre-cast concrete are selected for their timeless qualities. The natural variation in the Bungendore Brown stone aggregate will feature in the polished concrete of the platform furniture and services cabinet.</p> <p>The design of the stops has deliberately considered the long term landscaped setting that they will sit within. The artists’ impressions of the stops that accompanied the application are reflective of a mature landscaped setting, to convey a sense of how the stops will fit within the landscaped setting.</p> <p>Refer to Submission 2 for response regarding weather protection.</p>

Submission	Issue	NCA Response
	<p>should become something that locals get to be proud of and visitors admire and take that photo to send onto others.</p> <ul style="list-style-type: none"> <li data-bbox="338 363 1061 499">• The images as provided include lots of fully grown trees that soften the viewing of the design for the tram stops. The reality will be that those new trees will be much smaller for many years. <li data-bbox="338 528 1061 632">• The tram stops will be very visible and very dominant for the decade as the trees mature to be as shown in these images. <li data-bbox="338 660 1061 764">• The present design will provide very little protection during bad weather and this will discourage people from catching the tram on days of inclement weather. 	
10.	Name withheld by request	
10.1	The submitter has asked whether there has been consideration of public toilet facility at any of the stops.	Public toilets are not proposed for inclusion at the light rail stops. There are existing facilities around the Gungahlin and City stops and new public toilets may be provided around the bus station at Dickson (which integrates with the Dickson Interchange light rail stop). Current policy is that the ACT Government only constructs new toilet facilities in district parks, and with a general requirement that large new commercial developments provide public-access toilets maintained by the body-corporate. Light rail stops will incorporate wayfinding information that will assist with directions to local public toilet facilities.
11.	Peter McKay	

Submission	Issue	NCA Response
11.1	<p data-bbox="331 236 1070 391">The submitter has raised concerns about the canopies limited ability to provide weather protection. The upturned pyramidal form may add a sense of light and openness, but they also reduce the effective overhang.</p> <p data-bbox="331 427 1070 622">The outer edge of the canopy appears to be around 850mm higher than the base of the canopy. As seen on drawing 160117 this obviously reduces the effective roof coverage for rain or sun when on any angle other than vertical. 25° is used as a reference on that drawing.</p> <p data-bbox="331 659 1070 774">The submitter suggested that a lower roof edge would improve the effective roof cover, however, a fundamental characteristic of the design is that it is largely open.</p> <p data-bbox="331 810 1070 1212">The submitter notes "perpendicular wind breaks" have been included in the design after the first round of public feedback but is of the view that whilst they may help with wind and rain the transparent glass panels do nothing for sun protection, and can even increase wind speed in local areas. It could be argued that it is a token response. Depending on the tree species planted, there may be some protection from them when nearby, but they will likely offer little to no sun protection at the start and end of the day when the Light Rail is most used.</p> <p data-bbox="331 1249 1070 1362">The submitter comments that in the perfect world there would be a variable protection system that could adjust to rain or sun angles and seasons. Passive solar shading can</p>	Refer to Submission 2 for response regarding weather protection.

Submission	Issue	NCA Response
	<p>work for seasonal changes, but isn't perfect on a daily basis. Moving shade systems can work well, but have moving parts and need to be engineered well. Large overhangs aren't possible on the track side, and can be visually heavy and imposing.</p>	
12.	Marko Lehtikoinen	
12.1	<p>The submitter raises concerns about the lack of weather protection on the light rail stop.</p> <p>The roof is so tall and the upward rake of the roof will not provide protection from rain if there is even a hint of wind, which Canberra gets quite often. Why not have the roof angled down so as to actually block the rain that gets blown in from the sides?</p> <p>The submitter also comments that there is no internal wall to hide behind if a cold southerly is blowing up along Northbourne Avenue. He understands the need for clear line of sight for personal security reasons, but suggests that a clear glass wall would offer a little protection from the elements whilst allowing one a safe space.</p> <p>The submitter concludes that as visually appealing [or unappealing to some] as the design is, it does not meet the criteria for the primary function it serves, which is to provide shelter for passengers waiting for the tram.</p> <p>The roof should be angled downwards to block wind propelled precipitation, perhaps at an even lower height and the stop should provide some physical barrier to stop</p>	<p>Refer to Submission 2 for response regarding weather protection.</p>

Submission	Issue	NCA Response
	the cold winter wind and offer some place to stay a bit warmer.	
12.2	The submitter notes that finding the contact details for supplying feedback on this issue was also difficult. Perhaps in the future if you want public comment on projects associated with the tram, a direct link on the Transport Canberra website would be useful, instead of hiding it on the NCA page. The TC "Community Engagement" section has no links through which people can provide comments or feedback. This is a primary function of that particular website, so why does it not fulfil its purpose, much like the design of the proposed tram stops.	<p>The public consultation process for Works Approval applications is the responsibility of the National Capital Authority (NCA) and therefore any information relating to applications is referenced on the NCA website in the first instance.</p> <p>Recognising that the stops design would attract considerable public interest, the ACT Government sought to inform the community via media release, web content, social media, and direct engagement with key stakeholder groups. This consultation was in addition to the statutory notifications and exhibition process being undertaken by the NCA.</p>
13.	Glenn Williams	
13.1	The submitter has raised concerns about weather protection at the light rail stop.	Refer to Submission 2 for response regarding weather protection.
14.	Barbara Burns	
14.1	<p>The submitter makes the following suggestions for the light rail stop design.</p> <p>For the island platform, is it possible to extend the sitting area toward the end of the canopy so that there would be a space beside the bench for prams or wheelchairs that would also be backed by a glass panel.</p>	Noted.
14.2	Why is there no water fountain on the island platform?	Drinking fountains are provided at the Light Rail stops with the highest passenger volumes including Gungahlin Place, EPIC and Racecourse, Dickson Interchange and Alinga Street.
14.3	The submitter notes that waste bins are designed with two	Waste bins are conveniently located immediately adjacent to the platform

Submission	Issue	NCA Response
	<p>openings. The submitter suggests that the opening be of different shapes to designate one side for rubbish (square) and one for recycling (round)</p> <p>Waste bins should be closer to where people sit and enter the tram.</p>	<p>entry/exit. The bespoke rubbish bin design includes separate compartments, with different shaped openings, for recycling and general waste.</p>
15.	Downer Community Association (DCA)	
	<p>This submission is primarily concerned with the impact of the Light Rail Station designs on pedestrian and bicycle traffic, parking congestion in the suburb, and the aesthetics of the Swinden St station. The four major issues are:</p>	
15.1	<p>The architectural drawings for the stations show a “double L” pattern for crossing the light rail tracks which will require pedestrians and cyclist to take at least twice as long to cross Federal Highway / Northborne Ave as a normal crossing.</p> <p>The submitter concludes that the design puts pedestrians and cyclists at a distinct disadvantage to other road users and is not in the interest of the “active” travel goals of the ACT government.</p>	<p>All pedestrian crossings of the light rail corridor both at signalised intersections and at unsignalised locations such as midblock crossings include a stagger crossing arrangement as part of a safe design solution. Staggered crossing arrangements are a common form of treatment to ensure that pedestrians (and any other users) do not cross a conflicting carriageway by mistake and minimises the risk of pedestrians and cyclists being unintentionally hit by a passing light rail vehicle.</p>
15.2	<p>The submitter comments that there is no provision of designated ‘Park and Ride’/Kiss and Ride areas for vehicles at either Phillip Ave or the Swinden St stops. The submitter comments that more has to be done than assume cars will park in the Netball carpark and where will netball court users park.</p> <p>The submitter comments that the area on the north side of Federal Hwy where the bus stop is now would be an appropriate location for the Phillip Ave stop.</p>	<p>While no specific park and ride or kiss-and-ride facilities are being provided as part of the light rail project within the Designated Area, a range of facilities are being provided for changing transport modes along the route. This includes alterations to parking restrictions in the vicinity of Swinden St. The ability to drop off and pick up adjacent to light rail will remain unchanged from existing arrangements along the route.</p> <p>Integration of facilities for bicycle users has been a key consideration as part of the light rail design. Provision for cyclists has been made on light rail vehicles, at stops,</p>

Submission	Issue	NCA Response
	<p>The submitter comments that several spaces within Park & Ride areas should be designated for drop-off only.</p> <p>The submitter notes that the bike parking location is indicated on the plans but is not defined and greater detail should be provided at this stage not left to some future date. Bike parking should be able to cater for over >10 bikes in secure fashion.</p>	<p>at road intersections and at crossings shared with pedestrians. Each light rail vehicle will include on-board bicycle racks, and stop platforms clearly marked to indicate suitable waiting location to assist boarding. Bicycle parking will be provided adjacent to all stops, with numbers of bicycle loops based on anticipated demand. Stops along Northbourne Avenue and Federal Highway, will each have between 10 and 20 parking spaces, with provision for future expansion as demand grows. Bicycle parking will be typically located in the road verges on approach to the stops, enabling passive surveillance, while integrating into the landscape. Shared path crossing of the light rail for pedestrians and cyclists is provided at intersections and mid-block crossings. The design of these crossings optimises safety, with accessibility and public realm design. The design minimises the need for signalised facilities by slowing and guiding pedestrians/ cyclists in a manner that improves awareness of oncoming light rail vehicles, and maximises visibility of these road users by light rail vehicle drivers. In most cases, it is expected that cyclists would dismount to use these crossings.</p>
15.3	<p>The submitter comments that traffic will increase along Phillip Avenue and Swinden St as a result of cars wanting to Park & Ride or drop off train passengers, but also because there will be more pedestrians and cyclists.</p> <p>The submitter is of the view that infrastructure works need to be undertaken concurrently with the construction of light rail stations to accommodate the increase in traffic. It is important to design for all infrastructure associated with station and the submitter believes that to say these are outside the scope of works approval application is a cop-out.</p>	<p>The traffic generation that could result from the introduction of light rail is not a matter for consideration as part of this application. This matter was considered in the Light Rail Stage 1 Environmental Impact Study published in June 2015.</p>

Submission	Issue	NCA Response
15.4	<p>The Swinden St station is one of the only stations that does not have landscaping which is not acceptable. Given the current median width at Swinden St, turn off space may be at a premium however it is still possible to use other measures such as vertical landscaping, planting tubs or other options.</p>	<p>The Swinden Street stop precinct includes substantial areas of supporting landscape to both the east and west of the platform. In addition the precinct will feature accent tree planting of deciduous flowering plum (<i>Prunus sp.</i>) in the area between the tracks, immediately south of the platform as well as on the verges.</p>
16.	<p>Stephen Hodge</p> <p>The submitter makes the following comments in relation to the design proposal:</p> <ul style="list-style-type: none"> • Provision for bicycle parking is distant from the stops and often separated by three traffic lanes, the bike lane, the landscaped verge along the stops and the platform. • Design guidelines should not exclude overt provision for bicycle arrivals by placing them at such a distance the attractiveness and convenience of cycling is compromised to this extent. • Not specific provision is made for separate bike paths and pedestrian crossings at stops. • No provision appears to be made for secure bicycle parking facilities. • Provision for bicycle parking appears to be significantly inadequate in terms of numbers of parking spaces. 	<p>Integration of facilities for bicycle users has been a key consideration as part of the light rail design. Provision for cyclists has been made on light rail vehicles, at stops, at road intersections and at crossings shared with pedestrians. Each light rail vehicle will include on-board bicycle racks, and stop platforms clearly marked to indicate suitable waiting location to assist boarding. Bicycle parking will be provided adjacent to all stops, with numbers of bicycle loops based on anticipated demand. Stops along Northbourne Avenue and Federal Highway, will each have between 10 and 20 parking spaces, with provision for future expansion as demand grows. Bicycle parking will be typically located in the road verges on approach to the stops, enabling passive surveillance, while integrating into the landscape. Shared path crossing of the light rail for pedestrians and cyclists is provided at intersections and mid-block crossings. The design of these crossings optimises safety, with accessibility and public realm design. The design minimises the need for signalised facilities by slowing and guiding pedestrians/ cyclists in a manner that improves awareness of oncoming light rail vehicles, and maximises visibility of these road users by light rail vehicle drivers. In most cases, it is expected that cyclists would dismount to use these crossings.</p> <p>A number of mid-block crossings currently exist along Northbourne Avenue providing unsignalised east-west connections across the road corridor (i.e. not at intersections). The light rail project will consolidate and formalise mid-block</p>

Submission	Issue	NCA Response
	<ul style="list-style-type: none"> The multi-modal nature of this important and very significant investment by the ACT Government appears to be compromised for arrivals by bicycle. This part of our transport system must work for all users. With inner city mode shares for cycling rising fast, and limited parking for residents at many of the tram stops, more attention must be paid to arrivals by bicycle if passenger forecasts are to be met by the new Capital Metro. <p>The submitter also provides the following comments about mid-block crossings.</p> <ul style="list-style-type: none"> While acknowledging that desire lines for pedestrians to cross Northbourne Ave do not always coincide with signalised intersections, it is nevertheless difficult to over-state the concern with aligning mid-block pedestrian paths directly onto three lanes of Northbourne avenue with no protection or priority crossing for pedestrians. This would appear to be directly contrary to a 'safety by design' Safe Systems road safety approach. 	<p>crossings to provide an upgraded facility whilst maintaining unsignalised access. Transport Canberra supports unsignalised access at the midblock facilities due to the nature of the crossing, the number of users expected, traffic conditions, and sight lines along Northbourne Avenue. Provision of mid-block crossings intends to draw demand for unfettered access across the corridor to formalised locations, with increased width and improved lighting for users.</p> <p>The design has been developed in accordance with Australian Standards and road design guidelines where the design includes a stagger arrangement. Staggered crossing arrangements are a common form of treatment to ensure that pedestrians (and any other users) do not cross a conflicting carriageway by mistake and minimises the risk of pedestrians and cyclists being unintentionally hit by a passing light rail vehicle.</p> <p>The midblock crossing design considers Disability Discrimination Act (DDA) requirements with respect to disabled users by minimising grades. Crossing widths vary between 1.85m and 2m in width enabling sufficient access for all users whilst minimising the impact of the facility on the surrounding urban landscape.</p>
17.	<p>Doug Brown</p> <p>The submitter provides the following comments: .</p>	

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	<ul style="list-style-type: none"> <li data-bbox="387 236 1059 659">• The submitter can not tell from the plans however they understand from verbal advice provided by an officer of the NCA that the intention is for all road movements at the expanded Swinden Street intersection to be regulated by traffic signals. This is strongly supported, as Swinden Street is the principal egress from the south and western sections of Downer to Northbourne Avenue and the anticipated increase in traffic at the expanded intersection will require signals in order to provide for smooth and safe traffic movements for not just rail users but other pedestrians. <li data-bbox="387 738 1059 946">• The submitter notes that the intersection is currently a popular site for pedestrian and cyclists and the light rail stop will increase pedestrian/cyclist movements in the vicinity. The design for all stops should take this into consideration to avoid conflicts between users. 	<p data-bbox="1088 236 1630 260">Support for Swinden St signalisation is noted.</p>
18.	<p data-bbox="342 991 488 1015">Chris Emery</p> <p data-bbox="342 1031 1037 1166">The submitter raises concerns about the fact that the mid-block crossings appear to have no longer have signals for crossing the road-way or the tram lines and is concerned people will be killed by the light rail.</p> <p data-bbox="342 1206 1059 1310">The submitter notes that it not clear whether the mid-block crossings can be negotiated by a double-width pram or a bicycle with a child trailer.</p>	<p data-bbox="1088 1031 2074 1238">All pedestrian crossings of the light rail corridor both at signalised intersections and at unsignalised locations such as midblock crossings include a stagger crossing arrangement as part of a safe design solution. Staggered crossing arrangements are a common form of treatment to ensure that pedestrians (and any other users) do not cross a conflicting carriageway by mistake and minimises the risk of pedestrians and cyclists being unintentionally hit by a passing light rail vehicle.</p> <p data-bbox="1088 1278 2085 1382">The midblock crossing design considers Disability Discrimination Act (DDA) requirements with respect to disabled users by minimising grades. Crossing widths vary between 1.85m and 2m in width enabling sufficient access for all users whilst</p>

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		<p>minimising the impact of the facility on the surrounding urban landscape.</p>
19.	<p>SEE-Change is a community, not-for-profit group that aims to inspire, inform and support action to reduce Canberra's ecological footprint. The 'SEE' in SEE- Change stands for 'Society, the Environment and the Economy'.</p> <p>The submitter comments that the design of the stops needs to ensure that:</p> <ul style="list-style-type: none"> • Easy and safe access, comfort (shelter and amenity) and ease of use for passengers are the prime design considerations. • People with disabilities, bicycles, prams, shopping trolleys, or suitcases are catered for. • There is room for expansion of passenger numbers as more people use public transport. • Design of mid-block crossings needs to ensure that: • Safe and easy use by people on travelling on foot or by bicycle and by people with disabilities, bicycles, prams, shopping trolleys, or suitcases is the prime design consideration • There is room to cope with more people use active transport <p>The mid-block crossings need to consider:</p> <ul style="list-style-type: none"> • Safety of users crossing the road (not just crossing the tracks) • Safety of users crossing the tracks • Practices and viewpoints of people using bicycles or 	<p>All pedestrian crossings of the light rail corridor both at signalised intersections and at unsignalised locations such as midblock crossings include a stagger crossing arrangement as part of a safe design solution. Staggered crossing arrangements are a common form of treatment to ensure that pedestrians (and any other users) do not cross a conflicting carriageway by mistake and minimises the risk of pedestrians and cyclists being unintentionally hit by a passing light rail vehicle.</p> <p>The design, as required by legislation, incorporates design elements that meet <i>Disability Discrimination Act 1992</i> (DDA) and Disability Standards for Accessible Public Transport (DSAPT) requirements. This includes provision of appropriate graded walkways, ramps with landings, handrails and kickrails, and tactile and auditory infrastructure for visually impaired persons. The Project will provide compliant access in accordance with DDA and DSAPT requirements from the edge of the roadway to light rail stops including upgrade of existing verge facilities including pedestrian ramps, tactiles and lighting.</p> <p>Integration of facilities for bicycle users has been a key consideration as part of the light rail design. Provision for cyclists has been made on light rail vehicles, at stops, at road intersections and at crossings shared with pedestrians. Each light rail vehicle will include on-board bicycle racks, and stop platforms clearly marked to indicate suitable waiting location to assist boarding. Bicycle parking will be provided adjacent to all stops, with numbers of bicycle loops based on anticipated demand. Stops along Northbourne Avenue and Federal Highway, will each have between 10 and 20 parking spaces, with provision for future expansion as demand grows</p>

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	<p>other active travel devices – they are different to people on foot</p> <ul style="list-style-type: none"> • The variety of users: people on foot; prams, shopping trolleys, or suitcases; people using bicycles, skates, skateboard or Segways; people of different ages and abilities. • That all these variety of users may be mixed together 	<p>The design of the Light Rail track alignment and the stops provides space for future extension of the platforms to suit longer light rail vehicles (LRV). The LRVs for Canberra are 33 metres long, consisting of 5 modules. Passenger capacity can be increased by around 40% by inserting 2 additional modules and extending the vehicle length to 45 metres. The track design with straight sections (horizontally and vertically) provide for longer future platforms without requiring rework of the light rail tracks.</p>
20.	<p>Living Streets</p> <p>The submitter wants to ensure that the design and operation of the light rail and its corridor helps to rapidly shift people to safe, convenient and comfortable walking as part of their journey.</p> <p>The stops need to be designed to ensure that:</p> <ul style="list-style-type: none"> • The prime design considerations are that passengers have easy and safe access, can easily use the stops, and are comfortable. • People who are of different ages and abilities are catered for. • People walking with prams, shopping trolleys, or suitcases are catered for. • The mix of users (including people with bicycles) can use the stop safely. • There is room for expansion of passenger numbers as more people use public transport. • It is easy and safe to walk between different modes of transport (bus, cars, cycles to light rail) 	<p>All pedestrian crossings of the light rail corridor both at signalised intersections and at unsignalised locations such as midblock crossings include a stagger crossing arrangement as part of a safe design solution. Staggered crossing arrangements are a common form of treatment to ensure that pedestrians (and any other users) do not cross a conflicting carriageway by mistake and minimises the risk of pedestrians and cyclists being unintentionally hit by a passing light rail vehicle.</p> <p>The design, as required by legislation, incorporates design elements that meet <i>Disability Discrimination Act 1992</i> (DDA) and Disability Standards for Accessible Public Transport (DSAPT) requirements. This includes provision of appropriate graded walkways, ramps with landings, handrails and kickrails, and tactile and auditory infrastructure for visually impaired persons. The Project will provide compliant access in accordance with DDA and DSAPT requirements from the edge of the roadway to light rail stops including upgrade of existing verge facilities including pedestrian ramps, tactiles and lighting.</p> <p>Integration of facilities for bicycle users has been a key consideration as part of the light rail design. Provision for cyclists has been made on light rail vehicles, at stops, at road intersections and at crossings shared with pedestrians. Each light rail vehicle will include on-board bicycle racks, and stop platforms clearly marked to</p>

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	<p>The mid-block crossings need to be designed to ensure:</p> <ul style="list-style-type: none"> • Safety of users crossing the road and the light rail tracks • People on foot and using bicycles or other active travel vehicles have different practices and needs • They can be used easily and safely by a variety of users: people on foot; prams, shopping trolleys, or suitcases; people using bicycles, skates, skateboard or Segways; people of different ages and abilities – and when these different users are mixed together 	<p>indicate suitable waiting location to assist boarding. Bicycle parking will be provided adjacent to all stops, with numbers of bicycle loops based on anticipated demand. Stops along Northbourne Avenue and Federal Highway, will each have between 10 and 20 parking spaces, with provision for future expansion as demand grows</p> <p>The design of the Light Rail track alignment and the stops provides space for future extension of the platforms to suit longer light rail vehicles (LRV). The LRVs for Canberra are 33 metres long, consisting of 5 modules. Passenger capacity can be increased by around 40% by inserting 2 additional modules and extending the vehicle length to 45 metres. The track design with straight sections (horizontally and vertically) provide for longer future platforms without requiring rework of the light rail tracks.</p> <p>The light rail design also allows for increasing the frequency of services up to every 3 minutes in both directions. For Stage 1 the typical frequency is one service every 6 minutes during peak times. This future-proofing for increased vehicle capacity and/or service frequency is carried across other design elements, including track design, rail systems and platform architecture.</p>
21.	<p>Gillian King</p> <p>The submitter endorses SEE-Change's submission and supplement them with the following comments:</p> <ul style="list-style-type: none"> • Mid-block crossings should facilitate 'porosity' of the corridor be subject to a 'pedestrian safety risk assessments' from one side of the full road corridor to the other. They should be designed to make getting from one side of the corridor to the other easy and safe. Signalising the crossings would achieve this. It would also slow road traffic, making 	<p>All pedestrian crossings of the light rail corridor both at signalised intersections and at unsignalised locations such as midblock crossings include a stagger crossing arrangement as part of a safe design solution. Staggered crossing arrangements are a common form of treatment to ensure that pedestrians (and any other users) do not cross a conflicting carriageway by mistake and minimises the risk of pedestrians and cyclists being unintentionally hit by a passing light rail vehicle.</p> <p>The NCA notes the submitters comments about the wooden seating.</p> <p>The design considers measures for rainwater reuse however due to operational</p>

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	<p>travel by light rail more desirable than travel by motor vehicle.</p> <ul style="list-style-type: none"><li data-bbox="387 308 1043 515">• The proposal for wooden seating is good - not too hot in summer nor too cold in winter. The wood used should be reclaimed from previous use or, if sufficient quantities of suitable wood is not able to be located, from sustainable local plantations (definitely not from overseas).<li data-bbox="387 523 1043 628">• Stormwater gathered from shelters should re-used in the adjacent vicinity to irrigate the median strip and verges of the corridor.	<p>considerations onsite water detention cannot be provided. The design of light rail tracks allows for stormwater runoff to flow directly to adjacent landscaping along the alignment. Rainwater captured by the platform canopy structures at side platform light rail stops diverts to the surrounding landscape for tree watering as part of an integrated water sensitive urban design approach.</p>
