Planning · Traffic · Development

Transport Assessment prepared for

Michael Stratford

Residential Plan Change - 631 Shands Road

February 2016

Transport Assessment prepared for

Michael Stratford

Residential Plan Change - 631 Shands Road
February 2016

Novo Group Ltd
10 Bishop Street, St Albans
PO Box 38 123, Christchurch 8842
P: (03) 365 5570
E: info@novogroup.co.nz
W: www.novogroup.co.nz

Document Date:	04/02/2016
Document Version/Status:	Final
Project Reference:	436-001
Project Manager:	KS
Prepared by:	NF
Reviewed by:	RC

Table of Contents

Table of Figures

INTRODUCTION

1. Michael Stratford has commissioned Novo Group to prepare a Transport Assessment (TA) for a Rural Residential Plan Change at 631 Shands Road, Selwyn District.

2. This report provides an assessment of the transport aspects of the proposed development. It also describes the transport environment in the vicinity of the site, describes the transport related components of the proposal and provides a review against relevant policy documents. This report has been prepared broadly in accordance with the Integrated Transportation Assessment Guidelines specified in New Zealand Transport Agency Research report 422, November 2010.

THE PROPOSAL

3. It is proposed to change the zoning of 631 Shands Road from *Inner Plains* to *Living 3* to enable a Rural Residential development at the site. The site location is illustrated in **Figure 1**.

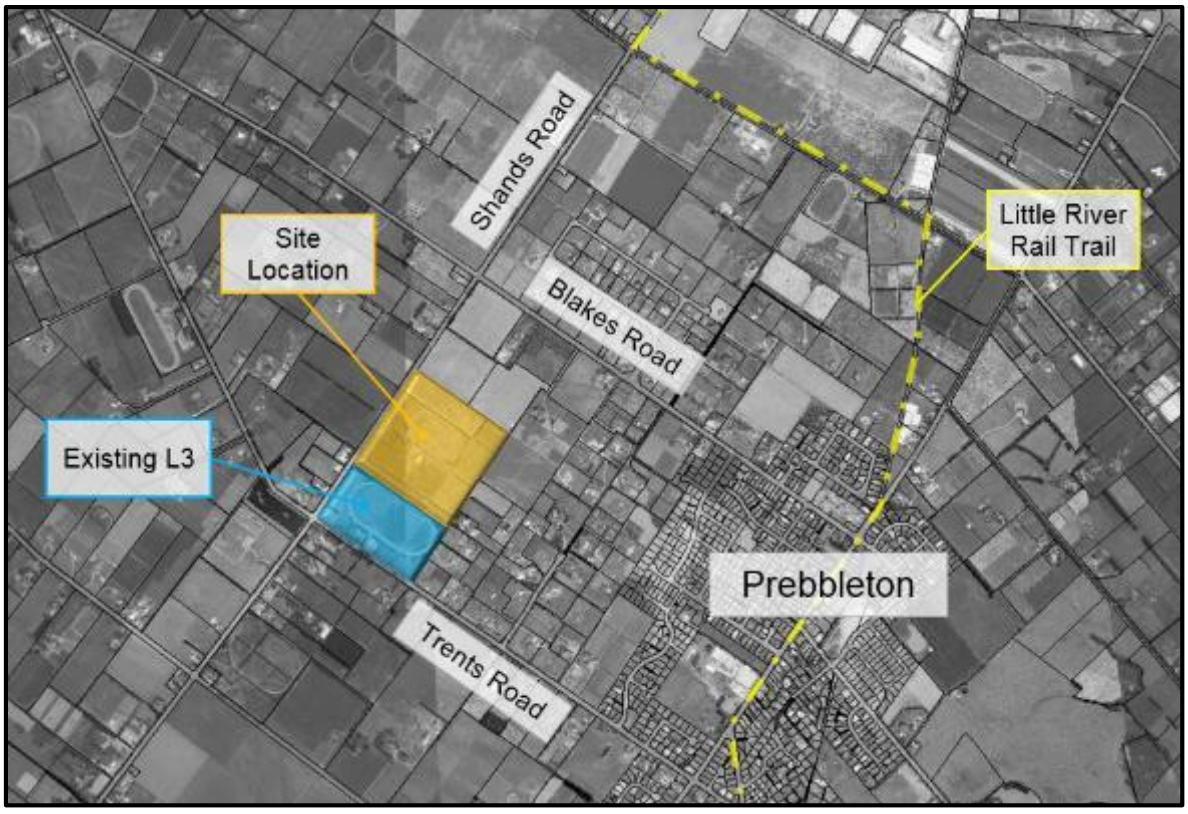


Figure 1: Site Location
[Background Image courtesy of Canterbury Maps Online]

4. The proposal would enable approximately 26 dwellings on the 16Ha site. A road connection would be provided to the *Living 3* land to the south-west of the site, giving access to Trents Road. A potential road link is provided through the site to land to the north-east, which enables a future connection through to Blakes Road should that land be developed. Access to Shands Road is retained for the one existing dwelling that already has that access.

5. The indicative subdivision layout is illustrated in **Figure 2** and at a larger scale in **Appendix 1**. It is anticipated this development would generate 29 to 36 vehicle

movements per hour during the peak hours and 221 to 263 vehicle movements per day.

Figure 2: Indicative Subdivision Layout

THE TRANSPORT ENVIRONMENT

Road Network

Shands Road

6. Shands Road is an *Arterial Road* in the District Plan road hierarchy. These types of road are intended to accommodate high traffic volumes and primarily provide a traffic carrying function. Shands Road provides one traffic lane in each direction (a carriageway width of 7.0m) plus 1.0m sealed shoulders and grass berms. There are no footpaths or cycle facilities on this road in the vicinity of the site.

7. Average daily traffic volumes on Shands Road (between Blakes Road and Trents Road) are 9,216 vehicles per day[1]. The speed limit of Shands Road in the vicinity of Trents Road is 80km/hr.

Trents Road

8. Trents Road is a *Local Road* in the District Plan road hierarchy. These types of road are intended to primarily provide access, with a minimal traffic carrying function. Trents Road has a 6.0m carriageway that provides one lane in each direction. There are no shoulders, footpaths or cycle facilities on Trents Road, but there are grass

[1] Traffic volumes from the Selwyn District Council RAMM database and counts dated 30/07/2014.

berms on both sides of the carriageway. It is noted that the *Selwyn Long Term Plan 2015 – 2025* (LTP) identifies widening for Trents Road in 2021 / 2022, which is assumed to include carriageway widening and provision of sealed shoulder whilst retaining one lane in each direction. It is understood that submissions raised on the LTP have sought that this widening occur on Blakes Road (rather than Trents Road) and this is something the Council are reviewing.

9. Trents Road between Templeton and Prebbleton has been identified as a future off-road cycle route by SDC. The intention is that it will connect these townships and the Little River Rail Trail.

10. Traffic volumes on Trents Road (south of Shands Road) are currently 1,359 vehicles per day[2] and the speed limit is 80km/hr in the immediate vicinity of the site.

11. The Shands Road / Trents Road intersection is a stop controlled priority cross-roads, with Shands Road being the major road. The existing intersection arrangement is illustrated in **Figure 3**.

Figure 3: Shands Road / Trents Road Intersection Layout
[Image courtesy of Canterbury Maps Online]

12. The most recent five-year reported crash history at this intersection has been reviewed from the NZ Transport Agency's CAS database. That review highlighted that two crashes occurred within a 100m radius of the intersection, which were:

- A minor injury crash at the Shands Road / Trents Road intersection, which was a vehicle that lost control in the wet; and
- A vehicle that lost control on loose metal entering a private driveway.

13. Whilst this intersection does not have a poor crash history, it is understood that Council have some concerns regarding the safety of this intersection. This is likely to be related to the high volume of traffic on Shands Road providing few opportunities to turn out of Trents Road.

[2] Counts from Selwyn District Council RAMM database, counted 23/07/2014.

Blakes Road

14. Blakes Road is a *Collector Road* in the District Plan road hierarchy. These types of road are intended to balance an access function with a traffic carrying function. Blakes Road has a 6.2m carriageway that provides one lane in each direction. There are no shoulders, footpaths or cycle facilities on Blakes Road, but there are grass berms on both sides of the carriageway.

15. Traffic volumes on Blakes Road (south of Shands Road) are currently 1,724 vehicles per day and the speed limit is 80km/hr in the vicinity of Shands Road.

16. The Shands Road / Blakes Road intersection is a stop controlled priority cross-roads, with Shands Road being the major road. There are dedicated right turn bays from Shands Road into Blakes Road at this intersection. The existing intersection arrangement is illustrated in **Figure 4**.

Figure 4: Shands Road / Blakes Road Intersection Layout
[Image courtesy of Canterbury Maps Online]

17. The Selwyn LTP identifies the Shands Road / Blakes Road intersection as being upgraded to provide a roundabout in 2021 / 2022. As identified at paragraph 8, there is potential that Blakes Road will be widened as part of the LTP proposals.

18. The most recent five-year crash history (from the NZ Transport Agency CAS database) at the Shands Road / Blakes Road intersection has been reviewed. This review identified that 18 crashes had occurred during that period, of which one was a fatality, one was a serious injury crash and nine were minor injury crashes. The crash data is contained in **Appendix 2** and summarised as follows:

    - Failure to Give-way on the Blakes Road Approach: 14 of the crashes (including the fatality, the serious injury crash and seven minor injury crashes) were a result of drivers on the Blakes Road approaches failing to give-way to traffic on Shands Road;

- Loss of Control: Three crashes (including one minor injury crash) was the result of drivers losing control (in the wet, on ice or a result of vehicle failure); and
- U-turning without Checking: One crash (a minor injury crash) occurred when a driver failed to check that it was safe to u-turn.

19. The above crash data identifies a significant trend in vehicles failing to give-way when on the Blakes Road approaches. This is likely to be a result of high traffic volumes on Shands Road resulting in high delays with driver's are becoming frustrated and taking risks to turn into the traffic stream. This issue should be resolved with the Council's proposed roundabout at this intersection in 2021 / 2022.

Christchurch Southern Motorway

20. The Christchurch Southern Motorway Stage 2 (CSM2) a four-lane motorway from Halswell Junction Road to SH1 near Robinsons Road, plus four-laning of the existing Main South Road (SH1) from north of Robinsons Road to near Rolleston. It is understood that construction is programmed to begin in late 2016 and take approximately three years to complete. An alignment of CSM2 in the vicinity of the site is illustrated in **Figure 5**.

Figure 5: Christchurch Southern Motorway 2 Alignment
[Background Image courtesy of NZTA Website]

21. The effect of CSM2 in the vicinity of the site is to increase traffic volumes on Shands Road. It has been estimated that the daily traffic volumes on Shands Road (south of Trents Road) will be 11,500 vehicles per day in 2026 with CSM2, compared to 10,750 vehicles per day without that project[3]. This represents a near 7% increase in traffic.

Passenger Transport

22. There are no passenger transport services in the immediate vicinity of the site. The closest bus service runs through Prebbleton, approximately 2km from the centre of the site.

[3] Traffic estimates taken from Annexure B of Andrew Murray evidence to EPA for CSM2 on behalf of the NZ Transport Agency.

Walking & Cycling

23. There are no footpaths or cycle facilities on the existing road network in the vicinity of the site, nor are these facilities anticipated as part of the proposed roading upgrades identified above. As such, cyclists would need to travel on the carriageway and pedestrians would need walk on the verge – which is consistent with Rural-Residential subdivisions. As identified in paragraph 9, Trents Road is identified as a future off-road cycle route linking Templeton to Prebbleton and the Little River Rail Trail.

24. Cyclists would be able to access the existing Little River Rail Trail in Prebbleton to travel to / from Christchurch. This route will also link with the off-road cycle network planned for as part of CSM2.

Adjacent Development Areas

25. The area to the south of the site was subject to Plan Change 41 to enable residential development, which became operative in June 2015. That Plan Change included an Outline Development Plan that enabled a future link to 631 Shands Road. This future link is also illustrated on the approved subdivision plan illustrated in **Figure 6**, which also indicates the potential for a 16 lot residential development.

26. That access to this subdivision appeared to be under-construction during a site visit in October 2015.

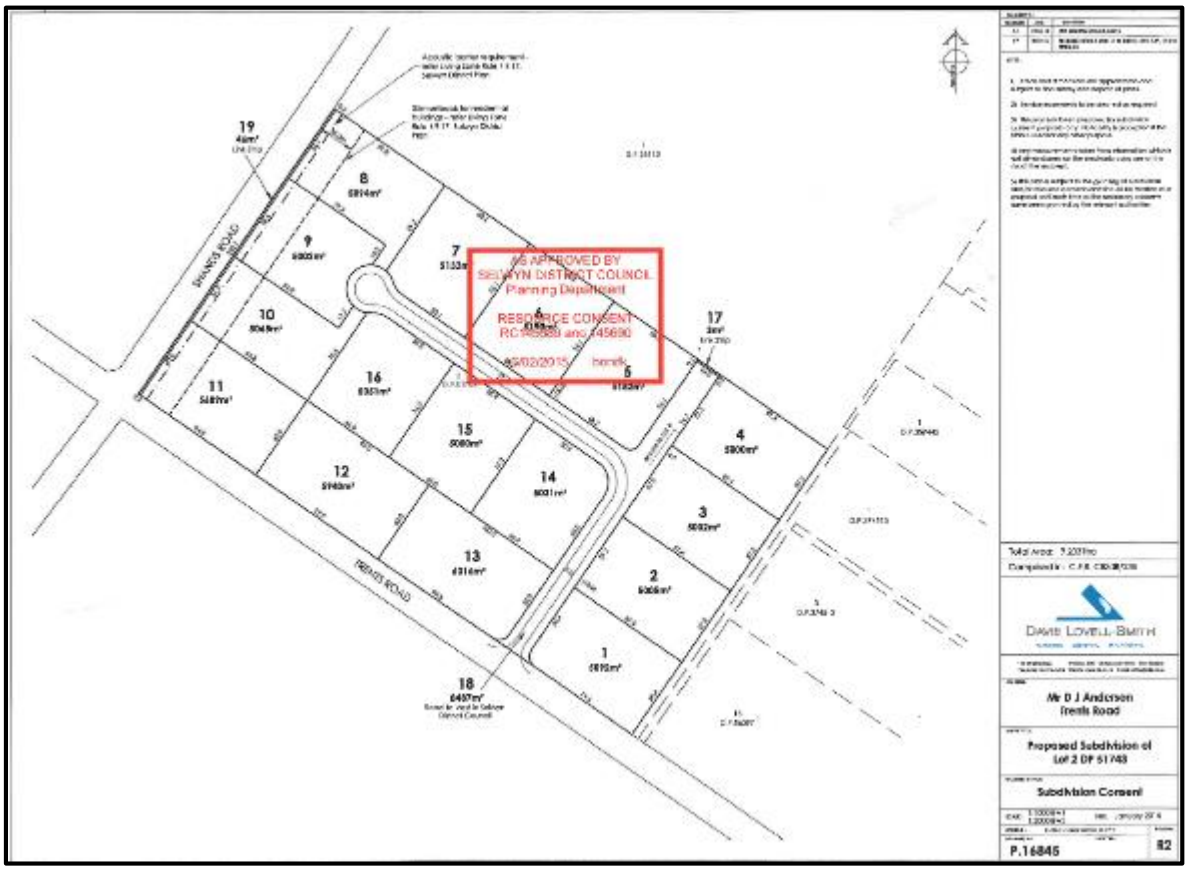


Figure 6: 311 Trents Road Subdivision Layout

RELEVANT STATUTORY DOCUMENTS

Regional Land Transport Strategy 2012 – 2042 (RLTS)

27. The RLTS sets the direction for land transport in the Canterbury Region over the next 10 years. The RLTS is prepared under the requirements of the *Land Transport Act* 1998, as amended by the *Land Transport Management Act* 2003. The RLTS seeks the following outcomes:

- *Reduced greenhouse gas emissions from use of the domestic transport system;*
- *Improved land use and transport integration;*
- *Reduction in fatal and serious injuries for all modes;*
- *Improved health from increase in time spent travelling by active means;*
- *Reduced community exposure to vehicle pollutants, noise and vibration;*
- *Increased proportion of the population travelling by active means;*
- *Increased energy efficiency per trip;*
- *Connectedness is enhanced; and*
- *Increased travel choices for households to access urban and suburban centres.*

Canterbury Regional Policy Statement (RPS)

28. The RPS provides an overview of significant regional resource management issues and the identification of policies and methods to achieve integrated, sustainable management of natural and physical resources within the region. The following objectives are of particular relevance:

Objective 5.2.3 – Transport network (Wider Region)

A safe, efficient and effective transport system to meet local regional, inter-regional and national needs for transport, which:

(1) supports a consolidated and sustainable urban form;

(2) avoids, remedies or mitigates the adverse effects of transport use and its provision;

(3) provides an acceptable level of accessibility; and

(4) is consistent with the regional roading hierarchy identified in the Regional Land Transport Strategy.

Policy 5.3.1 – Regional growth (Wider Region)

To provide, as the primary focus for meeting the wider region's growth needs, sustainable development patterns that:

(1) ensure that any (a) urban growth; and (b) limited rural residential development occur in a form that concentrates, or is attached to, existing urban areas and promotes a coordinated pattern of development;

(3) promote energy efficiency in urban forms, transport patterns, site location and subdivision layout;

Policy 5.3.7 – Strategic land transport network and arterial roads (Entire Region)

In relation to strategic land transport network and arterial roads, the avoidance of development which:

(1) adversely affects the safe efficient and effective functioning of this network and these roads, including the ability of this infrastructure to support freight and passenger transport services; and

(2) in relation to the strategic land transport network and arterial roads, to avoid development which forecloses the opportunity for the development of this network and these roads to meet future strategic transport requirements.

Policy 5.3.8 –Land use and transport Integration (Wider Region)

Integrate land use and transport planning in a way:

(1) that promotes:

(a) the use of transport modes which have low adverse effects;

(b) the safe, efficient and effective use of transport infrastructure, and reduces where appropriate the demand for transport;

Recovery Strategy for Greater Christchurch

29. The Recovery Strategy for Greater Christchurch (the Recovery Strategy) prepared by CERA under the Canterbury Earthquake Recovery Act became operative on 1 June 2012. It is a statutory document that must be "read together with, and forms part of" other relevant legislation within the greater Christchurch area. The City and District Plans (and a number of other statutory documents) must not be interpreted or applied in a way that is inconsistent with the Recovery Strategy. Only Sections 3-8 of the Strategy have statutory effect.

30. The Recovery Strategy sets out the vision, supporting goals, and priorities for the recovery of Greater Christchurch. The following goals are of particular relevance:

5. Develop resilient, cost effective, accessible and integrated infrastructure, buildings, housing and transport networks - by:

5.4 developing a transport system that meets the changed needs of people and businesses and enables accessible, sustainable, affordable and safe travel choices;

5.5 zoning sufficient land for recovery needs within settlement patterns consistent with an urban form that provides for the future development of greater Christchurch;

5.6 having a range of affordable housing options connected to community and strategic infrastructure that provides for residents participation in social, cultural and economic activities; and

Land Use Recovery Plan

31. The land use recovery plan contains several provisions relating to rural residential development including the following which are of relevance to transport.

Issue 6.1.6 - Rural residential impacts

Rural-residential development, if unconstrained, has the potential to change the character of rural areas and to create adverse effects on established rural, farming

(including agricultural research farms) and quarrying activities through reverse sensitivity. It also can result in dispersed settlement patterns and the inefficient provision of services.

Explanation:

Many of the rural western areas of Greater Christchurch remained undamaged during the earthquakes and are also located out of the area identified as being prone to liquefaction, making them more desirable locations to live. However, rural residential development is associated with reverse sensitivity effects and can also give rise to requests for the extension of urban services and exacerbates dispersed settlement patterns, leading to inefficient use of infrastructure and impacts on rural production. This can lead to pressures for future urbanisation, which is difficult to achieve in an effective manner given that the land use pattern has been established for a different purpose.

Objective 6.2.4 – Integration of transport infrastructure and land use

Ensure that the planning of transport infrastructure is prioritised so that it maximises integration with the priority development areas and new settlement patterns and facilitates the movement of goods and provision of services in Greater Christchurch, while: (1) managing network congestion; (2) reducing dependency on private motor vehicles; (3) reducing emission of contaminants to air and energy use; and (4) promoting the use of active transport modes.

Principal reasons and explanation:

Land use patterns that are integrated with transport infrastructure minimise energy use through network optimisation, operation and maintenance, and provide for the social and economic wellbeing of the community, and peoples' health and safety. Recovery development that is not well integrated with transport infrastructure can result in increased car dependency, higher energy use, greater traffic volumes, and inefficient freight movement.

Policy Discussion

32. From the outset it is acknowledged that rural residential developments are typically located in the outskirts of urban areas, such that accessibility to a range of facilities (such as retail, education and passenger transport services) will be limited. This is anticipated to be the expectation of residents living in rural residential areas as it reflects a life-style choice.

33. The policy documents summarised above indicate two broad themes, which are a reduced dependency on private car travel and maintaining a safe and efficient transport system. These are discussed in turn below.

<u>Reducing Car Dependency</u>

34. With regards to reducing dependency on private car travel, this would typically be achieved through proximity to a range of facilities, such as education, retail and passenger transport facilities. The site is located approximately 2km from Prebbleton, which includes a primary school and pre-schools. There is also a range of retail, which would accommodate day-to-day "top-up" shopping for food basics (such as bread and milk). Given this, there are a range of facilities in reasonably close proximity that reduce the need to travel further afield on a daily basis.

35. Travel to and from Prebbleton would most likely be car travel, but the centre is within comfortable cycling distance (2km) from the site. Cycling to / from Prebbleton will

be assisted by the Council's proposed off-road cycle link on Trents Road. A walking trip to Prebbleton from the site would take in the order of 25 to 30 minutes, so whilst it is possible it is less likely to occur.

Transport Safety and Efficiency

36. With regards to transport safety and efficiency matters, these will be discussed in greater detail below. However, it is noted that the surrounding road network has sufficient capacity to accommodate the proposed development. Whilst safety concerns have been identified at the Shands Road / Blakes Road intersection, SDC are committed to undertaking improvements to remedy this concern. Furthermore, it is unlikely that the proposed development will add traffic to the critical movements until such time as a connection to Blakes Road is constructed and there are no imminent plans for that to occur.

37. It is also noted that access to the proposed site would be primarily taken from the lower order roads and not Shands Road. This maintains the function of the Strategic Road Network in the vicinity of the site.

Policy Conclusions

38. The review of the proposed development with regards to the relevant statutory documents identifies that the proposal is considered to be not inconsistent with the transport policies seeking to reduce the reliance on private car travel. There are a range of day-to-day facilities within 2km of the site to reduce the need to travel further afield and these are within comfortable cycling distance. Further it is noted that the site is identified in the 2014 Rural Residential Strategy (Selwyn District Council) as a suitable site for rural residential development.

39. With regards to transport safety and efficiency, it is considered that the site will have negligible effects on the surrounding road network. In particular, no effects are anticipated with regards to the operation of the Strategic Road Network. As such, it is considered that the proposal is consistent with the Policy direction regarding this matter.

District Plan Provisions

40. The site is currently located in the *Inner Plains* in the Selwyn District Plan. It is proposed to rezone the site for rural-residential purposes, consistent with the findings of the District Council's Rural Residential Strategy 2014.

41. It is noted that any residential development on the proposed allotments could comply with all the relevant transport related requirements of the District Plan. This includes adequate parking, access and manoeuvring for each new property. Failure to comply with any of these standards would result in the requirement for additional resource consent approval to be considered separately to the Plan Change application that is the subject of this report.

ASSESSMENT OF EFFECTS

Traffic Generation & Effects

42. The traffic generation predicted by this development has been based on the NZ Transport Agency Research Report 453 *(Trips and Parking Related to Land Use)*. That document suggests the following traffic generation rates for rural residential developments:

- Peak Hour Traffic generation: 50th percentile rate of 1.1 trips per dwelling and 85th percentile rate of 1.4 trips per dwelling; and
- Daily Traffic Generation: 50th percentile rate of 8.5 trips per dwelling and 85th percentile rate of 10.1 trips per dwelling.

43. Applying these trip rates to the assumed 26 dwelling development results in a peak hour traffic generation of 29 to 36 vehicle movements and a daily traffic generation of 221 to 263 vehicle movements.

44. The traffic generated by the site is anticipated to predominantly travel to / from either Prebbleton or Christchurch City. These vehicles would likely use Trents Road to access Prebbleton or Shands Road to access Christchurch.

45. The indicative daily traffic capacity of Shands Road has been estimated by using formula from *AustRoads Part 3: Traffic Studies and Analysis*. Section 4.1.1 of that guide sets a calculation of hourly traffic capacity based on road widths and percentage heavy vehicles. Applying that data to Shands Road, suggests an hourly traffic volume of 1,475 vehicles per hour per lane[4], which is broadly converted to 29,500 vehicles per day. The traffic volumes on Shands Road with CSM2 in place in 2026 are predicted to be 11,500 vehicles per day, so there is more than sufficient capacity to accommodate the traffic generated by the proposed Plan Change.

46. Using a similar calculation as set out above, but for Trents Road suggests the existing capacity is approximately 975 vehicles per hour, or 19,500 vehicles per day[5]. The existing traffic volumes on Trents Road are 1,359 vehicles per day, so this road has more than sufficient capacity to accommodate the additional traffic generated by the proposed Plan Change.

47. Perhaps of more relevance to Trents Road is that the RTA *Guide to Traffic Generating Developments* sets an environmental capacity of 2,000 vehicles per day for Local Roads. This environmental capacity is intended to retain the feel of a Local Road by providing reasonably low traffic volumes. As identified above, the traffic volumes on Trents Road are 1,359 vehicles per day (rising to 1,622 vehicles per day with this sub-division) so it will continue to operate as a Local Road.

48. The safety of the surrounding road network was reviewed earlier in this report. The Trents Road / Shands Road intersection was identified as operating safely and is anticipated to continue to do so with the Plan Change traffic added to the network. Whilst anecdotal information identifies there are existing safety concerns not identified in the crash history, the Shands Road / Blakes Road intersection is likely to attract a proportion of turning movements from the Trents Road intersection because of the improved capacity.

49. The Blakes Road / Shands Road intersection was identified as having safety concerns at present. The proposed Plan Change would increase the through movements on Shands Road at this intersection, which is anticipated to have a negligible effect on road safety as it does not add to the critical turning movements. As previously identified, there is a proposal to install a roundabout at this location in 2021 / 2022 as part of the Selwyn LTP and this roundabout will address the existing safety concerns.

50. The potential for the Plan Change to increase turning volumes at the Shands Road / Blakes Road intersection would arise if the land to the north were developed and

[4] Capacity = 1800 x lateral clearance factor x Heavy vehicle factor. Capacity = 1,800 x 0.9 x (1/1.1) = 1,473 vehicles per hour per lane. Say 10% of daily traffic occurs in the peak, so 1,473 x 2 (lanes) x 10 = 29,500 vpd.
[5] Capacity = 1800 x lateral clearance factor x Heavy vehicle factor. Capacity = 1,800 x 0.6 x (1/1.1) = 982 vehicles per hour per lane. Say 10% of daily traffic occurs in the peak, so 982 x 2 (lanes) x 10 = 19,500 vpd.

a road connection established through to the Plan Change site. We are not aware of any proposal at this time and the commitment to upgrade this intersection suggest that any adverse safety effect (if it did eventuate) would be short lived.

51. The traffic generation of this site in combination with the 16 dwellings at the Plan Change 41 site, plus the existing traffic volumes on Trents Road are sufficiently low that it is considered the site access will operate safely and efficiently. Whilst the proposed Plan Change will result in approximately 42 dwellings utilising a single access to Trents Road, we are satisfied that this arrangement is the most appropriate given the alternative roading connections available.

Internal Road Design & Connections

52. The Outline Development Plan for this Plan Change includes road connections to the Plan Change 41 site. In addition, the potential for a link to the land to the north has been allowed should that land ever be rezoned.

53. Whilst the internal road design is a matter for subdivision consent, the indicative subdivision plan identifies a Spine Road corridor of 18m. This is consistent with the indicative subdivision plan for Plan Change 41 and would accommodate a *Local Road* as set-out in NZ Standard 4404 (Land Development and Subdivision Infrastructure)[6].

54. Should the potential land to the north be rezoned and an access provided through this Plan Change site, there would be sufficient capacity in the Spine Road to accommodate the anticipated traffic volumes generated by these site (i.e. Plan Change 41, this Plan Change plus the likely traffic from the northern Plan Change). It is noted that the anticipated intersection improvements at Shands Road / Blakes Road mean that traffic is most likely to travel from Plan Change 41 and this Plan Change area to access Blakes Road, rather than from a potential northern Plan Change area to head south to Trents Road. Nonetheless, any assessment of the effects of completing this potential through link from Trents Road to Blakes Road would need to be assessed as part of a Plan Change for that northern site.

CONCLUSIONS

55. It is proposed to change the zoning of 631 Shands Road from *Inner Plains* to *Living 3* to enable a Rural Residential development at the site. The proposal would enable approximately 26 dwellings on the 16Ha site. It is anticipated this development would generate 29 to 36 vehicle movements per hour during the peak hours and 221 to 263 vehicle movements per day.

56. A road connection would be provided to the *Living 3* land to the south-west of the site, giving access to Trents Road. A potential road link is also provided through the site to land to the north-east, which enables a future connection through to Blakes Road should that land be developed. Access to Shands Road is retained for the one existing dwelling that already has that access.

57. The area to the south of the site was subject to Plan Change 41 to enable a 16 lot residential development, which became operative in June 2015. That Plan Change included an Outline Development Plan that enabled a future link to 631 Shands Road. Access to this subdivision appeared to be under-construction during a site visit in October 2015.

[6] Refer to Table 3.2, Rural, Live & Play Access to Housing of NZS4404.

58. A review of the proposed development with regards to the relevant statutory policy documents identifies that the proposal is considered to be not inconsistent with the transport policies seeking to reduce the reliance on private car travel. There are a range of day-to-day facilities within 2km of the site to reduce the need to travel further afield and these are within comfortable cycling distance. The Council has plans for an off-road cycle route on Trents Road that will link the site to Prebbleton.

59. With regards to policy matters associated with transport safety and efficiency, it is considered that the site will have negligible effects on the surrounding road network. In particular, no effects are anticipated with regards to the operation of the Strategic Road Network. As such, it is considered that the proposal is consistent with the Policy direction regarding this matter.

60. The traffic effects of the proposal have been considered and it has been identified that Shands Road and Trents Road have more than sufficient traffic capacity to accommodate the proposal. Furthermore, Trents Road will remain within the environmental threshold for a Local Road.

61. The Blakes Road / Shands Road intersection was identified as having safety concerns at present. The proposed Plan Change would increase the through movements on Shands Road at this intersection, which is anticipated to have a negligible effect on road safety as it does not add to the critical turning movements. As previously identified, there is a proposal to install a roundabout at this location in 2021 / 2022 as part of the Selwyn LTP and this roundabout will address the existing safety concerns.

62. Whilst the internal road design is a matter for subdivision consent, the indicative subdivision plan identifies a Spine Road corridor of 18m has been allowed for that could connect to land to the north should it be rezoned. The internal road layout is consistent with the indicative subdivision plan for Plan Change 41 and would accommodate a *Local Road* as set-out in NZ Standard 4404 (Land Development and Subdivision Infrastructure).

63. Overall, we consider that the proposed Plan Change can be supported from a transport perspective.

APPENDIX 1: Indicative Site Layout

LEGEND

Right of Way

Road

Shands Road
Formed & Sealed

Lot 4
DP 81701

Lot 3
DP 81701

Lot 1
DP 52527

Lot 2
DP 51743

Lot 3
DP 359445

Lot 2
DP 359445

Lot 1
DP 359445

20
6800m²
Pump shed

21
5163m²

22
5020m²

23
5040m²

24
5232m²

Lot 1
DP 53113

17
6580m²

18
5242m²

19
5092m²

25
4716m²

26
4568m²
Shed

16
12948m²

12
6450m²

11
6000m²

13
5000m²
Stables
Shed

14
7133m²
Barn

15
5340m²

10
5225m²

9
5377m²

8
4500m²

27
To Vest as Road in
Selwyn District Council
12577m²

1
5009m²

2
5000m²

3
5000m²

4
5000m²

5
4875m²

6
4808m²

7
4631m²

Right of Way

New Road

Bore

Dwelling

GENERAL NOTES

Property Address:	631 Shands Road
Registered Owners:	M.J. Stratford
Comprised in:	CB31B/383
Local Authority:	Selwyn District Council
Total Area:	15.9905ha
Zoning:	Inner Plains

1. Existing lot boundaries shown are derived from information sourced from LINZ.
2. Horizontal Datum:
   NZGD 2000
   Mount Pleasant Circuit
3. Areas and dimensions are approximate only and subject to Council approval and final survey.
4. All areas shown exclude access.
5. This sheet contains imagery sourced from:

Environment Canterbury
Your regional council

1	AMEND AREAS	GF	07.08.15
0	INITIAL ISSUE	GF	05.08.15
Revision		App	Date
Surveyed	-	-	
Designed	GF	07.08.15	
Drawn	JK	07.08.15	
Reviewed	GF	07.08.15	
Approved	GRAHAM FOWLER	07.08.15	

Client
M.J. STRATFORD

Project Title
REZONING -
631 SHANDS ROAD

Sheet Title
PROPOSED SUBDIVISION
OF LOT 1 DP 53113

Level 1, 323 Madras Street
Christchurch 8141
calibreconsulting.co
+64 3 374 6515

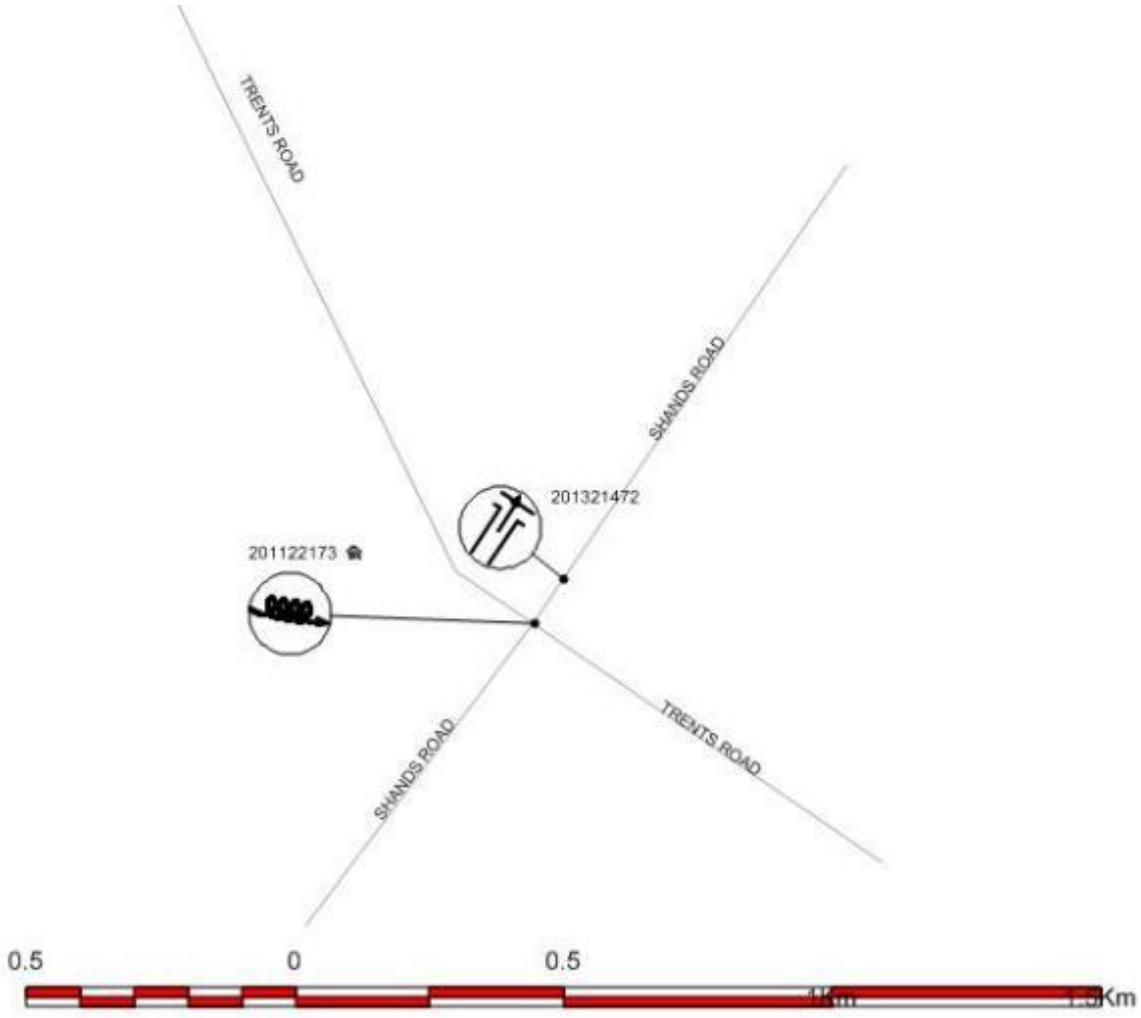
calibre CONSULTING

Scale (A3 Original) 1:2000

20 10 0 20 40 60 m

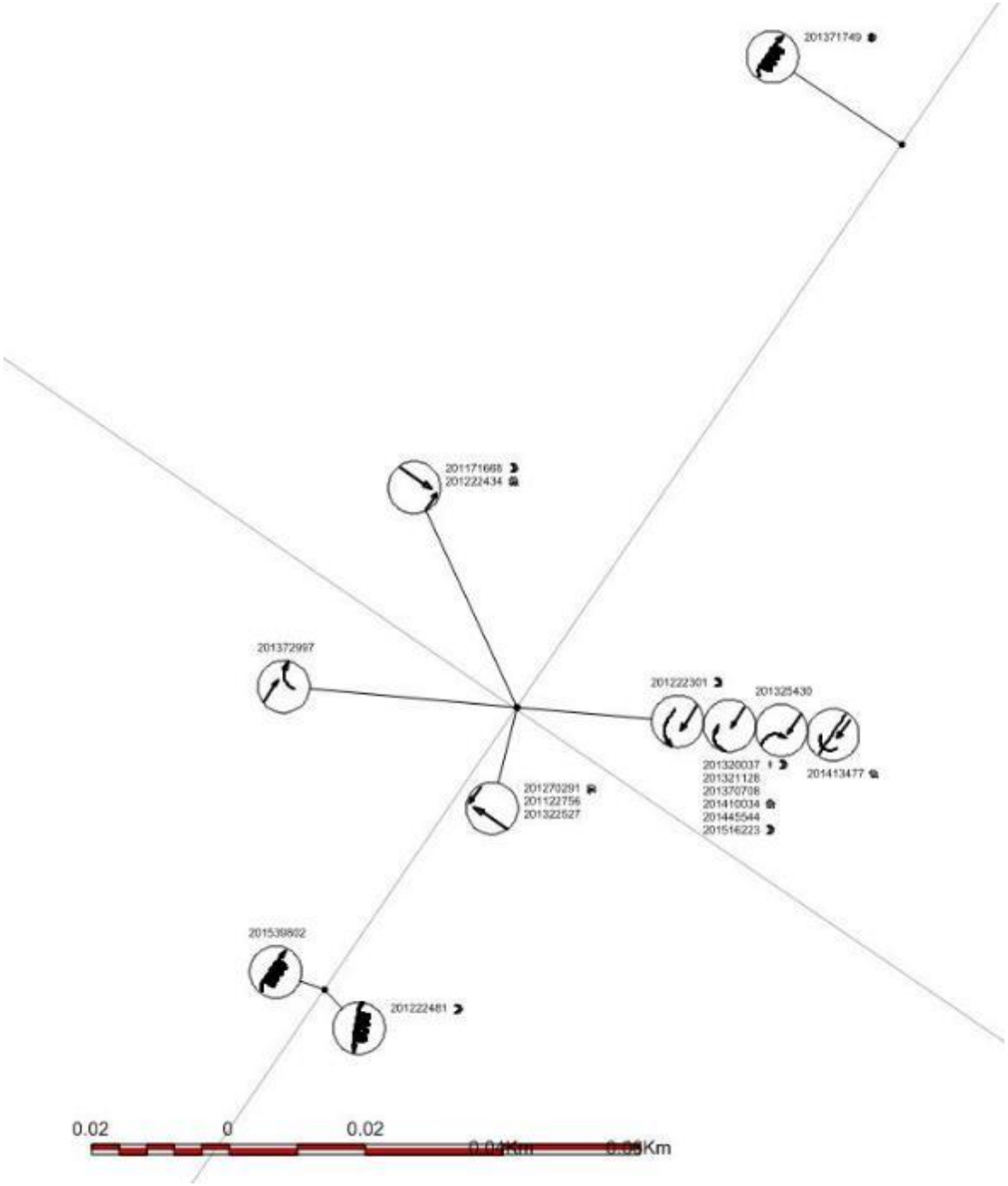
Project No	Sheet	Revision
708726.001	V61	1

APPENDIX 2: Crash History


TRENTS ROAD
SHANDS ROAD
201321472
201122173
SHANDS ROAD
TRENTS ROAD
0.5
0
0.5
Km

Plain English report, run on 08-Oct-2015 Page 1

First Street	ID Second street IT Tot landmark Distance ID	Crash Number	Date DD/MM/YYYY	Day	Time HHMM	Description of Events	Crash Factors (ENV = Environmental Factors)	Road	Natural Light	Weather	Junction	Ctrl	Tot Inj F S N A E I T R M
SHANDS ROAD	100K TRENTS ROAD	201321472	07/03/2013	Thu	1630	VAN1 E30 on SHANDS ROAD missed inters cr end of road	VAN1 lost control, ENV: road surface deep loose metal, entering or leaving private house / farm	Dry	Bright	Fine	Driveway	Nil	1
TRENTS ROAD	1 SHANDS ROAD	201122173	07/03/2011	Sat	1614	CAR1 SB0 on TRENTS ROAD lost control; went off road to left, CAR1 hit Post Or Pole	CAR1 alcohol rest below limit, lost control, worn tread on tyre ENV: slippery	Wet	Overcast	light Rain	X Type Junction	Stop Sign	1


201371749
201171668
201222434
201372997
201222301
201325430
201320037
201321128
201370708
201410034
201445544
201516223
201413477
201270291
201122756
201322527
201539802
201222481
0.02
0
0.02
Km

Plain English report, run on 08-Dec-2015 Page 1

First Street	Distance	Direction	Second street or landmark	Crash Number	Date DD/MM/YYYY	Day DOW	Time HHMM	Description of Events	Crash Factors (ENV = Environmental factors)	Road	Natural Light	Weather	Junction	Ctrl	Tot Inj F S M A I T H B
BLAKES ROAD		I	SHANDS ROAD	201320037	18/07/2013	Thu	0730	SUV1 SBD on SHANDS ROAD hit CAR2 turning right onto SHANDS ROAD from the left	CAR2 alcohol not suspected, tested and -ve (Ref use only), failed to give way at stop sign, new driver showed inexperience ENV: visibility limited by trees	Dry	Twilight	Fine	X Type Junction	Stop Sign	1 1
SHANDS ROAD		100M	BLAKES ROAD	201371749	23/06/2013	Sun	0829	CAR1 WBD on SHANDS ROAD lost control but did not leave the road, CAR1 hit Post Or Pole	CAR1 lost control ENV: road slippery (frost or ice)	Ice/ Snow	Bright	Fine	Unknown	N/A	
SHANDS ROAD		50S	BLAKES ROAD	201839802	02/06/2013	Sat	0957	TRUCK1 WBD on SHANDS ROAD lost control but did not leave the road	TRUCK1 lost control due to vehicle fault, wheel off	Dry	Bright	Fine	Unknown	Nil	
SHANDS ROAD		50S	BLAKES ROAD	201222491	01/09/2012	Sat	2245	CAR1 SBD on SHANDS ROAD lost control, went off road to left, CAR1 hit Tree	CAR1 alcohol test above limit or test refused, actension diverted by cigarette etc	Dry	Dark	Fine	Unknown	N/A	1
SHANDS ROAD		I	BLAKES ROAD	201321128	30/01/2013	Wed	1628	CAR1 SBD on SHANDS ROAD hit CAR2 turning right onto SHANDS ROAD from the left	CAR2 failed to give way at stop sign	Dry	Bright	Fine	X Type Junction	Stop Sign	1
SHANDS ROAD		I	BLAKES ROAD	201322827	02/09/2013	Mon	0744	CAR1 WBD on BLAKES ROAD hit CAR2 crossing at right angle from right	CAR1 failed to give way at stop sign	Dry	Bright	Fine	X Type Junction	Stop Sign	1
SHANDS ROAD		I	BLAKES ROAD	201325430	17/12/2013	Tue	1811	TRUCK2 turning right hit by oncoming VAN1 SBD on SHANDS ROAD	TRUCK2 failed to give way when turning to non-turning traffic, didnt see/look when required to give way to traffic from another direction	Dry	Bright	Fine	X Type Junction	Stop Sign	1
SHANDS ROAD		I	BLAKES ROAD	201370708	28/03/2013	Thu	1813	CAR1 SBD on SHANDS ROAD hit CAR2 turning right onto SHANDS ROAD from the left	CAR2 failed to give way at stop sign	Dry	Overcast	Fine	X Type Junction	Stop Sign	
SHANDS ROAD		I	BLAKES ROAD	201372597	31/10/2013	Thu	0700	CAR1 WBD on SHANDS ROAD hit CAR2 merging from the right	CAR2 failed to give way at stop sign	Dry	Bright	Fine	X Type Junction	Stop Sign	
SHANDS ROAD		I	BLAKES ROAD	201410034	05/02/2014	Wed	1708	CAR1 SBD on SHANDS ROAD hit CAR2 turning right onto SHANDS ROAD from the left	CAR2 failed to give way at stop sign, didnt see/look when required to give way to traffic from another direction ENV: road slippery (rain)	Wet	Overcast	Light Rain	X Type Junction	Stop Sign	2
SHANDS ROAD		I	BLAKES ROAD	201413479	12/06/2014	Thu	1205	TRUCK1 SBD on SHANDS ROAD hit CAR2 U-turning from same direction of travel	CAR2 didnt see/look behind when changing lanes, position or direction	Wet	Overcast	Light Rain	X Type Junction	Stop Sign	1
SHANDS ROAD		I	BLAKES ROAD	201415844	08/10/2014	Mon	1705	CAR1 SBD on SHANDS ROAD hit CAR2 turning right onto SHANDS ROAD from the left	CAR2 failed to give way at stop sign, didnt see/look when visibility obstructed by other vehicles	Dry	Overcast	Fine	X Type Junction	Stop Sign	
SHANDS ROAD		I	BLAKES ROAD	201516218	19/08/2015	Wed	1820	CAR1 SBD on SHANDS ROAD hit SUV2 turning right onto SHANDS ROAD from the left	SUV2 failed to give way at stop sign, didnt see/look when visibility obstructed by other vehicles	Dry	Dark	Fine	X Type Junction	Stop Sign	2
SHANDS ROAD		I	BLAKES ROAD	201270291	14/02/2012	Tue	1720	CAR1 WBD on BLAKES ROAD hit CAR2 crossing at right angle from right	CAR1 failed to give way at stop sign, didnt see/look when required to give way to traffic from another direction	Wet	Overcast	Fine	X Type Junction	Stop Sign	
SHANDS ROAD		I	BLAKES ROAD	201222434	12/08/2012	Sun	0950	CAR1 WBD on BLAKES ROAD hit CAR2 crossing at right angle from right	CAR1 failed to give way at stop sign, didnt see/look when required to give way to traffic from another direction	Wet	Overcast	Heavy Rain	X Type Junction	Stop Sign	1
SHANDS ROAD		I	BLAKES ROAD	201222301	02/08/2012	Thu	1930	CAR1 SBD on SHANDS ROAD sideswiped by CAR2 turning left	CAR1 turned left from incorrect lane, didnt see/look behind when changing lanes, position or direction	Dry	Dark	Fine	X Type Junction	Stop Sign	1 1
SHANDS ROAD		I	BLAKES ROAD	201122756	15/09/2011	Thu	1530	SUV1 WBD on BLAKES ROAD hit SUV2 crossing at right angle from right	SUV1 failed to give way at stop sign, didnt see/look when visibility obstructed by other vehicles	Dry	Bright	Fine	X Type Junction	Stop Sign	1

Plain English report, run on 08-Oct-2015 Page 2

First Street	Second street or landmark Distance	Crash Number	Date DD/MM/YYYY	Day	Time HHMM	Description of Events	Crash Factors	Road	Natural Light	Weather	Junction	Corrl	Tot Inj F S M A E I T R N
SHANDS ROAD	I BLAKES ROAD	201171668	30/06/2011	Thu	1755	CAR1 RED on BLAKES ROAD hit CAR2 crossing at right angle from right	CAR1 failed to give way at stop sign, misjudged speed etc of vehicle coming from another dirn with right of way	Dry	Dark	Fine	X Type Junction	Stop Sign	