

Why have we done the strategic project, and what did we want to achieve?

Drayton has been an identified future urban growth area since 2003. It is important to plan for this long-term urban growth and in doing so create a balance between facilitating the area's continued development and protecting and enhancing the features that make it liveable and unique.

What are the key components?

The Drayton Land use Investigation includes:

- Urban Design Framework articulating the urban design vision
- Twelve strategic directions for development in Drayton
- A structure plan with four key elements green space, residential, roads and centres
- A sequencing plan illustrating the long-term development sequence.

Who have we consulted with?

Early engagement was a key focus and sought to understand the values and aspirations of the local community and stakeholders, and to generate ideas for the future development of Drayton.

What are the key findings we have learned?

A structure plan was developed as a result of the land use investigation. The goals of the structure plan are:

- Goal 1: A Strong Sense of Place
 - Drayton's character and sense of place are defined by its cultural heritage and landscape assets.
- Goal 2: Integrated Green Spaces
 - Drayton's neighbourhoods sit within a green valley framed by views of vegetated escarpments and the rural landscape.
- Goal 3: A Connected Community
 - Community interaction is encouraged and supported by an inclusive movement network.
- Goal 4: Vibrant Community Hubs
 - Well-connected centres are a focal point for community activity celebrating the unique and distinct character of Drayton.
- Goal 5: Sustainable Infrastructure
 - Coordinated infrastructure delivery will enable sustainable urban development consistent with the values of Drayton.
- Goal 6: Compact Neighbourhood
 - Drayton neighbourhoods will be designed, diverse and environmentally responsive

Disclaimer



The Drayton Land Use Investigation commenced in 2018 and was recently completed. It was endorsed by Toowoomba Regional Council at its Ordinary Council meeting on 19 April 2022 as information to aid decision-making. The content of this study does not reflect an adopted policy position of Council and Council's endorsement of it does not include adoption of any policy position, action or recommendation put forward by the study.



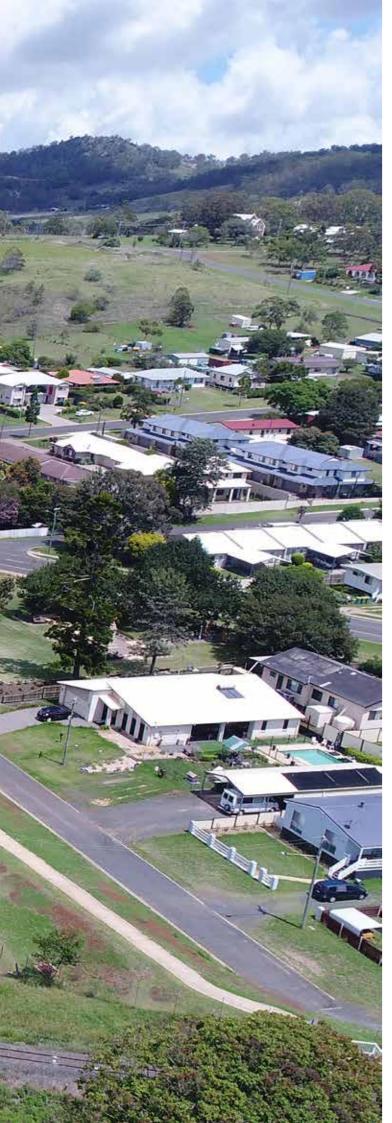


DRAYTON

LAND USE INVESTIGATION







EXECUTIVE SUMMARY

DRAYTON LAND USE INVESTIGATION

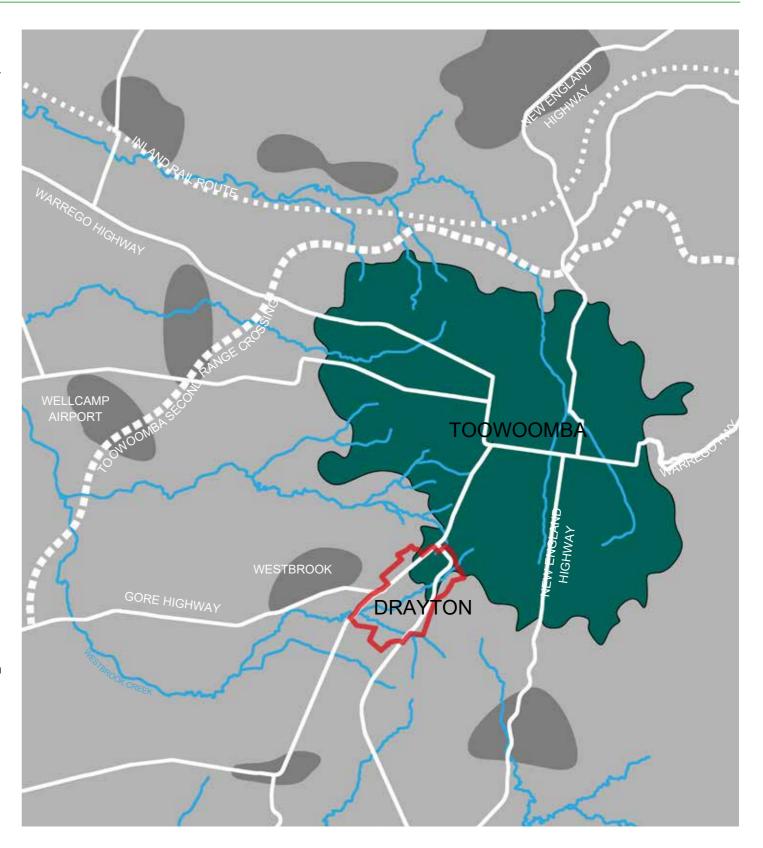
The Drayton Land Use Investigation has developed a longterm vision for the development of Drayton and a structure plan to guide and direct future urban development. The structure plan is responsive to community and environmental values and the identified constraints and opportunities in the area. It also incorporates and reflects best practice planning and urban design.

The project focused on collaboration between Council, the community and other stakeholders to develop a shared vision for Drayton based around local values identified during community and stakeholder engagement.

The structure plan responds to these community and environmental values and articulates how the vision and strategic directions are to be implemented.

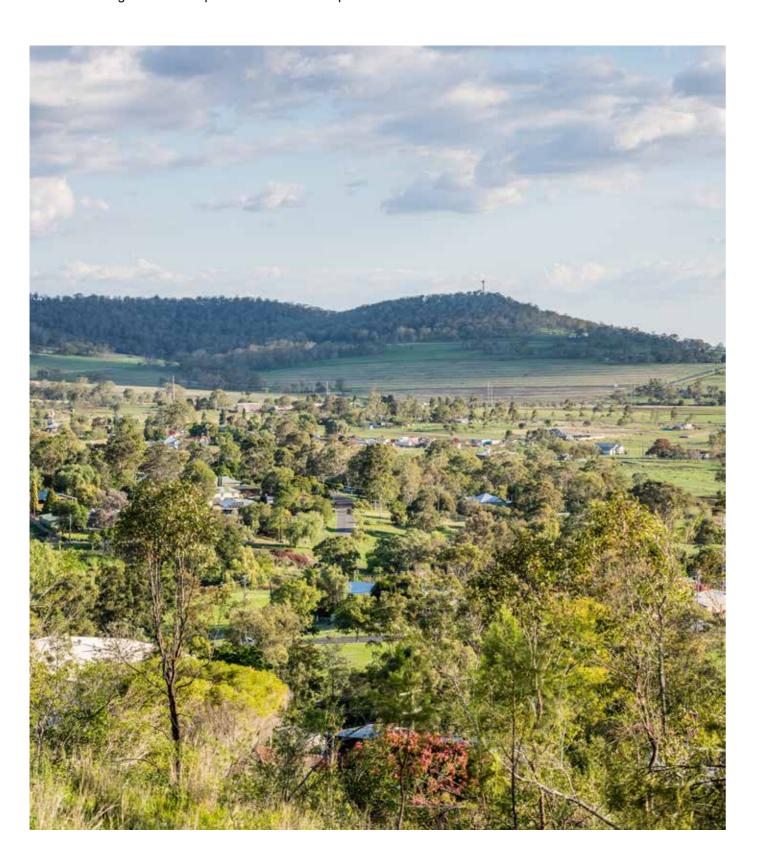
DRAYTON AREA

- The structure plan area focuses on the future urban growth area within the Drayton locality;
- The structure plan area is a total of 540ha, 280ha of which is zoned Emerging Community;
- Drayton is located in south-west Toowoomba, approximately 6.5km from the Toowoomba CBD;
- The area is characterised by its rural hinterland setting and rich history;
- There are important environmental features and scenic qualities – the Drayton valley framed by Mount Peel to the north-west and Mount Rascal to the south-east, and Westbrook Creek runs through the centre of the structure plan area;
- It is bordered by key transport infrastructure existing rail corridor, Gore Highway, Wyreema Road and Drayton Connection Road; and
- The existing town centre plays an important role in servicing and supporting the local area as well as surrounding communities.



OPPORTUNITIES AND CONSTRAINTS

There are 10 key opportunities and constraints affecting the study area. They are high level elements that have influenced decision making in the development of the structure plan.



1. Existing and emerging employment opportunities: 7.

 Proximity to University of Southern Queensland (USQ) and the industrial areas of Anzac Avenue and the Toowoomba Enterprise Hub

2. Landscape and environment assets – habitat and amenity preservation:

- Westbrook Creek and areas of remnant vegetation are important for scenic amenity and the movement of wildlife
- Ecological areas within the structure plan area, such as Tristania Park, contain matters of state and national ecological significance

3. Multi-function linear corridor:

 The creek corridor offers significant opportunities to deliver multiple co-located functions, such as drainage, active transport, recreation, amenity and ecological functions

4. Opportunities and impacts of catalytic infrastructure:

- Major infrastructure projects, such as the Melbourne to Brisbane Inland Rail project and the Toowoomba Second Range Crossing, will influence Drayton's future urban development
- Opportunities associated with these projects are uncertain at this time

5. Opportunity for locating a future high school:

- The state government has indicated a new high school is needed in the south western portion of Toowoomba in the long-term
- Three locations are being considered: Westbrook, Darling Heights and Drayton.

Growth directions – influences on future residential growth in Drayton:

- Limited growth during last decade
- · Other growth areas have met residential demand
- Uncertain future demand for residential land (5-10 years)

7. Land fragmentation and other key constraints:

- Land fragmentation is a key barrier to urban development and infrastructure provision
- Topography and other physical constraints further impede residential development

8. Limited existing and planned Council infrastructure provisions:

- Existing infrastructure in Drayton is generally limited to the northern portion of the structure plan area
- The Local Government Infrastructure Plan (LGIP) identifies only minor extensions to the water supply and sewerage networks. No additional stormwater, parks and transport infrastructure are currently identified.

9. Heavy vehicle traffic (in the main street) and extended grid network of streets:

- Heavy vehicle traffic impacts on amenity and functionality of the main street
- Extension of the local street network to allow for greater traffic distribution and route alternatives.

10. Structure plan capacity – residential yield assumptions for place types:

Recommended residential densities reflect the physical constraints, identified community and environmental values, and feasible infrastructure considerations proposed compact residential development area – 'Next Generation Neighbourhood'.

COMMUNITY AND STAKEHOLDER ENGAGEMENT

The early engagement was a key focus and sought to understand the values and aspirations of the local community and stakeholders, and to generate ideas for the future development of Drayton.

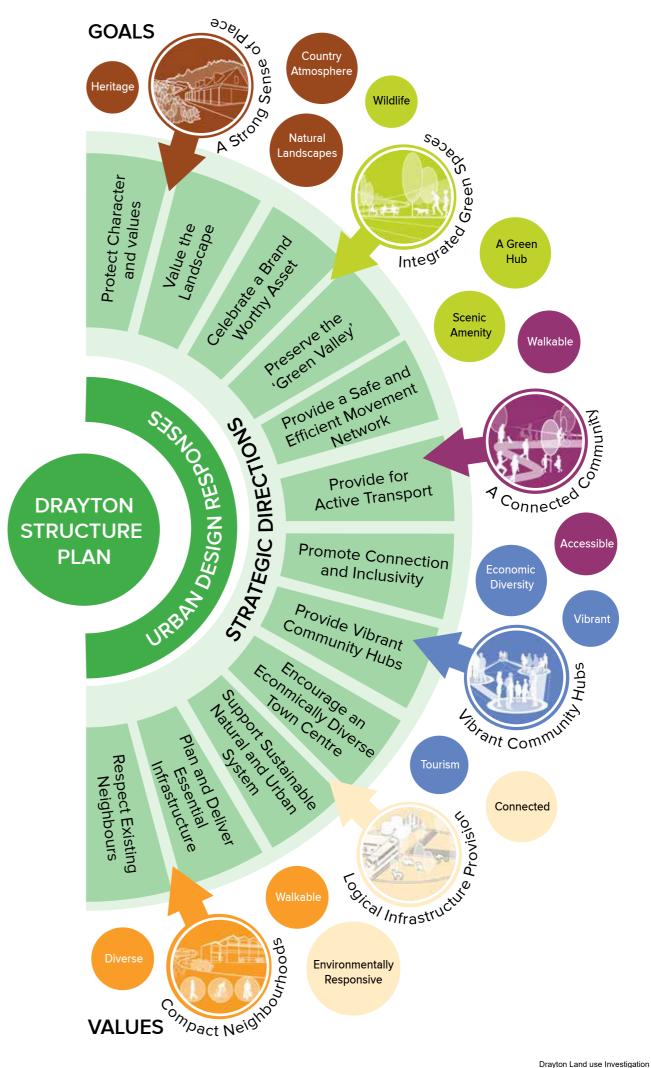
The following themes summarise the key values identified during community and stakeholder engagement:

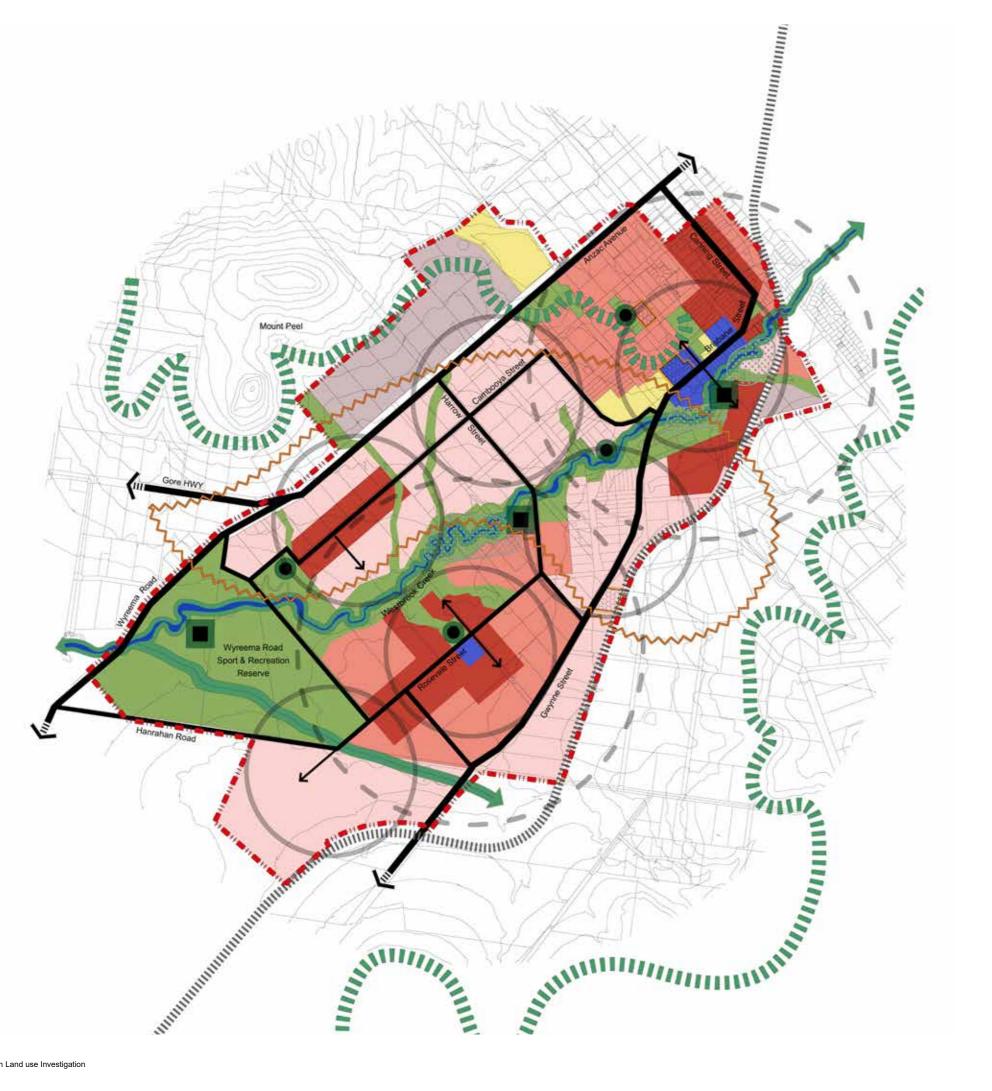
- Community identity and diversity
- Open space, parks and experiences
- Scenery and environmental features
- People, lifestyle and liveability
- Transport and connectivity
- Economy and employment
- · Services and infrastructure
- Residential patterns and urban structure.

URBAN DESIGN FRAMEWORK

The long-term urban design vision that underpins the structure plan for Drayton is articulated via a threetier urban design framework that includes 12 strategic directions and a series of urban design responses.







LEGEND

OPEN SPACE



SUBURBAN RESIDENTIAL



ACTIVITY CENTRES



MEDIUM DENSITY HOUSING

DISTRICT PARK OPPORTUNITY

MAJOR STREETS / ROADS



CREEKS & LINEAR CORRIDORS

IIIIII ESCARPMENT

HERITAGE SITES

**** HOUSING TRANSITION ZONE

STUDY AREA BOUNDARY

HABITAT HOTELS

| | | | | | | RAIL CORRIDOR

STRUCTURE PLAN AT A GLANCE

The structure plan is a non-statutory plan that sets out the planned urban structure for Drayton. It is intended to guide future urban development, and it will form the basis for a future planning scheme amendment and a series of implementation actions.

KEY FEATURES:

The four key land use elements represented in the structure plan are:

- Green space an integrated green space network focused around the Westbrook Creek linear corridor;
- Residential different forms of residential development are located appropriately to respect community and environmental values:
- Roads new and improved road connections, particularly east-west connections; and
- Centres an improved existing town centre and a proposed new community hub.

The structure plan uses a Place Model approach rather than traditional land use zones to demonstrate the proposed pattern of urban development. It proposes six place types:

- · Open space
- · Specific use
- · Activity centre
- · Next generation suburban neighbourhoods
- Suburban residential
- · Rural residential

STRUCTURE PLAN HIGHLIGHTS

- An expansion/consolidation of the Drayton town centre main street. A district level centre serving local and district catchments
- A new community hub / small scale local centre acts as a community focal point and serves day-to-day needs of the local neighbourhood
- A new Next Generation Neighbourhood providing diverse housing within a walkable catchment of the proposed community hub
- A 'housing transition zone' in the central part of the structure plan area is intended to:
 - Minimise impacts on scenic amenity, key view sheds and environmental assets
 - Alleviate the impacts on the values and amenity of existing residents
 - Ensure a diversity of housing
 - Respond to physical constraints in this area
 - Overcome/alleviate impacts of land fragmentation.
- · A greenspace network featuring:
- Westbrook Creek multi-function linear corridor, including local and district park nodes
- Walking and cycling paths linking neighbourhoods with key destinations via a central spine (Westbrook Creek corridor).
- A grid network of streets provides an efficient local movement network
- An area in the north-western part of the structure plan area (north of Anzac Avenue) is deemed not suitable for further intensification, and has therefore been designated as rural residential
- While school locations are not determined by the structure plan, the southern portion of the structure plan area may be suitable for a future school, particularly a high school. A future high school site must have the following criteria:
 - Located outside the core residential area and outside the centres
 - Located on a higher order road avoid introducing additional traffic
 - Balancing the amenity agenda for residential areas
 - Located near designated open space for potential opportunities for shared facilities

- Sited to promote active transport and to take advantage of existing corridors/opportunities
- Located to minimise the potential for negative impacts on the environment and the surrounding residential area, as well as reverse impacts from agricultural uses
- Avoid locations where the school's land consumptive nature has a detrimental impact on pedestrian or active transport permeability and connectivity.

DEVELOPMENT SEQUENCE & INFRASTRUCTURE

It is recommended that future development in Drayton be sequenced in five broad stages to better facilitate the desired urban form, and to assist with infrastructure planning and delivery.

The timing of urban growth in Drayton will be strongly influenced by the outcomes of the Toowoomba Region Growth Plan – a project which Council is currently undertaking. It will define and prioritise growth areas (both greenfield and in-fill) in the Toowoomba Region.

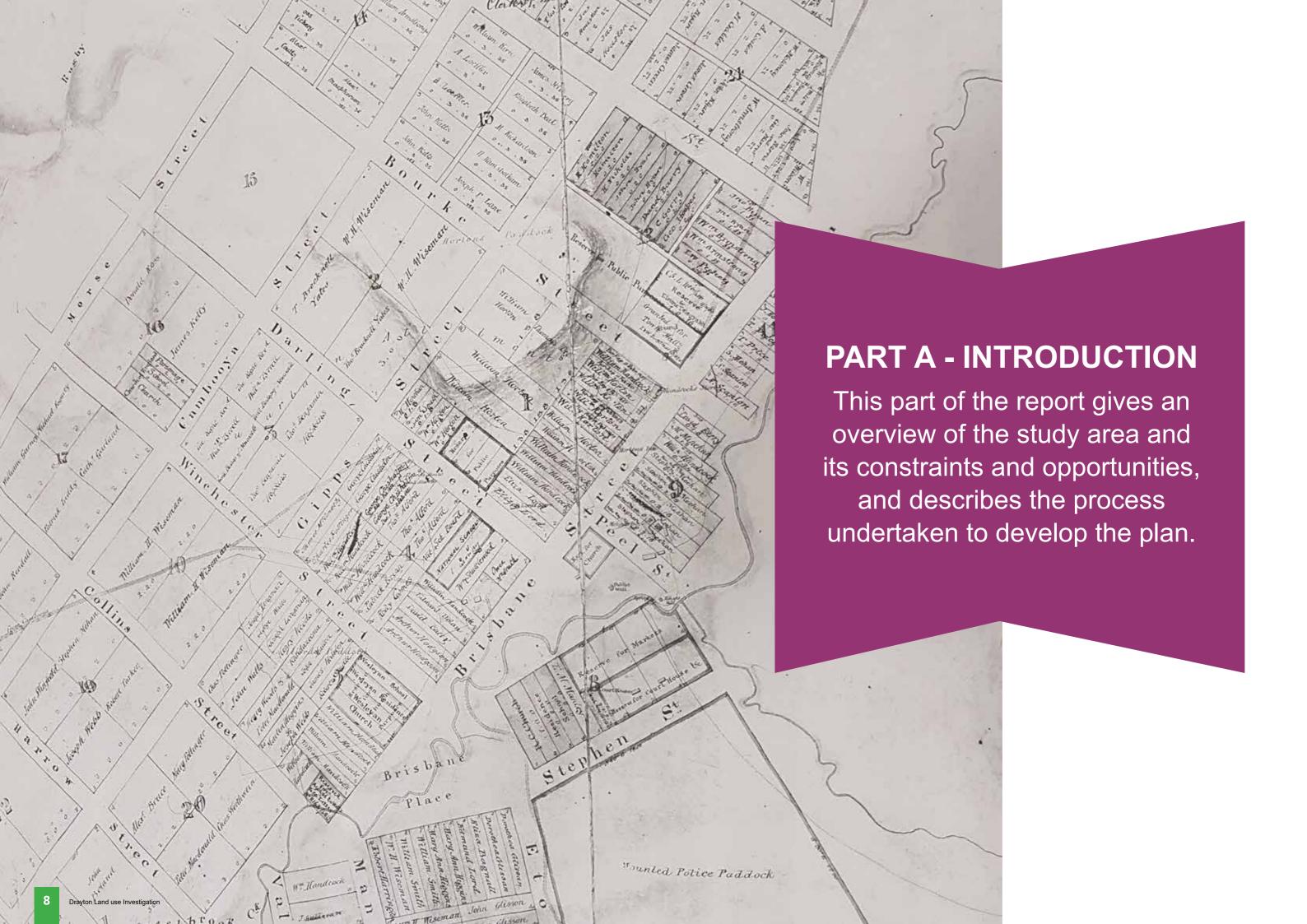
This will inform the next Local Government Infrastructure Plan.

IMPLEMENTATION

A series of implementation actions will be required to realise the desired outcomes including:

- Future Toowoomba Regional Planning Scheme amendment
- Collaboration with Queensland Government agencies on matters of state interest (e.g. state-controlled roads)
- Private and business investment as development occurs.





BACKGROUND

Imagine tomorrow - Drayton Land Use Investigation, is part of a series of local planning investigations by Council to guide sustainable growth and development in the Toowoomba Region.

DRAYTON LAND USE INVESTIGATION

These land use investigations are based on contemporary planning, urban design and placemaking principles that provide a framework to:

- guide future land use change and urban development
- offer more housing choices that meet the needs of people over their lifetime
- create quality and healthy places for people to live, work and play
- connect communities, and support transport choices and active lifestyles
- protect locally valued natural landscapes that contribute to the area's identity and enhance Toowoomba's garden city image
- · create an environment that attracts investment
- · deliver efficient, affordable and timely infrastructure.

The Drayton Land Use Investigation has developed a long-term vision (20+ years) for Drayton that is responsive to community and environmental values and the identified constraints and opportunities in the area, and reflects best practice planning and urban design.

The structure plan and the associated urban design framework that has been developed articulate how the vision and the strategic directions are to be implemented.

This report is a non-statutory document, which will inform future amendments to the Toowoomba Regional Planning Scheme and the Local Government Infrastructure Plan.

REPORT STRUCTURE

| Part A – Introduction | The structure plan area context and background, Methodology Community engagement | | | | |
|--------------------------|--|--|--|--|--|
| Part B – The Plan | | | | | |
| Urban Design Framework | How it all fits together | | | | |
| Vision | 6 goals communicate the vision for the future of Drayton | | | | |
| Strategic Directions | 12 strategic directions underpin the goals | | | | |
| Urban Design Responses | Six chapters, one per goal, setting out urban design responses that articulate how the goals and strategic directions are to be implemented | | | | |
| Drayton Place Model | Six place types –qualities and desired outcomes Next Generation Suburban Neighbourhoods | | | | |
| Structure Plan | Spatial distribution of places Urban structure | | | | |
| Part C – Design Guidance | Illustrative plans showing indicatively how the area might develop over time Concept plans - design principles expressed through plans, sections and visualisations | | | | |
| Part D – Implementation | Development sequence Development yields Implementation actions | | | | |
| Part E | | | | | |
| Glossary | | | | | |
| References | | | | | |
| Appendices | A – Site analysis, constraints and opportunities B – Community and stakeholder consultation C – Estimated residential yield calculations | | | | |

STUDY AREA

Drayton is a suburb located 6.5km from the Toowoomba central business district (CBD) and is characterised by its rural hinterland setting and rich history.

Drayton was the first settlement in the Toowoomba Region and it's heritage buildings date back to the 1840's together with its bushland and creek environments contribute to the areas unique identity and scenic qualities. The existing commercial centre plays an important role in servicing and supporting surrounding communities.

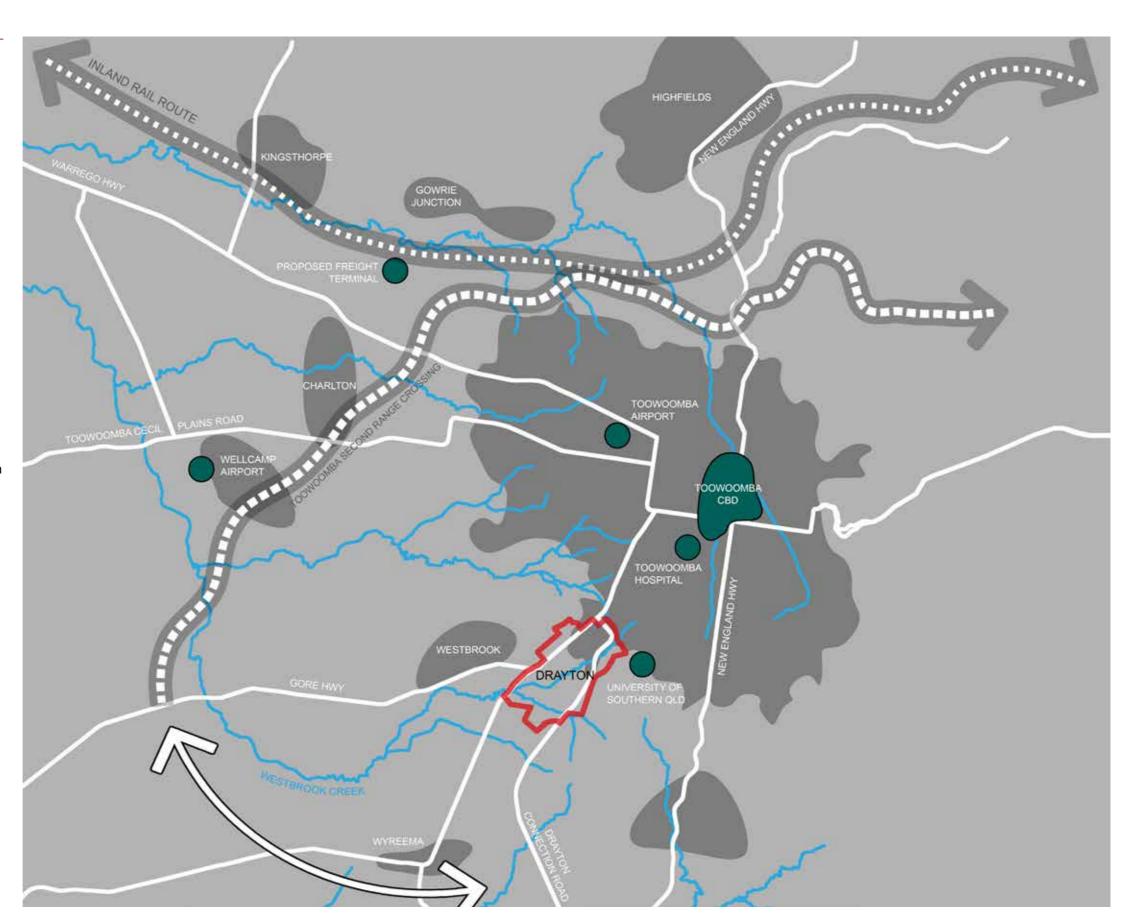
The structure plan area comprises approximately 540ha of land in the Drayton locality in south-west Toowoomba, of which 280ha is zoned Emerging Community. The Emerging Community Zone covers areas in the Toowoomba Region that are not currently recognised or developed as urban environments, but are identified for development in the next 20 years.

The structure plan area takes in the Drayton valley, which is framed by escarpments on both sides – Mount Peel to the West and Darling Heights through to Mount Rascal along the east. Westbrook Creek traverses the centre of the structure plan area and is one of the main natural features. The creek presents a number of challenges, such as flooding, but also a series of scenic and environmental opportunities.

Both the escarpment surrounding Drayton and the valley that runs through the centre of Drayton accommodate areas of vegetation that hold both local and state environmental significance. There is evidence that these areas of vegetation provide habitat for wildlife including koalas and echidnas.

An existing rail corridor, the Toowoomba – Warwick Line, runs along the eastern boundary of the structure plan area. There are also three state-controlled roads, the Gore Highway and Wyreema Road (along the western boundary) and Drayton Connection Road (through the east).

Drayton is close to employment areas and key activity centres such as the University of Southern Queensland (2km), Kearneys Spring commercial area (3.5km) and only 6.5km from the Toowoomba CBD. It is also conveniently close to growing job opportunities in West Toowoomba, and is adjacent to the Anzac Avenue industrial area.



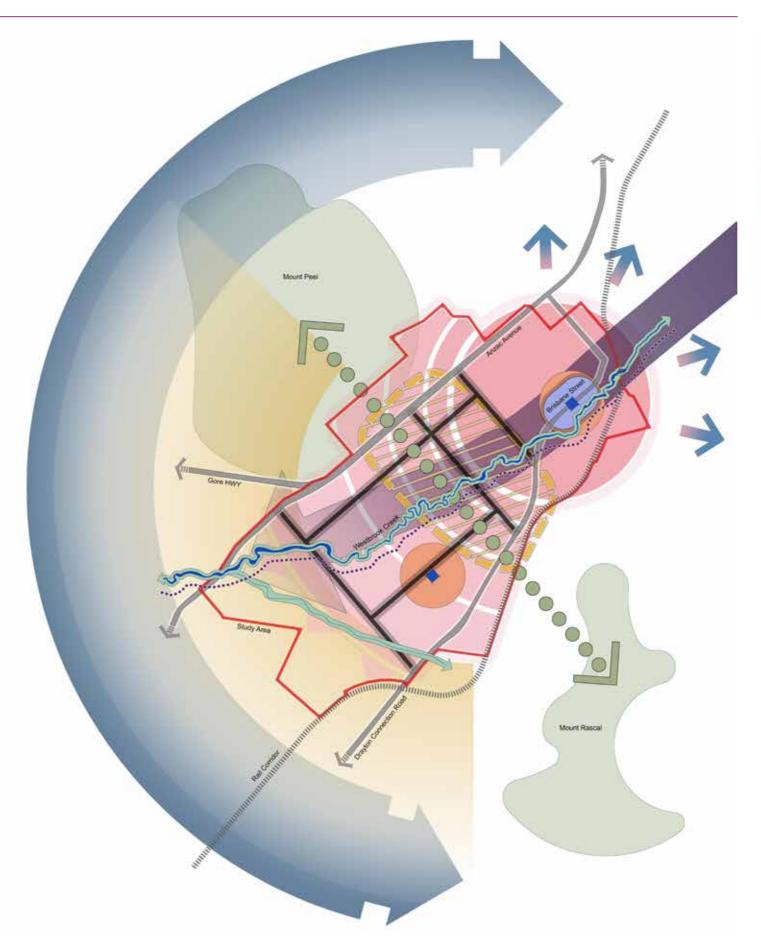
PROJECT DRIVERS & CONTEXTUAL INFLUENCES

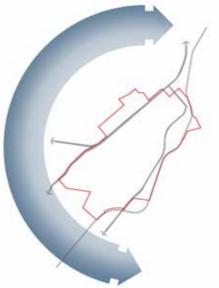
OPPORTUNITIES AND IMPACT OF CATALYTIC INFRASTRUCTURE

The structure plan area was designated as a future urban growth area in 2003 and was zoned accordingly, it is also within the ShapingSEQ – South East Queensland Regional Plan 2017 urban footprint area.

In addition, there are several project drivers and contextual impacts that have influenced the project and that will impact future development in Drayton. They will also affect how and when identified structure plan elements and outcomes will be implemented.

The following is a summary of these key project drivers, influences, constraints and opportunities.





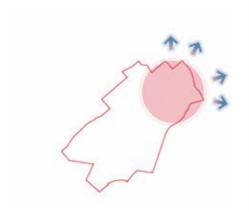
Regionally significant projects, such as the Melbourne to Brisbane Inland Rail project and the Toowoomba Second Range Crossing, will influence Drayton's future urban development.

While the exact impact of the Melbourne to Brisbane Inland Rail line on existing local rail lines is currently uncertain, it is likely that the role and function of the existing Toowoomba - Warwick rail line running along the eastern boundary of the structure plan area will change.

One long-term strategic opportunity is that the line is reclassified from a freight to a public transport line linking Drayton to the CBD. Alternatively, the line may be decommissioned in the long term, which would provide an opportunity to create a future active transport link to the Toowoomba CBD along this corridor.

The Toowoomba Second Range Crossing, together with the future New England Highway realignment/ bypass on the western side of Toowoomba may significantly reduce the heavy vehicle traffic along Drayton Connection Road and the main street of Drayton by providing alternative routes to Anzac Avenue and other industrial areas. However, the impacts of these projects on heavy vehicle volumes in Drayton is currently unknown, and the alignment of the planned New England Highway bypass and the timing of its implementation is uncertain at this stage.

EXISTING EMERGING EMPLOYMENT OPPORTUNITIES



The structure plan area's proximity to existing employment nodes (Anzac Avenue industrial area and the University of Southern Queensland) will support demand for residential growth. In addition, the Toowoomba Enterprise Hub is a major industrial area located approximately 6.1 kilometres north-west of the structure plan area. It will provide significant employment opportunities for an expanding population in Drayton. Further employment opportunities will be dispersed throughout Toowoomba, with ShapingSEQ (South East Queensland Regional Plan) identifying that an additional 25,100 jobs will be accommodated in urban areas throughout the Toowoomba urban extent.

LANDSCAPE AND ENVIRONMENT ASSETS - HABITAT AND AMENITY PRESERVATION



The Westbrook Creek corridor and connected tributaries and gullies are important habitats and movement corridors for local flora and fauna.

The large areas of remnant vegetation along the ridgelines forming the western escarpment are significant ecological assets. These vegetated ridgelines and other ecological areas within the structure plan area, such as Tristania Park, contain matters of state and national ecological significance.

These areas also contribute to locally valued scenic amenity. Identified view sheds, particularly to the west and south-west are important assets worthy of protection. (refer to Appendix A – Constraints Analysis – Scenic Amenity)

Green corridors (habitat corridors) such as the Westbrook Creek corridor including the adjoining gullies and drainage corridors (running east-west across the structure plan area) play an important role in connecting the areas of ecological significance along the vegetated ridgelines. The green corridors sustain the functioning of these ecosystems.

Further investigation into the role and requirements of local habitats and wildlife corridors will be required, if they are to be preserved or established.

MULTI-FUNCTION LINEAR CORRIDOR



Westbrook Creek is a key feature and an important urban design element in the Drayton structure plan area. The creek corridor offers significant opportunities to deliver multiple colocated functions.

The creation of a multi-function linear corridor along Westbrook Creek will include the provision of open space, the preservation habitats and scenic amenity, an active transport spine and stormwater management.

The future alignment of the Drayton portion of the Principal Cycling Network (PCN) will strengthen the active transport role of this corridor. There are additional opportunities to establish connections to other active transport linkages, such as a Mount Peel recreational trail loop and the local shared path network.

OPPORTUNITIES FOR LOCATING A FUTURE HIGH SCHOOL



The Queensland Department of Education has identified the potential need for a new state high school in the long term (2026-2036) in the south-western quadrant of Toowoomba.

Three locations are being considered: Westbrook; Darling Heights; and Drayton.

The Westbrook community is actively campaigning for a state high school to be located in their community. If however a high school were to be located in the Drayton structure plan area, it is important for the functioning of the planned residential community that a school is sited appropriately. For example, a large school site in the centre of a neighbourhood will reduce pedestrian permeability and thus walkability.

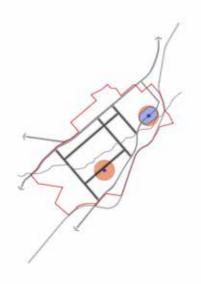
Therefore, a future high school site should meet the following criteria:

· Located outside the core residential

area and outside the centres;

- Located on a higher order road avoid introducing additional traffic on local streets;
- Balancing the amenity agenda for residential areas;
- Located near designated open space for potential opportunities for shared facilities;
- Sited to promote active transport and to take advantage of existing/ planned corridors/opportunities;
- Located to minimise the potential for negative impacts on the environment and the surrounding residential area, as well as reverse impacts from agricultural uses; and
- Avoid locations where the school's land consumptive nature has a detrimental impact on pedestrian or active transport permeability and connectivity.

HEAVY VEHICLE TRAFFIC (IN MAIN STREET) AND EXTENDED GRID NETWORK OF STREETS



The current movement network within the structure plan area is fragmented and does not facilitate efficient movement both within and beyond the area. There are limited east-west connections requiring through traffic to use the Drayton main street (Brisbane Street), impacting on pedestrian safety.

In addition, the volume of heavy vehicle traffic on state controlled roads within the structure plan area is affecting the amenity of the surrounding area. The heavy vehicle traffic on Brisbane Street (town centre) is of particular significance and concern. Drayton Connection Road, which turns into Brisbane Street, is currently a B-Double Route (up to 25 metres), and Anzac Avenue is a designated Type 1 road train (up to 36.5 metres) route.

Heavy vehicle volumes will continue to impact on the viability of the main street to function as a vibrant and sustainable town centre. To deliver a vibrant pedestrian friendly town centre, the role and function of Drayton Connection Road would need to change and an alternative route for heavy vehicle movement would need to be established. On-going consultation with the Department of Transport and Main Roads (DTMR) will be required to develop and

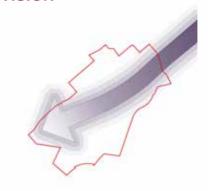
GROWTH DIRECTIONS -INFLUENCES ON FUTURE RESIDENTIAL GROWTH IN DRAYTON



LAND FRAGMENTATION AND OTHER KEY CONSTRAINTS



LIMITED EXISTING AND PLANNED COUNCIL INFRASTRUCTURE PROVISION



STRUCTURE PLAN
CAPACITY - RESIDENTIAL
YIELD ASSUMPTIONS FOR
PLACE TYPES



implement alternatives routes for heavy vehicle traffic, and to establish a more pedestrian friendly lower speed environment in the main street (Brisbane Street).

DTMR has long-term plans for a future New England Highway bypass on the western side of Toowoomba. It proposes a diversion of the existing New England Highway from Drayton Connection Road to Toowoomba Second Range Crossing. The impacts of this bypass on heavy vehicle traffic along Drayton Connection Road is currently unknown, and the alignment and the timing of its implementation is uncertain as it is only in the early stages of planning.

A bypass may provide alternative routes for heavy vehicles currently travelling through the structure plan area via Drayton Connection Road. It is however unlikely to reduce heavy vehicle movements intent on accessing the industrial land north of the structure plan.

The structure plan identifies an extension to the existing grid network of streets to allow for greater traffic distribution and route alternatives (refer to 'A Connected Community' section for details). This is intended to alleviate traffic volumes on the main street and would support the establishment of a more pedestrian friendly town centre.

Drayton has experienced only limited growth during the last decade or so, despite the area having been designated as a future urban growth area and being zoned accordingly since 2003. However, other residential growth areas, such as Highfields, Glenvale, Middle Ridge and Darling Heights have absorbed the majority of demand for greenfield development for many years.

Furthermore, Local Government Infrastructure Plan (LGIP) growth projections and planning assumptions indicate that demand for residential growth in Drayton will likely not increase until the Darling Heights growth area reaches capacity. This is projected to occur between 2021 and 2026 (LGIP Planning Assumptions Report, 2016). However, the most recent population projections (Queensland Government Statistician Office, 2018) indicate a reduction in anticipated growth for the Toowoomba Region. This may likely result in reduced demand for new residential land and thus delay the onset of projected urban growth in Drayton.

The updated population projections will be a key consideration during the next review and update of the LGIP. Any changes in the projected demand will be reflected in the planned timing of trunk infrastructure roll-out.

Land fragmentation is a key contributing factor to limited urban development in Drayton. The fragmentation of land in size and ownership is a challenge particularly in the central part of the structure plan area, where smaller parcels ranging from 4000m2 to 2 hectares occur. This area would typically bring forward sewerage and other infrastructure to enable larger parcels in the southern part of the structure plan area to be developed. However, individual landowners/developers of these smaller parcels are not in a position to support provision of larger infrastructure for the broader area. In other words, they are not able to fund the bringing forward costs of large pieces of trunk infrastructure, such as a new sewerage pump station.

In addition, due to the fragmented nature of this area, some developments may require lengthy and costly infrastructure negotiations with adjoining property owners in order to achieve adequate stormwater discharge and the delivery of trunk water and sewer mains.

Other influences relate to physical constraints, such as topography and flooding. These physical constraints do not prevent residential development but they do present additional challenges and therefore may have negative impacts on the feasibility calculations of certain developments.

Existing infrastructure in Drayton is generally limited to the northern portion of the structure plan area. This applies particulally to the sewerage and water supply networks.

The sewerage network currently extends south to Devonshire Street, whereas the water supply network extends somewhat further south to Manor Street and Harrow Street. The LGIP identifies only minor extensions to the water supply and sewerage networks. No additional stormwater, parks and transport infrastructure are currently identified.

Refer to constraints mapping in Appendix A for extents of the sewerage network.

The structure plan sets out a proposed urban structure and recommended residential densities for each place type within the structure plan area. The recommended residential densities for each place type reflect the physical constraints, identified community and environmental values, and feasible infrastructure considerations.

The planned residential densities, particularly for the 'Next Generation Neighbourhood' place type, is based on best practice urban design and is necessary to justify the delivery of costly infrastructure and key structure plan elements, such as the multifunction linear creek corridor, the new community hub and proposed road links.

The planned residential densities are the basis for the structure plan capacity / residential yield estimates contained in Part C of this report.

THE METHODOLOGY

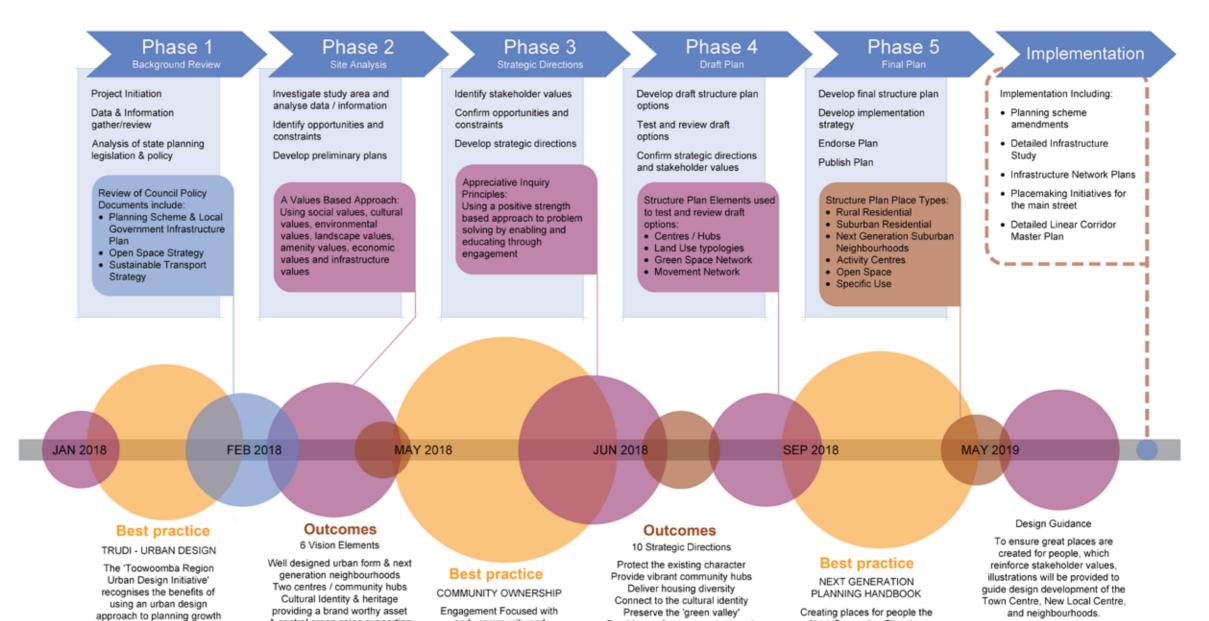
The Drayton Land Use Investigation was undertaken in five phases. The project methodology was influenced by a number of best practice models with a focus on an urban design approach.

THE PLANNING PROCESS

The best practice models used include:

- Toowoomba Region Urban Design Initiative (TRUDI);
- Next Generation Planning Handbook (2011); and
- Neighbourhood Planning Toolkit, Council of Mayors (SEQ) (2012).
- Model Code for Neighbourhood Design (2020)

The focus of the project was to embed community and stakeholder engagement early in the project using new tools and techniques. The identification of values and assets within the structure plan area was a key part of the community and stakeholder engagement phase. Identified community values formed the basis for the planning process and directly resulted in the formulation of strategic directions for the structure plan.



Provide a safe movement network

Improve transport options

Provide an attractive and

walkable main street

Ensure new developement is

sympathetc to existing

Deliver well designed urban form

Next Generation Planning

Handbook (NGP) encourages

development of a place based

model. The SEQ Place Model has

been adapted to reflect the local

qualities of Drayton, responding

to all stakeholder values

A central green spine supporting

a green space network

An integrated movement network

Scenic amenity, views & vistas

areas. Making connections

between people and places,

movement and urban form.

nature and the built fabric

using design techniques.

early community and

stakeholder involvement.

A community driven process

to promote ownership and

ensure community values

are integrated into the final

structure plan.

COMMUNITY COLLABORATION

Community and stakeholder engagement was an integral component of the Drayton Land Use Investigation project. Engagement activities were divided into two streams:

- Community consisting mainly of local residents and landowners; and
- Key Stakeholders consisting mainly of representative from state government, the development industry and relevant local organisations.

Community and stakeholder engagement was held at key stages of the project and included both face-to-face workshops and online techniques.

The early engagement was a key focus and sought to understand the values and aspirations of the local community and stakeholders, and to generate ideas for the future development of Drayton. The outcomes of this engagement were the drivers for the plan making process. The final structure plan and the associated urban design framework draws extensively on the contributions of the community and stakeholders.

COMMUNITY VALUES

Community engagement focused on a valuesled approach. Early in the project during the engagement phase, the following key values were identified and these guided the subsequent development of the structure plan and the associated urban design framework.

Additional details on consultation activities are contained in Appendix B.

WHAT WE DID



500+ community members informed in writing



face-to-face engagements with landowners and the broader community



2 community workshops



2 key stakeholder workshops



online and hardcopy survey

WHAT YOU GAVE US



180 ideas and issues



comments on three draft structure plan options



land use planning scenarios designed by stakeholders



1500+ webpage hits



500+ social media hits



completed online and hard copy surveys

WHAT YOU TOLD US TO DO

· Protect the existing character and values of Drayton when delivering urban growth and change.

- Provide vibrant community hubs celebrating their unique and distinct character.
- Deliver a mix of housing types located with deliberate care for the valued landscape and character of Drayton.
- Maintain a strong connection to Drayton's cultural identity and heritage celebrating a brand worthy asset.
- Celebrate and preserve the 'green valley' through a connected greenspace network.
- Provide a safe movement network with upgraded infrastructure that supports all users.
- Promote a connected and inclusive place where people come together and participate in community life supported by improved public transport and increased opportunities for walking and cycling.
- Encourage the development of a vibrant, attractive and walkable town centre that is economically diverse and leverages its unique identity and character.
- Develop appropriately scaled new development that respects the values of existing neighbours.
- Plan and deliver essential infrastructure to enable urban development that is responsive to identified values and is in line with projected demand.
- Plan and deliver well-designed urban form and associated infrastructure that supports sustainable natural and urban systems.

KEY COMMUNITY VALUES

Community identity and diversity

- History and Heritage
- · Country atmosphere.

Open space, parks and experiences

- Westbrook Creek corridor
- Parks as neighbourhood focal points
- Trails / links to open space and bushland.

Services and infrastructure

- Provision of urban infrastructure
- Provision of community facilities.

Scenery and environmental features

- Rural views, scenic amenit
- · Natural environmental assets.

Transport and connectivity

- Accessible centre
- Safe and efficient road network
- Public and active transport options.

Economy and employment

- Expanded town centre
- Links to employment areas and centres.

People, lifestyle and liveability

- Community meeting places
- Vibrant public spaces
- Cycling and walking paths
- Pedestrian safety.

Residential patterns and urban structure

- Walkable neighbourhoods centred around a centre/community hub
- Mix of lot sizes and housing types.









URBAN DESIGN FRAMEWORK

The urban design framework articulates a vision for how the structure plan area is to be developed long-term and underpins the structure plan developed for Drayton.

The three-tier hierarchical urban design framework consists of:

- Goals and values
- Strategic directions
- Specific urban design responses.

GOALS

The goals reflect community values, and respond to issues and ideas identified during community and stakeholder engagement.

1. A Strong Sense of Place



Drayton's character and sense of place are defined by its cultural heritage and landscape assets.

2. Integrated Green Spaces



Drayton's neighbourhoods sit within a green valley framed by views of vegetated escarpments and the rural landscape.

3. A Connected Community



Community interaction is encouraged and supported by an inclusive movement network.

4. Vibrant Community Hubs



Well-connected community hubs are a focal point for community activity celebrating the unique and distinct character of Drayton.

5. Logical Infrastructure Provision



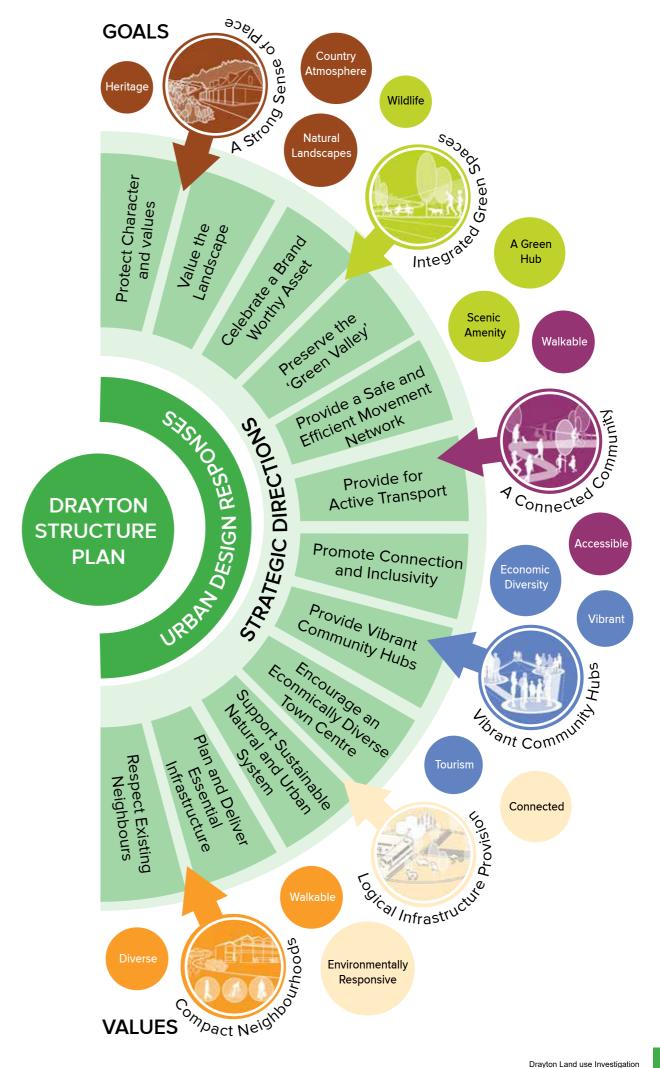
Coordinated infrastructure delivery will enable sustainable urban development consistent with the values of Drayton.

Compact Neighbourhoods



Drayton neighbourhoods will be well designed, diverse and environmentally responsive.

These goals are underpinned by 12 strategic directions and these are further supported by a series of specific urban design responses, which provide further direction and guidance for the implementation of each goal. All of this sets out the urban design framework for the structure plan.



STRATEGIC DIRECTIONS

ONE

Protect the existing character and values of Drayton when delivering urban growth and change.

Drayton's significant environmental and cultural values are protected. These values define the area's distinct character much appreciated by the local community.

The key community values and character elements are:

- · Scenic amenity views and vistas of the Drayton valley
- Environmental values
- · Cultural heritage
- · A village atmosphere in close proximity to the CBD.

New development respects these identified values and is sympathetically integrated the new development into the local environment.

Drayton has a contemporary village atmosphere that incorporates heritage and environmental values.

TWO

Deliver a mix of housing types located with deliberate care for the valued landscape and character of Drayton.



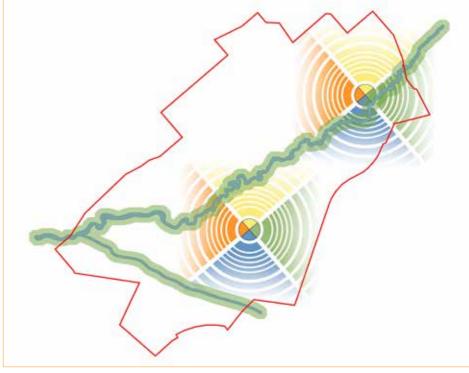
Drayton features housing in all shapes and sizes. This diversity in housing reflects the increasing diversity in households. Housing for everyone!

A mix of housing types and sizes will address the needs of diverse households in the community and facilitate ageing in place. New residential development typologies are consistent with Next Generation Planning principles, and reflect Smart Growth and Affordable Living principles.

Residential development is located and designed specifically to respect Drayton's scenic amenity and natural environment. A mixture of lot sizes and housing types finds a balance between the country feel and character of Drayton and the need for diversity and growth.

THREE

Maintain a strong connection to Drayton's cultural identity and heritage – celebrating a brand worthy asset.



Drayton's early history and heritage defines the identity of the local community and it is an important asset that is promoted and leveraged. Drayton's unique history and existing heritage architecture offers a 'point of difference' that generates tourism and other economic opportunities.

New development respects and responds to Drayton's cultural identity and heritage so valued by the community. Placemaking elements, such as signage, entry statements, street furniture, public art and landscaping, will reinforce Drayton's heritage and existing character.

It is not about mimicking the history and heritage, but about respecting existing heritage architecture and responding to the existing character.

FOUR

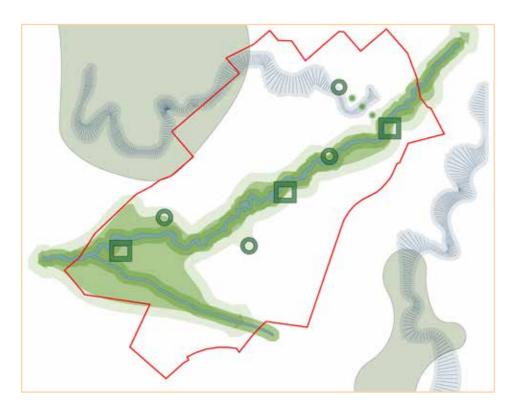
Celebrate and preserve the 'green valley' through a connected greenspace network.

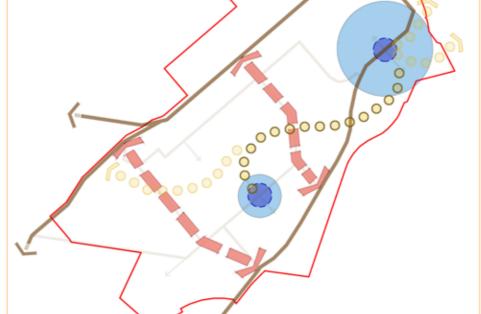
FIVE

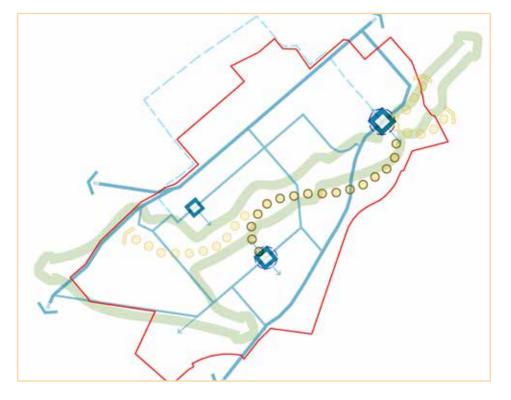
Provide a safe and efficient movement network with upgraded infrastructure that supports all users.

SIX

Provide accessible and effective public transport and increased opportunities for walking and cycling.







A major greenspace network focused on the natural vegetated features of the creek corridor, gullies and ridgelines, create a community embraced by green. These features physically and visually define Drayton and contribute to its sense of place. The greenspace network comprises public and privately owned land that have multiple functions.

Drayton is a contemporary green village which is wildlife friendly (e.g. koala, echidna) and features a range of 'habitat hotels' and biodiversity corridors. There are educational and also economic opportunities to build on the value of the greenspace network.

Local park/open space activity nodes along the creek corridor service the local community and provide destinations.

Come to Drayton, and get a green hug!

The local multi-modal movement network includes public transport and active transport modes to support the growing residential community.

The expansion of the local road network primarily utilises the existing grid of road reserves. Additional local street connections along both sides of the Westbrook Creek multi-function open space corridor provide street frontages to a majority of open space in the southern half of the structure plan area. A range of road infrastructure upgrades have improved the efficiency and safety of the road network.

The higher order state controlled roads form the 'backbone' for the local road network. The provision of a new east-west higher order road link provides an alternative heavy vehicle route and relieves pressure associated with the Drayton town centre main street environment.

The public transport system and active transport pathways network are complete and well integrated with the local road network and discourage the use of the private car. Safe and people friendly local roads are critical in creating walkable neighbourhoods and a vibrant town centre.

The urban structure supports active transport choices using pathways along the Westbrook Creek corridor and other open space to connect people and places of activity. Appropriate residential densities around activity centres and community nodes further support walkability and public transport viability.

Drayton is serviced by a grid system of local streets, walking and cycling networks, and public transport that support travel choice. Walkways/cycleways connect local residential communities to nearby employment areas and education facilities (e.g. Anzac Ave industrial area, Drayton State School, USQ). Public transport connects locals to other destinations in Toowoomba and the region.

SEVEN

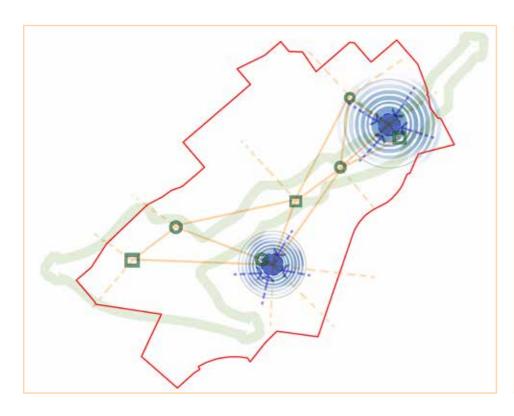
Promote a connected and inclusive place where people come together and participate in community life.

EIGHT

Provide vibrant community hubs celebrating their unique and distinct character.

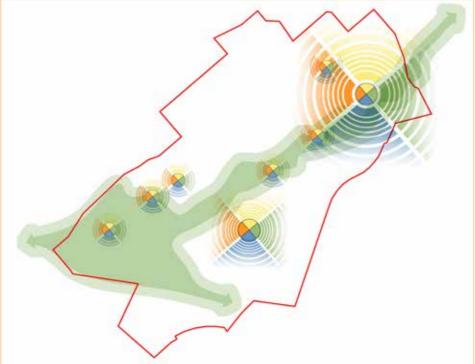
NINE

Encourage the development of a vibrant, attractive and walkable town centre that is economically diverse and leverages its unique identity and character.



Drayton has a strong community identity and sense of place. It is important to provide places for community events that are easily accessible and provide focal points for both residents and visitors. Walkable neighbourhoods together with places for community interaction (community hubs) foster cohesion and cultural exchange.

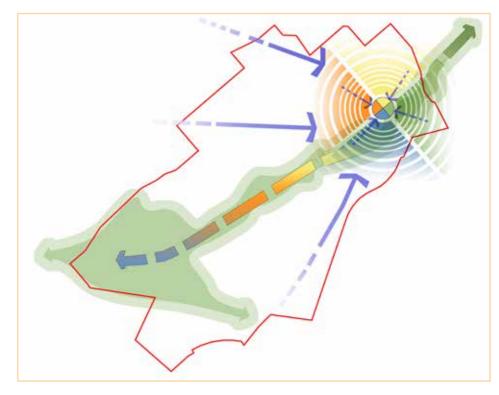
The urban structure of Drayton is based on Next Generation Planning principles, which promote walkable neighbourhoods that provide access to a range of employment opportunities, services and public transport options.



The existing town centre remains the principal centre of Drayton. A secondary local centre/community hub in the south of the structure plan area services a new residential community.

Two residential communities, which are scaled for walking, are centred around an activity centre/community hub to provide a community focal point and vibrancy for surrounding neighbourhoods.

Additional neighbourhood nodes further encourage walking by providing destinations. These destinations may consist of local parks, a child care centre, community facility or even a bus stop.



Well-designed medium density housing surrounds the main street commercial area. A minimum housing density is required to sustain non-residential uses within the centre. A critical mass of people is required to support urban services such as public transport, local shops and community facilities/services.

Four key elements make up Drayton's identity; these are community, economy, heritage and green space. All four elements are present in the Town Centre and are used to reinforce the character of Drayton and promote the economic vibrancy.

The town centre main street is the civic heart of Drayton. It provides retail, commercial and community services, which enables a more self-contained community.

TEN

Plan and deliver well-designed urban form and associated infrastructure that supports sustainable natural and urban systems.

The structure plan responds to landscape characteristics, topographic conditions and environmental and scenic values. The new urban form builds on the sense of place and character of Drayton. Local green space in particular the Westbrook Creek corridor is considered a critical asset to the Drayton community and it is celebrated and preserved.

Greater housing diversity and intensity within the walkable catchment of centres and neighbourhood nodes promote walking and cycling. This also contributes to the vibrant functioning of the Drayton town centre, which is a pedestrian focussed environment. The Drayton town centre is designed to maximise the amenity of its destination assets.

Infrastructure is designed to promote interaction between private and public spaces, and focus on fostering healthy living environments.

Timely delivery of infrastructure and utilities enable a coordinated and logical sequence of development. The urban form and structure is designed to maximise infrastructure investment and efficiency.

ELEVEN

Plan and deliver essential urban infrastructure to enable urban development that is responsive to identified values and is in line with projected demand.

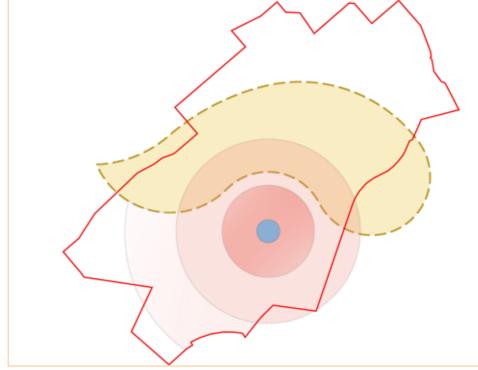


Infrastructure planning and delivery is consistent with the structure plan.

Infrastructure provision supports and facilitates the creation of a new compact residential community in the south of the structure plan area as well as the establishment of a 'housing transition zone' in the central part of the structure plan area which features lower density residential development more closely aligned with existing residential typologies, thus respecting identified community

TWELVE

Develop appropriately scaled new development that respects the values of existing neighbours.



New development that interfaces with existing residential areas is designed to be sympathetic to the existing residential scale, bulk and density. New development and building typologies respond to the identified values of existing Drayton residents.

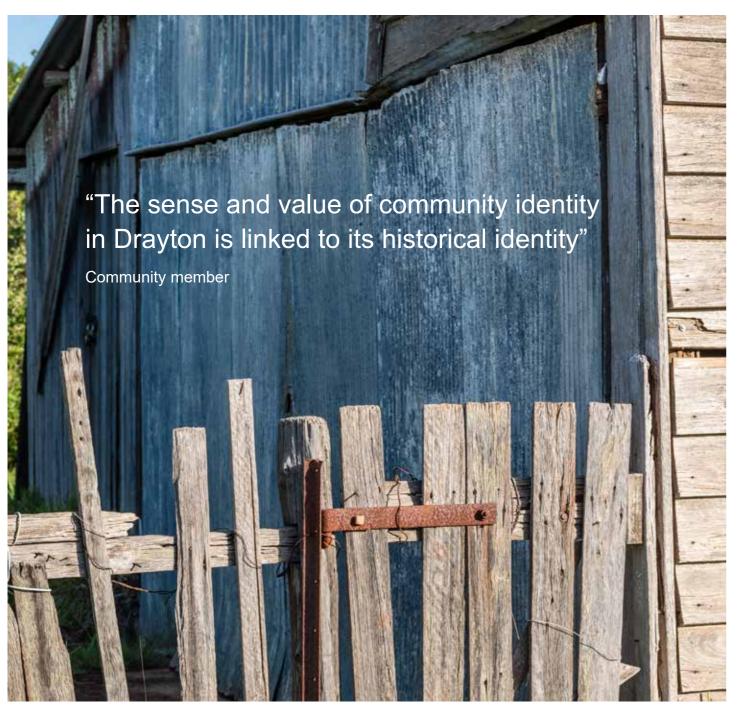
Great care and attention are given to the siting of buildings, their massing and architectural treatment. Also, the use of appropriate materials and the maintenance of the existing landscape ensures no undue impact on the privacy and amenity of adjacent residents, and/or the quality and character of the broader residential environment.



A STRONG SENSE OF PLACE

Goal 1

Drayton's character and sense of place are defined by its cultural heritage and landscape assets.



STRATEGIC DIRECTIONS

- Maintain a strong connection to Drayton's cultural identity and heritage celebrating a brand worthy asset.
- Protect the existing character and values of Drayton when delivering urban growth and change by sympathetically integrating the new development into the local environment.
- Deliver a mix of housing types located with deliberate care for the valued landscape and character of Drayton.

DRAYTON'S SENSE OF PLACE

The most important qualities of Drayton are its heritage and the sense of connection to the surrounding rural and natural landscapes.

Existing prominent heritage places contribute to a distinctive local character. The scenic amenity with views of the rural landscapes, surrounding ridgelines and green spaces reinforce the country atmosphere and environmental assets. This valued character presents a unique tourism opportunity

The community identified a series of physical and cultural values that contribute to the unique character and sense of place in Drayton. This identifiable character was considered by many an important asset for Drayton that is worthy of promoting and celebrating. During the first round of consultation, the following values were identified as the key priorities:

- Heritage;
- · Country atmosphere;
- · Liveability and lifestyle;
- · Green and leafy, landscape and scenery.

During community engagement, these values or characteristics ranked as most important in making Drayton a distinctive place. While it is acknowledged that urban development will change the character of Drayton, a series of urban design responses have been developed to protect key values where possible, or to alleviate the impact of urban development on these values.

HERITAGE AND HERITAGE PLACES

One of the most important qualities of Drayton is its heritage and history, as it was the first European settlement in the Toowoomba Region. Drayton started out as a campsite settlement in the early half of the 1840's amidst pastoral properties in the Eastern Downs, known as Eton Vale, Westbrook and Gowrie Stations. Drayton continued to be the primary settlement in the region until the town of Toowoomba was established. Toowoomba grew rapidly, due to its better access to water, fertile soils and temperate climate, and it soon became the primary population centre, and Drayton an outlying small suburb.

While only three buildings from these early settlement years survive today, they are significant state heritage listed buildings in prominent locations:

- · St Matthew's Church of England, Beatrice Street;
- · Royal Bulls Head Inn, Brisbane Street;
- · O'Shea's Drayton Cottage, Gwynne Street.

They serve as an important reminder of Drayton's settlement history, and offer a 'point of difference' that has the potential to generate heritage tourism and other economic opportunities.

The Royal Bull's Head Inn in particular plays a defining role in the character of the main street. There are significant opportunities that leverage the existing heritage qualities, such as a complementary commercial or tourism component to attract more visitors.





The following urban design responses have been developed to protect and enhance Drayton's heritage values and unique character:

- In the Drayton town centre, placemaking elements, such as signage, entry statements, street furniture, public art and landscaping, will reinforce Drayton's heritage and existing character;
- New development adjacent to existing heritage places will be designed and located sympathetically to respect and enhance heritage architecture;
- New development/buildings work well with the existing development and respect the local context. This does not mean new development must mimic its neighbour in its design but does require new development to be considerate in the way it acknowledges and responds to its neighbour;
- Create distinctive new neighbourhoods and public places by building on Drayton's cultural identity and heritage. A range of placemaking strategies will be utilised including:
- · Using local and/or traditional materials;
- · Retaining historical associations;
- · Installing symbols and icons (public art);
- · Signage and plaques associated with heritage walks.
- Minimise impacts on identified scenic values, and protect views of heritage places and vistas from heritage places;

Note: For additional detail on the town centre, refer to the chapter on Community hubs.

COUNTRY ATMOSPHERE

Drayton is the threshold between city and country and thus it has strong links to the surrounding rural hinterland. The sense of connection to the rural and natural landscapes was identified as a defining quality of Drayton and is highly valued by the local community. Views of the rural hinterland to the west create a scenic backdrop for suburban areas.

The following urban design responses aim to minimise impacts on Drayton's country atmosphere:

- Create a 'housing transition zone' between existing neighbourhoods and new communities (refer to structure plan for details);
- Protect and enhance the scenic amenity of Westbrook Creek;
- Limit impacts on identified views/view corridors of the rural landscape to the west and south-west;
- Ensure there is adequate space for vegetation along the creek corridor and gullies;
- Provide areas for deep soil planting along street frontages and within gardens; and
- Provide a green space network centred around the creek corridor that will frame new and existing neighbourhoods and provide visual buffers.

LIVEABILITY AND LIFESTYLE

Liveability is an assessment of what a place is like to live in, using particular criteria such as environmental quality, crime and safety, education and health provision, access to shops and services, recreational facilities and cultural activities.

In Drayton, liveability mainly relates to this area being a quiet and safe community with large residential lots and rural views. The structure plan seeks to respond to this community value by creating a 'housing transition zone' in the centre of the structure plan area between the existing residential area in the north and the proposed new residential community in the south. This central area currently contains the majority of larger lifestyle/rural residential lots. The purpose of the 'transition zone' is to recognise the existing residential and lifestyle values in this area by encouraging more intensive residential development in the southern part of the structure plan area around a new community hub/ small local centre.

In addition, the structure plan proposes new lifestyle and liveability enhancing values and qualities, such as a multifunction linear corridor featuring recreation and active transport opportunities, expanded public transport options and greater housing choice.

The following urban design responses aim to minimise impacts on liveability and lifestyle:

- A defined transition 'zone' which will feature lower housing densities and housing typologies that are more consistent with existing housing in this area (large single detached dwellings)
- Residential development is located and designed specifically to respect and respond to Drayton's scenic amenity and natural environment, and
- A mixture of lot sizes and housing types finds a balance between the country feel and character of Drayton and the need for diversity and growth.

LANDSCAPE CHARACTER AND SCENIC AMENITY

The sense of connection to the surrounding rural and natural landscapes was identified as a defining quality of Drayton and is highly valued by the local community.

Views and vistas of the rural landscapes to the west, framed by vegetated ridgelines (western escarpment) to the north and south are typical of Drayton. Westbrook Creek and other green spaces reinforce these values and create a backdrop to existing and future suburban areas.

From the west, views to the western Toowoomba escarpment rising from the agricultural plains provide a sense of arrival to the 'garden city'.

In addition to urban design responses mentioned previously, the following encourage the creation of a contemporary village atmosphere while respecting and building on the existing character:

- New residential development is sited and scaled appropriately to protect identified key views and vistas;
- Maximise and promote the area's relationship with Mount Peel by introducing trails and pathways linking residential areas to the Mount Peel bushland park.



INTEGRATED GREEN SPACES

Goal 2

Drayton's neighbourhoods sit within a green valley framed by views of vegetated escarpments and the rural landscape



STRATEGIC DIRECTIONS

- Celebrate and preserve the 'green valley' through a connected green space network.
- Protect the existing character and values of Drayton when delivering urban growth and change.

DRAYTON'S GREEN VALLEY

The Drayton valley features many defining green spaces highly valued by the community. The vegetated ridgelines and the meandering creek support wildlife and their movements along habitat corridors. These valued scenic and environmental assets are preserved and continue to define Drayton. Green spaces will be integrated providing passive and active recreation to support a growing community.

The environmental values, open space and landscape character, and the scenic qualities of the Drayton structure plan area were key elements identified by the community as being important for preservation and enhancement as they contribute to Drayton's identity and sense of place – Drayton's distinctive brand.

The Drayton structure plan responds to these values by establishing an integrated green space network that maximises the potential of Westbrook Creek and the vegetated ridgelines, and enhances the existing green space and scenic amenity values. This green space network will be built over time in response to increased residential population in Drayton and will contribute to the lifestyle and character of the area, as well as support environmental values.

WESTBROOK CREEK MULTI-FUNCTION LINEAR CORRIDOR

Westbrook Creek is a key feature of the structure plan area, which provides the opportunity for the establishment of a multi-function linear open space corridor. The linear corridor will be the central spine of the green space network for Drayton, and will have a multi-purpose function, including opportunities for walking and cycling that link to the wider active transport network, maintaining ecological processes and stormwater drainage functions, and link with other open space areas in the Drayton community.

Park nodes along the linear corridor foster healthy lifestyles by providing active and passive recreation opportunities, and places for social interaction for the surrounding neighbourhoods. The linear open space corridor connects with existing drainage corridors and provides the opportunity to connect areas of remnant vegetation both within and outside the structure plan area. These corridors provides a 'green break' between the residential areas to the north and south of the creek. It also provides for active transport opportunities, linking the existing town centre with a proposed new community hub, as well as across creek connections.

Accessibility to the linear corridor will be maximised, with road frontages established adjacent to the corridor where possible, in accordance with Toowoomba Regional Council's Open Space Strategy 2016.

BUSHLAND PARKS AND THE ESCPARMENT

The structure plan area is nestled between two prominent ridgelines, creating what is known as the Drayton valley. These ridgelines are important for wildlife and therefore it is essential to maintain the vegetation linkages between the ridgelines across the Drayton valley.

The vegetated ridgelines of Mount Peel Bushland Park and Mount Rascal frame the Drayton valley. They form important destinations that support the movement of wildlife across the structure plan area. Preservation of vegetation and key areas of open space within the structure plan area provide 'habitat hotels' for wildlife as they traverse these east-west links. These links also create the opportunity for natural bushland walking trails. Specifically, there is an opportunity to create a recreational walking trail linking the Westbrook creek corridor, the Drayton town centre and the Mount Peel Bushland Park

PARKS AND RECREATION

The provision of open space in the structure plan area will be delivered in line with Toowoomba Regional Council's Open Space Strategy 2016, which outlines the desired standards of service for parks and open space provision. A network of parks, both new and existing, will meet the needs of the community by providing for a variety of experiences, contributing to the amenity of neighbourhoods, and becoming the focal point or 'hubs' of residential communities. Both district and local parks will be distributed at distances of approximately 400m to ensure accessibility for residents.

Tristania Park is an existing Council reserve, which is maintained as natural bushland with environmentally significant vegetation. Its ecological value and location along the creek corridor makes it a key habitat reserve for wildlife traversing the structure plan area. It will be retained in its natural state and form part of the integrated green space network for Drayton.

The Wyreema Road Sports Reserve located at the south of the structure plan area is to be retained by Council as a sports reserve, with further investigation needed to determine its future function.

SCENIC AMENITY

The structure plan area provides for valuable scenic amenity features, emphasised by the ridgelines that frame the 'Drayton valley' and the views to the rural plains.

The structure plan aims to preserve the scenic amenity value of the Drayton area, by maintaining significant views such as the view to Mount Peel and down the valley from the existing residential area by establishing an open space network that contributes to and enhances the local scenic amenity so highly valued by the community.

Another important element of the green space network is the inclusion of street trees and vegetated buffers within the urban environment to reinforce the environmental values of the area. Street trees not only contribute to creating a greener and more aesthetically pleasing urban environment, they will provide a more comfortable environment for pedestrians and cyclists. Street trees on key roads and pedestrian links are particularly important (refer to the guidance material for more detail).

The planting of trees within neighbourhoods at the individual house level is promoted, particularly in the suburban residential area, where house blocks will be large enough to encourage deep soil planting which will contribute to the greening of the neighbourhood and promote wildlife movements.





A CONNECTED COMMUNITY

Goal 3

Community interaction is encouraged and supported by an inclusive movement network



STRATEGIC DIRECTIONS

- Promote a connected and inclusive place where people come together and participate in community life;
- Provide accessible and effective public transport and increased opportunities for walking and cycling;
- Provide a safe and efficient movement network with upgraded infrastructure that supports all users.

DRAYTON'S INCLUSIVE NETWORK

The grid network of streets extended to integrate with the creek corridor supports a socially inclusive community.

The creek corridor provides the backbone of Drayton's people focused movement network. This forms part of an integrated movement network offering multiple travel options including public and active transport. The green spine will be an adventure and journey of its own making while connecting residents to key destinations.

The movement network in Drayton aligns with the strategies and actions of the Toowoomba Region Sustainable Transport Strategy (2014). The purpose of the strategy is to:

- guide transport policy, integrated land use and transport planning, and future transport investment decisions; and
- set out actions to address challenges and achieve the targets set for improved transport sustainability.

Targets have been set to 2031 to help achieve a sustainable transport system, which include:

- · increasing cycling trips three-fold;
- · doubling the number of walking trips; and
- increasing public transport patronage to three times its current usage.

The Drayton structure plan reflects and supports the Sustainable Transport Strategy through the following key movement principles:

- 1. Connected community
- · Central green spine;
- · Community nodes/hubs;
- · Grid network of streets;
- 2. Active community
- · Walking and cycling;
- · Streets as places;
- Public transport

CONNECTED COMMUNITY

Ensuring residents are able to travel safely and efficiently to key destinations is a focus of this plan. The aim is to increase travel choices and to distribute and decrease traffic on major streets. In addition, the intention is to create multi-modal links to key community destinations, such as parks, schools and centres; thus improving accessibility and promoting community interaction.

Central green spine - active transport function

Drayton is a valley defined by Westbrook Creek. The creek corridor is a central spine traversing the entire structure plan area. The creek corridor poses some challenges in relation to flooding and drainage, and in terms of achieving east-west connections linking communities on both sides of the creek. However, it provides significant benefits and opportunities for this area by providing a vegetated green corridor linking and framing neighbourhoods and centres.

The Westbrook Creek corridor is an important structural element that provides opportunities for community interaction and encourages a socially inclusive community. It will be a multi-function linear corridor that incorporates a key component of the local active transport network (walking and cycling paths), thus enabling efficient movement and connecting people to key destinations in and beyond the Drayton area.

It offers a direct link from the existing town centre to the proposed future community hub.

Community interaction

The structure plan supports community interaction by reinforcing a series of meeting spaces throughout Drayton including:

- Local parks;
- · District parks; and
- Community facilities (schools, community halls, sports gounds).

These are comfortable and inclusive places in which people like to hang out and spend time.

Grid network of streets

A grid network of streets forms the backbone of well-connected neighbourhoods and provides an efficient local movement network. The grid network aims to create legible, safe and attractive urban areas, and improve accessibility throughout the structure plan area. This grid network is reflective of the traditional road network in the existing urban areas of Toowoomba. A network of interconnected streets encourages walking, cycling and public transport.

The structure plan street layout:

- Establishes a network of streets based on the existing road reserves which connect neighbourhoods to key destinations and the external road network. It also provides highly accessible and relatively direct routes for bus services, and disperses local traffic loads;
- Enables a finer-grain network of streets of varying types (connectors, local access, laneways etc.) to establish perimeter blocks that encourage housing and transport choice through:
- smaller block sizes generally located near neighbourhood nodes and activity centres (streets become closer – not smaller);
- bus stops generally at an average spacing of 400
 800m (e.g. centre of neighbourhood walkable catchment);
- block length limited with frequent intersecting streets to increase permeability and legibility for active transport;
- enabling efficient lot layout to create a continuous building frontage (buildings directly face the street).
- Responds to local topography (ridges, gullies and creeks) and reflects the character and local identity
- New east-west connections across Westbrook Creek to improve accessibility and traffic flow efficiency.

ACTIVE COMMUNITY

Streets will be designed to accommodate more than just cars. A network of on and off street pathways will encourage active transport.

Walking and cycling

The improved provision of walking and cycling infrastructure is required if the Sustainable Transport Strategy targets are to be achieved. The structure plan enables a comprehensive active transport system by:

- · Establishing a major street network that:
- links key destinations (e.g. Drayton town centre, new community hub);
- all major streets have on-street and off-street cycle paths, as well as walking paths;
- Off-street routes using Westbrook Creek multi-function linear corridor and allocated drainage reserves.
- Indicating a preferred alignment for the Principal Cycle Network for Drayton.

Streets as places

A walkable network of streets and public spaces are safe and attractive, and provide opportunities for diverse community interaction and commercial activity. Streets will be designed to accommodate more than just cars. Key street design principles:

- Layout, routes and spacing of streets encourage walking, cycling and public transport as the priority travel modes;
- Activities are clustered and a legible street hierarchy connect key destinations;
- Street layout encourages lots with a continuous frontage so all buildings directly face onto the street to create interest and provide casual surveillance;
- Provide shade and shelter for pedestrians and cyclists along streets and in public spaces using appropriate vegetation, large trees, awnings and other shade structures.

PUBLIC TRANSPORT

The structure plan supports a public bus transport system by:

- Establishing a network of major streets that connect neighbourhoods and key destinations to support patronage and create an efficient public transport route;
- New Next Generation Suburban Neighbourhoods enable more people to live within a walkable catchment of bus stops on direct and convenient routes (major roads) – bus stops are at an average spacing of 400 - 800m and located as close as possible to key attractors and the centre of neighbourhoods;
- Cluster activity and densities along major roads and around focal points such as parks and activity centres, and integrate these with active transport options;
- Location, spacing and design of minor streets intersecting with major streets support direct and convenient bus routes, and prioritises pedestrian access from a walkable catchment:
- Bus stops are located on-street rather than as a dedicated transit stop in centres to extend pedestrian networks through centres and support activity.



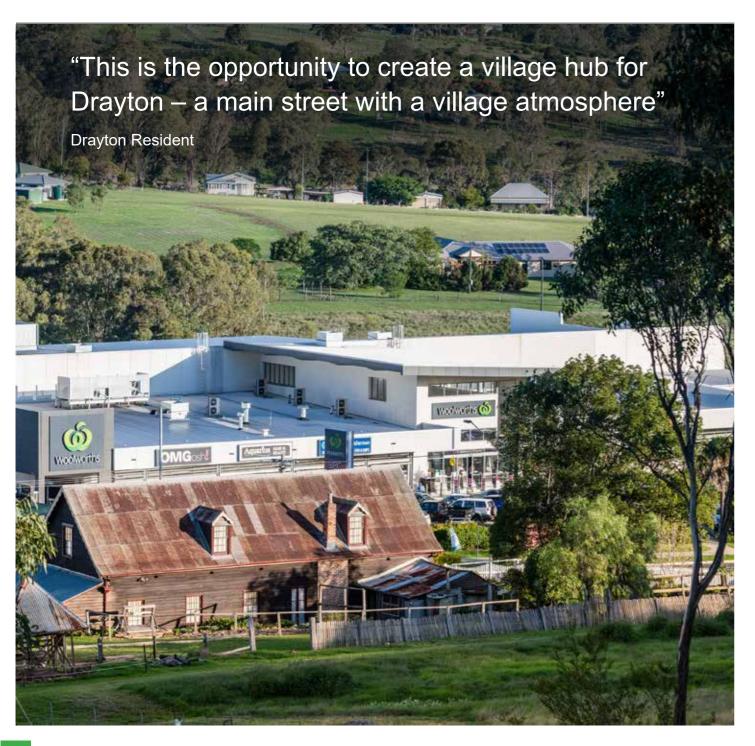




VIBRANT COMMUNITY HUBS

Goal 4

Well connected centres are a focal point for community activity celebrating the unique and distinct character of Drayton



STRATEGIC DIRECTIONS

- Provide vibrant community hubs celebrating their unique and distinct character.
- Encourage the development of a vibrant, attractive and walkable Town Centre main street that is economically diverse and leverages its unique identity and character

DRAYTON'S CENTRES

Drayton centres are accessible, vibrant and attractive destinations. As pedestrian friendly public realms they foster social interaction and are the heart of the community. They reinforce and leverage their unique identity and brand to promote economic diversity and growth. The centres are located to make best use of investment in infrastructure.

Town centres and main streets are the civic heart of any community. They provide for retail, commercial and community services, as well as places for social interaction and meeting places for local residents.

The Drayton community identified concerns with the current function of the existing town centre on Brisbane Street, including issues of safety, unattractiveness, poor pedestrian movement, and heavy vehicle traffic, which do not lend themselves to creating an enjoyable or attractive main street environment. The community also identified strongly with the values of community and heritage when considering a future town centre, and the need to find a balance between economic growth and liveability.

Key ideas for the town centre included:

- · Tree planting for shade and amenity
- Footpath improvements
- Safer road crossings
- · Traffic calming/slowing
- Mode sharing cars, bikes, walking sharing the road
- Pedestrian links to the linear corridor, school, Woolworths centre, and up to Gwynne Street
- Emphasis and celebration of heritage through design elements
- Encourage more shops and employment opportunities to build self sufficiency
- Public transport opportunities

The Drayton structure plan proposes the expansion/ consolidation of the existing street based centre, and to establish a more attractive, accessible and vibrant town centre main street which better serves the needs of local businesses and the community. It will provide retail, commercial and community services and enable a more self-contained community.

The structure plan also explores the potential for an additional hub in the southern portion of the structure plan area if the population is there to support it.

TOWN CENTRE

The existing Drayton town centre on Brisbane Street will remain the key activity centre for the Drayton community and is intended to be:

- a mixed use activity centre which includes residential and non-residential uses
- a district level centre that provides services and facilities for a local and district catchment
- a centre of mixed uses and mixed ownerships, where a competitive private sector supports business and employment opportunities.

The centre will be focused around the notion of the 'Drayton brand' – heritage, environment, economy and community – which reflect the key values expressed by the community during consultation. This is intended to promote economic vibrancy and reinforce the character of Drayton.

Heritage

Heritage is at the core of the Drayton locality and its identity. The location of the Royal Bulls Head Inn in the main street provides an opportunity to celebrate and build on this heritage. Design elements such as light poles, street furniture and signage should be made to reflect this heritage and new buildings should be in keeping with the heritage feel of the area. The heritage focus of Drayton provides a real tourism opportunity by celebrating its

history and recognising the roots of the locality through heritage trails which show where the old settlement of Drayton used to exist.

Environment

The role of the environment in the main street is in the form of local parks that provide a connection back into the linear corridor along Westbrook Creek and provide places for social interaction and recreation within close proximity to the centre. Street trees will be a main feature which will contribute to the overall greening of the main street as well as improve the climate conditions for pedestrians. Links from the main street to the escarpment that runs from the top of Glennie Street along to Mount Peel also brings the environment into focus.

Economy

The key role of the town centre is to provide a retail and commercial function for the community. The structure plan builds on the existing economic activity in the main street, and promotes economic diversity and growth to create a 'high street' environment. Encouraging a mix of uses such as retail, commercial, community and entertainment activities to locate in the town centre will help to establish a more vibrant main street that attracts both residents and visitors. A range of diverse uses that are available throughout day and night create a safer public environment by encouraging passive surveillance. Enabling Drayton to become self-sufficient was important for the community, so encouraging economic vitality and diversity is essential.

Community

The street based town centre is an attractive and functional focal point for the local community. The existing Drayton Community Hall is heavily used and will remain a prominent building in the main street. There is opportunity for a town square to be located in a central location which would provide a meeting place for residents. The Drayton State School is located at the southern end of the main

street and further emphasises the need for safety for both pedestrians and vehicles. It is important that the main street is a vibrant place that people want to spend time in and that it creates an environment that brings a sense of pride for the community.

Drayton is one of the key entry points into Toowoomba from the south, so it is important that it provides a welcoming and attractive gateway.

It is anticipated that changes at a broader region wide level to the road network will result in the reduction of heavy vehicle movements in the main street, making it a much safer and pleasant environment for pedestrians and local traffic. The speed limit of the main street is recommended to be lowered to further improve the town centre environment. The town centre will be serviced by improved public transport (bus) provision, which will provide connections throughout the existing and new residential neighbourhoods.

The town centre will be a street based centre where people come first. It will feature an improved pedestrian environment that encourages walking and cycling by creating a shared, low vehicle speed street for pedestrians, cyclists and vehicles. Key design features rather than regulation achieve slow traffic speeds:

- Pedestrian crossings and traffic calming measures slow traffic speeds
- Street trees and landscaping treatment contribute to the character and amenity of the main street
- Awnings provide shade and shelter to create a comfortable pedestrian realm
- Active frontages and footpath dining provide a vibrant public realm.

Traffic is not discouraged from driving through the main street, in fact passing traffic and accessibility is critical to the shops and businesses of the town centre.

Vibrancy and the co-location of uses

A diverse mix of uses in the town centre promotes a vibrant centre of activity. The co-location of the following land uses will enable the long-term success of the centre:

- · Commercial / retail uses
- · Parks, gathering spaces, play spaces
- · Community facilities and institutional uses.

In addition, more intense forms of residential development (medium density) around the centre will further contribute to its vibrancy by providing a 'critical mass' of residents within a walkable catchment.

A network of pedestrian and cycle pathways, and treelined streets will encourage people to walk to the town centre rather than rely on the car. Providing linkages from the main street to the Westbrook Creek linear corridor will connect the town centre through the structure plan area and back into Toowoomba via active transport linkages including the Principal Cycle Network.

NEW COMMUNITY HUB

A new community hub (potential small scale local centre) is proposed in the southern portion of the structure plan area, which would be central to the new Next Generation Suburban Neighbourhood. This hub is intended to serve the day to day needs of the surrounding local community and be secondary to the town centre.

The structure plan shows an indicative location for the hub. The attributes of any new hub must align with the below criteria:

- Located away from the highway (Anzac Avenue or Drayton Connection Road) to ensure it is pedestrian and community friendly, and not car dominated;
- Collocated with a local park providing a link to the multifunction linear corridor and active transport opportunities, and should incorporate a bus stop;

 May provide for convenience retail uses (e.g. coffee shop, small-scale grocer), that do not syphon the economic expectations from the existing town centre and undermine its viability.

This will create a real local community hub, which is people focused and not car based or just catered to passing traffic. The hub will be a focal point of the community. It will be vibrant, attractive and community oriented with an emphasis on human comfort and interest, whether people are walking, cycling, shopping, dining or socialising. Its central location within the next generation suburban neighbourhood will promote a walkable hub. A key focus of the hub will be its connection to the environmental features of Drayton, as it is nestled within the valley and is close to the Westbrook Creek corridor.

The scale and size of the hub will depend on what residential densities are achieved within the catchment. A critical mass is required to support certain centre uses and services. If it is deemed that there is no economic legitimacy for certain uses in the proposed community hub location, then these use will not be encouraged in this area.

Note: Refer to the Guidance Material section for an indicative masterplan illustrating how the town centre and new community hub could develop.



SUSTAINABLE INFRASTRUCTURE

Goal 5

Coordinated infrastructure delivery will enable sustainable urban development consistent with the values of Drayton

"Achieving the required economic, social and environmental outcomes for the sustainability of our cities and regions will require a high level of integrated planning. This is not achievable without the coherent vision which comes from master planning both land use and facilitating infrastructure."

Building Up & Moving Out: Inquiry into the Australian Government's role in the development of cities. Commonwealth Government 2018.



STRATEGIC DIRECTIONS:

- Plan and deliver well-designed urban form and associated infrastructure that supports sustainable natural and urban systems.
- Plan and deliver essential urban infrastructure to enable urban development that is responsive to identified values and is in line with projected demand.

DRAYTON'S INFRASTRUCTURE

Logical infrastructure provision underpins the growth of Drayton. Projected population demands drives future infrastructure and neighbourhood development. Well-designed neighbourhoods and associated infrastructure reflect the community values around identity, the green valley, and the environment.

Logical infrastructure provision enables timely and orderly urban development. In Drayton, logical infrastructure delivery will facilitate future urban development that is in line with identified community values, physical constraints and Council priorities by:

- Being consistent with structure plan strategic directions and the proposed sequencing plan; and
- Delivering infrastructure in a timely manner as set out in the Local Government Infrastructure Plan (LGIP).

EXISTING SITUATIONS AND ISSUES

In Drayton, a number of constraints and barriers to infrastructure provision inhibit urban development. Aside from physical constraints, land fragmentation has been identified as the main barrier to infrastructure provision.

Fragmentation of land in size and ownership in the centre of the structure plan area currently inhibits infrastructure rollout. Existing trunk infrastructure does not extend into this fragmented area, which means that landowners/ developers in this area would have to bring forward sewerage and other infrastructure to develop their land. However, individual landowners/developers of these smaller land parcels are unlikely to be in a position to afford the costs of bringing forward larger pieces of trunk infrastructure, such as a sewerage pump station.

An additional infrastructure constraint relates to developers having to negotiate with potentially several neighbouring property owners to bring through essential infrastructure. This can be a costly and lengthy process. There is a need to explore mechanisms to address this infrastructure delivery constraint. This land fragmentation issue has further impacts on the land in the south of the structure plan area that is less fragmented and more suitable for large-scale urban development, it will remain a long distance from any existing trunk infrastructure. The key implication is that is places high infrastructure requirements and increases costs on any development projects in this southern area.

The provision of trunk infrastructure in the southern portion of the structure plan area may stimulate future development. The future provision of infrastructure in this area, including sewerage infrastructure will be considered by Council when reviewing the LGIP.

Structure plan and urban design responses

The structure plan identifies the southern portion of the structure plan area as most suitable for residential development as it offers greater opportunities for assembling sufficiently large development sites. Larger residential development sites are generally able to achieve better urban design outcomes, and more cohesive and complete neighbourhoods. The structure plan identifies the south-eastern part of the structure plan area as a Next Generation Neighbourhood featuring more compact and diverse housing typologies.

The structure plan designates a 'housing transition zone' which achnowledges and responds to land fragmentation issues, physical constraints and identified local values in the centre of the structure plan area by:

- Minimising impacts on scenic amenity values in particular views and vistas to the west from existing neighbourhoods;
- Alleviating the impacts on the amenity of existing residents within the transition zone;
- Providing a transition between existing low density residential areas and more compact future residential development; and
- Protect existing natural and heritage values within the transition zone.

Housing densities and housing typologies in the transition zone are to be more consistent with existing housing typical in this area (large single detached dwellings), thus providing a transition from the more compact residential areas planned in the south. The transition zone incorporates existing residential areas (mainly larger lifestyle lots) where only limited change/growth is anticipated. The remaining parts of the transition zone has been designated as low-density residential.

INFRASTRUCTURE IMPLICATIONS

The structure plan responses result in different housing densities for specific areas. This will need to be considered by Council's infrastructure network planners as part of the next review of Council's LGIP to ensure alignment.

The delivery of structure plan outcomes requires new trunk infrastructure across all Council infrastructure networks.

Road and pathway network

The structure plan proposes a higher order road network, which will provide travel choice and traffic flow efficiency. The proposed road and pathway network including the active transport spine along the creek corridor are designed to facilitate active and public transport (refer to 'Connected Community' section for details).

Parks and Open Space

A central green spine will feature district and local park activity nodes distributed to ensure good accessibility (refer to 'Integrated Green Spaces' section for details).

Stormwater and drainage

The stormwater management strategy will need to address significant local drainage and flooding issues to allow future residential development to proceed. Stormwater quantity management will require a series of detention basins, piped drainage, open channel drainage and a number of cross drainage structures for road crossings. Stormwater quality management will require a series of bio-retention basins.

Water and sewer

The sewerage network extension will require additional sewerage pump stations, pressure and gravity mains on both sides of Westbrook Creek. An extension to the trunk water supply network will also be required.

As part of the infrastructure-planning phase, Council may need to investigate the creation of easements in order to facilitate the efficient delivery of trunk infrastructure. Easements will allow on-site drainage, stormwater discharge and the delivery of trunk water and sewer mains. This may assist in avoiding costly and lengthy infrastructure negotiations for developers and landowners in the future.

MULTI-FUNCTION LINEAR CORRIDOR

The proposed multi-function linear corridor along Westbrook Creek will incorporate the three infrastructure networks of parks, transport and drainage. This linear corridor offers opportunities for innovative infrastructure that is integrated into a shared space along the creek corridor. There are efficiency benefits of colocation and integration.

There are also opportunities for innovation in infrastructure design in responding to environmental values, specifically in relation to wildlife movement along the creek corridor and connected gullies (e.g. echidna ledges in drains, over the road links) (refer to Design Guidance section for details).

The delivery of this multi-function linear corridor will occur in line with the desired standards of service for the provision of parks and open space. New development will be a key delivery mechanism of this linear corridor.

LOCAL GOVERNMENT INFRASTRUCTURE PLAN

The Local Government Infrastructure Plan (LGIP) is Council's primary infrastructure planning instrument. It is designed to ensure alignment between desired land use planning outcomes and timely delivery of enabling infrastructure.

Infrastructure network plans/studies for each of the five networks will need to be reviewed and revised if necessary to ensure alignment with structure plan outcomes. A future update of the LGIP will need to:

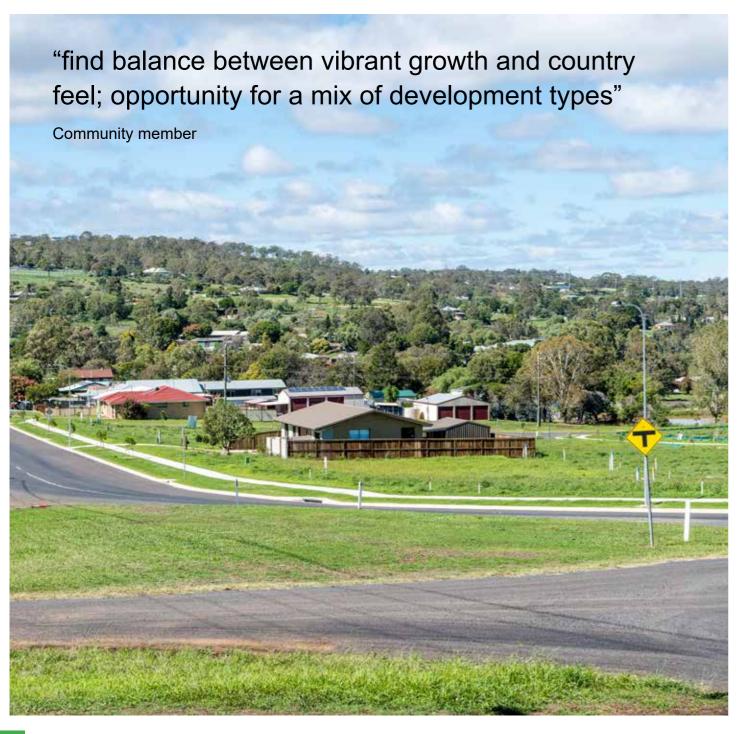
- Ensure alignment of planned infrastructure delivery with the structure plan outcomes
- Consider the proposed structure plan sequencing
- Incorporate the revised network plans for Drayton.



COMPACT NEIGHBOURHOODS

Goal 6

Drayton neighbourhoods will be well designed, diverse and environmentally responsive



Strategic directions:

- Deliver a mix of housing types located with deliberate care for the valued landscape and character of Drayton.
- Develop appropriately scaled new development that respects the values of existing neighbours.

DRAYTON'S NEIGHBOURHOODS

New neighbourhoods are integrated into the landscape and respond to locally valued cultural and natural assets. Neighbourhoods are well connected and encourage active transport. They offer a mix of housing types that meet the needs of diverse households. Transitions between new and existing development respect the values of existing residents.

The proposed residential land uses in the study area have been determined in response to community values, topographical features, existing development patterns and best practice neighbourhood planning principles. During consultation, the community identified:

- · the need for a mix of housing types;
- recognised that new development needs to be sympathetic to existing development;
- scenic values should be maintained and maximised;
- medium density development should be located appropriately to take advantage of the local centre and parks.

The pattern of residential land uses will establish a diversity of housing options and an attractive and liveable urban environment for Drayton. The three residential place types proposed in the study area are Rural Residential, Suburban Residential and Next Generation Suburban Neighbourhoods. These residential land uses make up approximately 200ha of land within thestructure plan area and it is anticipated that development will occur sequentially over the next 20+ years.

RURAL RESIDENTIAL

The land adjacent to Mount Peel and north of Anzac Avenue is proposed as Rural Residential. This area is significantly constrained in topography, infrastructure availability and access, making rural residential the most appropriate form of residential development. The location of large lots along Anzac Avenue ensures impacts from the main road on residents can be limited. This form of development also promotes a suitable transition to Mount Peel, preserving vegetation and habitat corridors for the movement of wildlife and maintaining the open space character of this location.

SUBURBAN RESIDENTIAL

The suburban residential area makes up the central part of the study area and responds to community concerns regarding the conflict between existing and new forms of development. This lower density development provides a transition between the proposed area of more intense development in the southern portion of the study area and the existing residential area in the north east. This type of development is intended to preserve the character and scenic values of the area, particularly the country atmosphere and retention of vegetation cover.

The parcel of land at the very south of the study area is proposed as suburban residential which ensures a suitable transition to the rural land outside the boundary of the study area. Appropriate buffering on the edges will be required to reinforce this transition.

There is an area of medium density residential development located along one of the key road links, which is reflective of the potential public transport route and the proximity to a proposed park node and green spine which makes up part of the escarpment loop to Mount Peel.

The interface between Anzac Avenue and the suburban residential area will be addressed through buffering to ensure there are minimal impacts from the road on the residential amenity of that location. This will be in the form of a landscape buffer to provide visual screening and noise protection. Fencing solutions (Colourbond fencing) should be avoided (refer to Design Guidance section for suggested buffer and interface treatments).

NEXT GENERATION SUBURBAN NEIGHBOURHOODS

New Next Generation Suburban Neighbourhoods are proposed in the south-eastern portion of the structure plan area. These neighbourhoods will provide a greater diversity of housing types appealing to a range of incomes and family types, and offer opportunities for 'ageing in place'.

A new community hub will be the central focus of these neighbourhoods. The most intense forms of development are located within a 400-800m walkable catchment (pedshed) of the community hub, along key roads, and around major amenity features such as parks. Higher housing density and diversity areas gradually transition to lower density on the edge of these neighbourhoods, which ensures a more suitable interface with existing residential areas.

The co-location of parks within the community hub promotes walkability and contributes to establishing a vibrant place for residents and visitors. The neighbourhoods are developed in such a way that they support the provision of public transport in the future, with an interconnected grid network of streets providing for legibility and enough residential development to create the critical mass for services to be viable.

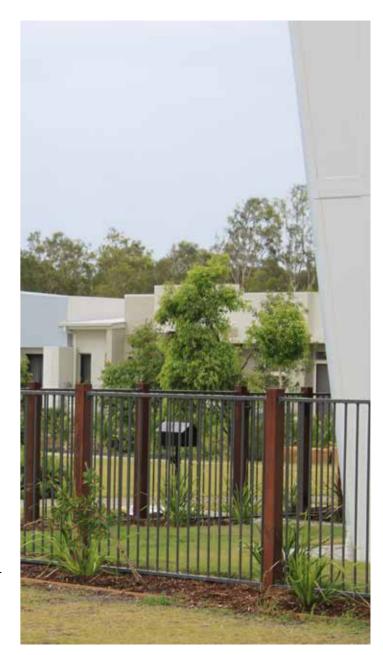
The area around the existing town centre is currently zoned as Low-Medium Density Residential. It is proposed to consolidate this area as a Next Generation Suburban Neighbourhood, with a higher density of housing clustered around the town centre, new community hub, park nodes and key public transport routes. This is intended to encourage walking and cycling and support viable public transport. Also, having more residents within a walkable the town centre catchment helps to create a more economically sustainable and active centre.

The linear corridor provides a 'green break' between the residential areas to the north and south of the creek. It also provides for active transport opportunities, linking the existing town centre with the new local centre/community hub, as well as across creek connections.

Design Features

The intent of a Next Generation Suburban Neighbourhood is to:

- use land wisely and efficiently, density supports a mix of uses and viable public transport
- offer a wide choice of housing within a five-minute walkable catchment of a central focus such as a park, bus stop, child care centre or (less commonly) local shops
- The street network is a well connected, permeable and legible grid network
- These neighbourhoods are intended to be developed at a density that will support public transport and active transport infrastructure at 15-25 dwellings per hectare (consistent with ShapingSEQ - South East Queensland Regional Plan)
- There is an increased proportion of attached housing including duplexes, terrace and row houses, shop-top housing and even live/work building
- Attached housing is focused around activity centres and neighbourhood hubs, along public transport routes and adjacent to local recreational parkland
- Attached housing may also occur in other locations with particular attributes such as corner lots and lots with rear lane access
- Housing diversity offers opportunities for 'ageing in place'.



DRAYTON PLACE MODEL

The Drayton structure plan uses a Place Model rather than the conventional zoning approach to illustrate and describe the planning outcomes. The Place Model identifies the existing place types or place types relevant to proposed growth and seeks to illustrate the distribution, balance and role of each place type.

THE MODEL

The Place Model is based on the idea that settlements and towns are made up of a series of distinct place types with specific qualities and is a way to demonstrate the relationship between these places.

The Drayton Place Model is based on the concept of the South East Queensland Place Model but was amended to take account of the:

- particular local land use activities in Drayton;
- specific characteristics and features of this area: and
- community and stakeholder aspirations about the qualities of residential places in Drayton.

The Drayton Place Model was developed in line with the long-term vision for Drayton. It is a strategic tool to communicate and promote the qualities of different places in Drayton and to provide direction for more precise planning and subsequent planning scheme responses. The model shows how place types respond to the natural landscape and cultural features of the area.

The Drayton Place Model consists of six place types that describe the progression from natural open space places to urban places, and how these places function and integrate collectively.

THE TRANSECT DIAGRAM

The transect diagram illustrates the six place types of Drayton: suburban residential, next generation suburban neighbourhoods, activity centres, open space, rural residential and specific use.

| OPEN SPACE | SPECIFIC USE | ACTIVITY CENTRE | | NEXT GENERATION NEIGHBOURHOODS | | RURAL RESIDENTIAL | OPEN SPACE |
|------------|--------------|-----------------|--------------------|---|--------|----------------------|-------------|
| 1000 | | | | | 11 - 0 | | - NO - NO |
| | | | 99 9 99 <u>910</u> | 9 el ed | | | |
| | | | | | | | |
| 30000 | | | | | | | B. C. B. B. |
| OPEN SPACE | SPECIFIC USE | ACTIVITY CENTRE | | NEXT GENERATION NEIGHBOURHOODS | | RURAL RESIDENTIAL | OPEN SPACE |

OPEN SPACE

Open space places are the foundation of urban liveability. The Open space place type consists of protected areas (such as conservation areas), private lands, which are densely vegetated, ridgelines and steep slopes as well as Council managed natural reserves and flood plains associated with waterways.

This place type may have a diverse range of active or passive recreational opportunities, natural assets, ecosystem services and scenic and cultural values.

In Drayton, the Westbrook Creek open space corridor is dominant within this place type. The Wyreema Road Sports Reserve, existing parks, and proposed new park nodes are also represented by this place type.

SPECIFIC USE

Specific use places represent areas of significant social, cultural and economic investment that often serve a social and community need. These stand-alone functions may be quite intensive in their nature, occupy a large area and may include large-scale infrastructure.

In Drayton, these places are restricted to a small number of locations where a large single use or focus does not fit into other place types, and takes a quite different form to other place types.

The Drayton State School and the Drayton Memorial Hall are two local examples of this place type.

ACTIVITY CENTRE

Activity centres provide a mix of uses that may provide the following opportunities: employment, shopping, commercial, community and education services, and housing. Activity centres provide important civic and social functions and include a range of spaces for social interaction. Vibrancy flows from their mix of uses, particularly at the street level. They are important meeting places and key destinations for the surrounding communities.

The existing Drayton town centre is and will continue to be the primary activity centre for the community. An additional community hub in the southern part of the structure plan area will act as a community focal point and provide small-scale services for the local area.

NEXT GENERATION NEIGHBOURHOODS

The Next Generation Suburban
Neighbourhood place type offers
a wide choice of housing within a
five minute walkable catchment
of a central focus such as a park,
bus stop, child care centre or local
shops. The street network is a wellconnected, permeable and legible grid
network.

The Next Generation Suburban Neighbourhood places are intended to be developed at a density of 15–25 dwellings per hectare that will support public transport and active transport infrastructure.

There is an increased proportion of attached housing including duplexes, terrace and row houses, shop-top housing and even live/work buildings. Attached housing is focused around activity centres and neighbourhood hubs, along public transport routes and adjacent to local recreational parkland. They may occur in other locations with particular attributes such as corner lots and lots with rear lane access. Housing in these places is within easy walking and cycling distance to a wider range of facilities including shops, schools, parks and public transport.

Detached houses occur, but on smaller lots and not located within close proximity to centres and hubs, and generally do not have direct access to public transport routes.

In Drayton, the Next Generation Suburban Neighbourhood place type is represented in the area around the existing town centre on Brisbane Street, and around the proposed new community hub in the southern part of the structure plan area. These areas

SUBURBAN RESIDENTIAL

Suburban residential places feature predominantly detached housing on a range of lot sizes but generally lack housing diversity. There may be some forms of attached housing in suitable locations.

These places may contain a neighbourhood hub that provides day-to-day convenience retail, other local services and local parks. However, these neighbourhood hubs may not be within walking distance for many residents.

These places generally have reduced access to frequent public transport, and active transport opportunities. They are places that rely more heavily on the use of cars for most trips.

The Suburban residential place type is represented in the Drayton structure plan in the central part of the structure plan area and at the very south. It responds to community concerns regarding the conflict between existing and new forms of development, and provides a transition to more intense forms of development such as the Next Generation Suburban Neighbourhoods.

RURAL RESIDENTIAL

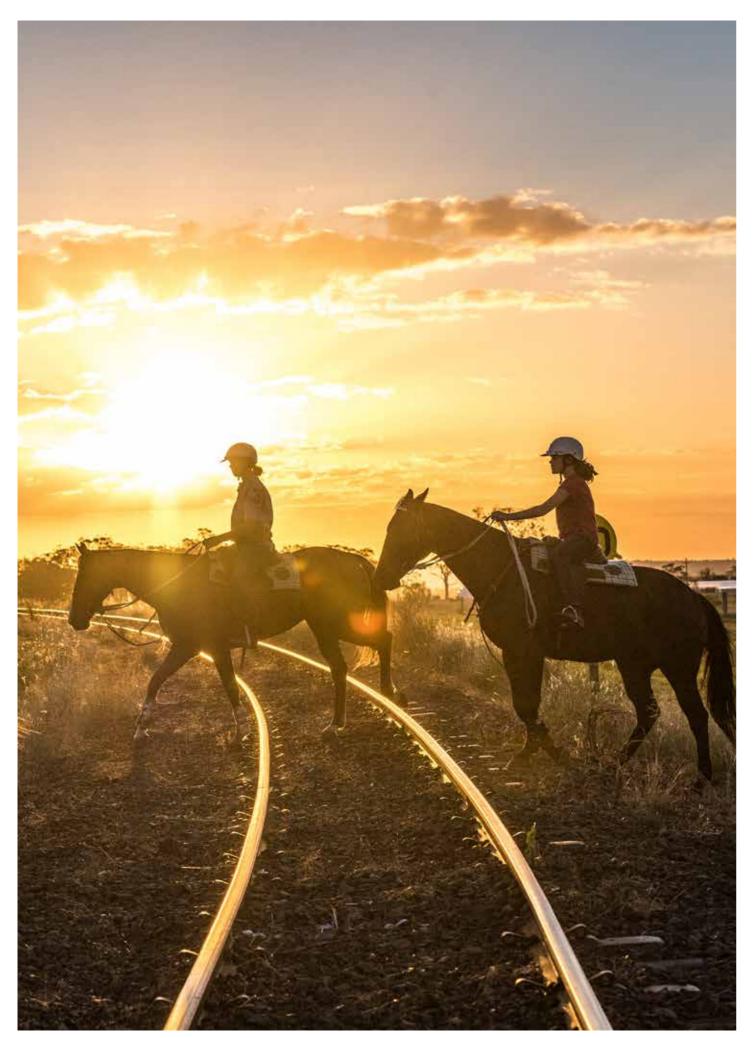
Rural residential places provide for very low density living and widely dispersed housing. Development is characterised by large residential lots, generally larger than 4000m2, set among a semi-rural landscape character.

Rural residential places generally do not contain a full range of urban services such as parks, schools, shops and community facilities, but are typically within short driving distance of these services and facilities. A full range of infrastructure and services, such as sewerage, is generally not provided.

Public transport is limited and as a result, this form of housing is highly dependent on car transport.

The Rural Residential place type allows high value vegetation to be preserved with a focus on retaining environmental corridors critical to ongoing fauna habitat connectivity. This place type may serve as a buffer between rural or natural areas and more intensive urban uses.

The Rural Residential place type is represented in the Drayton structure plan on the north western side of Anzac Avenue . This is reflective of the topography, limited infrastructure availability, and its location at the base of Mount Peel. This will ensure vegetation is retained and the habitat links to Mount Peel can be preserved



DRAYTON STRUCTURE PLAN

The Drayton structure plan has been prepared to guide future urban development within the structure plan area. The plan sets out the spatial aspects of the vision, the strategic directions and the urban design responses discussed in this report, and it illustrates how these components are integrated. The structure plan shows the structure of places, community hubs/ centres, the movement and green space network.

STRUCTURE PLAN HIGHLIGHTS

- An expansion/consolidation of the Drayton town centre main street. A district level centre serving local and district catchments
- A new community hub / small scale local centre acts as a community focal point and serves day-to-day needs of the local neighbourhood;
- A new Next Generation Neighbourhood providing diverse housing within a walkable catchment of the proposed community hub;
- A 'housing transition zone' in the central part of the structure plan area is intended to:
- Minimise impacts on scenic amenity, key view sheds and environmental assets;
- Alleviate the impacts on the values and amenity of existing residents;
- · Ensure a diversity of housing;
- · Respond to physical constraints in this area; and
- · Overcome/alleviate impacts of land fragmentation.
- A greenspace network featuring:
- Westbrook Creek multi-function linear corridor, including local and district park nodes;
- Walking and cycling paths linking neighbourhoods with key destinations via a central spine (Westbrook Creek corridor).
- A grid network of streets provides an efficient local movement network.

- An area in the north-western part of the structure plan area (north of Anzac Avenue) is deemed not suitable for further intensification, and has therefore been designated as rural residential;
- While school locations are not determined by the structure plan, the southern portion of the structure plan area may be suitable for a future school, particularly a high school. A future high school site must have the following criteria:
- Located outside the core residential area and outside the centres;
- Located on a higher order road avoid introducing additional traffic:
- · Balancing the amenity agenda for residential areas;
- Located near designated open space for potential opportunities for shared facilities;
- Sited to promote active transport and to take advantage of existing corridors/opportunities;
- Located to minimise the potential for negative impacts on the environment and the surrounding residential area, as well as reverse impacts from agricultural uses; and
- Avoid locations where the school's land consumptive nature has a detrimental impact on pedestrian or active transport permeability and connectivity.

For information on the linkages between the structure plan responses and the urban design framework refer to App B.





DESIGN GUIDANCE INFORMATION

This section aims to illustrate the potential physical design outcomes of the strategic directions, principles and urban design intents set out in this report.

THE DESIGN

The illustrative plans, sections and other graphics as well as the associated narratives demonstrate how future development might be designed at the neighbourhood scale. They are not final plans but only one potential translation of the principles and intents. It is acknowledged that there may be other suitable design options.

The illustrative plans and graphics also serve as a 'proof of concept' and test the viability of the structure plan at the neighbourhood scale and thereby:

- Further clarify the vision for development in Drayton to stakeholders and the broader community
- Assist in subsequent finer grained planning and development assessment processes
- · Guide future work of planners, designers and developers.

DEFINING ELEMENTS - 'DRAYTON'S BRAND'

There are four defining elements linked to identified local values that exist in the town centre main street. These will define future urban design outcomes in the main street but are also reflected in the broader structure plan.

HERITAGE

Heritage is at the core of the Drayton locality and its identity. The location of the Royal Bulls Head Inn in the main street provides an opportunity to celebrate and build on this heritage. Design elements such as light poles, street furniture and signage should be made to reflect this heritage and new buildings should be in keeping with the heritage feel of the area. The heritage focus of Drayton provides a real tourism opportunity by celebrating its history and recognising the roots of the locality through heritage trails which show where the old settlement of Drayton used to exist.

ECONOMY

The key role of the town centre is to provide a retail and commercial function for the community. The structure plan builds on the existing economic activity in the main street and promotes economic diversity and growth to create a 'high street' environment. Encouraging a mix of uses such as retail, commercial, community and entertainment activities to be located in the town centre will help to establish a more vibrant main street that attracts both residents and visitors. A range of diverse uses that are available throughout day and night create a safer public environment by encouraging passive surveillance. Enabling Drayton to become self-sufficient was important for the community, so encouraging economic vitality and diversity is essential.



The street-based town centre is an attractive and functional focal point for the local community. The existing Drayton Community Hall is heavily used and will remain a prominent building in the main street. There is opportunity for a town square to be located in a central location which would provide a meeting place for residents. The Drayton State School is located at the southern end of the main street and further emphasises the need for safety for both pedestrians and vehicles. It is important that the main street is a vibrant place that people want to spend time in and that it creates an environment that brings a sense of pride for the community.

ENVIRONMENT

The role of the environment in the main street is in the form of local parks that provide a connection back into the linear corridor along Westbrook Creek and provide places for social interaction and recreation within close proximity to the town centre. Street trees will be a main feature, which will contribute to the overall greening of the main street as well as improve the climate conditions for pedestrians. Links from the main street to the escarpment that runs from the top of Glennie Street along to Mount Peel also brings the environment into focus.

CENTRES

DRAYTON TOWN CENTRE - MAIN STREET

The following illustration aims to communicate the vision for how the Drayton town centre could develop into a vibrant pedestrian focussed main street, while enhancing the identified 'brand elements'.

Street trees will facilitate a more comfortable and visually pleasing street environment. Separated pedestrian and cycle paths are designed to encourage active transport.

The Brisbane Street and Lynch Street intersection will be the focal point for pedestrian movement and activity. Lynch Street links the main street with the multi-function creek corridor and associated open space. While Lynch Street does not provide a vehicular access to Glennie Street, it is intended to provide direct pedestrian access to residential areas in the north.

Active frontages and pedestrian friendly uses are preferred in proximity of the intersection to create a vibrant focal point for the town centre.

Wide footpaths enable outdoor dining and other opportunities which activate the street at different times.

On-street parallel parking along the south-western part of the street and centre parking at the north-eastern part of the main street.



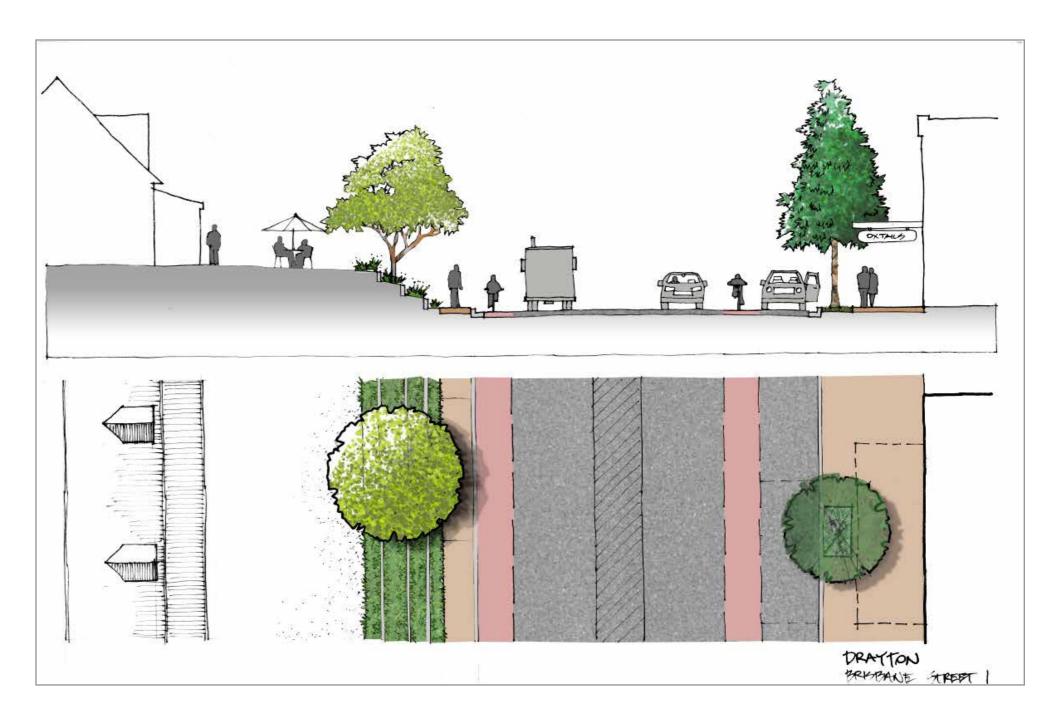
Brisbane Street, Cross-section 1 – South-western end of main street outside of Bulls Head Inn.

Street trees on both sides of the street provide shade and create a comfortable and visually pleasing pedestrian street environment.

The grade difference between the road and the Bulls Head Inn is managed via terraced garden treatments.

Pedestrian pathways and on-street cycle lanes will encourage active transport and aim to activate the main street.

Integrated street and footpath design with layout, materials and finishes supporting pedestrian, cyclist and public transport use, and reinforcing local character and existing heritage themes.



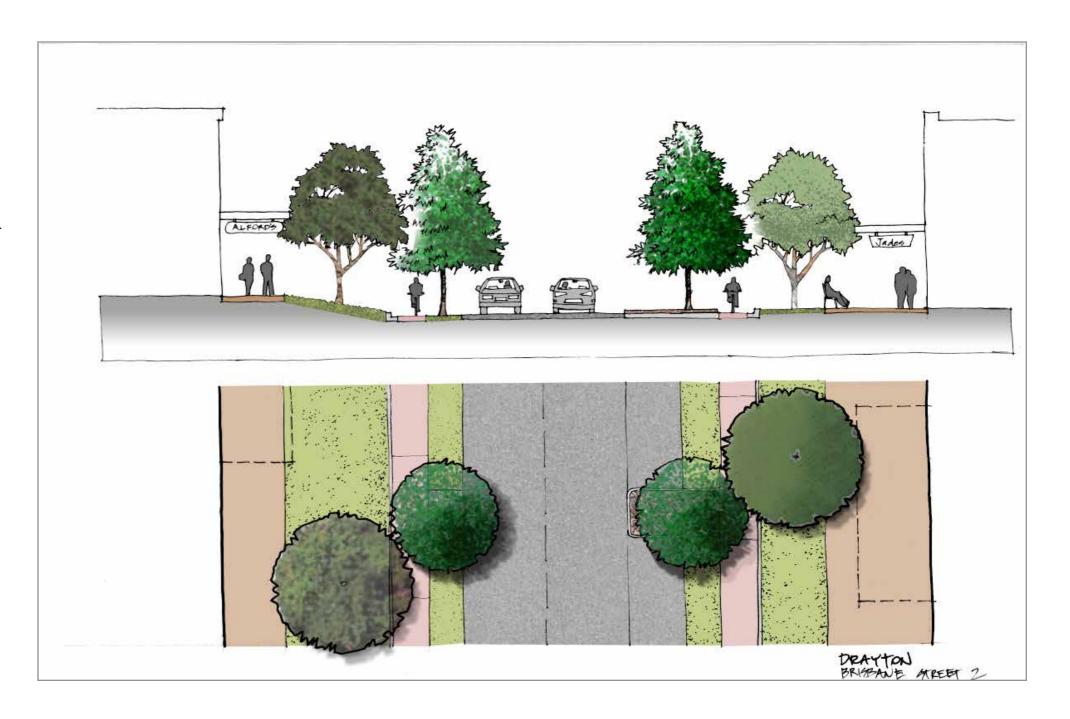
Brisbane Street, Cross-section 2 – Central part of the main street .

Street trees and awnings on both sides of the street provide shade and shelter which creates a comfortable pedestrian street environment designed to bring more people into the main street.

Dedicated off-street cycle lanes improve safety and encourage active transport.

There is parallel parking on one side of the street only.

Integrated street and footpath design with layout, materials and finishes supporting pedestrian, cyclist and public transport use, and reinforcing local character.



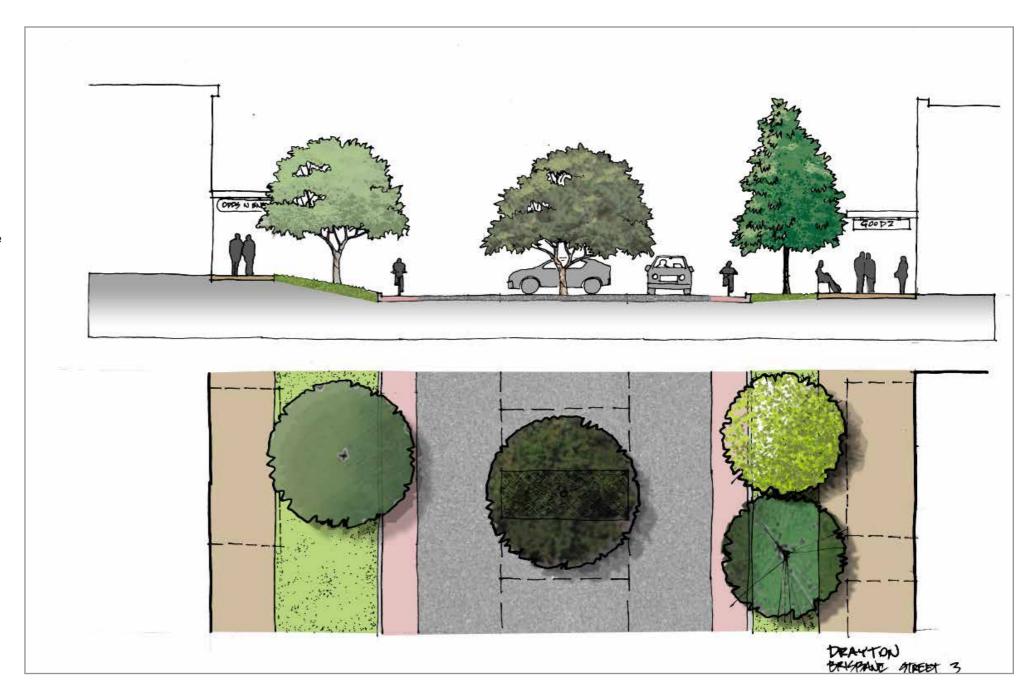
Brisbane Street, Cross-section 3 – Central part of the main street.

This part of the main street features centre parking rather than parallel parking.

Pedestrian pathways and on-street cycle lanes will encourage active transport and aim to activate the main street.

Street trees and awnings on both sides of the street provide shade and shelter which create a comfortable pedestrian street environment designed to bring more people into the main street.

Integrated street and footpath design with layout, materials and finishes supporting pedestrian, cyclist and public transport use, and reinforcing local character.



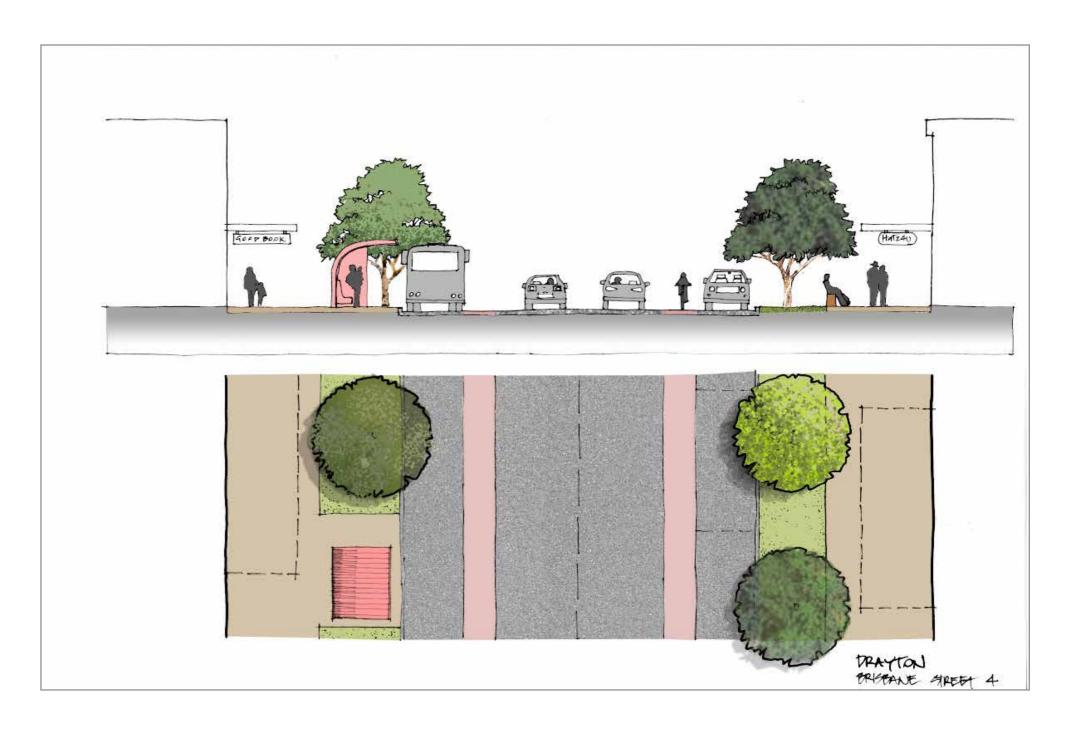
Brisbane Street, Cross-section 4 – North-eastern end of the main street.

This cross-section illustrates how a bus stop may be integrated into the street design. Bus indent or pull-in lane on one side and parallel parking on the other side.

Street trees on both sides of the street create a comfortable pedestrian street environment designed to bring more people into the main street.

Pedestrian pathways and on-street cycle lanes will encourage active transport and aim to activate the main street.

Integrated street and footpath design with layout, materials and finishes supporting pedestrian, cyclist and public transport use, and reinforcing local character.



POTENTIAL NEW COMMUNITY HUB

The new community hub in the south of the structure plan area will be the focal point for the new next generation neighbourhood.

The community hub will also incorporate the Drayton brand elements. This illustration provides an example of how this may occur.

The intention is to locate new community hub serving the local neighbourhood on Rosevale Street and across from a local park with direct links to the Westbrook Creek multi-function corridor.

Rosevale Street – further details on the streetscape treatment are illustrated in the cross-section sketch.



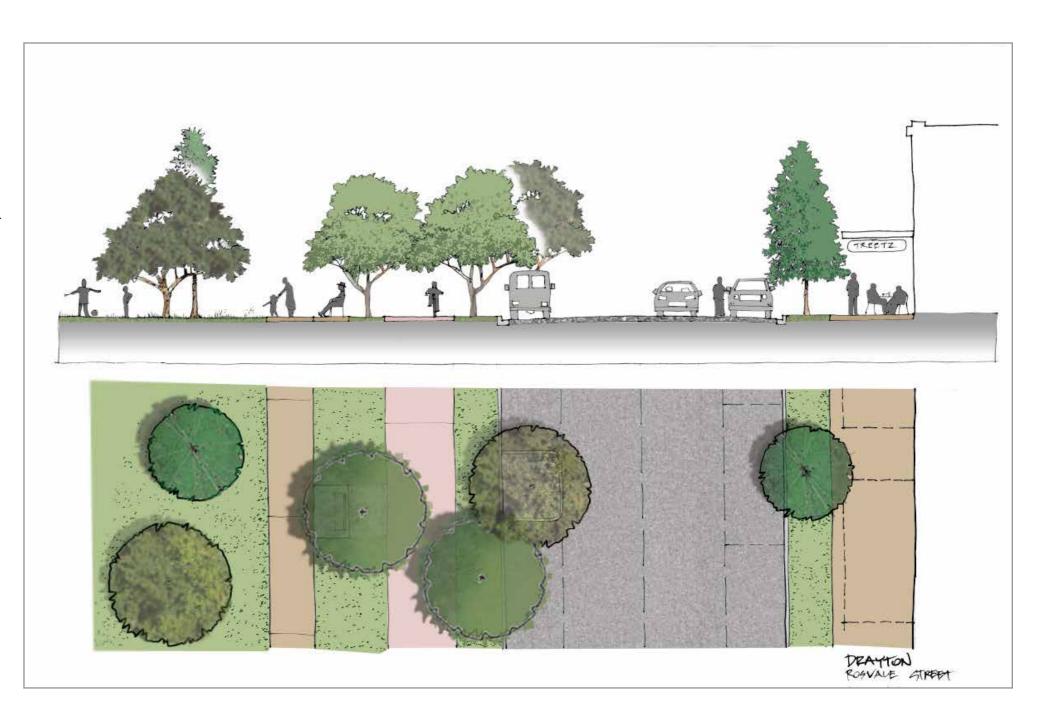
ROSEVALE STREET CROSS-SECTION

The new community hub in the south of the structure plan area will be the focal point for the new next generation neighbourhood.

The community hub will also incorporate the Drayton brand elements. This illustration provides an example of how this may occur.

Street trees on both sides of the street provide shade and create a comfortable pedestrian street environment designed to bring more people into the main street. Awnings provide additional shade and shelter for pedestrians.

The intention is to locate new community hub serving the local neighbourhood on Rosevale Street and across from a local park with direct links to the Westbrook Creek multi-function corridor to encourage walking and cycling.



NEW CONNECTION

HARROW STREET EAST -WEST CONNECTION

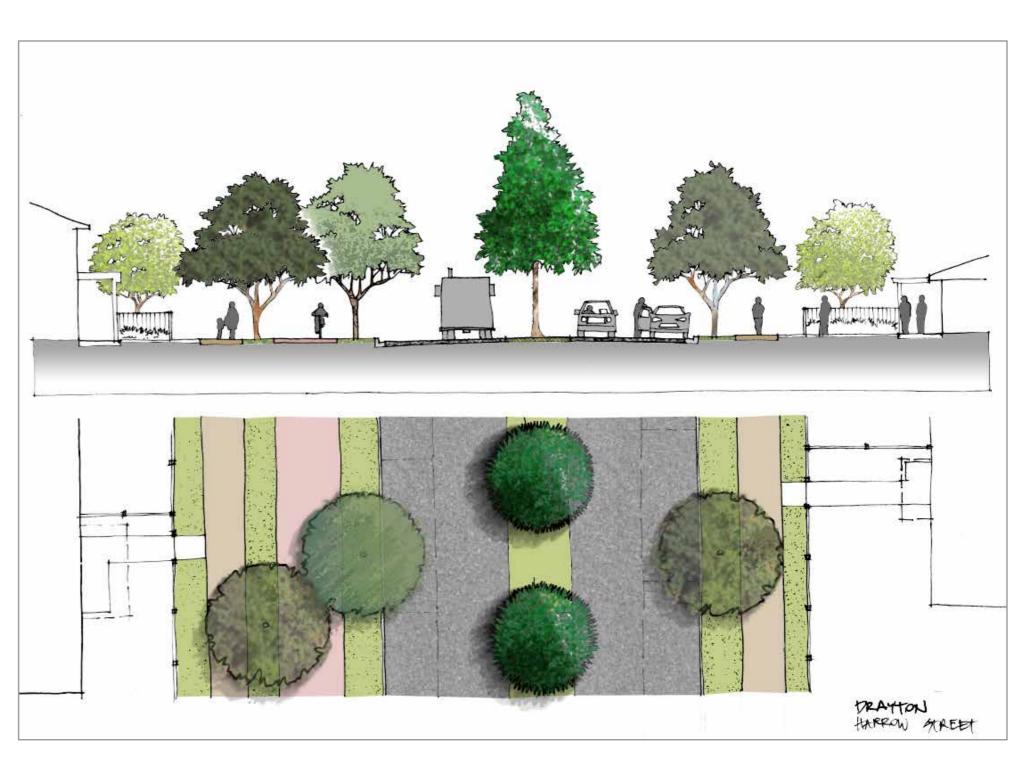
This new road connection is intended to be a higher order road. It has been termed a 'connector' street rather than 'collector', indicating its role to connect communities and residential neighbourhoods, rather than solely to 'collect' traffic and 'deliver' it to other roads in a road hierarchy.

The other key role of this new connection is to divert traffic including heavy vehicle traffic from the town centre main street (Brisbane Street).

Street designs are generally standardised; however, some streets require bespoke solutions. Harrow Street is intended to be a 'complete street' which will enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation.

Footpaths on both sides are provided for walking. An additional path wide enough for off-street cycling is provided as well. Front doors face directly to the street, avoiding unsightly fences facing the street.

Wide road reserve with generous building setbacks will buffer any road impacts including noise, odour and dust.



BUFFERS, INTERFACE AND TRANSITION

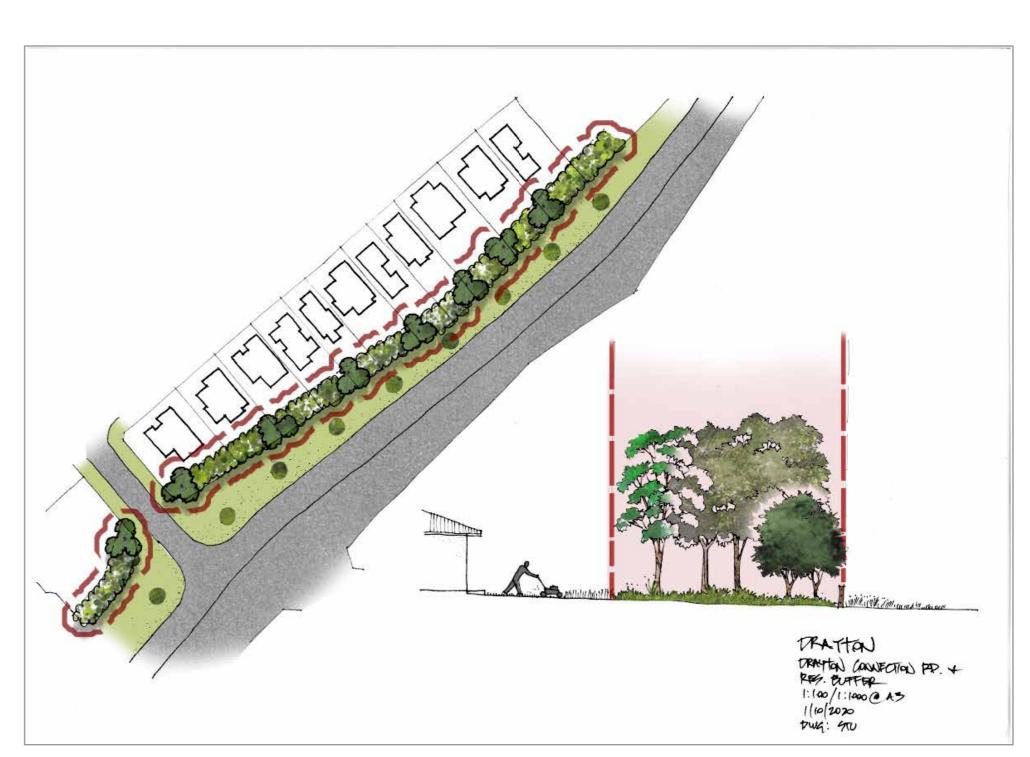
DRAYTON CONNECTION ROAD RESIDENTIAL BUFFER

Drayton Connection Road is a higher order state-controlled road carrying heavy vehicle traffic.

Residential uses should be buffered from road impacts including noise, odour, dust.

The vegetated buffer treatments of significant width (10m minimum) at the rear of residential lots is the preferred outcome. Solid screening/fencing solutions should be avoided.

Fencing solutions and buffer treatments will need to be considered at lot reconfiguration stage.



INTERFACE BETWEEN RESIDENTIAL USES AND RURAL LAND USES

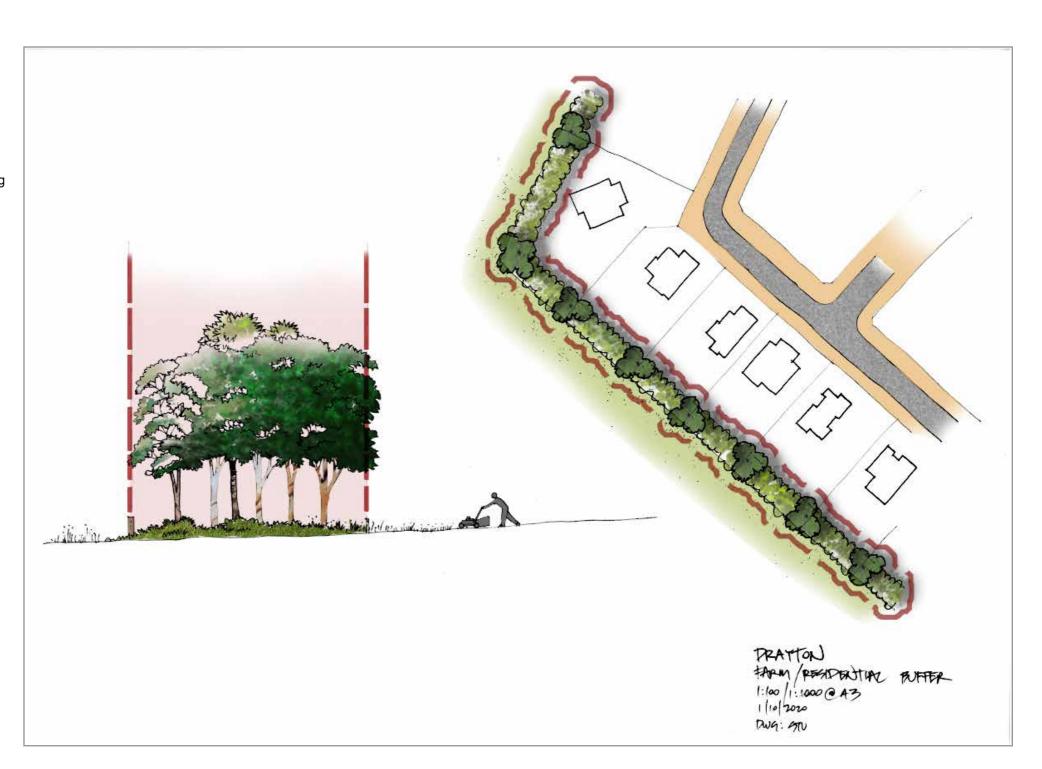
Residential uses should be buffered from incompatible rural/agricultural uses.

Vegetated buffers of significant width (10m minimum) are required to adequately separate these incompatible uses. The buffers provide a visual barrier but are also intended to reduce potential impacts resulting from agricultural uses including noise, odour and dust.

Residential lots adjoining rural zoned land should be of sufficient depth to accommodate vegetated buffers.

Solid screening/fencing solutions should be avoided.

Fencing solutions and buffer treatments will need to be considered at lot reconfiguration stage.



INTERFACE WITH GORE HIGHWAY

The Gore Highway / Anzac Avenue is an arterial state-controlled road carrying large volumes of traffic including heavy vehicle traffic.

It is critical to the amenity of residential uses along Anzac Avenue to be adequately buffered for road impacts including noise, odour, dust.

Residential lots adjoining the Anzac Avenue Road reserve should be appropriately dimensioned to be able to incorporate vegetated buffer treatments of significant width (10m minimum). Solid screening/fencing solutions should be avoided.

Fencing solutions and buffer treatments will need to be considered at lot reconfiguration stage.



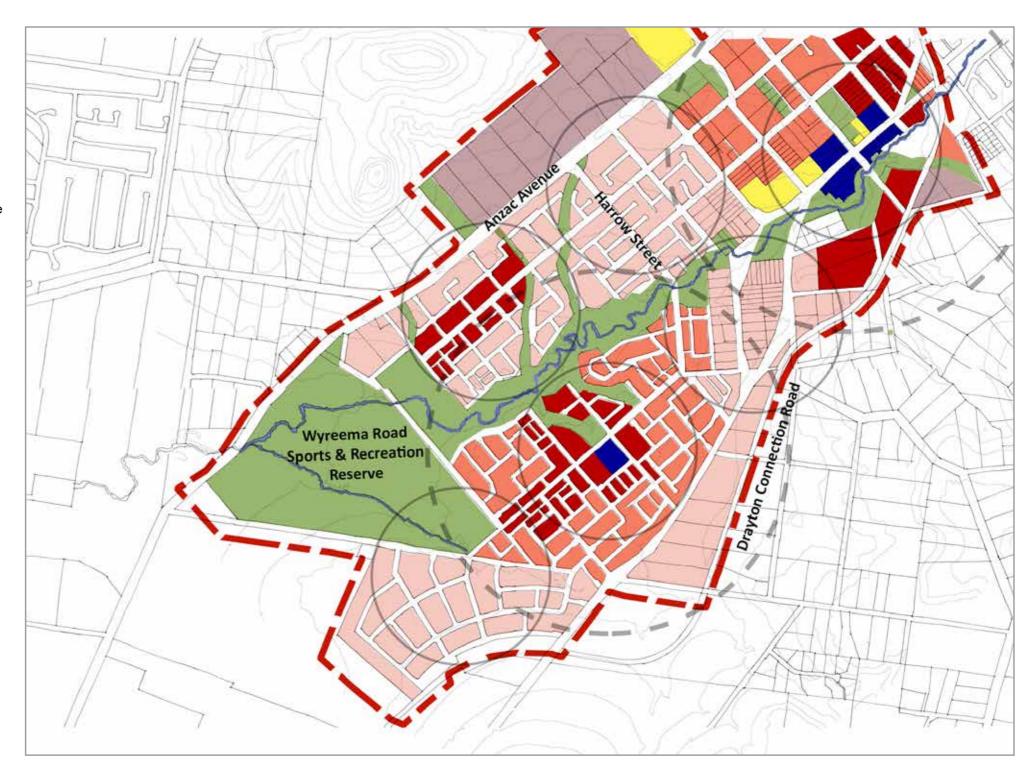
DRAYTON ILLUSTRATIVE MASTERPLAN

An Illustrative Master Plan has been prepared to demonstrate how the structure plan vision and strategic directions can be achieved.

DESIGN FEATURES

The Illustrative Master Plan incorporates the following design features:

- Major open space area including sports fields and passive recreation area at the southern end of the structure plan area;
- An expanded and integrated town centre incorporating the Drayton brand. The town centre is a contemporary main street-based centre, with an emphasis on good quality public realm and public spaces;
- The main street is a tree-lined pedestrian focussed street and has links to the Westbrook Creek corridor providing safe active transport accessibility;
- A new Next Generation Suburban Neighbourhood including a new community hub / local centre is located within a grid of streets, using existing and new road reserves providing connections to the wider area;
- The grid of connecting streets provides good local access and disperses local traffic. East-west connections link Drayton Connection Road with Anzac Ave / Gore Highway providing faster and more efficient connectivity through the structure plan area;
- While school locations are not determined by the Structure Plan, and are not shown in this illustrative plan, the southern portion of the structure plan area may be suitable for a future school, particularly a high school. A future high school site should have the following criteria:
 - Located outside the core residential area and outside the centres;
 - Located on a higher order road avoid introducing additional traffic;
 - Balancing the amenity agenda for residential areas;
 - Located near designated open space for potential opportunities for shared facilities:
 - Sited to promote active transport and to take advantage of existing corridors/opportunities;
 - Located to minimise the potential for negative impacts on the environment and the surrounding residential area, as well as reverse impacts from agricultural uses; and
 - Avoid locations where the school's land consumptive nature has a detrimental impact on pedestrian or active transport permeability and connectivity.





DEVELOPMENT SEQUENCE

In order to facilitate the structure plan's development pattern and desired urban form for Drayton, and to assist with infrastructure planning and delivery, it is recommended that development be sequenced in five broad stages.

The proposed sequence is more likely to deliver desired urban design outcomes and takes into account infrastructure delivery efficiencies, particularly in relation to the provision of trunk sewerage. The five stages are sequenced broadly in line with proposed trunk

sewerageinfrastructure roll-out identified in the Greater Drayton Sewerage Catchment Study 2017 (TRC). They are also consistent with the planned roll-out of the trunk water supply network.

A development stage may be brought forward ahead of the sequence indicated in the sequencing plan, however this may require bringing forward planned trunk infrastructure by the developer as part of a development application.

SEQUENCING RATIONALE

Stage 1

This area encompasses the existing residential area in Drayton. There are a number of vacant residential lots of various sizes that offer significant opportunities for infill residential development. This area is serviced by existing urban infrastructure and it is anticipated that on-going infill development will continue to occur. These vacant sites are generally within walking distance of the Drayton town centre and are therefore ideally suited to medium density residential development.

Stage 2

This area is suitable for residential development although constrained by land fragmentation in the northern part of this site.

It is anticipated to be developed in the short to medium term. In fact, residential development has recently commenced in the area. It includes a recently implemented residential subdivision and an approval for second subdivision. It is anticipated that residential development will continue to expand further south once extensions to the sewerage and water supply networks are implemented.

The Greater Drayton Sewerage Catchment Study 2017 identifies stage 2 as the next expansion area for the sewerage network.

Stage 3

This area is considered to be part of a consolidation area around the Drayton town centre main street. However, this area is currently unsewered and development is therefore contingent on infrastructure provision.

Stage 4

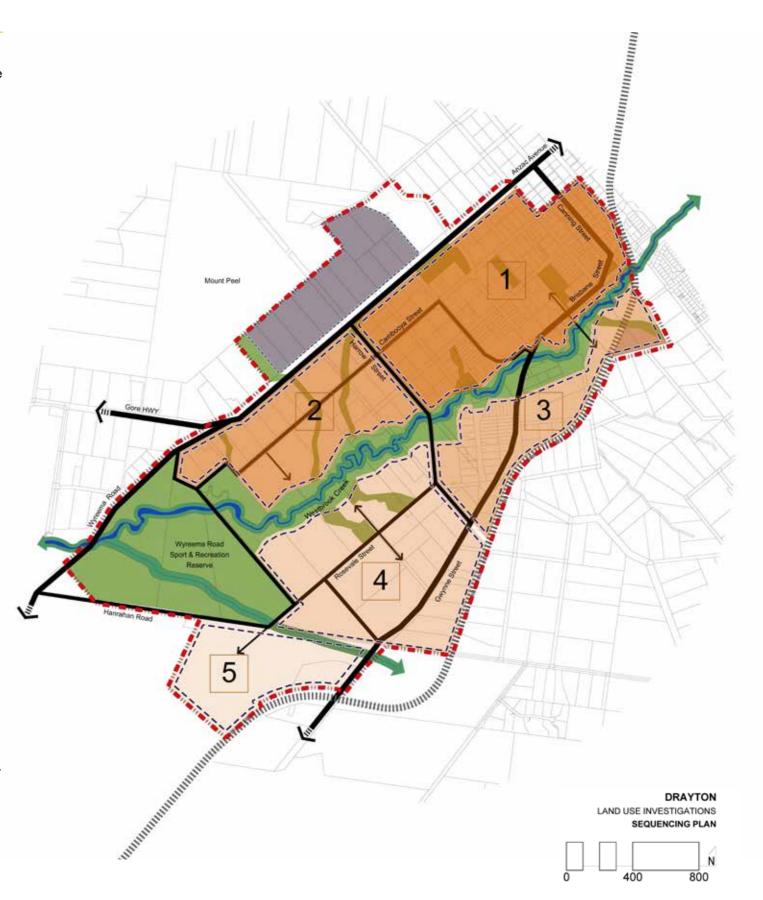
This stage comprises the area that offers the best opportunity to develop a complete neighbourhood, due to its configuration and size. The structure plan identifies a new compact Next Generation Neighbourhood that can accommodate a population sufficiently large to justify delivery of key infrastructure components, such as a multifunction linear corridor that includes district and local park nodes.

In order to achieve the Next Generation Neighbourhood outcomes, it is recommended that the core of this stage — the area indicated as the Next Generation Neighbourhood place type — be master-planned and delivered as one complete residential development.

Council may need to consider delaying infrastructure delivery in this area until a sufficiently large masterplanned development that is consistent with structure plan goals and outcomes is proposed. Delivery of trunk infrastructure to service such a development may be subject to negotiation between Council and future development applicants.

Stage 5

Stage 5 is currently outside the Priority Infrastructure Area (PIA) and is considered a long-term residential growth area.



DEVELOPMENT YIELDS

The structure plan responds to physical and topographical constraints, identified community values and incorporates best practice neighbourhoods design principles as outlined in part B of this report. All of this will influence residential yields for specific residential development areas within the structure plan.

A preliminary residential yield estimate of the structure plan area has been prepared. Each stage of the structure plan as outlined in the sequencing plan above has its specific constraints and opportunities, which influence the suitability or capacity for development and thus the potential residential yield.

PLANNING ASSUMPTIONS

The planning assumptions that have informed the preliminary yield estimate for each stage are summarised below.

Stage 1:

Established residential area with remaining capacity

This existing residential area comprises several vacant or underdeveloped residential lots of various sizes that offer significant opportunities for infill residential development. These sites are generally within walking distance of the Drayton main street and are to be developed according to Next Generation Neighbourhood principles (refer to section on 'Compact Neighbourhoods' for details).

Potential Dwelling Yield: 227

Stage 2:

Low-density residential development area

During community consultation, scenic amenity, landscape character and the need for a transition area between new residential development and existing residential areas were identified as key values. In response to this, the structure plan designates a 'housing transition zone' in the centre of the structure plan area.

The aim of the transition zone is to limit housing density in order to alleviate impacts on identified values. Therefore, the structure plan designates this area as a low-density residential, which limits the potential residential yield in the area.

Potential Dwelling Yield: 729

Stage 3:

Medium-density Next Generation Neighbourhood

Vacant or underdeveloped sites on the southeastern side of Westbrook Creek are to be developed as medium density residential and according to Next Generation Neighbourhood principles due to their proximity to the Drayton town centre main street.

Potential Dwelling Yield: 201

Stage 4:

Next Generation Neighbourhood

This area has the greatest opportunity for the development of a new complete residential community due to the following:

- The absence of significant physical constraints;
- · suitable road network access;
- proximity to open space and the proposed multi-function linear corridor; and
- greater opportunity for the assembly of a significant development site due to existing large lots.

The structure plan identifies it as a new Next Generation Neighbourhood focussed around a new community hub.

Potential Dwelling Yield: 1202

Stage 5:

Low-density residential development area

Low-density residential development is most appropriate in this area, due to its distance from a community hub or centre.

Potential Dwelling Yield: 332

RESIDENTIAL YIELD CALCULATION SUMMARY

The following table summarises the yield calculations for each residential development stage within the structure plan.

| Stage | Area (ha) | Developable area (ha) | Drayton Place type | Average net density (ha) | Density range | Target dwellings | Persons |
|-------|--------------|-----------------------|--|--------------------------|---------------|------------------|---------|
| 1 | 19.9 | 16.8 | Next Generation Neighbourhood | | | 227 | 591 |
| 2 | 66.0 | 56.3 | Suburban Residential (Low Density) | 12 | 10-14 | 729 | 1896 |
| 3 | 15.2 | 12.6 | Next Generation Neighbourhood (Medium Density) | 13 | 10-20 | 201 | 523 |
| 4 | 87.1 | 78.1 | Next Generation Neighbourhood | 14 | 10-17 | 1202 | 3125 |
| 5 | 41.5 | 33.2 | Suburban Residential | 10 | 10 | 332 | 864 |
| Total | 229.7 | 196.9 | | | | 2692 | 6999 |

Note: Stage 1 and 3 include existing residential areas in which limited change is anticipated. These areas have not been included in the yield estimate.

Detailed, finer grained estimated residential yield data including a map of the small areas used to calculate yield are available in Appendix C. The estimated residential yield data will assist reviews of infrastructure network plans.

PROJECTED DEMAND AND INFRASTRUCTURE DELIVERY TIMING

The timing of demand for urban development in Drayton is influenced by projected population growth for the region and how this growth is distributed across the region.

Council is currently undertaking the Toowoomba Region Growth Plan, which aims to determine a sustainable model for future urban growth in the region. The Toowoomba Region Growth Plan will define and prioritise growth areas (both greenfield and in-fill) in the region according to a set of criteria including:

- · Cost of infrastructure provision;
- Physical constraints (e.g. steep land, areas of environmental significance);
- · Hazards (e.g. flood and/or bushfire hazards); and
- · Access to services and employment.

The timing of urban growth in Drayton will be strongly influenced by the outcomes of the Toowoomba Region Growth Plan.

Local Government Infrastructure Plan

The next review of the Local Government Infrastructure Plan (LGIP) will respond to the outcomes of the Toowoomba Region Growth Plan.

Guided by the outcomes of the growth plan, the updated LGIP will identify the timing of trunk infrastructure delivery across the urban growth areas in the region including Drayton.

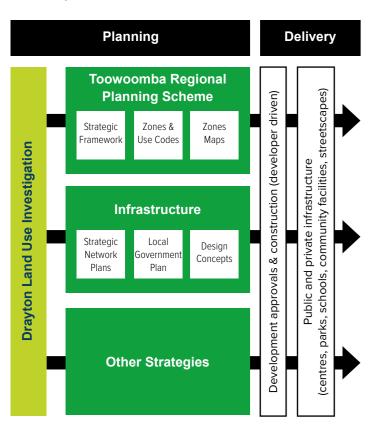
NEXT STEPS - IMPLEMENTATION

In order to realise the outcomes of the Drayton Structure Plan and the associated urban design framework, a series of implementation actions will be required.

Not all of the outcomes of the plan can be implemented through the Toowoomba Regional Planning Scheme, nor will all outcomes be undertaken by Council. Some actions will require collaboration with Queensland Government agencies. Other actions will be delivered through private investment as development occurs, or businesses take up local opportunities.

The table sets out a range of strategies to be investigated and actioned, and their indicative priority.

Next Steps...



| Strategy | Issue | Agency | Priority | | | | | | | | |
|---|--|---|----------|--|--|--|--|--|--|--|--|
| | Planning Scheme Amendments | | | | | | | | | | |
| Structure Plan and associated urban design principles | Amend planning scheme to include a Local Plan for Drayton based on the structure plan and associated urban design principles. | TRC | High | | | | | | | | |
| | Infrastructure | | | | | | | | | | |
| Utility (water, wastewater, stormwater) | Undertake/update strategic network studies to reflect future demand requirements as per the Drayton Structure Plan. | TRC | Medium | | | | | | | | |
| | Explore mechanisms to facilitate infrastructure provision through adjoining/ neighbouring land. | TRC/State government | Medium | | | | | | | | |
| Local transport network | Undertake road transport planning to identify road corridors, upgrades and possible acquisitions in line with structure plan outcomes. | TRC/TMR | Medium | | | | | | | | |
| Public Transport | Investigate and identify future priority public transport routes. | TRC/Translink | Medium | | | | | | | | |
| Green Infrastructure | Investigate the design details of the multi-function linear corridor (including stormwater drainage and active transport) along Westbrook Creek. | TRC | Low | | | | | | | | |
| | Investigate the role and requirements of local habitats and wildlife corridors. | TRC | Medium | | | | | | | | |
| | Investigate the feasibility of the establishment of a Mount Peel walking trail loop. | TRC | Low | | | | | | | | |
| | Other Strategies | | | | | | | | | | |
| Drayton main street | Prepare a Drayton main street master plan and undertake a main street redevelopment project. | TRC | Low | | | | | | | | |
| Schools Planning | Investigate future enrolment demand and potential future school site locations. | Education Queensland and independent schools in conjunction with TRC. | Low | | | | | | | | |
| Community facilities | Explore potential future sites for community facilities including library, community meeting rooms. | TRC | Low | | | | | | | | |



GLOSSARY OF TERMS AND ACRONYMS

| TERM / ACRONYM | |
|--------------------------|--|
| LGIP | Local Government Infrastructure Plan - identifies Council's plans for trunk infrastructure that is necessary to service urban development at the desired standard of service in a coordinated, efficient and financially sustainable manner. |
| Next Generation Planning | A strategic approach to place making. A methodology that is place based and bring together the following concepts: • Smart growth • Transect planning • Form-based codes • Affordable living |
| PIA | Priority Infrastructure Area - identifies the area prioritised for the provision of trunk infrastructure to service the existing and assumed future urban development for the next 10 to 15 years. |
| Residential yield | Refers to the estimated amount of housing units able to be accommodated within a designated area. |
| Trunk infrastructure | Trunk infrastructure is development infrastructure that is planned for and commonly provided by local governments. |

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Photography acknowledgment: Lucy RC Photography

APPENDIX A

Community and Stakeholder Engagement

Community and stakeholder engagement was an integral component of the Drayton Land Use Investigation project which reflects the values based approach taken to develop the plan. The early engagement process sought to understand the values and aspirations of the local community and stakeholders, and generate ideas for the future development of Drayton which were ultimately the drivers for the plan making process. The final plan draws extensively on the contributions of the community and stakeholders.

There were two rounds of stakeholder engagement held at key stages of the project which included both face to face and online techniques with both internal and external stakeholders. Stakeholder groups included the Drayton community, development industry, State Government agencies, community and environmental organisations, and internal TRC technical staff.

Opposite is a snapshot of stakeholder involvement.

Workshops

The workshops were held at two key stages of the project and were designed to inform, involve and collaborate with stakeholders to help determine the direction and outcomes for the Drayton structure plan area. Feedback and information from stakeholders at each workshop was recorded and analysed by the project team and was used to inform each stage of the planning process.

Workshop 1:

The first round of consultation was held in June 2018. The purpose of this workshop and the online surveys was to provide information to stakeholders about the project, and to identify stakeholder values, aspirations, ideas and issues for the future of Drayton. The information generated during round one of consultation was used to inform the development of the strategic directions and draft structure plan.

Workshop 2:

The second round of consultation was held in September 2018. The purpose of this workshop and online surveys was to test with stakeholders the Strategic Directions and three draft structure plan options, which were developed as a result of previous consultation and internal investigations. Feedback from this round of consultation was used to inform the final structure plan.

Three scenarios

The opposite three scenarios were tested with the community and stakeholders.

Online engagement:

The Imagine tomorrow Yoursay website was used throughout the project to provide updates, project information and documents, and to replicate the workshops in the form of surveys. This online engagement was supplementary to the face-to-face engagement and was important in gathering information from people unable to attend workshops.

WHAT WE DID











WHAT YOU GAVE US

180 ideas and issues

125 comments on three draft structure plan options

11 land use planning scenarios designed by stakeholders

1500+ webpage hits

500+ social media hits

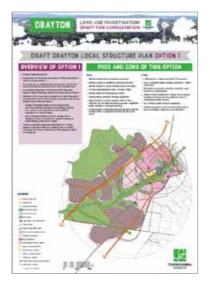
28 completed online and hard copy surveys

WHAT YOU TOLD US TO DO

- Protect the existing character and values of Drayton when delivering urban growth and change.
- Provide vibrant community hubs celebrating their unique and distinct character.
- Deliver a mix of housing types located with deliberate care for the valued landscape and character of Drayton.
- Maintain a strong connection to Drayton's cultural identity and heritage celebrating a brand worthy asset.
- Celebrate and preserve the 'green valley' through a connected greenspace network
- Provide a safe movement network with upgraded infrastructure that supports all users.
- Promote a connected and inclusive place where people come together and participate in community life supported by improved public transport and increased opportunities for walking and cycline.
- Encourage the development of a vibrant, attractive and walkable town centre that is economically diverse and leverages its unique identity and character.
- Develop appropriately scaled new development that respects the values of existing neighbor
- Plan and deliver essential infrastructure to enable urban development that is responsive to identified values and is in line with projected demand.
- Plan and deliver well-designed urban form and associated infrastructure that supports sustainable natural and urban systems.











APPENDIX B

Urban Design Framework Matrix

This table aims to establish a 'line of sight' from the goals to specific structure plan responses by showing how each tier of the urban design framework connects.

| | Goal Statement | Local values identified during community and stakeholder consultation | Strategic directions | Urban Design responses | Structure plan responses |
|------------------------------------|--|---|---|---|---|
| GOAL 1: A Strong Sense of Place | Drayton's character and sense of place are defined by its cultural heritage and landscape assets. | Community identity and diversity History and Heritage; Country atmosphere. | Protect the existing character and values of Drayton when delivering urban growth and change. Deliver a mix of housing types located with deliberate care for the valued landscape and character of Drayton. Maintain a strong connection to Drayton's cultural identity and heritage – celebrating a brand worthy asset. | Urban design responses have been developed: to protect and enhance Drayton's heritage values and unique character; to minimise impacts on Drayton's country atmosphere; to encourage the creation of a contemporary village atmosphere while respecting and building on the existing character and scenic amenity. For details refer to "A Strong Sense of Place" section of this report. | (1) Proposed new compact urban form is located around proposed new centres and outside key view corridors to limit impact on scenic amenity and landscape character. (2) Proposed town centre improvements focus on bringing in and/or highlighting identified values – green space, heritage, community, economy (for details refer to design guidance section). (3) Proposed 'housing transition zone', which will feature lower housing densities and housing typologies that are more consistent with existing housing in this area (large single detached dwellings). (4) Proposed mix of lot sizes and housing types finds a balance between the country feel and character of Drayton, and the need for diversity and growth. More compact housing typologies are located specifically to limit impact on existing residential areas. (5) the green space network, specifically the creek and drainage corridors, frame new neighbourhoods and provide visual buffers. |
| GOAL 2: Integrated Green Spaces | Drayton's neighbourhoods sit within a green valley framed by views of vegetated escarpments and the rural landscape. | Open space, parks and experiences Westbrook Creek corridor, Parks as neighbourhood focal points, Trails/links to open space and bushland. Scenery and environmental features Rural views, scenic amenity, natural environmental assets. | Celebrate and preserve the 'green valley' through a connected greenspace network. Protect the existing character and values of Drayton when delivering urban growth and change. | Urban design responses have been developed: to enhance the natural values of the Westbrook creek corridor; to establish multiple functions of the creek corridor – drainage, active transport, open space, environmental functions encourage links to surrounding vegetation, in particular Mount Peel Bushland Park establish a network of parks that meet the needs of the community by providing for a variety of experiences, contributing to the amenity of neighbourhoods, and becoming the focal point or 'hubs' of residential communities. For details refer to "Integrated Green Spaces" section of this report. | Westbrook Creek is a defining feature in the structure plan area. The structure plan expands on this valuable local asset by proposing a multi-function linear corridor combining local and district park nodes, active transport, drainage, and wildlife movement function. District and local parks are proposed to be distributed at distances of approximately 400m to ensure good accessibility. Proposed walking trail along the dominant ridgeline in the north of the structure plan area providing a link between the creek corridor, the town centre and Mount Peel Bushland Park. House blocks in the suburban residential area will be large enough to encourage deep soil planting which will contribute to the greening of the neighbourhood and promote wildlife movements. |
| GOAL 3: A Connected Community | Community interaction is encouraged and supported by an inclusive movement network. | People, lifestyle and liveability Community meeting places, vibrant public spaces, cycling and walking paths, pedestrian safety. Transport and connectivity Accessible centre, Safe and efficient road network, Public and active transport options. | Provide a safe and efficient movement network with upgraded infrastructure that supports all users. Provide accessible and effective public transport and increased opportunities for walking and cycling. Promote a connected and inclusive place where people come together and participate in community life. | Urban design responses reflect and support Council's Sustainable Transport Strategy through the following key movement principles: 1. Connected community | (1) The structure plan promotes connectivity and efficient movement via a central active transport corridor (Westbrook Creek). (2) A grid network of streets forms the backbone of well-connected neighbourhoods and provides an efficient local movement network. (3) A walkable network of streets and public spaces are safe and attractive and provide opportunities for diverse community interaction and commercial activity. Streets will be designed to accommodate more than just cars. (4) The structure plan supports a public bus transport system by clustering activity and densities along major roads and around focal points such as parks and activity centres and integrate these with active transport options. |

| | Goal Statement | Local values identified during community and stakeholder consultation | Strategic directions | Urban Design responses | Structure plan responses |
|--|--|---|---|--|---|
| GOAL 4: Vibrant Community Hubs | 4: Vibrant Community Hubs Well-connected community hubs are a focal point for community activity celebrating the unique and distinct character of Drayton. | Economy and employment Expanded town centre, links to employment areas and centres. People, lifestyle and liveability Community meeting places, vibrant public spaces, cycling and walking paths, pedestrian safety. | Provide vibrant community hubs celebrating their unique and distinct character. Maintain a strong connection to Drayton's cultural identity and heritage – celebrating a brand worthy asset. Promote a connected and inclusive place where people come together and participate in community life. Encourage the development of a vibrant, attractive and walkable town centre that is economically diverse and leverages its unique identity and character. | The Drayton town centre main street is intended to be: a mixed use activity centre which includes residential and non-residential uses a district level centre that provides services and facilities for a local and district catchment a centre of mixed uses and mixed ownerships, where a competitive private sector supports business and employment opportunities a vibrant, attractive and walkable town centre connected via the road network and active transport links Establishment of a new community hub/small scale local centre must align with the following criteria: Located away from the highway (Anzac Avenue or Drayton Connection Road) to ensure it is pedestrian and community friendly, and not car dominated Collocated with a local park providing a link to the multifunction linear corridor and active transport opportunities, and should incorporate a bus stop May provide for convenience retail uses (e.g. coffee shop, small-scale grocer), that do not syphon the economic expectations from the existing town centre and undermine its viability. For details refer to "Vibrant Community Hubs" section of this report. | (1) Proposed new compact urban form is located around proposed new centres and outside key view corridors to limit impact on scenic amenity and landscape character. (2) Proposed town centre improvements focus on bringing in and/or highlighting identified values – green space, heritage, community, economy (for details refer to design guidance section). (3) Proposed 'housing transition zone', which will feature lower housing densities and housing typologies that are more consistent with existing housing in this area (large single detached dwellings). (4) Proposed mix of lot sizes and housing types finds a balance between the country feel and character of Drayton, and the need for diversity and growth. More compact housing typologies are located specifically to limit impact on existing residential areas. (5) the green space network, specifically the creek and drainage corridors, frame new neighbourhoods and provide visual buffers. |
| GOAL 5: Logical Infrastructure Provision | Coordinated infrastructure delivery will enable sustainable urban development consistent with the values of Drayton. | Services and infrastructure Provision of urban infrastructure, community facilities | Plan and deliver well-designed urban form and associated infrastructure that supports sustainable natural and urban systems. Plan and deliver essential urban infrastructure to enable urban development that is responsive to identified values and is in line with projected demand. | Logical infrastructure delivery will facilitate future urban development that is in line with identified community values, physical constraints and Council priorities by: Being consistent with structure plan strategic directions and the proposed sequencing plan; and Delivering infrastructure in a timely manner as set out in the Local Government Infrastructure Plan (LGIP). For details refer to "Logical Infrastructure Provision" section of this report. | (1) The outcomes of the structure plan can only be delivered if supported/enabled by necessary infrastructure provision. The plan was therefore developed in consultation with Council's infrastructure providers. |
| Goal 6: Compact Neighbourhood | Drayton neighbourhoods will be well designed, diverse and environmentally responsive. | Residential patterns and urban structure Walkable neighbourhoods centred around a centre/ community hub, mix of lot sizes and housing types. | Deliver a mix of housing types located with deliberate care for the valued landscape and character of Drayton. Develop appropriately scaled new development that respects the values of existing neighbours. | A Next Generation Suburban Neighbourhood is proposed in the south of the structure plan area. Urban design features of this neighbourhood are: use land wisely and efficiently, density supports a mix of uses and viable public transport offer a wide choice of housing within a five-minute walkable catchment of a central focus such as a park, bus stop, child care centre or (less commonly) local shops The street network is a well-connected, permeable and legible grid network The neighbourhood is intended to be developed at a density that will support public transport and active transport infrastructure at 15-25 dwellings per hectare There is an increased proportion of attached housing including duplexes, terrace and row houses, shop-top housing and even live/work building Attached housing is focused around activity centres and neighbourhood hubs, along public transport routes and adjacent to local recreational parkland Attached housing may also occur in other locations with particular attributes such as corner lots and lots with rear lane access Housing diversity offers opportunities for 'ageing in place'. For details refer to "Compact Neighbourhoods" section of this report. | (1) Three residential place types promote housing and lot size diversity within the structure plan area: Rural Residential, Suburban Residential and Next Generation Suburban Neighbourhoods. (2) The proposed new next generation neighbourhood in the south of the structure plan area are compact, diverse and walkable communities focused around a central community hub (3) A proposed new next generation neighbourhood adjacent to the existing town centre is intended to consolidate the existing residential area and provide sufficient residents within a walkable catchment to activate a more vibrant town centre. (4) The new Next Generation Neighbourhood is located to take advantage of the proximity to the creek corridor and Drayton Connection Road. These will provide convenient active and road transport links to key destinations and the broader transport network. |
| | | | | , | 63 |

APPENDIX C

ESTIMATED RESIDENTIAL YIELD CALCULATIONS

| Drayton Structure Plan Yield Calculations | | | | | | | | | | |
|---|--|--------------|-----------------------------|----------------------------|----------------------------------|-----------------------|------------------|----------------------|---|--|
| Stage and Small Area | Description | Area (ha) | Un- developable ^ (%) | Developable Area (ha)^^ | Drayton Place Type | Net Density /ha | Target Dwellings | Persons [^] | 3 | |
| D24 | Drayton north | 1.4 | 10 | 1.3 | Suburban Residential | 10 | 13 | 33 | ı | |
| D25 | Drayton north | 3.9 | 10 | 3.5 | Suburban Residential | 10 | 35 | 91 | [| |
| D29 | Drayton north | 2.4 | 10 | 2.2 | Suburban Residential | 15 | 32 | 84 | I | |
| D30 | Drayton north | 2.3 | 40 | 1.4 | Suburban Residential | 15 | 21 | 54 | [| |
| D31 | Drayton north | 3.6 | 10 | 3.2 | Next Generation Neighbourhood | 15 | 49 | 126 | I | |
| D32 | Drayton north | 1.5 | 10 | 1.4 | Next Generation Neighbourhood | 15 | 20 | 53 | I | |
| D33 | Drayton north | 1.6 | 10 | 1.4 | Next Generation Neighbourhood | 15 | 22 | 56 | I | |
| D34 | Drayton north | 1.2 | 30 | 0.8 | Next Generation Neighbourhood | 20 | 17 | 44 | I | |
| | · | | | | Suburban | | | | [| |
| D36 | Drayton north | 2.0 | 20 | 1.6 | Residential | 12 | 19 | 50 | [| |
| Stage1 | Drayton north (established residential | 19.9 | 17 | 16.8 | | 14 | 227 | 591 | I | |
| | area) | | | | | | | | , | |

| | Drayton Structure Plan Yield Calculations | | | | | | | | | |
|----------------------------|--|--------------|---------------------|----------------------------|-------------------------|-----------------------|------------------|----------------------|--|--|
| Stag and Sma Area | Description | Area (ha) | Undevelopable ^ (%) | Developable Area (ha)^^ | Drayton Place Type | Net Density /ha | Target Dwellings | Persons [^] | | |
| | Drayton south (north of | | | | Suburban | | | | | |
| D13 | Westbrook Creek) | 3.8 | 10 | 3.4 | Residential | 12 | 41 | 107 | | |
| D14 | Drayton south (north of Westbrook Creek) | 11.7 | 10 | 10.5 | Suburban Residential | 14 | 147 | 383 | | |
| | Drayton south (north of | | | | Suburban | | | | | |
| D15 | Westbrook Creek) | 22.2 | 20 | 17.8 | Residential | 14 | 249 | 646 | | |
| | Drayton south (north of | | | | Suburban | | | | | |
| D16 | Westbrook Creek) | 3.9 | 10 | 3.5 | Residential | 14 | 49 | 128 | | |
| | Drayton south (north of | | | | Suburban | | | | | |
| D17 | Westbrook Creek) | 4.0 | 10 | 3.6 | Residential | 14 | 50 | 131 | | |
| | Drayton south (north of | | | | Suburban | | | | | |
| D18 | Westbrook Creek) | 4.0 | 10 | 3.6 | Residential | 12 | 43 | 112 | | |
| | Drayton south (north of | | | | Suburban | | | | | |
| D19 | Westbrook Creek) | 4.0 | 10 | 3.6 | Residential | 12 | 43 | 112 | | |
| | Drayton south (north of | | | | Suburban | | | | | |
| D20 | Westbrook Creek) | 2.8 | 30 | 2.0 | Residential | 12 | 24 | 61 | | |
| | Drayton south (north of | | | | Suburban | | | | | |
| D21 | Westbrook Creek) | 1.9 | 10 | 1.7 | Residential | 10 | 17 | 44 | | |
| | Drayton south (north of | | | | Suburban | | | | | |
| D22 | Westbrook Creek) | 4.0 | 10 | 3.6 | Residential | 10 | 36 | 94 | | |
| | Drayton south (north of | | | | Suburban | | | | | |
| D23 | Westbrook Creek) | 3.7 | 20 | 3.0 | Residential | 10 | 30 | 77 | | |
| Stag | e 2 Drayton south (north of Westbrook Creek) | 66.0 | 14 | 56.3 | | 12 | 729 | 1896 | | |

| Drayton Structure Plan Yield Calculations | | | | | | | | |
|---|--|--------------|---------------------|----------------------------|---|-----------------------|---------------------|----------------------|
| Stage and Small Area | Description | Area (ha) | Undevelopable ^ (%) | Developable Area (ha)^^ | Drayton Place Type | Net Density /ha | Target Dwellings | Persons [^] |
| D26 | Drayton north (south- east of Creek) | 1.9 | 20 | 1.5 | Suburban Residential | 10 | 15 | 40 |
| D27 | Drayton north (south- east of Creek) | 3.0 | 10 | 2.7 | Suburban Residential | 10 | 27 | 70 |
| D28 | Drayton north (south-east of Creek) | 9.2 | 20 | 7.4 | Next Generation Neighbourhood (Medium Density) | 20 | 147 | 383 |
| D35 | Drayton north | 1.1 | 10 | 1.0 | Next Generation Neighbourhood | 12 | 12 | 31 |
| Stage3 | Drayton north (south- east of Creek) | 15.2 | 15.0 | 12.6 | | 13 | 201 | 523 |
| D2 | Drayton south (Rosevale Street, adjacent to Sports reserve) | 8.5 | 10 | 7.6 | Next Generation Neighbourhood | 17 | 130 | 337 |
| D3 | Drayton south (Rosevale Street) | 16.6 | 10 | 14.9 | Next Generation Neighbourhood | 17 | 253 | 658 |
| D4 | Drayton south (Rosevale Street) | 13.5 | 10 | 12.2 | Next Generation Neighbourhood | 17 | 207 | 538 |
| D5 | Drayton south (Harrow Street) | 8.8 | 10 | 8.0 | Next Generation Neighbourhood | 17 | 135 | 352 |
| D6 | Drayton south (Rosevale Street) | 3.6 | 10 | 3.2 | Next Generation Neighbourhood | 17 | 54 | 142 |

Drayton Structure Plan Yield Calculations

| Stage and Small Area | Description | Area (ha) | Undevelopable ^ (%) | Developable Area (ha)^^ | Drayton Place Type | Net Density /ha | Target Dwellings | Persons [^] |
|-------------------------------|---|--------------|---------------------|----------------------------|-------------------------------|-----------------------|---------------------|----------------------|
| D7 | Drayton south (Rosevale Street) | 15.9 | 10 | 14.3 | Next Generation Neighbourhood | 17 | 244 | 634 |
| D8 | Drayton south (Drayton connection Road) | 9.1 | 10 | 8.2 | Suburban Residential | 10 | 82 | 213 |
| D9 | Drayton south (Drayton connection Road) | 3.2 | 20 | 2.6 | Suburban Residential | 10 | 26 | 67 |
| D10 | Drayton south (Drayton connection Road) | 2.3 | 10 | 2.1 | Suburban Residential | 10 | 21 | 54 |
| D11 | Drayton south (Drayton connection Road) | 2.3 | 10 | 2.1 | Suburban Residential | 10 | 21 | 54 |
| D12 | Drayton south (Harrow Street) | 3.3 | 10 | 3.0 | Suburban Residential | 10 | 30 | 77 |
| Stage 4 | Drayton south | 87.1 | 11 | 78.1 | | 14 | 1202 | 3125 |
| D1 | Drayton south - Drayton Connection Road (outside PIA) | 41.5 | 20 | 33.2 | Suburban Residential | 10 | 332 | 864 |
| Stage 5 | Drayton south - Drayton Connection Road (outside PIA) | 41.5 | 20 | 33.2 | | 10 | 332 | 864 |
| Total | Structure Plan area | 229.7 | | 196.9 | | | 2692 | 6999 |

APPENDIX D

INFRASTRUCTURE SUPPORTING WILDLIFE MOVEMENT

There is significant anecdotal evidence that koalas and echidnas amongst other wildlife move through the structure plan area, both along the creek and along vegetated ridgelines connecting remnant vegetation on ridges east of the structure plan area and the Bushland Park at Mount Peel.

Subject to further investigation, the following examples of wildlife friendly infrastructure may assist safe movement of local wildlife.

Wildlife road crossings to increase connectivity of landscapes- an overview

Urban landscapes are characterised by a complex mosaic of land uses that give rise to a combination of developed land and remnant vegetation - an obvious key to managing biodiversity in changing landscapes is ensuring its functional connectivity.

Therefore, the management of wildlife should be focused on lessening the likely barrier effect of roads by providing crossing structures to link corridors and remnant habitat. Road crossing structures to facilitate wildlife movement and improve landscape permeability needs to be supported within the context of landscape level conservation management. In order to conserve population processes a strategic landscape approach as well as a site-specific basis is required.

Four detrimental effects of roads:

- 1. Decrease habitat amount and quality
- 2. Increase mortality due to wildlife-vehicle collisions
- 3. Prevent access to resources on the other side of the road; and
- 4. Subdivide wildlife populations into smaller and more vulnerable sub-populations (known as fragmentation), fragmentation can lead to localised extinction if a populations gene pool is restricted enough

The following are examples of infrastructure that is designed to facilitate wildlife movement.

Wildlife underpasses and overpasses

Wildlife underpasses and overpasses that facilitate walking along the ground appear to be more suited to enable safe road crossing by koalas.

- · Research has shown that koalas will use tunnels and bridges to cross highways
- Fences assist to change pattern of behaviour from attempting to cross the road- so that the designated fauna crossings are used
- · Retrofitting drains so animals could avoid water
- Bigger structures like bridges have to be constructed when the road is being built or widened but smaller effective changes can be made at any time
- Research shows that a variety of mammals, including koalas, echidnas, wallabies, kangaroos, possums and gliders will seek out and use the bridges and tunnels if they are built into the transport network.

(Moore 2018).

Encourage the use of structures by planting native and locally occurring vegetation- ensure vegetation is well maintained for at least a period of time (6-12months)









Wildlife ledges

- About 70 wildlife ledges, designed for koalas, have been installed in culverts in South East Queensland;
- Koalas will use the ledges very quickly.
 Researchers identified koalas using the ledges within three weeks;
- Culvert retrofitting with a koala ledge costs about \$5000.

These poles are designed with a fork for the koala to rest on. Koalas travel mainly along logs; they do travel across the ground but would prefer to travel on a log railing. They feel much safer when they are away from wild dogs and foxes. They cannot travel too far without having a rest. Therefore, koala resting poles are required approximately every 10m. The timber used to build the log railings and Koala resting poles usually comes from the local bushland area.

(Taylor 2010).

