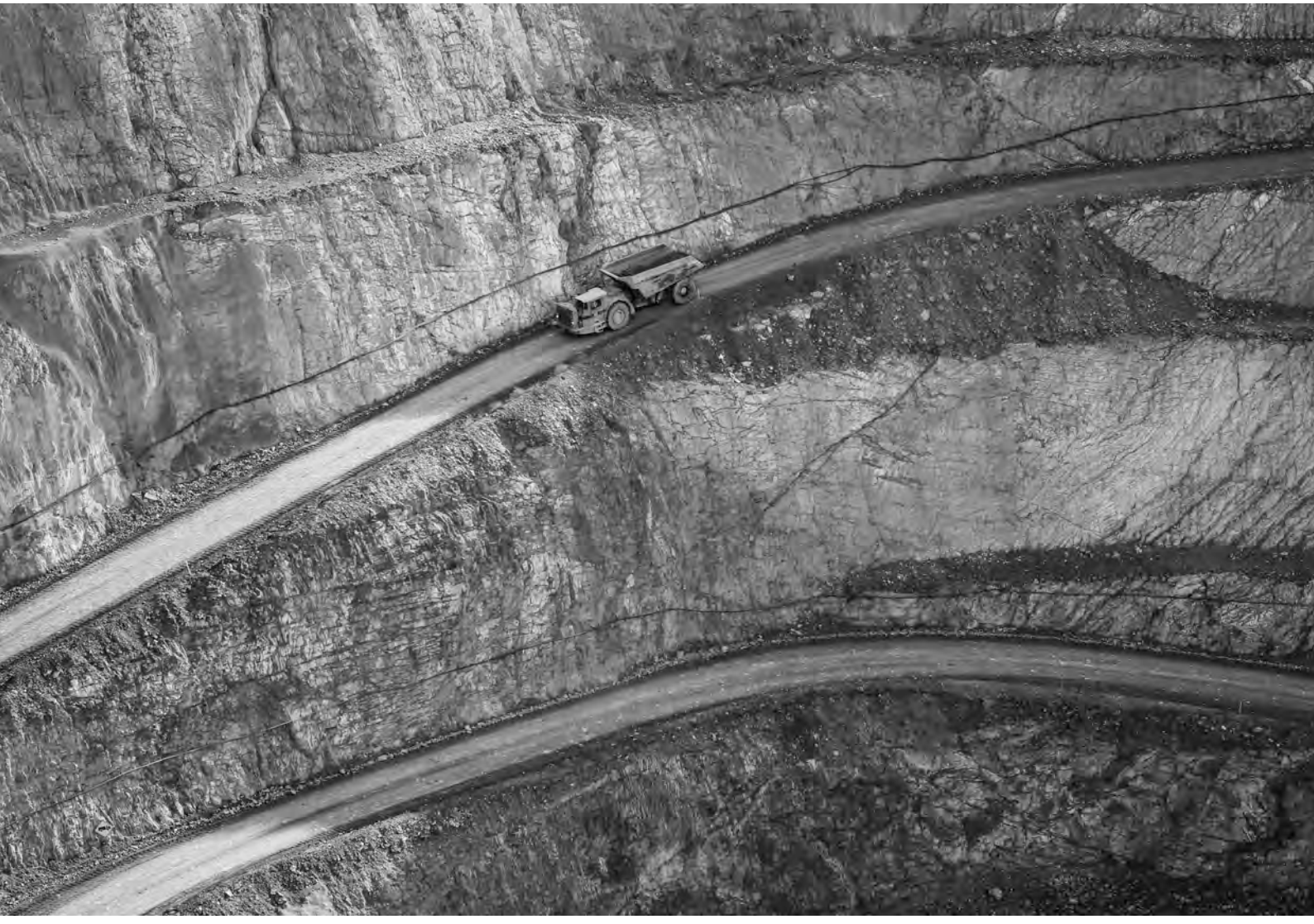
Appendix M

Traffic and transport assessment



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aurelia
METALS Ltd.

New Cobar Complex Project State Significant Development (SSD-10419)

Traffic impact assessment

Prepared for Peak Gold Mines Pty Ltd
December 2020

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New Cobar Complex Project State Significant Development (SSD-10419)

Traffic impact assessment

Report Number

J190278 RP9

Client

Peak Gold Mines Pty Ltd

Date

18 December 2020

Version

v4 Final

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18 January 2020

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1 Introduction

1.1 Overview

Peak Gold Mines Pty Ltd (PGM), a wholly owned and operated subsidiary of Aurelia Metals Limited (Aurelia), owns and operates the Peak Gold Mines operation south-east of Cobar, far western New South Wales (NSW) (see Figure 1.1).

The PGM operation comprises the New Cobar Complex located 3 kilometres (km) to the south-east of Cobar town centre and the Peak Complex located 10 km south-east of the town centre. Both complexes are located adjacent to Kidman Way, which connects Cobar to Hillston and Griffith to the south.

PGM has been operational since modern mining commenced at the Peak Complex in 1991 and all current mining operates under development approvals issued by Cobar Shire Council (CSC).

The New Cobar Complex Project State Significant Development (SSD) (the project) is an amalgamation of underground mining at New Cobar, Chesney and Jubilee deposits and development of new underground workings of the Great Cobar and Gladstone deposits to create the New Cobar Complex Project.

PGM is also seeking to consolidate all existing development approvals applicable to the New Cobar Complex into a single modern consent issued by the Department of Planning, Industry and Environment (DPIE). Approval will be sought for project elements accessed from, and undertaken within, the existing New Cobar Complex located within consolidated mining lease (CML) 6, mining purposes lease (MPL) 0854 and mining leases (ML) ML 1483 and ML 1805 (see Figure 1.2).

1.1.1 Background

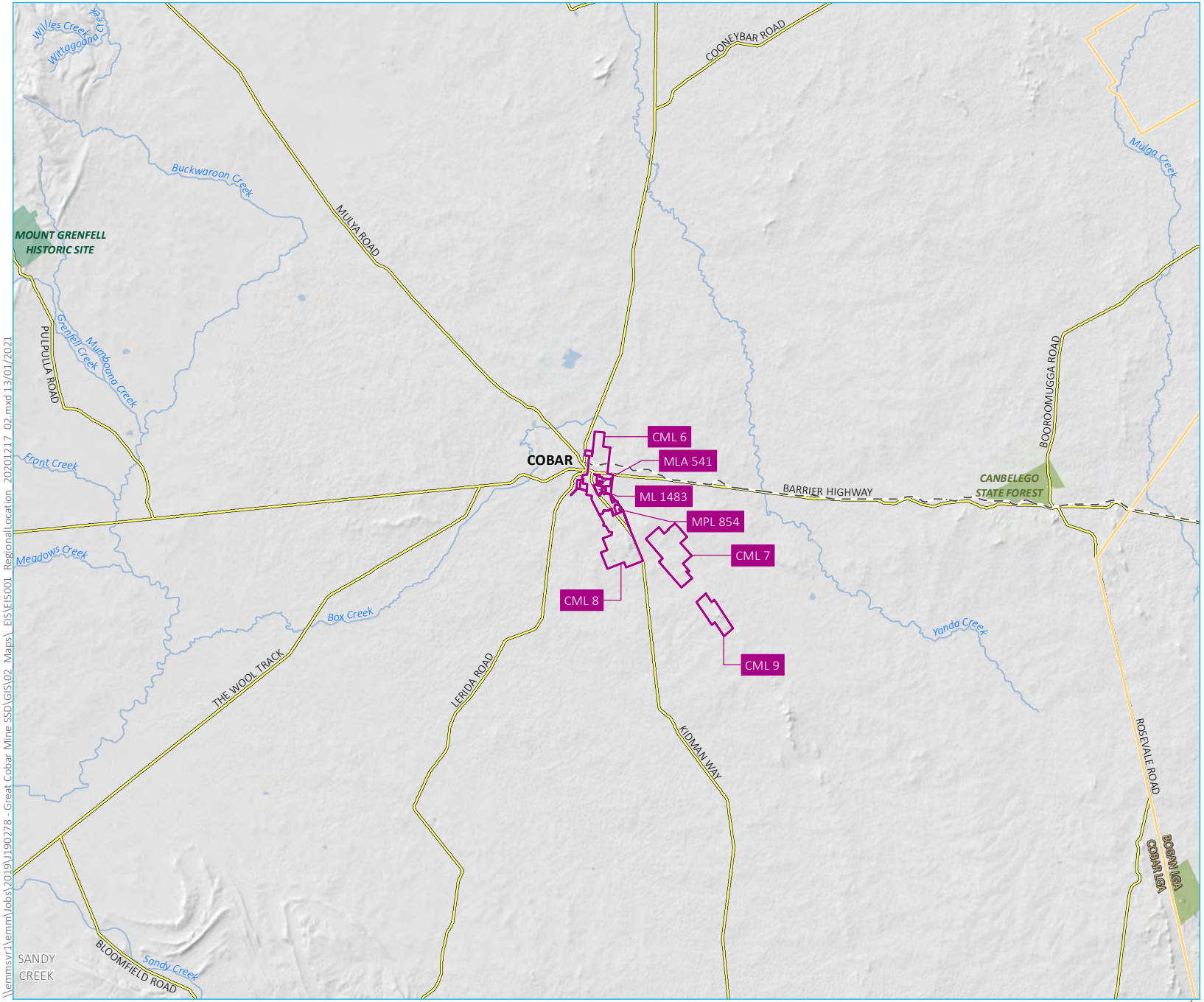
PGM has been operational since mining commenced at the Peak deposit in 1991 producing gold, copper, lead, zinc and silver. Mining at the New Cobar Complex commenced with the open cut pit in 2000, then transitioned to underground mining in 2004.

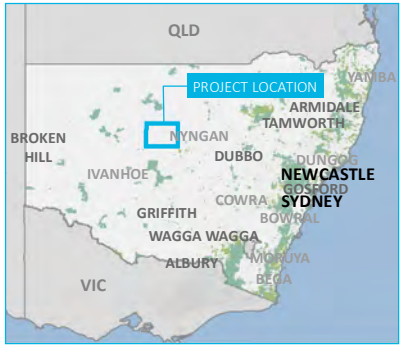
The current CSC development approvals at Peak Complex and New Cobar Complex allow for the operations to continue indefinitely and process up to 800,000 tonnes per annum (tpa) of ore. Ore processing, tailings storage and concentrate handling is undertaken at the Peak Complex with ore from the New Cobar Complex trucked by public road to processing facilities at the Peak Complex. Both the processing plant and the tailings storage facility (TSF) are located at the Peak Complex, and activities at those facilities are outside the scope of this project.

PGM has identified the Gladstone and Great Cobar deposits as targets for further mining to extend the life of operations at the New Cobar Complex. The Great Cobar deposit was historically exploited by surface and shallow underground mining between 1870 and 1919, but no mining of that deposit has been undertaken since that time.

PGM has obtained conditional approval for development of an exploration decline to facilitate exploration activities within the Great Cobar deposit. The objectives of the exploration activities are to:

- further define the mineral resource through underground drilling from an exploration decline; and
- taking of a bulk sample to provide further samples for metallurgical, geotechnical and associated test work.





KEY

- Mining lease boundary
- Rail line
- Major road
- Named watercourse
- Waterbody
- Local government area
- NPWS reserve
- State forest

Source: EMM (2020); DFSI (2017); GA (2011); DPE (2019)

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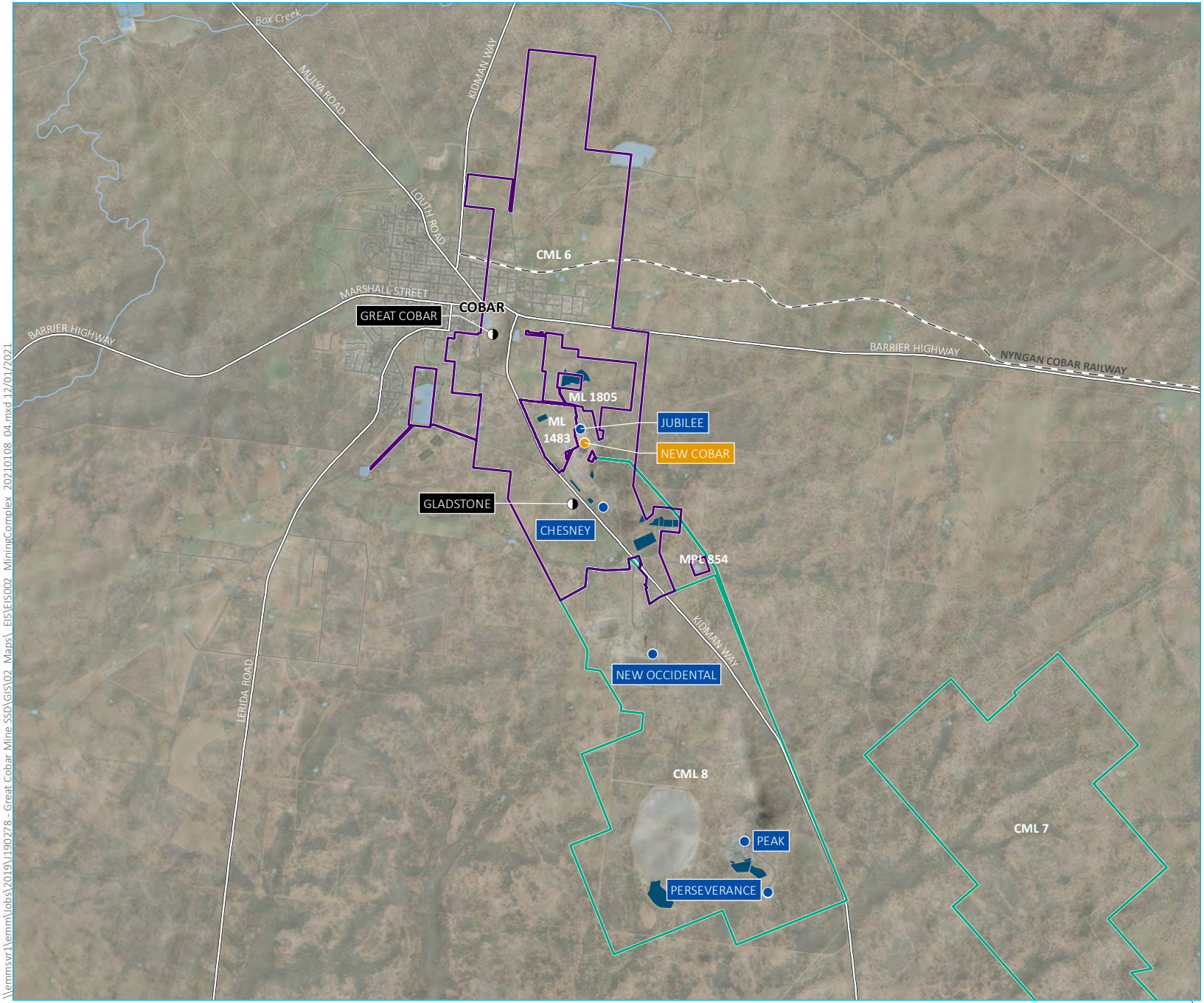
Regional location of the Peak Gold Mine

Peak Gold Mines
New Cobar Complex Project
Traffic impact assessment
Figure 1.1

EMM creating opportunities



KEY

- Completed working
- Current working
- Future working
- Rail line
- Major road
- Minor road
- Named watercourse
- Waterbody
- Mine water management storage

Mining lease boundaries

- New Cobar Complex
- Peak Complex

Source: EMM (2020); DFSI (2017); GA (2011); DPE (2019)

0 1 2 km

GDA 1994 MGA Zone 55

N

Mining leases and mining complexes

Peak Gold Mines
New Cobar Complex Project
Traffic impact assessment
Figure 1.2

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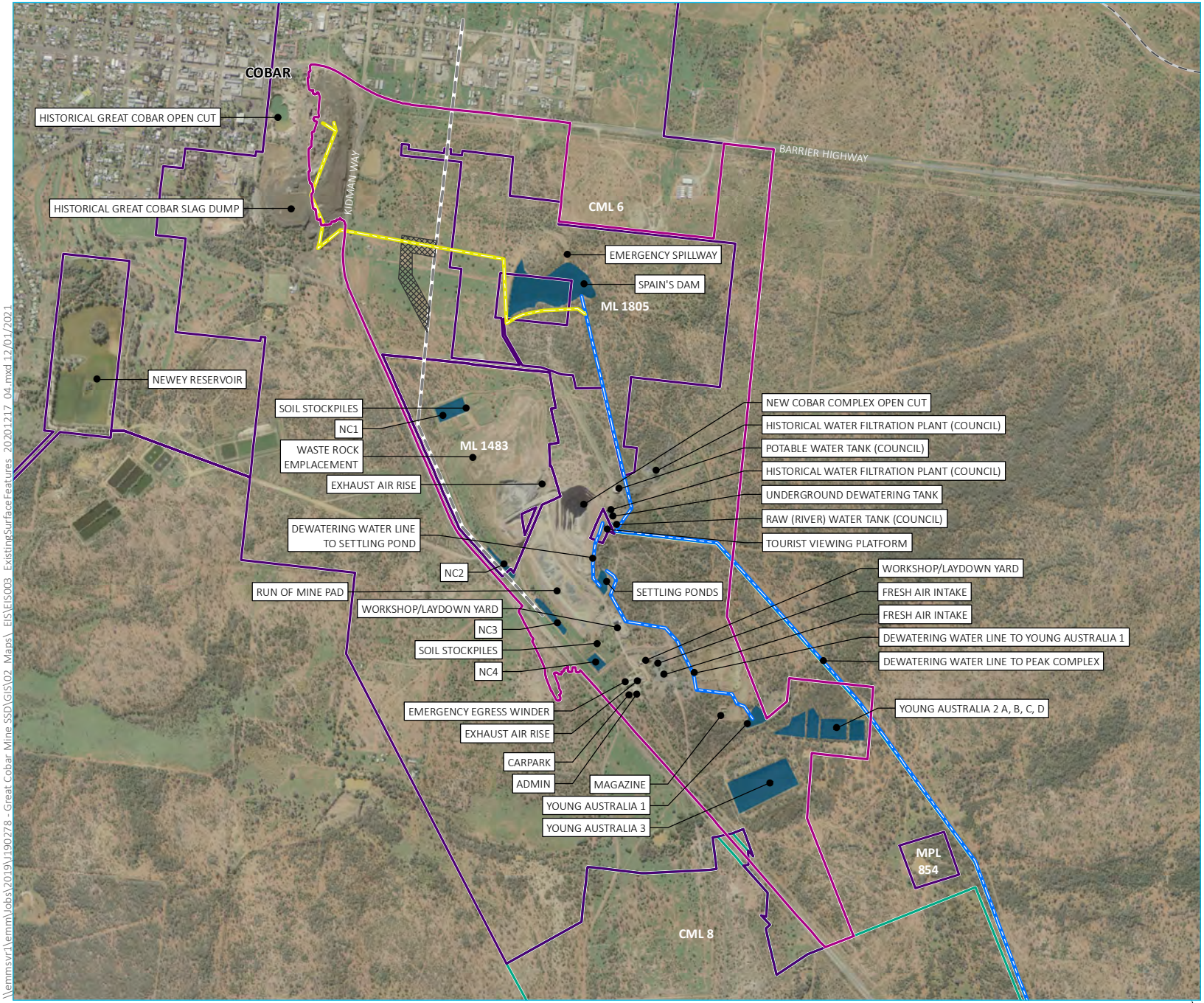
1.1.2 Project overview

All surface works associated with the project will be located underground or in the existing, operational mining New Cobar Complex except for a short (no more than 400 m) power line from an existing 22 kV line servicing PGM to a compact substation within the fresh air intake footprint.

PGM proposes to use the decline, infrastructure and intake and exhaust ventilation elements developed for the Great Cobar exploration drive (approved, but not yet constructed) to facilitate project development. Surface ventilation fans are not required during the development of exploration activities, however as they will be necessary during operation of mining, construction of a new powerline and compact substation, to be located adjacent to the fresh air intake is required. The power line will continue to the exhaust air rise where a ventilation fan will be installed at a depth of approximately 100 m or greater below ground level (bgl). An emergency egress winder headframe and winder house will be installed at the fresh air intake for the purpose of mine rescue in the event of an incident below ground preventing evacuation by conventional means. No additional new surface infrastructure is proposed.

The existing surface infrastructure and facilities at the New Cobar Complex currently support underground mining of the New Cobar, Chesney and Jubilee deposits, and will continue to be used for this project (Figure 1.3 and Figure 1.4). Access to all underground workings in the complex is from a portal and decline at the base of the New Cobar Complex open cut. SSD approval will be sought for the following project elements accessed from, and undertaken within, the existing New Cobar Complex:

- Underground mining of the New Cobar Complex including, but not limited to, New Cobar, Jubilee and Chesney (existing development approval issued by CSC).
- Underground mining of the New Cobar Complex including Great Cobar and Gladstone (not yet approved).
- Groundwater dewatering of the relevant historic and proposed underground workings via the historic Great Cobar Shaft (existing development approval issued by CSC).
- Increase of the number of ore haulage trucks between the New Cobar Complex and Peak Complex from 25 loaded trips per day (50 movements in and out) to 50 loaded trips (100 movements in and out) per day (daylight hours only) averaged over a calendar year. The increase of daily truck movements will provide flexibility to PGM if there are unforeseen production disruptions (eg bad weather).
- Crushing and screening of ore within the existing New Cobar Complex ROM pad (existing approval by CSC).
- Transportation of ore to the Peak Complex via Kidman Way for processing, using road registered heavy vehicles (existing approval by CSC).
- Harvesting of waste rock and:
    - immediately deploying the material underground for use in stope backfilling operations (waste rock will remain underground and will not be transported to the surface as a preference); and
    - transportation of non-acid forming material to the surface and storage within the existing waste rock emplacement (WRE) prior to use across the complexes for construction / rehabilitation tasks (eg tailings dam lifts).
- Deposition of potentially acid forming waste rock brought to the surface and stored within the WRE where at end of mine life it would be capped, or progressively returned underground for disposal.
- Continuation of all other approved activities within the New Cobar Complex.



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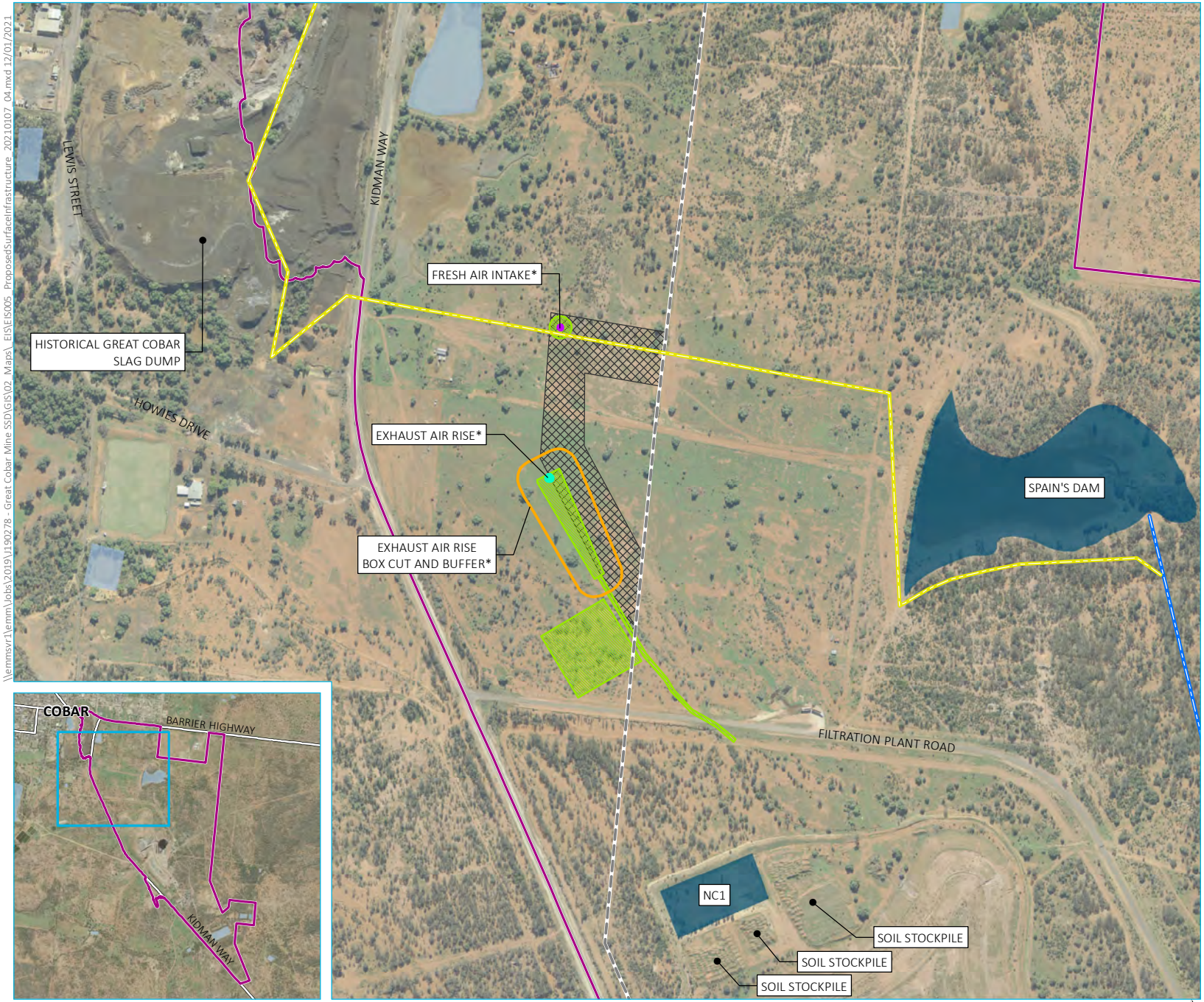
Source: EMM (2020); DFSI (2017); GA (2011); DPE (2019)

Existing surface features

Peak Gold Mines
New Cobar Complex Project
Traffic impact assessment
Figure 1.3

EMM creating opportunities



KEY

- Project area
- Major road
- Existing indicative pipeline route
- Existing Great Cobar dewatering pipeline
- Existing 22 kV powerline
- Exhaust air rise*
- Exhaust air rise buffer*
- Fresh air intake*
- Proposed power line corridor
- Waterbody
- Mine water management storage
- Area of approved vegetation clearance (indicative)*

*Approved under existing REF approvals, but not yet constructed.

Source: EMM (2020); DFSI (2017); DPE (2019); ELA (2018)

0 100 200 m

GDA 1994 MGA Zone 55

N

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Proposed surface infrastructure

Peak Gold Mines
New Cobar Complex Project
Traffic impact assessment
Figure 1.4

EMM creating opportunities

Processing will remain at the Peak Complex at the existing approved rate of up to 800,000 tpa, with production of ore from the Great Cobar and Gladstone deposits making up for the future decrease in production from other workings across PGM.

Additionally, there are remaining resources in the New Cobar, Jubilee and Chesney deposits that are mineral rich, but which are currently not economical to mine in isolation. Keeping the New Cobar Complex operational and gaining access to Great Cobar and Gladstone deposits will lead to increases in economies of scale and maximise opportunities to mine these resources, and keep PGM operational until 2035.

1.2 Purpose of this report

EMM Consulting (EMM) has been engaged by PGM to prepare and submit an environmental impact statement (EIS) to support an SSD application for development consent under section 4.12 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). It has been prepared to the form and content requirements set out in clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) as well as clause 8(1) and clause 5 of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). The Peak Complex, which is not part of this SSD application will continue to operate under local government (CSC) approvals, as there is no proposed change to this arrangement.

PGM requested Secretary's Environmental Assessment Requirements (SEARs) from DPIE for the SSD EIS in December 2019; these were received in February 2020, and were re-issued in October 2020 following the receipt of a Biodiversity Development Assessment Report (BDAR) waiver. The SEARs included a requirement to assess potential traffic risks associated with the construction and operation of the project. This traffic impact assessment (TIA) has been prepared to address the relevant SEARs, provide information to be used in the EIS and support the SSD application for the project. The traffic related matters and EMM responses are tabulated below (Table 1.1).

Table 1.1 Traffic related SEARs and EMM responses

Item no.	Authority comments	EMM responses
1	Details of traffic types and volumes likely to be generated by the Project	Refer to sections 3.2 and 4.6.
2	An assessment of the likely transport impacts of the development on the capacity, condition, safety and efficiency of the road network	Traffic impact assessment has been undertaken in section 4.
3	A description of the measures that would be implemented to mitigate and/ or manage any impacts, including any proposed upgrades, road maintenance contributions, and any other traffic control measures developed in consultation with the relevant road authority	Mitigation measures have been outlined in section 4.7 and 0.

In addition to above SEARs, Transport for NSW (TfNSW) in its letter dated 6 May 2020 has raised additional comments. TfNSW comments and EMM responses are provided below (Table 1.2).

Table 1.2 TfNSW requirements and EMM responses

Item no.	Authority comments	EMM responses
1	A traffic impact study prepared in accordance with the methodology set out in Section 2 of the *RTA's Guide to Traffic Generating Developments 2002*, including: • Hours and days of construction. • Schedule for phasing/staging of the Project(s). • Traffic volumes: – Existing background traffic. – Project-related traffic for each stage of the Project including construction, operation and – decommission. – Projected cumulative traffic volumes.	This traffic report has been prepared in accordance with *RTA's Guide to Traffic Generating Developments 2002.* Refer to section 3.4 for construction related traffic. Existing and project related traffic volumes have been discussed in sections 2.4 and 3.2. Cumulative traffic impact assessment has been undertaken in section 4.8.
2	Traffic volumes are to also include a description of: • Ratio of light vehicles to heavy vehicles. • Peak times for existing traffic. • Peaks times for Project-related traffic. • Transportation hours.	There will be no additional operational light traffic generation as part of the project. Regarding heavy vehicle generation, refer to section 3.1. There is no definite peak traffic generation for this site. Transportation hours for the site is during daylight hours.
3	Project-related traffic interaction with existing and projected background traffic.	Project related traffic and its interaction with site traffic has been analysed in section 4.1.
4	The origin, destination and routes for: • Employee and contractor light traffic. • Haulage vehicles.	The origin and destination of traffic is between New Cobar and Peak Complexes along Kidman Way. This is the only haulage route. There is no additional light traffic generation as part of the project.
5	A description of all over size and over mass vehicles and the materials to be transported, including proposed travel routes.	There will be no oversize delivery vehicles associated with this project.
6	The impact of traffic generation on the public road network and measures employed to ensure traffic efficiency and road safety during construction, operation and decommissioning of the Project.	Traffic impact assessment has been undertaken in section 4.
7	The need for improvements to the road network, and the improvements proposed such as road widening and intersection treatments, to cater for and mitigate the impact of Project related traffic.	Mitigation measures has been outlined in section 4.6.
8	Proposed road facilities, access and intersection treatments are to be identified and be in accordance with Austroads Guide to Road Design including Safe Intersection Sight Distance (SISD).	Sight distance assessment has been undertaken in section 4.4.
9	The layout of the internal road network, parking facilities and infrastructure within the Project boundary.	There are no changes to the existing internal road network.

Table 1.2 TfNSW requirements and EMM responses

Item no.	Authority comments	EMM responses
10	An assessment of the likely risks to public safety, in particular, transport and use of any dangerous goods, and in accordance with State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and transporting reagents in accordance with the requirements of Australian Dangerous Goods Code and Australian Standard 4452 Storage and Handling of Toxic Substances.	All ore processing occurs at the Peak Complex, which operates under existing local government approvals. As there is no processing at the New Cobar Complex, the transport of reagents is not necessary, and therefore is not addressed. Explosives are transported to the New Cobar Complex by Road. These risks are dealt with by the project's preliminary hazard assessment.
11	Identification and assessment of potential impacts of mining operations, such as blasting, lighting, visual and drainage, including the pipeline development on the function and integrity of all affected roads.	This is beyond the scope of this report and will be covered in other assessment reports (eg Noise, vibration and blasting and, visual and lighting).
12	Assessment of the impacts of lighting at the site from public roads and potential mitigating measures such as establishing visual screens, construction of buildings and structures using non-reflective cladding and colours to minimise impacts.	Night-time lighting assessment is beyond the scope of this report.
13	Local climate conditions that may affect road safety for mine related traffic during construction, operation and decommissioning of the Project (e.g. fog, wet and dry weather).	Approval is sought during daylight hours. The haulage route is predominately sealed excluding the last few hundred metres onsite and therefore inclement weather will not create additional issues for trucking. Trucks are always covered such that there is no dust on the public roads.
14	Details of any proposed or existing pipeline or other utility crossings of public roads.	This is beyond the scope of this report and will be covered in other assessment reports.
15	A Traffic Management Plan (TMP) developed in consultation with CSC and TfNSW. The TMP is to identify and provide management strategies to manage the impacts to Project related traffic, including: • Haulage of materials to site. • The management and coordination of construction and staff vehicle movements to and from site and measures to be employed to limit disruption to other motorists. The management of construction staff access to the work site is to include strategies and measures employed to manage the risks of driver fatigue, road hazards and driver behaviour. This is to include a Driver Code of Conduct.	A TMP will be prepared to manage project related traffic within the project area and the surrounding road network during construction and operation. The TMP will address matters listed in the project development approval conditions and the other key issues identified by TfNSW.

1.3 Traffic impact study assessment methodology and scope

This TIA has been prepared generally in accordance with the requirements of the NSW Government's *Guide to Traffic Generating Developments* (2002) (originally prepared by the NSW Roads and Traffic Authority (RTA), now TfNSW), and incorporated the following investigations and analysis:

- background traffic data review;
- site inspection, field surveys and current traffic surveys;

- consultation with CSC and TfNSW;
- swept path intersection analysis
- signalised and unsignalized intersection design and research aid (SIDRA) intersection analysis; and
- future road upgrade requirements and maintenance impacts.

A visual inspection of the primary affected road, Kidman Way between the Peak Complex, the New Cobar Complex and Cobar town centre has been undertaken to confirm the current general road widths and traffic conditions for these routes and photographs have been taken at the key project access intersections.

Previous TfNSW and CSC traffic survey data for the study area road network has been reviewed and utilised to confirm the current road network daily and peak hourly traffic volumes, which enables the project workforce access and product transport generated traffic impacts to be assessed.

The TIA primarily considered the effects of the following project components:

- the increase of the currently capped 25 trips (50 movements in and out) to 50 trips (100 movements in and out) per day, during daylight hours only, averaged over a calendar year for ore transport movements between New Cobar Complex and Peak Complex. The increase in maximum daily truck movements will provide greater operational flexibility to PGM, eg catching up production following any disruption of the mine production, eg due to bad weather or trucking of waste rock for use in construction or backfill operations. The production rate will be unchanged;
- loaded trucks travelling from New Cobar Complex to Peak Complex and empty trucks returning from the opposite direction (backloading of waste rock may occur from time-to-time). Each trip equates to two movements (in and out);
- traffic associated with the construction of the power line, ventilation fan installation for the exhaust air rise, emergency egress winder, winder house and pad-mounted compact transformer; and
- cumulative effects associated with other concurrent PGM projects.

2 Existing traffic conditions

2.1 Site description

The New Cobar and Peak Complexes are located south-east of the Cobar town centre. New Cobar Complex is approximately 3 km south east of Cobar along the Kidman Way and Peak Complex is approximately 8 km south east of Cobar (refer Figure 1.2). The New Cobar Complex is zoned as Primary Production (RU1) by CSC and is well separated from the other residential, commercial and recreation areas in the vicinity of Cobar town centre.

Access between the two sites via the Kidman Way has the following travel distances:

- Travel length along Kidman Way:
  - 6 km between the New Cobar Complex turnoff and the Peak Complex turnoff
- Length of internal roads from Kidman Way:
  - 200 metres (m) sealed and 300 m unsealed road from Kidman Way to the existing ROM Pad at the New Cobar Complex; and
  - 1.2 km sealed and 400 m unsealed road from Kidman Way to the existing ROM pad at the Peak Complex.

2.2 Road hierarchy

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

- state roads - freeways and primary arterials (TfNSW managed);
- regional roads - secondary or sub arterials (CSC managed, and part funded by the State); and
- local roads - collector and local access roads (CSC managed).

Both the Barrier Highway and Kidman Way are state roads, which means they are both TfNSW managed in terms of funding although some maintenance activities may still be sub-contracted to CSC.

A summary description of each of the key roads in this assessment is provided in the following tables (refer Table 2.1 to Table 2.3). Road Train access is currently approved by TfNSW for the majority of roads in western NSW, except for regional and local roads in designated exempted areas. In the CSC managed area, the roads which are exempted from Road Train access are all regional and local roads within the Cobar, Eubalong and West Eubalong town areas. Key roads are shown in Plate 2.1 to Plate 2.3.

Table 2.1 Kidman Way (B87)

Road classification and connectivity	State road
Alignment	Generally north-south between Bourke (north) and Bundure (south)
Number of lanes	One lane each way
Carriageway type	Sealed road with 1 m road shoulder on both sides
Carriageway width	Generally 7 m with two travel lanes between the key intersections, each approximately 3.5 m wide
Posted speed limit	Generally 100 km per hour (km/h and reduced speed at bends, south of New Cobar Complex, 90 km/h north of New Cobar Complex and 50 km/h closer to the Cobar Town
Heavy vehicle access	Road Train approved
Traffic function	Carries regional traffic and provides connectivity between townships

Plate 2.1 Kidman Way looking south (from the Peak Way)

Table 2.2 Barrier Highway (A32)

Road classification and connectivity	State road
Alignment	Generally east-west between Nyngan (east) and Tarlee, South Australia (west)
Number of lanes	One lane each way
Carriageway type	Sealed road with 1 m road shoulder on both sides
Carriageway width	Generally 7 m with two travel lanes, each approximately 3.5 m wide
Posted speed limit	50 km/h in the Cobar CBD area (see figure below); 110 km/h in rural and straight sections
Heavy vehicle access	Road Train approved
Traffic function	Carries regional traffic and provides connectivity between townships

Plate 2.2 Barrier Highway within the town of Cobar (looking east)

Table 2.3 The Peak Way

Road classification and connectivity	Private road owned by PGM
Alignment	Generally south-west and north-east between Kidman Way and the Peak Complex
Number of lanes	One lane each way
Carriageway type	Sealed road without road shoulder
Carriageway width	Generally 7 m wide with two travel lanes, each approximately 3.5 m
Posted speed limit	80 km/h near Kidman Way and 40 km/h near the mine
Heavy vehicle access	Yes
Traffic function	Carries mine related heavy and light vehicles

Plate 2.3 The Peak Way at Kidman Way (looking south-west)

2.3 Key intersections

The key intersections which have been assessed for their project related traffic impacts are described as follows:

1. Kidman Way/ New Cobar Complex access

This is a priority control intersection located approximately 2.4 km south of the junction of Kidman Way and the Barrier Highway. The intersection has a wide "turning path" geometry to accommodate heavy vehicles turning to and from the New Cobar Complex. Localised widening has also been done on the western side of Kidman Way for unimpeded access for northbound through-traffic travelling along Kidman Way. An informal truck rest area is provided on the western side of Kidman Way.

The sight distances to the north and south along Kidman Way are excellent as demonstrated by photographs taken by EMM on Wednesday 29 April 2020, as shown in Plate 2.4 to Plate 2.6. At this intersection, all existing and proposed heavy vehicle movements will occur to/ from the south.

Plate 2.4 Kidman Way/ New Cobar Complex intersection (view east)

Plate 2.5 Localised widening and sight distance to the south along Kidman Way at New Cobar Complex

Plate 2.6 Informal Truck Rest Area opposite to New Cobar Complex access (view south)

2. Kidman Way/ The Peak Way

This is a give-way controlled intersection located approximately 5.4 km south of the Kidman Way/ New Cobar Complex intersection. This intersection also has a wide "turning path" geometry which has been upgraded recently by PGM. Localised widening has been done on the eastern side of Kidman Way to accommodate unimpeded southbound through-traffic movement along Kidman Way. Site observations and EMM video footage have confirmed that two opposing 35.4m long road trains can execute turns simultaneously at ease at this intersection.

The sight distances to the north and south along Kidman Way from The Peak Way are excellent, as demonstrated by photographs taken by EMM on Wednesday 29 April 2020 (Plate 2.7 to Plate 2.9). At this intersection existing and proposed heavy vehicle access will occur to and from both the north and the south.

Plate 2.7 View from Peak Way (Kidman Way runs left – right across the plate)

Plate 2.8 Sight distance to the south of the intersection and localised widening of Kidman Way

Plate 2.9 Sight distance to the north

3. Kidman Way/ Power line Construction Access

As part of the project a new power line is proposed to be constructed. Construction vehicle access will occur via an unsealed road located approximately 1.8km north of New Cobar Complex heavy vehicle access road, as shown in Plate 2.10 to Plate 2.12. The sight distances to the north and south are reasonable as the intersection lies on a straight section of Kidman Way.

No upgrade of the side road or intersection is proposed as the anticipated construction vehicle traffic will be relatively minor.

Plate 2.10 Power line construction vehicular access road

Plate 2.11 Sight distance to the left (looking south)

Plate 2.12 Sight distance to the right (looking north)

2.4 Daily traffic volumes and heavy vehicles

Background daily traffic volume surveys for the Kidman Way, including previous daily traffic volume survey data from an earlier mine EIS report in 2000, RMS daily traffic volume surveys in 2008, a CSC tube traffic count undertaken in 2013 and the latest EMM surveys in April 2020, are summarised in Table 2.4. The most recent EMM traffic surveys results are shown in Appendix A and the CSC tube count results summary is shown in Appendix B.

Table 2.4 Background daily traffic volume surveys for Kidman Way

Location	Year 1992*	Year 1996*	Year 1999*	Year 2008	Year 2013	Year 2020
South of the Barrier Highway	608	748	817	832		793
North of the Peak Complex access road					851**	830
South of the Peak Complex access road	150	170	269	201		232

Note *: in the earlier survey years the daily traffic volume was reported as 'axle pairs' not 'actual vehicles'
Note **: the count location was reported as being 10 km south of Cobar, but the volume indicates it was probably north of the Peak mine access.

The proportions of heavy vehicles in daily traffic at various locations was also determined by the latest EMM traffic surveys in April 2020 as follows:

- Kidman Way, south of Barrier Highway, 133 daily heavy vehicles = 17% of daily traffic;
- Kidman Way, north of Peak Complex access road, 125 daily heavy vehicles = 15% of daily traffic;
- Kidman Way, south of Peak Complex access road, 50 daily heavy vehicles = 22% of daily traffic;
- New Cobar Complex heavy vehicle access road, east of Kidman Way, 20 daily heavy vehicles = 100% of daily traffic, and
- Peak Complex access road, west of Kidman Way, 81 daily heavy vehicles = 13% of daily traffic

On the survey day, 29 April 2020, the daily volume of truck traffic recorded using the New Cobar Complex heavy vehicle access road was lower than the currently daily limit for ore transport truck movements, which is 50 movements (25 loaded trucks and 25 empty trucks) under the current development approval for the mine. There was also no light vehicle traffic recorded using this access road as the light vehicle traffic accessing the New Cobar Complex generally uses another access road further to the south, on the eastern side of Kidman Way.

The CSC tube count survey results in 2013 (Appendix B) recorded a relatively high daily proportion of "commercial vehicles" in traffic which was 28%, compared to the15% heavy vehicles recorded for the same location by the EMM Survey in April 2020. The reasons for the range in traffic counts is likely a combination of lower than average mine related heavy vehicle traffic on the most recent survey day in April 2020 and also lower than average levels of Grey Nomad camper vehicle tourist traffic using the Kidman Way due to COVID-19 travel restrictions in April 2020, compared to the levels occurring in other recent years.

The other impacts of COVID-19 on traffic movements in and around Cobar in April 2020 are considered to have been minimal and have not resulted in significantly lower traffic volumes in comparison to the surveys in earlier years (Table 2.4). However, in view of the relatively low long term traffic growth rate for traffic volumes on Kidman Way over the past 20-30 year period, no significant further background traffic growth is expected over the next 15 year period corresponding to the proposed mine life extension, which is between 2020 and 2035.

2.5 Intersection traffic volumes

Peak hourly traffic volumes were determined by a EMM 24 hour traffic survey completed in April 2020 for the two relevant intersections. The respective peak hours for the two key intersections were as follows:

- AM peak hour
  - 6 am to 7 am — Kidman Way/ New Cobar Complex access
  - 6 am to 7 am — Kidman Way/ The Peak Way
- PM peak hour
  - 6.45 pm to 7.45 pm — Kidman Way/ New Cobar Complex access
  - 6.45 pm to 7.45 pm — Kidman Way/ The Peak Way

These peak hours were determined primarily by the workforce traffic movements which are concentrated around the two shift changeover periods of 6-7 am and 6-7 pm. Effectively zero truck traffic movements were recorded

using the New Cobar Complex access road during these peak hour periods as the ore transport operation is typically conducted during daylight hours.

The surveyed intersection traffic volumes during the AM and PM peak hours are presented in Figure 2.1. The traffic data shows that there was more dominance of the northbound direction traffic movements (from Peak Complex to and from the Cobar direction) during both the AM and PM peak hours, with very few traffic movements travelling to and from the south via Kidman Way. The data collected most likely represents a typical day for peak hour traffic volumes.

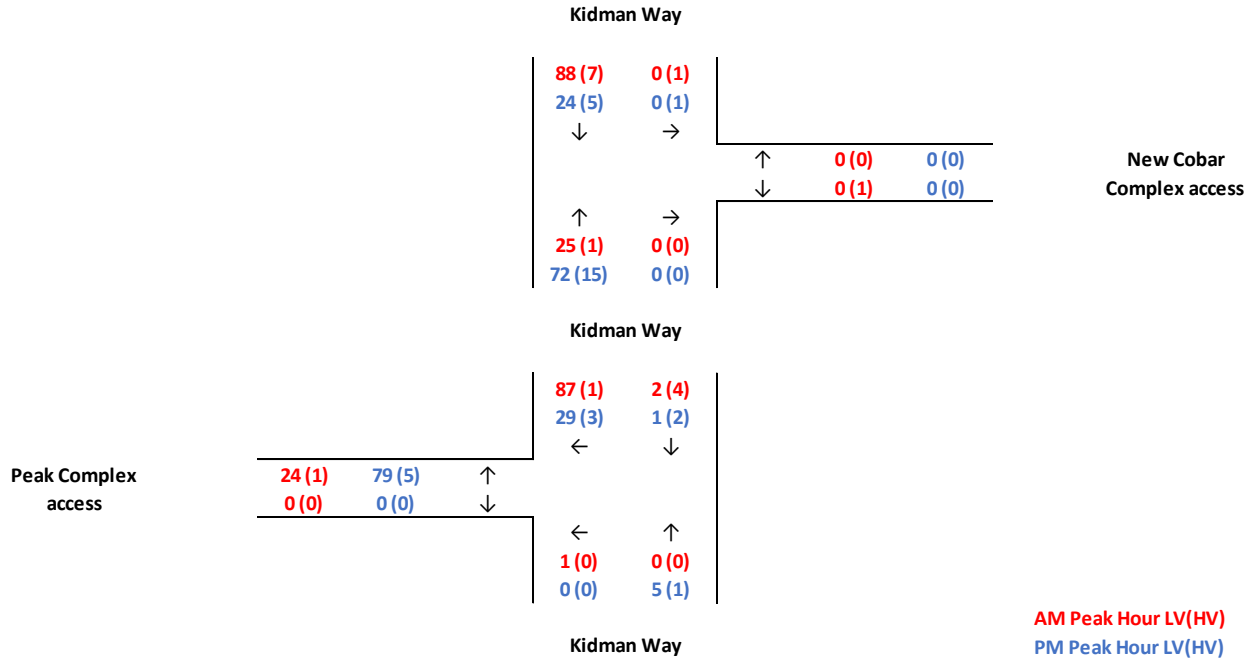


Figure 2.1 Existing traffic volumes

2.6 Crash analysis

Crash data from the TfNSW Centre for Road Safety interactive history database between 2014 and 2018 was studied for the Kidman Way, south of Cobar, as shown on the map in Figure 2.2. The crashes are categorised based on their severity as follows:

- fatal;
- serious injury;
- moderate injury;
- minor/ other injury; and
- non-casualty (e.g. towaway).

There were three crashes (including non-casualty-towaway accidents) in the five-year period on the relevant section of the Kidman Way south of Cobar in the vicinity of the mine sites. All of these crashes occurred in the year 2017, (see crash details in Table 2.5). This is a relatively low crash rate for a 14 km road section. No crashes occurred on the 5.4 km section between the New Cobar Complex and Peak Complex accesses. Significantly more crashes were recorded during the five-year timeframe in the Cobar town centre and surrounding residential areas, compared to the Kidman Way. This is indicative of greatly increased traffic activity in the Cobar urban areas, compared to traffic flow on the Kidman Way in the vicinity of the mine access intersections south of Cobar.

Table 2.5 Details of Kidman Way 5-year crash history

Reporting year	Degree of crash	Description	Type of crash	Fatigue involved	Natural light	No. Injured
2017	Non-casualty (towaway)	Off road to left	Light truck crash*	No	Daylight	-
	Serious injury	Struck animal	Light truck crash	Yes	Daylight	3
	Minor/other injury	Off road right into object	Articulated truck crash	No	Darkness	1

Note: light vehicles are defined to have a gross vehicle mass of less than 4.5 tonnes.

2.7 Public transport

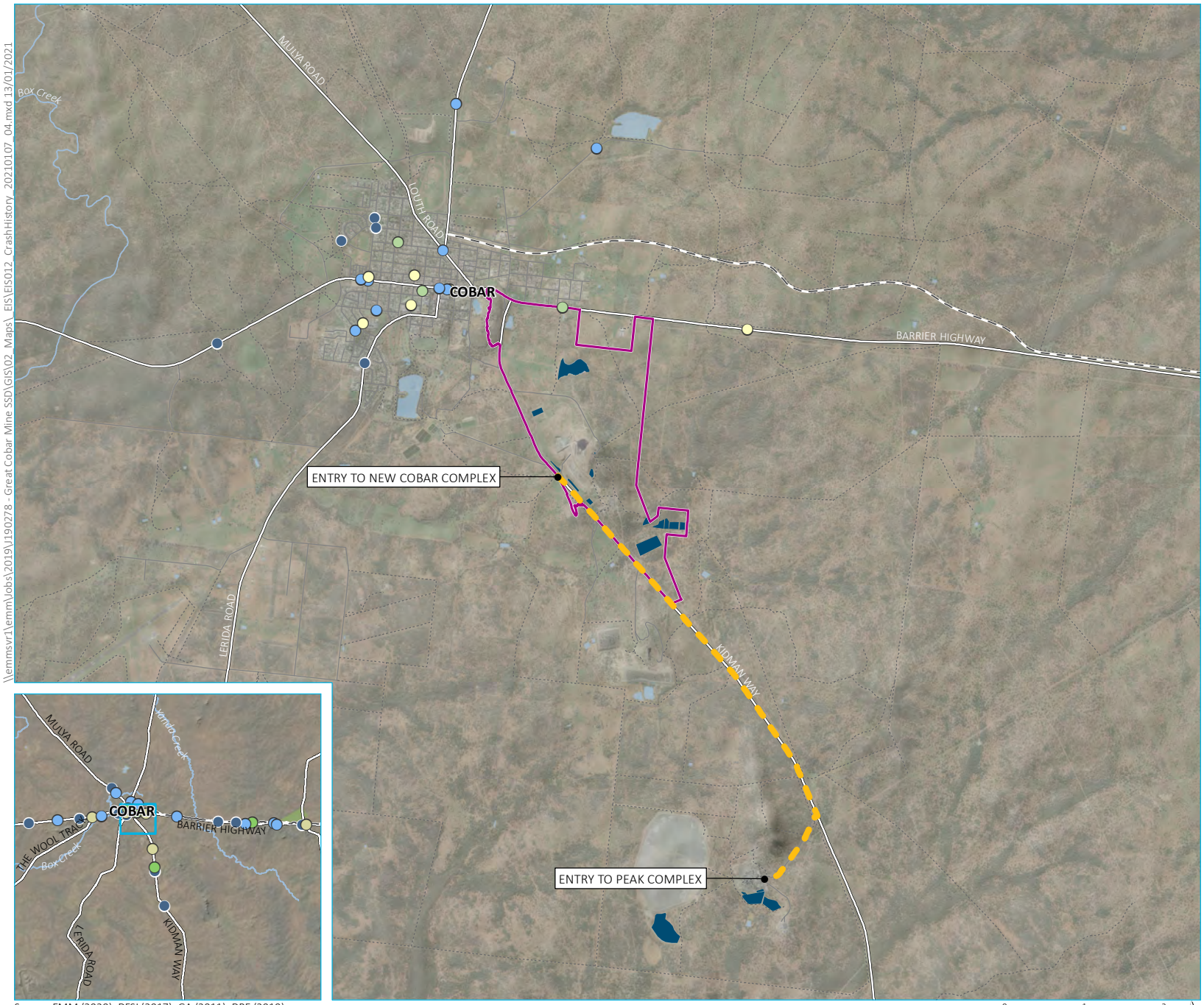
There are no public transport services along Kidman Way servicing the Peak Complex or New Cobar Complex. One school bus operates along Kidman Way between the periods 8.15-8.30am and 3.15-3.30pm, Monday to Friday in NSW school terms.

2.8 Other transport

The Cobar to Nyngan railway line is a branch line from Cobar to the Main Western Railway Line at Nyngan. The line, running mostly adjacent to the Barrier highway, was completed in 1892 with passenger train services ceasing in 1976. Freight services continue to operate along this line.

2.9 Active transport

Pedestrian and cycling infrastructure in the area is limited, reflecting the predominantly rural character of the area where passenger cars are the dominant travel mode. Within the Cobar town, pedestrian and cycling infrastructure is provided to a reasonable standard. The wide residential streets and flat landscape in the town offer safe and convenient cycling opportunities.



KEY

- Project area
- Ore truck movement route
- Rail line
- Main road
- Local road
- Vehicular track
- Named watercourse
- Waterbody
- Mine water management storage

Crash degree

- Non-casualty (tow-away)
- Minor/other injury
- Moderate injury
- Serious injury

Source: EMM (2020); DFSI (2017); GA (2011); DPE (2019)

Five-year crash history and ore transportation route

Peak Gold Mines
New Cobar Complex Project
Traffic impact assessment
Figure 2.2

EMM
creating opportunities

3 The project

3.1 Description

Specific details of the project are presented in **Error! Reference source not found.** in the context of existing PGM approvals. For a full, detailed project description, please see Chapter 2 of the New Cobar Complex EIS.

Table 3.1 Detailed overview of the project

Development component	Approved New Cobar Complex operations	New Cobar Complex Project SSD
Tenement	Development approved to occur within the Development Application areas, including CML 6, CML 8, ML 1483, ML 1805 and MPL 854. Mining of the following deposits using underground mining methods, with each deposit accessed via the New Cobar Complex open cut: • New Cobar deposit; • Chesney deposit; and • Jubilee deposit. Minerals processing occurs at the Peak Complex within CML 8 and also includes CML 7 and CML 9.	No change to mine lease area. Mining of the following deposits using underground mining methods, with each deposit accessed via the New Cobar open cut: • New Cobar deposit; • Chesney deposit; • Jubilee deposit; • Gladstone deposit; and • Great Cobar deposit. Processing of materials from the New Cobar Complex will continue at the Peak Complex within CML8 under existing approvals and is therefore outside the scope for this project.
Approvals	***Cobar Shire Council Development Consent*** • New Cobar South Open Cut - LDA 98/99:08 • New Cobar Open Cut - LDA 99/00:22 • New Cobar Underground – 2004/LDA 00003 PGM has received approval from CSC and the Resources Regulator (reference number MAAG0006783, approved in May 2020) to construct an exploration decline, ventilation shafts and associated infrastructure to facilitate exploration activities within the Great Cobar deposit. This is detailed in the Mine Operations Plan (MoP) for 2019-2022. ***Other Authorisations and Licences*** • EPL -3596 (EPA) • Licence to Manufacture Explosives (New Cobar) - XMNKF200002 (SafeWork NSW) • Dangerous Goods Notification - New Cobar: 35/035154 (SafeWork NSW). • Water Supply Works Approval reference 85WA753861 (Natural Resources Access Regulator)	PGM is seeking to consolidate all existing development consents applicable to the New Cobar Complex including existing mining, proposed underground mining of the Great Cobar and Gladstone deposits and existing surface infrastructure within a single consent issued by DPIE. Once approved, relevant CSC development consents for the New Cobar Complex will be surrendered. The project will used infrastructure that has been approved but not yet constructed as a result of the exploration decline and associated infrastructure. Other approvals related to the Peak Complex, will be unaffected.
Mining method	Underground stope mining operations commence above a centrally positioned crown pillar and stopes will be extracted from the bottom-up. Bench stopes are backfilled progressively using waste from development and rock from the WRE. Upon completion of each	Expansion of underground stope mining operations will access new deposits at Great Cobar and Gladstone, as well as continued mining of New Cobar, Chesney and Jubilee deposits. The mining method will not change.

Table 3.1 Detailed overview of the project

Development component	Approved New Cobar Complex operations	New Cobar Complex Project SSD
	stoping level, voids are backfilled. In some instances, mining against rock fill is required. In these instances, a rock and cement slurry is placed in the stope to provide additional stability. PGM undertake detailed geotechnical assessments of all stopes during the detailed stope design stage prior to mining.	There is no recorded history of significant subsidence or geotechnical failure associated with the current, modern mining operations at the Peak and New Cobar complexes.
Blasting	Blasting will be used for the development of the underground workings and is proposed to occur under independent firing conditions (in the preliminary phases). Delays will be used to adjust sequencing and prevent any interaction or vibration enhancement from adjacent blastholes. The approximate number of blasts will be three per 24-hour period, 20 per 7-day period. Explosives are stored in the existing magazine at New Cobar Complex.	No change to blasting method.
Life of mine	Presently, the council approvals have no end date. Current mine plans envisage mining at New Cobar Complex to continue until 2023 under current market assumptions.	The project will extend the life of mine by 12 years to 2035 under current market assumptions.
Production	Approved for the mining and processing of 800,000 tpa of ore to produce lead, zinc, copper, gold and silver from both the Peak and New Cobar complexes. Processing occurs at the Peak Complex.	The project will produce ore within the mining and processing limit of 800,000 tpa for the Peak and New Cobar complexes. Ore will be transported to the existing processing plant at the Peak Complex. The ore will be processed at the Peak Complex processing plant, and tailings will be disposed of at the TSF at the Peak Complex under existing approvals. Processing of ore will only take place at the Peak Complex, therefore is outside the scope of this project.
Mining extent	The New Cobar Complex comprises a surface disturbance area of approximately 425 hectares. The New Cobar open cut pit extends to a depth of approximately 100 mbgl. Development of underground working at Chesney, Jubilee and New Cobar deposits extends from a portal at the base of the New Cobar open cut pit.	Development of New Cobar Complex Project will be in stages. The Great Cobar and Gladstone deposits will be accessed via a decline extending from the existing New Cobar Complex underground workings. The proposed underground working depths are approximately 150–800 mbgl for Great Cobar and 350-500 mbgl for Gladstone. The Great Cobar deposit will be accessed by the approved exploration decline off the existing Jubilee workings at approximately 500 mbgl, and the Gladstone deposit will be accessed by a decline off the existing New Cobar underground workings at approximately 350 mbgl.
Tailings storage	All ore is processed at the Peak Complex, with tailings placed within the TSF.	No change.

Table 3.1 Detailed overview of the project

Development component	Approved New Cobar Complex operations	New Cobar Complex Project SSD
Site access	Access to the New Cobar and Peak complexes is via Kidman Way.	No change
Ore transportation	Ore is transported from the New Cobar Complex along 5 km of public road (Kidman Way) in road registered trucks at the rate of 25 trucks (50 truck movements) per day, seven days a week.	Ore will continue to be transported from the New Cobar Complex but at a maximum rate of 100 truck movements per day (in and out of site) (daylight hours only), seven days a week averaged over a calendar year. This is an increase in truck movements from a current maximum rate of 50 truck movements per day. The increase of daily truck movements will provide flexibility to PGM if there are unforeseen production disruptions such as poor weather or machinery breakdowns.
Waste rock management	Waste rock generated from underground workings is used preferentially as backfill in previously mined underground stopes. Some waste rock material may be brought to the surface and stored within the existing WRE at the New Cobar Complex until it's required for use in construction or rehabilitation across the Peak and New Cobar complexes.	No change
Soil management	Application of soil resources management strategies/objectives in accordance with the existing Mining Operation Plan 2019-2022 (MOP 2019-2022) (PGM 2019) and Water Management Plan (PGM 2020)).	No change.
Mine ventilation	There are two existing exhaust air rises at the New Cobar Complex – one at the Jubilee workings and one at the Chesney workings. Fresh air is drawn down the portal at the base of the New Cobar Complex open cut and also via two fresh air intakes located near the Chesney ventilation fan. The infrastructure developed as part of the Great Cobar exploration decline will include an exhaust air rise and a fresh air intake.	No new ventilation shafts will be required; the ventilation shafts installed as part of the exploration decline will be required for ongoing mining operations and will remain in place. A new ventilation fan will be required to maintain a safe volume of air flow in the underground workings.
Surface infrastructure	All existing New Cobar Complex surface infrastructure operates under existing CSC approvals.	The project will require the construction of a short (no more than 400 m long) power line spur between an existing 22 kV line and ventilation shaft (approved, but not yet constructed as part of the Great Cobar exploration decline approvals). This power line will connect to a pad-mounted compact substation to supply power for an emergency egress winder at the fresh air intake shaft and a ventilation fan to be installed at the exhaust air rise. No additional surface infrastructure will be required.

Table 3.1 Detailed overview of the project

Development component	Approved New Cobar Complex operations	New Cobar Complex Project SSD
Water supply sources and infrastructure	The water requirements for the Peak Complex and the New Cobar Complex (combined) are approximately 580 ML/year. The source of this water is typically, comprised of approximately 212 ML/year from dewatering underground workings at the New Cobar Complex and approximately 368 ML/year of town water from Burrendong Dam. PGM is licenced to take up to 1,186ML/year from Burrendong Dam, however approximately 50% of this water is lost through seepage, evaporation and other methods before arriving at the New Cobar Complex. Following approval for the dewatering of the Great Cobar shaft in 2019, up to 400 ML/year can be extracted to replace the town water currently being used. This is as part of a move for PGM's operations to be more self-reliant and sustainable in times of drought. The water from the Great Cobar shaft will be used to make up any shortfall in site demand that cannot be made up by dewatering of underground workings. It will also reduce PGM's reliance on the town water supply during times of drought.	No change
Site water management infrastructure	A water management system is in place at the New Cobar Complex and is operated and managed in accordance with PGM's current water management plan (WMP). Dewatering water that is used in the New Cobar Complex underground workings is pumped to the New Cobar Complex settling pond for re-use. The water from these settling ponds is preferentially pumped back underground for reuse, or to the Peak Complex for use in the processing circuit. While it is PGM's preference to use water from dewatered mine workings for processing, this may not always be possible due to poor water quality and additional treatment requirements. Dewatering water excess to site requirements is pumped to Spain's Dam or Young Australia Dams for evaporation or storage for future reuse.	No change
Power supply	Electricity to the site is via a 22 kilovolt (kV) electricity transmission line (ETL) to the Peak Complex substation.	No change to power supply, but an additional power line spur will be required for the ventilation fan to be installed in the exhaust air rise and the emergency egress winder.
Hours of operation	Underground and above ground activities, 24-hour operations, seven days a week.	No change
Employment	The 2019/2020 workforce at PGM (including both the Peak and New Cobar complexes) totalled 404 full time equivalents (FTE).	Annual labour estimates for New Cobar Complex, being mining and underground maintenance staff range from 57 FTE in 2020/21 to a peak of 272 FTE in 2026/27. These however are not new employees; during the same period, as mining at the Peak Complex ramps down, staff will relocate to New Cobar Complex as their primary location of employment activity. PGM will continue to maintain operational control across the complexes.

Table 3.1 Detailed overview of the project

Development component	Approved New Cobar Complex operations	New Cobar Complex Project SSD
Mining fleet	The existing/approved indicative mobile equipment fleet used for underground ore extraction, transport and waste rock handling includes: • articulated dump trucks; • cabletec; • compactors; • dozers; • drill rigs. • excavators; • graders; • haul trucks (50t); • jumbos; • LHD Loading dump trucks; • loaders; • rollers; • scrapers; • service truck; • underground development drill; • underground diamond drill rigs; • waste rock dump trucks; and • water trucks.	No change
Rehabilitation and mine closure	Current rehabilitation requirements as per MOP	Mine closure concepts and management measures will continue to be developed via the MOP 2019-2022, which outlines specific soil handling, rehabilitation and post mining landform objectives, in consultation with relevant regulatory authorities. The MOP will be updated and extended as required.

3.2 Traffic generation

Project activities at the New Cobar Complex will see an increase in the maximum road train truck trips from 25 trucks per day to 50 trucks per day (or from 50 movements to 100 movements), averaged over a calendar year, for ore transportation to and from the processing facility at the Peak Complex.

The maximum additional peak hour truck traffic is estimated as 3 additional truck movements per hour for this activity, during the peak hours on a typical weekday, however this will only be the case when the New Cobar Complex is at peak production between approximately 2026 and 2032.

Light vehicle movements for the transport of PGM employees will vary as workforce numbers ramp up and ramp down, and are expected to peak in 2026/2027. However, these will not be new employees, and as such overall light vehicle movements on Kidman Way are not anticipated to increase significantly during this time. The estimated likely traffic distribution of this traffic is presented in Figure 3.1.

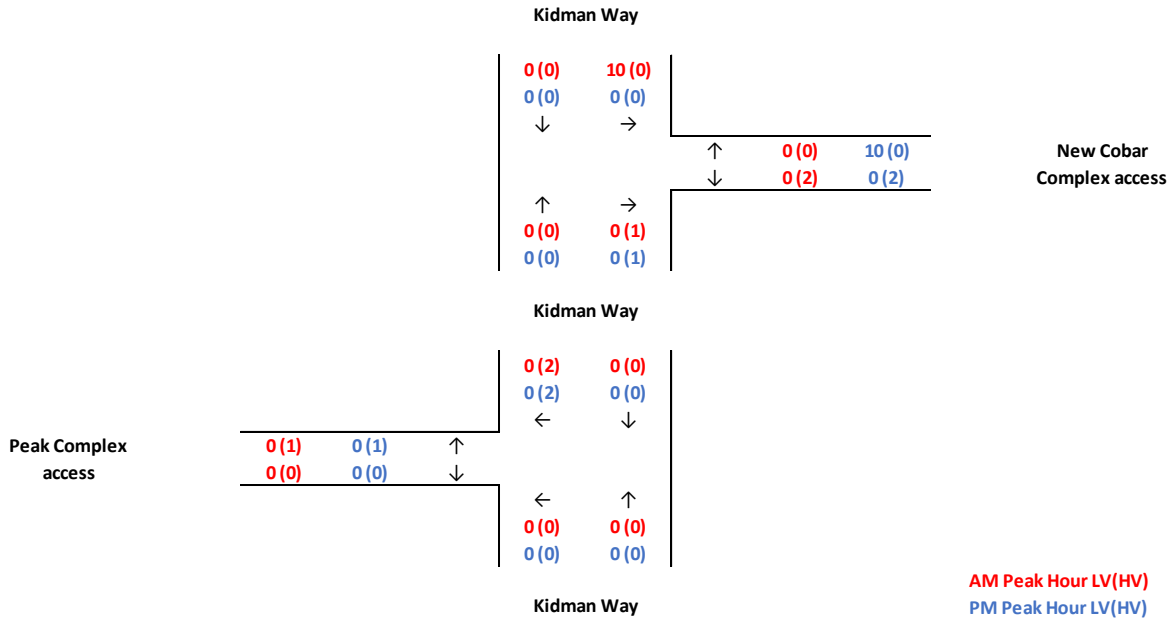


Figure 3.1 New Cobar Complex additional operations traffic

3.3 Background traffic growth

As part of this assessment, CSC provided the results of a 27-day tube traffic count undertaken in 2013. The count was undertaken 10 km south of Cobar town centre on Kidman Way south of the Peak Complex. The results of the survey show that Kidman Way had an Annual Average Daily Traffic (AADT) of 851 vehicles, with 28% commercial vehicles, at this location. The daily traffic volumes on Kidman Way have not increased significantly over the last twenty-year period. As a result, no further background traffic growth is expected for the Kidman Way between 2020 and 2035. The full results are presented in Appendix B.

3.4 Construction traffic

A new power line will be required as part of the project. The power line construction may take up to six months and vehicles will access the construction work sites from an existing local road off Kidman Way, which is situated about 1.8 km north of New Cobar heavy vehicle access (refer to Section 2.3). There will be minimal additional generated traffic during the identified AM or PM peak hours for this activity. Due to the low likely peak hourly or daily traffic numbers and the short duration of the construction traffic activity, no traffic impact assessment was undertaken for the power line construction traffic.

3.5 Car parking

While overall truck movements will increase, trucks will be able to undertake the proposed movements without overlap. This means that trucks will not be required to park while they wait for other trucks to complete their movements. Therefore, there will be no requirement for additional truck parking at the New Cobar Complex.

The additional trucks will be based off-site overnight so there will be no requirement for any additional LV parking on-site for the truck drivers.

Construction workers for the power line construction, ventilation fan installation, emergency egress winder headframe and winder house and pad mounted transformer installation will park near the work sites for that activity.

4 Impact assessment

4.1 Intersection performance

The intersections were modelled with the SIDRA Intersection 8.0 software, a micro-analytical tool for individual intersections and linked intersection-network modelling. The modelling is based on the existing traffic survey data detailed in Section 2.4 and the development traffic data shown in Figure 3.1.

SIDRA provides a number of intersection performance indicators which are outlined below:

- Degree of saturation (DOS) – the total usage of the intersection expressed as a factor of 1 with 1 representing 100% use/saturation (e.g. 0.8 = 80% saturation).
- Average delay (DEL) – the average delay in seconds encountered by all vehicles passing through the intersection. It is often important to review the average delay of each approach as a side road could have a long delay time, while the large free flowing major traffic will provide an overall low average delay.
- Level of service (LOS) – this is a categorisation of average delay, intended for simple reference.
- 95% queue lengths (Q95) – is defined to be the queue length in m that has only a 5% probability of being exceeded during the analysed time period. It transforms the average delay into measurable distance units.

LOS is the main indicator of overall performance for individual intersections, with each service level summarised in Table 4.1.

Table 4.1 Intersection LOS standards

Level of service	Average delay (seconds per vehicle)	Traffic signals, roundabout	Priority intersection ('Stop' and 'Give Way')
A	<14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity. At traffic signals, incidents will cause extensive delays. Roundabouts require other control mode.	At capacity; required other control mode
F	>71	Unsatisfactory with excessive queuing	Unsatisfactory with excessive queuing; required other control mode

Source: RTA Guide to Traffic Generating Developments

The detailed SIDRA intersection analysis results for the project access intersections are presented in Appendix D and a summary of the results is provided in Table 4.2. The results in Table 4.2 present the average delay for the longest delayed movement at a priority-controlled intersection. Usually the longest delay occurs for the right turning movement from a minor road to a major road.

Table 4.2 SIDRA results for existing traffic and proposed development traffic

Intersection	Peak hour	Scenario	DOS	LOS	DEL (seconds)	Q95 (m)
Kidman Way/ New Cobar Complex access	AM	Existing	0.055	A	6.7	0.1
		Proposed	0.060	A	6.7	0.2
	PM	Existing	0.041	A	6.3	0.1
		Proposed	0.042	A	6.3	0.5
Kidman Way/ Peak Complex access	AM	Existing	0.052	A	5.9	1.7
		Proposed	0.054	A	7.3	1.8
	PM	Existing	0.057	A	5.7	1.7
		Proposed	0.058	A	5.7	1.8

Under both the existing and the proposed mine traffic conditions, both intersections have a LOS A on all approaches with significant spare capacity (over 90%) and minimal traffic queuing on the minor road approaches. Furthermore, as existing passing bays are already provided at both the New Cobar and Peak access intersections, these allow for uninterrupted through movements on Kidman Way (with an average delay of only 0.1 seconds on through movements).

4.2 Mid-block capacity

Table 4.5 of the *Guide to Traffic Generating Developments* (RTA 2002) provides the two-way hourly road capacities for two-lane roads for different Levels of Service, with a design speed of 100 km/h, for different terrain types.

The capacity assumes a 60/40 peak hour directional split of traffic.

The existing posted speed limit along Kidman Way is 100 km/h and the road is generally level in the locality of the two mine access intersections. Therefore, the traffic volume thresholds for each LOS transition as per the RTA Guide are as outlined in Table 4.3.

Table 4.3 RMS roadway hourly capacity analysis for two-lane two-way rural roads

Terrain	Level of service transition	Effect of percentage of heavy vehicles (in traffic flow)			
		0%	5%	10%	15%
Level	A/B*	315	295	280	265
	B/C	630	590	560	530
	C/D	1,030	970	920	870
	D/E	1,630	1,550	1,480	1,410
	E/F	2,630	2,500	2,390	2,290

Notes: *Assumed as 50% of upper limit of B/C LOS

The recent traffic count data in Section 2.4 shows that the northern section of Kidman Way has the highest traffic volume currently as it is predominantly mine related traffic that is using Kidman Way south of Cobar. South of the entrance to the Peak Complex, the daily and peak hourly traffic volumes along Kidman Way are much lower. The

existing and proposed development hourly traffic volumes, heavy vehicle percentages and mid-block capacity for the highest traffic volume sections of the Kidman Way are presented in Table 4.4.

Table 4.4 Kidman Way mid-block capacity (2020)

Scenario	Peak hour volume[1]	Heavy vehicle percentage	Level of Service
Existing	122 (AM) / 125 (PM)	7.4% (AM) / 8.8% (PM)	A
Proposed development	132 (AM) / 128 (PM)	6.8% (AM) / 10.9% (PM)	A

Note [1] The peak hour volume is taken as the maximum volume along any section of Kidman Way. The AM peak hour volume is taken at the New Cobar Complex access while the PM peak hour volume is taken at the Peak Way access

Kidman Way currently operates at a mid-block capacity LOS A and will continue at this level of performance with the proposed traffic associated with all development traffic associated with the expansion of the New Cobar Complex and related ore and waste rock transport operations. Therefore, no additional overtaking lanes or other road capacity improvements are required for Kidman Way.

4.3 Car and truck parking provision

As discussed in Section 3.5, the additional light vehicle parking for proposed construction workers will be fully accommodated within the existing Peak Complex car park. The majority of employees will travel to the Peak Complex and then car-pool to the New Cobar Complex using company light vehicles, negating the requirement for any additional parking at the New Cobar Complex.

4.4 Impact on road safety

As discussed in Section 2.6, the crash history along Kidman Way near the New Cobar Complex and Peak Complex access intersections is not significant. The proposed increases in daily and peak hourly truck traffic activity for ore transport will only occur along Kidman Way between the two complexes and increased construction traffic will only be occurring at the identified construction access intersection 1.8 km north of the New Cobar access intersection.

In summary, the additional traffic movements due to the proposed development traffic will represent a small amount of the current peak hourly traffic volumes using this section of Kidman Way and therefore is not expected to have any major impact on traffic safety.

All access intersections are located on straight sections of Kidman Way; therefore, there are no sight distance or safety issues for entering or existing vehicles to/from the sites. In accordance with *Austroads Guide to Road Design Part 4A (Unsignalised and Signalised Intersections)* (Austroads, 2017), for a 90 km/h and a 100 km/h road, the minimum safe intersection sight distance (SISD) required for a general minimum 2 second driver reaction time is 214 and 248 m respectively.

The New Cobar Complex and the power line construction access intersections are located on the Kidman Way where the speed limit is 90 km/h and a minimum intersection sight distance of 214 m is required.

At the Peak Complex, the Kidman Way has a speed limit of 100 km/h and a sight distance of 248 m is required.

The sight distances on Kidman Way at the three sites have been calculated based on the line of sight and site photographs, as presented in Plate 4.1, Plate 4.2 and Plate 4.3. Based on the sight distance calculations, the sight distances to the left and right of each intersection are considered to meet the minimum SISD requirement for either 90 km/h or 100 km/h design speed as stipulated in the Austroads Guide to Road Design.

Looking left from site access (322 m)

Looking right from site access (276 m)

Plate 4.1 New Cobar Complex heavy vehicle access intersection sight distances

Looking left from site access (295 m)

Looking right from site access (330 m)

Plate 4.2 Peak Complex access intersection sight distances

Looking left from site access (215 m)

Looking right from site access (470 m)

Plate 4.3 Power line construction access intersection sight distances

4.5 Impact on public transport, pedestrians and cyclists

As discussed in Sections 2.7, 2.8 and 2.9, there is negligible public transport or active transport infrastructure near the complexes along Kidman Way, therefore the existing facilities and services will not be impacted by the project.

4.6 Swept path assessment

Transportation will continue to occur by B-triple Road Trains up to a length of 35.4 m. The swept path assessment has been undertaken to allow for these movements at the primary site access intersections.

With the combination of existing and proposed heavy vehicle movements, simultaneous opposing heavy vehicle turning movements may occur at both the New Cobar Complex and Peak Complex access intersections. Swept path diagrams are included as Appendix C for these two intersections. Photographs are included in Section 2.3.

The swept path assessments show that:

- New Cobar Complex high vehicle access – simultaneous turning by opposing road trains will require a minor upgrade of the intersection through splaying of the corners by localised shoulder widening with compacted road base materials (see Figure 4.1). Conceptually, the dimensions of the widening (to be confirmed in detailed design) should be:
    - right turn from Kidman Way to New Cobar Complex – widening the shoulder by a maximum of 4 m at its widest point, tapering to existing for a distance of 26 m from the edge of the Kidman Way shoulder extending into the New Cobar Complex; and
    - left turn from New Cobar Complex to Kidman Way – widening of the shoulder by a maximum of 3 m at the apex of the turning arc from the property boundary for a distance of 37 m to the asphalted surface of Kidman Way.

Given the low occurrence of this event, this treatment is considered a minor intersection upgrade.

- Peak Complex Access (intersection of Kidman Way and the Peak Way) –simultaneous turning by opposing road trains would require the use of road shoulders. The current road shoulders are sufficient for these movements to occur. There will be some overlap in the Peak Way but no impact on Kidman Way. Therefore, this intersection does not need any upgrade.

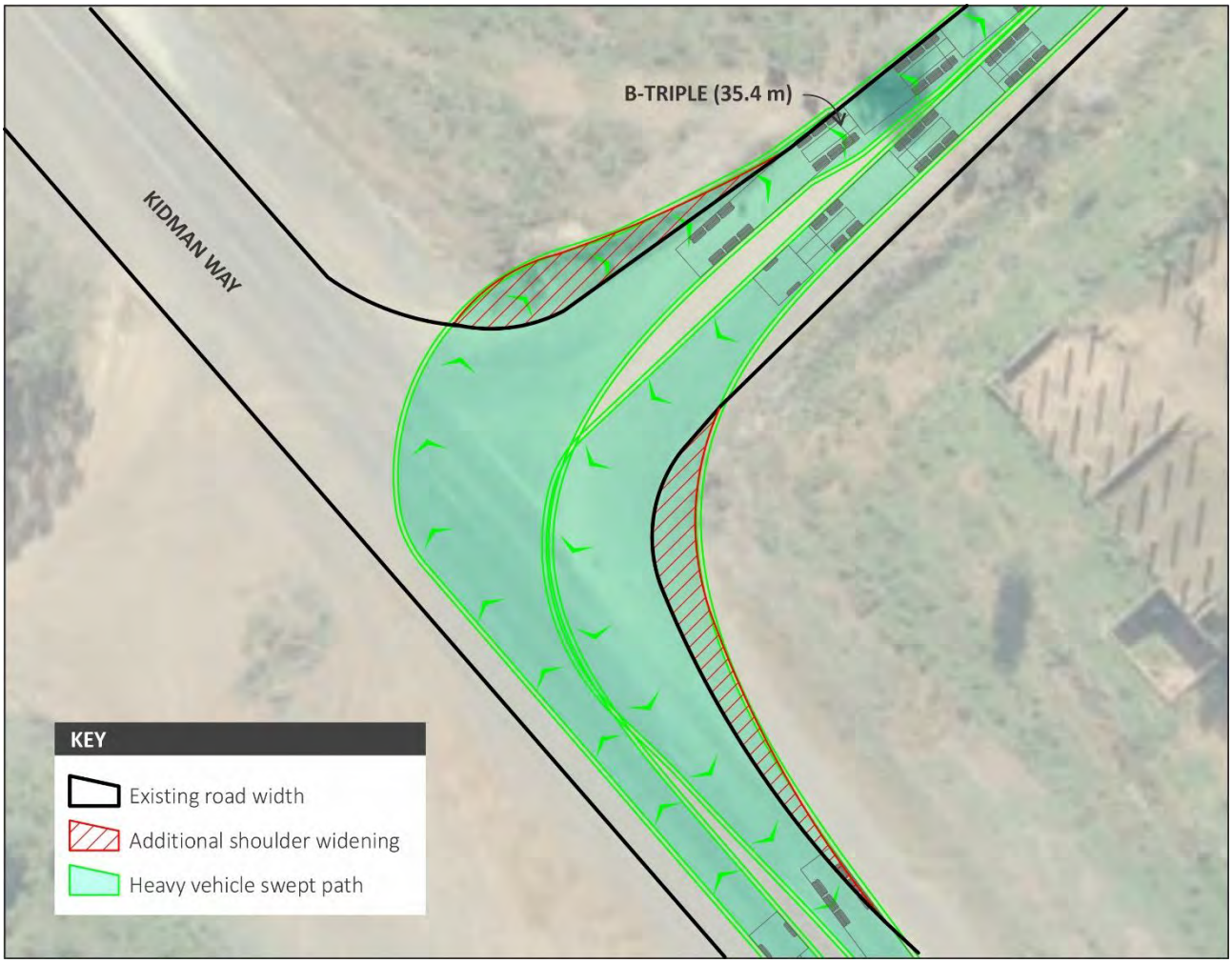


Figure 4.1 **Concept New Cobar Complex heavy vehicle access intersection upgrade**

4.7 Road upgrade work

Minor intersection upgrade work as demonstrated in Figure 4.1 would be required at Kidman Way / New Cobar heavy vehicle access intersection to allow for simultaneous heavy vehicle movement at this intersection. The intersection at Kidman Way/ The Peak Way does not require an upgrade.

4.8 Cumulative traffic impacts

4.8.1 Peak Complex TSF Lifts

The raising of the TSF bunding structures (upstream embankment raises or 'lifts') at the Peak Complex, to increase storage capacity of the structure to the end of mining (2035), is an important and necessary activity which complements the New Cobar Complex Project by providing additional tailings storage capacity for the extended life of mine. Three lifts (Stages 5, 6 and 7) will occur between 2021 and 2035 to accommodate additional tailings. Lifts will each take approximately 12 months to construct (36 months total). Rock for the lifts will be sourced from Queen Bee Mine which is an approved rehabilitation activity under PGMs Mining Operations Plan 2019-2022. A total of 23,000m^3 of waste rock (equivalent to approximately 57,000 tonnes) will be transported from the Queen Bee Mine to the following locations during day light hours over an approximately six-month period commencing early 2021:

- 20% to the Peak Complex as construction material for the proposed TSF lifts; and
- 80% to the existing WRE within the New Cobar Complex.

Consequently, as the haulage of waste rock from Queen Bee Mine will likely be completed by 2023, there will be no interaction between New Cobar Complex Project and TSF traffic for relocation of suitable material from Queen Bee Mine.

The rock at New Cobar Complex WRE will be held in reserve until required for later lifts with transportation of waste rock from the New Cobar Complex in Stages 6 and 7, to the Peak Complex following the approval of this project. Transportation of this waste rock will occur within the timeframe for the heavy vehicle movements for the project, however these movements will be included within the proposed maximum of 100 truck movements per day, therefore none of the identified projects will have significant cumulative impacts to traffic and transport.

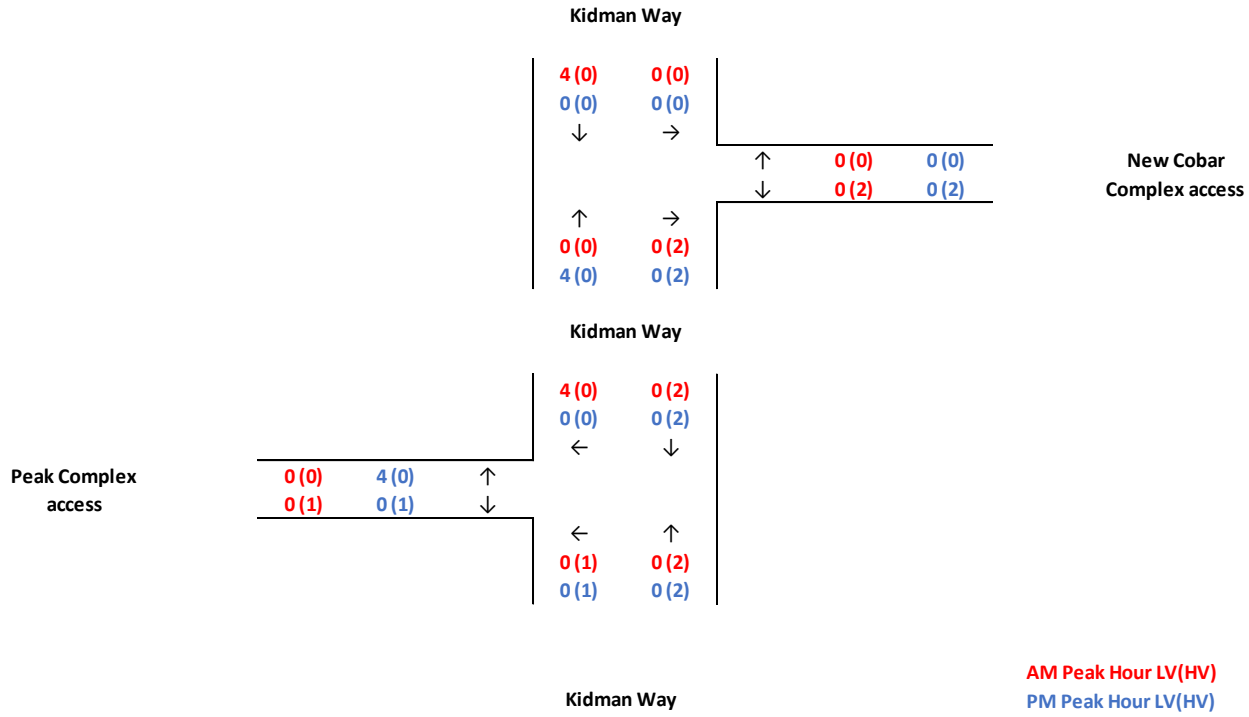


Figure 4.2 Additional generated traffic for cumulative developments

4.8.2 SIDRA intersection results for Cumulative traffic assessment

The existing and future cumulative development SIDRA analysis results for the assessed intersections are presented in Appendix E and Table 4.5. The results in Table 4.5 present the average delay for the most delayed movement at a priority-controlled intersection. Usually the longest delay occurs for the right turning movement from a minor road to a major road.

Table 4.5 SIDRA results for existing traffic and cumulative development scenarios

Intersection	Peak hour	Scenario	DOS	LOS	DEL (seconds)	Q95 (m)
Kidman Way/ New Cobar Complex access	AM	Existing	0.055	A	6.7	0.1
		Cumulative development	0.063	A	6.8	0.3
	PM	Existing	0.041	A	6.3	0.1
		Cumulative development	0.045	A	6.3	0.5
Kidman Way/ Peak Complex access	AM	Existing	0.052	A	5.9	1.7
		Cumulative development	0.056	A	7.4	1.9
	PM	Existing	0.057	A	5.7	1.7
		Cumulative development	0.061	A	6.7	1.9

Each intersection, even with the proposed cumulative development traffic levels, will have a LOS A on all approaches with significant spare capacity (over 90%) and minimal traffic queuing on the minor road approach. Furthermore, the existing passing bays provided at both the New Cobar Complex heavy vehicle access and the Peak Complex access intersections will continue to allow for uninterrupted through movements on Kidman Way (an average delay of up to 0.1 seconds on through movements).

4.9 Traffic management plan

A traffic management plan (TMP) will be prepared to manage project traffic within the project area and the surrounding road network during construction and operation.

The TMP will identify and provide management strategies to manage the impacts to project related traffic, including:

- haulage of materials to and from the PGM sites via Kidman Way;
- the management and coordination of construction and other staff vehicle movements to and from site and measures employed to limit disruption to other motorists;
- strategies and measures employed to manage the risks of driver fatigue, road hazards and driver behaviour;
- load covering to reduce dust;
- an ore haulage Driver Code of Conduct; and
- additional warning signage requirements for truck traffic movements on Kidman Way during wet weather and/or other poor visibility conditions eg dust storms.

5 Summary and conclusion

PGM owns and operates the Peak and New Cobar Complex's south-east of Cobar, far western New South Wales. The project is to expand the underground workings at the New Cobar Complex to include additional underground ore bodies.

As part of this assessment, a 24-hour intersection traffic survey was undertaken at the following mine access intersections on the Kidman Way, south of Cobar:

- Kidman Way/ New Cobar Complex heavy vehicle access; and
- Kidman Way/ Peak Way.

The key findings of the TIA are as follows:

- A comparison between the traffic data in 2013 and 2020 shows that there has been a small reduction in the daily traffic volumes along Kidman Way, between Cobar and the recorded proportion of heavy vehicles in daily traffic is now significantly lower in 2020, due to a combination of COVID-19 related factors and lower ore transport truck movements on the latest traffic survey day in April 2020.
- The project will require construction of a new power line, where all construction related vehicle access will occur via a separate access from Kidman Way located approximately 1.8Km north of New Cobar Complex.
- The increased limit on daily ore transport movements would generate three additional heavy vehicle traffic movements during the current traffic peak hours.
- All the identified site access intersections currently operate at LOS A with over 90% spare capacities. The increase in project related traffic would not change the existing intersection peak hour operating conditions (which would all remain at level of service A), or the peak hour mid-block level of service for general traffic flow using the Kidman Way at all locations north of the Peak Complex access, which would also remain at LOS A.
- Swept path assessment shows a minor upgrade is required at the Kidman Way/ New Cobar Complex heavy vehicle access intersection. The other intersections require no upgrade works, and
- The separate application for transportation of the waste rock material from Queen Bee Mine will generate an average of three heavy vehicle return trips during peak hours from the Queen Bee Mine (one to the Peak Complex and two to the New Cobar Complex). With this additional traffic combined in a cumulative traffic impact assessment, the New Cobar Complex and Peak Complex access intersections will still perform at LOS A.

Based on the above considerations, this assessment has shown there will be minimal traffic impact due to the project.

6 References

Austroads 2017, *Guide to Road Design Part 4A: Unsignalised & Signalised Intersections.*

PGM 2019, *Peak Gold Mines Mining Operations Plan, 1 August 2019 – 31 July 2022.*

PGM 2020, *Peak Gold Mines - Water Management Plan,* prepared by EMM Consulting for Peak Gold Mines.

RTA 2002, *Guide to Traffic Generating Developments.*

Appendix A

Intersection survey

	DIRT ROAD EASTBOUND												KIDMAN NORTHBOUND												KIDMAN SOUTHBOUND												NEW COBAR WESTOUND												
	LEFT			STRAIGHT			RIGHT			U TURN			LEFT			STRAIGHT			RIGHT			U TURN			LEFT			STRAIGHT			RIGHT			U TURN			LEFT			STRAIGHT			RIGHT			U TURN			
	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	Totals
000-100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
015-115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
030-130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
045-145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
100-200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
115-215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
130-230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
145-245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
200-300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
215-315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230-330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245-345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
300-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
315-415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
330-430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
345-445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
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415-515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	7	2	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
430-530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	16	2	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
445-545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	30	1	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35
500-600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0	0	47	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
515-615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10	0	0	0	0	0	0	0	0	0	81	3	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94
530-630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	1	12	0	0	0	0	0	0	0	0	0	93	4	97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109
545-645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	1	18	0	0	0	0	0	0	0	1	1	95	6	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120
600-700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	1	26	0	0	0	0	0	0	0	1	1	88	7	95	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	123
700-800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	1	29	0	0	0	0	0	0	0	1	1	72	4	76	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	107
715-815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0	26	0	1	1	0	0	0	0	1	1	54	5	59	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	89
730-830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	22	0	1	1	0	0	0	0	0	0	40	6	46	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	71
745-845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	14	0	2	2	0	0	0	0	0	0	26	6	32	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	50
800-900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	2	12	0	3	3	0	0	0	0	0	0	11	7	18	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	35
815-915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	3	13	0	2	2	0	0	0	0	0	0	14	6	20	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	37
830-930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	3	13	0	3	3	0	0	0	0	0	0	13	4	17	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	35
845-945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	6	15	0	2	2	0	0	0	0	0	0	16	5	21	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	40
900-1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	5	13	0	2	2	0	0	0	0	0	0	14	5	19	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	37
915-1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	5	15	0	2	2	0	0	0	0	0	0	11	5	16	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	35
930-1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	5	16	0	1	1	0	0	0	0	0	0	12	6	18	0	0	0	1	0	1	0	2	2	0	0	0	0	0	0	0	0	0	38
945-1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	4	19	0	2	2	0	0	0	0	0	0	9	5	14	0	0	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	37
1000-1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	3	15	0	1	1	0	0	0	0	0	0	13	6	19	0	0	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	37
1015-1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	4	13	0	2	2	0	0	0	0	0	0	15	6	21	0	0	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	38
1030-1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	6	18	0	2	2	0	0	0	0	0	0	18	4	22	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	44
1045-1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	5	15	0	2	2	0	0	0	0	0	0	20	4	24	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	44
1100-1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	6	19	0	2	2	0	0	0	0	0	0	15	3	18	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	41
1115-1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	6	25	0	2	2	0	0	0	0	0	0	15	3	18	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	48
1130-1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	4	23	0	2	2	0	0	0	0	0	0	13	3	16	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	43
1145-1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	5	25	0	1	1	0	0	0	0	0	0	13	4	17	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	44
1200-1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	4	24	0	1	1	0	0	0	0	0	0	12	6	18	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	44
1215-1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	3	19	0	0	0	0	0	0	0	0	0	8	7	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
1230-1330	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	14	3	17	0	0	0	0	0	0	0	0	0	5	8	13	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
1245-1345	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	12	2	14	0	0	0	0	0	0	0	0	0	3	7	10	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
1300-1400	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	13	2	15	0	0	0	0	0	0	0	0	0	5	4	9	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
1315-1415	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	13	3	16	0	0	0	0	0	0	0	0	0	6	2	8	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
1330-1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	4	17	0	0	0	0	0	0	0	0	0	10	2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
1345-1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	3	19	0	0	0	0	0	0	0	0	0	9	3	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
1400-1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	4	17	0	0	0	0	0	0	0	0	0	8	4	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
1415-1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	3	16	0	0	0	0	0	0	0	0	0	11	4	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
1430-1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	2	13	0	0	0	0	0	0	0	0	0	11	3	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
1445-1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	3	12	0	0	0	0	0	0	0	0	0	14	2	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
1500-1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	3	16	0	0	0	0	0	0	0	0	0	19	2	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37
1515-1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	4	18	0	0	0	0	0	0	0	0	0	18	2	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38
1530-1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	5	20	0	0	0	0	0	0	0	0	0	15	4	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
1545-1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	6	20	0	0	0	0	0	0	0	0	0	14	4	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38
1600-1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	7	20	0	0	0	0	0	0	0	0	0	7	4	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
1615-1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	5	29	0	0	0	0	0	0	0	0	0	3	4	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
1630-1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	5	36	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41
1645-1745	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	37	5	42	0	0	0	0	0	0	0	0	0	4	1	5	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49
1700-1800	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	38	5	43	0	0	0	0	0	0	0	0	0	9	0	9	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
1715-1815	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	25	6	31	0	0	0	0	0	0	0	0	0	14	0	14	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47
1730-1830	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	29	5	34	0	0	0	0	0	0	0	0	0	16	0	16	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
1745-1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	3	30	0	0	0	0	0	0	0	0	0	25	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55
1800-1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	1	38	0	0	0	0	0	0	0	0	0	31	2	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71
1815-1915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	2	57	0	0	0	0	0	0	0	0	0	35	4	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96
1830-1930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	11	66	0	0	0	0	0	0	0	0	0	33	5	38	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105
1845-1945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72	15	87	0	0	0	0	0	0	0	0	0	24	5	29	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117
1900-2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69	16	85	0	0	0	0	0	0	0	0	0	13	3	16	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102
1915-2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	17	77	0	0	0	0	0	0	0	0	0	7	1	8	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86
1930-2030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	8	58	0	0	0	0	0	0	0	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65
1945-2045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	5	34	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38
2000-2100	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	17	4	21	0	0	0	0	0	0	0	0	0	6	0	6	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
2015-2115	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	7	2	9	0	0	0	0	0	0	0	0	0	4	0	4	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
2030-2130	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	4	1	5	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
2045-2145	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	4	1	5	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
2100-2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
2115-2215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
2130-2230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	5	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
2145-2245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	3	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
2200-2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	3	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
2215-2315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
2230-2330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
2245-2345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2300-2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

	PEAK MINE EASTBOUND									KIDMAN NORTHBOUND									KIDMAN SOUTHBOUND									
	LEFT			RIGHT			U TURN			LEFT			STRAIGHT			U TURN			STRAIGHT			RIGHT			U TURN			
	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	LV	HV	LV + HV	Totals
000-100	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
015-115	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	**2**
030-130	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	**2**
045-145	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	**3**
100-200	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	**3**
115-215	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	**2**
130-230	2	0	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	**3**
145-245	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	**2**
200-300	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	**3**
215-315	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	**2**
230-330	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	**1**
245-345	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	**2**
300-400	2	0	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	1	0	**1**	0	0	**0**	**4**
315-415	2	0	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	1	**1**	0	0	**0**	1	0	**1**	1	0	**1**	0	0	**0**	**5**
330-430	2	0	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	1	**1**	0	0	**0**	1	0	**1**	2	0	**2**	0	0	**0**	**6**
345-445	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	1	**1**	0	0	**0**	1	0	**1**	2	0	**2**	0	0	**0**	**5**
400-500	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	1	**1**	0	0	**0**	1	0	**1**	4	0	**4**	0	0	**0**	**6**
415-515	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	2	0	**2**	6	0	**6**	0	0	**0**	**8**
430-530	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	3	0	**3**	13	0	**13**	0	0	**0**	**17**
445-545	1	0	**1**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	3	0	**3**	29	0	**29**	0	0	**0**	**34**
500-600	3	0	**3**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	3	0	**3**	41	0	**41**	0	0	**0**	**48**
515-615	9	1	**10**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	0	0	**0**	3	1	**4**	73	0	**73**	0	0	**0**	**89**
530-630	11	1	**12**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	0	0	**0**	3	2	**5**	89	0	**89**	0	0	**0**	**108**
545-645	20	1	**21**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	3	3	**6**	91	0	**91**	0	0	**0**	**119**
600-700	24	1	**25**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	2	4	**6**	87	1	**88**	0	0	**0**	**120**
700-800	23	0	**23**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	1	3	**4**	73	1	**74**	0	0	**0**	**101**
715-815	23	1	**24**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	1	2	**3**	53	1	**54**	0	0	**0**	**81**
730-830	15	2	**17**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	2	2	**4**	38	4	**42**	0	0	**0**	**63**
745-845	11	3	**14**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	2	2	**4**	28	6	**34**	0	0	**0**	**52**
800-900	11	5	**16**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	6	2	**8**	11	6	**17**	0	0	**0**	**41**
815-915	12	5	**17**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	8	2	**10**	9	7	**16**	0	0	**0**	**44**
830-930	11	5	**16**	0	0	**0**	0	0	**0**	0	0	**0**	2	1	**3**	0	0	**0**	9	1	**10**	6	6	**12**	0	0	**0**	**41**
845-945	9	5	**14**	0	0	**0**	0	0	**0**	0	0	**0**	2	4	**6**	0	0	**0**	11	1	**12**	6	4	**10**	0	0	**0**	**42**
900-1000	7	3	**10**	0	0	**0**	0	0	**0**	1	0	**1**	3	5	**8**	0	0	**0**	11	1	**12**	6	5	**11**	0	0	**0**	**42**
915-1015	4	3	**7**	1	0	**1**	0	0	**0**	1	0	**1**	4	5	**9**	0	0	**0**	8	1	**9**	7	6	**13**	0	0	**0**	**40**
930-1030	5	3	**8**	1	0	**1**	0	0	**0**	1	0	**1**	5	5	**10**	0	0	**0**	9	1	**10**	9	4	**13**	0	0	**0**	**43**
945-1045	10	4	**14**	1	0	**1**	0	0	**0**	3	1	**4**	6	2	**8**	0	0	**0**	9	1	**10**	8	3	**11**	0	0	**0**	**48**
1000-1100	8	4	**12**	1	0	**1**	0	0	**0**	2	1	**3**	5	1	**6**	0	0	**0**	8	2	**10**	8	5	**13**	0	0	**0**	**45**
1015-1115	14	6	**20**	0	1	**1**	0	0	**0**	2	1	**3**	4	2	**6**	0	0	**0**	9	2	**11**	9	4	**13**	0	0	**0**	**54**
1030-1130	15	6	**21**	1	1	**2**	0	0	**0**	2	1	**3**	4	1	**5**	0	0	**0**	8	2	**10**	11	5	**16**	0	0	**0**	**57**
1045-1145	13	6	**19**	1	1	**2**	0	0	**0**	0	0	**0**	9	1	**10**	0	0	**0**	7	1	**8**	15	5	**20**	0	0	**0**	**59**
1100-1200	16	8	**24**	3	1	**4**	0	0	**0**	0	0	**0**	10	1	**11**	0	0	**0**	6	1	**7**	15	3	**18**	0	0	**0**	**64**
1115-1215	13	5	**18**	3	0	**3**	0	0	**0**	0	0	**0**	14	0	**14**	0	0	**0**	8	2	**10**	13	5	**18**	0	0	**0**	**63**
1130-1230	11	4	**15**	2	0	**2**	0	0	**0**	0	0	**0**	16	1	**17**	0	0	**0**	7	2	**9**	11	5	**16**	0	0	**0**	**59**
1145-1245	11	3	**14**	2	0	**2**	0	0	**0**	1	0	**1**	12	1	**13**	0	0	**0**	8	3	**11**	9	6	**15**	0	0	**0**	**56**
1200-1300	10	2	**12**	0	0	**0**	0	0	**0**	1	0	**1**	13	1	**14**	0	0	**0**	8	3	**11**	9	5	**14**	0	0	**0**	**52**
1215-1315	8	2	**10**	0	0	**0**	0	0	**0**	1	0	**1**	9	1	**10**	0	0	**0**	5	5	**10**	7	2	**9**	0	0	**0**	**40**
1230-1330	8	2	**10**	0	0	**0**	0	0	**0**	1	0	**1**	8	0	**8**	0	0	**0**	5	5	**10**	6	1	**7**	0	0	**0**	**36**
1245-1345	6	2	**8**	0	0	**0**	0	0	**0**	1	0	**1**	7	0	**7**	0	0	**0**	5	5	**10**	4	1	**5**	0	0	**0**	**31**
1300-1400	3	1	**4**	0	0	**0**	0	0	**0**	1	0	**1**	9	0	**9**	0	0	**0**	5	4	**9**	3	1	**4**	0	0	**0**	**27**
1315-1415	1	2	**3**	0	0	**0**	0	0	**0**	1	0	**1**	10	0	**10**	0	0	**0**	7	1	**8**	3	1	**4**	0	0	**0**	**26**
1330-1430	4	2	**6**	0	0	**0**	0	0	**0**	1	0	**1**	9	1	**10**	0	0	**0**	9	1	**10**	2	2	**4**	0	0	**0**	**31**
1345-1445	6	1	**7**	0	0	**0**	0	0	**0**	1	0	**1**	9	1	**10**	0	0	**0**	8	1	**9**	2	2	**4**	0	0	**0**	**31**
1400-1500	8	2	**10**	0	0	**0**	0	0	**0**	1	0	**1**	5	2	**7**	0	0	**0**	7	1	**8**	0	2	**2**	0	0	**0**	**28**
1415-1515	10	1	**11**	0	0	**0**	0	0	**0**	1	0	**1**	4	3	**7**	0	0	**0**	7	1	**8**	4	3	**7**	0	0	**0**	**34**
1430-1530	7	2	**9**	0	0	**0**	0	0	**0**	1	0	**1**	3	2	**5**	0	0	**0**	6	1	**7**	7	2	**9**	0	0	**0**	**31**
1445-1545	4	2	**6**	0	0	**0**	0	0	**0**	0	0	**0**	4	2	**6**	0	0	**0**	5	1	**6**	8	1	**9**	0	0	**0**	**27**
1500-1600	7	2	**9**	0	0	**0**	0	0	**0**	0	0	**0**	5	2	**7**	0	0	**0**	7	1	**8**	8	2	**10**	0	0	**0**	**34**
1515-1615	9	2	**11**	0	0	**0**	0	0	**0**	0	0	**0**	4	3	**7**	0	0	**0**	7	1	**8**	5	1	**6**	0	0	**0**	**32**
1530-1630	11	1	**12**	0	0	**0**	0	0	**0**	0	0	**0**	3	3	**6**	0	0	**0**	7	1	**8**	6	3	**9**	0	0	**0**	**35**
1545-1645	14	4	**18**	0	0	**0**	0	0	**0**	0	0	**0**	1	4	**5**	0	0	**0**	8	0	**8**	6	4	**10**	0	0	**0**	**41**
1600-1700	12	3	**15**	0	0	**0**	0	0	**0**	1	0	**1**	0	3	**3**	0	0	**0**	6	0	**6**	6	5	**11**	0	0	**0**	**36**
1615-1715	24	3	**27**	0	0	**0**	0	0	**0**	1	0	**1**	3	2	**5**	0	0	**0**	4	0	**4**	5	5	**10**	0	0	**0**	**47**
1630-1730	27	3	**30**	1	0	**1**	0	0	**0**	1	0	**1**	6	3	**9**	0	0	**0**	3	0	**3**	1	3	**4**	0	0	**0**	**48**
1645-1745	33	2	**35**	1	0	**1**	0	0	**0**	1	1	**2**	8	2	**10**	0	0	**0**	4	0	**4**	0	2	**2**	0	0	**0**	**54**
1700-1800	33	4	**37**	1	0	**1**	0	0	**0**	0	1	**1**	8	2	**10**	0	0	**0**	4	0	**4**	5	0	**5**	0	0	**0**	**58**
1715-1815	20	4	**24**	1	0	**1**	0	0	**0**	0	1	**1**	6	1	**7**	0	0	**0**	5	0	**5**	9	0	**9**	0	0	**0**	**47**
1730-1830	23	4	**27**	0	0	**0**	0	0	**0**	0	1	**1**	5	0	**5**	0	0	**0**	4	0	**4**	11	0	**11**	0	0	**0**	**48**
1745-1845	20	2	**22**	0	0	**0**	0	0	**0**	1	0	**1**	5	0	**5**	0	0	**0**	2	0	**2**	18	0	**18**	0	0	**0**	**48**
1800-1900	30	1	**31**	0	0	**0**	0	0	**0**	1	0	**1**	7	0	**7**	0	0	**0**	2	0	**2**	26	1	**27**	0	0	**0**	**68**
1815-1915	46	3	**49**	0	0	**0**	0	0	**0**	1	0	**1**	9	1	**10**	0	0	**0**	1	1	**2**	33	3	**36**	0	0	**0**	**98**
1830-1930	61	4	**65**	0	0	**0**	0	0	**0**	1	0	**1**	7	1	**8**	0	0	**0**	1	2	**3**	33	3	**36**	0	0	**0**	**113**
1845-1945	79	5	**84**	0	0	**0**	0	0	**0**	0	0	**0**	5	1	**6**	0	0	**0**	1	2	**3**	29	3	**32**	0	0	**0**	**125**
1900-2000	72	4	**76**	0	0	**0**	0	0	**0**	0	0	**0**	4	2	**6**	0	0	**0**	0	2	**2**	16	2	**18**	0	0	**0**	**102**
1915-2015	64	2	**66**	0	0	**0**	0	0	**0**	0	0	**0**	2	1	**3**	0	0	**0**	1	1	**2**	6	0	**6**	0	0	**0**	**77**
1930-2030	44	1	**45**	0	0	**0**	0	0	**0**	0	0	**0**	2	1	**3**	0	0	**0**	2	0	**2**	5	0	**5**	0	0	**0**	**55**
1945-2045	21	0	**21**	0	0	**0**	0	0	**0**	0	0	**0**	2	2	**4**	0	0	**0**	2	0	**2**	2	0	**2**	0	0	**0**	**29**
2000-2100	15	0	**15**	0	0	**0**	0	0	**0**	0	0	**0**	1	1	**2**	0	0	**0**	3	0	**3**	2	0	**2**	0	0	**0**	**22**
2015-2115	5	0	**5**	0	0	**0**	0	0	**0**	0	0	**0**	0	1	**1**	0	0	**0**	2	0	**2**	1	0	**1**	0	0	**0**	**9**
2030-2130	2	0	**2**	0	0	**0**	0	0	**0**	0	0	**0**	1	1	**2**	0	0	**0**	1	1	**2**	0	0	**0**	0	0	**0**	**6**
2045-2145	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	1	1	**2**	0	0	**0**	0	0	**0**	**5**
2100-2200	2	0	**2**	1	0	**1**	0	0	**0**	0	0	**0**	3	0	**3**	0	0	**0**	0	1	**1**	0	0	**0**	0	0	**0**	**7**
2115-2215	1	0	**1**	1	0	**1**	0	0	**0**	0	0	**0**	3	0	**3**	0	0	**0**	1	1	**2**	2	0	**2**	0	0	**0**	**9**
2130-2230	1	0	**1**	2	0	**2**	0	0	**0**	0	0	**0**	3	0	**3**	0	0	**0**	1	1	**2**	2	0	**2**	0	0	**0**	**10**
2145-2245	1	0	**1**	2	0	**2**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	1	1	**2**	2	0	**2**	0	0	**0**	**9**
2200-2300	1	0	**1**	1	0	**1**	0	0	**0**	0	0	**0**	2	1	**3**	0	0	**0**	1	1	**2**	2	0	**2**	0	0	**0**	**9**
2215-2315	1	0	**1**	1	0	**1**	0	0	**0**	0	0	**0**	3	1	**4**	0	0	**0**	0	1	**1**	0	0	**0**	0	0	**0**	**7**
2230-2330	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	2	1	**3**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**4**
2245-2345	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	2	1	**3**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**4**
2300-2400	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	1	0	**1**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	**3**

Appendix B

2013 traffic count

Cobar Shire Council

Report of the Construction Supervisor
To the ordinary meeting of council to be held in the
Council Chambers, Cobar, on Thursday 12th September 2013

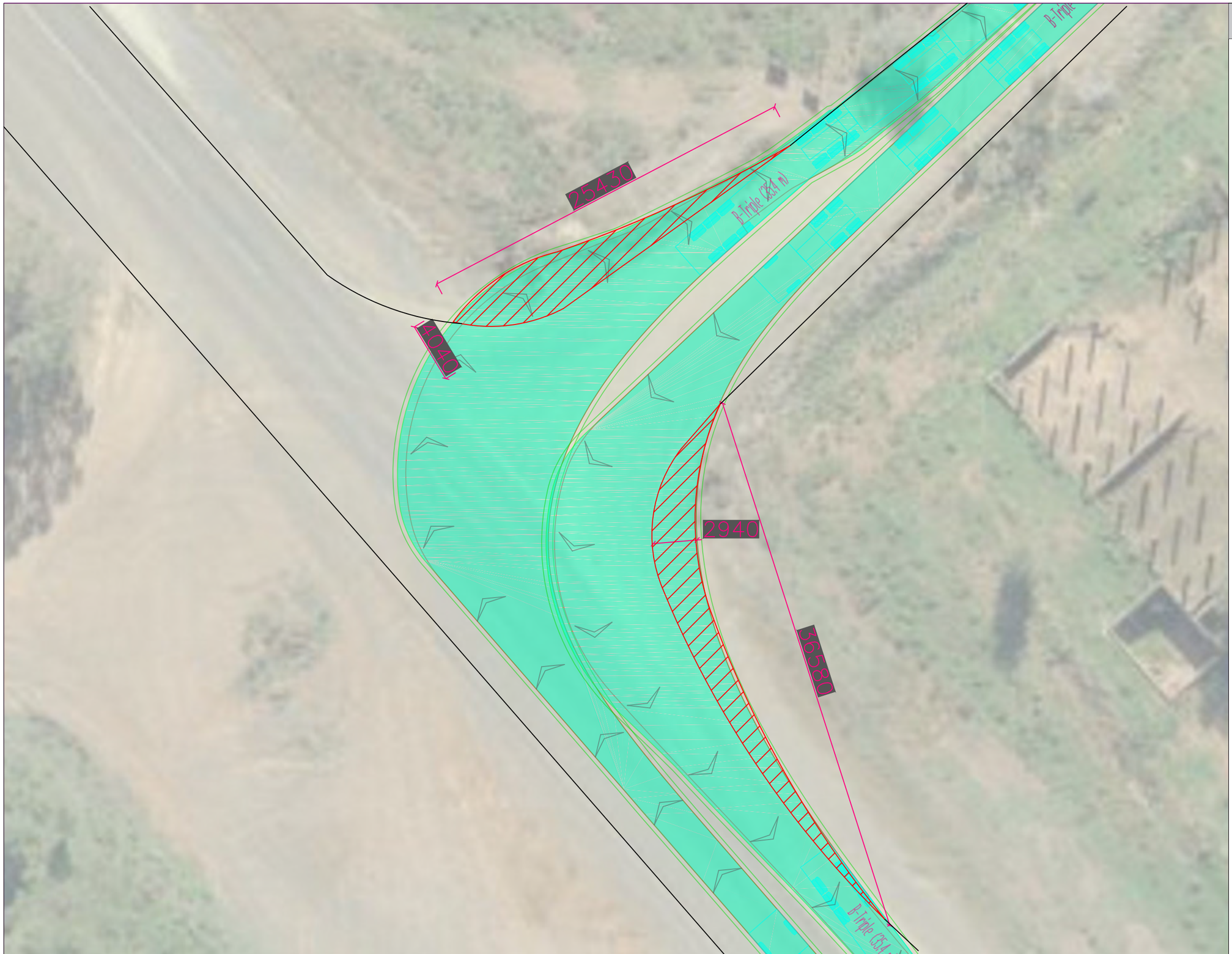
ITEM 1 Traffic Information (FILE No.)

Traffic Classifier Report			MR 410	
Location			10km South of Cobar	
Period of Operation	27 days		25/7/2013 to 20/8/2013	
Total Count both Directions AADT (Vehicles Per Day) Percent of Commercial Vehicles			22974 851 28.2%	
Maximum Vehicle Movements Per Day Minimum Vehicle Movements Per Day			1206 358	
Vehicle Type	Class	Number	%	Max Speed
Light	1-2	16501	71.8	150-160km/h
Non Articulated	3-5	3754	16.3	150-160km/h
Articulated	6-10	882	3.9	120-130km/h
B-Double/Road Train	11-12	1837	8	110-120km/h
Total		22974	100	
The 85th percentile speed of drivers was 105.8km/h				

Rd No.	Road Name	Location of Counter	Date	AADT	% Commercial Vehicles
MR 410	Kidman Way	10km South of Cobar	20/8/2013	851	28.2

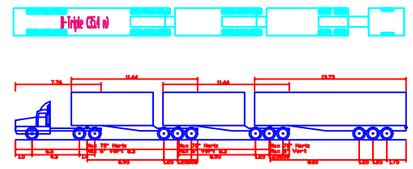
Appendix C

Swept path assessment



COMMENTS

A3



B-Triple (35.4 m)

Overall Length	35.400m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.540m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	15.000m

EMM creating opportunities

SYDNEY | Suite 01
Ground Floor
20 Chandos Street,
St Leonards NSW 2065

Phone # 02 9493 9500

www.emmconsulting.com.au

REV	DATE	COMMENT	DRAWN	REVIEWED
1	22/04/20	FOR INFORMATION	EL	AU

PROJECT:
Great Cobar Mine SSD

DRAWING TITLE:
Intersection of Kidman Way with New Cobar Complex Access

35.4m B-Triple Swept Path

CLIENT:	Peak Gold Mines Pty Ltd
DRG. #:	EMM-001
PROJECT #:	J190278
SCALE:	1:250

REV: 1

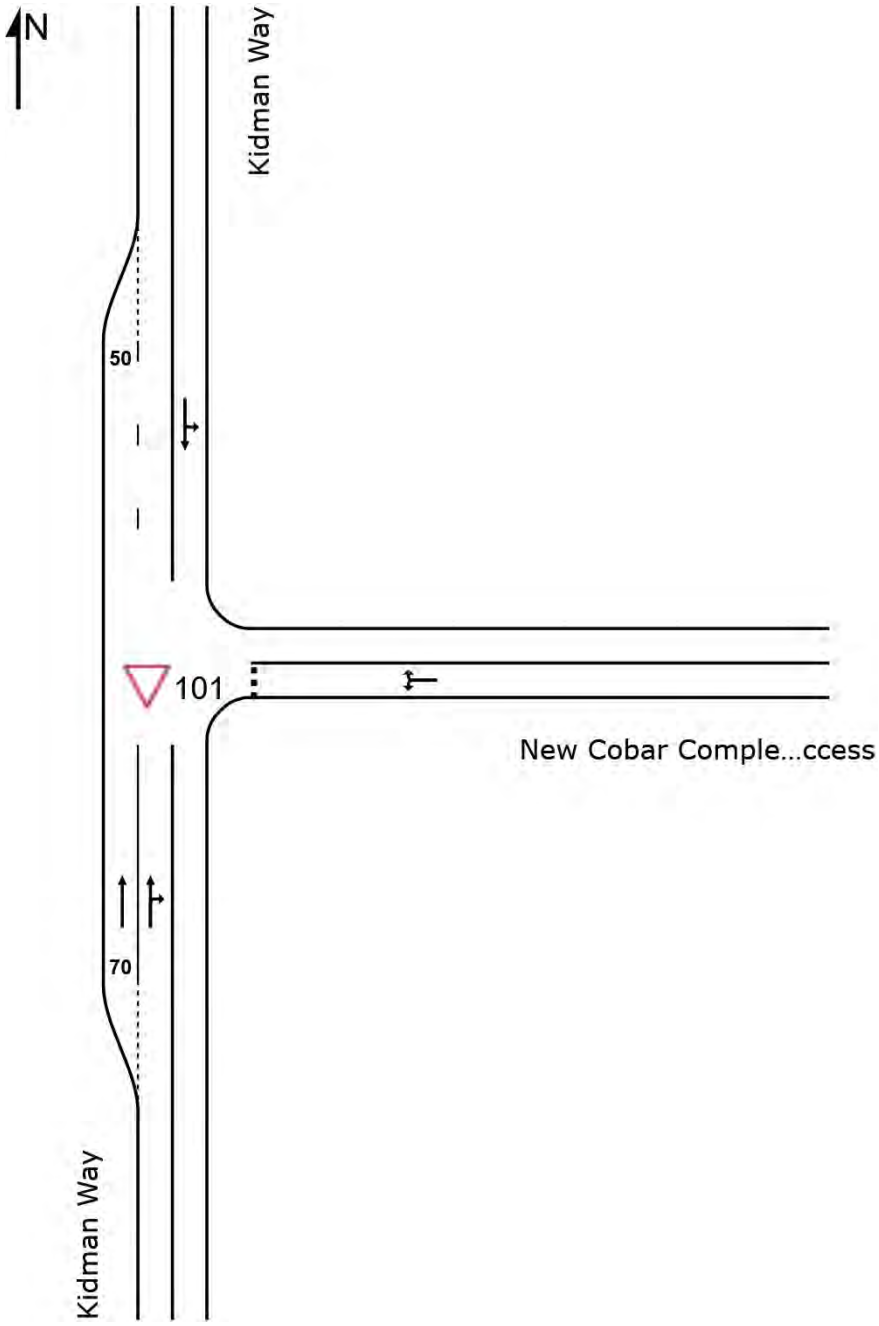
Appendix D

SIDRA results for SSD development

SITE LAYOUT

Site: 101 [Ex New Cobar AM]

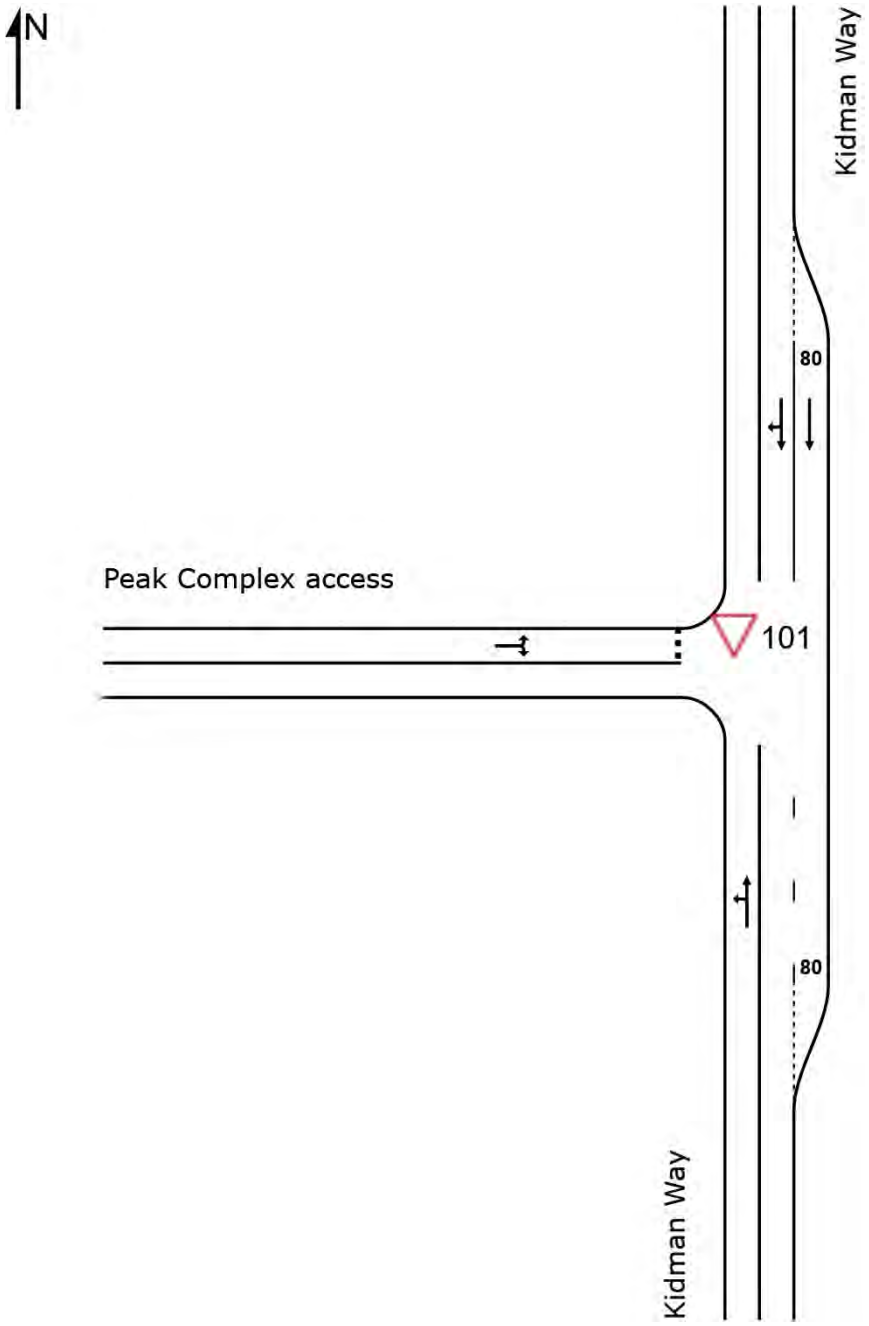
Site Category: (None)
Giveway / Yield (Two-Way)



SITE LAYOUT

Site: 101 [Ex Peak AM]

Site Category: (None)
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

Site: 101 [Ex New Cobar AM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kidman Way												
2	T1	27	3.8	0.012	0.0	LOS A	0.0	0.0	0.02	0.02	0.02	59.7
3	R2	1	0.0	0.012	5.7	LOS A	0.0	0.0	0.02	0.03	0.02	57.4
Approach		28	3.7	0.012	0.2	NA	0.0	0.0	0.02	0.02	0.02	59.6
East: New Cobar Complex access												
4	L2	1	100.0	0.002	6.7	LOS A	0.0	0.1	0.24	0.53	0.24	50.9
6	R2	1	0.0	0.002	6.1	LOS A	0.0	0.1	0.24	0.53	0.24	52.4
Approach		2	50.0	0.002	6.5	LOS A	0.0	0.1	0.24	0.53	0.24	51.6
North: Kidman Way												
7	L2	1	100.0	0.055	6.1	LOS A	0.0	0.0	0.00	0.01	0.00	55.8
8	T1	100	7.4	0.055	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
Approach		101	8.3	0.055	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.9
All Vehicles		132	8.0	0.055	0.2	NA	0.0	0.1	0.01	0.02	0.01	59.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Ex Peak AM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kidman Way												
1	L2	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.30	0.00	55.9
2	T1	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.00	0.30	0.00	57.4
Approach		2	0.0	0.001	2.8	NA	0.0	0.0	0.00	0.30	0.00	56.6
North: Kidman Way												
8	T1	6	66.7	0.005	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
9	R2	93	1.1	0.052	5.5	LOS A	0.2	1.7	0.02	0.59	0.02	53.0
Approach		99	5.3	0.052	5.1	NA	0.2	1.7	0.02	0.55	0.02	53.4
West: Peak Complex access												
10	L2	26	4.0	0.018	5.6	LOS A	0.1	0.5	0.01	0.57	0.01	53.4
12	R2	1	100.0	0.018	7.2	LOS A	0.1	0.5	0.01	0.57	0.01	50.9
Approach		27	7.7	0.018	5.7	LOS A	0.1	0.5	0.01	0.57	0.01	53.3
All Vehicles		128	5.7	0.052	5.2	NA	0.2	1.7	0.02	0.55	0.02	53.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Ex New Cobar PM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kidman Way												
2	T1	92	17.2	0.041	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
3	R2	1	0.0	0.041	5.5	LOS A	0.0	0.0	0.00	0.01	0.00	57.6
Approach		93	17.0	0.041	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.9
East: New Cobar Complex access												
4	L2	1	100.0	0.002	6.3	LOS A	0.0	0.1	0.13	0.54	0.13	51.2
6	R2	1	0.0	0.002	6.1	LOS A	0.0	0.1	0.13	0.54	0.13	52.7
Approach		2	50.0	0.002	6.3	LOS A	0.0	0.1	0.13	0.54	0.13	51.9
North: Kidman Way												
7	L2	1	100.0	0.018	6.1	LOS A	0.0	0.0	0.00	0.04	0.00	55.7
8	T1	31	17.2	0.018	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.8
Approach		32	20.0	0.018	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.6
All Vehicles		126	18.3	0.041	0.2	NA	0.0	0.1	0.00	0.02	0.00	59.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Ex Peak PM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kidman Way												
1	L2	1	0.0	0.004	5.5	LOS A	0.0	0.0	0.00	0.09	0.00	57.5
2	T1	6	16.7	0.004	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	59.1
Approach		7	14.3	0.004	0.8	NA	0.0	0.0	0.00	0.09	0.00	58.9
North: Kidman Way												
8	T1	3	66.7	0.002	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
9	R2	34	9.4	0.020	5.6	LOS A	0.1	0.7	0.05	0.58	0.05	52.6
Approach		37	14.3	0.020	5.1	NA	0.1	0.7	0.04	0.53	0.04	53.2
West: Peak Complex access												
10	L2	88	6.0	0.057	5.6	LOS A	0.2	1.7	0.04	0.56	0.04	53.3
12	R2	1	0.0	0.057	5.7	LOS A	0.2	1.7	0.04	0.56	0.04	53.0
Approach		89	5.9	0.057	5.6	LOS A	0.2	1.7	0.04	0.56	0.04	53.2
All Vehicles		134	8.7	0.057	5.2	NA	0.2	1.7	0.04	0.52	0.04	53.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [SSD New Cobar AM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kidman Way												
2	T1	27	3.8	0.013	0.1	LOS A	0.0	0.1	0.04	0.04	0.04	59.6
3	R2	2	50.0	0.013	6.6	LOS A	0.0	0.1	0.06	0.06	0.06	54.7
Approach		29	7.1	0.013	0.5	NA	0.0	0.1	0.04	0.04	0.04	59.2
East: New Cobar Complex access												
4	L2	3	100.0	0.004	6.7	LOS A	0.0	0.2	0.24	0.53	0.24	50.9
6	R2	1	0.0	0.004	6.1	LOS A	0.0	0.2	0.24	0.53	0.24	52.4
Approach		4	75.0	0.004	6.7	LOS A	0.0	0.2	0.24	0.53	0.24	51.2
North: Kidman Way												
7	L2	12	9.1	0.060	5.7	LOS A	0.0	0.0	0.00	0.06	0.00	57.4
8	T1	100	7.4	0.060	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	59.4
Approach		112	7.5	0.060	0.6	NA	0.0	0.0	0.00	0.06	0.00	59.2
All Vehicles		145	9.4	0.060	0.8	NA	0.0	0.2	0.02	0.07	0.02	59.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [SSD Peak AM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kidman Way												
1	L2	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.30	0.00	55.9
2	T1	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.00	0.30	0.00	57.4
Approach		2	0.0	0.001	2.8	NA	0.0	0.0	0.00	0.30	0.00	56.6
North: Kidman Way												
8	T1	6	66.7	0.005	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
9	R2	95	3.3	0.054	5.5	LOS A	0.3	1.8	0.02	0.59	0.02	52.9
Approach		101	7.3	0.054	5.1	NA	0.3	1.8	0.02	0.55	0.02	53.3
West: Peak Complex access												
10	L2	27	7.7	0.019	5.6	LOS A	0.1	0.6	0.01	0.57	0.01	53.3
12	R2	1	100.0	0.019	7.3	LOS A	0.1	0.6	0.01	0.57	0.01	50.9
Approach		28	11.1	0.019	5.7	LOS A	0.1	0.6	0.01	0.57	0.01	53.2
All Vehicles		132	8.0	0.054	5.2	NA	0.3	1.8	0.02	0.55	0.02	53.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [SSD New Cobar PM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kidman Way												
2	T1	92	17.2	0.042	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	59.9
3	R2	2	50.0	0.042	6.2	LOS A	0.0	0.1	0.01	0.02	0.01	55.0
Approach		94	18.0	0.042	0.1	NA	0.0	0.1	0.01	0.01	0.01	59.8
East: New Cobar Complex access												
4	L2	3	100.0	0.014	6.3	LOS A	0.1	0.5	0.18	0.56	0.18	51.1
6	R2	12	0.0	0.014	6.1	LOS A	0.1	0.5	0.18	0.56	0.18	52.6
Approach		15	21.4	0.014	6.2	LOS A	0.1	0.5	0.18	0.56	0.18	52.3
North: Kidman Way												
7	L2	1	100.0	0.018	6.1	LOS A	0.0	0.0	0.00	0.04	0.00	55.7
8	T1	31	17.2	0.018	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.8
Approach		32	20.0	0.018	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.6
All Vehicles		140	18.8	0.042	0.8	NA	0.1	0.5	0.02	0.08	0.02	58.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [SSD Peak PM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kidman Way												
1	L2	1	0.0	0.004	5.5	LOS A	0.0	0.0	0.00	0.09	0.00	57.5
2	T1	6	16.7	0.004	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	59.1
Approach		7	14.3	0.004	0.8	NA	0.0	0.0	0.00	0.09	0.00	58.9
North: Kidman Way												
8	T1	3	66.7	0.002	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
9	R2	36	14.7	0.021	5.6	LOS A	0.1	0.8	0.05	0.58	0.05	52.3
Approach		39	18.9	0.021	5.2	NA	0.1	0.8	0.04	0.53	0.04	52.9
West: Peak Complex access												
10	L2	89	7.1	0.058	5.6	LOS A	0.2	1.8	0.04	0.56	0.04	53.2
12	R2	1	0.0	0.058	5.7	LOS A	0.2	1.8	0.04	0.56	0.04	53.0
Approach		91	7.0	0.058	5.6	LOS A	0.2	1.8	0.04	0.56	0.04	53.2
All Vehicles		137	10.8	0.058	5.3	NA	0.2	1.8	0.04	0.53	0.04	53.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Appendix E

SIDRA Results for cumulative impacts

MOVEMENT SUMMARY

Site: 101 [Dev New Cobar AM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kidman Way												
2	T1	27	3.8	0.014	0.1	LOS A	0.0	0.3	0.07	0.10	0.07	59.1
3	R2	3	100.0	0.014	6.8	LOS A	0.0	0.3	0.10	0.14	0.10	54.1
Approach		31	13.8	0.014	1.3	NA	0.0	0.3	0.08	0.10	0.08	58.6
East: New Cobar Complex access												
4	L2	5	100.0	0.007	6.8	LOS A	0.0	0.3	0.25	0.53	0.25	50.9
6	R2	1	0.0	0.007	6.2	LOS A	0.0	0.3	0.25	0.53	0.25	52.4
Approach		6	83.3	0.007	6.7	LOS A	0.0	0.3	0.25	0.53	0.25	51.1
North: Kidman Way												
7	L2	12	9.1	0.063	5.7	LOS A	0.0	0.0	0.00	0.06	0.00	57.4
8	T1	104	7.1	0.063	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	59.5
Approach		116	7.3	0.063	0.6	NA	0.0	0.0	0.00	0.06	0.00	59.2
All Vehicles		153	11.7	0.063	0.9	NA	0.0	0.3	0.03	0.09	0.03	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Dev New Cobar PM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kidman Way												
2	T1	96	16.5	0.045	0.0	LOS A	0.0	0.3	0.01	0.04	0.01	59.7
3	R2	3	100.0	0.045	6.3	LOS A	0.0	0.3	0.02	0.05	0.02	54.9
Approach		99	19.1	0.045	0.4	NA	0.0	0.3	0.01	0.04	0.01	59.6
East: New Cobar Complex access												
4	L2	4	100.0	0.014	6.3	LOS A	0.1	0.5	0.16	0.56	0.16	51.1
6	R2	11	0.0	0.014	6.1	LOS A	0.1	0.5	0.16	0.56	0.16	52.7
Approach		15	28.6	0.014	6.3	LOS A	0.1	0.5	0.16	0.56	0.16	52.2
North: Kidman Way												
7	L2	1	100.0	0.018	6.1	LOS A	0.0	0.0	0.00	0.04	0.00	55.7
8	T1	31	17.2	0.018	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.8
Approach		32	20.0	0.018	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.6
All Vehicles		145	20.3	0.045	0.8	NA	0.1	0.5	0.02	0.09	0.02	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Dev Peak AM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kidman Way												
1	L2	2	50.0	0.003	6.1	LOS A	0.0	0.0	0.00	0.19	0.00	54.4
2	T1	2	100.0	0.003	0.0	LOS A	0.0	0.0	0.00	0.19	0.00	58.2
Approach		4	75.0	0.003	2.0	NA	0.0	0.0	0.00	0.19	0.00	56.2
North: Kidman Way												
8	T1	8	75.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
9	R2	99	3.2	0.056	5.5	LOS A	0.3	1.9	0.04	0.58	0.04	52.9
Approach		107	8.8	0.056	5.1	NA	0.3	1.9	0.04	0.54	0.04	53.4
West: Peak Complex access												
10	L2	27	7.7	0.019	5.6	LOS A	0.1	0.6	0.02	0.57	0.02	53.2
12	R2	1	100.0	0.019	7.4	LOS A	0.1	0.6	0.02	0.57	0.02	50.9
Approach		28	11.1	0.019	5.7	LOS A	0.1	0.6	0.02	0.57	0.02	53.2
All Vehicles		140	11.3	0.056	5.1	NA	0.3	1.9	0.03	0.53	0.03	53.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Dev Peak PM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Kidman Way												
1	L2	1	100.0	0.006	6.1	LOS A	0.0	0.0	0.00	0.12	0.00	55.1
2	T1	8	37.5	0.006	0.0	LOS A	0.0	0.0	0.00	0.12	0.00	59.1
Approach		9	44.4	0.006	1.2	NA	0.0	0.0	0.00	0.12	0.00	58.6
North: Kidman Way												
8	T1	5	80.0	0.004	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
9	R2	36	14.7	0.022	5.7	LOS A	0.1	0.8	0.06	0.58	0.06	52.3
Approach		41	23.1	0.022	4.9	NA	0.1	0.8	0.05	0.50	0.05	53.2
West: Peak Complex access												
10	L2	94	6.7	0.061	5.6	LOS A	0.3	1.9	0.05	0.56	0.05	53.2
12	R2	1	100.0	0.061	6.7	LOS A	0.3	1.9	0.05	0.56	0.05	50.8
Approach		95	7.8	0.061	5.7	LOS A	0.3	1.9	0.05	0.56	0.05	53.2
All Vehicles		145	14.5	0.061	5.1	NA	0.3	1.9	0.05	0.51	0.05	53.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.