

6 April 2022

P0965 PP Gundy Road TIA addendum

Perception Planning  
Maitland Road,  
MAYFIELD NSW

**Attn: Erin Daniel**

Dear Erin,

**Addendum to Traffic Impact Assessment - Proposed Residential Subdivision, Gundy Road, Scone, NSW**

The following has been provided to support the S8.2 Review for the proposed subdivision at Gundy Road, Scone (DA 163/2017) as an addendum to the Traffic Impact Assessment prepared by Seca Solution for the project in 2017.

It is primarily addressing the issues raised by Transport for NSW (TfNSW) in its letter dated 1<sup>st</sup> December 2021.

**Traffic Impacts**

Changes since the 2017 assessment:

- The project has been modified and now proposes the development of 384 lots (compared with 423 lots previously assessed).
- An emergency access to Gundy Road has been provided to the west of the subject site
- The Scone Bypass opened in 2020 removing significant traffic flows along Kelly Street (previously New England Highway) in the vicinity of Gundy Road.

To determine the impact of these changes updated traffic surveys (Tuesday 5<sup>th</sup> April, 2022 7.30AM to 9.00AM and 3.00PM to 5.30PM ) and Sidra intersection modelling has been undertaken to determine the existing operation of the intersection of Kelly Street and Gundy Road and to confirm spare capacity to accommodate additional development demands.

From the surveys the peak hours were confirmed as being 8.00-9.00AM and 3.45-4.45 PM (Attachment B).

Applying TfNSW trip rates for residential developments in regional areas the project would generate:

- 273 trips two way in the AM and 300 trips in the PM.
- Residential developments split: 80% outbound in AM, 20% inbound, reverse in PM.

Consistent with the traffic impact assessment:

- 90% of the traffic has been assumed to have an origin / destination to the west of the site and 10% to the east via Gundy Road
- at the New England Highway / Gundy Road intersection the development traffic has been assigned on the basis of 55% to and from the north and 45% to and from the south. This is generally consistent with 2022 patterns

## 2022 Existing Situation + Development Flows

Allowing for this the proposal would generate the following trip distribution:

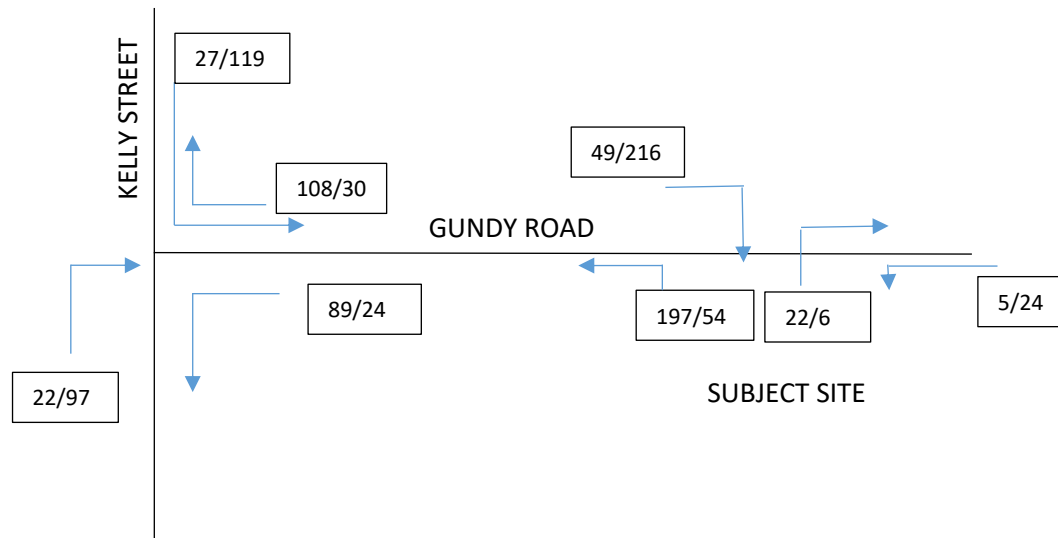


Figure 1 Development traffic demands (AM/PM)

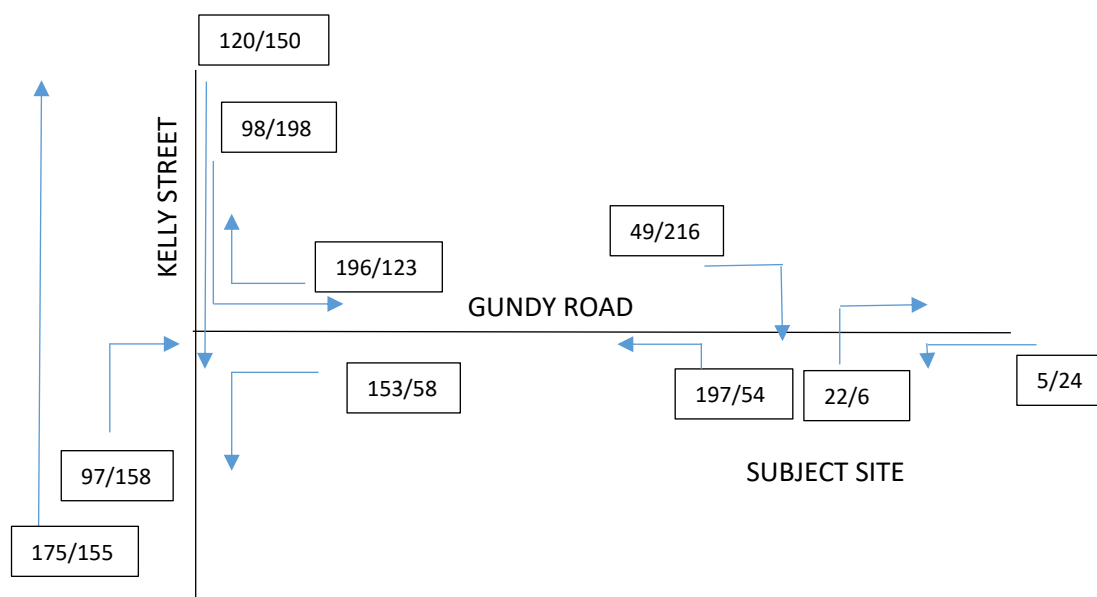


Figure 2 Development + Existing (2022) traffic demands (AM/PM)

## Sidra Results 2022, 2022 +Development and 2032

The existing situation was modelled with Sidra and using the current traffic flows surveyed by Seca Solution on 5<sup>th</sup> April 2022 and the results of this Sidra modelling are provided below.

*Table 1 – Sidra results, 2022 base flows (existing)*

Approach	Level of service	Delay (seconds)	Queue (metres)
Kelly St south (critical right turn movement)	A / A	5.6 / 5.6	2.2 / 1.7
Gundy Road (critical right turn)	A / A	8.7 / 8.4	4.5 / 4.5
Kelly St north	A / A	1.8 / 1.6	0.0 / 0.0

Note – AM / PM results

The intersection was then modelled using the existing traffic flows plus the development traffic. The results are presented below.

*Table 2 – Sidra results 2022 base plus development flows*

Approach	Level of service	Delay (seconds)	Queue (metres)
Kelly St south (critical right turn movement)	A / A	6.0 / 7.0	2.9 / 5.0
Gundy Road (critical right turn)	A / A	10.0 / 11.4	10.2 / 8.0
Kelly St north	A / A	2.2 / 2.9	0.0 / 0.0

Note – AM / PM results

The above table demonstrates that the traffic movements associated with the project shall have a minimal and acceptable impact upon the operation of the intersection of Kelly Street and Gundy Road.

The future design year of 2032 was then assessed, allowing for background traffic growth only and the results are presented below. Note that ALL traffic flows were increased by 2% per annum.

*Table 3 – Future design year 2032 with background growth only*

Approach	Level of service	Delay (seconds)	Queue (metres)
Kelly St south (critical right turn movement)	A / A	5.8 / 5.9	2.8 / 2.1
Gundy Road (critical right turn)	A / A	10.1 / 9.7	6.2 / 6.2
Kelly St north	A / A	1.8 / 1.6	0.0 / 0.0

Note – AM / PM results

The future design year 2032 was then assessed with the development traffic and the results of the Sidra modelling are presented below.

*Table 4 – Future 2032 design year plus development traffic flows*

Approach	Level of service	Delay (seconds)	Queue (metres)
Kelly St south (critical right turn movement)	A / A	6.3 / 7.6	3.7 / 6.7
Gundy Road (critical right turn)	A / A	11.6 / 14.9	9.3 / 13.0
Kelly St north	A / A	2.2 / 3.0	0.0 / 0.0

Note – AM / PM results

The above table demonstrates that the traffic movements associated with the project shall have a minimal and acceptable impact upon the operation of the intersection of Kelly Street and Gundy Road, allowing for the development traffic and background growth of 2% per annum along Kelly Street and Gundy Road, based on existing intersection layout.

### Site Access and Site Distances

The proposed access on Gundy Road has been reviewed against Section 3 of the Austroads Guide to Road Design Part 4A and AS2890.1 to confirm suitable sight lines.

The main access to the subject site is proposed on a straight and level section of Gundy Road. For the existing frontage road speed of 60km/h the sight distance requirements for an intersection are 114 metres minimum, 123 metres desirable.

The visibility to the east (right) extends to a bend in Gundy Road, more than 250 metres from the access. To the west (left) the sight visibility also exceeds 250 metres. The sight distance is therefore consistent with the Austroads requirements.

Should Council consider TfNSW's suggestion of extending the 50km/h urban speed zone to the east, these sight distance requirements would be further reduced.

The location of the emergency access has also been reviewed on site. This driveway is for emergency access/egress only and so will be not be subject to high demands or regular use. This access driveway is on a straight section of Gundy Road with a slight uphill gradient to the east and a curve in the road to both the east and west of the driveway. The driveway is located to the immediate east of the change in posted speed from 60km/h to the west and 100km/h to the east. Motorists approaching the driveway from the east would therefore be expected to be reducing speed however could still be travelling at 100km/h. To the west, whilst motorists are within the 60km/h zone, it is expected that they could be accelerating towards the 100km/h speed limit.

Good visibility is available and based on advice by others the visibility has been measured as being 220m to the left (west) and 420m to the right (east). For a frontage speed of 100km/h the minimum sight distance for an intersection is 234 metres with 248 metres desirable. This distance is available to the east. To the west the sight distance is 220 metres, just less than the minimum requirement of 234 metres. For a 60km/h speed zone the distance is 123 metres and for an eighty kilometre zone is 181 metres. Allowing for motorists to be accelerating towards 100km/h this sight distance is considered appropriate. As a driveway the sight distance requirement would be 139 metres minimum and 160 metres desirable and is therefore within the acceptable sight visibility and promotes safe vehicle movements.

### Access to Public Transport, Pedestrian and Cycling Facilities

A review of the public bus services in the area confirm:

- Gundy Road is a school bus route with Route 10 Gundy and Route 15 Glenbawn observed to travel along this route
- There are no signposted bus stops evident in the area however Bihma Drive, opposite the subject site has a seat and bus shelter within 50 metres of Gundy Road
- Except school services, there are no bus services that run along Gundy Road within the vicinity of the site. Route 414 Muswellbrook to Scone provides a loop services which has a bus stop near Scone High School. Courtesy buses operate for the Scone Bowling Club and Transcare operate local service for aged care.

There is limited existing public transport in the locality. The development of this land and the land surrounding may see an opportunity for bus services to be extended. Local bus services are subject to regular review with modifications to routes in response to demand made in conjunction with bus providers and Transport for NSW. As the staging of the development allows initial lots within the vicinity of Gundy Road to be developed first, residents of these dwellings will have access to bus services along Gundy Road. The internal roads of the subdivision will be designed in accordance with Council requirements which shall include suitable roads to accommodate bus services if required in the future.

Pedestrian pathways will be provided within the subdivision in accordance with Council design requirements. Allowing for the low traffic volumes these internal streets will allow for cyclists to ride on street.

The Upper Hunter Shire Council S94 Contribution Plan details an extension of the existing shared pathway on Gundy Road east to Bihma Drive. This will provide a convenient pathway for both pedestrians and cyclists to connect with schools and local facilities to the west of the subject site including Scone High School. St Marys Primary School and the Scone Bowling Club.

For cyclists the CBD can then be accessed via a series of local streets on the eastern side of Kelly Street which provide wide alignments and generally low traffic flows.

### Construction Traffic

The majority of construction traffic will involve the initial inbound earthmoving equipment which shall typically stay on site throughout the development of roadworks, drainage etc and the day to day movement of workers. The construction of individual houses will be subject to market demands. Traffic volumes associated with these are expected to be less than the typical daily flows associated with the completed subdivision and so will be consistent with the impacts determined as being acceptable for the proposed development.

### Conclusion

Taking into consideration the above, the proposed development can be approved on traffic and access grounds.

The opening of the Scone Bypass has reduced through traffic demands on Kelly Street with the Kelly Street/Gundy Road intersection is able to operate for the future 10 year design horizon and the full development with no change required to the existing layout and no change to the level of service.

Yours sincerely,



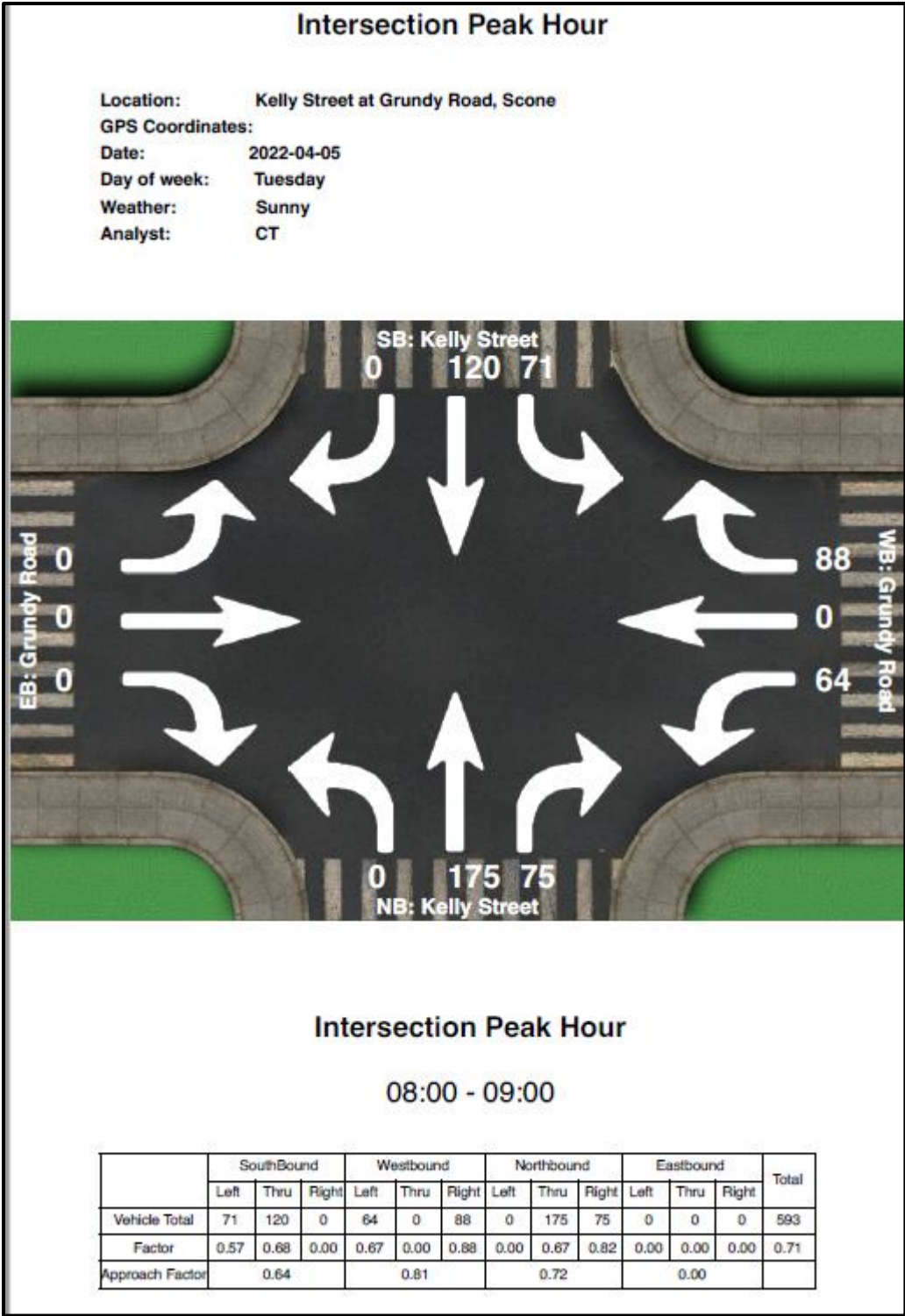
**Sean Morgan**  
*Director*



Attachment A – Subdivision Plan

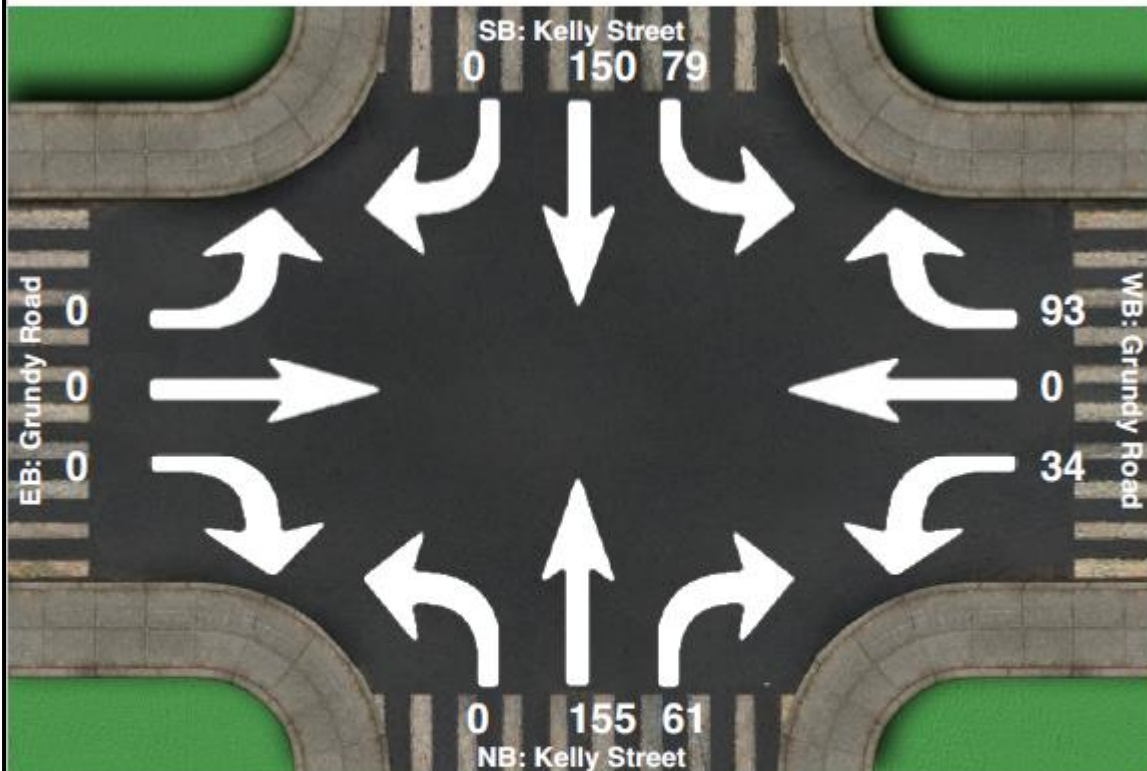


Attachment B- Traffic Surveys



## Intersection Peak Hour

Location: Kelly Street at Grundy Road, Scone  
 GPS Coordinates:  
 Date: 2022-04-05  
 Day of week: Tuesday  
 Weather: Sunny  
 Analyst: CT



## Intersection Peak Hour

15:45 - 16:45

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	79	150	0	34	0	93	0	155	61	0	0	0	572
Factor	0.82	0.82	0.00	0.77	0.00	0.86	0.00	0.78	0.90	0.00	0.00	0.00	0.91
Approach Factor	0.88			0.93			0.82			0.00			