

Traffix Group

Traffic Engineering Report

Skylands Master Plan

Droughty Point, Tranmere

Prepared for
The Carr Family Trust

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1. Introduction

Traffic Group has been engaged by the Carr Family Trust to prepare a Traffic Engineering Report to inform the Skylands Master Plan.

This report provides a high-level traffic engineering assessment of the development potential of the Droughty Point urban growth area with particular attention to the access and traffic impacts, opportunities and constraints.

2. Proposal

The Carr Family owns approximately 305.7ha of the 335-hectare Tranmere-Rokeby Peninsula Structure Plan area, with the balance held by several other private, public and institutional owners.

Macroplan has prepared a Residential & Commercial Market Assessment (final draft dated 20 July 2020) which considers economic and real estate market trends within the Greater Hobart and Southern Tasmanian regional market contexts and provides a demand and supply assessment addressing several uses including residential, retirement living, aged care, retail, commercial, childcare, healthcare and short-stay accommodation.

The Macroplan report indicates that the Tranmere-Rokeby Peninsula area could accommodate at least 2,530 additional dwellings by 2046, with potential for a higher dwelling yield in the range of 3,000 to 4,000 dwellings possible, contingent upon a range of assumptions, including stronger population growth and higher dwelling density.

These estimates pre-date COVID. The timeframe for full development of the structure plan area may be extended to 30+ years.

The Macroplan report also identifies a potential demand for a small to medium sized supermarket around 2030, with demand for a neighbourhood centre anchored by a full-line supermarket could be accommodated at around 2036, with a demand for a total retail floor space of around 6,400m² as the planning area approaches full build-out.

Other potential uses within the structure plan area include childcare (long day care), aged care and medical centre(s) with up to 10 GP's.

It is proposed that the development progress in nodes around six walkable catchment areas. Figure 1 below shows the preliminary masterplan concept, including node locations, street network and pedestrian trails.

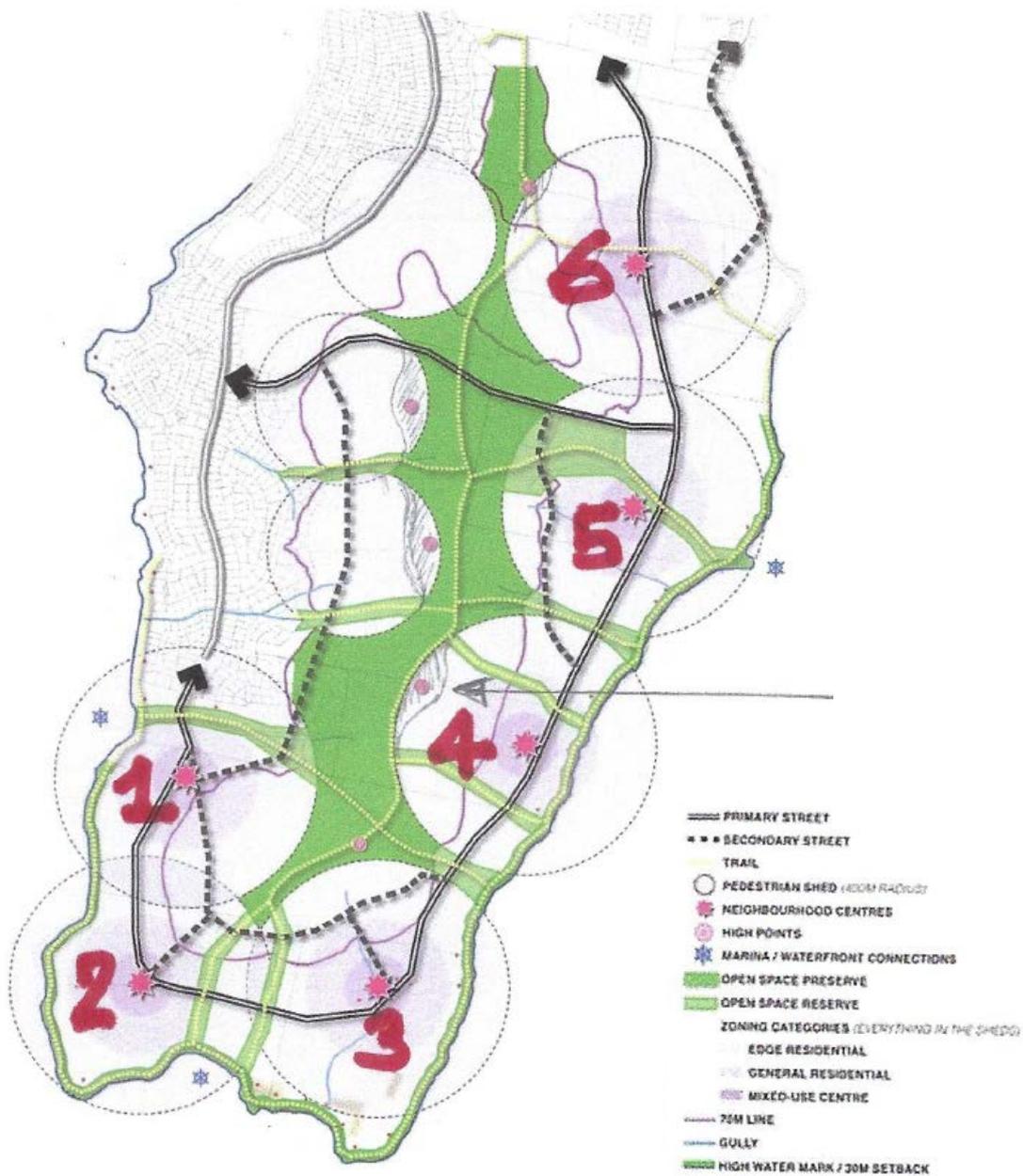


Figure 1: Preliminary Concept Masterplan

Figure 1 shows the primary road network extending south from the end of Oceana Drive, passing through the central point of each walkable catchment and connecting into the end of Tollard Drive.

An east-west primary access street is also proposed to connect between Oceana Drive and Tollard Drive via an extension of Norla Street.

The secondary street network includes a connection to Droughty Point Road.

Table 1 below shows the potential timeline for development and provision of amenities.

Table 1: Timeline for Development & Provision of Amenities

	Development Timeframe					
	2021 – 2025	2026 – 2030	2031 – 2035	2036 – 2040	2041 – 2045	2046 – 2050
Residential Development Precinct	1	5	2	6	3	4
Transportation Modes⁽¹⁾						
Bus Service	Y	Y	Y	Y	Y	Y
Ferries to Hobart (one terminal on the western shore, from 2028)		Y	Y	Y	Y	Y
Marina/Water Taxi at Neighbourhood 5 (from 2028)		Y	Y	Y	Y	Y
Car-pooling as a substantial contributor to moving people to Hobart		Y	Y	Y	Y	Y
Drone/Amazon deliveries to reduce residents shopping travel			Y	Y	Y	Y
Marina/Water Taxi at Neighbourhood 2 (from 2033)			Y	Y	Y	Y
Droughty Point Road as a major connector				Y	Y	Y
Helicopter/air taxi service to airport and CBD				Y	Y	Y
Electric vehicles to reduce pollution/charging stations provided				Y	Y	Y
Autonomous taxis to reduce number of cars residents need					Y	Y
Amenities Within the Structure Plan Area⁽²⁾						
Work from home offices	Y	Y	Y	Y	Y	Y
Two-storey office buildings 500m ² floor area	-	1	1	1	1	1
Satellite offices supporting CBD businesses	-	-	-	1	-	1
Private School	-	1	-	-	1	-
Technology campus tied to UTAS	-	-	-	1	-	-

Note (1): The early provision of sustainable travel options will assist in reducing the reliance of residents on private vehicles, which will minimise the external traffic impacts.

Note (2): The provision of these services within the Structure Plan Area will reduce the frequency with which future residents may need to travel outside of the area, limiting the external traffic impacts.

3. Subject Site

The study area encompasses Droughty Hill, Droughty Point, Trywork Point and Gibsons Point adjacent to the suburb of Tranmere and is located approximately 15km from the Hobart CBD and 20km from the Hobart International Airport. The extent of the Tranmere-Rokeby Peninsula Structure Plan area is identified at Figure 2 below and a locality map is shown at Figure 3.

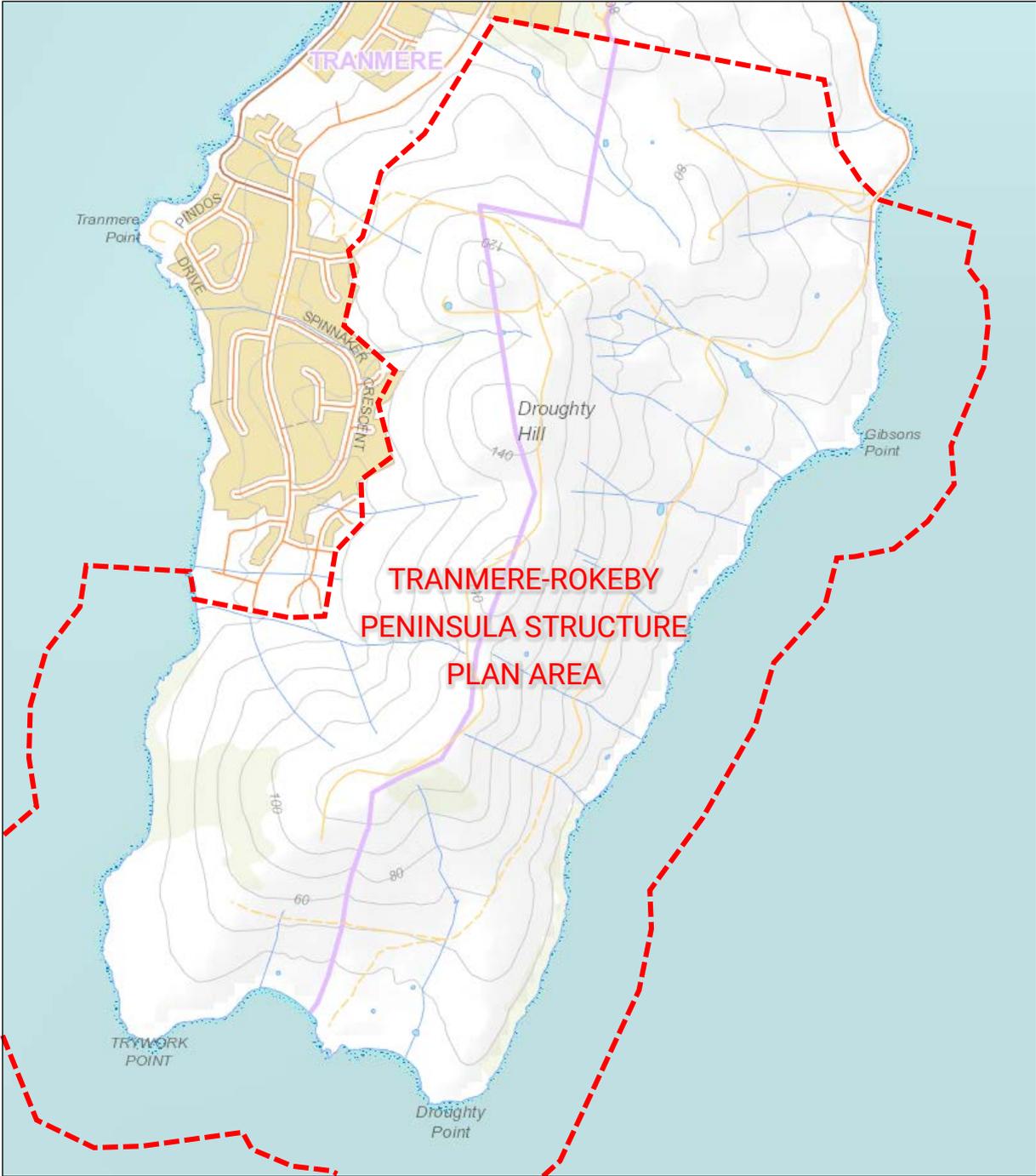
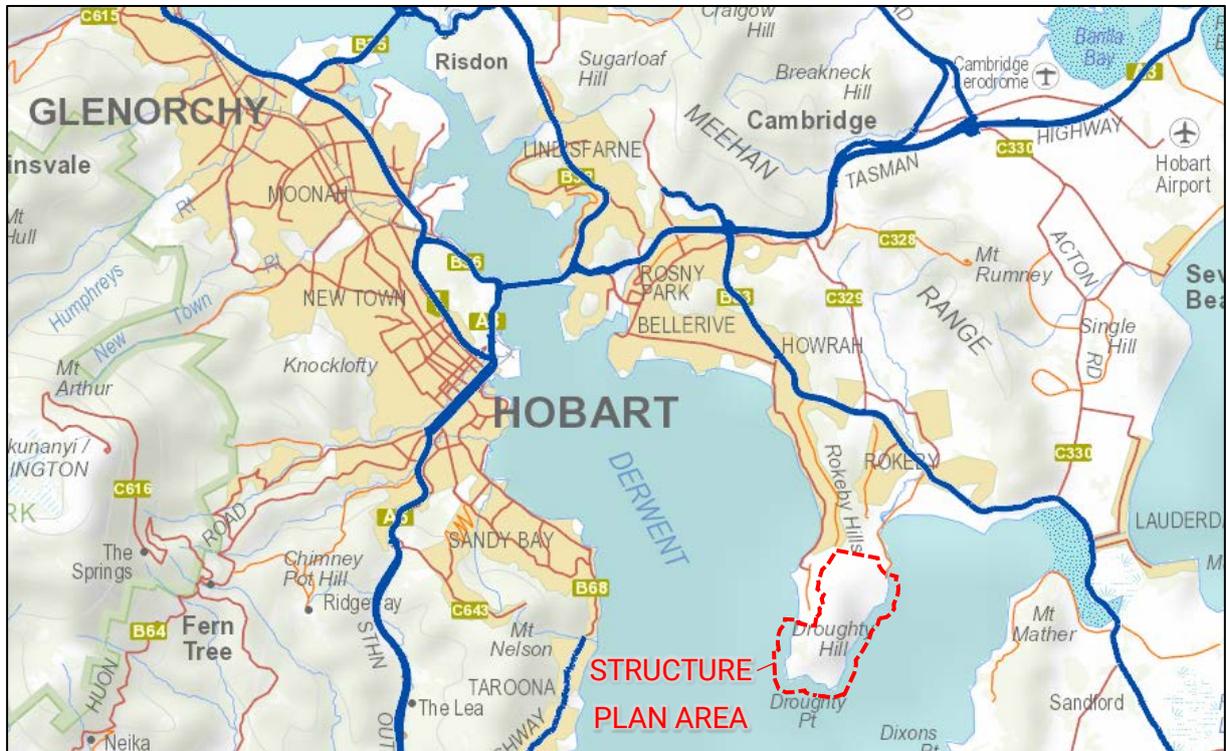


Figure 2: Study Area



Source: maps.thelist.tas.gov.au/

Figure 3: Locality Map

An aerial view of the structure plan area is shown in Figure 4.

The land was farmed between 1820 and 1947 for vegetables, wool and wheat. The associated family home was established at the southern tip, named Droughty Point Farm, with some remnants of the homestead remaining today and identified by the Tasmanian Heritage Council.

Since farming ended in 1947, the peninsula was purchased by A.S.L. Finance Pty Ltd and while several master plans were drawn, only a single 39 lot subdivision was completed, with further development prevented due to a lack of infrastructure and road access.

The land was however designated for future residential development.

The current owners purchased the property in 1981 and a number of subdivisions on the peninsula have since been completed on the broader property originally purchased by Bert Carr. These existing established developments are outside of the structure plan area.



Figure 4: Aerial View – Tranmere/Droughty Point/Rokeby Peninsula

4. Existing Conditions

4.1. Primary/Arterial Road Network

The state arterial road categories are described in the Department of State Growth's State Road Hierarchy document as follows:

- Category 1 Roads: The primary freight and passenger roads connecting Tasmania – major highways crucial to the effective functioning of industry, commerce and the community, carrying large numbers of heavy freight and passenger vehicles, key links supporting future economic development (inter-regional roads).
- Category 2 Roads: Major regional roads for carrying heavy freight – linking major production catchments to the category 1 Roads, carrying large numbers of both heavy freight and passenger vehicles and facilitating safe and efficient access to Tasmania's regions.
- Category 3 Roads: Main access roads to Tasmania's regions, carrying less heavy freight traffic than regional freight roads – of strategic importance to regional and local communities and economies, linking towns to Category 1 and 2 roads, with lesser emphasis on freight movement (sub-regional roads).
- Category 4 Roads: Providing safe travel between towns, major tourist destinations and industrial areas (local and lesser regional roads).
- Category 5 Roads: Primary access roads for private properties, comparatively low frequency heavy freight vehicle transport such as log transport, farm property access, etc.

The state arterials and major roads which make up the broader primary network servicing the structure plan area are described below.

Rokeby Road/South Arm Highway (Route B33)

South Arm Highway is a State Arterial – Category 3 which extends approximately 4km southeast from Tasman Highway to Oceana Drive.

Beyond Oceana Drive, Route B33 continues as Rokeby Road and is classified as a State Arterial – Category 4. Rokeby Road continues approximately 3km generally in a southeast alignment to Hawthorne Place. After Hawthorne Place, Route B33 is known as South Arm Road and continues a further 28.6km to Opossum Bay, as a Stage Arterial Category 5.

Between Tasman Highway and Pass Road, Route B33 is configured as a divided highway with two through traffic lanes in each direction, tapering back to an undivided road with a single lane in each direction beyond Pass Road.

The posted speed limit varies between 100km/h and 80km/h.



Figure 5: Rokeby Road Looking East Towards the Oceana Drive Signalised Intersection

Tasman Highway (A3)

Tasman Highway is a State Arterial Category 1 which is approximately 410km in length, connecting the cities of Hobart and Launceston via the east coast of Tasmania.

It also acts as a major commuter road to the city for residents on the east side of the Derwent River via the Tasman Bridge.

The bridge has a five-lane configuration, with the central lane swapping traffic directions during the day to provide three lanes in the peak direction and two lanes in the counter-peak direction.

The remainder of the urban section of Tasman Highway on the east side of the Derwent River is configured with a divided carriageway carrying at least two lanes of traffic in each direction between the East Derwent Highway and Hobart International Airport.

The Tasman Bridge and inner-city section of the highway has a variable speed limit not exceeding 70km/h, while a posted speed limit of 110km/h applies to the east of the Rosny Hill Road interchange.



Figure 6: Tasman Highway Looking East From the Flagstaff Gully Link

Rosny Hill Road

Rosny Hill Road is not classified as a state arterial road, however it is a major road providing an alternative connection to the Tasman Highway from the Tranmere/Droughty Point area, via Cambridge Road, Clarence Road and Howrah Road. This route also provides access to schools, local and regional shops and major sports grounds.

Rosny Hill Road is configured as a limited access arterial with a divided carriageway carrying two traffic lanes in each direction and has a posted speed limit of 60km/h.



Figure 7: Rosny Hill Road Looking South near Riawena Road

Cambridge Road/Clarence Street/Shoreline Drive

Cambridge Road/Clarence Street/Shoreline Drive is a higher order connector route between Rosny Hill Road and South Arm Highway. The Cambridge Road section of the route is configured with an undivided four-lane carriageway, while the Clarence Street section is predominantly configured with an undivided two-lane carriageway, flaring at intersections. Some parts have a painted central turning lane. Direct property access is permitted, and a posted speed limit of 60km/h applies.



Figure 8: Clarence Street Looking East near Yarram Street

4.2. Local Access Network

Oceana Drive

Oceana Drive is a local connector road which extends 5.3km south from the signalised four-way cross-intersection of South Arm Highway/Rokeby Road/Merindah Street and currently terminates at a dead-end at the boundary of the Structure Plan area. A large turn-around area suitable for buses and garbage vehicles is provided at the southern end of Oceana Drive.

At the southern end, Oceana Drive is configured with a 10.5m wide carriageway with barrier kerb, within a 25m road reservation. A 3.0m wide shared path is provided on the west side and a 1.5m wide footpath is provided on the east side, directly adjacent to the carriageway. Unrestricted parallel parking is permitted on both sides.

The wide single lane in each direction continues along the full length of Oceana Drive splaying to two lanes on the approach to the South Arm Highway intersection.

A posted speed limit of 60km/h applies.



Figure 9: Oceana Drive Looking South Near Yachtsmans Way

Tranmere Road

Tranmere Road is a local connector road which extends 3.9km generally in a north-south direction along the western foreshore of the Droughty Point Peninsula, providing a parallel route to Oceana Drive. At its northern end, it connects to Howrah Road, and at its southern end it bends eastwards and intersects Oceana Drive.

Tranmere Road is configured with a 7.5m wide carriageway with footpaths on both sides, directly adjacent to the carriageway.

A posted speed limit of 60km/h applies.



Figure 10: Tranmere Road Looking South Near Cohuna Street

Howrah Road

Howrah Road is a continuation of Tranmere Road at the northern end and connects to Clarence Street and South Arm Highway (via a short section named Shoreline Drive).

The intersection with Clarence Street is signalised, and the intersection with South Arm Highway is controlled via a large radius roundabout.

A posted speed limit of 60km/h applies.



Figure 11: Howrah Road Looking North Towards The Clarence Street Signals

Tollard Drive

Tollard Road is a local connector road which extends approximately 2.3km in a north-south direction between Rokeby Road and Enchantress Street.

To the north of Rokeby Road it continues as Pass Road (Route C329), eventually connecting to the Tasman Highway. The Tollard Drive/Rokeby Road/Pass Road intersection is signalised.

A southern extension has recently been constructed, with a temporary court bowl provided at the edge of the Structure Plan area.

Direct property access is provided along the full length of Tollard Street, and the southern section is configured with a 10.5m wide carriageway with a 1.5m wide footpath on the west side and a 3m wide shared path on the east side.

The default urban 50km/h speed limit applies, and a number of traffic management treatments are installed along the route, including kerb outstands and roundabouts.



Figure 12: Tollard Drive (Near the Southern End) Looking North

Droughty Point Road

Droughty Point Road is a predominantly rural local access street which connects to South Arm Road south of Hawthorn Place at its northern end.

It extends approximately 2.8km generally south with the last 1.4km (approx.) following the eastern foreshore of the Droughty Point Peninsula.

The first 1.7km (approx.) is sealed, and the remaining section which follows the foreshore is a rural gravel configuration providing access to a handful of rural properties and terminating at a dead-end. An access track continues from the end of the court bowl into the Structure Plan area.

Some parts of the Droughty Point Road reservation are quite narrow. In the vicinity of No.296 (gravel section), there is only approximately 18.5m between the property boundary and the high tide line. A posted speed limit of 50km/h applies.

There are no east-west road connections between Droughty Point Road and the Tollard Drive/Enchantress Street development area, or between the Tollard Drive and Oceana Drive development areas.

Enchantress Street

Enchantress Street is a local access street which predominantly runs parallel to Tollard Drive and currently terminates at a dead-end at both ends. The southern end provides a potential connection to the Structure Plan area through another land parcel.

Enchantress Street is configured with an 8.5m wide carriageway within an 18m road reservation, with footpaths on both sides.

The default built-up areas 50km/h speed limit applies.

4.3. Traffic Volumes

The Department of State Growth Geocount website provides the following current traffic volume data for key arterial links providing access to the development area, as shown in Table 2 below.

Table 2: Arterial Road Traffic Volumes

Road Name	Location	AADT ¹	% Trucks	Annual Growth Rate
Tasman Hwy	380m E of Tasman Bridge East Abutment	71,730vpd	7.1%	1.3%
Tasman Hwy	29m E of Dampier St O'pass	45,560vpd	8.5%	1.5%
South Arm Hwy	78m S of Mornington Road	26,770vpd	6.9%	3.1%
South Arm Hwy	260m S of Shoreline Drive	23,720vpd	7.2%	3.3%
Rokeby Road	305m E of Oceana Drive	22,250vpd	7.6%	3.4%
Rokeby Road	110m N of Diosma Street	17,000vpd	7.2%	0.4%
Rokeby Road	380m S of Burtonia Street	16,900vpd	5.7%	2.3%
South Arm Road	120m S of Droughty Point Rd	14,560vpd	8%	-

Clarence City Council has provided traffic data for a number of key local road locations providing access to the Structure Plan area, as set out in Table 3 below. Counts were undertaken between 2017 and 2019.

Table 3: Local Road Traffic Volumes

Road Name	Location	AM Peak		PM Peak		Weekday Average (24 Hour Two-Way)
		NB	SB	NB	SB	
Tranmere Road	S of Corinth St (No.24)	409	201	239	437	5,898 vpd
	N of Glamorgan St (No.104)	264	124	134	284	3,366 vpd
	S of Eliza Way (No.216)	233	87	116	210	2,779 vpd
Howrah Road	N of Minerva St (No.52)	532	274	319	529	7,448 vpd
Oceana Drive	N of Caroda Ct (No.483)	226	76	126	204	2,937 vpd
	N of Skala Rd (No.734)	94	39	75	76	1,154 vpd

¹ AADT = Average Annual Daily Traffic, which is the sum of all traffic for a year divided by 365.

The traffic count locations and current two-way daily traffic volumes are depicted on the map at Figure 13 below.



Figure 13: Existing Two-Way Daily Traffic Volumes

4.4. Public Transport

The following public bus routes currently travel along Tranmere Road:

- Route 605 connects to North Hobart via Shoreline Plaza, Clarence Street, Cambridge Road, Rosney Park Interchange and Rose Bay.
- Route 615 connects to Hobart via Shoreline Plaza, Clarence Street, Cambridge Road, Rosney Park Interchange and Rose Bay.
- Route X15 connects to Hobart via Shoreline Plaza, South Arm Highway, Tasman Highway and Rose Bay.

The following public bus routes currently travel along Oceana Drive:

- Route 616 connects to Hobart via Shoreline Plaza, Clarence Street, Cambridge Road, Rosney Park Interchange and Rose Bay.
- Route X16 connects to Hobart via Shoreline Plaza, South Arm Highway, Tasman Highway and Rose Bay.

All Tranmere Road and Oceana Drive routes currently turn around at the terminus at the end of Oceana Drive.

The following public bus route currently travels along Tollard Drive, looping around Duntroon Drive:

- Route 625 connects between Clarendon Vale and Hobart via Rokeby, Howrah, Bellerive, Rosny Park and Rose Bay.

These services connect to other bus services at a number of major interchanges including Shoreline Plaza, Rosny Park and Hobart, as shown in the map at Figure 14 below.

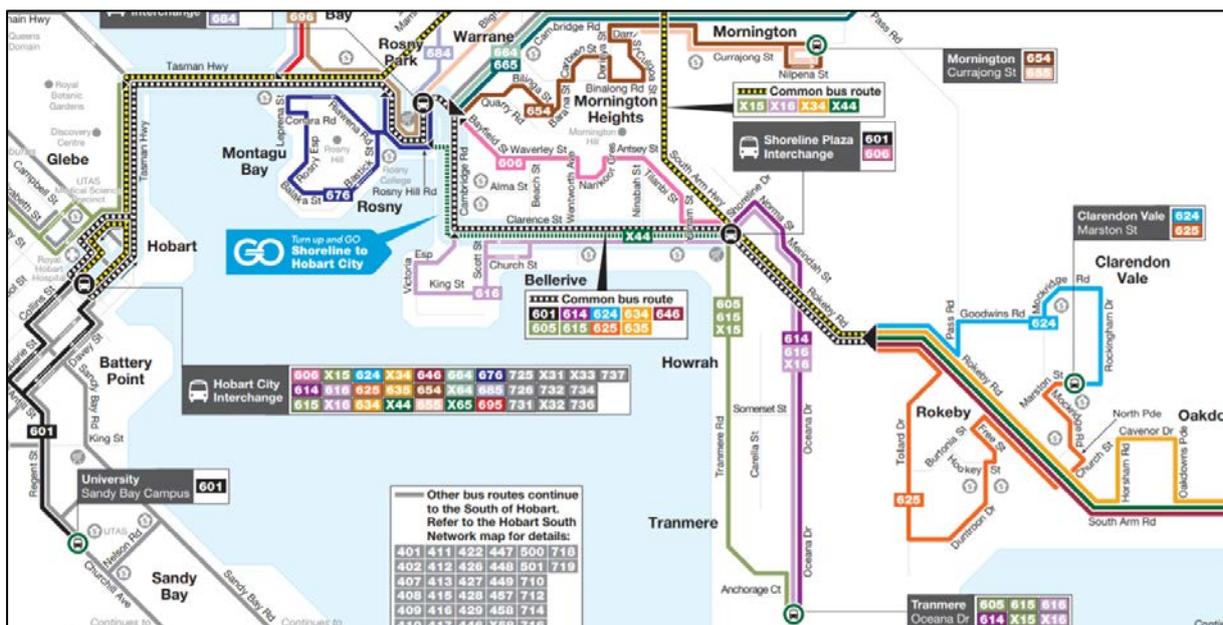


Figure 14: Public Transport Map – Eastern Shore

5. Rokeby Stage 3 Planning Study

The Department of State Growth have engaged Pitt & Sherry to undertake a planning study to determine the impacts and future needs of the South Arm Road (Rokeby Road) corridor between Pass Road and Acton Road, taking into account known future development areas within the Rokeby growth area.

Pitt & Sherry engaged TMA to undertake traffic analysis.

We understand that the study is not yet complete, however preliminary findings include recommendations for future upgrades to provide more capacity, improve safety and encourage both active and public transport use.

The study is likely to be release publicly within the next month.

We understand that the traffic analysis adopted the following assumptions for development for the Skylands site:

- The Structure Plan area was identified as Residential Area 8 in the study.
- Residential Area 8 is assumed to include 1,771 dwellings with the following development timeframe:
 - 10% by 2024 (177 dwellings),
 - 30% by 2029 (531 dwellings),
 - 60% by 2034 (1,063 dwellings), and
 - 90% by 2039 (1,594 dwellings).
- 75% of the development traffic is assigned to Rokeby. The remainder is assumed to have been allocated to Tranmere, which is not part of the Department of State Growth Rokeby Stage 3 Planning Study.

6. Traffic Impacts

6.1. Traffic Generation

The Greater Hobart Household Travel Survey 2019 was a comprehensive survey of approximately 2,000 households in the Greater Hobart area conducted by the Tasmanian Government to establish daily travel patterns, including modes of travel, travel times, distances and purposes. All types of travel were recorded, from work, school trips and shopping trips to walking the dog or visiting a friend.

The key findings of the survey were as follows:

- On average there are 1.8 cars and 1.3 bicycles per household.
- The average person makes 3.2 trips per day.
- Overall, 77% of weekday trips are made by car (54% as driver, 23% as passenger), with 16% of all trips on foot, 5% by bus, 1% by bicycle and 1% by other modes.

- For work-related (commuter) trips, 84% are made by car (77% as driver and 7% as passenger), with 7% by bus, 6% walking, 2% cycling and 1% by other modes.
- The average car occupancy is 1.8 persons per car overall, and 1.2 persons per car for commuter trips.

Weekday travel is broken down as follows:

- 22% work-related,
- 20% social/recreation,
- 17% shopping,
- 16% pick-up/drop-off,
- 10% education,
- 8% personal business,
- 6% accompanying, and
- 2% other.

During the morning and afternoon commuter peak hours, work accounts for 29% of all trips, with pick-up/drop-off (19%) and education (15%) the next most common reasons to travel.

The Greater Hobart Household Travel Survey 2019 updated a previous version of the survey which was undertaken by the Department of Infrastructure, Energy and Resources in December 2010. The 2010 version of the study provided an overall average trip rate for the Greater Hobart area and also broke the data down into Local Government Areas (LGA's). Notably, the Clarence LGA recorded the same number of trips per person as the overall Greater Hobart average.

The above data provides a comprehensive picture of the current travel demands of households, and can be used to estimate the traffic generation, distribution and potential capture for the structure plan area.

The Southern Tasmania Land Use Strategy indicates that the average household size is currently 2.4 persons per household and is expected to reduce to 2.1 persons per household beyond 2026. Conservatively adopting the current 2.4 persons per household, based on the Greater Hobart Household Travel Survey results (2019), the average household generates in the order of:

- 7.68 trips per day (weekday average) of which:
 - 4.15 trips per day are by car as driver and 1.77 trips per day are by car as passenger,
 - 1.23 trips per day are on foot,
 - 0.38 trips per day are by bus (or one return trip for every six households), and
 - 0.08 trips per day are by bicycle.
- Based on a typical peak-to-daily ratio of 10%, in the order of 0.77 trips per household are estimated to occur during the road network peak hours, of which 22% are work-related, with a slightly higher than average proportion are by car as driver. The peak hour trip breakdown is as follows:
 - 0.45 trips by car as driver and 0.15 trips by car as passenger,

- 0.11 trips on foot,
- 0.04 trips by bus, and
- 0.01 trips by bicycle.

Table 4 below sets out the estimated overall traffic generation (peak hour and daily) for the structure plan area based on low, mid-range and high household projections, adopting the Greater Hobart Household Travel Survey 2019 traffic generation rates.

Table 4: Ultimate Traffic Generation for the Structure Plan Area

	Generation Rate (Car Drivers)	Low	Mid	High
Ultimate Dwelling Yield		2,530 dwellings	3,000 dwellings	4,000 dwellings
Peak Hour Traffic Generation	0.45 trips per household	1,139 vph	1,350 vph	1,800 vph
Daily Traffic Generation (Weekdays)	4.15 trips per household	10,500 vpd	12,450 vpd	16,600 vpd

Table 5 breaks down the traffic generation based on the anticipated staging of development, over a 30-year timeframe, and assuming the mid-range of development, i.e. 3,000 dwellings, corresponding to a development rate of 100 dwellings per year.

Table 5: Ultimate Traffic Generation for the Structure Plan Area

Stage	Year	No. of Dwellings	Cumulative Peak Hour Traffic Generation	Cumulative Daily Traffic Generation
Stage 1	2021 – 2025	500	225 vph	2,075 vpd
Stage 5	2026 – 2030	500	450 vph	4,150 vpd
Stage 2	2031 – 2035	500	675 vph	6,225 vpd
Stage 6	2036 – 2040	500	900 vph	8,300 vpd
Stage 3	2041 – 2045	500	1,125 vph	10,375 vpd
Stage 4	2046 – 2050	500	1,350 vph	12,450 vpd

It is noted that the Department of State Growth Rokeby Stage 3 Planning Study adopted traffic generation rates which are set out in TDT2013/04a, which supersedes the RTA Guide to Traffic Generating Developments (RTA Guide) (2002), and is generally regarded as the standard for metropolitan development characteristics.

The TDT2013/04a rates are based on traffic surveys undertaken within NSW and may therefore vary from local conditions experienced in Hobart's suburbs. The TDT2013/04a rates are as follows:

- 7.4 vehicle trips per dwelling per day,
- 0.71 vehicle trips per dwelling in the AM peak hour, and
- 0.78 vehicle trips per dwelling in the PM peak hour.

These rates are significantly higher than the rates established from the Greater Hobart Household Travel Survey 2019.

Local Conditions

It is noted that the two traffic counts at 24 Tranmere Road and 483 Oceana Drive effectively provide a "screenline" count for traffic generation within the suburb of Tranmere. All dwellings to the south of this screenline as well as all residents of Carella Street, pass one of these two count locations for the purpose of all school, shopping and work-related vehicle trips, and accordingly a traffic generation rate can be established for this localised area. There are no significant non-residential traffic generators within the catchment area.

The counts at 24 Tranmere Road and 483 Oceana Drive were undertaken in March 2017 and August 2018 respectively.

For the purpose of undertaking a conservative analysis, the dwelling yield has been taken as at March 2017, at which time residents of a total of 1,380 dwellings were required to cross the "screenline" (count locations) to access their dwellings.

The two-way daily traffic volumes for the two count locations combined were 8,835 vehicles per day. This corresponds to a traffic generation rate of **6.4 vehicle trip-ends per dwelling per day**.

The combined peak hour traffic data for both count locations identified the following:

- The AM peak occurred on Thursday with a two-way volume (combined locations) of 883 vehicle movements, corresponding to 10% of the daily traffic, and **0.64 vehicle trip-ends per dwelling**.
- The PM peak occurred on Tuesday with a two-way volume (combined locations) of 974 vehicle movements, corresponding to 11% of the daily traffic, and **0.70 vehicle trip-ends per dwelling**.

The local traffic count data for Tranmere indicates a current traffic generation rate which is lower than the TDT2013/04a (New South Wales surveyed) rates, but higher than the rates established from the Greater Hobart Household Travel Survey 2019, which takes into account a cross-section of residents within the Greater Hobart metropolitan area, some of which would have greater access to schools, shops and services on foot or by public transport.

Currently the Tranmere area is somewhat isolated and most school, work and shopping trips would be undertaken by car.

Future Conditions & Capture

Section 2 (Proposal) of this report sets out a range of amenities and initiatives which are expected to both:

- increase “capture”, by providing the ability for residents to undertake some work, shopping, school and recreation trips internally within the development area, and
- reduce reliance on private vehicles for undertaking trips external to the development area, by providing public transport services, ferry services and car share opportunities, etc.

This, combined with the downward trend for household sizes, will reduce the overall number of trips per dwelling leaving the development area.

High-level estimates undertaken by Macroplan indicates that under the mid-range scenario (2,500 dwellings), it is expected that the Tranmere Rokeby Peninsula Planning Area will provide 500 – 600 jobs, while under the high-range scenario (3,000 to 4,000 dwellings), the Tranmere Rokeby Peninsula Planning Area will provide 700 – 900 jobs.

Additionally, it is anticipated that a ferry service will be delivered within a 10-year horizon. A ferry service to Hobart CBD could initially include two peak hour trips carrying 200 passengers per trip, with some passengers being from the existing established Tranmere development area as well as from the future development areas.

This means that overall, some 1,000 peak hour vehicle trips could be contained and not contribute to the arterial road network.

Based on the preceding analysis, Table 6 below calculates the cumulative internal and external traffic impacts for the development area based on the following assumptions:

- 100 new dwellings per year,
- 0.64 trip-ends per dwelling in the AM peak,
- 0.70 trip-ends per dwelling in the PM peak,
- 20 jobs created per year (600 jobs over 30-year development horizon) with 0.5 peak hour trips per job,
- ferry service taking 200 passengers in the peak hour from 2030 and 400 passengers in the peak hour from 2035, and
- daily traffic generation equivalent to 10 times the AM peak.

Table 6: Cumulative Internal and External Peak Hour & Daily Traffic

Stage	Year	No. of Dwellings	AM Peak (Cumulative AM Peak)			Cumulative Peak Hour Traffic Generation			Cumulative Daily Traffic Generation		
			internal	external	total	internal	external	total	internal	external	total
Stage 1	2021 to 2025	500	50	270	320	50	300	350	500	2,700	3,200
Stage 5	2026 to 2030	500	100	540	640	100	600	700	1,000	5,400	6,400
Stage 2	2031 to 2035	500	350 ¹	610	960	350	700	1,050	3,500	6,100	9,600
Stage 6	2036 to 2040	500	600 ²	680	1,280	600	800	1,400	6,000	6,800	12,800
Stage 3	2041 to 2045	500	650	950	1,600	650	1,100	1,750	6,050	9,500	16,000
Stage 4	2046 to 2050	500	700	1,220	1,920	700	1,400	2,100	7,000	12,200	19,200

Note 1: Includes 200 trips taken off the road network due to the introduction of the peak hour ferry service, plus 150 trips due to the creation of 300 jobs (at 0.5 trips per job) within the development area.

Note 2: Includes 400 trips taken off the road network due to the peak hour ferry service (expanded), plus 200 trips due to the creation of 400 jobs (at 0.5 trips per job) within the development area – cumulative.

Table 6 indicates that under the full build-out with the 3,000-dwelling scenario, the external traffic impacts are expected to be in the order of 12,200 vehicle trip-ends per day.

This is comparable to Table 5, which calculates 12,450 vehicle trip-ends per day based on the rates extrapolated from the Greater Hobart Household Travel Survey 2019, and suggests that with the proposed measures to capture jobs (and peak hour vehicle trips) within the development area and provide improved public transport (ferry) services, the Droughty Point Peninsula is expected to ultimately match the average traffic generation rate for the Greater Hobart area.

For the purpose of arterial road planning, the Department of State Growth Rokeby Stage 3 Planning Study assumes that by the end of 2039, there will be 1,771 dwellings within the Skylands development area, and applied peak-hour and daily traffic generation rates in line with TDT2013/04a.

This corresponds to 13,105 vehicles per day, with 1,257vph and 1,381vph in the AM and PM peak hours respectively.

Table 6 indicates that full build-out of 3,000 dwellings (2050) is expected to generate 1,220vph and 1,400vph during the AM and PM peak hours respectively onto the external (arterial) road network.

This matches the volumes adopted in the Department of State Growth Rokeby Stage 3 Planning Study, and accordingly the external arterial road network will be able to cater for the number of dwellings planned for, subject to timely arterial road network upgrades identified in the Department of State Growth Rokeby Stage 3 Planning Study.

6.2. Traffic Distribution & Impact

Based on the development pattern identified in the preliminary Master Plan, it is anticipated that traffic generated by areas 1, 2 and half of area 3 will utilise Oceana Drive and Tranmere Road, with the remainder of area 3 and areas 4, 5 and 6 utilising Tollard Drive and Droughty Point Road.

The Droughty Point Road connection is anticipated to be provided/upgraded from 2036.

Table 7 below sets out the anticipated traffic volumes on each of the key local roads providing access to the development area at each time period based on the anticipated development timing.

Table 7: Traffic Impact – Key Local Roads

Year	Tranmere Road	Oceana Drive	Tollard Drive	Droughty Point Rd
Existing Volume	5,898 vpd	2,937 vpd	5,000 vpd ¹	500 vpd ¹
2021 – 2025	7,248 vpd	4,287 vpd	5,000 vpd	500 vpd
2026 – 2030	7,248 vpd	4,287 vpd	7,700 vpd	500 vpd
2031 – 2035	8,598 vpd	5,637 vpd	7,700 vpd	500 vpd
2036 – 2040	8,598 vpd	5,637 vpd	9,050 vpd	1,850 vpd
2041 – 2045	9,273 vpd	6,312 vpd	9,725 vpd	2,525 vpd
2046 – 2050	9,273 vpd	6,312 vpd	11,075 vpd	3,875 vpd

Note 1: Traffic volumes estimated.

Table 7 indicates that each of the key roads providing access to the development area will carry less than 12,000 vehicles per day, which is within the capacity of a two-lane two-way road.

Upgrades are likely to be required at the arterial road access points, and this will be addressed in more detail by the Department of State Growth Rokeby Stage 3 Planning Study.

7. Conclusions

Having undertaken traffic engineering assessments of the proposed Skylands Master Plan, we are of the opinion that:

- a) the existing traffic generation rate within the suburb of Tranmere is lower than the TDT2013/04a rates,
- b) in order to accommodate the proposed level of development, trip capture will be needed by creating jobs within the neighbourhood centres,
- c) the potential for ferry services providing access to Hobart CBD should be investigated to alleviate the pressure on the Tasman Bridge,
- d) subject to timely provision of b) and c) above, the existing two-lane two-way configurations are appropriate for Tramere Road, Oceana Road and Tollard Drive, and
- e) Droughty Point Road should be upgraded to a two-lane two-way connector providing access to the development area from 2036 onwards based on the anticipated rate of development.