

APPENDIX H

Urban Design Rationale

Caboolture West Urban design report



December 2013

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1. SUMMARY

This technical report describes the urban design component of Moreton Bay Regional Council's Caboolture West Land Use and Infrastructure Planning project. Objectives and methods are recorded, a recommended urban design approach is presented in four parts:

1. Caboolture West Regional Structure (Chapter 5)

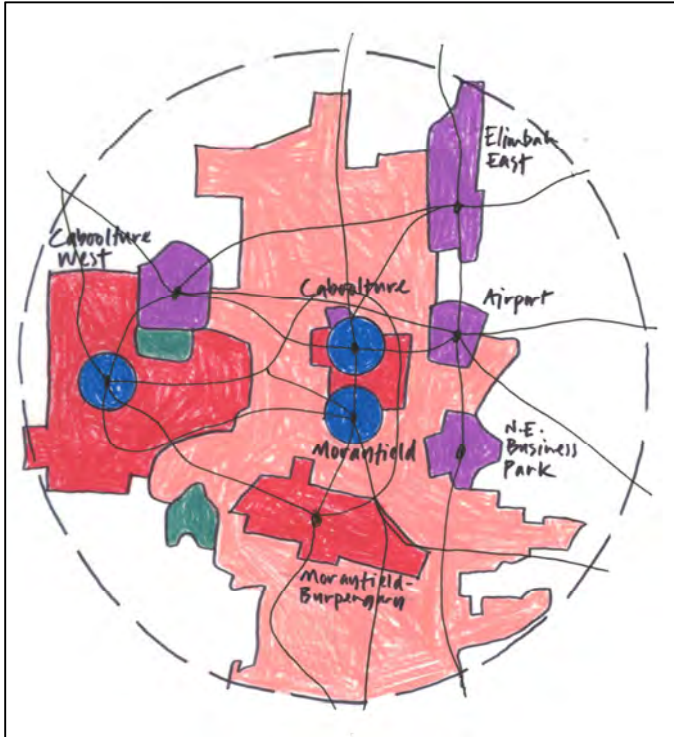


Figure 1 - Caboolture West Regional Structure

Caboolture West is planned as a sustainable urban extension to Caboolture, and not a 'stand-alone' new town or suburb. Caboolture West is part of and supports a city-wide urban and economic development strategy advanced in the new planning scheme called 'Caboolture City'. Caboolture City is a plan for a more self-contained city within a wider metropolitan region, underpinned by a network of economic and urban development opportunities.

2. Caboolture West Structure Plan (Chapter 6)

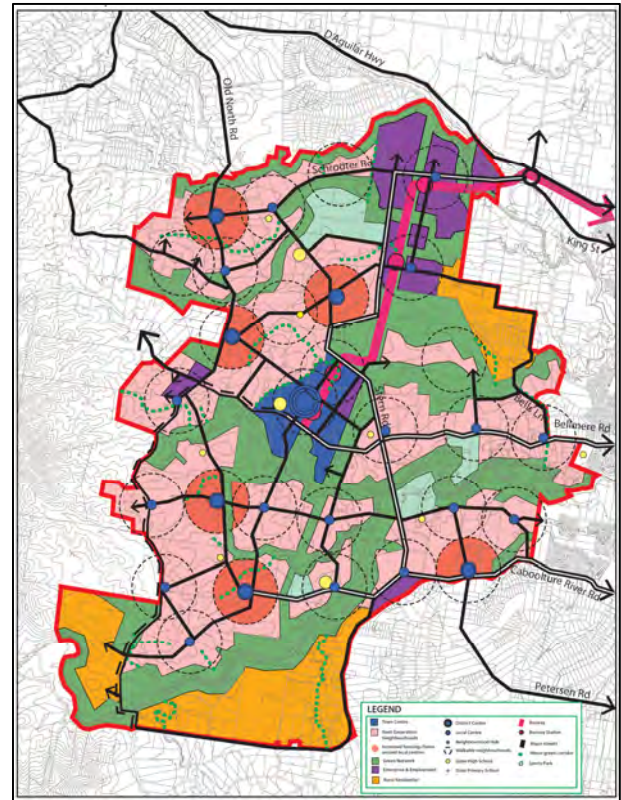


Figure 2 - Caboolture West Structure Plan

The Caboolture West Structure Plan proposes:

- A 2,800ha sustainable urban extension to Caboolture, to be developed over 40+ years
- An urban pattern to accommodate about 27,000 dwellings, 70,000 residents and 17,000 jobs
- An 'urban living' area of 1,521ha approx. (54% of the structure plan area)
- A 'green network' of 1011ha (36%), plus minor green corridors along gullies
- An enterprise and employment area of 160ha (6%)
- A large, mixed use town centre at the heart of the town (106ha, 4%)
- An urban structure of walkable neighbourhoods clustered around local centres
- Six local centres and 17 neighbourhood centres or 'hubs'
- A major street grid at 800m spacing, supporting excellent connectivity and transport choices
- A network of parks including one regional and three district sports parks.
- Three state high school sites including a town centre school

- Six state primary school locations
- C-bahn, a guided busway connecting Caboolture West to Caboolture CBD and railway station
- Business and industry land including a major enterprise and employment area
- Regional connectivity to Caboolture-Morayfield, the north, north-west and south
- Clear and sensible boundaries between land uses, using natural boundaries such as rivers and creeks where possible
- Existing and new low density 'rural residential' development in fringe and constrained locations.
- A town centre urban design framework to guide future planning of the town centre.

3. Caboolture West Illustrative Masterplan (Chapter 7)

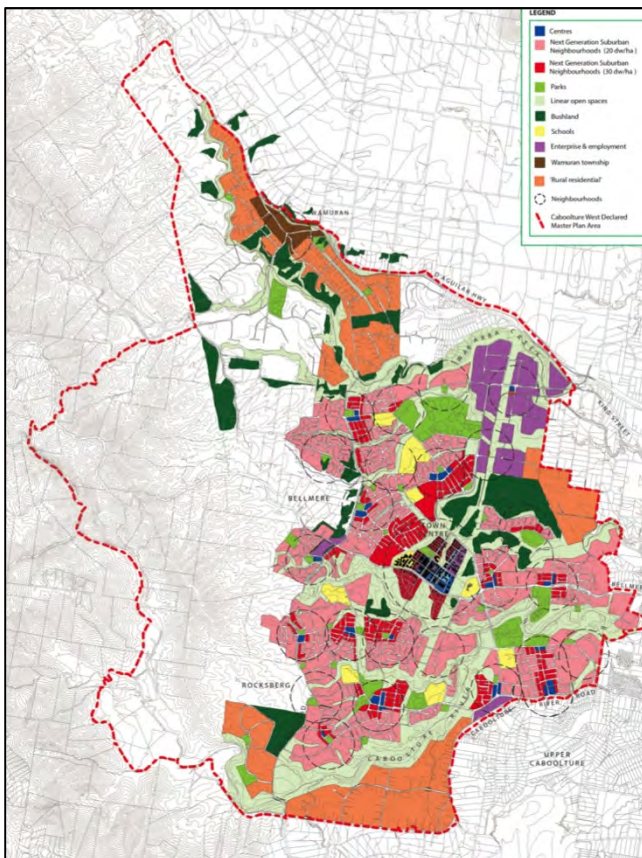


Figure 3 - Caboolture West Illustrative Masterplan

An Illustrative masterplan provides an overall vision of how Caboolture West might be developed over several decades. A narrative about how development might be designed at Neighbourhood Development Plan scale is also provided. There are two important purposes of the Caboolture West Illustrative Masterplan:

- 'Proof of concept'. The illustrative masterplan tested the broader scale structure plan for viability.
- Illustration of preferred urban design outcomes at the neighbourhood scale, to guide future planners and developers.

4. Caboolture West Urban Typologies (Chapter 8)

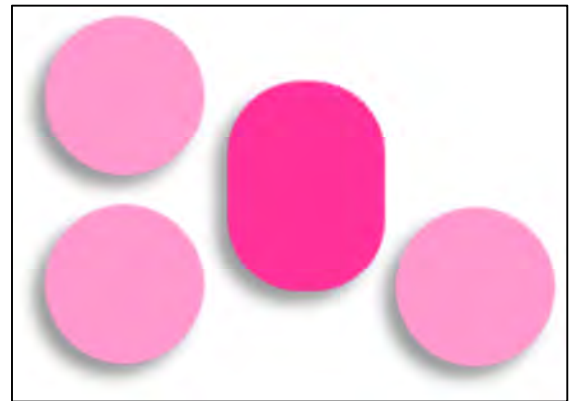


Figure 4 - Caboolture West Urban Typology (the CabPat)

Urban design typologies were researched, adapted and developed for use in the design for Caboolture West. These typologies focussed on neighbourhood, school, park and centre concepts that could be translated into a local plan and later into detailed designs. Key among these is the 'CabPat', a cluster of three or four walkable neighbourhoods with the central neighbourhood being higher density and accommodating a local centre.

2. INTRODUCTION

Bay Regional Council to work within council's strategic planning team to help prepare a land use and infrastructure plan for the Caboolture West urban growth area.

The purpose of this report is to describe the urban design outputs of this project. Urban design is one of a series of technical investigations for Caboolture West – others include economic, environmental, engineering, transport, financial, open space, landscape, sustainability, agriculture and other specialisms – all of which have informed the plan.

While the design for Caboolture West responds to these topics it is not the objective of *this* report to review other technical studies. Instead the focus is on the urban design aspects of the structure plan.

Study area

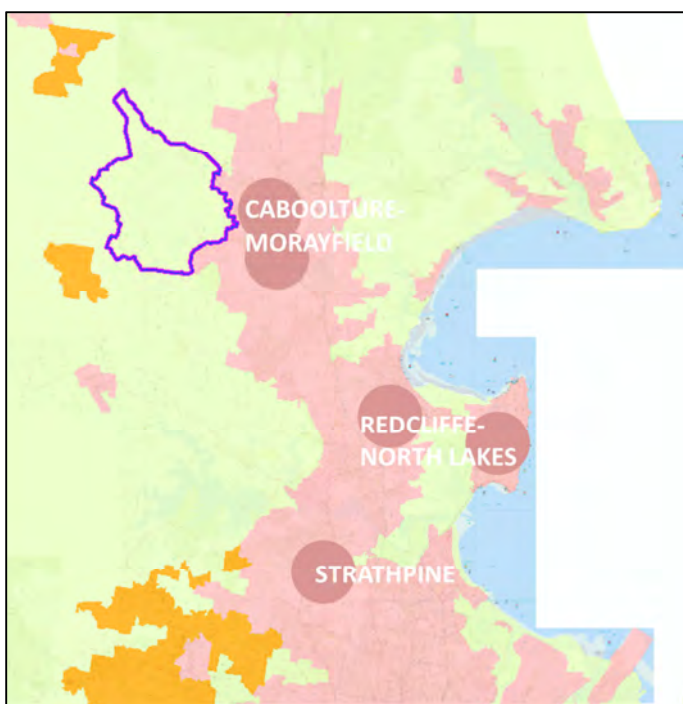


Figure 5- The towns of Moreton Bay Region, with Caboolture West (outlined) in the north

Caboolture West is located at the western edge of the town of Caboolture, 50km north of Brisbane. Caboolture West is one of fifteen *Identified Growth Areas* (IGA) in the *South East Queensland Regional Plan 2009-2031*. As an IGA it envisaged that, subject to detailed planning investigations, Caboolture West

In March 2013 *Michael McKeown Urban planner and designer* was engaged by Moreton

could accommodate significant urban growth for Moreton Bay.

Following submissions to the state government from landowners and a developer's group in 2008, and further representations from council during 2010 and 2011, the Caboolture West area was declared as a Master Plan Area under the provisions of the *Sustainable Planning Act 2009* (SPA) on 17 February 2012. The declaration set in place the need to begin a process of preparing a structure plan (land use and infrastructure plan) in accordance with SPA.

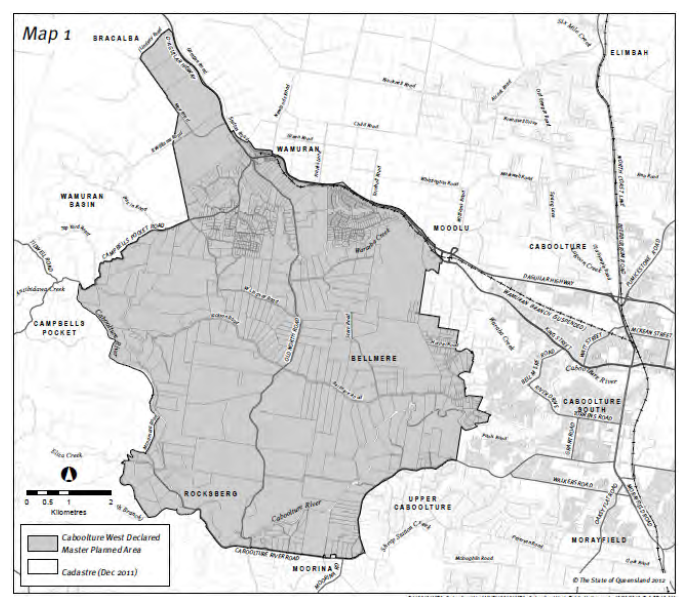


Figure 6 - Caboolture West Master Plan Area as declared by the Queensland Government and forming the study area for Council's planning

The gazetted master plan area forms the study area for this project. Caboolture West is large: 9km wide and 12km long, an area of over 64 square km (6,663ha). The boundaries are the D'Aguilar Highway and the township of Wamuran in the north, Caboolture River and foothills of the D'Aguilar Range in the west, Caboolture River Road and rural residential development in the south, and the suburban/rural residential fringe of Caboolture in the east (also the extent of the urban footprint of the SEQ Regional Plan).



Figure 7 - Study area, showing a patchwork of cleared and forested rural lands, and rural residential development around Wamuran

Today Caboolture West is predominantly rural with some rural residential-style subdivisions in the north near Wamuran, and in the east. D'Aguilar Highway and Caboolture River Road lie on the north and south extremities. There are few roads within the study area. The principal internal roads are Old North Road and Bellmere/Jackson Roads which cross in the middle of the study area.

Prominent natural features are the two major waterways of Caboolture River and Wararba Creek. Gently undulating pasture in the east of the study area makes way for steepening ridges in the west. Climb up the range for spectacular views over Caboolture West and north towards the Glasshouse Mountains. Less panoramic but still notable views are available from many places within the study area.

Existing conditions

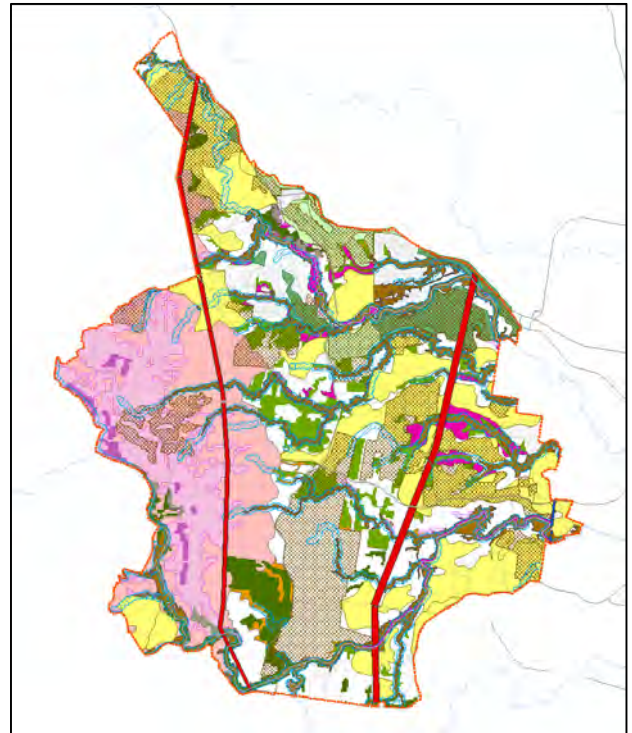


Figure 8 - Sieve mapping makes for colourful pictures but fails to show the important influences on any design

Initial assessment of the 'existing conditions' used a sieve mapping approach and demonstrated that Caboolture West has a complex array of mapped features of interest.

Such exercises are not always instructive to urban design and development potential. All constraints are not created equal and urban design is better informed by a 'synthesised conditions' approach, where important physical (and socio-economic) features are drawn out and emphasised.

Synthesised conditions

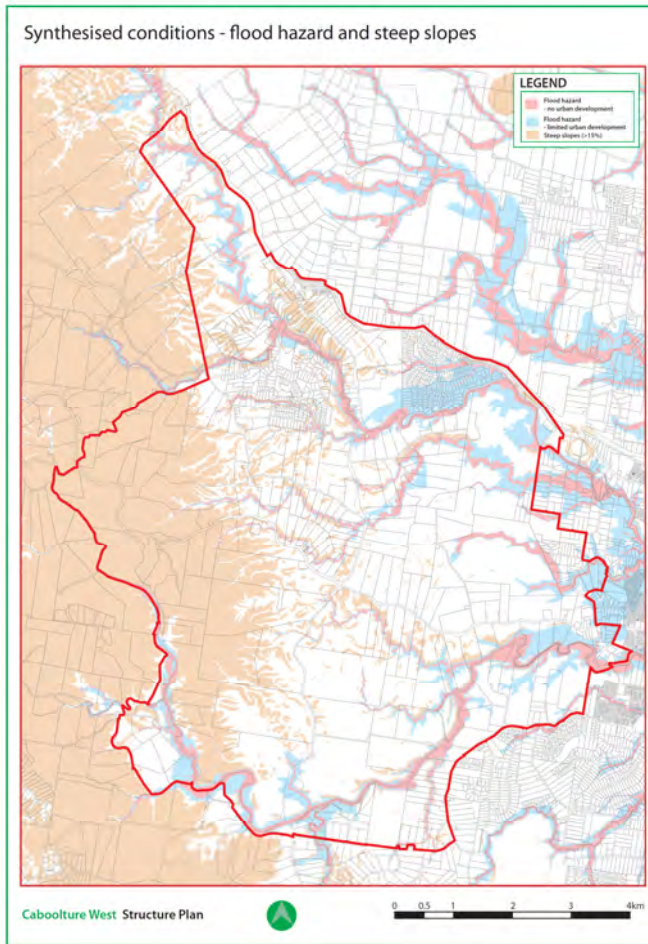


Figure 9 - flood hazard and steep slopes

More selective analysis of the study area highlights features of real interest to the design process.

Steep slopes (>15%) largely prohibit urban development in the western third of the study area. Unsurprisingly this landscape of forested hillslopes is also important environmentally. Smaller areas of steep land are found along waterway gullies elsewhere in the study area. Again these locations tend to have multiple values (e.g. flooding, vegetation and slope). It is this 'stacking' of conditions which has tended to direct the development potential or otherwise of land within the study area.

Flood hazard from Caboolture River, Wararba Creek and major gullies is another 'hard' constraint. The highest hazard is contained within the waterway gullies which tend to be very distinct. Urban development is not possible in these red marked areas, although urban-supporting infrastructure will cross and modify these environments. Areas of more

moderate flood hazard (blue) are found in the flatter east of the study area. These areas are developable with some restrictions to keep development free of the most hazardous flood conditions.

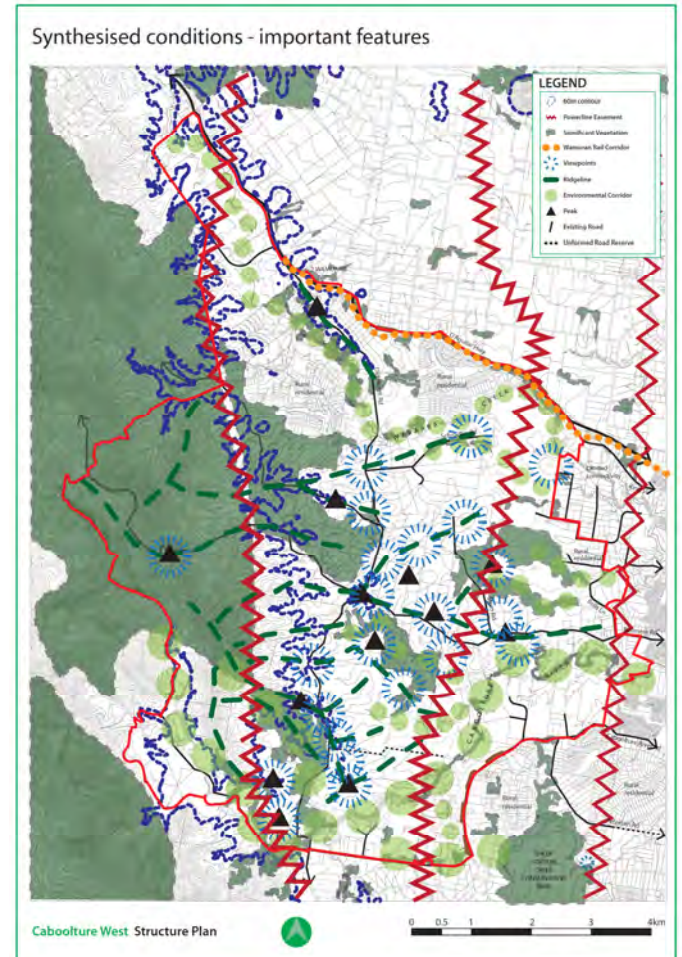


Figure 10 - physical features important to the design of Caboolture West

Other important features (figure 10) on urban design at Caboolture West include:

- a proposed water supply limit of 60m AHD
- three north-south electricity transmission corridors in and near the study area
- significant vegetation. This is summarised from a detailed environmental assessment (by others), and relates to regional ecosystems, koala habitat and other environmental values. Much of the 'significant vegetation' is mountain range or creek-located, but a few large forest fragments exist within the body of the study area as well
- existing roads and a few unformed road reserves

- a disused railway corridor between Caboolture and Wamuran; a strategic transport opportunity
- landform of ridges and hilltops suggesting design and construction challenges but on the positive also views and placemaking potential in spades
- some low density 'rural residential' style residential subdivision (unsewered) within and near the study
- existing and potential environmental corridors (e.g. Sheep Station Creek Conservation Park to Caboolture River and the D'Aguilar Range)
- nearby suburbs, sometimes edged by very low density (unsewered) residential development with poor local street connectivity
- existing road connections to Caboolture/Morayfield (D'Aguilar Highway, King St, Bellmere Rd, Caboolture River Rd)
- potential road connection to Morayfield via Petersen Road
existing cropping including strawberry and pineapple farms around Wamuran (not shown).

An important conclusion of the design process – including the synthesised conditions analysis described here, when combined with the sustainability assessment (Chapter 3) and scenario planning (Chapter 4) – was the refinement of the 6,600ha study area into 'urban' and 'non-urban' areas. An urban area of approximately 2,800ha becomes the structure plan area (described in Chapter 6).

3. URBAN DESIGN CONTEXT AND OBJECTIVES

Several project and region-wide policy objectives influence the urban design task.

Draft Moreton Bay Region Planning Scheme

Council's new planning scheme has adopted the *Next Generation Planning* approach to its strategic and statutory framework.

The SEQ Place Model is useful for promoting a more compact urban form, more diverse housing, walkable neighbourhoods, mixed use communities, access to transportation choices, and protection of the natural environment. Council has endorsed the use of the SEQ Place Model in the preparation of the planning scheme. In applying the SEQ Place Model to the Region, Council has sought to expand the concept of place types to encompass the wide variety of places that make up the Region and incorporate the strategic outcomes Council is seeking to achieve across the Region. This expanded model is known as the Moreton Bay Regional Council (MBRC) Place Model. (p.26 of the planning scheme strategic framework)

This has led to planning policies targeting:

- more sustainable growth
- protection of the significant environmental values of the Region
- greater levels of self-containment of the jobs, services and facilities needed by local residents;
- a better integrated transport system, with an emphasis on active transport and walkable
- communities focused on centres and urban nodes
- more diversity of housing choices, jobs and educational opportunities
- an emphasis on place making and urban design that builds on and respects the diversity of places across the Region to create quality human habitats.

While the strategic framework has tried to develop more fully the place type approach advocated in the *Next Generation Planning handbook* the Caboolture

West project provides opportunity to do so at a finer level of detail.

Caboolture City

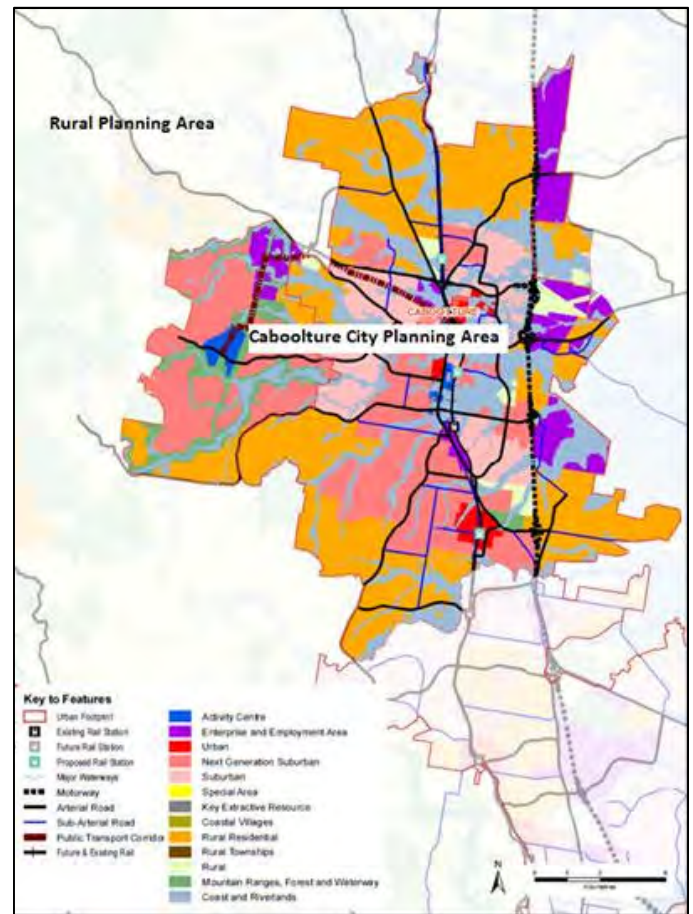


Figure 11 - Caboolture City sees sustainable growth of Caboolture from a town to a city based on a network of economic and urban opportunities

Also contained within the strategic framework of the new planning scheme is the concept of 'Caboolture City'. This is a long term strategy for the sustainable development of Caboolture from a town squeezed between metropolitan-fringe and rural influences, into a well-planned city with a clear role in a regional metropolitan framework. Central to this concept is Caboolture City as a network of economic and urban development of which Caboolture West is an important constituent part. Chapter 5 discusses this context in more detail.

Vision

A vision was established early in the process:

Caboolture West is one of the best areas to live in South East Queensland. There is a lot of natural bushland and wildlife retained in the area as well as many parks and open space areas. There is a range of homes that people can afford that reflect the needs of all residents from families with children to retirees, singles and extended families. The area has a “sense of place” with views to the range, river and mountains. It is easy to move around due to many choices in how you can travel. Many people walk or cycle to local destinations such as shops, schools and other services that are easily accessed by dedicated pathways. Nearly all the services and shops needed are in the Caboolture West area. You don’t have to travel long distances to work and there is a convenient public transport/bus service connecting to these sites.

Sustainability framework

A more specific sustainability framework and approach was also established to assess the planning against the vision.

Caboolture West Sustainability Approach

It is proposed to achieve sustainable development by seeking economic, social and environmental gains jointly and simultaneously through the planning, design, delivery and operation of the new community of Caboolture West.

The criteria within this sustainability framework are also critical elements of the urban design brief.

- **Criteria 1: Quality Places** – well planned urban systems to support lifestyle, health and wellbeing
- **Criteria 2: Healthy ecological systems and natural processes**
- **Criteria 3: Accessibility and Travel Choice** – to promote liveability and transport efficiency that reflects the complementary role of Caboolture West to Caboolture City

- **Criteria 4: Affordable Living** – support an affordable lifestyle with housing choices for a broad population
- **Criteria 5: A Prosperous Community** – to encourage a balanced community with a diversity of employment opportunities
- **Criteria 6: Building Community** – to ensure a cohesive, inclusive and healthy community with access to a full range of services and facilities that meet diverse community needs
- **Criteria 7: Agricultural Land** – to ensure important agricultural lands are conserved
- **Criteria 8: Governance** – to establish effective, fair and efficient land use planning and infrastructure decision-making (Caboolture West Structure Plan Sustainability Assessment, December 2013)

Toothpaste?

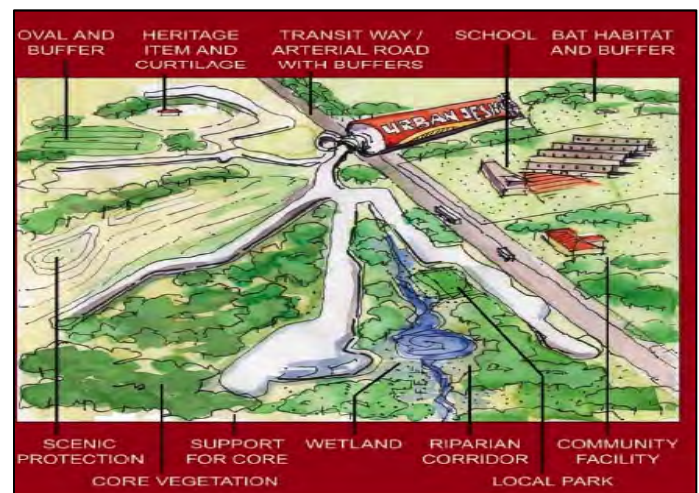


Figure 12 - Avoid squeezing development like 'toothpaste' between constraints (image by Clive Alcock)

Implied in the aims of the strategic framework, vision and sustainability framework is that Caboolture West will not become just a collection of discrete tracts of housing, industry, parks, shops, roads and infrastructure squeezed between ‘constraints’ of unequal or uncertain value.

Instead Caboolture West must demonstrate:

- public transport that works
- local employment opportunities
- more walking and cycling than usual
- community
- neighbourhoods
- healthy communities

- green infrastructure network
- adaptability over time
- affordable living
- other qualities of sustainability.

In other words, the brief for Caboolture West is to create a:

Well designed fully functional piece of town!

Urban design outputs

Specific urban design outputs were focused around four main areas. These outputs can be seen as a hierarchy of design solutions scaled from the region to the town, suburb then neighbourhood scales.

1. Caboolture West Regional structure (Chapter 5)

Integrate Caboolture West planning into city and regional structures.

2. Caboolture West Structure plan (Chapter 6)

Design a structure plan at a broad scale and suitable for a local plan in the new Moreton Bay Regional Planning Scheme. Determine places and land uses, movement networks, open space and environment, centres and community services and urban structure.

3. Caboolture West Illustrative masterplan (Chapter 7)

Prepare illustrative masterplan(s) at detailed scale for development areas to test the structure plan design for viability and to illustrate preferred or desired development outcomes.

4. Caboolture West Urban typologies (Chapter 8)

Research, adapt and develop urban typologies such as neighbourhood, school, park and centre typologies for use at Caboolture West including informing a statutory local plan.

4. METHODS

Good process is central to good design. Several well established urban design methods were used to explore, test and consult design options for Caboolture West.

Enquiry by design



Figure 13 – an early Caboolture West workshop

The Enquiry by Design (EbD) process is a planning tool that brings together key stakeholders to collaborate on a vision for a new or revived community...The EbD process brings key stakeholders together, to assess a complex range of design requirements for the development site, with every issue tested by being drawn. (Princes Foundation)

Enquiry by Design workshops and design ‘charettes’ are widely used around the world including Australia. Their length and structure varies according to context, from week or 10-day long exercises to more compact one, two or three day workshops more common in south east Queensland.

Considering Caboolture West’s team structure, programme and mix of stakeholders (from local and state government, other agencies and landowners), a process was designed around a series of short EbD workshops spaced by two to three week intervals. This enabled issues to be quickly researched and negotiated between workshops, and the plan to be progressively developed, using the intervening time to:

- research and refine the design

- check for vertical integration between the varying spatial scales at which the plan was being developed
- check for horizontal integration between the place typologies and the aggregation of places
- integration of local planning aspirations with state agency interests.

By and large the EbD process met its objectives. It gave stakeholders plenty of opportunity not just to comment but to be part of the creative city-making process. The staged EbD process also served as a ‘net’ to identify issues for further analysis by the project team outside the workshops.

Tissue studies



Figure 14 – A tissue study of the Rocksberg area of Caboolture West. This example used well-regarded residential and town centre tissues from Western Australia. Major streets and centres were sensibly aligned to make the study ‘indicatively realistic’.

A ‘tissue’ refers to a piece of town or suburb, usually in the form of an aerial photo, and usually well-known and of good urban quality. Collecting and showing tissues that represent design intentions (residential

neighbourhoods at different densities for example) can be a more effective medium of communication than abstract information (e.g. numeric indications like dwellings per hectare) which tend to induce different pictures in different heads.

Tissues can also be gathered, copied to scale, cut up and arranged to develop quick ‘designs’ over an aerial photo of the study area (e.g. figure 14). These tissue designs provided a means to demonstrate and test at an early stage in the design process how different urban forms (and particularly densities) of development might turn out if applied to Caboolture West. Tissue studies proved valuable in visioning negotiations with stakeholders including council’s steering group.

Scenarios

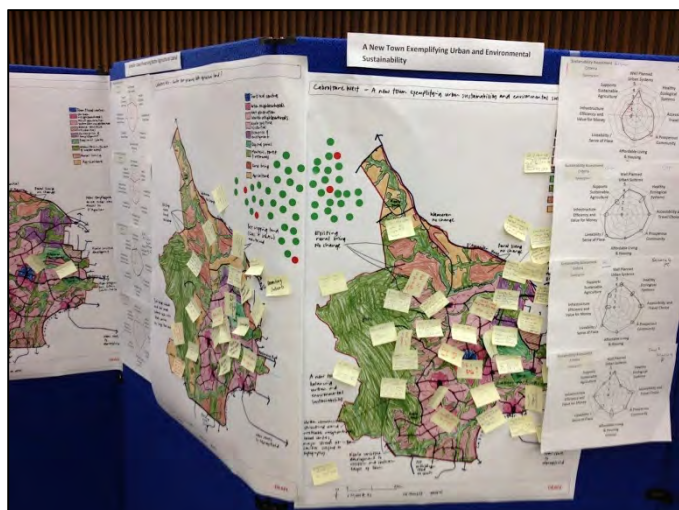


Figure 15 – Design scenarios displayed with comments at an Ebd workshop

Scenario planning is ‘*a method of considering courses of action by examining possible alternative futures.*’ (The Dictionary of Urbanism)

Design scenarios were developed with different emphases to test possible approaches to developing Caboolture West. These emphases were selected to explore key issues identified through the site analysis and workshops. Issues included:

- testing retention of agricultural land (in various amounts)
- testing maximising urban land
- testing differing urban design approaches such as location and size of centres.

Public information sessions



Figure 16 – displays at the Upper Caboolture Farmers’ Assembly Hall, June 2013

Separate to the enquiry by design process, public information sessions were conducted in March and June 2013 (a further round is scheduled in December 2013).

Design work including design scenarios was used to inform local residents and landowners about the Caboolture West project.

Local knowledge including historical context was in plentiful supply at these sessions and helpfully informed the design process.

Note: a consultation report provides detailed documentation of the engagement processes used for Caboolture West.

Urban design tasks and scale

The scale at which design was undertaken for each stage (output) of work, and the level of accuracy and

detail sought, was determined by the purpose of the output material and the level of information available.

1. Caboolture West Regional structure (Chapter 5)

Design at this scale was diagrammatic only, to inform about key design ideas. This work is strategic and can be incorporated into strategic level plans like the planning scheme strategic framework.

2. Caboolture West Structure plan (Chapter 6)

The structure plan is a critical output to be directly translated into a local planning document, including precisely located zone and precinct boundaries, and diagrams suitable for use in codes.

Structure planning was designed and documented with hand drawings initially, then using CAD and computer graphics software and presented at 1:10,000 and 1:20,000. At this scale it is possible to identify a broad urban structure of places and land uses, a movement network, centres, strategic community infrastructure, a green network and some parks.

3. Caboolture West Illustrative masterplan (Chapter 7)

An illustrative masterplan was designed and drawn at 1:5000. At this scale all streets can be (indicatively) shown (although it is preferred to detail important areas only such as local centres to draw attention to these parts of the plan), as can land uses by block and all levels of open space. A patterning (tissue) approach was used to aid the production of the illustrative masterplan (see Appendix 2). The illustrative masterplan was hand-drawn to indicate that the design was one possible outcome, and not fixed in detail. The final version was coloured using graphics software for improved presentation and reproduction.

There are two important reasons for this output at this scale:

1. 'Proof of concept'. The illustrative masterplan tested the broader scale structure plan for viability.

2. Illustration of preferred urban design outcomes at the neighbourhood scale, to guide future planners and developers. As such this output of work is included in this report but not in the statutory local plan.

Note that while useful for an illustrative purpose, the illustrative masterplan is not resolved to a level that would enable it to be used as an 'acceptable outcome'.

4. Caboolture West Urban typologies (Chapter 8)

Urban typology design work was undertaken at scales of 1:5000 to 1:1000, and as diagrammatical concepts to inform planning scheme assessment criteria.

5. CABOOLTURE WEST REGIONAL STRUCTURE

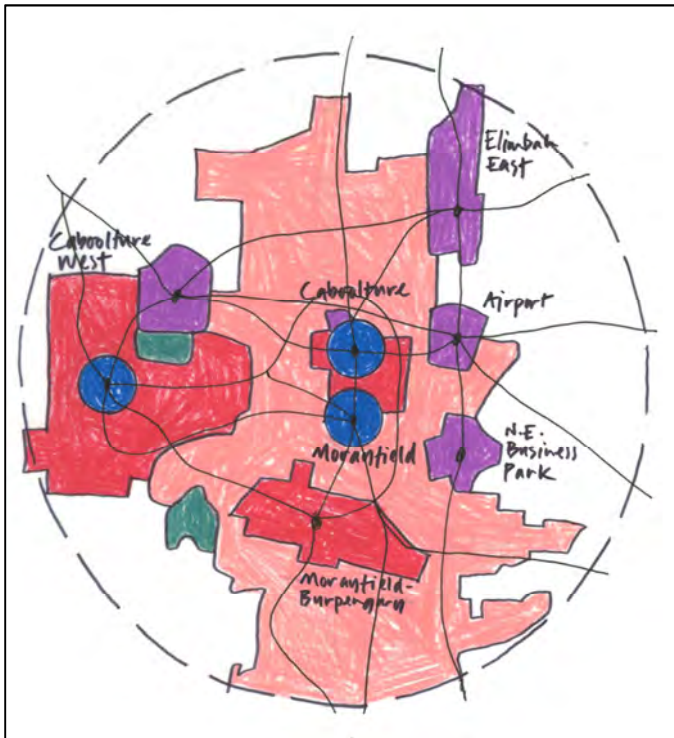


Figure 17 – Caboolture City, a network of economic and urban development opportunities

Caboolture West is planned as a sustainable urban extension to Caboolture (and not a 'stand-alone' new town or just a new suburb). Caboolture West is part of and supports a city-wide urban and economic development strategy first advanced in the new planning scheme strategic framework, called 'Caboolture City'.

Caboolture-Morayfield (and by association Caboolture City) is a principal activity centre of the SEQ Regional Plan, the only such centre located on both motorway and rail. Caboolture City is half-way between Brisbane (1.3m population) and Sunshine Coast (500,000). While southern parts of Moreton Bay region have developed as outliers of the Brisbane metropolitan area, it is arguable that Caboolture City (and Caboolture West) are beyond the commuting distance. A new strategic response is required: a more self-contained city within a wider metropolitan region.

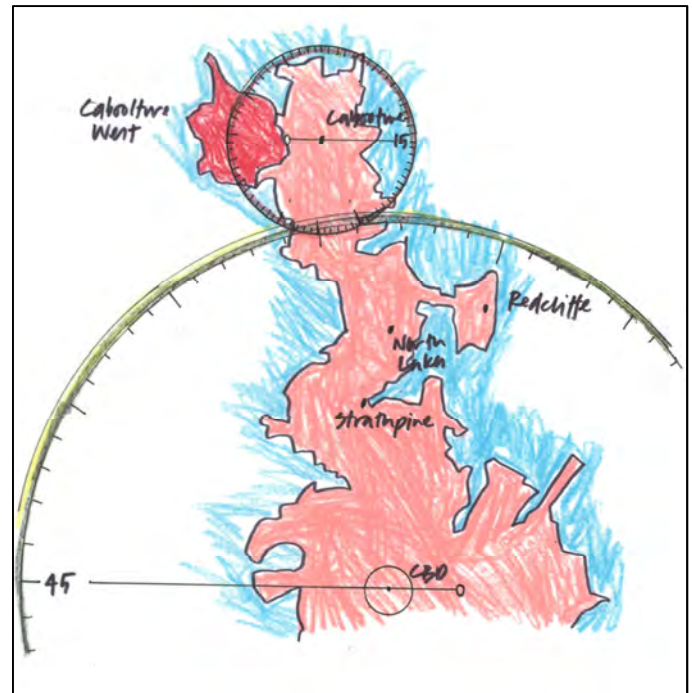


Figure 18 – Caboolture City – a 15 minute city beyond the Brisbane suburbs?

Caboolture City is a wider objective than the limited goals of the SEQ Regional Plan and ministerial declaration for Caboolture West.

To support the levels of urban and residential expansion envisaged at Caboolture West the Caboolture City strategy is also needed. Not least it is necessary to offer the local employment choices, lifestyle options and urban qualities needed to attract existing and new residents to Caboolture.

Several planning and urban design objectives can support the Caboolture City goal.

- a network of large and small centres and industrial areas in the broader city – critical to employment and lifestyle
- residential supply and housing choices
- open space and recreation offer
- transport connectivity and transport choices.

Caboolture City transport strategy

Note: a transport study by ARUP forms part of the Caboolture West Land Use and Infrastructure Planning project. Broader strategic planning and urban design analysis (figures 19-21) offers the following additional context and suggestions.

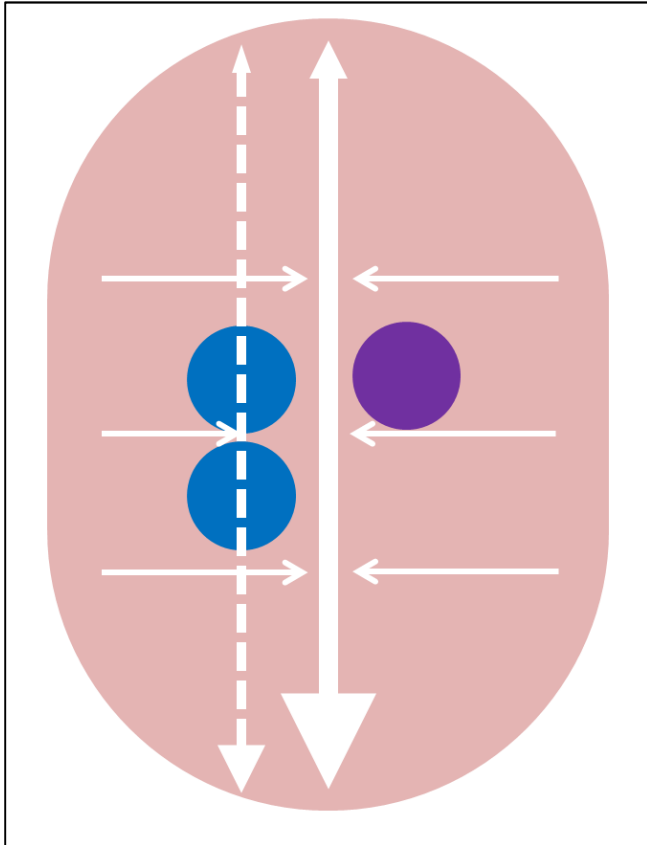


Figure 19 – Caboolture City today. Caboolture and Morayfield (blue dots), existing industry (purple). Local transport feeds into the north-south motorway and rail network, with a bias to southern trips (towards Brisbane).

A 'network-grid' (figure 20) or 'urban' transport strategy is advanced as the most appropriate to support Caboolture City and integrate Caboolture West into Caboolture City through a network of road, street and public transport systems. It comprises:

- A strong network of north south east west connectivity through the centres and employment areas.
- Roads and public transport to Caboolture West is part of this.
- New north south 'multi-modal arterials' connect Caboolture City internally, with other Moreton Bay centres and communities, and to a lesser extent to regional locations.

- Road, street and public transport routes that connect a string of places and communities, rather than bypassing communities and economies in an orbital system (figure 21). (The fear from a regional, orbital network is that further erosion of employment self-containment will be entrenched and Caboolture West will emerge as yet another far-flung suburb of Brisbane, and that the orbital network will likely encourage even more far flung development in areas traversed by the orbital routes.)

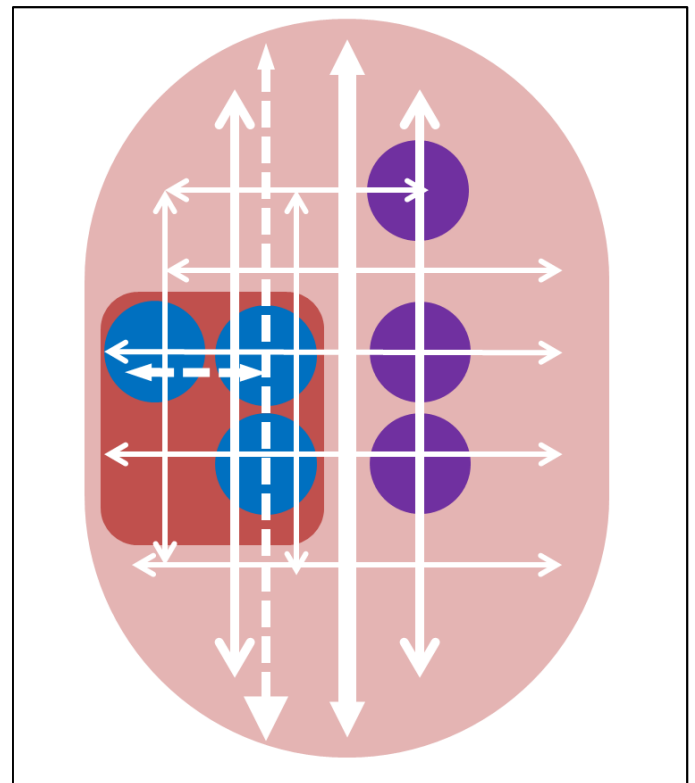


Figure 20 – Caboolture City transport strategy? Caboolture West (blue) is added as is urban redevelopment (red), and new industry supported by a network-grid of multi-function urban arterial roads and public transport routes. Urban, centre and employment locations connected in an urban grid.

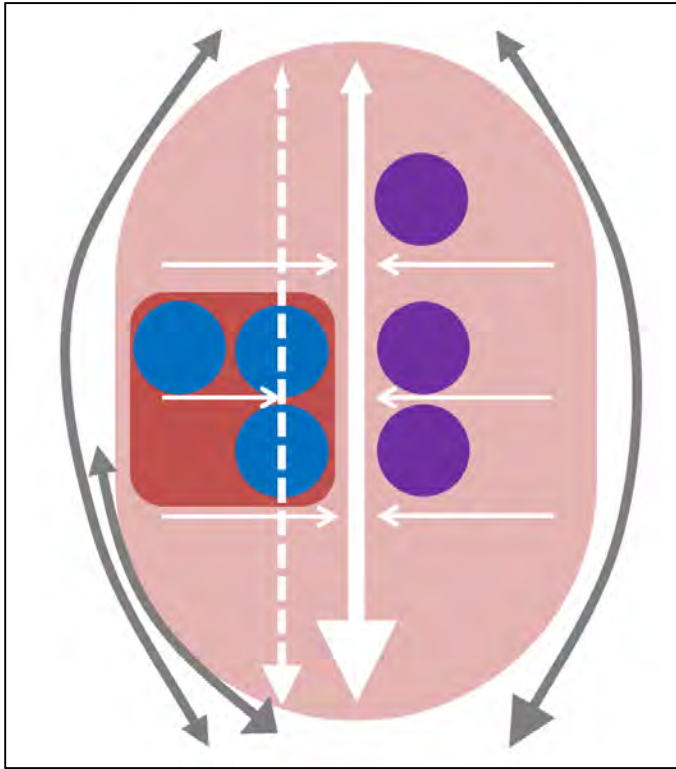


Figure 21 – ‘Caboolture suburb’. Regional connectivity is prioritised ahead of local. Orbital roads bypass communities and encourage further sprawl. A dated approach?

6. CABOOLTURE WEST STRUCTURE PLAN

The structure plan is a critical urban design output to be directly translated into the planning scheme's local plan. It includes precisely located zone and precinct boundaries, as well as local plan diagrams and text.

As noted in Chapter 2, an important conclusion of the design process was the refinement of the 6,600ha study area into 'urban and non-urban' areas. The urban area of approximately 2,800ha becomes the structure plan area to be implemented through the local plan. 375ha of existing and proposed rural residential-style development is also included in the structure plan/local plan. The structure plan area does not include the township of Wamuran, or surrounding rural residential-style-development or potential development. Some urban design investigations have been undertaken in the Wamuran area and these are expressed in the Caboolture West Illustrative Masterplan in chapter 7.

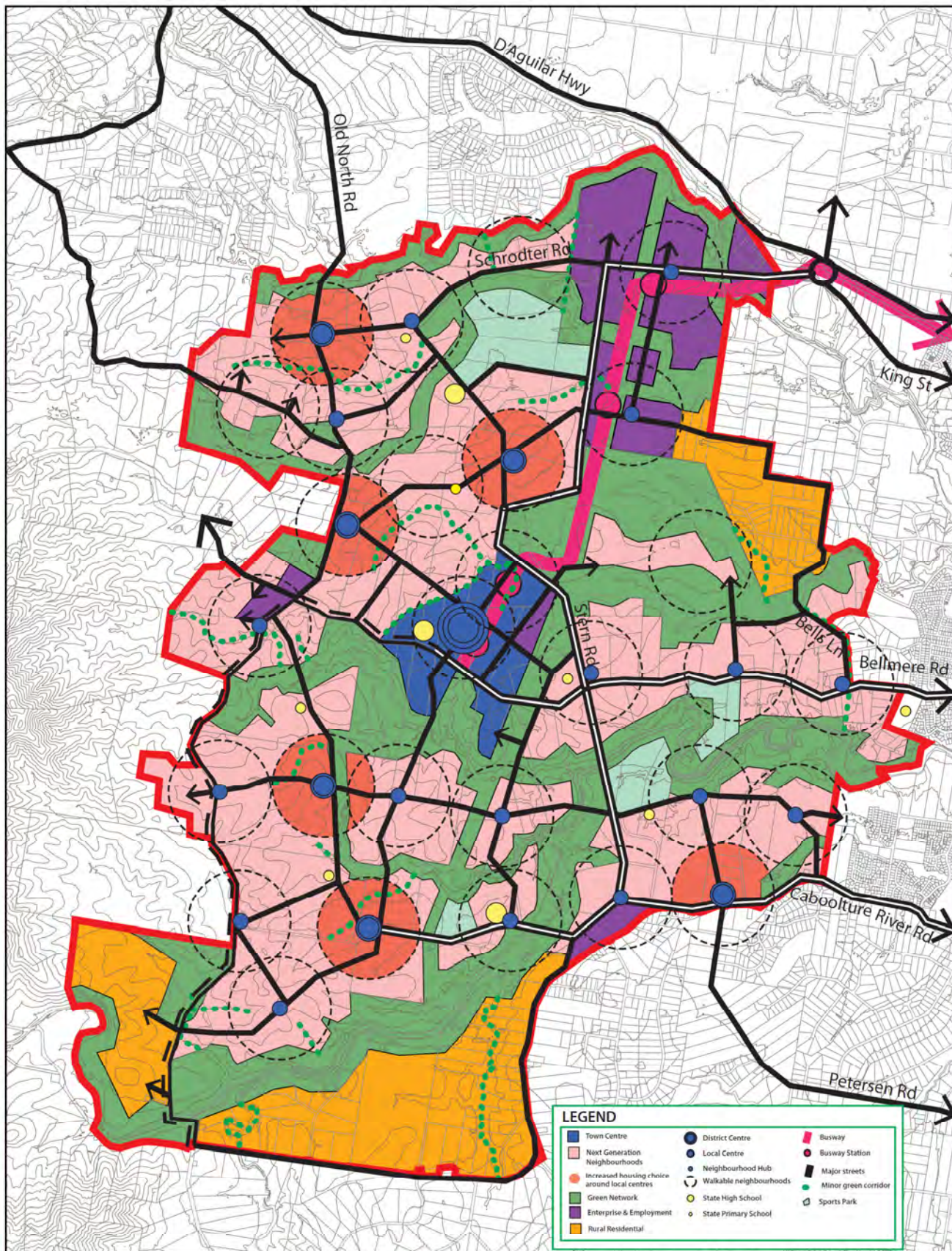
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- An enterprise and employment area of 160ha (6%)
- A large, mixed use town centre at the heart of the town (106ha, 4%)
- An urban structure of walkable neighbourhoods clustered around local centres
- Six local centres and 17 neighbourhood centres or 'hubs'
- A major street grid at 800m spacing, supporting excellent connectivity and transport choices
- A network of parks including one regional and three district sports parks.
- Three state high school sites including a town centre school
- Six state primary school locations
- C-bahn, a guided busway connecting Caboolture West to Caboolture CBD and railway station
- Business and industry land including a major enterprise and employment area
- Regional connectivity to Caboolture-Morayfield, the north, north-west and south
- Clear and sensible boundaries between land uses, using natural boundaries such as rivers and creeks where possible
- Existing and new low density 'rural residential' development in fringe and constrained locations.

The diagrams on the following pages embellish these strategies in detail.

Structure plan



Caboolture West Structure Plan

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Figure 22 - Caboolture West Structure Plan

Place types (strategic framework)

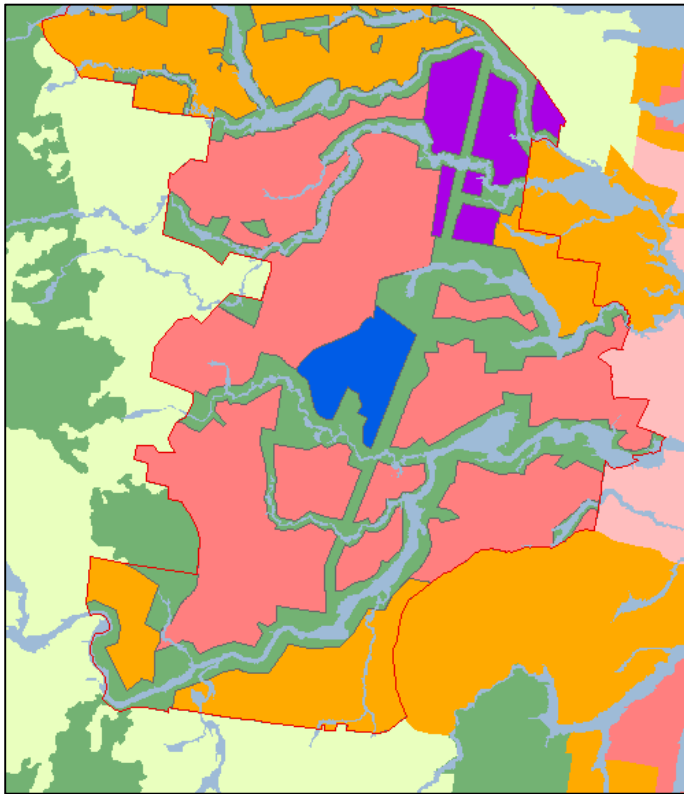


Figure 23 – Caboolture West place types

The strategic framework of the new Moreton Bay planning scheme uses a place-based framework. This framework enables ‘settlements ... (to) be understood as a series of places, which have common characteristics, similar land use mixes and intensities of development’.

The Caboolture West urban design process proposes the following places within the structure plan area:

- Activity centres (the Caboolture West town centre)
- Next generation suburban neighbourhoods
- Enterprise and employment areas
- Rural residential
- Mountain ranges, forest and waterways
- Coast and riverlands.

Adjacent places outside the structure plan boundaries can also be seen:

- Rural areas
- Suburban neighbourhoods.

Centres, employment and schools

Centres, employment and schools

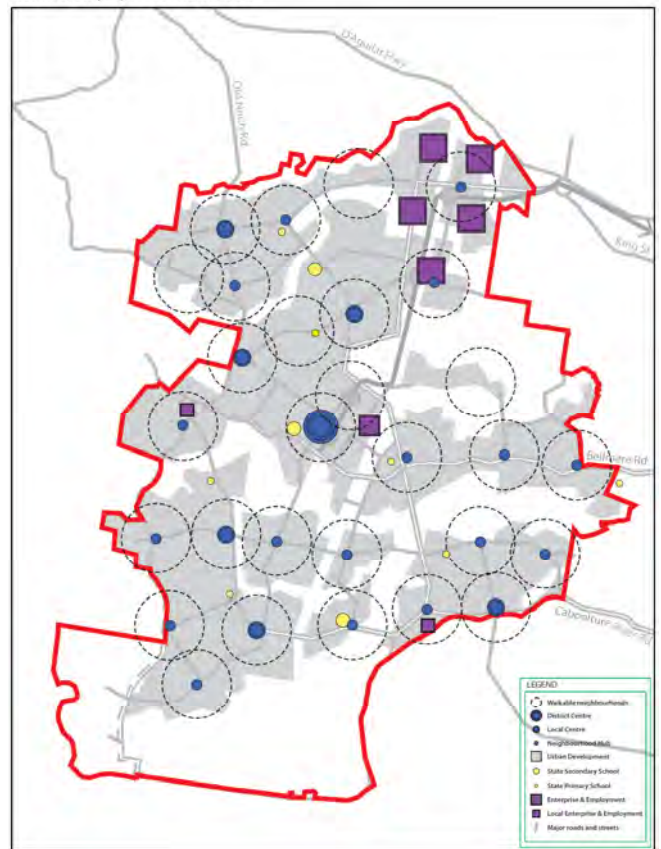


Figure 24 – Centres, employment and schools

An effective network of centres, employment areas, schools and community services is essential to achieving the vision for Caboolture West. The network is designed to support local services and jobs, increased walking and cycling, placemaking and quality of life. Features of the network:

- A town centre (district centre) at the heart of Caboolture West. The town centre is diverse in its land uses, ownerships and developments. Activities could range from department stores and supermarkets to a hospital, TAFE, light industry and residential.
- Six local centres – located to serve clusters of three or four neighbourhoods, about a 1km catchment. Local centres are large enough for a supermarket, local shops and community facilities, small businesses and housing. They are strongly mixed use. Buildings and public life is

oriented to the street (not car parks). They are walkable, comfortable, pleasant and safe.

- 17 (or more) neighbourhood centres or 'hubs' emerge at the centre of each neighbourhood, typically where major streets cross. These hubs are also mixed use and 'mixed housing'. They might have a small supermarket, local shops, health and community facilities, or could centre on a local park instead.
- A major enterprise and employment area is located on flat land in the north-east, near D'Aguilar Highway. Large format retail is permitted in limited locations in this area.
- Three smaller light industry areas serve local and short term needs (before the major enterprise and employment area is built), close to communities, with good access and low amenity impacts
- State school locations are indicated. A TAFE or higher education site is also possible in the town centre (urban campus only).
- Private schools are anticipated but their location not identified at this time.

Urban structure

Land uses including the centres network are supported by a robust urban structure. Implementation of this structure is vital to the fulfilment of best practice planning and development goals for Caboolture West. To achieve this, Caboolture West is designed as series of:

- Neighbourhoods scaled for an easy five minute walk (400m) from the edge to the centre. These neighbourhoods are 'next generation' suburbs with housing choices are some mixed uses. Densities of at least 20 dwellings per hectare are anticipated. (See Chapter 8 for further discussion.)
- Clusters of three or four neighbourhoods are grouped around a local centre and opportunity for increased attached or 'urban' housing choices (where 30dph might easily be achieved). These clusters or 'CabPats' (Chapter 8) are effectively 'next generation suburbs', the boundaries of which are clearly defined by major features like the river, creeks, or major gullies. A catchment of

800-1km to these centres makes them walkable or cyclable, and potential yields of 3,000 dwellings and nearly 9,000 people make them communities in their own right.

- Local and neighbourhood centres are convenient and competitive, with flexible land use rights to support current and future business trends. Where urban design criteria are met, land use incentives or bonus should be gained, to further promote quality centres development
- The town centre in the heart of the town is easily accessible, large and also has housing, functioning as a town centre neighbourhood as well
- The enterprise and employment area and local industry areas support the community with local jobs.

This urban structure is supported and well connected by an 800m grid of streets; easy, quick and legible to get around.

Movement network

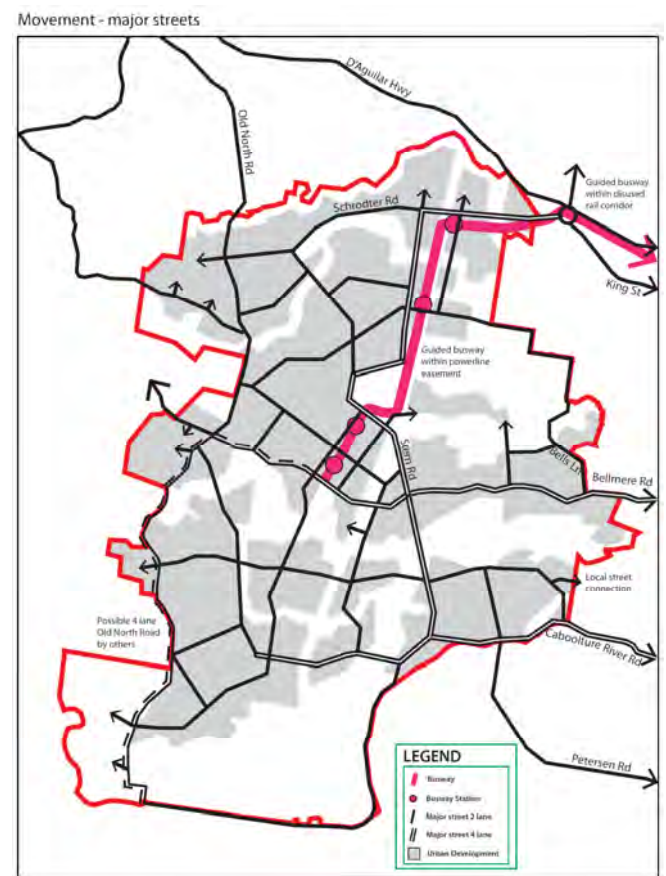


Figure 25 – Movement – major streets

The signature transport project at Caboolture West is a high quality public transport network based on rapid bus services. The backbone of this network is 'C-bahn', a busway connecting Caboolture West town centre to Caboolture CBD and rail station. Features include:

- buses picking up passengers from major streets across Caboolture West and joining C-bahn at the town centre. A smaller number of routes are local only, and some use on-street routes to Morayfield and the south-east. An attractive 15 minute journey time to Caboolture CBD and rail is anticipated, about half that of on-street routes.
- C-bahn utilises a powerline corridor north of the town centre and then the disused Wamuran-Caboolture railway corridor. Both these corridors require narrow cross-sections so a guided busway concept has been devised.
- Without quality public transport services within and to Caboolture West, there is a fear that the regional road network may fail to cope. This is aside from wider and undesirable congestion, pollution, health and economic impacts of a car-dependency planning paradigm (that this plan rejects).

Streets not roads

An 800m grid of major streets – the notional spacing between the centre of two walkable neighbourhoods - make up the 'bones' of Caboolture West. An 800m grid creates a more fine-grained street network than suburban development patterns. The aim is to increase travel choices, and to distribute and lower traffic on major streets so that all streets can support land use functions (e.g. housing) and qualities other than solely transport. Various solutions are used to avoid access conflicts but buildings face all streets and there are no noise fences!

In practice the 800m grid is refined by topography and the river and gully crossings – creating a hierarchy of 4-lane streets and 2-lane streets across Caboolture West. Local connections outside Caboolture West to surrounding suburbs, rural residential and rural areas are indicated as these communities will use and travel to Caboolture West extensively.

Regional connectivity to the south (e.g. other Moreton Bay towns and Brisbane) is preferred via Petersen Road and an urban arterial network (see Chapter 5 discussion of 'network-grid' versus 'orbital' transport strategies). New rural arterial roads directly south through rural areas are not proposed. However should the state government make plans to build a rural road to meet with Old North Road, this has been considered in the Caboolture West plan.

Walking and cycling

Movement - walking and cycling



Figure 26 Movement – walking and cycling

A sustainable transport culture at Caboolture West will require walking and cycling for local trips, commuting within and out of Caboolture West, and for recreation.

In response to this aim:

- all major streets have on-street cycle paths plus off-street walking and cycling paths
- these routes are supported by off-street path network taking advantage of the green network

- off-street routes are designed around connecting destinations people want to go to around the town
- (at least) two walking and cycling bridges across the Caboolture River supplement on-street bridges
- a cycleway alongside the C-bahn to Caboolture, a rail trail to Wamuran and paths along Caboolture River and Wararba Creek towards Caboolture are recommended.

Green network and open space

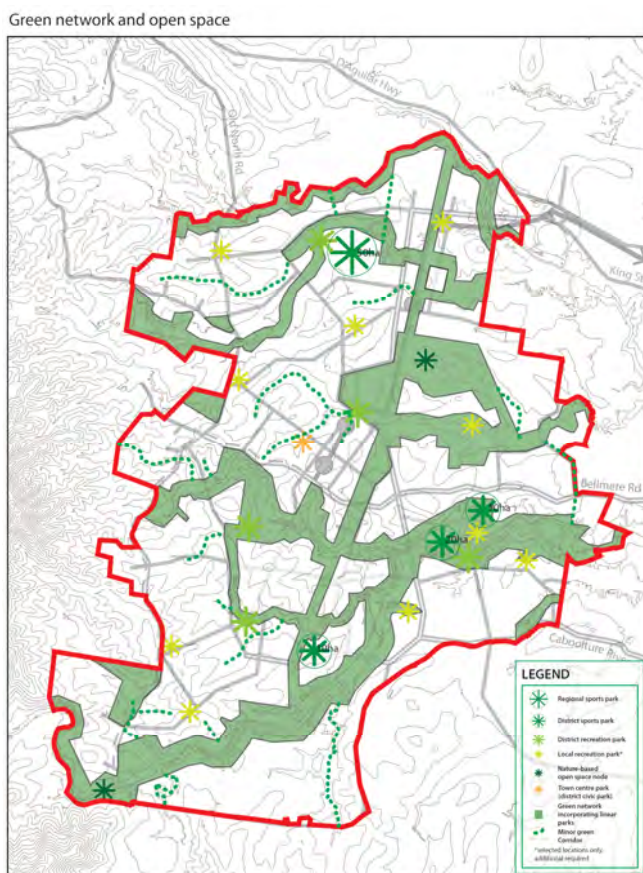


Figure 27 – Green network and open space

The Caboolture West green network accounts for about 36% of the urban area. The green network is:

- An area designed around flood risk; current and future environmental values; steep slopes; property boundaries; and sensibly designed land use boundaries. Its design suggests a practical ‘no-development’ area that can be linked to levels of assessment and other regulations. (It is not the result of a ‘sieving’ exercise.) Conversely, land outside the green network can be made relatively easy to develop, as it has been assessed as having

no or only minor constraints. Appendix 4 provides further notes on the vision behind the green network.

- Multi-purpose – environmental protection and enhancement, waterways, stormwater conveyance and treatment, recreation and urban infrastructure are suitable uses. The green network is not a conservation area.
- Supplemented by minor environmental corridors. These are narrow linear green spaces of 30-50m wide. It is not possible to designate precise boundaries of these corridors at this stage. Instead this is to be resolved in Neighbourhood Development Plans. Minor environmental corridors typically follow minor gullies; a few exist as green links or as buffers to the enterprise and employment area.

Locations of larger parks are also indicated on this diagram. Areas (hectares of unconstrained land) for sports parks are shown. (Note the overall Caboolture West Structure plan shows indicative boundaries for sports parks. Areas (ha) should prevail over the indicative boundaries.)

District recreation parks act as focal points for suburb-scale communities.

Some local parks are shown where locations are significant to environmental connectivity (i.e. ‘stepping stones’) or to landscape character and community life (hilltop villages). Other local parks are to be identified in Neighbourhood Development Plans.

Views

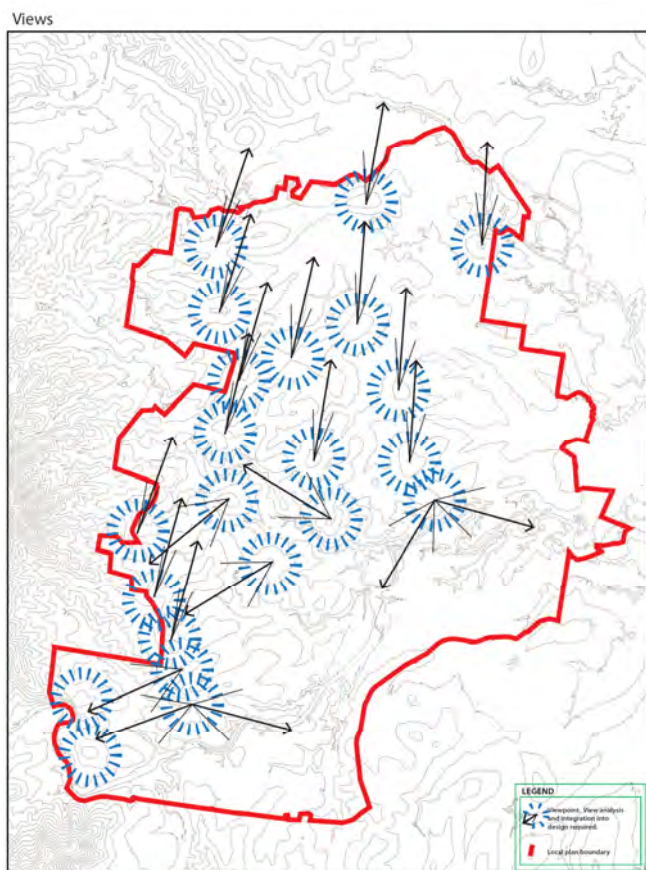


Figure 28 - views

Caboolture West's hilly terrain offers the benefit of excellent local and long distance views. These views are a resource for the community to enjoy and will shape the character and experience of Caboolture West.

A visual and landscape character assessment has informed the structure plan. This assessment identifies several locations where views are present or thought to be present (figure 28).

At Neighbourhood Development Plan and/or development stage, view assessments are required to confirm the quality of views, and to integrate views into designs.

Neighbourhood Development Plans

Development of Caboolture West is expected to take 40+ years. The structure plan is split into 11 smaller areas, for which a Neighbourhood Development Plan

(NDP) is required. An NDP might easily contain 3,000 or more dwellings – they are serious planning and design exercises in themselves. Colours indicate general sequence (dark to light), starting in the south east at Caboolture River Road.

Neighbourhood Development Planning areas

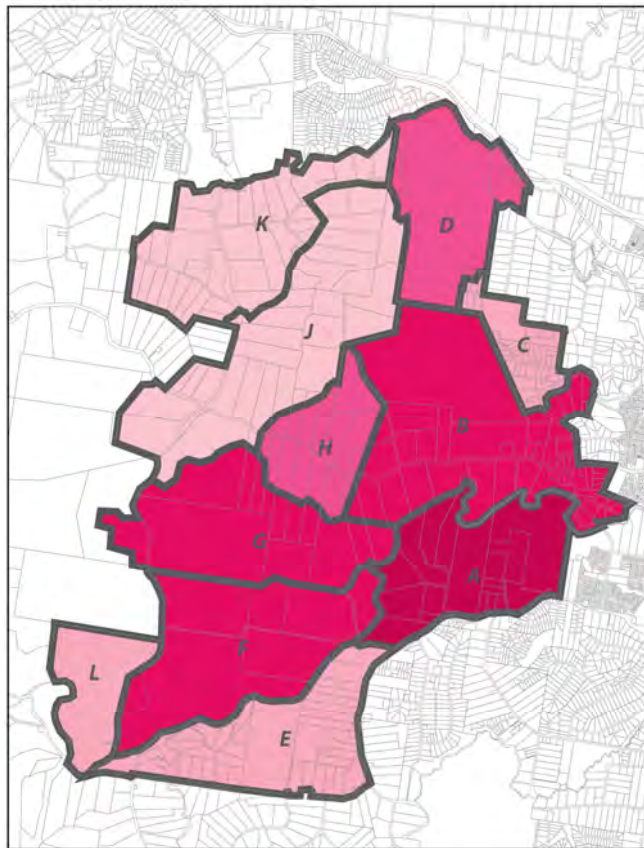


Figure 29 - Neighbourhood Development Planning areas

The NDP is the level of planning between local plan and a development application (e.g. reconfiguration of lots for housing). The NDP will detail: local street networks, land uses, open spaces, school site boundaries, required densities and yields, sewer and water and other infrastructure. A Planning Scheme Policy should be devised to set out the detailed content of and process for preparing a NDP.

The town centre is a NDP (Area H) as is the enterprise and employment area (D). Early planning and development of these areas could catalyse further development at Caboolture West and should be prioritised.

Caboolture West Illustrative masterplan (chapter 7) indicates a detailed urban design intent for each area, for refinement and resolution at NDP stage.

TOWN CENTRE URBAN DESIGN FRAMEWORK

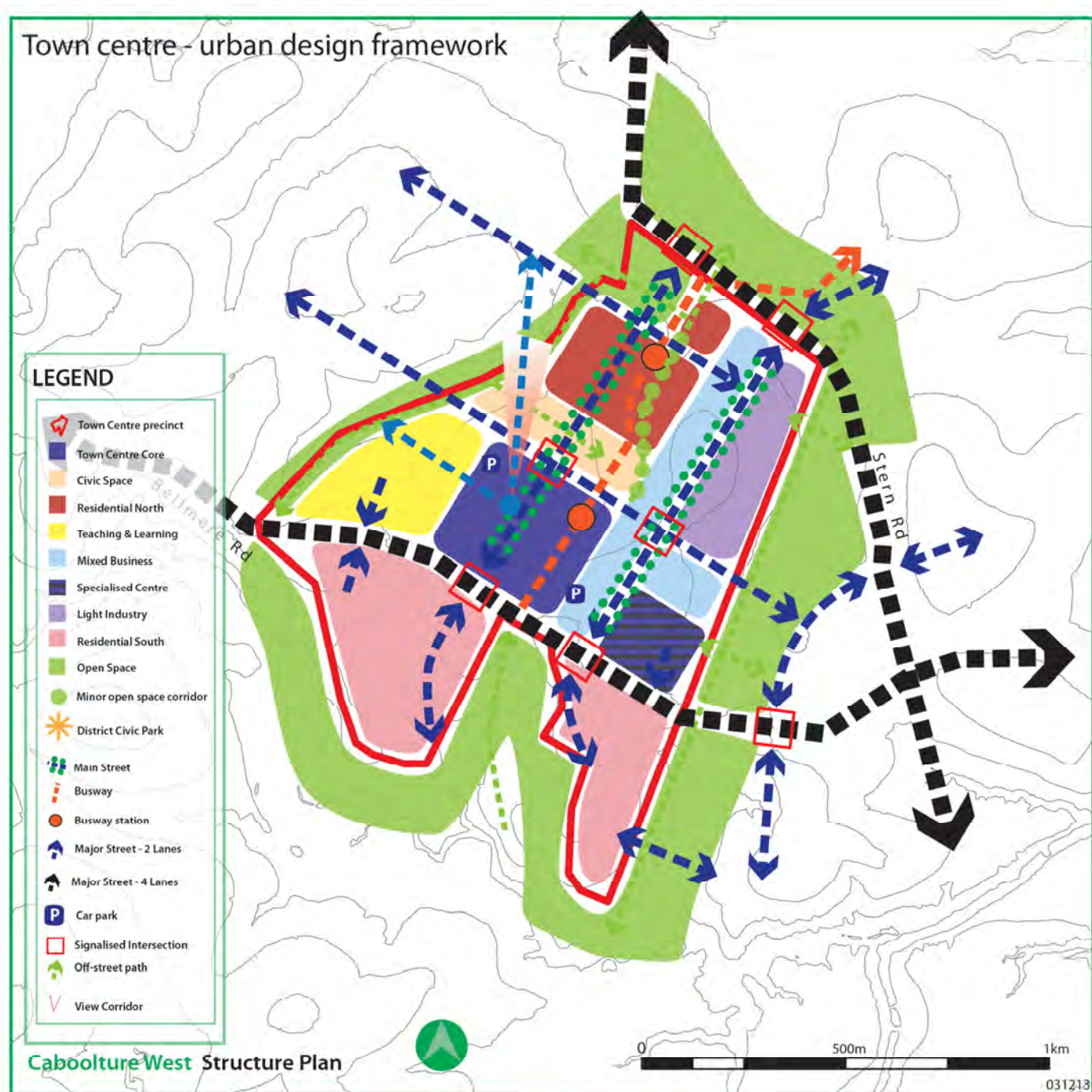


Figure 30 - Town centre - urban design framework

Caboolture West town centre will be central to community life. A vibrant, prosperous, interesting and pleasant place is envisaged, that supports the broader vision and sustainability objectives of Caboolture West. Development of the town centre will come at a later stage of development, and further detailed planning will be required at that time (the town centre is a Neighbourhood Development Area). An urban design framework has been prepared to

inform and direct this future planning. The urban design framework also forms part of the statutory local plan. The purpose of the urban design framework is to define those essential elements of the town centre that are to be provided through development, after first being refined through a Neighbourhood Development Plan. These elements are shown on this series of town centre drawings and diagrams.

Strategic intent

The following strategic intentions can be read in conjunction with the urban design framework diagrams. Caboolture West town centre will be:

- *A place of mixed uses and mixed ownerships, where a competitive property sector supports diverse business and employment activity. A variety of precincts will emerge within the town centre.*
- *A place of diverse development and business opportunities, providing land and buildings for all kinds of businesses, government and community services.*
- *A place of good access from all directions, with the*

C-bahn guided busway as a signature transport project.

- *A place with a focus on a civic heart (buildings and open space) and two high amenity main streets.*
- *A place for local jobs and services, reducing travel requirements on the community.*
- *A walking place, with comfortable and safe streets and a fine grain gridded block structure.*
- *A place with a green edge, and feature views to the Glasshouse Mountains.*
- *A regional and modern place, with interesting and local characteristics.*
- *A well designed place.*

Existing conditions

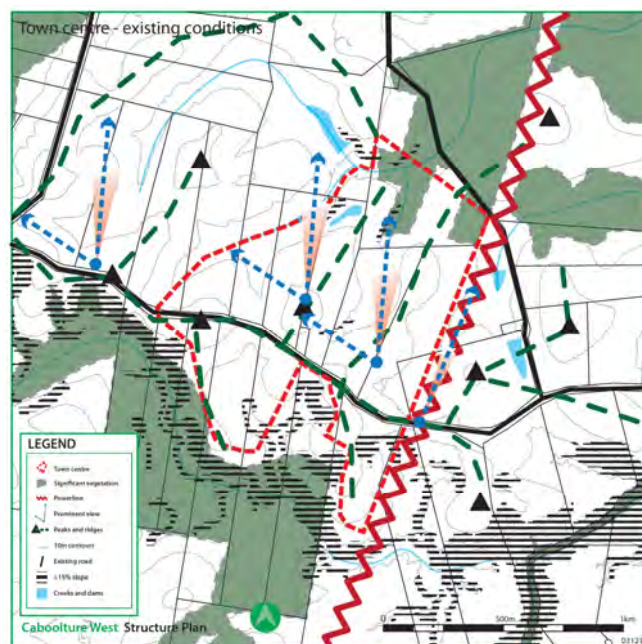


Figure 31 - Town centre - existing conditions

Caboolture West town centre is located at Bellmere Road, to the west of Stern Road and a high voltage powerline. The location is central to Caboolture West and has good access potential from all directions.

Much of the town centre is elevated and north facing. The site features two broad ridges which descend gently towards Stern Road, South Wararba Creek and surrounding forest. Views north to the Glasshouse Mountains are present from several positions.

South of Bellmere Road the land drops steeply to gullies. Minor gullies and watercourses feature elsewhere within and near the town centre.

Designs for the town centre should respond to these and other conditions as expressed in figure 31.

Key streets and connections

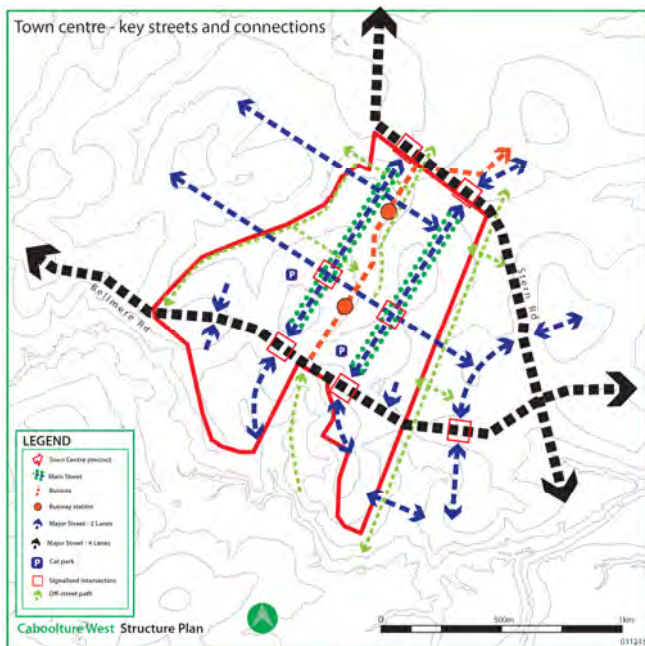


Figure 32 - Town centre - key streets and connections

Two 900m long 'main streets' are located on the two ridges and connect Bellmere with Stern Roads (both four lane boulevards). Running perpendicular to the busier roads, these main streets are both well connected and easily avoided by through traffic.

Between the main streets, the 'C-bahn' guided busway with two busway stations provides excellent local and regional public transport access. The two stations provide easy walking access to town centre land uses, and two distinct nodes emerge within the town centre. The busway and stations may be partly underground or in a cutting.

Consolidated car parking – particularly for the retail and office employment precincts – reduces on-site car parking requirements and has the further objective of getting people out of their cars and walking the streets, past as many shop windows and business frontages as possible.

Other key streets provide north-south-east-west connectivity within the town centre and to surrounding suburbs, and make up a town centre grid. Key intersections are indicated. On-street foot and cycle paths are supplemented by off-street paths in linear open spaces within and around the town centre.

Access from Bellmere and Stern Road is maximised, not minimised. This is an urban town centre and highway-like road design practices are not appropriate.

Land uses



Figure 33 - Town centre - uses

Land use precincts within the town centre are indicated. Prominent in the design strategy is the creation of a 'Shopping & Living Main Street' and a 'Business & Industry Main Street', two separate yet proximate addresses for these complimentary uses.

A green perimeter to the town centre is established, providing a legible transition between town centre land uses and densities, and neighbouring suburbs. The civic precinct incorporates a civic building (e.g. library and community hub) and a town centre park. The education precinct assumes a high school and a TAFE or university campus (both being urban campuses of multi-storey buildings).

In all precincts a mix of uses is desirable. The indicated use can be seen as the dominant use, but complimentary uses are also encouraged. As an example, the retail precinct could be 80% shops and 20% apartments.

Retained views

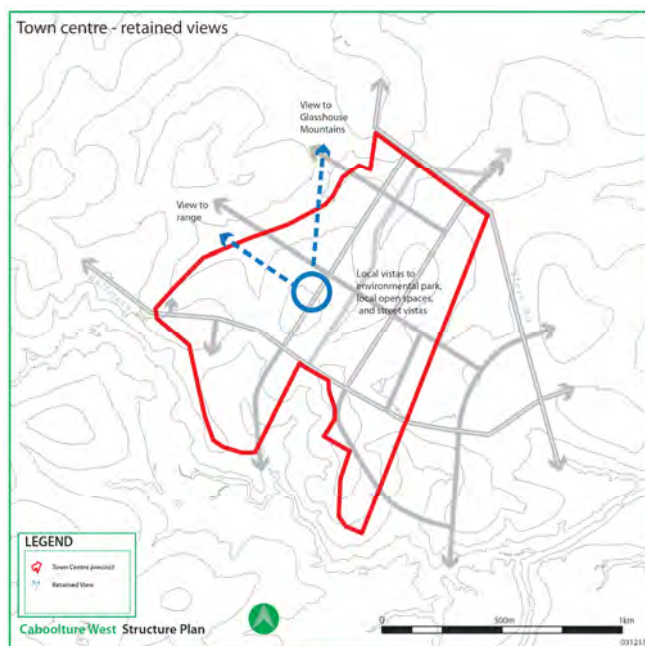


Figure 34 - retained views

In the centre of the town centre, long distance views north to Glasshouse Mountains and west to the range are to be incorporated into the design of the town centre, its streets, buildings and landscape.

Shorter, local views within and through the town centre - along streets and to local open spaces, for example – are designed in, to be a feature of this place.

Street frontages no driveways permitted

Prime street frontages must have urban and humane qualities. No driveways are permitted in the most prominent streets. Service and car park access for affected properties is from side streets or rear lanes.



Figure 35 - Town centre - street frontages no driveways permitted

Indicative street network

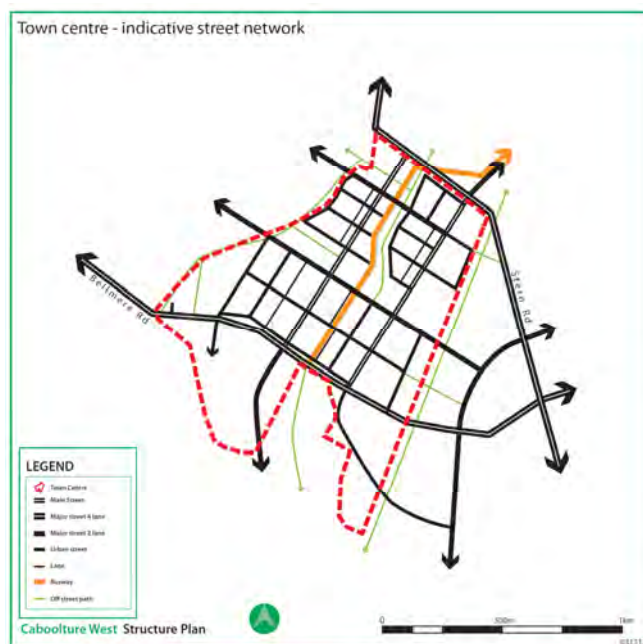


Figure 36 – Town centre – indicative street network

An indicative street network is provided. Urban streets and lanes break down the large blocks to provide a fine grained and highly walkable urban pattern.

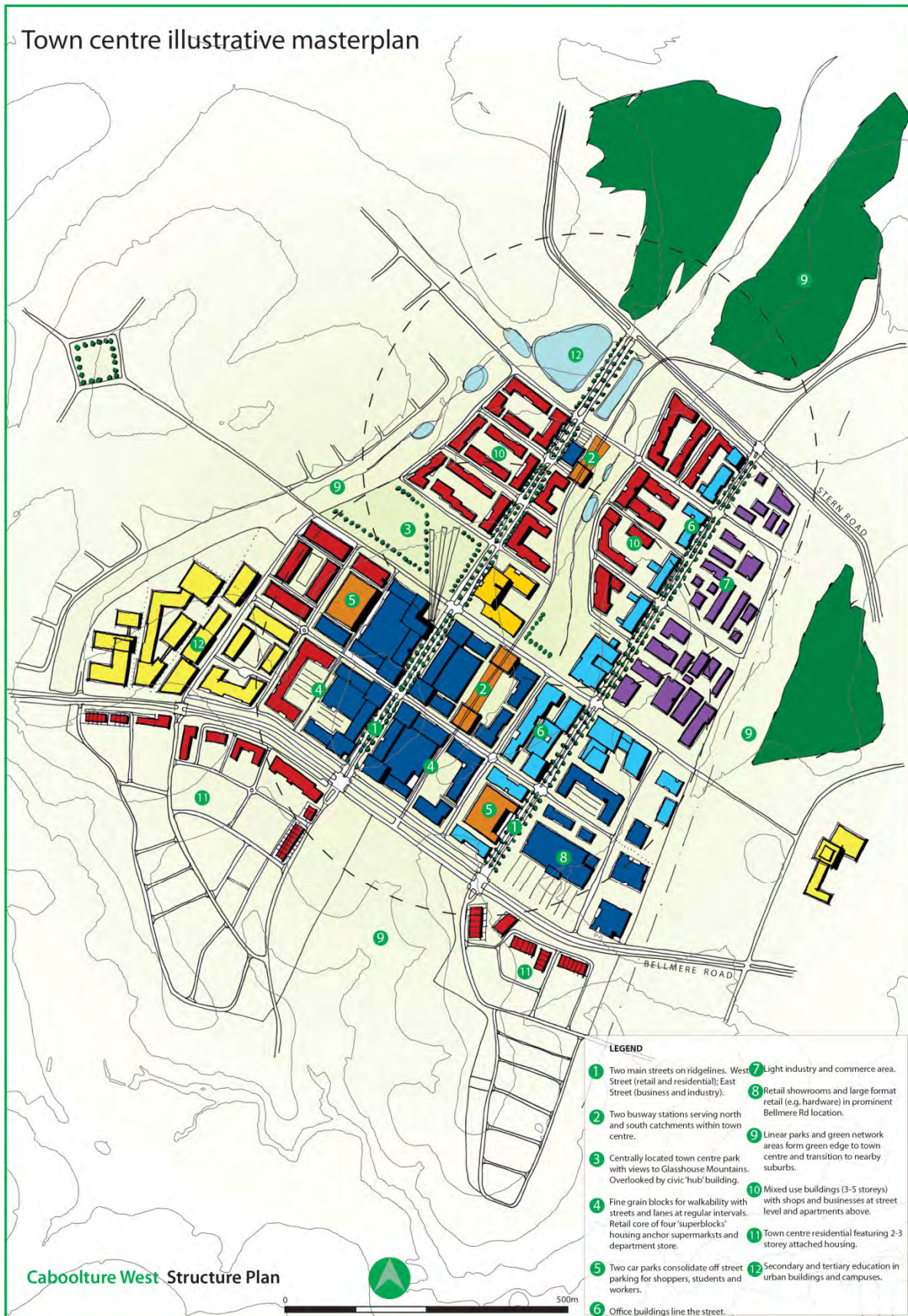


Figure 37 - An illustrative masterplan of the proposed Caboolture West town centre – showing indicative building footprints as well as land uses, streets, space and prominent features – has been prepared to illustrate the intent of the town centre design. This masterplan is not included in the statutory local plan

7. CABOOLTURE WEST ILLUSTRATIVE MASTERPLAN

The Illustrative masterplan overleaf, and copied in Appendix 5) provides an overall vision of how Caboolture West might be developed over several decades. The rest of this chapter is used to ‘zoom in’ to each Neighbourhood Development Plan area, taking a closer look and providing a narrative about how development might be designed to achieve the outcomes sought at Caboolture West.

Note: No narrative is provided for the town centre (Neighbourhood Development Area H) as the intent for this area has been described in Chapter 6.

As noted in Chapter 4, the Illustrative masterplan was designed and drawn at 1:5000. At this scale all streets can be (indicatively) shown (although it is preferred to detail important areas only such as local centres to draw attention to these parts of the plan), as can land uses by block and all levels of open space.

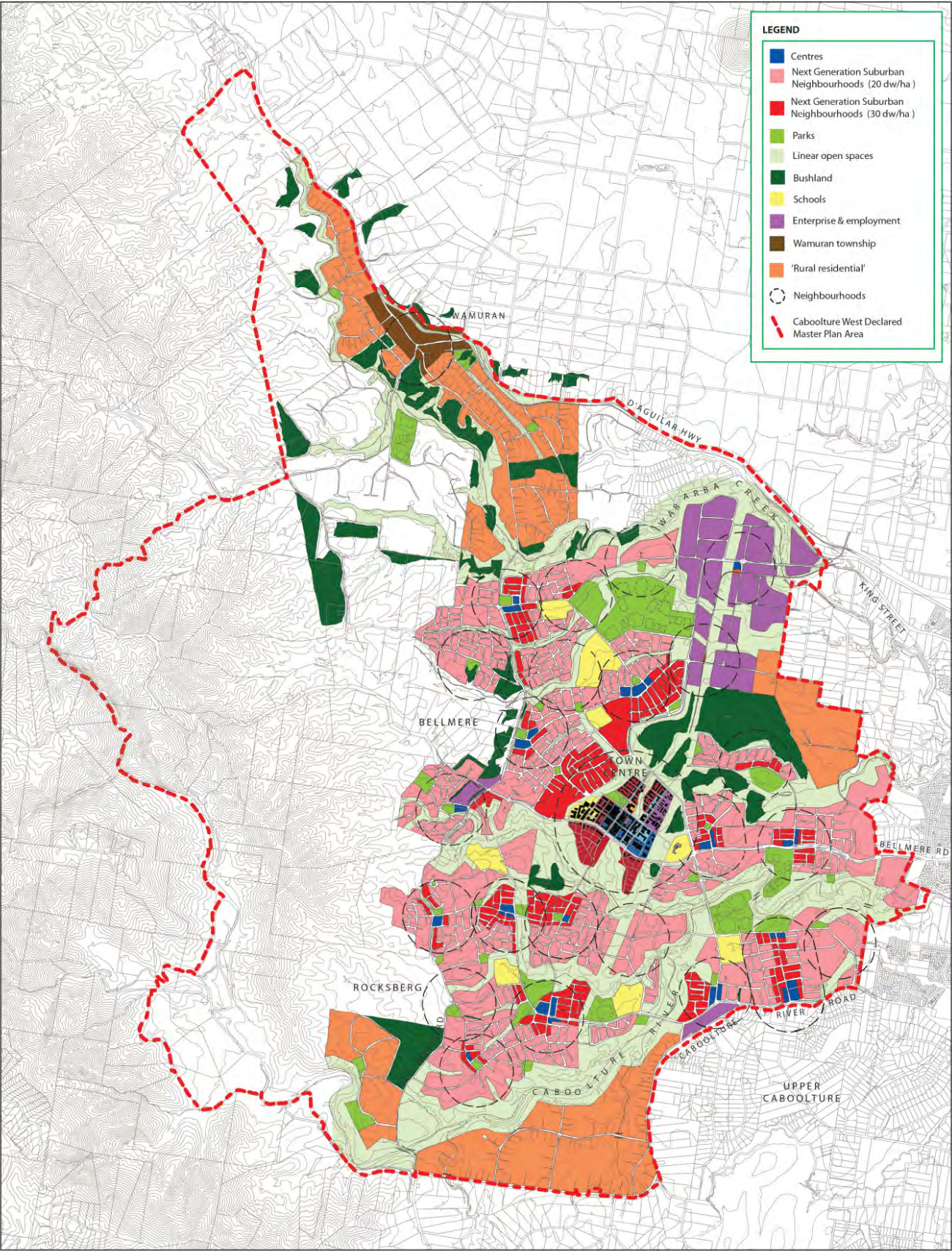
A patterning (tissue) approach was used to aid the production of the illustrative masterplan (see Appendix 2).

There are two important purposes of the Caboolture West Illustrative Masterplan:

1. ‘Proof of concept’. The illustrative masterplan tested the broader scale structure plan for viability.
2. Illustration of preferred urban design outcomes at the neighbourhood scale, to guide future planners and developers. As such this output of work is included in this report but not in the statutory local plan.

Note that while useful for an illustrative purpose, the illustrative masterplan is not resolved to a level that would enable it to be used as an ‘acceptable outcome’.

Illustrative masterplan



Caboolture West Structure Plan

Figure 38 - Caboolture West Illustrative Masterplan

Neighbourhood Development Plan Area A (Caboolture River Road to Caboolture River)

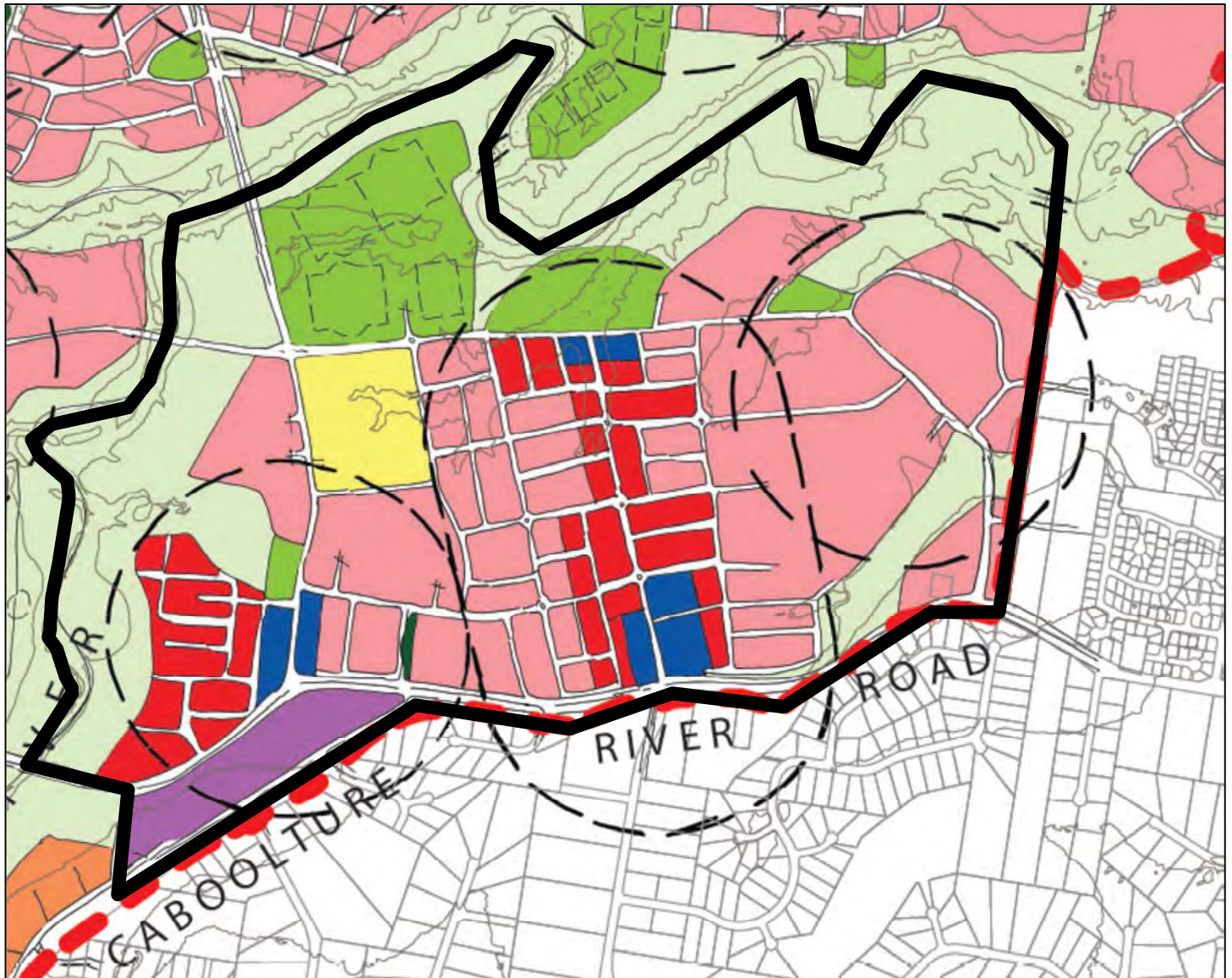


Figure 39 – Neighbourhood Development Plan Area A (Caboolture River Road to Caboolture River)

Area A is likely to be the first development area in Caboolture West. Its advantage is that it is contiguous to existing suburbs and infrastructure networks. Area A is about 272ha in size and is bounded by Caboolture River Road and Litherland Rd in the south, Caboolture River to the north, with powerlines and a part-developed suburban edge to the east.

Area A is amongst the flattest in Caboolture West, relatively easy to develop with good amenity potential along the river. Subdivided into large rural allotments, this former dairy country is still used for grazing and low intensity agriculture. There are a scattering of houses accessed by three rural lanes: Craig Rd, Hausmann Lane and Gibbings Court (all dead ends).

The Illustrative masterplan for this area envisages an integrated next generation community laid out in four walkable neighbourhoods (two central neighbourhoods are combined into one elongated neighbourhood in the drawing). Central to Area A is a long main street, extending 800m north from Petersen Road/Caboolture River Road to a new Caboolture River Parklands (green). The parklands feature district level recreation and sports facilities on the south bank of the river (within Area A) and are likely to be the first major community infrastructure associated with Caboolture West.

Along the main street is clustered attached housing (red), but buildings taller than two or three storeys are rare. Housing densities in this area are 20-30dph.

Detached and some attached housing in the (pink) next generation suburban housing areas makes up most of Area A. These areas target a yield of 20dph.

Near Caboolture River Rd the street is home to a local centre (blue). This centre is large enough to accommodate a supermarket, numerous local shops, business, medical and community services. Like all centres at Caboolture West, it is designed as a street-based centre. All buildings are close to the street. Street trees are many, awnings shelter footpaths and opportunities for footpath dining and other use of public space is encouraged. Parking is behind or to the side of buildings. A central car park – rather than multiple property-by-property car parks - is encouraged. The street is high amenity, comfortable for walking and cycling. Driving is slow. Motorists wishing to make faster progress may prefer to use other major streets bypassing this centre and providing good access to any of the three bridges over the Caboolture River to the west of Area A.

At the north end of the street is a smaller neighbourhood hub (blue). Overlooking the park this could be a location for dining or local shops, but a residential focus may be just as appropriate.

A state primary school (yellow) is located in Area A, opposite the sports park. A non-government school could also locate in Area A. Locations for non-government schools are not identified but locational criteria are provided in Chapter 8.

The Caboolture River parklands are a prized asset by residents, boasting a concentration of recreational

and sporting facilities as well as waterway and bushland natural areas, connected by paths and with easy access from surrounding neighbourhoods. Caboolture River parklands extends to both sides of the river. Two pedestrian/cycle bridge are also located between Area A and Area B. Paths are provided on the north and south of the river (not shown).

Two local parks hug the linear open space (light green) along the river corridor, utilising undevelopable land and connecting easily to the wider open space network.

A smaller neighbourhood centre (blue) and area of denser riverside housing (red) is located in the west of Area A. South of a deviation to Caboolture River Road and Litherland Road is an area earmarked for light industry (purple). Car repairs and other locally useful businesses and services are anticipated.

Major streets through the middle of the neighbourhoods connect neighbourhoods together, and link outside Area A in as many locations as possible. Major streets form a grid at approx. 800m spacing. Four lanes are provided to Caboolture River Road and Stern Rd (extension south from town centre). High frequency buses ply the major street (800m grid) network. Local connector streets at about 200m intervals provide local structure to the grid and connection between individual developments.

Neighbourhood Development Plan Area B (Bellmere West)

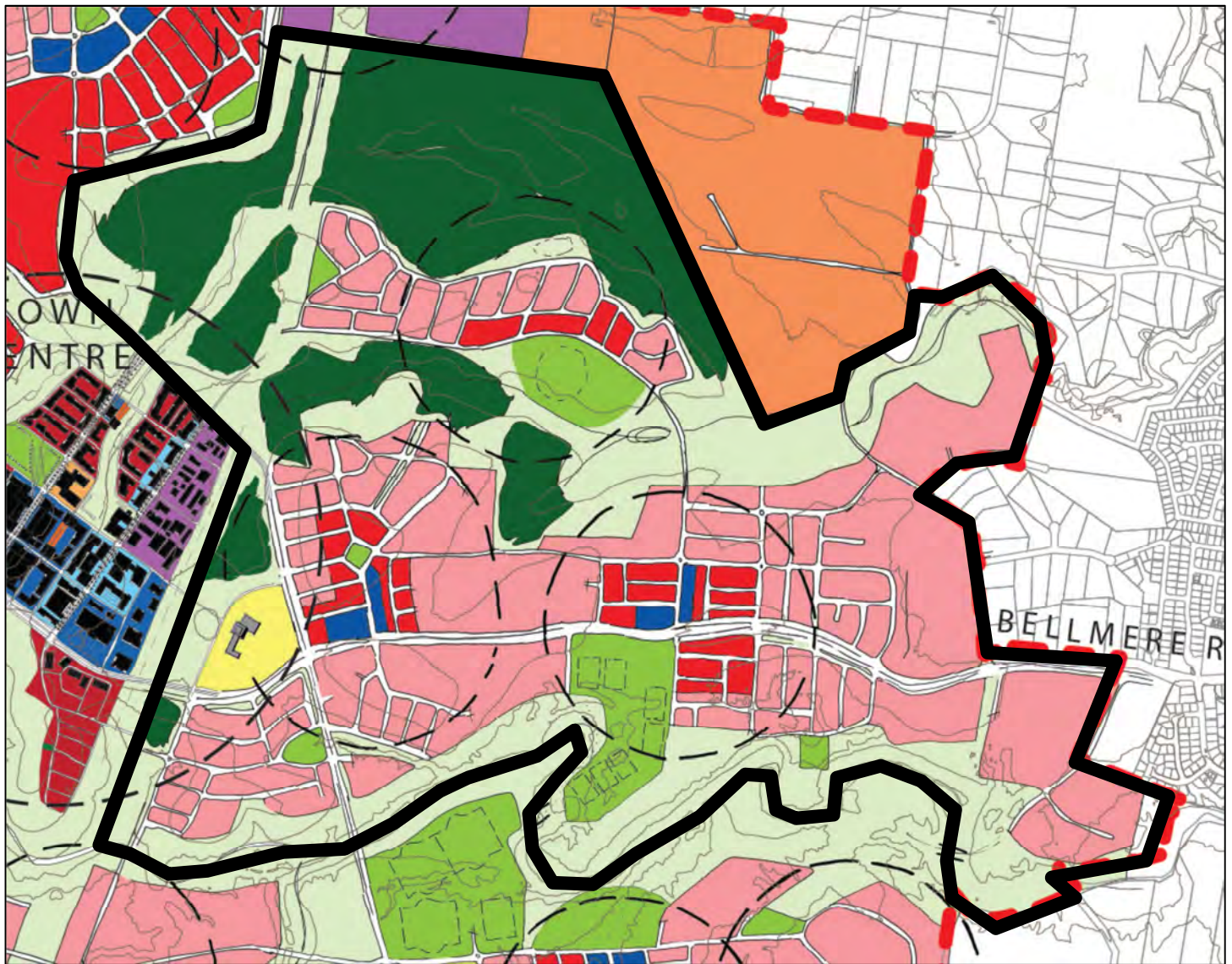


Figure 40 – Neighbourhood Development Plan Area B (Bellmere West)

Area B (507ha) is a 2.8 km long east-west corridor along Bellmere Road, extending from the existing Bellmere suburbs to Caboolture West town centre. An outlying development area on South Wararba Creek - encircled by forest - lies north. Caboolture River is the boundary to Area B in the south, and Bells and Dobsons Lanes to the east.

The 'South Wararba Creek development area' is a single development parcel and can be planned comprehensively. Land along Bellmere Road is in multiple ownerships. Away from the waterways and forest there are few major constraints; much of the land has been previously cleared for agriculture.

Development may begin from the east, close to Bells Lane and Dobson Lane. A neighbourhood hub may

also emerge on the intersection of Bells Lane and Bellmere Road (not shown on this drawing, but included in the structure plan diagrams). On both sides of Bells Lane today are houses on large rural residential-style lots. This land is likely to redevelop to urban in the short/medium term and integration of land inside and outside Caboolture West through local planning is required.

800m west, midway along Bellmere Road, a neighbourhood centre (blue) will develop. This centre and its major streets provide access north to the South Wararba Creek development and south to the Caboolture River Parklands. A sports park on the north side of the river here compliments facilities on the south side. As with all centres in Caboolture West a mix of business, community and residential uses is

encouraged. Buildings and activity is oriented to the street. Attached housing choices (30dph, red) are clustered near the centre with reducing density two or three streets away from the heart. Next generation neighbourhood housing (20dph, pink) makes up the majority of Area B. Some precincts have river frontage.

Further west is the intersection of Bellmere/Stern Roads (both 4-lane boulevards). A neighbourhood centre (blue) and neighbourhood is positioned just to the east, with a local main street leading from Bellmere Road to a hilltop park (green). The becomes the first of the Caboolture West 'hilltop villages' offering views and amenity which in time will grow into a recognisable characteristic of Caboolture West. A state primary school (yellow) is located west of

Stern Road with the town centre beyond. (A state school is also planned on Dobson Lane, just east of Area B and outside Caboolture West's planning area).

The large area of forest surrounding the South Wararba Creek development is protected vegetation. Its environmental value is supplemented by its use for nature-based local recreation. The South Wararba Creek development area takes advantage of a sizable cleared area in the middle of the forest. Careful design is required to minimise bushfire risks, environmental edge effects, waterway impacts and impacts from the existing and future powerline (and C'bahn busway) corridor in the west. A local park (green) along the ephemeral South Wararba Creek may provide better local focal point than the powerline dominated highpoint to the west.

Neighbourhood Development Plan Area C (Bells Lane rural residential)

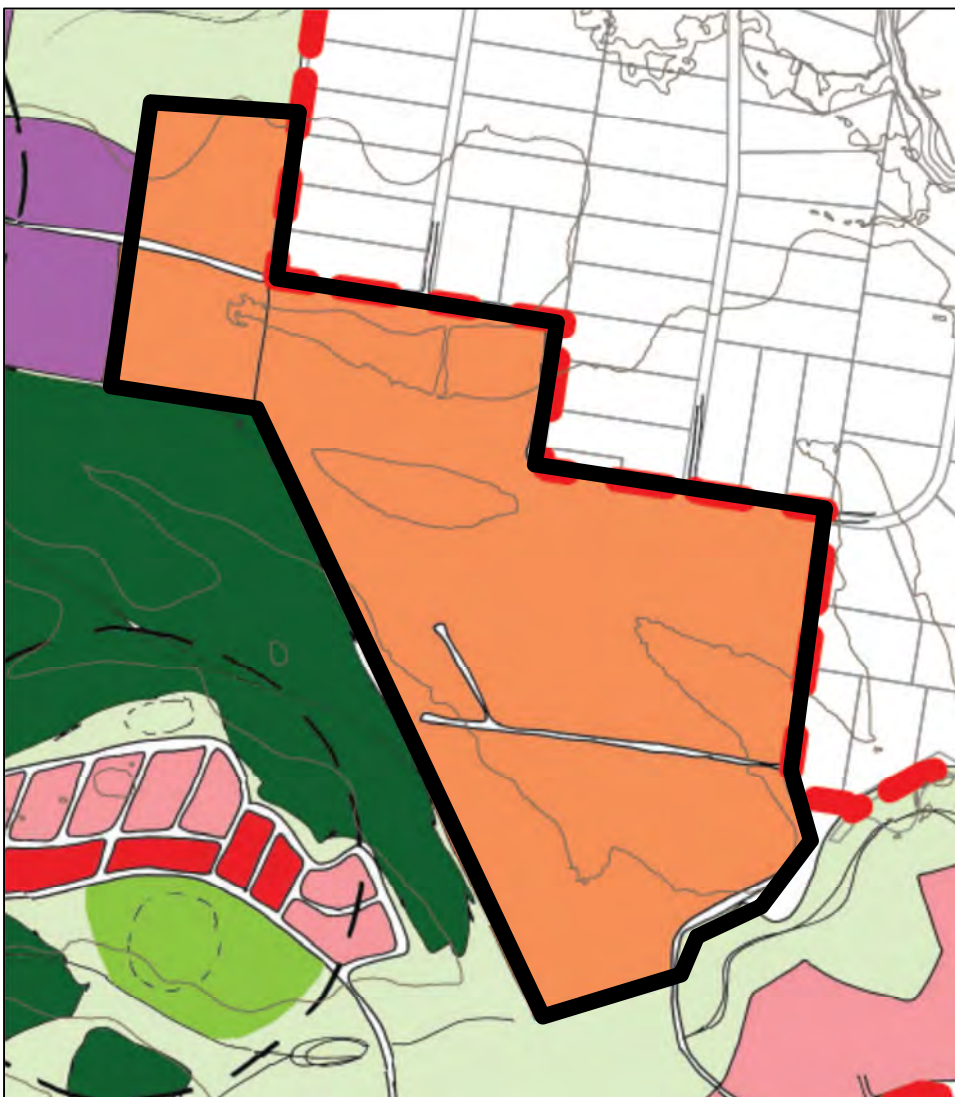


Figure 41– Neighbourhood Development Plan Area C (Bells Lane rural residential)

Area C (89ha) along Bells Lane is already utilised for rural residential style development (orange). Further subdivision will not be extensive, save for one or two larger properties including a strawberry farm on Behrens Road. Mature vegetation should be retained to provide environmental links between the forest to the west, and Wararba Creek. Localised flood hazards will minimise redevelopment potential.

Neighbourhood Development Plan Area D – Wararba Creek Enterprise and Employment Area

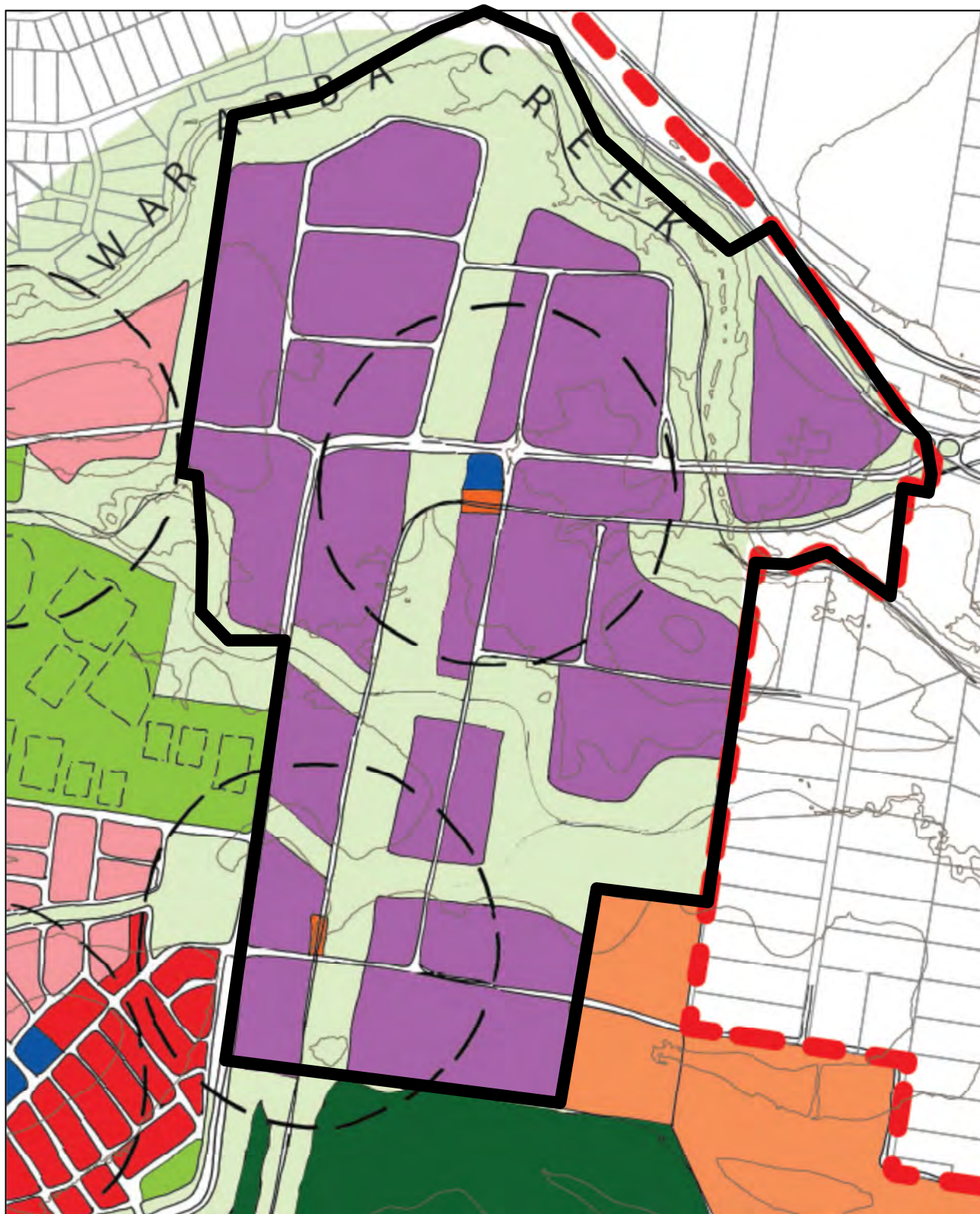


Figure 42 - Neighbourhood Development Plan Area D – Wararba Creek Enterprise and Employment Area

Area D is the major enterprise and employment area for Caboolture West. Area D is 244ha in size (including undevelopable land), and is bounded by Wararba Creek to the north, with D'Aguiar Highway beyond. Rural residential land is to the east, with a

major sports park and residential areas to the west. Area D is relatively flat. Filling of minor depressions to make large flat development parcels is acceptable, providing filling is done outside the nominated riparian corridors.

As a major concentration of employment-generating development, intended uses in Area D include low and medium impact industries. Large format retail (e.g. hardware) is also expected. This should be located along the four lane boulevard between King Street (a major access point to Caboolture West) and Stern Road/town centre. A regional sports park is also located on this street. Office-based employment is not located in Area D, instead being concentrated in the town centre.

The C-Bahn guided busway enters Caboolture West in Area D, passing industry land before turning south along the powerline corridor towards the town centre. Two busway stations are proposed to service Area D, and neighbourhood hubs may also emerge at these locations to service workers with food and drink and other essential business services.

A mix of lot sizes, from 2000m² to 5ha, is expected. Close to residential areas, low impact industry is located to minimise amenity impacts to nearby residents. The design of Area D has located green corridors and major streets to further separate employment and residential land uses. A grid of streets is designed to maximise block regularity as well as access options. Cul-de sacs are not preferred due to turning restrictions for long vehicles. Street connections to surrounding areas are desirable and provided although through traffic must be carefully managed.

Open space in Area D is extensive due to the number of waterways as well as the north-south powerline corridor, also used for the busway and paths and potentially active open space uses. Open space corridors range in width from 50m to 200m.

Neighbourhood Development Plan Area E (Caboolture River rural residential)

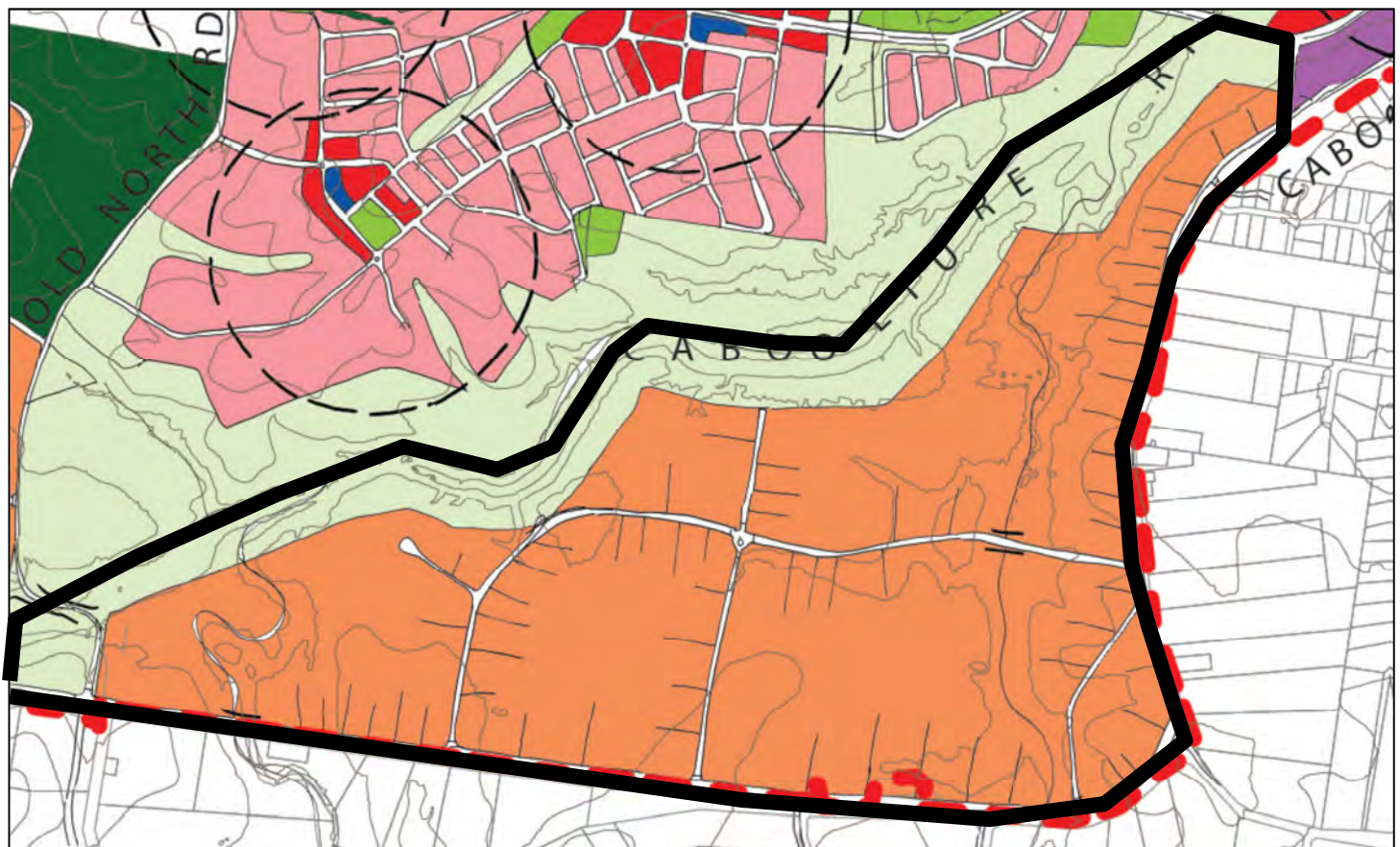


Figure 43 - Neighbourhood Development Plan Area E (Caboolture River rural residential)

Area E is 270ha of riverside land between the Caboolture River and Caboolture River Rd. The land is flat to gently undulating, with a couple of deep gullies

feeding tributaries of the Caboolture River. Some existing rural residential development is present.

Some further subdivision for 'rural residential' style development (orange) is anticipated although this is not expected to happen quickly or extensively. Lot sizes of 6-8000m² are intended, to lessen impacts of unsewered development near the river. Area E also functions as part of a strategic environmental corridor along the river and linking to Sheep Station Creek Conservation Park. Tree retention is important in any future development. A 300m wide environmental

corridor (total both sides) further maintains environmental connectivity.

Urban amenities are provided to residents by the extensive urban development at Caboolture West to the north and east. Zillman's Crossing over the Caboolture River is subject to regular flooding and sensitive upgrades will be required that avoid materially damaging this attractive and environmentally important river area.

Neighbourhood Development Plan Area F (Rocksberg South)

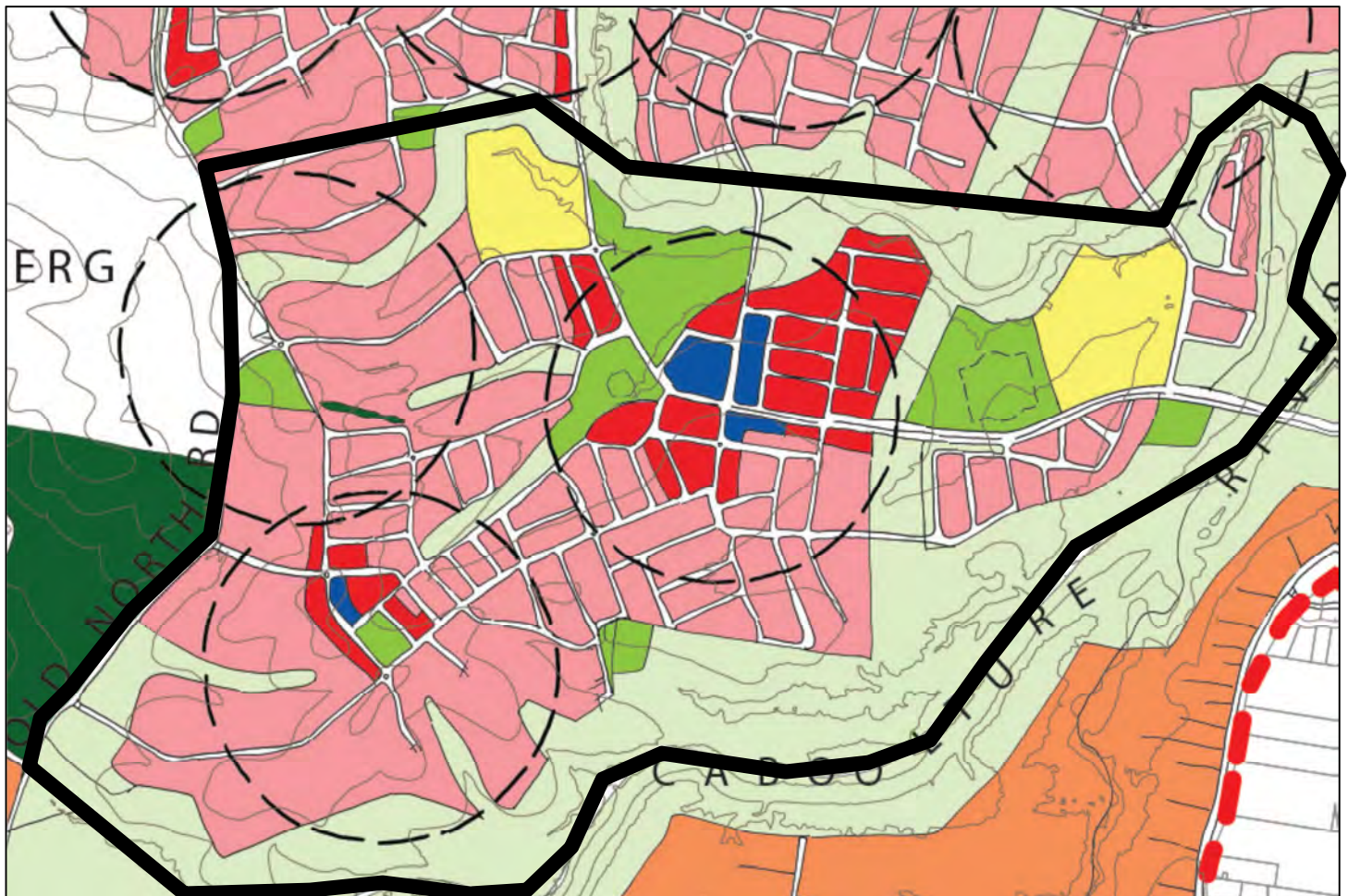


Figure 44 - Neighbourhood Development Plan Area F (Rocksberg South)

The Rocksberg development areas (Area F and Area G) are large strategic development parcels in a small number of ownerships. They may be planned together or at separate times.

Area F is 379ha and is bounded by the Caboolture River to the south and east, Old North Road to the west, and minor gullies to the north. Gently undulating land in the east of this area gives way to

ridges, gullies and sloping land west of the powerline easement (light green). A number of hilltops close to Old North Road offer views east and north over Caboolture West and to the Glasshouse Mountains in the distance. Area F is subdivided by narrow gullies and waterways with varying quantities of vegetation. A powerline transmission corridor crosses Area F.

Area F is a large contemporary residential community with a substantial local centre (blue) and community facilities including a high school and primary school (yellow). Area F is structured around three neighbourhoods including the local centre and a prominent 'hilltop village' in the south west. More intensive uses are found in the 'lowlands' between Litherland Road (reserve) and the major (east-west) gully. The state high school is proposed for a flat site on Litherland Road, with a 10ha sports park next door interfacing with the powerline corridor and utilising this corridor for parking and open space infrastructure.

West of the powerline is a local centre and neighbourhood of denser attached and detached housing (red). Moving further up the gully is a site for a district recreation park (green), essentially at the 'bottom of the hill' and a natural gathering place and walkable destination for residents. A state primary school site (yellow) on flatter land is just uphill of the park. Minor gullies form linear open space spines (light green) for stormwater conveyance, tree

retention and planting, and recreation. Together with strategic hilltop parks a network of local biotic links is provided, also functioning as pleasant circuits for dog walkers and health conscious residents.

Old North Road is the western edge of Area F. This historic rural road is maintained for connectivity (it is naturally and sensibly located on a ridge) and as an urban-rural interface. The plan has been designed to account for possible widening to four lanes should that be needed (although this is not preferred).

Urban design in Area F is shaped largely by topography. Major and minor connector streets hug the lesser gradients of the ridges and gully floors. Residential streets tend to be perpendicular to the slope for ease of road and house construction. With this technique even steep slopes up to 1 in 6 (16%) can be built on by (committed) mass-market builders, and these streets are often one or two turns away from easier grades of the major streets. This residential character of housing on slopes, ridges and gullies becomes as defining character feature of Area F (and G).

Neighbourhood Development Plan Area G (Rocksberg North)

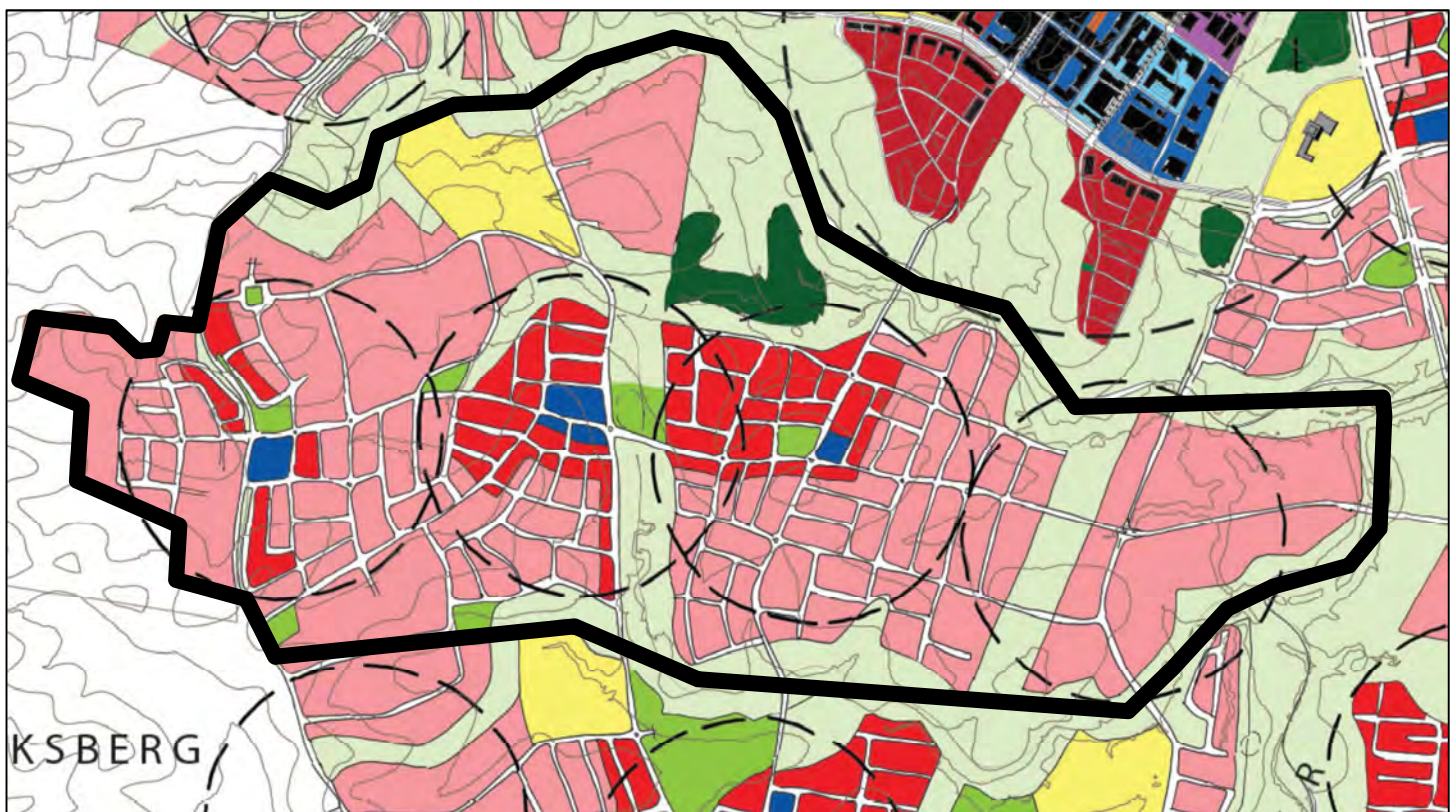


Figure 45 - Neighbourhood Development Plan Area G (Rocksberg North)

Like neighbouring Area F, Area G (328ha) comprises large and significant development parcels. The land here becomes steeper in its west and north, where major gullies divide the landscape. A major east-west gully forms the northern edge of Area G. Other gullies permeate Area G, as does the powerline corridor. The Caboolture River is just east and rural land is to the west. Caboolture West town centre is located close to and north-east of Area G.

Four walkable next generation neighbourhoods are planned, integrated and connected by major streets at 800m centres north-south, with a major east-west street stitching the four neighbourhoods together. A local centre at the confluence of two gullies is a major focus of activity. Two 'hilltop villages' lie east and west of this centre, and these maintain a mix of uses and degree of vibrancy as well (neighbourhood centres/hubs). As with other areas, substantial areas of next generation housing (20dph, pink), make up the body of Area G, with increased housing options (to 30dph, red) around the local centre and neighbourhood hubs (hilltop villages). A primary school site (yellow) is included in the north-west of Area G.

Good connections north to the town centre are important. Four major street connections are proposed. Fewer streets (a sparser grid) would result in congesting remaining streets and degrading the multi-function street (not road) environment envisaged for all major streets of Caboolture West. A road bridge across Caboolture River due east provides access to Area A and beyond.

Gullies are shaped into linear open space corridors of 50m, 100m and 200m width (light green). A significant quantity and length of linear open space is created. A remnant of locally significant regional ecosystem bushland is retained and incorporated into a district recreation park. Linear open spaces are steep and multi-function (e.g. stormwater, biodiversity, recreation). Their steepness and inaccessibility in some places will limit embellishments to walking and cycling paths and these become important to the easy walking and cycling movement of the community, a broader policy objective at Caboolture West.

Note: An illustrative masterplan for Area H (town centre) is separately described in Chapter 6.

Neighbourhood Development Plan Area J (Old North Road to Stern Road)

Area J is a 3.8km long finger of land stretching north east along a ridgeline from foothills near Jackson/Bellmere Roads, past the town centre to the plains above Wararba Creek where a 50ha regional sports park is proposed. The major enterprise and employment area (Area D) is just beyond. Area J is 466ha in area. Waterways below and on each side of Area J provide natural boundaries to this area, as does the South Wararba Creek forest (Area B) just north of the town centre. Old North Road, Stern Road and Bellmere Road are existing roads through Area J. Three or four hilltops with good views are found.

The illustrative masterplan shows (in the south-west) near Jackson road a next generation neighbourhood with a small neighbourhood centre (blue) for local services. An existing quarry and hardstand property is converted to local industry (purple). The use of this

land must be low impact and serving a local customer base.

To the north, on Old North Road, a hilltop village is built featuring a local park (green) taking advantage of the views north. Local shops (blue) and mixed use buildings are constructed on the south side of the park so that views from the park are maintained for all. Development of this village is informed by a view analysis.

East of this village, on the fringes of the town centre, substantial development of attached housing at 30dph (red) is possible. This is in easy walking distance to the town centre. North is a primary school site (yellow) and another hilltop village with similar design characteristics to the previous.

North of the 'Area J ridge' the land is flatter and a state high school site (yellow) is identified. The

aforementioned regional sports park (green) is located here on flat, creekside land with good access from all directions on major streets. Area J is not likely to be developed for 20 or 30 years after

commencement of Caboolture West. District sports parks in other locations provide land for sports until this regional park opens in the long term.

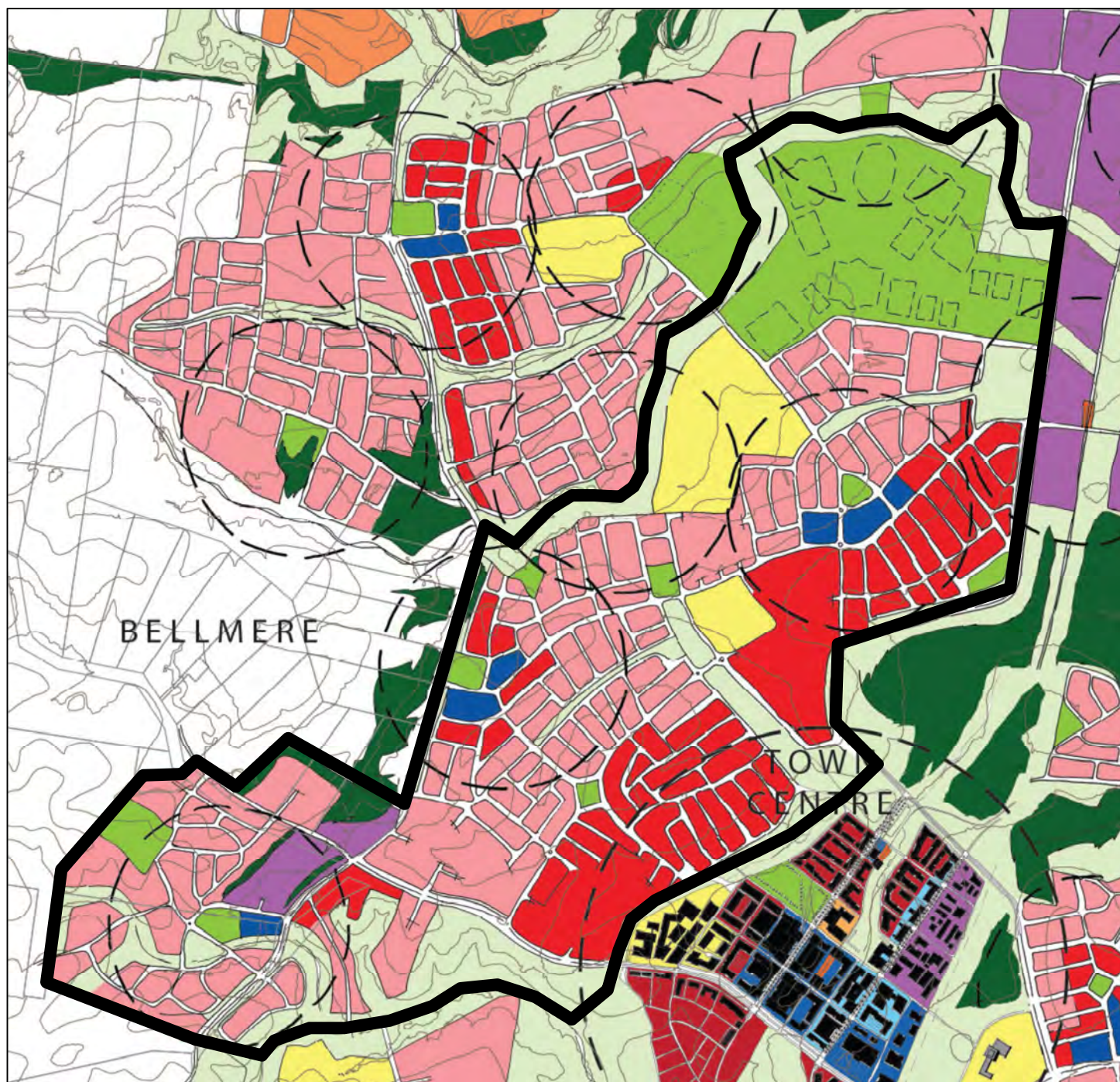


Figure 46 -- Neighbourhood Development Plan Area J (Old North Road to Stern Road)

Neighbourhood Development Plan Area K (Wararba Creek residential)

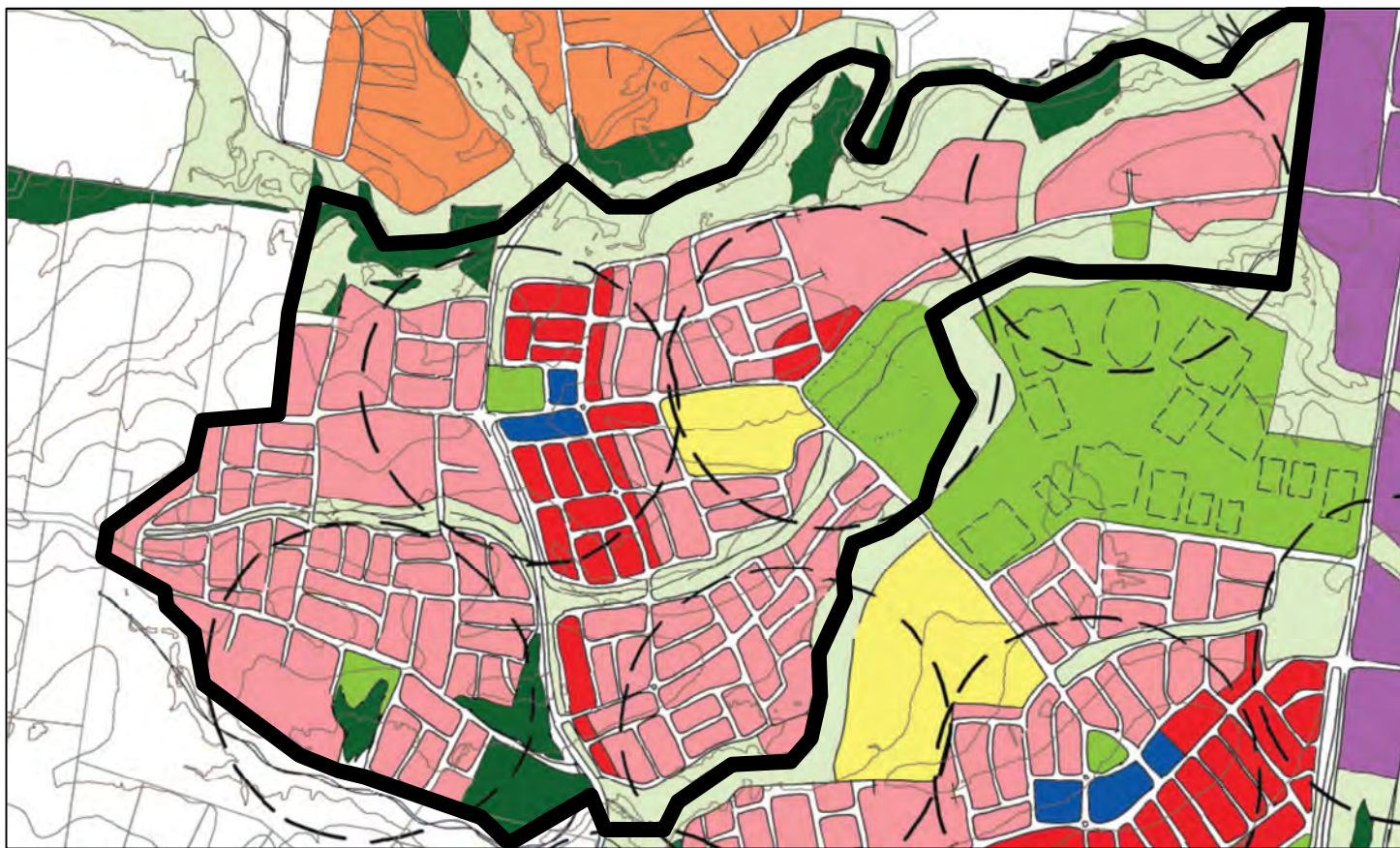


Figure 47 --- Neighbourhood Development Plan Area K (Wararba Creek residential)

Area K comprises two east-west ridges and the gullies between and around them. Schrodter Road is located on one ridge, east of Old North Road (which passes centrally through Area K). W Lindsay Road is located west of Old North Road on the second ridge. W Lindsay Road continues west away from the urban area to rural and rural residential lands beyond. Wararba Creek is the northern boundary to Area K.

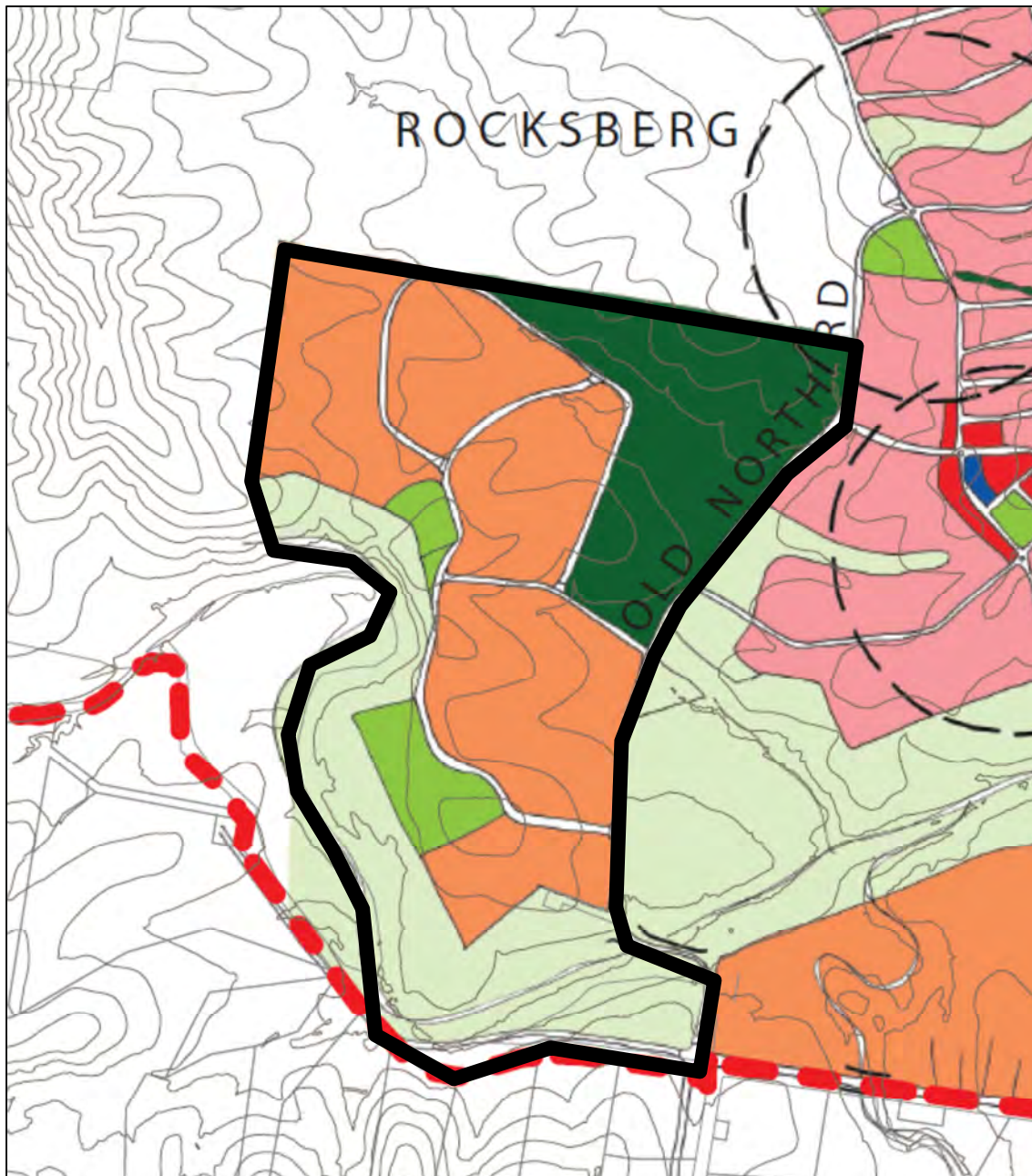
Area K is 324ha in size and is made up by four next generation suburban neighbourhoods. A hilltop village and local centre (blue) on Old North Road at Schrodter Road is the exception. Increased housing diversity is located around this village and views from the public park are maintained by the design of this area.

Just east of the local centre a shallow gully provides a site for a state primary school (yellow). Further on, near the creek is a district recreation park (green), on the other side of the creek from the regional sports park (in Area J).

Exiting and new roads on ridges (e.g. Schrodter Road, Old North Road, W Lindsay Road) become the backbone of the new street network.

Area K is close to Wamuran township and rural residential (orange). Wararba Creek has a 200m wide open space corridor provides a wide interface and comfortable transition between these places.

Neighbourhood Development Plan Area L (Old North Road rural residential)



Area L is a new area (125ha) of rural residential development west of Old North Road. The area is serviceable by water (to 60m AHD). Two hilltops on a ridge provide local park opportunities (green). The land drops steeply to a powerline and the Caboolture River. A bushland area (dark green) to the north-east has environmental corridor functions. An average lot size of 8000m² (and minimum 6000m²) are maintained to retain vegetation in Area L and limit effects of waste water disposal in this sensitive location near the Caboolture River.

Figure 48 – Neighbourhood Development Plan Area L (Old North Road rural residential)

Wamuran South township residential

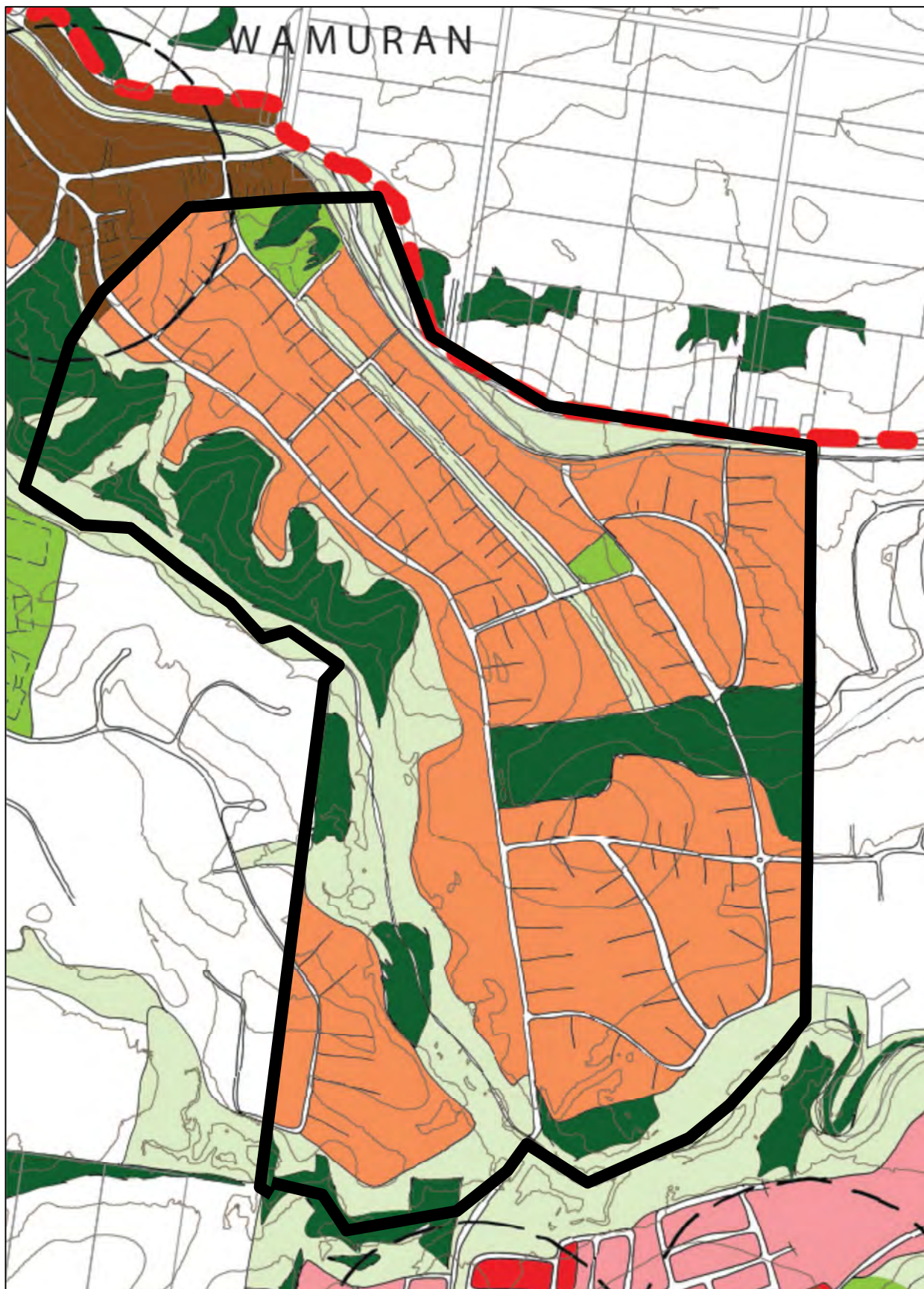


Figure 49 – Wamuran South

This area (and nearby Wamuran North) was investigated for urban development but not included in the urban area due to servicing constraints and

costs, effects on Wamuran township, and adequacy of land supply from better located land further south. Wamuran South is outside of the proposed

Caboolture West structure plan (and statutory local plan). It is located north-south between Old North Road and D'Aguilar Highway. Wararba Creek is on the west, with rural residential development beyond.

Some houses exist along Old North Road. Larger parcels of land contain a pineapple farm and orchards. Agriculture in this area is increasingly compromised by surrounding development and over time by Caboolture West. As agriculture increasingly moves north of D'Aguilar Highway, Wamuran township becomes a transition between urban and rural uses, as well as an alternative lifestyle choice and place character to both.

Over time larger parcels south of Wamuran are expected to redevelop for (very low density) housing, supporting the long term growth of the township. This is not strictly speaking a 'rural residential' location or place character. Instead a 'township residential' character should emerge that complements the place.

It is important that any development provides good and additional street connections to surrounding developments (new and existing.) This includes a new street directly into Wamuran township. An expanded street network is important to avoid overloading Old North Road and to provide local access befitting a township character. Street connection(s) to existing rural residential estate to the east also provide an alternative route to the D'Aguilar Highway.

Significant and protected vegetation along gullies and creeks is to be retained. Often this occurs on steep ground where large lots are expected. The long gully between Old North Road and D'Aguilar Highway provides drainage and open space functions. Water sensitive designs are appropriate. Local parks as a community focus are needed. A new park behind Wamuran township (green) could provide a broader function for an expanded Wamuran.

Further planning is required prior to development commencing at Wamuran South. As well as land use,

urban design and transport issues this planning should consider alternative water (and potentially sewer) strategies from Caboolture West's urban development.

Wamuran North township residential

Wamuran North is a finger of land north of Wamuran township between D'Aguilar Highway and Wararba Creek. The land is undulating but not too steep to develop. Vegetation and flood hazard near the creek suggest a setback of any development from the waterway. Single ownership of much of this area creates a medium or long term opportunity to provide housing and development in a way that helps to grow Wamuran as a viable and sustainable township with a different offer and lifestyle to the urban area of Caboolture West to the south.

Development west of Wararba Creek is not recommended as flood hazards, vegetation, environment and access constraints are many. In any case plenty of land in better locations is already identified.

Importantly development in this area should not put pressure on D'Aguilar Highway and additional access is required to develop this land. A new street connection is proposed via Devit Road and council owned land into the neighbouring Wamuran North development area. A street connection direct to the township (D'Aguilar Highway) is also proposed. Additional access does not mean that development should retreat from D'Aguilar and treatments like solid fences are not in keeping with the place and must be avoided.

As with Wamuran South, further planning is required for this potential development area in the context of the township as a whole.

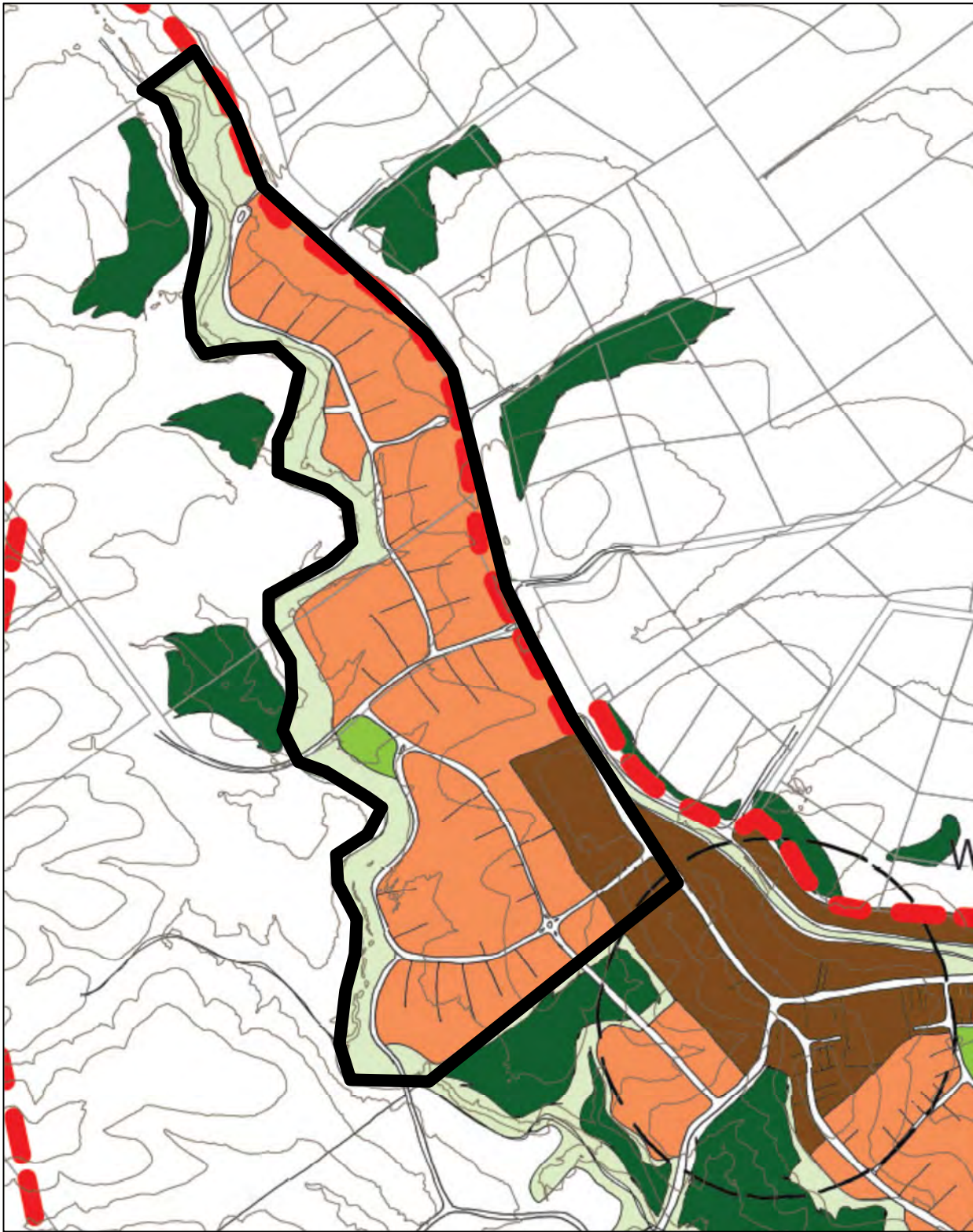


Figure 50 - Wamuran North

8. CABOOLTURE WEST URBAN TYPOLOGIES

Urban design typologies were researched, adapted and developed for use in the design for Caboolture West. These typologies focussed on neighbourhood, school, park and centre concepts that could be translated into a local plan, for later incorporation into detailed designs.

SUSTAINABLE URBAN STRUCTURE

The Caboolture West structure plan proposes a compact urban area, that while removing rural land from agricultural potential, make the most efficient use of this land by:

- Proposing a local plan footprint of 2,800ha from a study area of 6,600ha.
- Requiring progressive residential densities of 20dph (next generation suburban neighbourhoods), 30dph (around local and neighbourhood centres) and 60dph (town centre residential).
- Housing and centres and streets are organised into mixed use walkable neighbourhoods of 400m radius. Walkable neighbourhoods cluster together to form suburb-scale units coined 'CabPats', able to support the next level of community infrastructure and community life. The size and shape of these clusters have been shaped by the landform of rivers, gullies and floodplains at Caboolture West. (See Appendix 1 for a background to and discussion of the 'CabPat'.)
- A large mixed use town centre at the heart of Caboolture West is the focus of economic and community life.

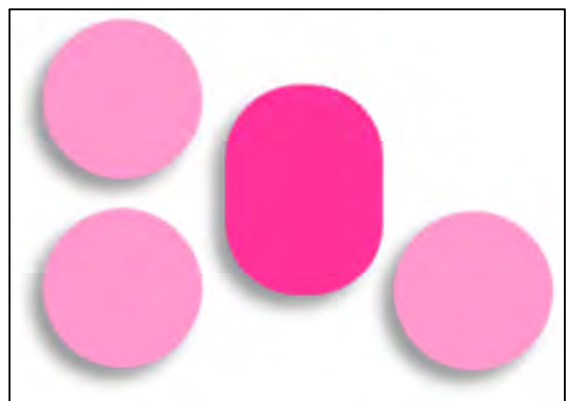


Figure 51 – 'CabPat': cluster of three or four walkable neighbourhoods with the central being higher density and accommodating a local centre

NEXT GENERATION NEIGHBOURHOODS

way around. (Next Generation Planning handbook)

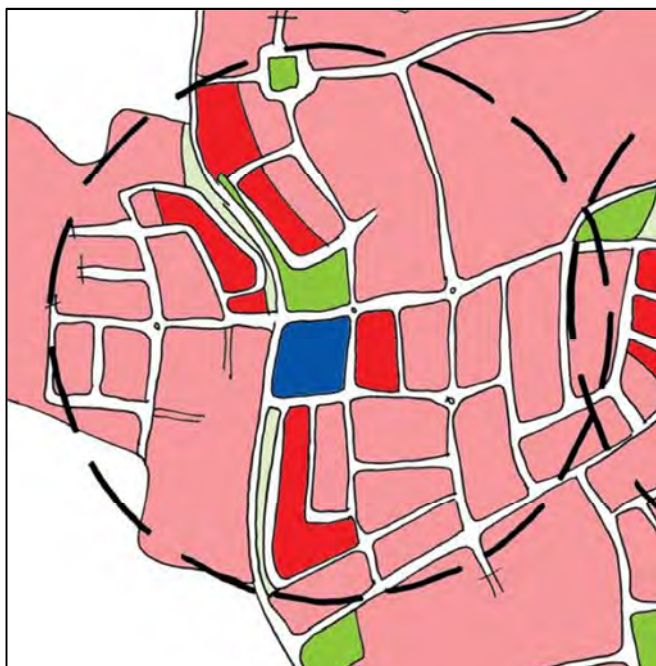


Figure 52 – A typical next generation neighbourhood at Caboolture West, ‘characterised by walkability between a range of housing and a central focus’, in this case a local park and neighbourhood centre / hub

Next generation neighbourhoods are a concept first canvassed in the *Next Generation Planning handbook*.

Next Generation Suburban

Neighbourhoods...offer housing choice, from detached houses and duplexes to row houses, shop-top housing and even live/work buildings. While detached houses are most common, many detached houses are on smaller lots.

Attached housing in these neighbourhoods are often on lots with particular attributes, like corners, lots with rear lane access and locations close to open space, centres or public transport. Non-residential uses...meet the day-to-day needs of residents. Housing in these places is within easy walking and cycling distance to a wider range of facilities including shops, schools, parks and public transport. Next Generation Suburban Neighbourhoods... are generally low in scale and comprise well landscaped environments...

... streets are characterised by street trees providing shade and character, and shared use by cars, bikes and pedestrians. They are usually grid-based, making it easy to find your

Next generation neighbourhoods are a typology for neighbourhood scale design, bringing together a range of planning and urban design objectives for residential areas, in the South East Queensland context. This concept has been incorporated and refined in the Moreton Bay planning scheme.

The majority of housing, streets and neighbourhoods at Caboolture West will espouse these qualities. A density of 20 dwellings per hectare is targeted for most next generation neighbourhoods, and the network of neighbourhood centres and local centres provide for ‘day to day needs of residents’ within easy walking distance.

Home offices and home businesses are also encouraged in next generation neighbourhoods. Such uses are particularly appropriate along on the major street grid; still residential but offering some exposure useful for home businesses.

Figures 52 and 53 shows a drawn example of a next generation neighbourhood envisaged for Caboolture West (from the Caboolture West Illustrative Masterplan). In figure 52 the neighbourhood is centred on the intersection of two major streets, and has a focus in the form of a 1ha local park (green) and local shops (blue) with a local main street between. The majority of housing (pink) is detached but of mixed sizes and with some attached options on street corners. Attached houses and live/work buildings (red) cluster around the shops and park, and along the major through streets.

Service roads and rear lanes (not shown) are used to provide parking access where direct street access is not desirable due to traffic volume or speed. The neighbourhood is scaled for walking (400m radius, about five minutes). A couple of small local parks (3-5000m²) near the edges of the neighbourhoods supplement access to the larger local park in the middle. Buses ply the major streets (the cross streets), which are connected to other neighbourhoods and spaced at 800m intervals to provide good coverage without leaving the major streets. A ‘tiled’ grid of streets provides good access

and connectivity while managing the number and type of intersections. (See Appendix 2 for an explanation of the next generation neighbourhood street design template used.)

Next generation neighbourhoods are built on streets not roads. All have land use as well as movement functions. Major streets can be 2 or 4 lanes, sometimes with medians. Safe access to properties on busier streets is managed in several ways including rear lanes, service roads, shared driveways, side access etc. Streets are relatively slow, safe for cycling, leafy and walkable.

Next generation neighbourhood designs, mixed uses and densities should be encouraged by offering beneficial development rights to developers who structure their neighbourhoods and associated 800m street grid in this way.

Some neighbourhoods and parts of neighbourhoods, in proximity to local centres or good amenity, offer the opportunity for higher residential densities of 30 dwellings per hectare. These 'urban neighbourhoods' are higher density and allow more mixed uses but otherwise have many of the same qualities as the next generation 'suburban' neighbourhoods. Buildings of two and three storeys are common. Again these neighbourhoods are focussed on a main street local centre. This centre could be large enough for a supermarket, but they are always street-based in their design.

At Caboolture West these urban densities may take up anywhere from a few blocks to a half or whole neighbourhood (a 400m radius neighbourhood is 50ha in size), depending on context, demand and viability. The Neighbourhood Development Plan process provides a mechanism to determine the appropriate mix.

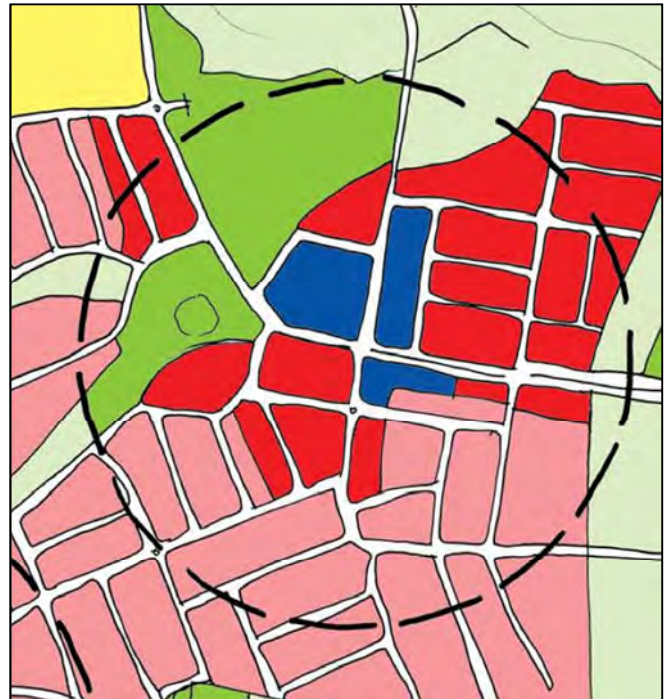


Figure 53 – A next generation neighbourhood with increased attached housing (30dph, red), supported by a sizable local centre and a district recreation park. This park is 'within' the neighbourhood catchment, but it could easily sit just outside. The main street is at right angles to the busier, 4-lane street. A school is just outside the neighbourhood, maximising the land for residential population closest to the centre.

SCHOOLS

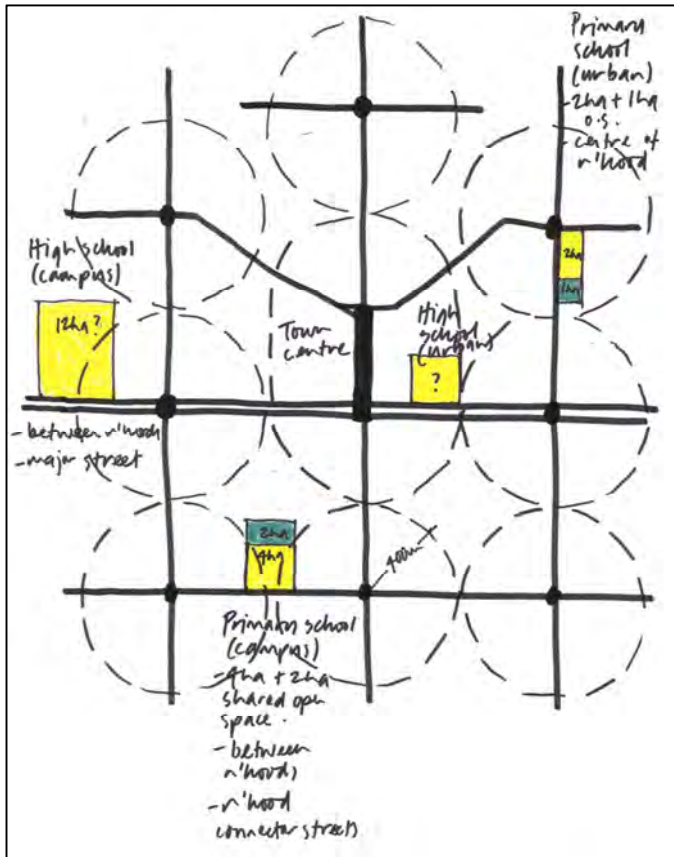


Figure 54 – Schools are ideally located on major streets and away from the centre of neighbourhoods. Smaller footprint schools are an exception

State primary and high school locations have been identified in the Caboolture West structure plan. School site boundaries and sizes are to be determined at Neighbourhood Development Plan stage.

In recent times it is arguable that schools in Queensland have been land hungry and subject to uncertain forward planning. (On the other hand, schools are relatively large in student numbers, by national standards.) This has led to compromised locations and designs and avoidable impacts on school operations and on other land uses. The following locational and design criteria are proposed at Caboolture West to integrate schools better into the overall design of the town, its suburbs and neighbourhoods. These criteria apply to government and non-government schools (four or five of which can be expected at Caboolture West). Many of the criteria have been adapted from the *Liveable Neighbourhoods* guideline.

- Locate schools on connecting streets between neighbourhoods (outside edge 400m radius), sharing school among two or three neighbourhoods
- High schools and major private schools on or near major connecting streets (e.g. 4-lane boulevards)
- Primary schools at centre of neighbourhood in limited circumstances (e.g. reduced land size, separate sports field)
- Town centre high school and TAFE in urban format (multi-storey buildings) not suburban campus
- Design school to be part of community. Schools and surrounding land uses should face each other.
- Share recreation space and buildings with community out of hours
- Shared sports fields with council and other schools where possible to reduce land requirements
- Provide safe access by walking and cycling, including slow speed environment
- On-street and off-street parking is appropriate
- 3 street frontages (one neighbourhood connector) or 4 street frontages (two n'hood connectors) to improve access
- Do not locate schools on cul-de-sacs

ACCESSIBLE, WELL USED AND AFFORDABLE PARKS

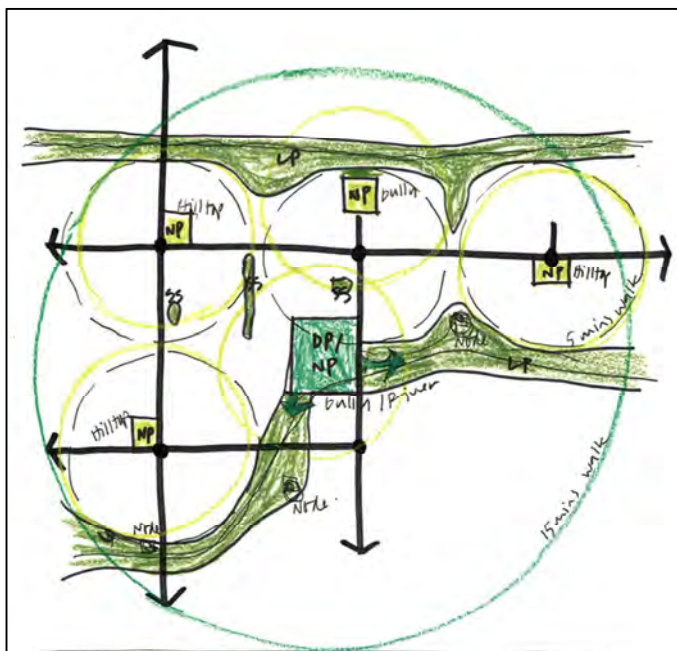


Figure 55 – A 'Cabpat' next generation suburb at Caboolture West. Four walkable neighbourhoods are supported by a district recreation park on the creek. Neighbourhood parks are focal points for each neighbourhood. Local park and park nodes, and 'stepping stone' vegetation further supports the open space and green networks.

A development of Caboolture West's size allows coordinated planning of parks at all scales.

Regional and district sports parks have been designed at the town scale and their locations and sizes identified in the structure plan. A town centre park is also noted. District and some local park locations are also identified, but detailed planning through Neighbourhood Development Plans is required to confirm the location, size and design of these parks.

A typology of parks has been developed to support the neighbourhood and suburb scale communities envisaged by the 'CabPat' planning unit. The typology (figure 55) has been designed with the following principles in mind:

- District and local parks within walking distance of homes
- Minimum sizes for functionality
- Actual sizes based on population

Each CabPat has a district recreation park as a community resource and focal point. At this

distribution almost all houses should have a district recreation park within about 15 minutes walk. A minimum area of 4ha and a rate of 0.5ha/1000 people is prescribed.

Local or neighbourhood parks are found within five minutes walk, often as the neighbourhood focal point. Sizes of 0.5-1ha are preferred. Small local recreation parks of 0.3-0.5ha help meet the five minute walk criteria. These are found within neighbourhoods and often as nodes in the extensive linear open spaces found at Caboolture West. Again a rate of 0.5ha/1000 people is required for local parks.

While recent trends have been for numerous, small local parks, limited evidence is available to support this pattern. A mix of small and large local parks is proposed to provide choice and robustness to the park network, and avoid overprovision of very small parks.

Stands of trees may be retained in these and other parks – for environmental 'stepping stones' and for urban relief. These are not embellished. Sometimes these areas are held within road reserve.

Typical park locations include hilltops, gullies, river banks and between neighbourhoods, as shown on the figures 56 and 57.

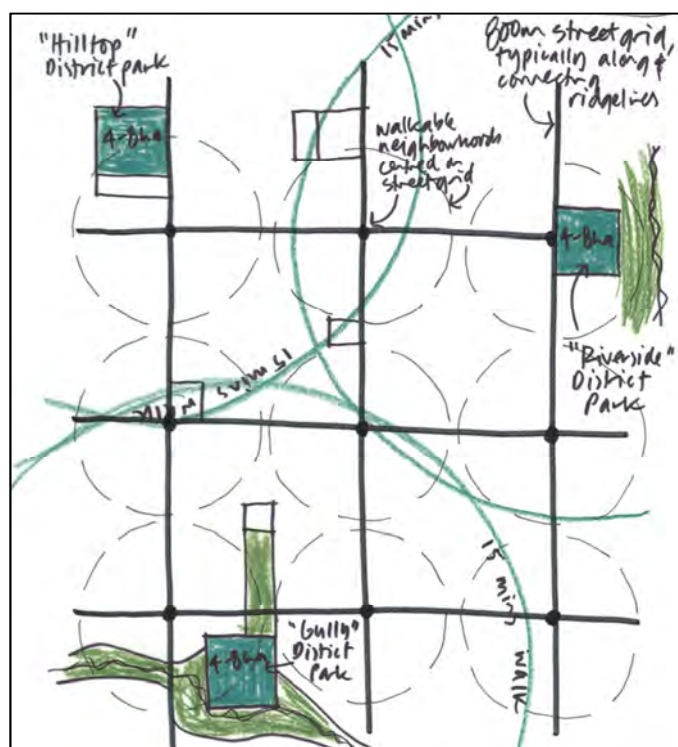


Figure 56 – typical district park locations for Caboolture West

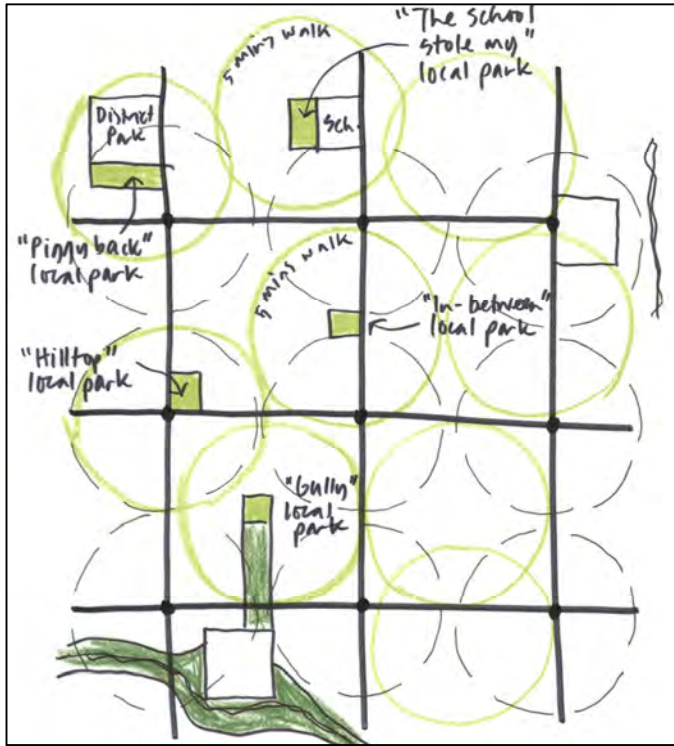


Figure 57 – Typical local park locations

THE CABOOLTURE WEST EXPERIENCE

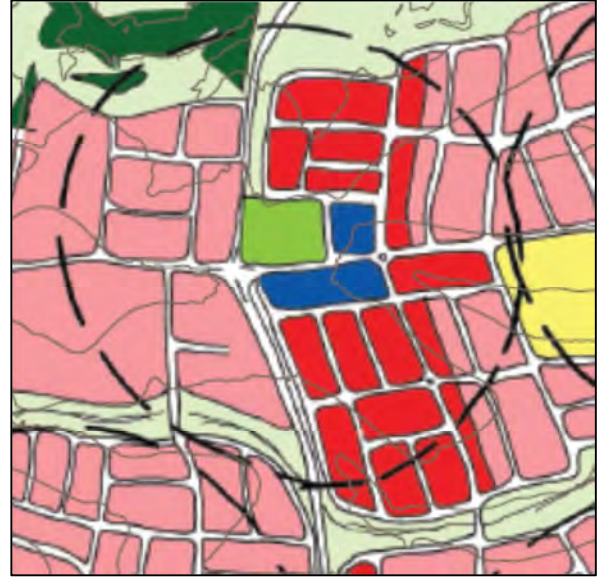


Figure 58 – A 'hilltop village' featuring a park at the highpoint with views north. Mixed-use development on the south and east of the park does not block views. Higher density housing clusters around the hilltop with detached housing beyond.

Caboolture West has several natural advantages which – combined with good quality design, placemaking and urban development – can combine to support a distinct experience of living in or visiting Caboolture West. These include:

- Views and viewpoint – to mountains and within the town
- River and waterways – the Caboolture River Parklands and other local beauty spots such as Zillman's Crossing
- Caboolture West town centre – its location, uses and design
- Hilltop villages – prominent neighbourhood scale places for communities to enjoy locally
- Contemporary architecture and landscapes appropriate to place – this is entirely for the people planning and developing Caboolture West to achieve, or to ignore and lose.

APPENDIX 1

FROM CHIPPAT TO CABPAT

Urban design at Caboolture West has incorporated and adapted urban structuring theories advanced through and after the West Australian *Liveable Neighbourhoods* guideline.

Typically in the Australian Liveable Neighbourhoods structure, the mixed use town centre serves around 15,000 to 30,000 people, and is supported by six to nine neighbourhoods.

It contains a main-street based convenience retail node ideally with two supermarkets, together with service businesses, substantial commercial uses, civic and recreational facilities.

Typically one in ten towns within a metropolis enlarge to become a regional centre, and contain major hospital, civic, educational and office uses. It serves around 100,000+ people. (Source: Evan Jones, Optimizing Urban Structure: Towards an Integrated New Urbanist Model, presentation to CNU 2009)

In contrast to individual neighbourhoods (50ha in size, with perhaps 3000 residents at reasonable densities), clustered town-scale units are large enough to support public transport as well as viable centres and retail. They support a 'movement economy' where economic land uses are located on busy routes, promote walk-up catchments around centres, and use streets as tools of integration not dividing.

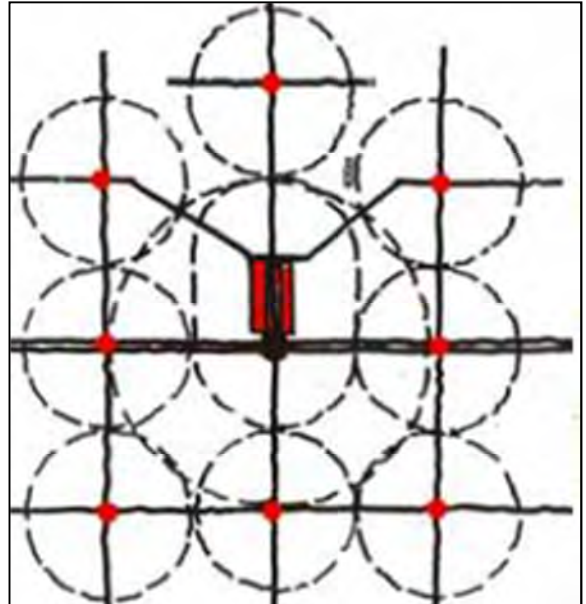


Figure 59 - The 'ChipPat': a town-scale pattern of nine neighbourhoods around a town centre (Source: Evan Jones)

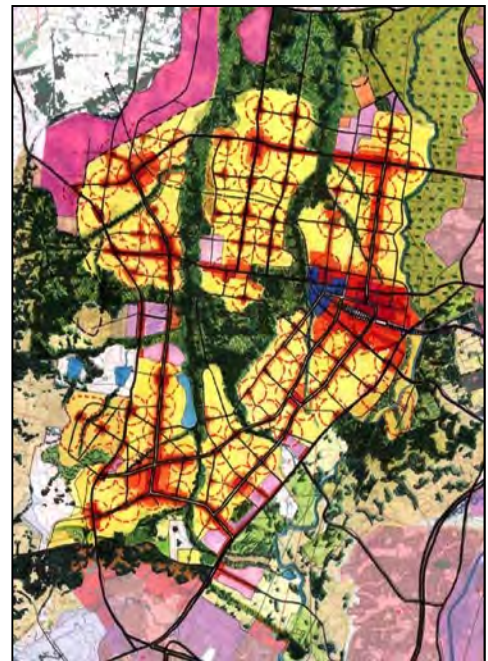


Figure 60 - South West Sydney growth planning. Several towns making up a regional-scale urban area (Source: Evan Jones)

As has been pointed out by Brisbane architect and urban designer Peter Richards, town models like the nine-neighbourhood ChipPat are all very well in flat, uncomplicated terrain. In Brisbane (and Caboolture West) topography drives a more sophisticated city structure of small and large towns, neighbourhood clusters and 'hamlets'.



Figure 61 – Peter Richards’ analysis of inner-west Brisbane highlights smaller and larger towns and centres shaped by topography and natural features (and underpinned by five-minute walkable neighbourhoods of varying intensity)

The ‘CabPat’

Analysis of earlier drafts of the Caboolture West plan showed that there are few or no contiguous urban area large enough for a six-to-nine neighbourhood ‘town’. Instead the landform, as well as centres potential based on population, suggests clusters of three to four neighbourhoods around a local centre and higher density housing. A district scale park further identifies these discrete communities and provides self-contained amenity.

This we have called the ‘CabPat’.

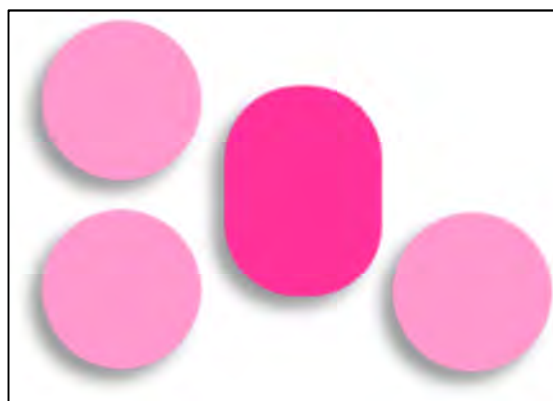


Figure 63 – ‘CabPat’: cluster of three or four walkable neighbourhoods with the central being higher density and accommodating a local centre

As well as supporting a sustainable ‘anatomy’ for the town, the ‘CabPat’ also supports the place planning framework used behind Caboolture West.

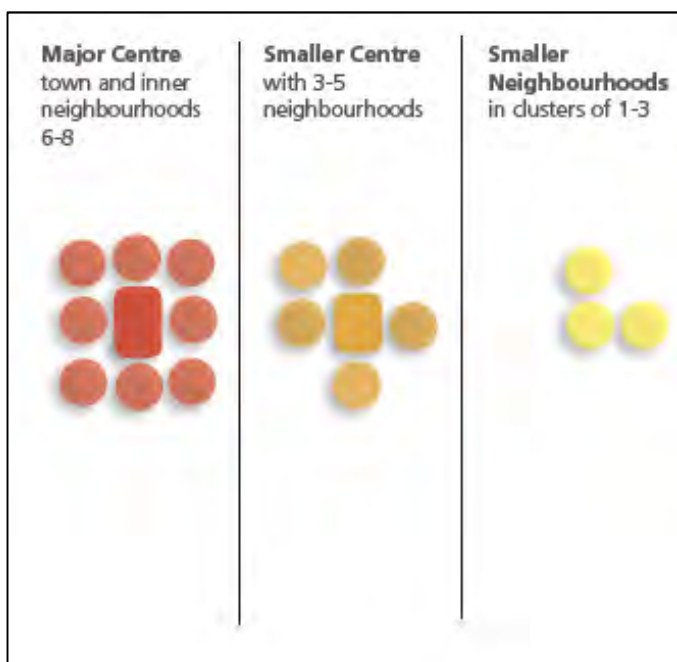


Figure 62 – A more sophisticated array of smaller and larger town units (source: Peter Richards)

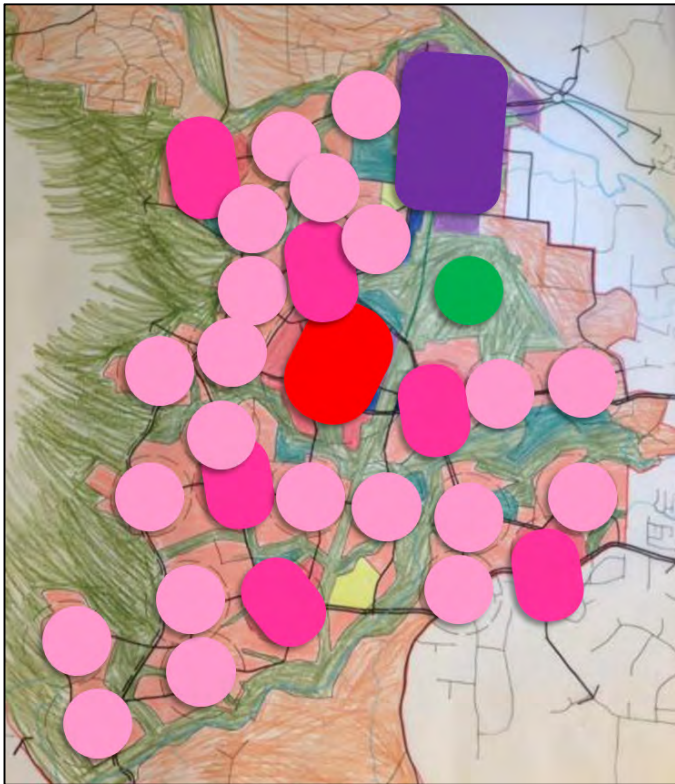


Figure 64 – Terrain, development yields, distance and centres potential drive a pattern of smaller and larger neighbourhoods and centres at Caboolture West

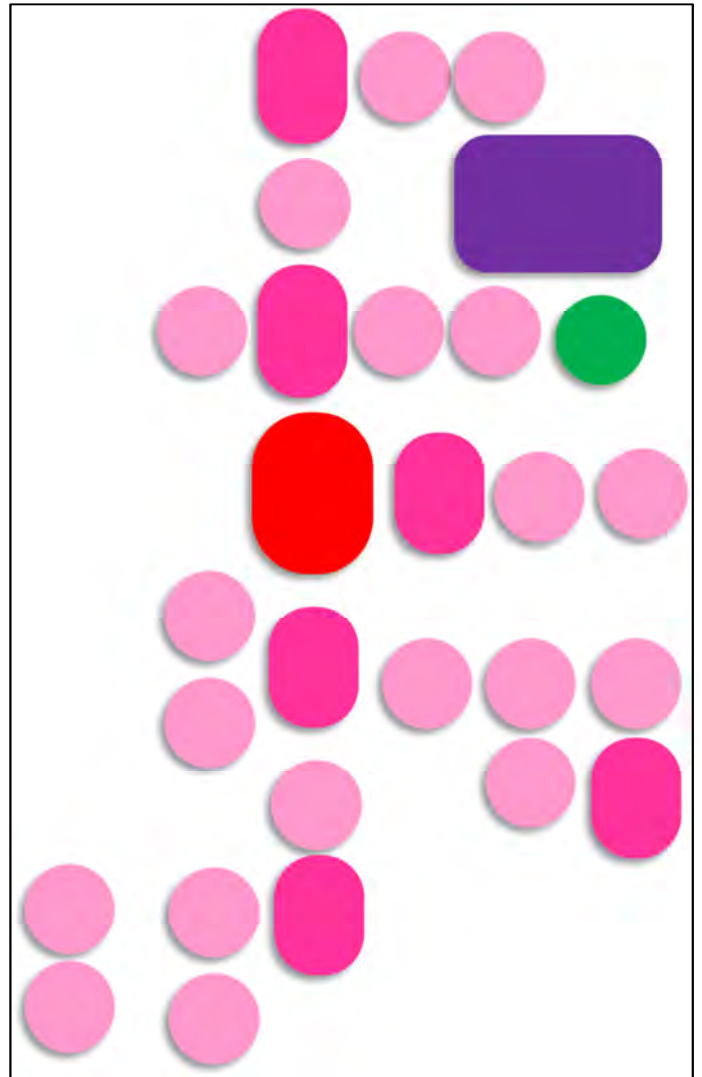


Figure 65 – Caboolture West urban structure simplified. No contiguous area is large enough for a 6-9 neighbourhood 'town'. Clusters of neighbourhoods are shaped by landform. A town centre locates in the middle, and an industrial area on the edge.

APPENDIX 2

DESIGNING NEXT GENERATION NEIGHBOURHOODS (QUICKLY)

Knowing that patterns are useful for designing at the regional scale (regional urban structuring), I sought to create a neighbourhood-scale pattern to use for rapid neighbourhood design (and drawing).

While all neighbourhoods are different there are patterns which repeat themselves and can be used to aid the design process and in particular to quickly test out a site. (The purpose of the pattern was to enable quick illustrative designs for the illustrative masterplan stage of work, and not fully resolved neighbourhood designs suitable for development applications or construction.)

Fundamentally these patterns are based on things like: the size of a human, the size of a door, bed, room, car and then house, the width and depth of blocks of land, and the width of streets etc.



Figure 66- The Next generation Planning handbook includes neighbourhood design criteria and specimen designs which highlight these criteria.



Figure 67 – Guidance from the former ULDA has similar objectives, although above the lot and block scale the structure of the neighbourhoods is not supported as it centres neighbourhoods away from the major street network, and arguably suggests an overprovision of very small parks.

A starting point was a list of neighbourhood design criteria, gathered from recent guidance and research on the topic. Appropriate criteria are:

- CENTRED ON MAJOR STREETS
- 400m TO FOCAL POINT
- 800m BETWEEN MAJOR STREETS
- CONNECTED
- WALKABLE & CYCLABLE
- GRID
- NS-EW (WITHIN 15DEG)
- PUBLIC TRANSPORT SUPPORTIVE
- HOUSING CHOICES
- DIVERSE BLOCK & LOT SIZES
- URBAN BLOCKS 50-80m x 130-200m
- SUBURBAN BLOCKS 70-100m x 130-180m
- NON-RESIDENTIAL USES TOO, MIXED USE
- MAIN STREETS, CONNECTOR STREETS, LIVING STREETS, REAR LANES, MID BLOCK BREAKS
- ACTIVE STREET FRONTAGES
- SOME 4-WAY INTERSECTIONS
- INTEGRATE WITH NATURE (e.g. TOPOGRAPHY, DRAINAGE, LOCAL BIODIVERSITY, REGIONAL BIODIVERSITY, SUBTROPICAL DESIGN)
- MINIMISE CUT AND FILL
- STREET TREES
- PARKS, SCHOOLS, COMMUNITY FACILITIES
- LOCAL EMPLOYMENT, SHOPS
- WATER SENSITIVE URBAN DESIGN

A pattern for neighbourhoods?

A series of steps – outlined in the proceeding images were followed to investigate possible patterns.

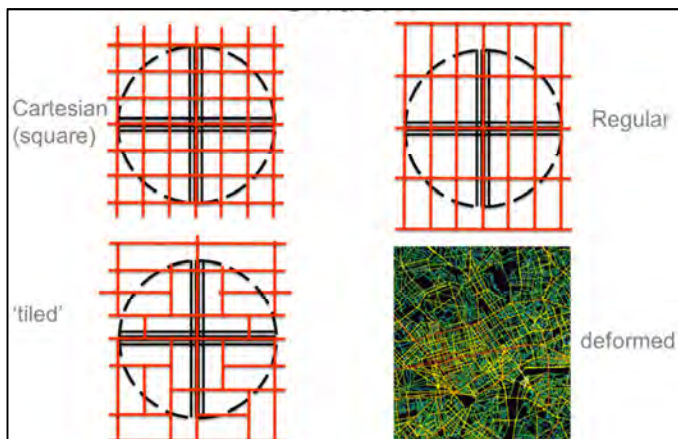


Figure 68 – Different grid forms exist. Square grids increase street length and are unlikely to provide efficient land development. Regular grids lead to a profusion of 4-way intersections. Some form of tiled grid is more likely, becoming 'deformed' when applied to a real site in a design.

Neighbourhoods centred on major streets are assumed be busier and denser (e.g. smaller lots) at the centre, suggesting a fine grain block structure at heart of the neighbourhood, with lots, blocks and streets spreading out towards edges.

But in practice the major (crossing) streets are widest, and lots and buildings fronting major streets might have rear lanes behind them, to reduce driveway conflicts. Street spacing close to the centre then must be greater.

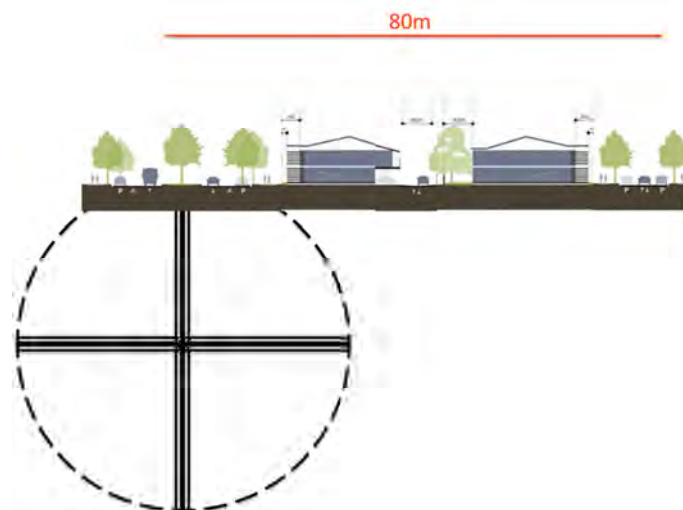


Figure 70 – Street spacing closer to the centre of the neighbourhood is more, not less. 80m street centre to street centre spacing based on half a 30m wide major street, a 25m deep lot, a 7m lane, another 25m lot, and half a 16m neighbourhood street.

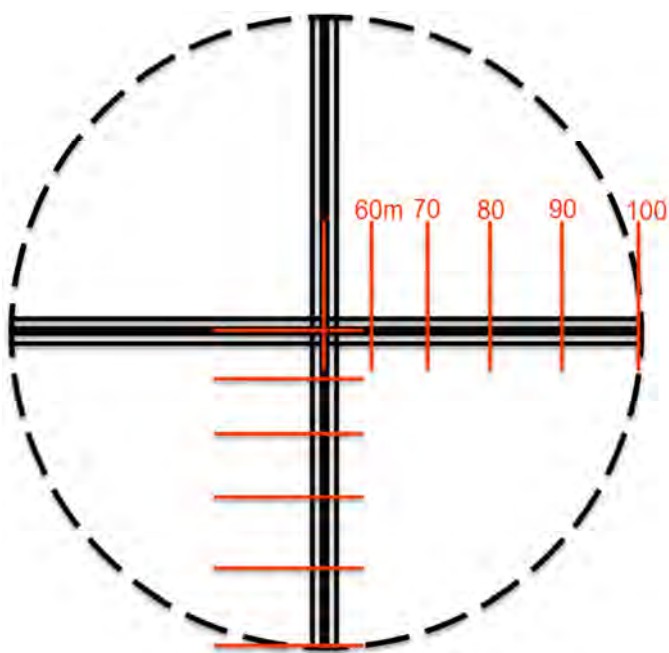


Figure 69 – A 400m radius neighbourhood, centred on two major streets. Street spacing from getting wider as we move away from the neighbourhood centre?

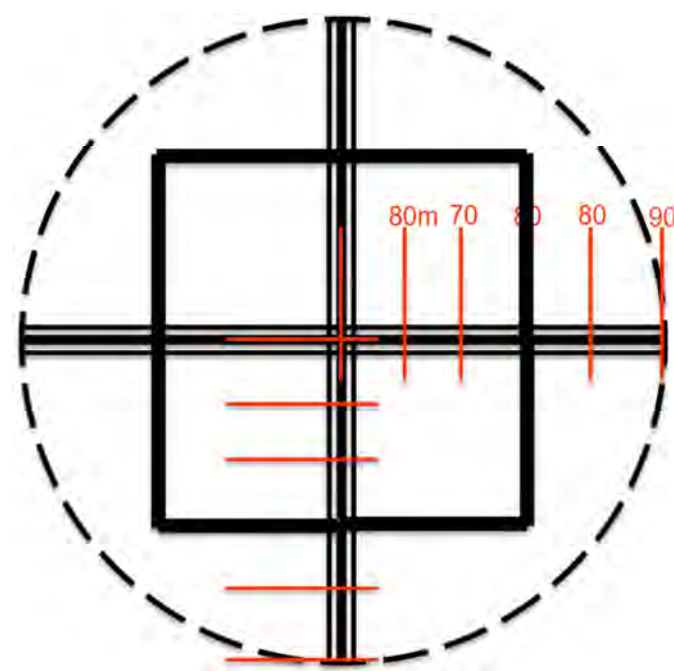


Figure 71 – A more realistic street spacing: 80m, 70, 80m, 80m and 90m = 400m

Taking into account the rear lanes in figure 71 and 72 the block structure is still fine near the centre and getting larger towards the edges. A local connector (collector) street about half way into the neighbourhood provides local access.

A pattern emerges...

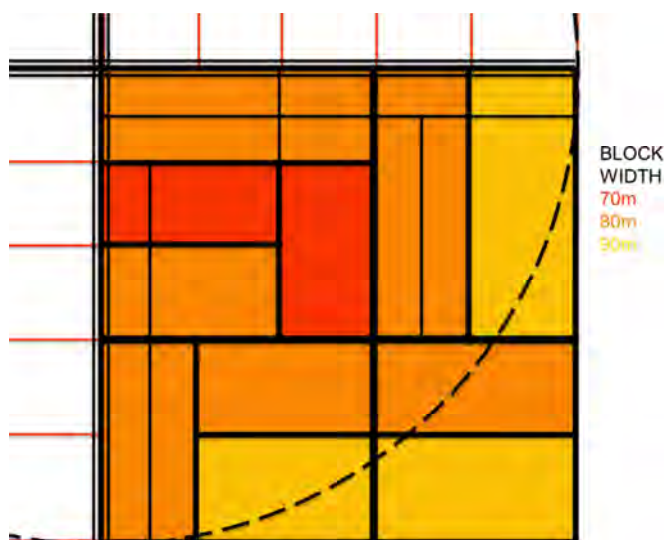


Figure 72 – the first quadrant of the neighbourhood is laid out, following the street spacing (80m, 70m, 80m, 80m, 90m). Blocks are turned at 90 degrees at regular intervals to manage the number of four-way intersections (some are acceptable). Rear lanes along major streets and the local connector street are also present, as are mid-block links.

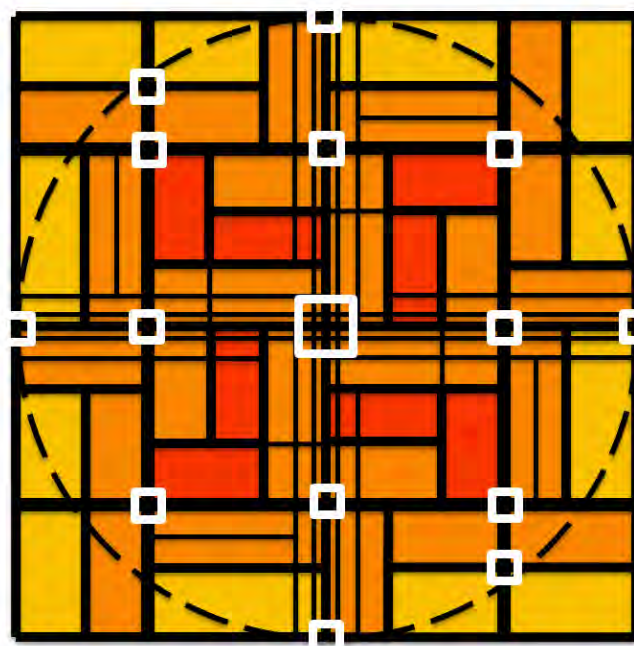


Figure 74 – Copying the pattern with a 90 degree turn each quadrant reduces 4-ways by 40%

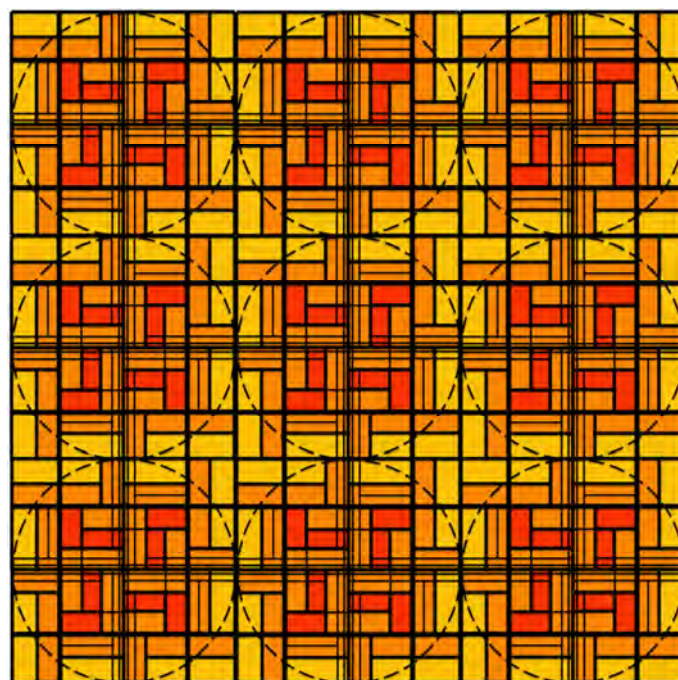


Figure 75 – The pattern can be replicated to produce a larger scale design tool.

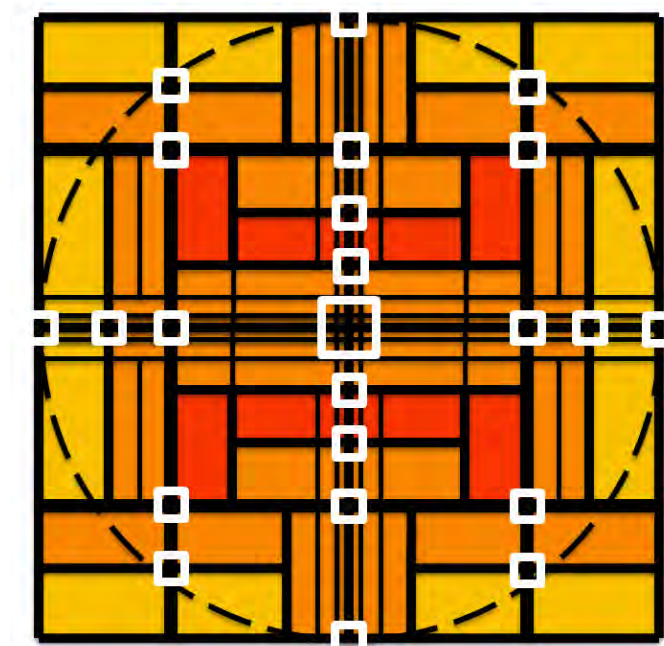


Figure 73 – Mirroring the quadrant produces the first neighbourhood pattern. The mirroring produces many 4-way intersections on the major street network.

Designing next generation neighbourhoods quickly

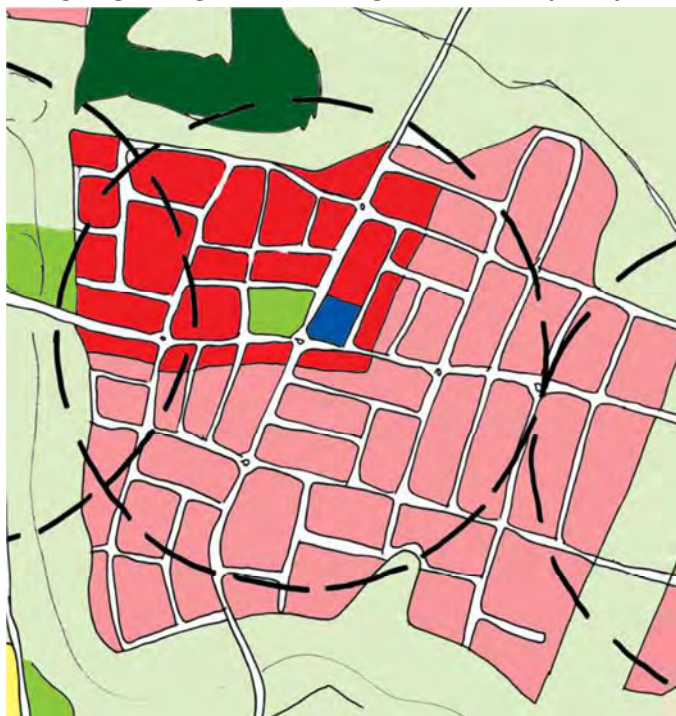


Figure 76 – an extract from the Caboolture West Illustrative Masterplan. Using tracing paper the neighbourhood pattern (figure 75) was overlaid on a base plan with features and contours, and an illustrative design drawn with the pattern as an aid.

The pattern (figure 75) shows only streets and blocks, but when used to prepare an illustrative design (figure 76), other criteria of the next generation neighbourhood can be applied.

In this example the neighbourhood has a focus around some local shops (blue) and a local park (green), both at the crossroads of two major streets. Housing densities at 20dph (pink) and 30dph (red) are suggested. Larger open spaces and walkable catchments are shown.

APPENDIX 3

TOWN CENTRE COMPARISONS

New Australian town centres are relatively rare, and therefore important. A new town centre for Caboolture West is a major opportunity to create an economic and social heart for this community. Several contemporary examples were examined and visited to understand good practice.

Gungahlin, Australian Capital Territory



Figure 77 –Four 'superblocks' at the core of Gungahlin town centre (Nearmap)

Gungahlin is a new suburb and town centre under development in the north of Canberra. Gungahlin town centre has many good urban characteristics:

- It is a street-based mixed-use centre.
- It is public, walkable, satisfies all kinds of human needs and wants, and you can live there.
- A prominent 'main street' called Hibberson Street is the primary axis (east-west).
- Hibberson Street is also the end of a major approach to the suburb from the city, making Gungahlin town centre a genuine destination.
- In the future a tram will take you down Hibberson Street and all the way into Civic, Canberra's CBD.
- The design of the town centre features a (11ha) core of four 'super' urban blocks, glued together by the main street and a second street at right angles forming a cross shape.

- The crossroads formed by these intersecting streets is the 'centre of the centre'.
- The four superblocks (190-220m long by 120-140m wide) house supermarkets and a discount department store (similar to retail expectations for Caboolture West town centre).
- One supermarket is 7500m² GFA (excluding surface car parking). The supermarket 'box' is sleeved with two-storey 12m deep shops and offices, avoiding blank walls to public streets and instead creating 'human-interest' street edges with lots of windows displaying goods and doors to access small premises.
- The second supermarket is 8000m² approx. with underground parking and a small 'mall' in front (and street front shops). The discount department store (130x115m) has rooftop parking and a 40m deep 'mall' between it and the street. A 'mini-major' of 1500m² is within a perimeter block. Again the street is lined with small tenancies.
- Around the core a larger town centre frame area (35ha) accommodates community buildings, healthcare, schools, service industries and other essentials.
- There is plenty of housing in the town centre and nearby, and room for further development.
- Gungahlin has quality streets and public spaces including a linear plaza (Gungahlin Place) on the major north-south 'cross' street.
- The town centre is walkable, meaning there are ample sheltered footpaths, street crossings and plenty of windows to look into and people to look at.



Figure 79 - At the heart of Gungahlin town centre

Figure 78 – Gungahlin town centre analysis. Anchor tenants (dark blue), smaller shops (light blue), mixed use buildings (shops with apartment above), plaza (green), main street (white), urban streets (dashed), frame (yellow).

Improvements?

Designer Michael Cullen is better placed to comment and he did so in the excellent *Urban Voices* book. Here are a couple of his observations (paraphrased).

The four 200mx200m retail 'superblocks' were initially designed with a lane in the middle for servicing. Later these lanes were widened and made into streets, but still with the loading docks and blank rear walls showing. These streets are not so successful.

The linear park or plaza (Gungahlin Place) is not as green and lush as intended.

The buildings have weak 'vertical proportions', resulting in wide and flat facades, rather than appearing as many slim tall buildings next to each other.

Cullen's article ends 'For all its faults (and it's not yet finished), I do think Gungahlin is a town.' I agree.

Point Cook, Victoria

Point Cook town centre is south west of Melbourne, in the outer suburbs on the way to Geelong.

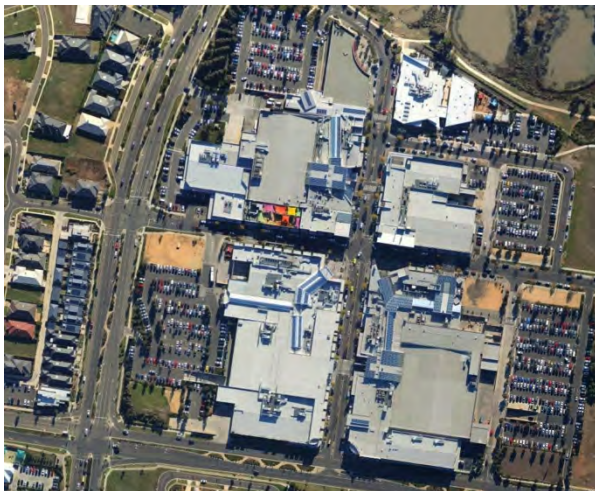


Figure 80 - Point Cook (Nearmap)

Good points include:

- A street-based centre, with a bit more emphasis on shopping malls (within) another set of four 'superblocks' (190x180m approx.).
- The streets are clean, modern and comfortable as are the small squares. There are good street trees.
- Footpaths are of ample width, sheltered by awnings and there are shops and cafes to look into.
- Crossings are many and pedestrians get priority (there is a scramble crossing at the main crossroads, and zebra crossings elsewhere).
- Shops and cafes line the streets, making most building frontages 'active' and interesting to be near. This is fundamental to making good streets.
- There is parking on street but larger car parks are out of sight, behind or under buildings.
- The architecture is varied and interesting enough (the vertical lines suggests multiple small buildings but in fact the buildings are large and were designed in one go).
- Main Street (that's its name) has two storey buildings, with one storey buildings on the cross street.
- There is a library and community centre near one end of Main Street and it is bustling with people. It draws people down to this end of the street.

- Point Cook has an urban feel with buildings close to the streets and plenty of activity and interest.

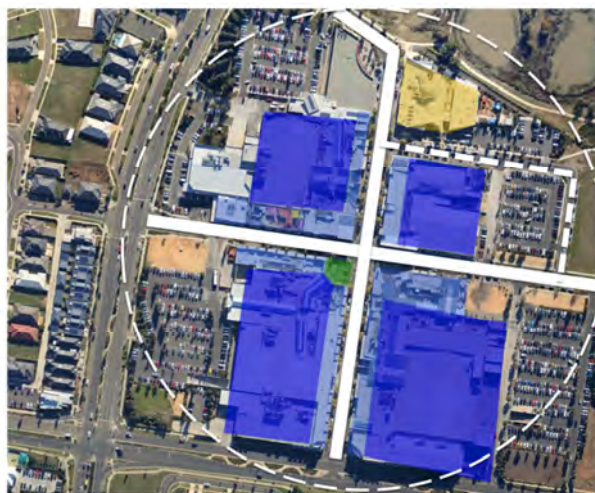


Figure 81 – Point Cook. A community centre is to the north. Few streets other than the two main streets; arterial roads on two sides

Observations:

- To outward appearances Point Cook is a 'town centre' with diverse uses and activities, and in many ways it is. Closer scrutiny highlights a bias towards retail, and ownership by one major landlord.
- There appear to be few businesses at Point Cook not shopping or hospitality based. A lack of employment and job diversity? Future development and a more competitive property market will be difficult without major structural changes to the town centre.
- The streets don't go anywhere important or useful. Main Street has a four-lane arterial road at one end, and a wetland at the other. Point Cook town centre sits neatly to the side of a major suburban intersection. Good for getting shoppers in perhaps, but not a natural destination. Is Main Street a real (public) street, or a privately owned driveway that looks like a street? I couldn't tell.
- The symmetry of the two cross streets means it is not so clear which is more important. This is mildly disorienting at first.
- Public transport was not evident.
- There is no housing in this town centre, and the suburban housing areas are pushed well back with open space between. It seems all fairly low density nearby. All of which suggests that walking to the town centre is for enthusiasts only.
- Point Cook town centre is a pleasant place and much more interesting than a suburban shopping mall. It looks like a town centre and provides an

urban experience of sorts, but is Point Cook diverse enough in land uses and landowners to function like a 'real' town centre?



Figure 82 - Point Cook is attractive and has an urban feel, but perhaps lacks the land use and ownership diversity to be a true town centre

Mawson Lakes, South Australia



Figure 83 - Mawson Lakes town centre (centre of image) (Nearmap)

Mawson Lakes is a masterplanned community and town centre in the northern suburbs of Adelaide. Its development began in the late 1990s, as a partnership between developer Delfin and the South Australian Government. In September 2013 the town centre was mostly built, with only a handful of vacant sites.

Successful features evident:

- A proper mix of uses in its 60-70ha. Residential, business, education (schools and university), retail, community, and a technology park nearby. Mixed use buildings are common.
- Mawson Lakes town centre has many small business premises, mostly office or shop-front.
- Variety, in architecture and ownership. Such competition is surely good for economic development and jobs. It's certainly good for urban design and placemaking.
- Streets are well designed and pleasant to be in. Most buildings have shops and other 'public' uses at street level.
- Access options to the town centre includes public transport via Mawson Interchange, a rail/bus/park&ride node five to ten minutes walk away. Perhaps slightly too far, but it's a good facility.
- A university campus and a lake integrate well into the centre,
- Mawson Lakes town centre has a lot of housing and housing choices. Apartments, urban terrace houses and detached 'warehouses', and 'plexes' are all present in the centre. McMansions are on the other side of the lake.

- Aside from the town centre housing there is a large walk-up catchment of residential.
- Streets and blocks form a simple grid with two north-south 'main' streets' and five east-west rectangular blocks between. A 3-400m grid of urban and main streets is formed. Blocks are about 190m long x 90-100m wide. It's efficient and legible.
- Car parks for the supermarket and pub have apartments on their edges. A bold way of softening the concrete car park.

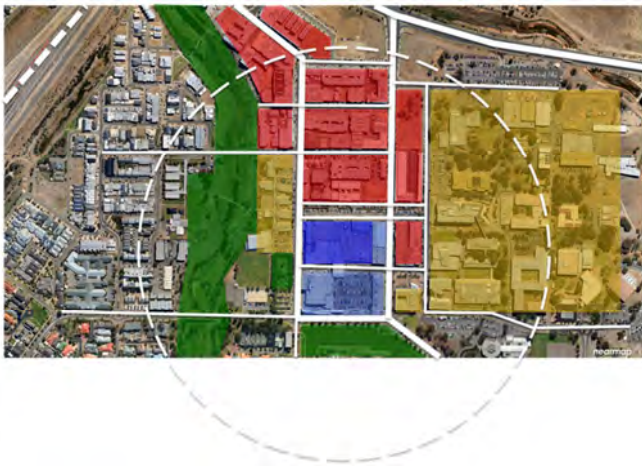


Figure 84 Mawson Lakes town centre has less major retail (dark blue), but more mixed use (shops and apartments, red), green space, education (yellow, university campus in east) and suburban housing nearby. An urban street grid is also created.

Other observations:

- The street between the supermarket and lakefront shops is wide and ugly with blank concrete walls to its edges.
- The 'centre of the centre' is not obvious. There is a plaza behind the Mawson Centre (a library and resource centre), and the lakeside park fulfils a public function.

Mawson Lakes town centre functions like a town centre and looks like a town centre and therefore it is a town centre.



Figure 85 - Typical urban street with mixed use buildings at Mawson Lakes

Townness

Gungahlin, Point Cook and Mawson Lakes town centres present many lessons. (Other contemporary town centres were also examined, including Joondalup, W.A., Rouse Hill, NSW, and Kelvin Grove Urban Village, Qld). Here are a few:

1. Town centres have to be easy to get to. That means transport choices, public streets for 24-hour access, and main streets that integrate with surrounding street networks.
2. Town centres have to offer lots to do when you are there. A full suite of economic and social transaction opportunities, at development and in the future. I suggest this requires mixed use and mixed ownership town centres. Housing is clearly an important ingredient.
3. Town centres have to be interesting and attractive to people. They must be *places* not just developments. And that's not just good looks, but interesting and genuine human activity too.

A number of detailed design criteria or 'success factors' were also drawn out of these case studies and proved useful in the Caboolture West town centre design urban design framework and illustrative masterplan outlined in chapter 6.

- *Main street(s) – parallel or perpendicular to major routes*
- *Town centre core of 4-6 blocks, scaled for supermarket/DDS and sleeved by mixed use*
- *Blocks scaled for walking (gaps every 100-120m)*
- *Civic space*

- *Quality buildings, streets, and spaces – use design guidelines*
- *400m grid major streets*
- *Town centre frame for education, health, housing etc (3-4 times size of core)*
- *Close to large open space*
- *Design for walking, cycling and public transport*
- *Mixed use and mixed ownership for long term interest and economic development*
- *Good process*
- *Consolidate parking*

APPENDIX 4 – GREEN NETWORK

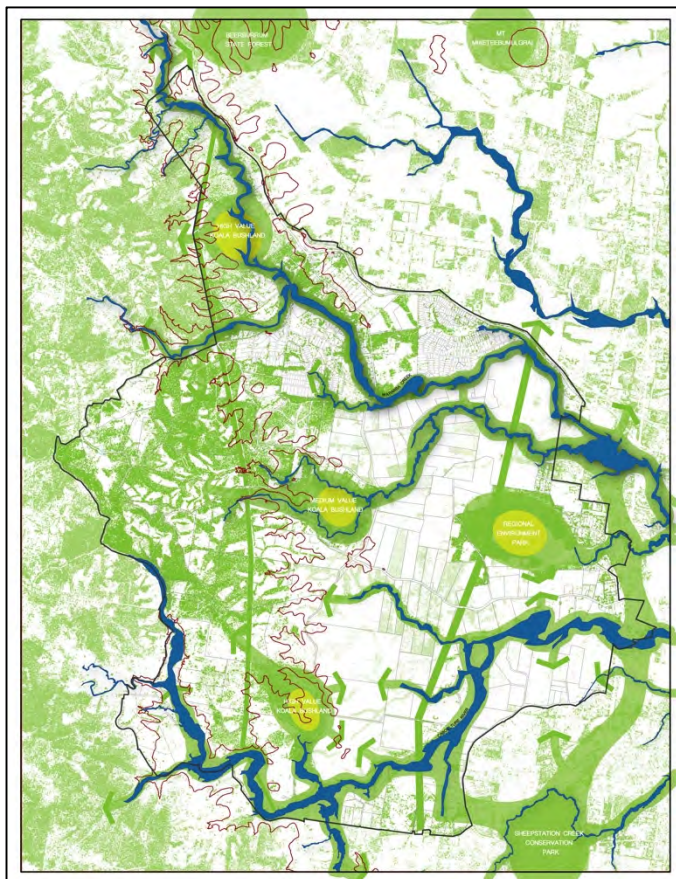


Figure 86 – ‘Green vision’ (July 2013). High value environmental areas within and around the study area were identified. Connections between them utilise waterways and gullies (east-west), and land-use derived corridors (e.g. powerline easement and rural residential development) for north-south connectivity.

To achieve the objectives of the Caboolture West sustainability framework, which means avoiding ‘toothpaste’ planning, both green and urban infrastructure were designed together and at the same time.

A long-term vision was established, where present day values (established from the environmental study) were combined with proposed future values to be created through environmental improvements (e.g. to river and waterway corridors, receiving offsets locally) to develop a green vision and green network that provides urban as well as environmental sustainability. The green network and vision was devised with both local and regional dimensions in mind.

APPENDIX 5