

Part 4 Local Government Infrastructure Plan

4.1 Preliminary

- (1) This local government infrastructure plan has been prepared in accordance with the requirements of the *Planning Act 2016*.
- (2) The purpose of the local government infrastructure plan is to:
 - (a) integrate infrastructure planning with the land use planning identified in the planning scheme
 - (b) provide transparency regarding a local government's intentions for the provision of trunk infrastructure
 - (c) enable a local government to estimate the cost of infrastructure provision to assist its long term financial planning
 - (d) ensure that trunk infrastructure is planned and provided in an efficient and orderly manner.
 - (e) provide a basis for the imposition of conditions about infrastructure on development approvals.
- (3) The local government infrastructure plan:
 - (a) states in Section 4.2 (planning assumptions) the assumptions about future growth and urban development including the assumptions of demand for each trunk infrastructure network
 - (b) identifies in Section 4.3 (priority infrastructure area) the prioritised area to accommodate urban growth up to 2031
 - (c) states in Section 4.4 (desired standards of service) for each trunk infrastructure network the desired standard of performance
 - (d) identifies in Section 4.5 (plans for trunk infrastructure) the existing and future trunk infrastructure for the following networks:
 - (i) stormwater
 - (ii) transport
 - (iii) parks and land for community facilities
 - (e) provides a list of supporting documents that assist in the interpretation of the local government infrastructure plan in the Editor's note – Extrinsic material at the end of Section 4.
 - (f) this local government infrastructure plan excludes water supply and sewerage networks as these networks are the responsibility of Unitywater as distributor-retailer and are subject to their Netserv Plan.

4.2 Planning assumptions

- (1) The planning assumptions state the assumptions about:
 - (a) population and employment growth
 - (b) the type, scale, location and timing of development including the demand for each trunk infrastructure network
- (2) The planning assumptions together with the desired standards of service form a basis for the planning of the trunk infrastructure networks and the determination of the priority infrastructure area.
- (3) The planning assumptions have been prepared for:
 - (a) the base date (2016) and the following projection years to accord with future Australian Bureau of Statistics census years:
 - (i) mid (2021)
 - (ii) mid (2026)
 - (iii) mid (2031)
 - (b) the LGIP development types in column 2 that include the uses in column 3 of Table 4.2.
 - (c) the projection areas identified on Local Government Infrastructure Plan Maps [LGIP-PIA-SC-1 to LGIP-PIA-SC-11](#) Priority Infrastructure Area and Service Catchments in [Schedule 3](#) —Local government infrastructure plan mapping and tables.
- (4) Details of the methodology used to prepare the planning assumptions are stated in the extrinsic material.

Table 4.2—Relationship between LGIP development categories, LGIP development types and uses

Column 1 LGIP development category	Column 2 LGIP development type	Column 3 Uses
Residential development	Attached dwelling	Caretaker's accommodation Dual occupancy



		- Dwelling unit - Multiple dwelling - Rooming accommodation - Nature-based tourism accommodation - Relocatable home park - Resort complex - Retirement facility - Rural worker's accommodation - Short-term accommodation - Tourist park
	Detached dwelling	- Community residence - Dwelling house - Party house
	Commercial	- Agricultural supplies store - Bulk landscape supplies - Garden centre - Hardware and trade supplies - Office - Outdoor sales - Sales office - Showroom - Wholesale nursery
	Community purpose	- Cemetery - Child-care centre - Club - Community care centre - Community use - Crematorium - Educational establishment - Emergency services - Environment facility - Funeral parlour - Health-care services - Hospital - Major sport, recreation and entertainment facility (Sport and Recreation only) - Park - Place of worship - Indoor sport and recreation - Outdoor sport and recreation - Residential care facility - Veterinary service
Non-residential development	Industry	- Air Services - Aquaculture - Car wash - Extractive industry - High-impact industry - Intensive animal industry - Intensive horticulture - Low-impact industry - Major electricity infrastructure - Marine industry - Medium-impact industry - Parking station - Research and technology industry - Renewable energy facility - Rural industry - Service industry - Substation - Transport depot



		Utility installation Winery Warehouse
	Other	Animal husbandry Animal keeping Cropping Home-based business Landing Market Permanent plantation Roadside stall Telecommunications facility
	Retail	Adult store Bar Brothel Food and drink outlet Function facility Hotel Major sport, recreation and entertainment facility (convention centre and exhibition centre) Nightclub entertainment facility Service Station Shop Shopping centre Tourist attraction Theatre

4.2.1 Population and employment growth

- (1) A summary of the assumptions about population and employment growth for the planning scheme area is stated in **Table 4.2.1 Population and employment assumptions summary**.

Table 4.2.1 - Population and employment assumptions summary

Column 1 Description	Base date 2016	2021	2026	2031	Ultimate development
Population	58,491	61,014	64,180	66,360	81,026
Employment	18,250	19,829	21,551	22,802	28,026

- (2) Detailed assumptions about growth for each projection area and LGIP development type category are identified in the following tables in [Schedule 3](#) Local government infrastructure plan mapping and tables:
- (a) for population, [Table SC3.1.1—Existing and projected population](#)
 - (b) for employment, [Table SC3.1.2—Existing and projected employees](#)

4.2.2 Development

- (1) The developable area is identified on Local Government Infrastructure Plan Maps [LGIP-PIA-SC-1](#) to [LGIP-PIA-SC-11](#) LGIP Priority Infrastructure Area and Service Catchments in [Schedule 3—Local government infrastructure plan mapping and tables](#).

The developable area is represented by zones relating to urban uses not affected by the following constraints:

- Tenure
- Landslip hazard
- Slope
- Biodiversity
- Riparian vegetation
- Waterways
- Coastal hazards
- Erosion prone areas
- Heritage

- Extractive resources
- Split zoning – environmental management and conservation and recreation and open space zones
- Land Uses - existing park, environmental areas, car parks, cemeteries, clubs, community uses and utilities.

- (2) The planned density for future development is stated in [Table SC3.1.3 in Schedule 3](#)—Local government infrastructure plan mapping and tables.
- (3) A summary of the assumptions about future residential and non-residential development for the planning scheme area is stated in [Table 4.2.2](#)—Residential dwellings and non-residential floor space assumptions summary.

Table 4.2.2 - Residential dwellings and non-residential floor space assumptions summary

Column 1 Description	Base date 2016	2021	2026	2031	Ultimate development
Residential dwellings	29,963	31,278	33,281	34,681	43,579
Non-residential floor space (m ² GFA)	904,436	983,206	1,059,100	1,119,914	1,429,116

- (4) Detailed assumptions about future development for each projection area and LGIP development type are identified in the following tables in Schedule 3 Local government infrastructure plan mapping and tables:
 - (a) for residential development, [Table SC3.1.4](#)
 - (b) for non-residential development, [Table SC3.1.5](#)

4.2.3 Infrastructure demand

- (1) The demand generation rate for a trunk infrastructure network is stated in [Column 4 of Table SC3.1.3 in Schedule 3](#) Local government infrastructure plan mapping and tables.
- (2) A summary of the projected infrastructure demand for each service catchment is stated in:
 - (a) for the stormwater network, [Table SC3.1.6](#)
 - (b) for the transport network, [Table SC3.1.7](#)
 - (c) for the parks and land for community facilities network, [Table SC3.1.8](#)

4.3 Priority Infrastructure area

- (1) The priority infrastructure area identifies the area prioritised for the provision of trunk infrastructure to service the existing and assumed future urban development up to 2031.
- (2) The priority infrastructure area is identified on Local Government Infrastructure Plan Maps [LGIP-PIA-SC-1 to LGIP-PIA-SC-11 LGIP Priority Infrastructure Area and Service Catchments](#).

4.4 Desired standards of service

- (1) This section states the key standards of performance for a trunk infrastructure network.
- (2) Details of the standard of service for a trunk infrastructure networks are identified in the extrinsic material.

Stormwater network Table 4.4.1 Stormwater desired standards of service

QUANTITATIVE STANDARDS (primarily about the capacity of the network)	
ITEM	DESIRABLE STANDARD
Overall objective	In accordance with Urban Stormwater Management Strategy, Noosa Council 2002 (Version 1- Revision 2 dated 8 August 2006), to Manage Stormwater Quantity to Ensure flooding impacts are minimised and environmental base flows in creeks and rivers are maintained.
Design	In accordance with: • Planning Scheme Policy 6 - Engineering Design Standards; • The Noosa Plan, Water Quality and Drainage Code
QUALITATIVE STANDARDS (primarily about the performance of the network)	
ITEM	DESIRABLE STANDARD
	In accordance with: • Environmental Protection (Water) Policy 2009;



Overall objectives	- Noosa River Environmental Values and Water Quality Objectives (July 2010); - Mary River Environmental Values and Water Quality Objectives (July 2010); - South East Queensland Regional Water Quality Management Strategy September 2001; - Queensland Water Quality Guidelines 2009 (EPA); - Noosa River Plan 2004; - Noosa River Catchment Management Strategy 2001; - Urban Stormwater Management Strategy, Noosa Council 2002 (Version 1- Revision 2 dated 8 August 2006). - Noosa Council Stormwater Asset Management Plan (adopted 22 October 2015)
Stormwater Pollutants	In accordance with the water quality objectives to protect environmental values under the: - Noosa River Environmental Values and Water Quality Objectives (July 2010) - Environmental Protection (Water) Policy 2009; - Mary River Environmental Values and Water Quality Objectives (July 2010) - Environmental Protection (Water) Policy 2009.
Soil Erosion and Sediment Transport	In accordance with the water quality objectives to protect environmental values under the: - Noosa River Environmental Values and Water Quality Objectives (July 2010) - Environmental Protection (Water) Policy 2009; - Mary River Environmental Values and Water Quality Objectives (July 2010) - Environmental Protection (Water) Policy 2009. On Site Construction standards to minimise soil erosion & sediment transport in accordance with: - Soil, Erosion & Sediment Control, Engineering Guidelines for Queensland Construction Sites, June 1996, The Institution of Engineers, Australia, Queensland Division.
Waterway - Health and Amenity	In accordance with the water quality objectives to protect environmental values under the: - Noosa River Environmental Values and Water Quality Objectives (July 2010) - Environmental Protection (Water) Policy 2009; - Mary River Environmental Values and Water Quality Objectives (July 2010) - Environmental Protection (Water) Policy 2009. In accordance with the Vision & Desired Environmental Outcomes for the Noosa River System in accordance with the Noosa River Plan 2004 - Parts 1 & 2.
Design	In accordance with The Noosa Plan: - Sustainable Building Design Code – addressing water efficiency and stormwater management incorporating water harvesting and reuse and reducing impervious area; - Waste Management Code and supporting planning scheme policy - addressing the design and location of bin storage areas, recycling, waste separation and bin wash down areas; - Landscaping Code - addressing effective landscape treatment and water management to optimise stormwater filtration and minimise sedimentation and erosion activity and runoff; - Water Quality and Drainage Code – addressing the management of wastewater, stormwater, run-off, groundwater and environmental flows as part of an integrated water cycle system, including the use of WSUD, managing stormwater quality, erosion and sediment. Supported by the Engineering Design Standard PSP. - Biodiversity Overlay – addressing the management, conservation and rehabilitation of biodiversity values including riparian vegetation, aquatic fauna, soils, landforms, waterways and drainage lines.

4.4.2 Transport network

The trunk transport infrastructure network is generally considered to:

- align within (or adjacent to) trunk road corridors; and
- provide main through linkage connections and/or to specific high use destinations and facilities.

Table 4.4.2 Transport Desired Level of Service

Road Hierarchy and Desired Level of Service (DSS)										
	Arterial		Distributor				Collector			
	Median	or Rural			Street			Sealed		
Traffic (VPD)	>20K	<20K	10K to 20K	5K to 15K	5K to 15K	5K to 15K	1K to 5K	1K to 5K	1K to 5K	<500
Posted Speed (km/h)	80/100		60 or 70	60	40 or 50	80	60	60	80	Warning
Lane width (m)	4x3.5	2x3.5	2x3.5	2x3.5	2 or 4x3.3 [^]	2x3.0	2x3.0	2x3.5	2x3.0	5.5
Bike Lanes (Y/N) (m)	Y 2.0		Y 2.0	Y 1.5	Share	N	N	N	N	N



Road Hierarchy and Desired Level of Service (DSS)

					or Y*					
On Street Parking (Y/N)	No		Y - sometimes offset			No	Y	Y	N	N
Shoulder width (m)	Dual Bike		Dual use Park and Bike			1.5	Dual use Park and Bike		1 sealed	N
Carriageway width (m)	Varies k2k	11 min	11 min k2k	10 min k2k	Varies	9 Form	11 min k2k	13k2k	8 min form	5.5 form
Pathway (m)	3 in urban		3des, 2 min	2 desired	full width	N	2 desired, 1.2 min %		N	
Pathway sides	One		Both	One	Where Dev	N	Both	Both	N/A	
Median landscaped (m)	Y3 min	N/A	Sometimes for aesthetics		2 min.^	N	Varies for aesthetics		N/A	
Reservation width (m)	Reserve width = lanes + median + paths + verges					20 Min	20 Min			
Lighting Standard	V4	V3	V3	V3	V3, P4	Int'sect V4	V3	Int'sect V3	Int'sect V3	N/A
Traffic Loading (EsA's)	5 x 10 ⁶		1 x 10 ⁶			1 x 10 ⁶	5 x 10 ⁵	1 x 10 ⁶	1 x 10 ⁶	N/A
Limited Access (Y/N)	Y		N			At times	N	N	N	N
Noise Attenuation	Subject to noise levels			N			N			

^ Lane configuration and median type depend on the streetscape

% Pathway widths are demand driven

* Provision of separate bike lanes depends on traffic situation and commercial acceptance

Additional Quantitative Roadway standards

Item	Type	Desired Standard
Road intersections and Roundabouts	Un-signalised 'T' intersection and single lane roundabouts	- Degree of saturation – 0.85 - Intersection Flows 4Kvpd minor & 16Kvpd major in urban areas and 250vpd minor & 1Kvpd non-urban areas.
	4 lane roundabout	- Degree of Saturation – 0.85 - Intersection Flows 16Kvpd minor & 35Kvpd major
	Austrorads DSS ¹ in urban areas	- C to D – good conditions outside peak holiday periods with only short delays at major intersections, and - D to E – moderate congestion during peak holiday periods with congestion severe enough to discourage private vehicle usage thus increasing use of public transport or other modes.
	Austrorads DSS ¹ in non-urban areas	B to C – good conditions in all periods with only short delays at major intersections.

¹Level of service as defined in Austrorads 2009 Guide to Traffic Management Part 3 Traffic Studies and Analysis

Road Hierarchy and Desired Level of Service (DSS)

Arterial	Distributor	Collector
Roadway Qualitative standards		
Item	Network	Objective
Road Network Characteristics to reflect the Shire's Character & Lifestyle	All	- Achieve a free flowing traffic environment free of significant delays thus reducing stress for drivers. - Encourage use of other modes of transport shifting reliance from private motor vehicle usage. - Prefer roundabouts rather than signalised intersections. - Prefer a two lane roadway network.



		- Use trees and vegetation to shade road corridors and reduce environmental speeds. - Prohibit advertising signage in the road reserve so as not to distract drivers. - Innovate in all road design using the “Noosa Design Principles” for inspiration.
Pathways and Bikeways Qualitative Standards		
Pathways and Bikeways	All	- Encourage usage of pathways and bikeways by providing convenient links to public transport infrastructure, and within and between, residential, commercial and industrial nodes. - Pathways and bikeways be a viable integrated component of the people movement network. - Pathways and bikeways to have appropriate materials and treatments to surfaces to ensure comfort and safety for users.
Safety	All	Design for universal usage in all components within the road reserve.
Public Transport Infrastructure Quantitative & Qualitative Standards		
Bus Stops	All	- Meet the requirements of the Public Transport Infrastructure Manual (2015) Translink Qld. - Located for convenient access. - Designed to fit the Noosa style.
	Type of Facility	- Transit Type A – Servicing locations with high use and high bus frequency – off road bus bays, lay over bays for bus fleet, driver amenities, integrated with parking and public facilities, high capacity sheltered seating, multiple non slip boarding points. - Transit Type B – Servicing locations with moderate to high use and bus frequency (at least half hourly frequency) – large capacity sheltered seating, multiple non slip boarding point - Transit Type C – Servicing moderate use and bus frequency (every half hour) - Non Slip boarding point, seat, shelter and J pole - Transit Type D – Servicing low passenger and bus frequency (less than half hour) – non slip boarding point, J pole

4.4.3 Public parks and land for community facilities network

Table 4.4.3.1 Public Parks and Land for community facilities desired standards of service

Catchment and accessibility			
Public Parks and land for community facilities	Population serviced	Accessibility target Coastal Urban catchment	Accessibility target Hinterland / Rural Catchment
Shire Wide Public Park	63,000 +	Within 10 kilometres Located on public transport routes. Located on recreation, pedestrian or bike networks	Within 15 kilometres Located on recreation, pedestrian or bike network
District Public Park	40,000 (Coastal Urban) 23,000 (Hinterland & Rural)	Within 2.5 kilometres Located on public transport	Within 10 kilometres Located on recreation,

Catchment and accessibility

		routes Located on recreation, pedestrian or bike networks	pedestrian or bike networks.
All land for community facilities	63,000 +	Within 10 kilometres Located on public transport routes and recreation, pedestrian or bike network where possible and depending on the community facility's purpose.	Within 15 kilometres Located on recreation, pedestrian or bike network where possible and depending on the community facility's purpose.

Land Provision Target

Catchment	Public Parks		Land for Community Facilities	TOTAL Ha / 1000 population
	Recreation Park	Sports Park		
Noosa Shire	2 ha / 1000	1.5 ha / 1000	2 ha	5.5 ha

Land Quality and Size

Public Park Hierarchy type	Size Target	Flood Immunity	Acceptable % of useable land	Slope	Minimum Width	Minimum Road Frontage	Unsuitable Land
Shire Wide Recreation Park	2-30+ha	Well drained above 1:5 average. Recurrence interval level (Q5 flood level) with at least 10% above the 1:100 ARI level or the highest known flood level whichever is the greater.	75% useable land, however, may vary depending on the setting and function of the recreation park.	75% between flat and 1:10 maximum slope, however, may vary depending on the setting and function of the recreation park.	Variable depending on the setting and function of the recreation park	Variable depending on the setting and function of the recreation park	- Steep slopes; - Land used as separation or buffer areas to any transport corridor, industrial or commercial use; - Power easements (consideration may be given the use of the land as a linear link for walking, cycling, or other transport network; - Land encumbered by other infrastructure distribution network that may limit park development opportunities
District Recreation Park	1-10 ha						
All Sports Parks	2-15 ha A number of sports parks can co-locate	- Building and fenced areas above Q100 - Playing fields above Q 20 - Wetland treatment areas above Q10 - Playing surfaces are well drained	80% useable area for sports and active recreation.	Principally a flat site with 5 % gradient or less	Minimum width 150 metres	Close to an arterial road network	
Land for Community facilities	Variable	Building and	80%	Principally	Variable	Variable	



Land Quality and Size							
	depending on the land's intended purpose	fenced areas above Q100	useable area	a flat site with 5 % gradient or less	depending on the land's intended purpose	depending on the land's intended purpose	- or presents a hazard to users; - Land affected by chemical contaminants, soil stability problems or hazardous substances presenting a hazard to users; - Land containing other hazards that pose a risk to users.

Setting and embellishment					
Embellishment Type	Shire Wide and District Recreation Parks				Shire Wide and District Sports Parks
	Natural	Semi-Natural	Semi-developed	Developed	
Internal Roads	X	X	Δ	Δ	✓
Parking	Δ	✓	✓	✓	✓
Fencing / bollards	X	Δ	✓	✓	✓
Lighting	X	Δ	Δ	✓	✓ Designed to reduce impact on floodlighting adjacent areas
Toilet	X	X	✓	✓	✓
Paths (pedestrian/cycle)	✓	✓	✓	✓	✓
Seating	X	Δ	✓	✓	✓
Shade structures	X	Δ	✓	✓	✓
Covered seatings and table	X	Δ	✓	✓	X
Tap/Bubbler	X	Δ	✓	✓	✓
BBQ	X	Δ	✓	✓	X
Bins	Δ	Δ	✓	✓	✓
Landscaping (including earthworks, irrigation and revegetation)	Δ	Δ	✓	✓	✓
Signage	Δ	Δ	✓	✓	✓
Playground/ activity area	X	X	✓	✓	Δ
Dog off-leash areas	X	Δ	Δ	X	X
Bike racks	Δ	✓	✓	✓	✓
Picnic tables	X	Δ	✓	✓	X
Change rooms (including	X	X	X	X	Δ

Setting and embellishment					
showers)					
Clubhouse / meeting room (including canteen / kiosk)	X	X	X	X	Δ
Equipment storage area	X	X	X	X	✓
✓ - Usually provided Δ - May be provided if appropriate X - Not generally provided					

4.5 Plans for trunk infrastructure

- The plans for trunk infrastructure identify the trunk infrastructure networks intended to service the existing and assumed future urban development at the desired standard of service.

4.5.1 Plans for trunk infrastructure maps

- The existing and future trunk infrastructure networks are shown on the following maps in Schedule 3.3—Local government infrastructure plan mapping and tables:
 - Local Government Infrastructure Plan Maps [LGIP-SW-1 to LGIP-SW-10 –LGIP PFTI Stormwater](#)
 - Local Government Infrastructure Plan Maps [LGIP-TR-1 to LGIP-TR-15 Transport-Roadways and LGIP-PB-1 to LGIP-PB-15 LGIP PFTI Transport-Pathways and Bus Stops](#)
 - Local Government Infrastructure Plan Maps [LGIP-PC-1 to LGIP-PC-15 LGIP PFTI Public Parks and Land for Community Facilities Plan](#)
- The State infrastructure forming part of the transport trunk infrastructure network has been identified using information provided by the relevant State infrastructure supplier

4.5.2 Schedule of works

- Details of the existing and future trunk infrastructure networks are identified in the electronic Excel schedule of works model which can be viewed [here](#):
- The future trunk infrastructure, derived from the SOW model, is summarised in the following tables in Schedule 3—Local government infrastructure plan mapping and tables:
 - for the stormwater network, [Table SC3.2.1](#)
 - for the transport network, [Table SC3.2.2](#)
 - for the public parks and land for community facilities network, [Table SC3.2.3](#)

Editor's Note — Extrinsic material

The below table identifies the documents that assist in the interpretation of the local government infrastructure plan and are extrinsic material under the *Statutory Instruments Act 1992*.

List of extrinsic material

Column 1 Title of document	Column 2 Date	Column 3 Author
Background Information for Stormwater Network – Noosa Shire LGIP	2018	Principal Strategic Planner - Noosa Council
Background Information for Transport Network – Noosa Shire LGIP	2018	Principal Strategic Planner - Noosa Council
Background Information for Public Parks and land for community facilities – Noosa Shire LGIP	2018	Principal Strategic Planner - Noosa Council
Briefing Note on DMATT Growth Forecasts	2018	Unitywater



Column 1 Title of document	Column 2 Date	Column 3 Author
– New Noosa Plan		
Briefing Note on DMATT Information Inputs – New Noosa Plan	2018	Unitywater
LGIP Briefing Note SOW Model Inputs and Methodology	2018	Financial Services Manager - Noosa Council