



Traffic Impact Assessment (TIA)

**Launceston Golf Club
Opossum Road / Negara Street, Kings Meadows**

Proposed 13-lot Subdivision Development, Negara Street

Aug 2021

Revision B



Status Rev	Date	Review	Revision Details
A	20/07/2021	A Howell	TIA Draft for Comment
B	19/08/2021	A Howell	TIA report for issue

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1. Introduction

This report is provided as a Traffic Impact Assessment (TIA) relating to a proposed development of a new 13-lot subdivision off Negara Street, Kings Meadows, proposed the by Launceston Golf Club (refer Fig 1.1 – Area Locality Plan).

The development consists of an extension of the existing Negara Street to the West, including a new cul-de-sac turning head. The proposed arrangement is shown in APPENDIX A – PROPOSED SITE LAYOUT PLAN

1.1 Background & Project Scope

The creation of a new road extension and cul-de-sac for the 13 new residential lots, which will generate additional traffic suggests that a TIA would be required to be undertaken to assess traffic impacts and identify any issues arising, and provide comment with reference to local Planning Scheme requirements

This report addresses traffic related aspects where applicable, and attempts to identify and comment on any potential impacts affecting, or arising from, the development.

This report is prepared by Andrew Howell, a senior engineer with 20 years' experience in development and municipal engineering, traffic and transport systems, and civil design. Andrew holds a Bachelor of Engineering (Honours) degree and a Master of Engineering Science with specializations in transport systems and management.

1.2 Objectives

The key objectives of this report are:

- Review of the existing road physical characteristics and arrangements in the vicinity of the site.
- Review of existing traffic conditions.
- Describe the development with regards to arrangements for access, including any implications for traffic efficiency, safety, and service.

1.3 Subject Site Location

The subject site considered in this TIA is located at the western end of NEGARA STREET, which is currently a short dead end road serving three (3) properties, and has no turning facilities. The remainder of Negara Street, to the East of connecting Warragul Street links back to local Collector Norwood Avenue. It is likely that the Warragul-Negara East loop linking higher priority Opossum Road to Norwood Avenue carries some traffic, but the short Negara West stub may see only around 20 vehicles per day servicing the three residences.

The subject site itself as part of the current Launceston Golf Course which abuts on external sides residential development in several areas. This locality is similar in nature to much of the Norwood and Kings Meadows residential areas.

Existing access to the majority of the subject site is off the current Opossum road main entry to the golf course proper. A new access to any residential development for the subject site would be required, and Negara Street, which appears built anticipating a future extension of the road carriageway, appears the logical and most appropriate site access.



Fig 1.1 – Locality Plan

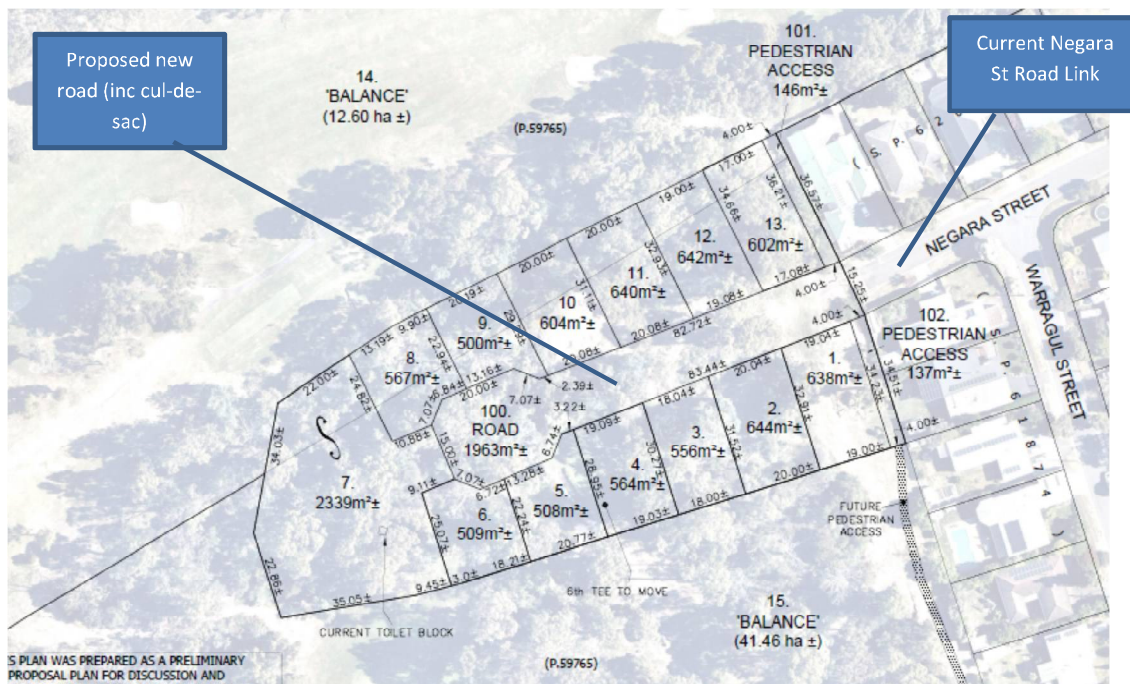


Fig 1.2 – Site Layout, Zoom Plan

1.4 Information Sources & References

The author has been provided with relevant information from the proponent, including preliminary plans being prepared for development application. These details provide an outline of the proposed works, and indicate that generally the development proposes limited change to the existing Negara Street itself other than an extension – which from the current road termination arrangements with no provision for any turning head option, an extension it appears to have been anticipated would at some stage be continued to the West.

The author has reviewed publicly available information including www.THELIST.tas.gov.au and other online mapping tools to ascertain any obvious issues relating to the development, and has undertaken inspection to review site specifics.

Traffic data from the City of Launceston (CoL) has provided indicative vehicle movements, notes provided in Section 5.

The report has utilized the DIER (now Department of State Growth / DSG) document “Traffic Impact Assessment (TIA) Guidelines” in the preparation of this report.

Further referenced documents include:

- DSG Tasmanian State Road Hierarchy
- Launceston Interim Planning Scheme 2015
- Specifically, E4 Road and Rail Assets Code (2015)
- AUSTROADS Publications (various)

1.5 Planning Scheme Aspects (CoL)

The Planning scheme applicable is the Launceston Interim Planning Scheme 2015.

The current zoning for the land and surrounding area is advised as **18.0 Recreation**. It is understood a rezoning is being requested, to change this to **10.0 General Residential**, similar to other adjoining land abutting the golf course site.

The Road and Rail Assets Code (E4) from the planning scheme applies.

2. Existing Conditions

2.1 Transport Network

Negara Street is a City of Launceston (CoL) street, and likely carries mainly residential traffic, being part of the Warragul-Negara link between higher-priority Opossum Road and Norwood Avenue as the nearby main collector roads for the Norwood area and with link back to King Meadows precinct.

Negara Street as a minor residential street and based on current function is likely considered a 4.0 LOCAL ACCESS ROAD (50-1,000 VPD) or perhaps lower for Negara Street West. No changes would be expected by the proposed extension of the road and Negara would remain a 4,0 LOCAL ACCESS ROAD.

CoL advises they do not have recent traffic count or speed data available for Negara Street, however advises that flows of around 104 VPD could be expected on Negara Street. However this is likely to be on the Eastern part of Negara, including flows to and from Warragul St, as noted. Negara West, with only three residential properties, is likely to see only around 20 VPD typically.

The speed limit for Negara St is not signposted, so is default to 50km/hr, and it could reasonably be anticipated that vehicle speeds are probably less than this, based on the short length and proximity to junctions.

2.2 Road Conditions & Road Safety Performance

Negara Street currently appears to operate satisfactorily from inspection, with three (3) residences currently with access to Negara St West. It is proposed that the road was always planned to be extended to the WEST for further development, based on current abrupt carriageway termination (no turning head facilities) – further development extension appears to have been anticipated by original road designers.

On this basis and following site inspection, this extension to a new cul-de-sac to service 13 new lots appears reasonable, considering similar cul-de-sacs in nearby residential zone and the character of surrounding residential area generally, with suitable road layout and appropriate sight distance able to be maintained based on the likely current proposed layout

The new road carriageway, to be constructed to the LGAT-IPWEA standards for residential streets, is believed can achieve the requirements from *TSD-R06-v3 TABLE 1*, which notes a cul-de-sac serving less than or equal to 15 lots and up to 150m approx. length should have minimum road width of 6.9m, minimum reservation width of 15m, and footpath one side. This matches in to the existing road carriageway width for the current Negara Street West section reasonably.

Based on the small traffic numbers likely generated by the new development (approx. 119 VPD, at 7 VPD per tenement including the potential strata title option of lot 6 accommodating possibly up to a suggested 5 dwellings) this volume and any impact on nearby junctions is not considered material in the context of network volumes. This assessment is based on author's experience with vehicle movements in the area, and consideration of likely peak hour volumes expected from the new development as proposed.

Existing site photos NEGARA STREET (West)

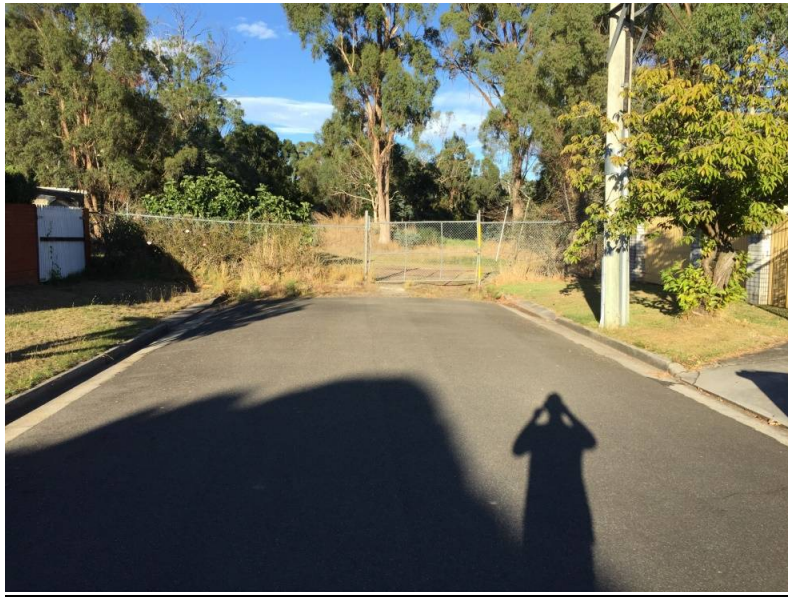


Fig 2.2a – Existing Road Termination NEGARA STREET – Looking WEST

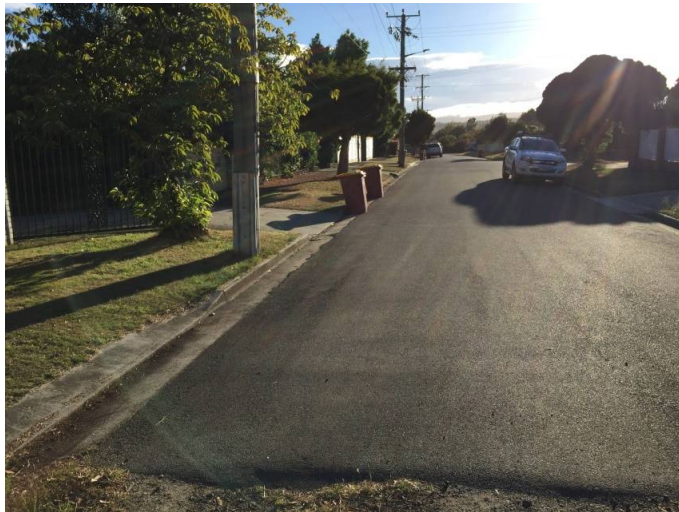


Fig 2.2b – Looking East from Negara Street West (Nth side of road kerbside)



Fig 2.2c – Looking East from Negara Street West (Sth side of road kerbside)

As the extension of Negara Street proposed presents no new street junctions there is limited issue with junction design or around sight distance – noting that based on the flat vertical grade in these existing streets and limited horizontal curvature proposed for the new road alignment, safe intersection sight distance is not considered an issue of concern.

However, sight distance to the West from Warragul Street, currently to the existing termination of Negara West is around 38m - following road extension this will be able to continue for the majority of the cul-de-sac, out to around 135m in this direction.

This can thus achieve satisfactory sight distance in this direction with respect to requirements from Planning Scheme Code E4 for SISD, exceeding the minimum 80m SISD requirements of the code for vehicle speeds of 50 km/hr in speed zones up to and including 60km/hr (Table E4.6.4).

Based on the relatively small additional traffic numbers likely generated by the new development and the small number of properties overall serviced from this existing road, capacity of the junction with Warragul Street is not considered an issue.

3. Proposed Development

3.1 Site Development

The development as proposed includes 13 new residential lots and a short extension of Negara Street to provide a new cul de sac, to service the 15 total properties that will thus be serviced by Negara Street West. No new junctions will be created.

3.2 Traffic Generation & Distribution

It is noted that the development as proposed is likely to see a small overall increase in vehicle movements to the area, with around 91 VPD likely generated from the 13 new lots. However, there is some scope for Lot 6 to see potential unit development, being a larger lot of some 2400 sq metres approx., and on this basis some conservative assessment is included to add capacity for another 4 additional dwellings (Assuming lot 6 may see 5 residences potentially). This would take vehicle volumes to around 119 VPD – again this is conservative as unit developments generally see fewer vehicle movements based on the author’s historical observations.

Current arrangements and traffic volumes at the existing Negara Street zone appear to operate satisfactorily with no issues identified through crash history.

Distribution for the site is likely to see effectively vehicle movements entering and exiting the site either from the Norwood Avenue junction, or from Warragul Street coming off Opossum Road (and return directions similarly). Based on a suggested split of vehicles considering the nearby centre of Kings Meadows being locally convenient with various services, it may be that the split could be considered to be 60% using Warragul to access Opossum road (in either direction) and 40% using Negara to access Norwood Avenue. This also considers some drivers preferring to access a higher priority road as soon as possible (Norwood Avenue), and noting school and other recreational destinations nearby as well as wider travel intent to the Eastern zones of Launceston.

As noted, the relatively modest number of additional vehicles using the Negara Street link, especially on a peak hour basis, means that off-site impacts are not considered further by this report.

4. Traffic Impacts

4.1 Access & Road Asset Construction

Based on site inspection, it is likely that the road construction for the proposal can be constructed through the Council engineering design process to meet the requirements of the IPWEA/LGAT and AUSTRROADS standards. Existing site conditions including levels, drainage, minor earthworks, appropriate sight distances, etc. all appear to be generally feasible. Engineering design approval by CoL will be required for road and access designs as developed.

4.2 Surrounding Road Network Impacts

Whilst assessment of additional road network parameters beyond the new access arrangements are outside the formal remit of this report, it is believed that the small traffic volumes attributable to the development in the scheme of the surrounding network capacity, would mean off-site impacts arising from this development should not materially affect the wider road network.

4.3 Parking Assessment

Not required to be considered as part of this report.

4.4 Sight Distances

Clause E4.7.4 of the Planning Scheme notes that sight distance for accesses for Acceptable Solution A1 must comply with Safe Intersection Sight Distance (SISD) from table E4.6.4. No new junctions are being created, however considering Warragul Street junction with Negara Street, for a speed limit of 60km/hr (60km/hr or less from E4.7.4) and an assumed vehicle speed of 50km/hr this SISD is 80 metres.

This distance appears able to be achieved based on the new cul-de-sac arrangement as proposed. On this basis, ACCEPTABLE SOLUTION A1 is met.

Based on above analysis, E4.6.4 is met by A1.

4.5 Road Safety & Traffic Service

Due to the sight distances with regard to Planning Scheme Acceptable Solution A1 being met, and new accesses meeting IPWEA/LGAT and AUSTRROADS Standards through design and construction, road safety appears to not be compromised by the development works proposed.

Traffic service for the proposed development appears adequately provided with the existing infrastructure (capacity, turning gaps, etc.), based on the low traffic volumes suggested for the site and on observation of existing conditions, for existing and new development traffic (refer Sect 2.2).

4.6 Pedestrian and Cyclist impacts

Currently there is a dedicated pedestrian footpath on both sides of the road on Negara Street up to almost the end of the road termination and the subject site. A new footpath, one side of the road only likely per LGAT-IPWEA standards, will be required in the new development works.

No additional footpath or cycling infrastructure changes to existing arrangements are proposed as part of this development; however provision is noted for potential future pedestrian linkages adjacent to lots 1 and 13 for possible access to future pedestrian links to golf club land either side. No current infrastructure exists to connect to at either end, but the provision of this allocation for an access way, and the general geometry/nature of this access way, appears prudent and reasonably laid out to permit such future opportunity.

Existing cyclist access appears to be informal only in the area (no dedicated infrastructure). No specific impacts or changes are identified.

4.7 Public Transport Provision

Taxis can service the site, and services for buses appear to service the general area. No change to any existing arrangements is proposed or considered warranted.

4.8 Summary of Assessment against Planning Scheme E4 – Road and Railway Assets Code Item Comment/Criteria Met

E4.6.1 – Development adjacent to Road or Rail Infrastructure

A1.1 – REQUIREMENTS ARE MET (NA)

A1.2 – REQUIREMENTS ARE MET (NA)

E4.6.2 – Management of Road Accesses and Junctions

A1 – NA – Not > 60km/hr

A2 – Requirements are met – only one new access to the development, proposed accesses appear can all be constructed safely and efficiently within the new development based on site inspection

E4.6.3 – New Level Crossings

NOT APPLICABLE

E4.6.4 – Sight Distances at Accesses, Junctions and Level Crossings

A1 – REQUIREMENTS ARE MET (Refer above, with sight distances as note based on site specific assessment, subject final engineering design and CoLapproval)

Conclusion: Requirements for E4 are met

5. Regulatory Authority Feedback on Traffic Impacts

5.1 City of Launceston (Council) Comment/Feedback

CoL provided traffic data estimates for this site and a related query around the LGC main entry off Opossum Road.

Data for Negara Street was suggested as below, however this relates to the Eastern section by appearance, which includes the Warragul Street link traffic also, and the more realistic 20 VPD from empirical data is instead realistic for Negara West as previously noted

Council's traffic officer Mr Nigel Coates noted as follows:

*"...Unfortunately we don't have any recent traffic data for either location.
Estimated flows in Negara Street are 104 aadt
Opossum Road at the golf course entrance is 3200 aadt
I would agree that the only real issue would probably be the golf course junction. ""*

This information presents no material issues relating to the proposed Negara development.

5.2 DSG comment

No specific comment around road access etc. was sought from DSG officers, with no interaction with DSG assets required for the initial works believed required.

CRASH STATISTICS from DSG data were sourced with records for the previous 5 years provided for the local area. No issues are raised by the crash history with no evidence of any issues around the Negara Street site access.

6. TIA Conclusions

This TIA has investigated the potential impacts from the development of the site including the extension of Negara Street as proposed to service the new 13 residential lot subdivision.

Key findings are as follows:

- That the proposed extension of Negara Street with general arrangements as per the proposed site plan, are likely to meet the requirements to service the development (subject final engineering design detail approval by CoL), and such a new road link appears to be able to be designed/constructed to cater for the development and traffic likely generated.
- That traffic service is likely adequately provided for by the new road arrangements, in order to service the proposed development, including the anticipated levels traffic from the development based on the estimated CoL traffic numbers using Negara Street.
- Sight distances can likely comply with the planning scheme E4.7.4 Acceptable Solution A1 for the new road proposed to service the development with respect to existing junction with Warragul Street
- Other Planning Scheme Requirements under Code E4 are deemed met as noted.

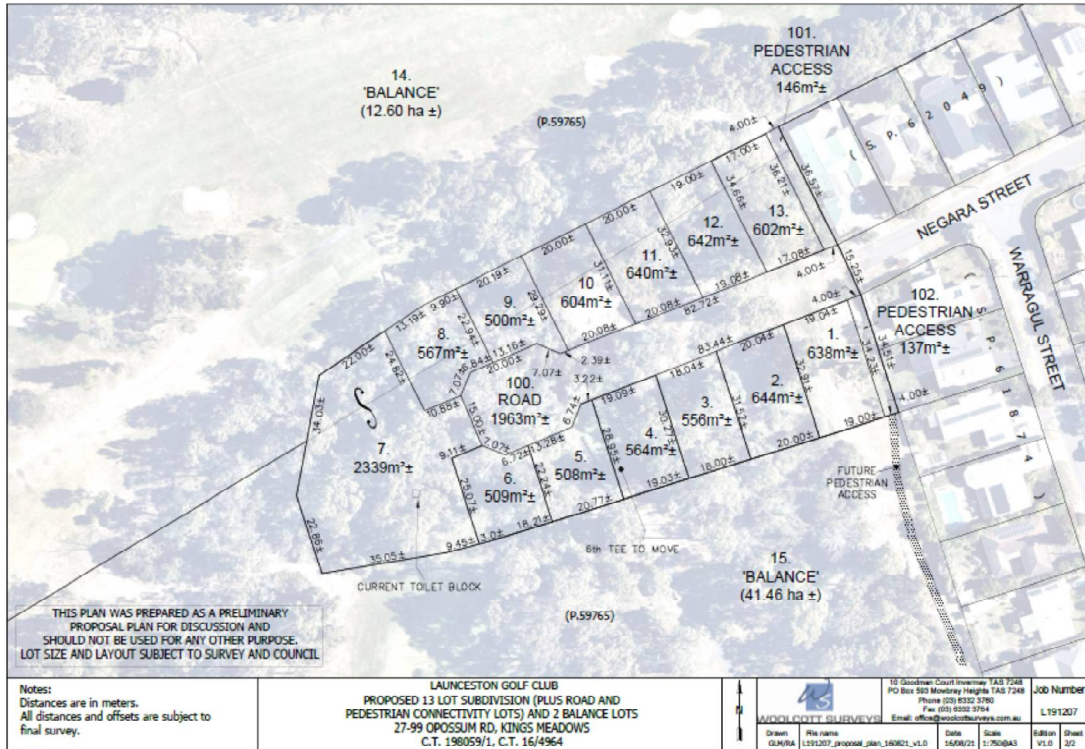
Based on the above assessment of available information, traffic aspects associated with the development are likely to meet the requirements for Traffic Safety and Service, and any potential for adverse effect on the existing traffic situation is unlikely.

Limitations

- *This TIA is based on information provided by the client and available in the public domain, additional information beyond this has not been considered. Any changes or variation to the development proposal should be reviewed further by the author and relevant road authorities.*
- *Based on the nature of the development, this TIA has considered the access and operational aspects for this development only, and has not considered in detail the wider impacts beyond the site (upstream network impacts), this being outside the scope of this report.*
- *Comments on parking and geometric design aspects are of a general nature only, based on design to be undertaken by others as part of formal engineering design approval for road authority*

Appendix A

Proposed Development Plan



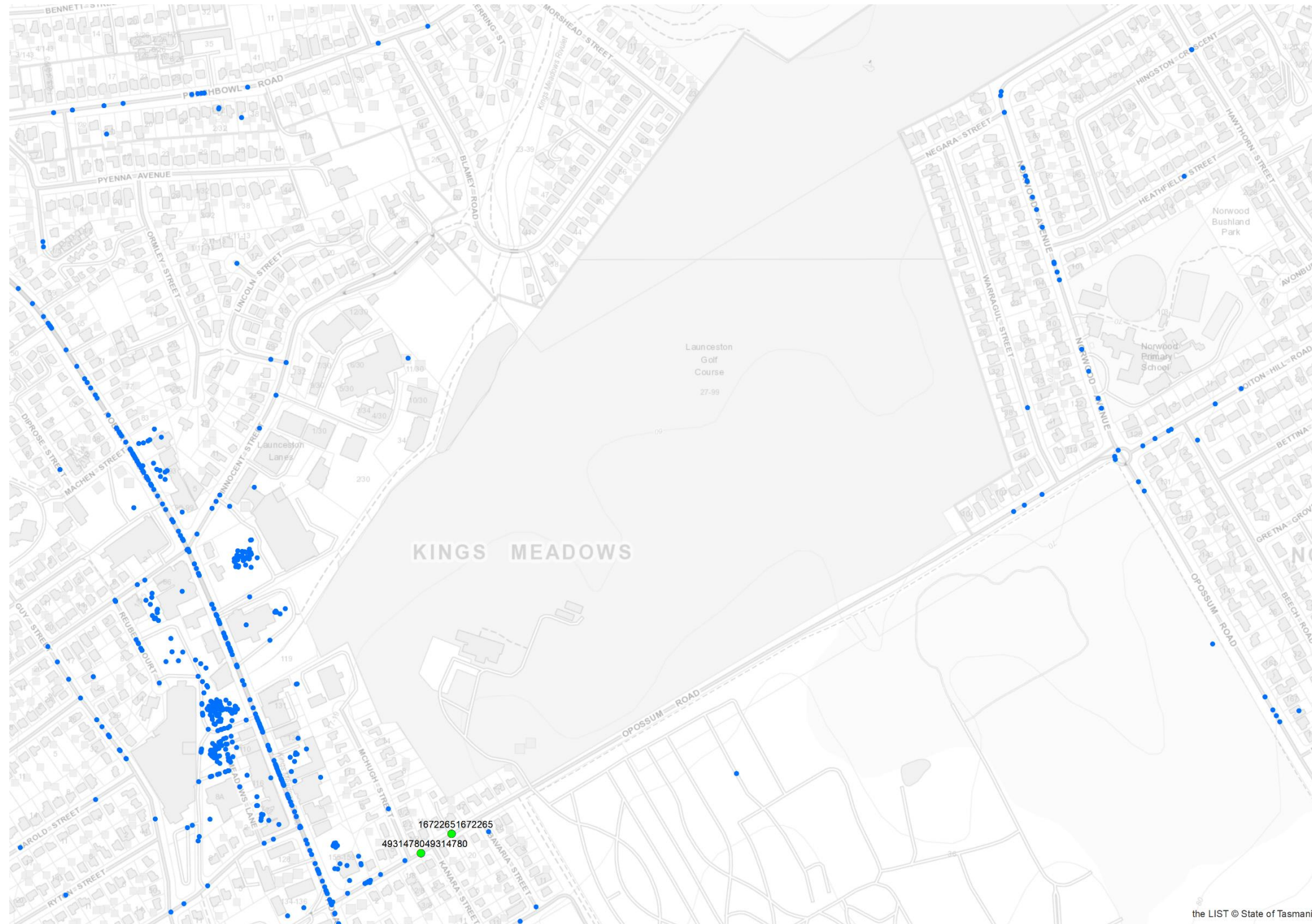


Appendix B

DSG Crash Statistics Record

(Attached)

ID	VCRN	DESCRIPTION	CRASH_DATE	CRASH_TIME	SEVERITY	VISITED	SURFACE_TY	LIGHT_COND	CENTRELINE	SPEED_ZONE	LOCATION_D	UNIT_NO	UNIT_TYPE	UNIT_NO	UNIT_TYPE	LATITUDE	LONGITUDE
1672265	16002000	147 - Emerging from driveway or lane	16-Apr-2016	15:10	Property Damage Only	No	Sealed	Daylight	Other	Not known	Opossum Road, Kings Meadows, Launceston	1	Light Vehicle	2	Bicycle	-41.4682437028	147.1630890922
49314780	18003563	130 - Vehicles in same lane/ rear end	19-Jun-2018	08:20	Minor	No	Sealed	Daylight	Single broken	050	Opossum Road, Kings Meadows, Launceston	1	Light Vehicle	2	Light Vehicle	-41.4684752490	147.1626058591



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