

# Urban Densification

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# Urban densification is the primary driver for the Woden District Strategy

- ACT Government: 70% of new dwellings to be within the existing urban boundary
- ACT Greens: at least 80% of new development will be infill

Some urban densification is needed in Canberra. The ACT Govt must have an open and honest conversation about this with the community. For example:

**How should we assess 'good densification'?**

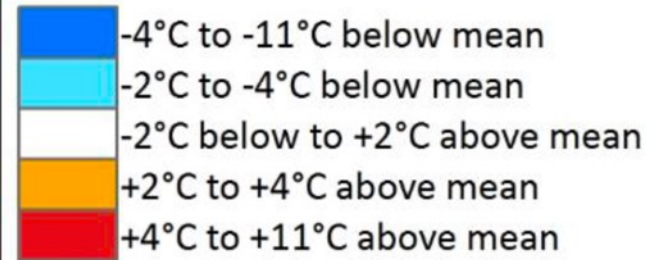
# Good urban densification

- A critical test for any proposed urban densification must be “no adverse impact on the health and well-being of Canberrans”
  - improving health and well-being is a desirable outcome
- The proposed new Territory Plan and Draft Woden District Strategy FAIL this test.

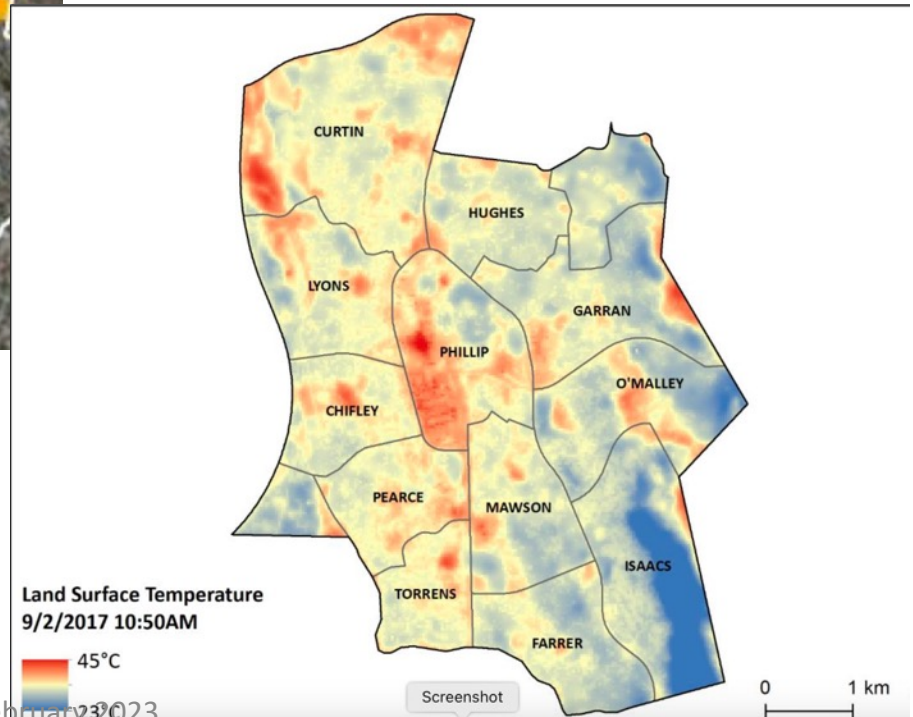
# Urban heat: an example of failure



9/2/2017 10:50AM



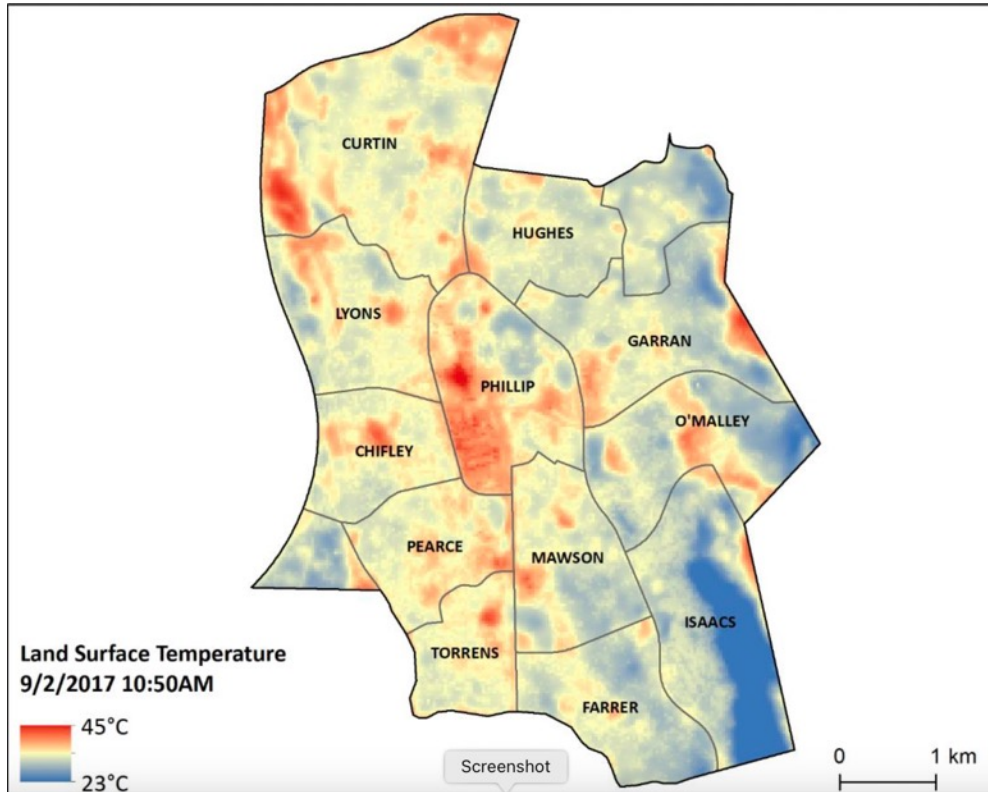
Images from *Mapping surface urban heat in Canberra* CSIRO report December 2017



**Current proposals for densification will exacerbate the urban heat island effect and so decrease health and well-being**

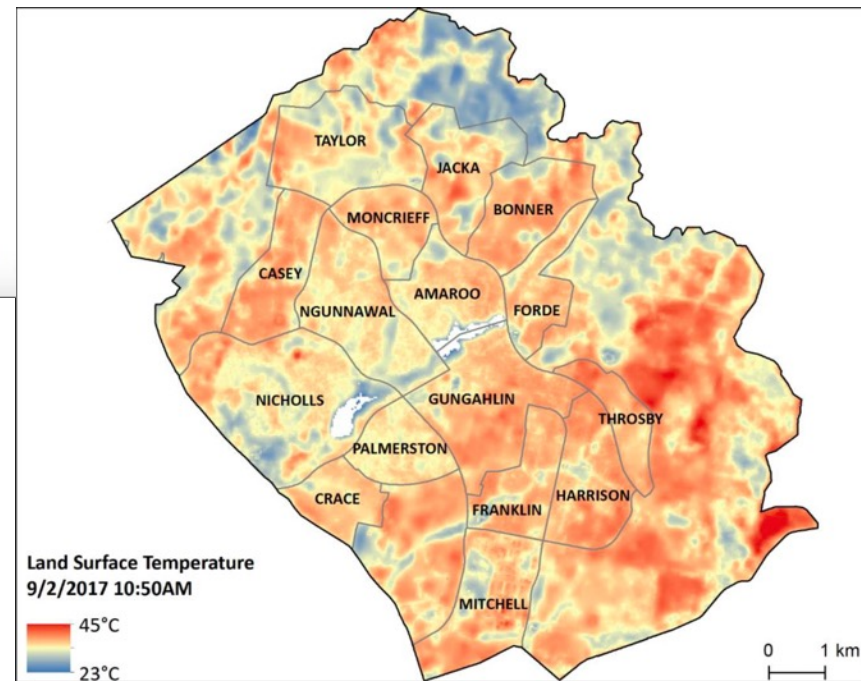
**Heat has a direct effect in health. Examples:**

- **asthma**
- **kidney disease, including kidney stones**
- **cardiovascular disease**
  - **A 1°C increase in temperature is associated with a significant increase in cardiovascular disease-related death and illness [The Lancet 2022]**



The difference between very hot (45°C) and pleasant (23°C)?

Tree canopy cover.



- An overarching objective for the Territory Plan and the District Strategies must be to adapt our urban environment for climate change and to mitigate its effects such as increased heat
- Adequate tree canopy cover is one simple and effective way to do this

**Policy statements have no impact.  
Implementation does.**

# Tree canopy cover and urban heat

## Research results

- overall canopy cover: limited cooling until 25% – 50% cover, becoming more substantial at higher values
- treed patches, such as urban parks, cool at all times of day
- canopy over unpaved surfaces - minimal cooling in the afternoon, the hottest part of the day, until ~40% cover, after which cooling strengthens; strong cooling for all cover fractions in the evening
- canopy over paved surfaces - small cooling in the afternoon: 0.2°C between 0% and 25% cover cf. 0.0°C cooling for canopy over unpaved surfaces



# Tree canopy cover and the new Territory Plan

## Single dwelling blocks

BLOCK SIZE	PLANTING AREA	TREES	TREE CANOPY COVER
compact <250 m <sup>2</sup>	15%	1S	6.5%
medium 251 - 500 m <sup>2</sup>	20%	2S	6.3%
large >500 m <sup>2</sup>	24%	1S + 1M	~7%
large >800m <sup>2</sup>	24%	1M + 1L	~5% - 9%

### Multi-unit housing in RZ1 and RZ2 zones

Planting area is a minimum of 35% of the block area.

All new and existing trees provide at least 15% canopy cover to the block at maturity.

AND

For large blocks less than or equal to 800m<sup>2</sup>, at least one small tree and one medium tree

For large blocks more than 800m<sup>2</sup>, at least one medium tree and one large tree; and one additional large tree or two additional medium trees for each additional 800m<sup>2</sup> block area.

### Multi-unit housing in RZ3, RZ4 and RZ5 zones

Planting area is a minimum of 25% of the block area.

All new and existing trees provide at least 20% canopy cover to the block at maturity.

AND

For blocks less than or equal to 800m<sup>2</sup>, at least one small tree and one medium tree

For blocks more than 800m<sup>2</sup>, at least one medium tree and one large tree; and one additional large tree or two additional medium trees for each additional 800m<sup>2</sup> block area.

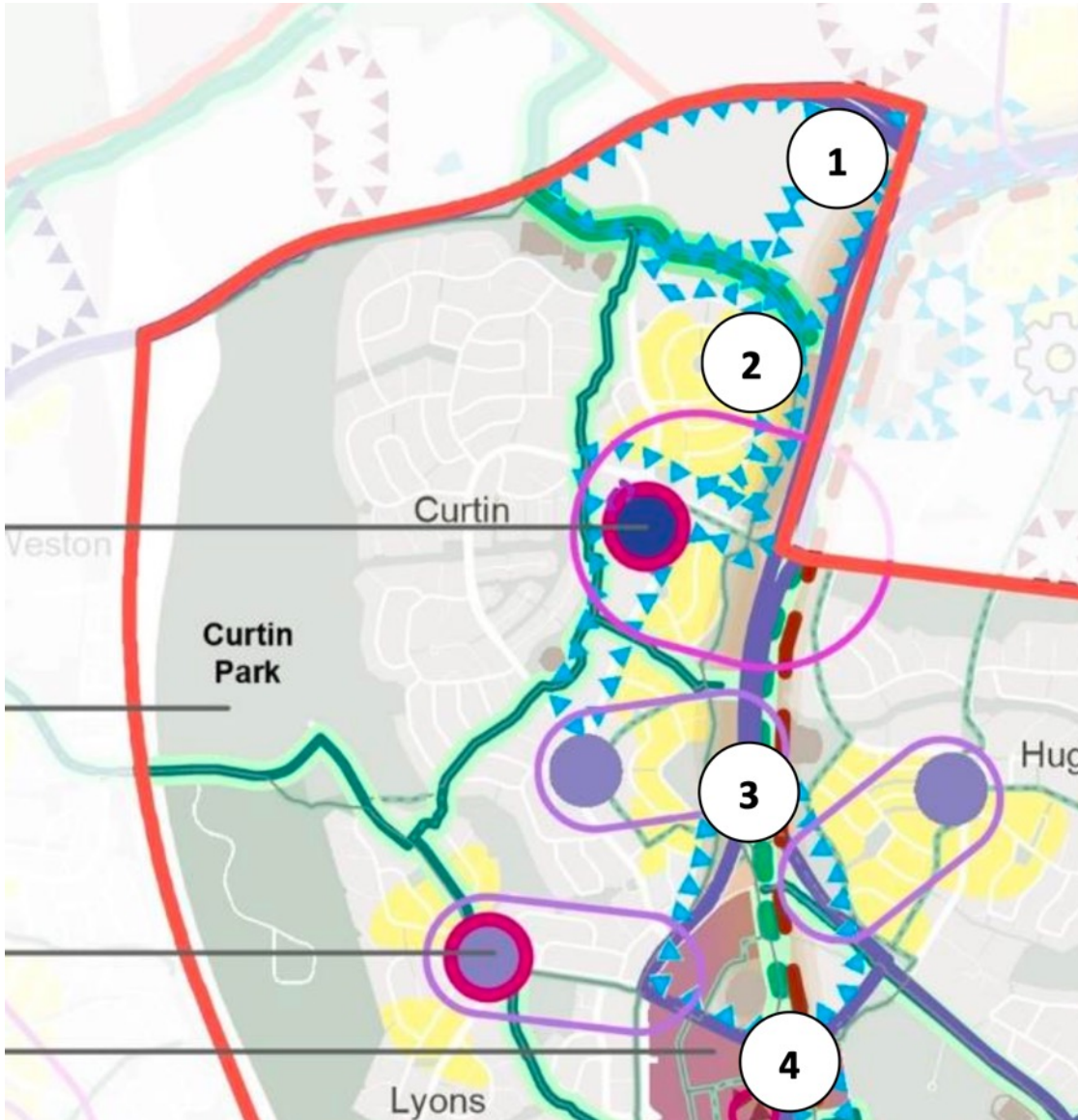
Same as single-dwelling blocks

# Tree canopy cover and the new Territory Plan

**Tree canopy cover requirements in the proposed new Territory plan are abysmally inadequate.**

# Urban densification

- Allow all RZ1 blocks to be sub-divided
- “Transects” and “future investigation areas”
- “Key sites and change areas”



**Possible change areas**

- Areas which are subject to current proposals and/or require further investigation



**Future investigation areas**

- Areas that may be suited to future redevelopment for housing subject to further detailed investigations of factors



**Blue-green network**

**Selected key sites and change areas**

- 1 Former Curtin horse paddocks
- 2 Curtin edge – north and south
- 3 Woden North



# Urban transects and urban character





T4 General urban



T5 Urban centre



T6 Urban core

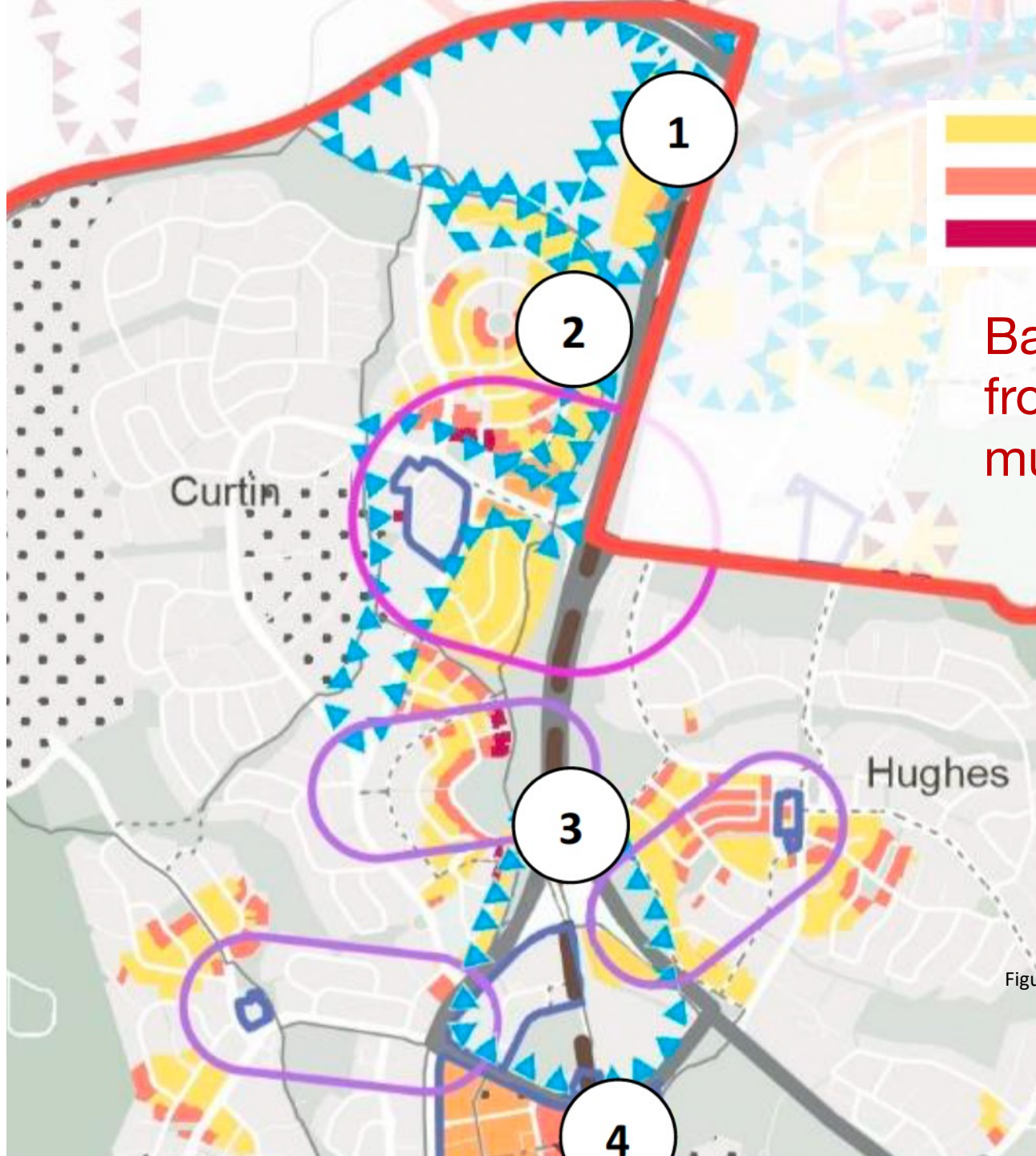


All pictures are from  
the Draft Woden  
District Strategy



Figure 36, page 113 Draft Woden District Strategy





URBAN HEAT ISLANDS

Bad outcomes from proposals must be discussed

Figure 36, page 113 Draft Woden District Strategy

# Key site 1: Curtin horse paddocks

*Figure 38: Principles for former Curtin horse paddocks*



New edge streets, including one across Yarralumla Creek (yellow); open space/park (green); community and retail facilities (lavender); “public activity hubs” (purple); “built frontage” = residential apartments (blue)

The NCA controls development in this area as it’s within the Curtin Diplomatic Precinct.

# Key site 2: Curtin edge

*Figure 39: Principles for Curtin edge north and south*



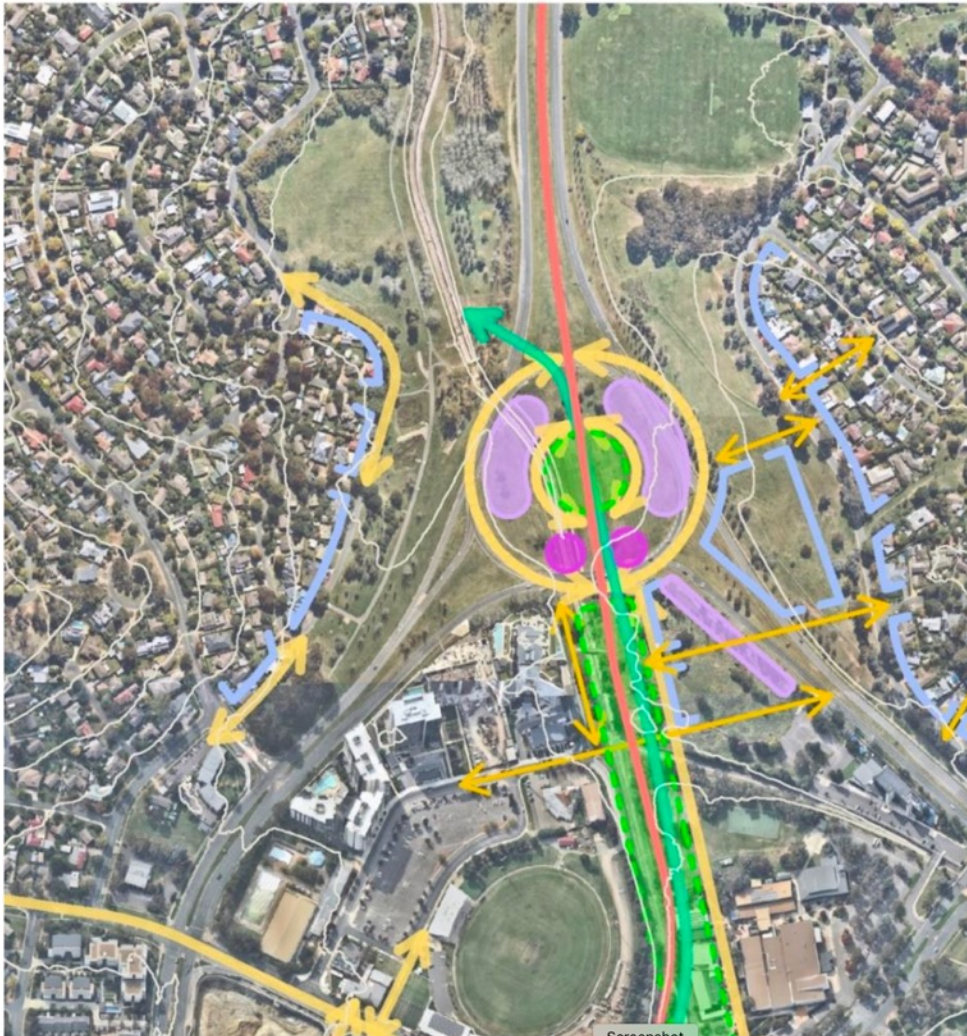
A "new edge street" through the Yarralumla Creek corridor; "to clarify the urban edge to Yarra Glen".

The Yarralumla Creek corridor defines the urban edge to Yarra Glen perfectly well. The street would significantly degrade the primary blue-green connection of the Yarralumla Creek corridor. Tree loss would increase the urban heat island effect for this part of Curtin.

**What's the problem for which this is a "solution"?**

# Key site 3: Woden North

Figure 40: Principles for Woden north



New streets (yellow); park (green); community and retail facilities (lavender); “public activity hubs” (purple); “built frontage” = multi-story buildings? (blue)

What’s the problem for which this is a “solution”?

How much is on a flood-way?

Perhaps make the whole area treed parkland to provide a cool place for residents of the nearby apartments and enhance the Yarralumla Creek corridor. (It’s already a heat island.)

# Concluding remarks

- The planning system can result in bad outcomes eg poorer health and inequities from urban heat islands. The system must include mechanisms to prevent them.
- The planning system must include clear priorities to deal with conflict between ‘drivers’; for example, a new road or retain treed open space in a primary connection of the blue-green network.
- Problems must be stated in planning strategies and proposals and not just a single solution. Involve the community in addressing the problem rather than asking us to react to a solution.

# Concluding remarks

**A challenge to the ACT Government and the ACT's political parties**

**Work with the community to densify Canberra**

- **while increasing urban tree canopy cover to >40%; and,**
- **without creating localized urban heat islands in residential areas**

**This means starting again on a new Territory Plan and the District Strategies.**