Memorandum

To:	Mike Nelson	**At:**	Wollondilly Shire Council
From:	Anthony Kay	**At:**	SLR Consulting Australia Pty Ltd
Date:	15 December 2020	**Ref:**	660.20027-M01-v0.4_Response to Traffic and Transport Matters
Subject:	Wollondilly Shire Community, Cultural and Civic Precinct Peer Review and TfNSW Information Request - Response to Traffic and Transport Matters		

1 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Wollondilly Shire Council to provide a response to the issues raised in the following documentation:

- Picton Town Centre – Administration Building Planning Proposal – Peer Review (dated 1 December 2020) as prepared by GTA Consultants on behalf of Keylan Consulting; and
- Preliminary Planning Proposal for Picton Town Centre Administration Building – 3-8 Colden Street and Part 62-64 Menangle Street, Picton – Preliminary Comment Letter (dated 9 December 2020) as prepared by Transport for New South Wales (TfNSW).

The peer review and preliminary commentary were prepared in response to a preliminary planning proposal submitted by Wollondilly Shire Council for the Picton Town Centre Redevelopment, compromising the Wollondilly Shire Community, Cultural and Civic Precinct. A Traffic and Transport Report (TTR) was prepared by SLR in support of the planning proposal (dated 27 May 2020).

The proposed precinct development comprises of the following:

- Refurbished Shire Hall and Council Chambers;
- New Council administrative building;
- New Library and Multifunction Hall;
- Childcare facility;
- Small retail/ café premises; and
- Potential for basement parking.

2 GTA Peer Review

This section of the memorandum specifically relates to the Traffic and Parking peer review as undertaken by GTA Consultants dated 1 December 2020, a copy of which is provided at Attachment A (GTA reference N202510). The relevant traffic and transport matters presented therein are reproduced in ***bold italics*** followed by individual responses to each item. The items raised should be interpreted in the context established by the original Traffic and Transport Report (SLR Consulting, 27 May 2020).

Item 2.3 – Vehicle Access

There is a discrepancy in the access arrangements proposed between the SLR Report and the Planning Proposal report prepared by Elton Consulting. It is believed that the Planning Proposal report shows the intended configuration with accesses on Manolis Lane and Colden Street. These locations are supported.

Figure 9 of the TTR reflects an early iteration of the proposed access arrangement for the proposed basement parking provision below the main administration building. The figure is incorrect and should reflect the arrangement as shown in the Planning Proposal report. Whilst it is acknowledged that the access arrangements on the figure are incorrect, the remaining analysis and reporting within the TRR is based on the access arrangement shown in the Planning Proposal report. Commentary on page 16 of the TTR states:

"The preferred arrangement is to provide separate entry/ exit lanes into the car park, with the entry located on Manolis Lane, and exit on Colden Street. However the final access arrangements will need to take account of the car park layout provisions at the detailed design stage."

Item 3.1.1 – Parking Rates

Further consideration should be given to the alternate parking rates adopted for uses not listed in the DCP, if the Planning Proposal seeks to account for the entire CCCP under full development.

Parking is normally required to be provided as per the rates set out in Table 2.10.10(a) of Clause 2.10 of the DCP, which is titled Parking and Manoeuvring. For land uses falling outside of Table 2.10.10(a), car parking is required to be provided at a similar rate to other comparable developments.

Section 2.10 from Volume 5 of the Wollondilly Development Control Plan (DCP) 2016 stipulates parking rates for specific land uses, with the following clause indicating the need for further assessment for non-listed land uses:

"Development for purposes not listed above shall be provided by car parking at a similar rate to other comparable developments having regard to the nature of the particular proposal and its location in the road network."

The DCP does not specify minimum parking rates for the following four land uses:

- Gallery (Information and Education Facilities)
- Workshop and Community Spaces (Community Facility)
- Library (Community Facility)
- Work Hub (Community Facility)

A review of other comparable developments in the region which closely aligned with the above land uses and location in the road network was considered, resulting in the following sites presented in Table 1 being selected.

Table 1 Comparable Development – Parking Rates

	Approx. Area (m^2)	No. of Spaces	Parking Rate
Bowral Art Gallery	200	18	9.0
Thirroul District Library and Community Centre	2200	40	1.8

The parking rate generated by the Bowral Art Gallery was used for the gallery land use, with the derived parking rate for the Thirroul District Library and Community Centre being used for the three community facilities (workshop, community space, library and work hub).

It is agreed that since the library and shire hall are existing developments, a site-specific parking rate could be derived from surveys. However, it is also acknowledged and agreed that this level of detail would only be necessary as part of a future Development Application for these components.

Item 3.1.2 – Parking Requirements

There are two critical parking aspects directly relevant to the Planning Proposal:

- ***Providing 148 parking spaces for the new administration building. This is achievable with the 78 parking spaces envisaged for the basement car park and with the remainder of spaces being provided at the Council Depot site at Margaret Street.***
- ***Accounting for the loss of 149 public parking spaces that are presently on-site. This can be reduced to an effective loss of 89 spaces, since the old administration building will be disused and the associated demand for 60 spaces can be discounted.***

It is proposed that the following additional parking will be provided:

- Expanded Council staff car park at Margaret Street to provide 47 additional spaces; and
- New car park at the existing Council Deport site at Margaret Street to provide 34 spaces

The combined additional parking to be provided on Margaret Street is therefore 81 spaces. This combined with the proposed 78 spaces in the basement car park, brings the total parking provision to 159 spaces, which exceeds the minimum parking requirement for the new administration building.

Item 3.1.3 – Parking Demands

The SLR Report has created parking accumulation profiles for existing and proposed conditions to establish spare capacity for public parking in the Picton Town Centre. While this methodology may be accepted for the Planning Proposal in the context of accounting for the lost on-site public parking, it may not be robust enough to confirm if demands for the entire CCCP can be accommodated. There are particular concerns regarding the timing of surveys underpinning these parking accumulation profiles which occurred in off-peak conditions.

The parking accumulation profiles given in the TTR are based on the following surveys:

- Traffic surveys undertaken on Tuesday 26 November 2019 between 7am-10am and 4pm-6pm; and
- Occupied parking spaces observed at 7am and 4pm on 9 January 2020

In order to address the occupied parking spaces survey previously being undertaken during a school holiday, a further survey was undertaken on Friday 11 December 2020. The number of parking spaces occupied at 7am and 4pm on the given dates within the block bounded by Argyle Street, Margaret Street, Colden Street and Menangle Street (including the Picton Mall basement car park) is given in Table 2.

Table 2 Occupied Parking Spaces Survey (central block)

	7am	4pm
9 January 2020	34	260
11 December 2020	36	219
Difference	+2	-41

The total number of parking spaces within the block bounded by Argyle Street, Margaret Street, Colden Street and Menangle Street (including the Picton Mall basement car park) is 526. The effective loss of 89 parking spaces would therefore reduce the available parking stock to 437 spaces.

It is important to note that whilst there is an apparent reduction in parking occupancy within the central block between the two surveyed dates, when taking into account those car parks around the wider periphery, the parking occupancy at the start of the AM and PM peak period remains consistent.

Table 3 Occupied Parking Spaces Survey (central block plus periphery)

	7am	4pm
9 January 2020	79	327
11 December 2020	89	319
Difference	+10	-8

Based on the recent occupied parking spaces survey, and the traffic surveys undertaken in November 2019, the revised parking accumulation profile shows that the maximum number of occupied spaces is 322, which occurs at 9:50am. This indicates that based on current parking demands within the town centre, even with the loss of 89 parking spaces as a result of the planning proposal, there is sufficient spare capacity (surplus of 115 spaces).

For the full development of the CCCP, the proposed parking accumulation profiles are based on differing peak time activity for each use within the CCCP. The following assumptions were made in terms of arrival and departure times:

- Multifunction Hall – 8:30-9:30 (staff arriving) and 4:30-5:30pm (patrons arriving)
- Gallery – 8:30-9:30 (patrons arriving) and 4:00-5:00pm (patrons departing)
- For all remaining land uses, the development trips have been proportioned using the existing car park arrival and departure profiles

When taking into consideration the full development of the CCCP, based on the updated car park occupancy survey, the maximum number of spaces predicted to be occupied is 515 spaces which occurs at 9:50am. The future parking provision is as follows:

- The current masterplan for the town centre provides the following parking spaces:
  - Block bounded by Argyle Street, Margaret Street, Colden Street and Menangle Street (including the Picton Mall basement car park) is 397
  - Expanded Council staff car park at Margaret Street provide 36 (existing) plus 47 (proposed) = 83 spaces; and
  - New car park at the existing Council Deport site at Margaret Street to provide 34 spaces
- The total parking stock is therefore 514 spaces.

The predicted maximum occupancy of 515 therefore only just exceeds the proposed parking provision, representing a shortfall of a single space based on the predicted maximum parking demand for occasional peak occurrences.

Conclusion

The car park accumulation profile for existing traffic demands has been rebased using data from car park occupancy surveys undertaken in December 2020 to re-test prior survey data. The revised parking accumulation profile shows that the maximum number of occupied spaces within the block bounded by Argyle Street, Margaret Street, Colden Street and Menangle Street (including the Picton Mall basement car park) is 322, which occurs at 9:50am. The total number of parking spaces is 526. The effective loss of 89 parking spaces resulting from the construction of the administration building would therefore reduce the available parking stock to 437 spaces.

When taking into consideration the site specific parking issues relevant to the Planning Proposal (loss of existing parking and deficiency of administration building parking), then any proposed parking strategy to accommodate lost parking through provision of additional car park capacity on Menangle Street (81 additional spaces, which would have otherwise be taken up in the central block without this parking provision) is considered appropriate and will ensure the parking provision exceeds the greatest parking demand.

Whilst outside of the remit of this Planning Proposal, and particularly before Gateway, to address the parking demands for the entire CCCP, it is accepted that a more traditional parking survey could be explored as part of future planning applications. SLR's parking accumulation analysis has robustly identified that there are varying profiles and demands for parking in the precinct. The respective land uses and their varied parking demands are conducive to mixed use developments and precincts. Should future planning applications relating to other components or buildings in the CCCP require additional analysis, then the parking survey would need to capture parking occupancy at regular intervals, and specific zones (including details on any restrictions), and should be undertaken over a longer period e.g. 16 hour period (6am-10am) to fully understand parking demands during the early morning/ late evening within the town centre. SLR considers this not strictly necessary given that the analysis has carefully considered the peak and off peak demands that drive parking supply in the CCCP and surrounds and the analysis has been catered to analyse peak periods.

Item 3.2.1 – Access Arrangements

The access location appears to be situated directly opposite the entrance to the basement car park for Picton Mall. It is desirable to offset these driveways to minimise conflicts arising from through movements between these sites.

Clarification may be required as to whether the AIMSUN software model will need to updated, noting potentially different movements at the intersection of Manolis Lane and Colden Street.

See response to Item 2.3.

The Aimsun model currently assumes access/ egress to the basement car park will be via Manolis Lane. Based on the predicted traffic demands travelling to/ from the basement car park, the precise location and arrangement of any access/ egress has been conceptually assessed to be optimal and it is not considered to be critical at this stage of the design process, and can be considered further once access arrangements have been developed to sufficient detail post-Gateway.

Item 3.2.2 – Parking Layout

The concept layout of the basement car park for the new administration building shows limited detail regarding the accesses and circulation between levels. This is needed in order to confirm that the intended yield of 78 spaces is achievable.

E8urban have driven the design and development of the CCCP masterplan from its inception. The development of the Planning Proposal documentation represents the next design evolution of the masterplan in order to further consider the merits and potential impacts arising from the proposed development. A conservative parking rate was utilised to estimate the parking spaces against the basement area. Resolution of parking design and necessary plans is not appropriate for a Planning Proposal, particularly before Gateway. The conservative rate applied to the parking area could result in additional parking spaces but for contingency we have maintained a 78 parking capacity. Furthermore, SLR analysis has revealed sufficient parking supply in the CCCP area.

Item 3.2.3 – Service Vehicles

The Planning Proposal should address servicing vehicle provisions either for the new administration building in isolation or as an integrated solution for the CCCP, as required under the DCP.

Whilst service vehicle access is unlikely to be accommodated within the building as this will negatively affect urban design, maximum building heights and building efficiency, there are potential locations around the CCCP to accommodate an appropriate servicing strategy whether that be for the new administration building in isolation or for the CCCP. The servicing strategy is a matter that can be incrementally considered and resolved at Post Gateway and/ or Development Application. In this preliminary stage, we believe a logical location would be away from the plaza and away from Colden Street to mitigate conflicts and impacts. This is driven by the desire to have active edges around the plaza address and avoid a conflict with the Coles access point and can be tested further in next iterations of documentation.

Item 3.3.1 – Trip Generation

Further justification should be given for the adopted trip rates, including why any Transport for NSW based trip rates are unsuitable for the nature of use or site location.

With the exception of the Multifunction Hall and Gallery, all trip rates have been extracted from TDB survey data, where the source of the data is TfNSW.

Item 3.3.3 – Intersection Modelling

The AIMSUN intersection network model only adopts development volumes for the year 2036, when all upgrades for the Picton Town Centre have been assumed to be completed. Testing however should be undertaken for the 2019 (i.e. existing) scenario or an intermediate scenario (with partial network upgrades) to confirm whether the CCCP can operate with acceptable traffic impacts before all of these upgrades have been implemented.

Council's position is that all of the infrastructure changes included in the DM scenarios are fully funded and will be constructed prior to 2036. The changes, as outlined in the TTR are as follows:

- Realignment of the Argyle Street/ Lumsdaine Street intersection, to include signal control;
- Proposed improvements to the Argyle Street/ Prince Street intersection;
- Proposed upgrade to signal control at the Menangle Street/ Prince Street intersection; and
- Right turn ban to traffic turning from Menangle Street at the Argyle Street/ Menangle Street intersection.

Based on the above advice from Council, the current assumptions included in the future DM model are deemed to be appropriate. The Aimsun model could be adapted further as part of future development applications post Gateway to include other road improvement works, such as those highlighted in the Peer Review:

- Relocation of pedestrian crossing on Argyle Street;

- Colden Street 'bypass' and intersection modification of Argyle Street and Menangle Street. Approved by Local Traffic Committee, and Transport for NSW have offered to carry out detailed design and implementation (expected to commence early 2021); and
- Funding secured for Barkers Lodge intersection detailed design.

Additional information should be documented regarding the modified Aimsun network model prepared by SLR Consulting, including information regarding the calibration and validation results for all time periods and justifications for any departures from the TfNSW Guidelines or changes to the intersection phasing arrangements.

Item 4.2.1 – Overall Comments

The Aimsun microsimulation model used to assess the ultimate development is based on Council's adopted Aimsun model, which in turn was used to assess the proposed road improvements considered within the Picton Town Centre 2026 Transport Plan. Whilst it is accepted that TfNSW's guidance normally calls for full calibration and validation of each hour within the overall morning and evening periods, the analysis undertaken as part of the 2026 Transport Plan only considered the peak hours within these periods in order to focus on scenarios or periods where impacts are most apparent. The analysis undertaken as part of this Planning Proposal has therefore sought to maintain the same process for consistency.

Item 4.2.2 – Report Comment 1 – Rebase Model

Similarly, disaggregated travel time results were not presented as part of the calibration/ validation exercise for Council's adopted model, instead electing to present the results across three corridors

- Route 1 (northbound) – Menangle Street to Argyle Street (between Prince Street and Regreme Road)
- Route 1 (southbound) – Argyle Street to Menangle Street (between Regreme Road and Prince Street)
- Route 2 (northbound) – Argyle Street (between Prince Street and Menangle Street)
- Route 2 (southbound) – Argyle Street (between Menangle Street and Prince Street)
- Route 3 (eastbound) – Prince Street (between Argyle Street and Menangle Street)
- Route 3 (westbound) – Prince Street (between Menangle Street and Argyle Street)

The travel time routes have therefore been maintained to ensure consistency with previous reporting.

The median seed to test the base and future scenarios are presented in Table 4.

Table 4 Aimsun Model – Median Seed Selection

	AM	PM
2019 Base	28	7771
2036 DM	86524	86524
2036 DM + Development	2849	7771

Item 4.2.3 – Report Comment 2 – Future Model

With the exception of westbound travel time along Prince Street (Route 3), all travel times across the DM and DM with Development scenarios are broadly consistent, fluctuating by approximately +5/-5 seconds. This demonstrates that the network is operating within capacity (as demonstrated by the delay/ LOS values in the Tables 21 and 22 of the TTR), even with the additional traffic generated by the development.

The westbound travel time on Prince Street is particularly sensitive to right turn movements on to Argyle Street. Depending on the arrival profile in the given scenario, traffic turning left from Prince Street, can on occasion be delayed by this right turning traffic.

Item 4.2.4 – Model Comment 1 – Rebase Model

- As noted previously, the rebased model is based on Council's adopted Aimsun model. Both public transport and steep gradients were not implicitly included, and therefore have not been carried over the Aimsun model used to assess the Planning Proposal.

Item 4.2.5 – Model Comment 2 – Future Model

- The network changes relate to key developments included in Council's adopted Aimsun model. These include:
  - Abbotsford, located just to the northwest of Picton with access off Bakers Lodge Road;
  - Mushroom Tunnel, located to the west of Picton with access off the Argyle Street / Lumsdaine Street intersection;
  - Picton East, located to the east of Picton with access from Margaret Street, Baxters Lane and a new connection on Menangle Street; and
  - Stonequarry Commercial, located to the west of Picton town centre with access onto Elizabeth Street
- The extra development trips in the Aimsun model (286 vehicles in the 3hr AM and 380 vehicles in the 2hr PM period) is constant with the proposed parking accumulation profile in Figure 8 of the TTR.
- The signal coding at the Argyle Street/ Margaret Street intersection for the DM scenarios reflects the timing information present in Council's adopted Aimsun model.

It is proposed that further refinements to the model to address any remaining items, including future commentary expected by TfNSW (see TfNSW comment no. 4) will be considered as part of any further modelling required to support any development applications post Gateway.

3 TfNSW Detailed Comments

This section of the memorandum specifically relates to the detailed comments received from TfNSW dated 9 December 2020, a copy of which is provided at Attachment B (TfNSW Reference: SYD20/01254/01). The relevant traffic and transport matters presented therein are reproduced in ***bold italics*** followed by individual responses to each item. The items raised should be interpreted in the context established by the original Traffic and Transport Report (SLR Consulting, 27 May 2020).

1. Consideration should be given to the provision of pedestrian refuges to assist pedestrians in crossing the local roads and to encourage mode shift through safe crossing opportunities to access the site. We recommend this is discussed with Council (traffic team).

Any requirements for providing pedestrian refuges will be considered post Gateway as part of any future development application.

2. TfNSW recommends a site specific Development Control Plan (DCP) accompanies this planning proposal to set out the access points, service vehicle arrangements and travel demand management measures to guide the assessment of the future development application(s).

A site-specific DCP is not deemed necessary at this planning phase, as the Council Administration Building is in an early concept development phase requiring further resolution in future development phases. Resolution of access, service vehicle and travel demand arrangements has been or can be demonstrated to be able to be satisfied as part of the Planning Proposal process. A DCP is not necessary to enforce or ensure that particular design arrangements carry through in a future Development Application. Therefore, formalisation of the access arrangements can be undertaken post Gateway.

A site specific DCP, should it be deemed necessary should be overarching and be prepared holistically and adopted for all land uses in the CCCP and be developed in unison for Development Application phases for the Precinct to effect consistency and uniformity with design language, principles and objectives.

3. The intersection performance should be modelled to assess the impact of the development on the network in the absence of the Picton Town Centre Transport Plan 2026 network improvements (realignment of the Argyle Street/ Lumsdaine Street intersection to include signal control; proposed improvements to the Argyle Street/ Prince Street intersection; right turn ban to traffic turning from Menangle Street at the Argyle Street/ Menangle Street intersection; and proposed upgrade to signal control at the Menangle Street/ Prince Street intersection). TfNSW notes that the status of proposed changes to the road network outlined within the Picton Town Centre Transport Plan 2026 are uncommitted/unfunded, as it was prepared "to discuss this plan with elected members and the wider community, with a view to securing support and funding to allow delivery of the plan by 2026".

As these improvements are not funded at this stage, modelling should be conducted to assess and document the impact of the planning proposal on the road network without these improvements in the event they are not delivered.

See response to Peer Review Item 3.3.3.

4. TfNSW requests that the electronic copies of the AIMSUN modelling files (and any model development/calibration and validation report) are provided for our review and comment.

See attached.

5. Table 12 of the Traffic and Transport Report – Trip rates: The trip rate assumed (presumably vehicle trip rate) for Administration Building (1.65 vtph AM and 1.28 vtph PM per 100sqm) appears to reflect the average rate for office premises from the former RMS TDT 2013/04a Updated Traffic Surveys. It should be noted that the mode share of the localities surveyed had high public and active transport mode share and were mostly in close walking distance to high frequency heavy rail services in Sydney. It is not expected that these rates would be reflective of the subject locality which has an approximate mode share of 4.74% to public transport for travel to work according to ABS Census data from 2016. We recommend that a rate is sourced from a comparable site with consideration to mode share and accessibility factors.

The trip rates have been extracted from the TDB database, with all data sourced by TfNSW i.e. the 10 office sites referenced in RMS' TDT 2013/04a Updated Traffic Surveys. The three sites with the greatest public transport mode split (above 50%) were discarded. The average public transport mode split of these remaining sites is 11% which is considered to be broadly in line with the TtoW data from the 2016 Census for the subject locality.

6. An appropriate funding mechanism should be in place to help ensure that developer contributions are obtained on an equitable basis for the provision of state and regional transport infrastructure required to support development uplift and future growth in the Picton Town Centre.

Statutory obligations for development contributions are in place and shall be applied accordingly to the future development as part of future planning applications. The development is not expected to trigger regional transport requirements, as this is typically required of regionally significant development and/or developments where considerable traffic demand affects a region, say master planned communities like Bingara Gorge.