



Memorandum

23 March 2021

To NSW Department of Education

Copy to

From Mark Leigh-Lucas

Tel +61 2 92397141

Subject Bungendore High School Traffic Assessment
Summary

Job no. 12548316

1 Introduction

In February 2021, GHD prepared a Traffic Impact Assessment (TIA) to support the application for the development of a new high school in Bungendore. This memo summarises the processes and outputs of the TIA.

The new high school in Bungendore is planning to accommodate approximately 400 – 450 students. However, for the purposes of analysis and to provide a robust assessment, a more conservative student population of 660 has been used in the analysis described below in this memo.

The new high school in Bungendore is bounded by Butmaroo Street, Turallo Terrace, Majara Street and Gibraltar Street.

2 Data Collection

To identify the existing traffic conditions in proximity to the proposed new high school in Bungendore subject site during weekday AM and PM peak periods (8:00 am – 9:30 am and 2:30 pm – 4:00 pm), traffic counts were undertaken at the following intersections on Thursday 5th November 2020, as displayed in Figure 1.

1. Turallo Terrace/Butmaroo Street
2. Turallo Terrace/Majara Street
3. Gibraltar Street/Butmaroo Street
4. Gibraltar Street/Majara Street
5. Kings Highway/Butmaroo Street
6. Kings Highway/Majara Street

12548316-91231-1/12548316 MEM Bungendore Traffic Summary.docx

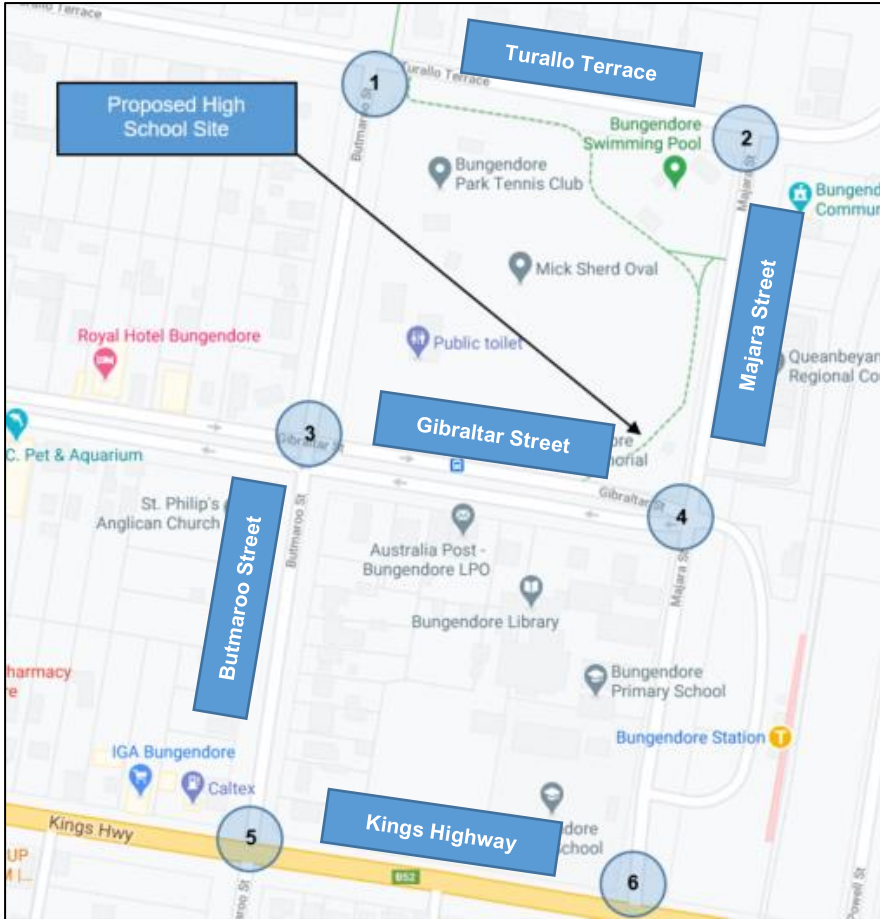


Figure 1 Traffic Survey Locations

The surveys were undertaken on the 5th November 2020 to capture the activity associated with the adjoining Bungendore Primary School and Bungendore Town Centre.

3 Traffic Generation and Distribution

To be conservative, an annual growth rate of two percent was applied to the current traffic volumes to identify the horizon year baseline traffic volumes and account for the expected growth in Bungendore.

Based on the current journey to work data for Bungendore (2016 census) and accounting for parents having multiple children attending different grades, the proposed high school is expected to generate:

- 330 trips in the AM peak (inbound and outbound).
- 283 trips in the PM peak (inbound and outbound).



Memorandum

The trips generated by the school were distributed onto the local road network in accordance with the location of key residential areas within Bungendore, in the context of their location to the proposed high school.

4 Traffic Impacts

The operation of the intersections of interest were assessed in the 2036 horizon year using SIDRA 9.

SIDRA calculates the amount of delay to vehicles using an intersection and, amongst other performance measures, gives a Level of Service (LoS) rating, which indicates the relative performance of traffic movements within the intersection.

There are six LoS measures ranging from A (very low delay and very good operating conditions) to F (over saturation where arrival rates exceed intersection capacity).

Intersection analysis, using the SIDRA 9 modelling software, was undertaken in the 2036 horizon year for the following two scenarios:

- A “no-build” scenario, accounting for the background traffic growth (which includes the current activity at the adjoining Bungendore Primary School, plus an assumed two percent annual increase in background traffic).
- A “build” scenario, accounting for the background traffic volumes, traffic growth rate and the trips associated with the proposed new high school in Bungendore.

The “no-build” scenario also accounted for some proposed residential developments (as detailed in the 2048 Structure Plan) at Bungendore East and North Elmslea.

The SIDRA outputs indicate that the six intersections of interest are expected to operate with spare capacity and minimal delays. This is at an “A” level of service during the morning and afternoon peak periods and takes into account projected population increase out to 2036.

These intersections are expected to provide this “A” level of service both with and without new trips generated by the new high school in Bungendore.

Accordingly, it is expected that the new high school in Bungendore will have a negligible impact on the operation of the adjoining road network.

Regards

A handwritten signature in black ink that reads 'Mark Lucas'.

Mark Leigh-Lucas

Senior Transport Planner