

Canberra Light Rail Stage 2B

Urban Infill Capability Assessment

Final Report prepared for ACT Government
December 2021

CONFIDENTIAL: ACT GOVERNMENT



Dr John Bell FTSE, FRACI, Comp IE Aust
MAICD

President, DRA

Report available from:
deakinresidents.asn.au

Purpose of Mecone's urban infill capability assessment *

- **Understand the potential for residential and employment intensification in the corridor adjacent to Light Rail stage 2B**
- **Provide guidance on the appropriate built urban forms, dwelling diversity and density for future urban development for land adjacent to Light Rail stage 2B corridor, predominately at a precinct level**
- **Provide dwelling and employment forecasts under various scenarios to 2046, to inform the ACT Government's future planning**

* Mecone p 1

Study area covered by Mecone report

The five areas identified as having the greatest potential for urban intensification and employment growth are: *

- **1. West Deakin**
- **2. Curtin Horse paddocks (ACT land component only, along Yarra Glen)**
- **3. Phillip/ Woden Town Centre**
- **4. Mawson**
- **5. Remainder of the corridor (including Deakin, Yarralumla, Hughes and parts of Forrest).**

- **Note: Boundary of study area defined as land within approximately 800 meters of the Light Rail Corridor**
- Mecone p 1

Mecone report findings

There is a base case and two additional intensification scenarios.

However, the report says that the *existing planning framework* (the 'base case' scenario) *has significant capacity for growth*, from around 13,100 to 23,800 dwellings and from 31,300 to 78,900 jobs.

More specifically:

“Whilst increasing densities around transit nodes such as the future LR Stage 2B stops is a sound planning principle in general, *the need for catalytic changes to the planning controls in the Study Area is not considered critical when purely considering the capacity for growth that already exists in the (planning) controls.*” Mecone p 3

The Mecone report does not provide support for the ACT Government to change zonings or other planning controls

Comments on the Mecone report

The Mecone Report:

- **does not examine the merits of intensification in a 2022 Canberra context**
- **repeats the ACT Government's claim that there is an increasing demand for people to live close to jobs and services**
- **admits that additional infrastructure would be needed to support their forecasts for intensification, but says this was not within the scope of their project. This infrastructure includes water, electricity, schools, opens space, etc (Mecone p 4)**
- **says that additional light rail stop would be needed to serve a 4-8 storey development along Yarra Glen near the horse paddocks (Mecone p41) (this additional stop would increase travel time on the Light Rail route)**
- **recognises that green spaces and large canopy trees are highly valued by the Curtin community (Mecone p 17) (no similar comments in relation to Deakin or Yarralumla)**
- **acknowledges that Yarralumla Creek is flood prone (Mecone p 41) (but this is not reflected in their intensification maps)**

Deakin

The Mecone Report:

- **suggests that West Deakin commercial activity could be “amplified” (4-6 storeys) and could also include higher-density residential development (Mecone P 50) (the car park adjacent to Kent Street get special mention)**
- **reports that the prospects for development activity in Deakin are strong, with continuing infill development (Mecone p 79)**
- **notes that the potential for intensifying land uses across Deakin and Yarralumla could be challenging given high existing property values (Mecone p 79)**
-



North Frame area intensification scenario

The red zones are proposed for “extensive uplift”. Mecone has not specified heights in Deakin but elsewhere in the report, red zones are 3-4 or 4-8 storeys (medium and high scenarios respectively).

Mecone p 83

Intensification

- **Some literature on intensification is poor quality (1,2)**
- **Some of it is strong on assertion and lacking in hard evidence**
- **Greenhouse gases emitted by cars are often cited as justifying intensification**
 - **The advent of electric vehicles will soon make these concerns irrelevant**
- **The working-from-home phenomenon is not addressed**
- **Urban heat island effects are rarely mentioned in papers advocating intensification**
- **In suburbs like Wright, urban heat is going to be an issue (11)**
- **Intensification is predicted to double the climate change costs for cities like Canberra (1)**

Intensification – Findings from the literature

- **The case for intensification lacks a rigorous evidence base (1,2)**
- **Claims that higher housing density results in lower energy and water consumption are not supported by the evidence (4,5)**
 - **Occupants of higher density housing (in Canberra and elsewhere) do not receive bills for individual water consumption and have no incentive to conserve water**
- **Higher densities have not reduced travel demand nor have they increased the use of public transport (6,7,8)**
- **Higher density housing is less likely to use solar hot water or photovoltaic cells (1)**
- **Increasing density does not result in increased community engagement (9)**
- **There is more disputation between neighbours in higher density housing (9)**
- **Advocates of intensification “are tone deaf” to the preferences of citizens (10)**

Intensification in the Canberra context 1

The Mecone Report fails to understand that historic planning decisions work against their urban intensification proposals. Canberra planning has been based around:

- The Y Plan (not mentioned by Mecone) with separate town centres (Woden, Tuggeranong and Belconnen) and rapid transit roads linking them**
- The Garden City concept**

Having people live close to where they work is not a viable concept in the current age of job mobility

There is strong evidence that intensification reduces the supply of affordable housing (10)

Intensification in the Canberra context 2

Canberra residents have indicated a clear preference for low density detached housing (12,13)

The factors that influence this preference include:

- **Providing children with a backyard where they can play under supervision**
- **Room for a vegetable garden and a compost heap**
- **The ability to dry laundry outside rather than in a clothes dryer**
- **Avoiding the problems of more dense housing:**
 - **Poor quality construction**
 - **Little use of passive solar design**
 - **Difficult Bodies Corporate**
 - **Noise and crime issues**
 - **Lack of privacy**

Conclusions

The Mecone report:

- **does not justify intensification along the light rail stage 2B route**
- **does not provide a justification for intensification in Inner South Canberra**

Intensification is a flawed concept

- **It lacks an evidence base**
- **It is unnecessary in Canberra**
- **It will likely increase greenhouse gas emissions in Canberra**
- **Leaving intensification to the market will result in poor outcomes**
- **It puts the Canberra's Garden City concept at risk**
- **It will make Canberra a much less attractive place to live**

References

1. Troy P, 2013, Consolidation policy and its Effects on the City, accessed at <https://soacconference.com.au/2013-conference/wp-content/uploads/2013/12/Troy-Consolidation-Structure.pdf>
2. Neuman M, 2005, The Compact City Fallacy, *Journal of Planning Education and Research*, 25, pp11-26
3. Hakner J, 2017, Heat island' effect could double climate change costs for world's cities, University of Sussex, accessed at <https://www.sussex.ac.uk/broadcast/read/40429#:~:text=Professor%20Richard%20S.J.%20To%20MAE,of%20uncontrolled%20urban%20heat%20islands>
4. Troy P, Holloway D, & Randolph B, 2005, Water Use and the Built Environment: Patterns of Water Consumption in Sydney City Futures Research Centre Research Paper No. 1. Sydney: UNSW City Futures Research Centre, accessed at <https://cityfutures.ad.unsw.edu.au/documents/34/waterconsumption.pdf>
5. Troy P, Holloway D & Nissen K, 2006, Domestic Water Consumption in the ACT for the Office of Sustainability, Chief Minister's Department ACT
6. Mees P, 2009, *Transport for Suburbia; beyond the automobile age*, Earthscan, London
7. Mees P, 2013, A Centenary Review of Transport Planning in Canberra, Australia, *Progress in Planning*, 87, pp 1-32
8. Hall P, Sustainable cities or town cramming? In *Planning for a sustainable future*, Eds A Layard, S Davoudi, & S Batty, London.
9. Easthope H, 2013, The role of Retirees in Residential 'Private Governments', City Futures Research Centre, Faculty of Built Environment, UNSW
10. Kotkin J, 2013, City leaders are in love with density but most city dwellers disagree, *Newgeography*, 16 September 2013. accessed at
11. Sandford D, 2022, Suburban heat – an analysis of the suburb of Wright, Alastair Swayn Foundation, accessed at <https://alastairswaynfoundation.org/funded-research/suburban-heat/>
12. ACT Government, 2019, Places and Spaces survey, accessed at <https://yoursayconversations.act.gov.au/yoursay-community-panel/places-and-spaces-survey-results>
13. ISCCC, 2019-20, Inner South Canberra, Community Values, Interests and Concerns survey, accessed at <https://www.isccc.org.au/isccc/wp-content/uploads/FINAL-Report-ISCCC-Survey-12May2020.pdf>

Urban intensification on the City to Woden corridor

John Bell, President, Deakin Residents Association

Address to the Inner South Canberra Community Council meeting, 13 September 2022

Tonight I am going to discuss a report on intensification commissioned by the ACT Government. I will refer to this report as the Mecone report. We obtained this report through a Freedom of Information Request. But you can download it from the Deakin Residents' Association website. Deakinresidents.asn.au

As the cover of the Mecone report shows, the intensification it addresses is clearly linked to Light Rail Stage 2B.

Because the Mecone report does not examine the arguments for and against intensification I am also going to do this, in a 2022 Canberra context.

What appear to be the terms of reference for the study are:

- Understand the potential for residential and employment intensification in the corridor adjacent to Light Rail stage 2B
- Provide guidance on the appropriate built urban forms, dwelling diversity and density for future urban development for land adjacent to Light Rail stage 2B corridor, predominately at a precinct level
- Provide dwelling and employment forecasts under various scenarios to 2046, to inform the ACT Government's future planning

In preparing this report, Mecone did not consult residents' groups. Their contract was quite specific that consultations were to be limited to ACT Government agencies. Mecone states that their analysis was "developed in conjunction with government stakeholder support and feedback". So this report has had substantial government input.

The Mecone report examined the corridor 800m each side of the proposed route for Light Rail Stage 2B. However it focussed on five areas identified as having the greatest potential for urban intensification and employment growth:

1. West Deakin
2. Curtin Horse paddocks (ACT land component only, along Yarra Glen)
3. Phillip/ Woden Town Centre
4. Mawson
5. Remainder of the corridor (including Deakin, Yarralumla, Hughes and parts of Forrest).

Findings of the report

The report presents a base intensification case and two additional intensification scenarios (medium and high). The report says that ***the existing planning framework (the 'base case' scenario) has significant capacity for growth***, from around 13,100 to 23,800 dwellings and from 31,300 to 78,900 jobs.

The report also states “... ***the need for catalytic changes to the planning controls in the Study Area is not considered critical when purely considering the capacity for growth that already exists in the (planning) controls.***” Mecone p 3

Thus the Mecone report does not justify intensification along the Stage 2B route and does not provide support for the ACT Government to change zonings or other planning controls.

Comments on the Mecone report

The Mecone Report:

- does not examine the merits of intensification in a 2022 Canberra context
- repeats the ACT Government’s claim that there is an increasing demand for people to live close to jobs and services
- admits that additional infrastructure would be needed to support their forecasts for intensification but says this was not within the scope of their project. This infrastructure includes water, electricity, schools, opens space, etc (Mecone p 4)
- says that additional light rail stop would be needed to serve a 4-8 storey development along Yarra Glen near the horse paddocks (Mecone p41) (this additional stop would increase travel time on the Light Rail route)
- recognises that green spaces and large canopy trees are highly valued by the Curtin community (Mecone p 17) but makes no similar comments in relation to Deakin or Yarralumla.
- acknowledges that Yarralumla Creek is flood prone (Mecone p 41) (but this is not reflected in their intensification maps)

In relation to the ACT Government’s claim that there is “an increased demand for the workforce and community to live within a ’30-minute city, with homes that are close to jobs and services”, maybe it is just the ACT Government that is making this demand. I have seen no other evidence to support such a claim.

In relation to Deakin, the Mecone Report:

- suggests that West Deakin commercial activity could be “amplified” (4-6 storeys) and could also include higher-density residential development (Mecone P 50) (the car park adjacent to Kent Street get special mention)
- states that the prospects for development activity in Deakin are strong, with continuing infill development (Mecone p 79)
- notes that the potential for intensifying land uses across Deakin and Yarralumla could be challenging given high existing property values (Mecone p 79)

Four to six storey development along Kent Street would not be welcomed by Deakin residents. There would be problems with loss of privacy and additional traffic on an already very busy Kent Street.

As we know, there is already infill development in Deakin and Yarralumla. These developments usually start by removing all existing trees. They then proceed to cover the block with buildings. Tree canopy cover is being lost.

If intensification is necessary, random infill is not the optimum way to increase urban density. But that looks like that is how it is going to happen. So much for the Garden City concept.

The Report's North Frame area intensification scenario shows zones coloured red where Mecone proposes for "extensive uplift". Mecone has not specified heights in Deakin, but elsewhere in the report, red zones are 3-4 or 4-8 storeys (medium and high scenarios respectively).

Literature on intensification

For the last twenty years I have been working for a large consulting company. Literature reviews are a frequent part of my work. Looking at published papers and reports on intensification, I find that:

- Some literature on intensification is poor quality, strong on assertion and lacking hard evidence (1,2)
- Some arguments are becoming outdated. Greenhouse gases emitted by cars are often cited as justifying intensification, but the advent of electric vehicles will soon make these concerns irrelevant
- The working-from-home phenomenon is not addressed
- Urban heat island effects are rarely mentioned in papers advocating intensification. In suburbs like Wright, urban heat in summer is going to be an issue (11)
- Intensification is predicted to double the climate change costs for cities like Canberra (1)

Urban heat island effects from intensification should now be much more in focus. Yet urban heat island effects are rarely mentioned by intensification advocates. High density urban development, with large buildings, concrete and pavement, exacerbates the problems arising from extreme summer temperatures. A CSIRO study shows that maximum summer temperatures across Canberra suburbs can vary by as much as 10 degrees. For example, Wright, where the tree cover is a mere 2.2%, does not even have the space between buildings to increase the green canopy. Trees are the most important tool for reducing the heat island effect, providing shade and absorbing solar radiation.

As an aside, the ISCCC is very disappointed to see that the target year of 2045 for achieving 30% canopy cover in urban areas in the ACT has been removed from the draft Urban Forest Bill. There is not much point in having this legislation if there is no timeframe for achieving the 30 percent target. If you share our concern, make your views known to the ACT Government.

Other findings from the literature include:

- Claims that higher housing density results in lower energy and water consumption are not supported by the evidence (4,5)
- Occupants of higher density housing (in Canberra and elsewhere) do not receive bills for individual water consumption and have no incentive to conserve water
- Higher densities have not reduced car travel, nor have they increased the use of public transport (6,7,8)
- Higher density housing is less likely to use solar hot water or photovoltaic cells (1)
- Increasing density does not result in increased community engagement (9)
- There is more disputation between neighbours in higher density housing (9)
- Advocates of intensification "are tone deaf" to the preferences of citizens (10)

Intensification in a Canberra context

The Mecone Report fails to understand that historic planning decisions work against their urban intensification proposals. Canberra planning has been based around the Y Plan, which is not mentioned by Mecone, nor is the planning that has led to separate town centres (Woden, Tuggeranong and Belconnen) and rapid transit roads linking them.

Mecone does not mention the Garden City concept. This concept, something that the Griffins were totally committed to, has underpinned the development of Canberra's urban environment. Garden Cities can include some medium height housing when it is accompanied by suitable and nearby parkland.

In my view, intensification as envisaged by Mecone is not compatible with the Garden City concept.

Having people live close to where they work is great in theory but not a viable concept in the current age of job mobility. In the years I have worked in Canberra, my place of work has changed about six times between the City, Woden, Belconnen, and Barton.

There is strong evidence that intensification reduces the supply of affordable housing (10). Anyone who thinks that intensification addresses the supply of affordable housing should have a look at examples in Deakin. A current proposal will replace two detached houses with four town houses – these are for sale for \$3.3 million each.

Residents' preferences

Why is it that both ACT Government and ISCCC surveys indicate a clear preference by residents for detached housing? Surveys in other OECD countries show similar results. So what puts many Canberrans off medium and high-density development? The factors that influence this preference may include:

- Wanting to provide children with a backyard where they can play under supervision
- Wanting room for a vegetable garden and a compost heap
- Having the ability to dry laundry outside rather than in a clothes dryer
- Avoiding the problems of more dense housing:
- Poor quality construction in the construction sector
- Little use of passive solar design in apartments
- Avoiding Body Corporate difficulties
- Noise and crime issues in medium and high densities
- Lack of privacy

It's not hard to see why Canberra residents prefer detached housing.

Conclusions

In my view, the Mecone report:

- does not justify intensification along the light rail stage 2B route, particularly in Inner South Canberra

- does not provide support for the ACT Government to change zonings or other planning controls.

Intensification is a flawed concept

- It lacks an evidence base
- Measures to encourage intensification in suburbs like Deakin and Yarralumla are not necessary
- Intensification will likely increase greenhouse gas emissions in Canberra
- Leaving intensification to the market will result in poor outcomes
- It puts the Canberra's Garden City concept at risk
- It will make Canberra a much less attractive place to live.

Thankyou.

Some references

1. Troy P, 2013, Consolidation policy and its Effects on the City, accessed at <https://soaconference.com.au/2013-conference/wp-content/uploads/2013/12/Troy-Consolidation-Structure.pdf>
2. Neuman M, 2005, The Compact City Fallacy, Journal of Planning Education and Research, 25, pp11-26
3. Hakner J, 2017, Heat island' effect could double climate change costs for world's cities, University of Sussex, accessed at <https://www.sussex.ac.uk/broadcast/read/40429#:~:text=Professor%20Richard%20S.J.%20of%20uncontrolled%20urban%20heat%20islands>
4. Troy P, Holloway D, & Randolph B, 2005, Water Use and the Built Environment: Patterns of Water Consumption in Sydney City Futures Research Centre Research Paper No. 1. Sydney: UNSW City Futures Research Centre, accessed at <https://cityfutures.adu.unsw.edu.au/documents/34/waterconsumption.pdf>
5. Troy P, Holloway D & Nissen K, 2006, Domestic Water Consumption in the ACT for the Office of Sustainability, Chief Minister's Department ACT
6. Mees P, 2009, Transport for Suburbia; beyond the automobile age, Earthscan, London
7. Mees P, 2013, A Centenary Review of Transport Planning in Canberra, Australia, Progress in Planning, 87, pp 1-32
8. Hall P, Sustainable cities or town cramming? In *Planning for a sustainable future*, Eds A Layard, S Davoudi, & S Batty, London.
9. Easthope H, 2013, The role of Retirees in Residential 'Private Governments', City Futures Research Centre, Faculty of Built Environment, UNSW
10. Cox W, 2022, Higher urban densities associated with the worst housing affordability, Newgeography, accessed at <https://www.newgeography.com/content/007221-higher-urban-densities-associated-with-worst-housing-affordability>

11. Sandford D, 2022, Suburban heat – an analysis of the suburb of Wright, Alastair Swayn Foundation, accessed at <https://alastairswaynfoundation.org/funded-research/suburban-heat/>
12. ACT Government, 2019, Places and Spaces survey, accessed at <https://yoursayconversations.act.gov.au/yoursay-community-panel/places-and-spaces-survey-results>
13. ISCCC, 2019-20, Inner South Canberra, Community Values, Interests and Concerns survey, accessed at <https://www.isccc.org.au/isccc/wp-content/uploads/FINAL-Report-ISCCC-Survey-12May2020.pdf>