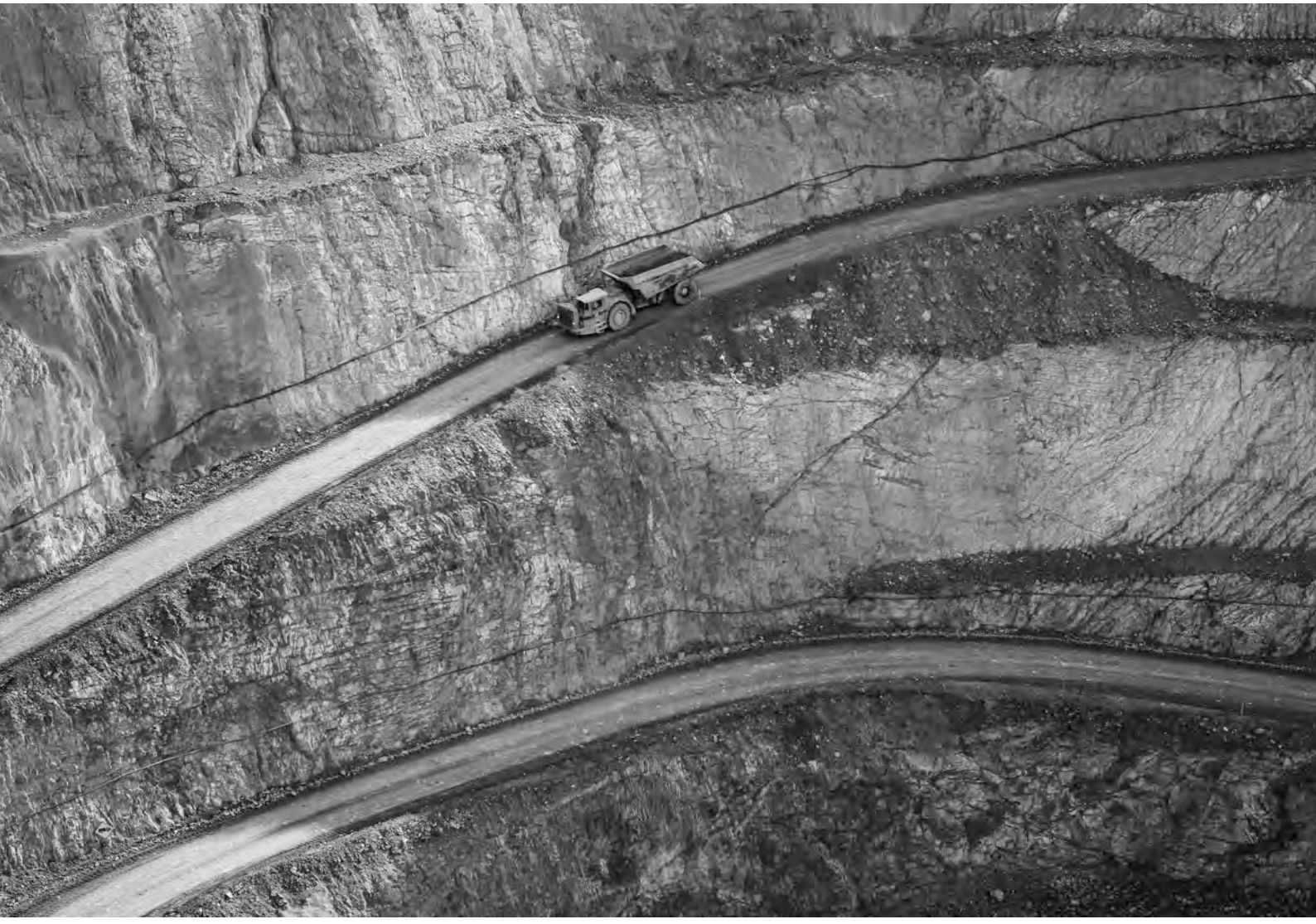
Appendix Q

Social impact assessment



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aurelia
METALS Ltd.

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

Social Impact Assessment

Prepared for Peak Gold Mines Pty Ltd
January 2021

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

Social Impact Assessment

Report Number

J190278 RP1

Client

Peak Gold Mines Pty Ltd

Date

18 January 2021

Version

v1 Draft

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18 January 2021

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18 January 2021

Executive Summary

ES1 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). 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.

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 Great Cobar and Gladstone deposits to create the New Cobar Complex Project.

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.

This social impact assessment (SIA) has been prepared to address the relevant Secretary's Environmental Assessment Requirements (SEARs), provide information to be used in the EIS and support the SSD application for the Project.

ES2 Study methodology

This SIA has been informed by best practice guidance and standards set out by the International Association for Impact Assessment (IAIA) and International Finance Corporation (IFC), and developed in accordance with the NSW Department of Planning, Industry and Environment[1] (DPIE) guideline *Social impact assessment guideline: For State significant mining, petroleum production and extractive industry development, September 2017* (SIA Guideline) (DPE 2017). The assessment of the social impacts considered a range of complex factors and often competing interests. The impact assessment is reflective of this and has:

- assessed some aspects of the Project as both negative and positive as they relate to different groups of people;
- included negative impacts on local communities while documenting the benefits to the broader region;
- identified management strategies to maximise identified benefits and mitigate and minimise negative impacts;

[1] Formerly the Department of Planning and Environment at the time of publication of the SIA Guideline.

- considered the impacts on vulnerable groups and provided management strategies to ensure that any existing disadvantages are not exacerbated; and
- considered each community's access to critical resources, such as housing and health care, and how this affects their resilience.

A social impact workshop was conducted to assess impacts using a social risk framework based on a combination of consequence and likelihood. The social risk assessment is informed by the data collected from the literature review, social baseline study, review of the EIS technical studies, and conducted SIA field study.

ES3 Existing environment

The Project is located south of the town of Cobar and as such its community makes up the **local area of social influence** for the Project.

The Project will have a broader reach due to supply chains, haulage routes, transportation of goods, materials and equipment, and the movement of its workforce, some of which may have drive-in-drive-out and/or fly-in-fly-out arrangements (DPE 2017). These factors require the area of social influence to include regional areas likely to be impacted by the Project which will extend to the whole of the Cobar LGA region. This region forms the **regional area of social influence**. Communities in this region will have the potential to benefit and/or be impacted as a result of the Project.

ES4 Potential impacts and benefits of the proposal

The key potential social impacts and benefits identified were:

- Way of life impacts:
  - drawdown of bore water affecting use of the Cobar District Rugby Club grounds;
  - noise and vibrations from blasting causing amenity issues; and
  - livelihood benefits from ongoing employment and mining operation.
- Community impacts:
  - social cohesion, capital, and resilience benefits in the local community.
- Health and wellbeing impacts:
  - stress due to noise and vibration from blasting;
- Fears and aspirations impacts:
  - community cohesion issues related to mining workforce; and
  - continuity of mining operation in Cobar.

The above and other potential social impacts and benefits identified are described in Section 8.

ES5 Proposed mitigation measures

Mitigation and management strategies have been proposed for each of the identified potential social impacts to minimise negative consequences and to maximise social benefits for the local community. Performance indicators will be developed by PGM for each mitigation and enhancement measure in consultation with stakeholders and will be monitored throughout the Project life span by PGM.

An adaptive approach will allow PGM to manage and respond to changing circumstances and new information over time through ongoing monitoring and periodic review of mitigation strategies; this will allow for modification if required and if appropriate. This adaptive approach will ensure that the management of social impacts identified in the SIA will result in effectively minimising negative social impacts and maximising social benefits for the local community.

ES6 Conclusions

This SIA provides an assessment of potential social impacts and benefits associated with the Project. It identifies the relevant social issues, social impacts and benefits, and associated mitigation and enhancement measures applicable to the design, construction, and operation of the Project.

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1 Introduction

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

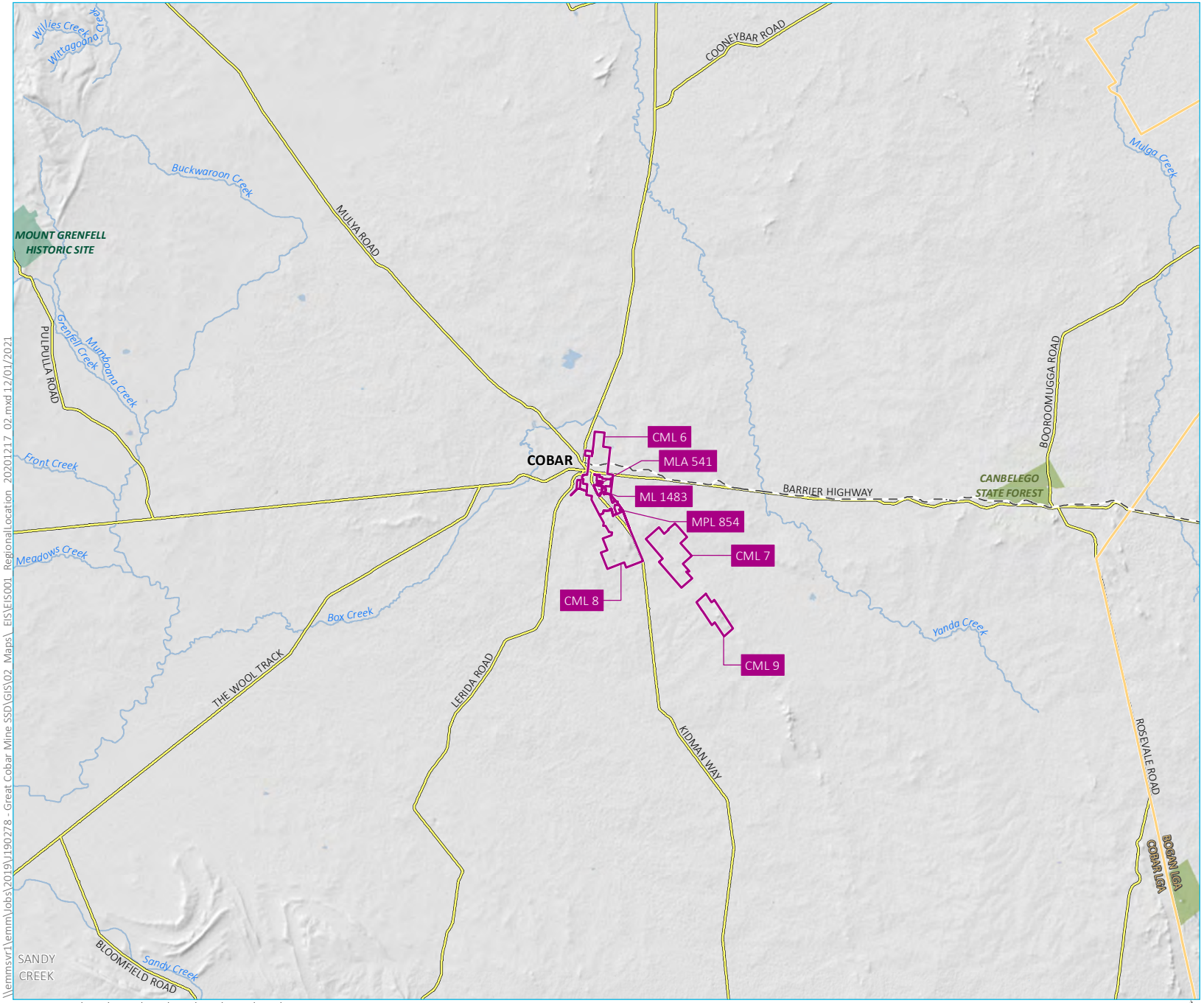
PGM has been operational since mining commenced at the Peak deposit in 1991 producing gold, copper, lead, zinc and silver. Mining at the New Cobar Complex commenced with the open cut in 2000, then transitioned to underground mining in 2004.

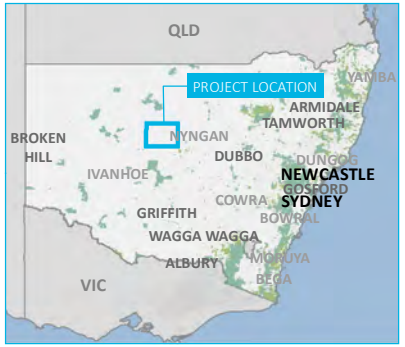
The current CSC development approvals at Peak Complex and New Cobar Complex allow for the operations to continue indefinitely and process up to 800,000 tonnes per annum (tpa) of ore. Ore processing, tailings storage and concentrate handling is undertaken at the Peak Complex with ore from the New Cobar 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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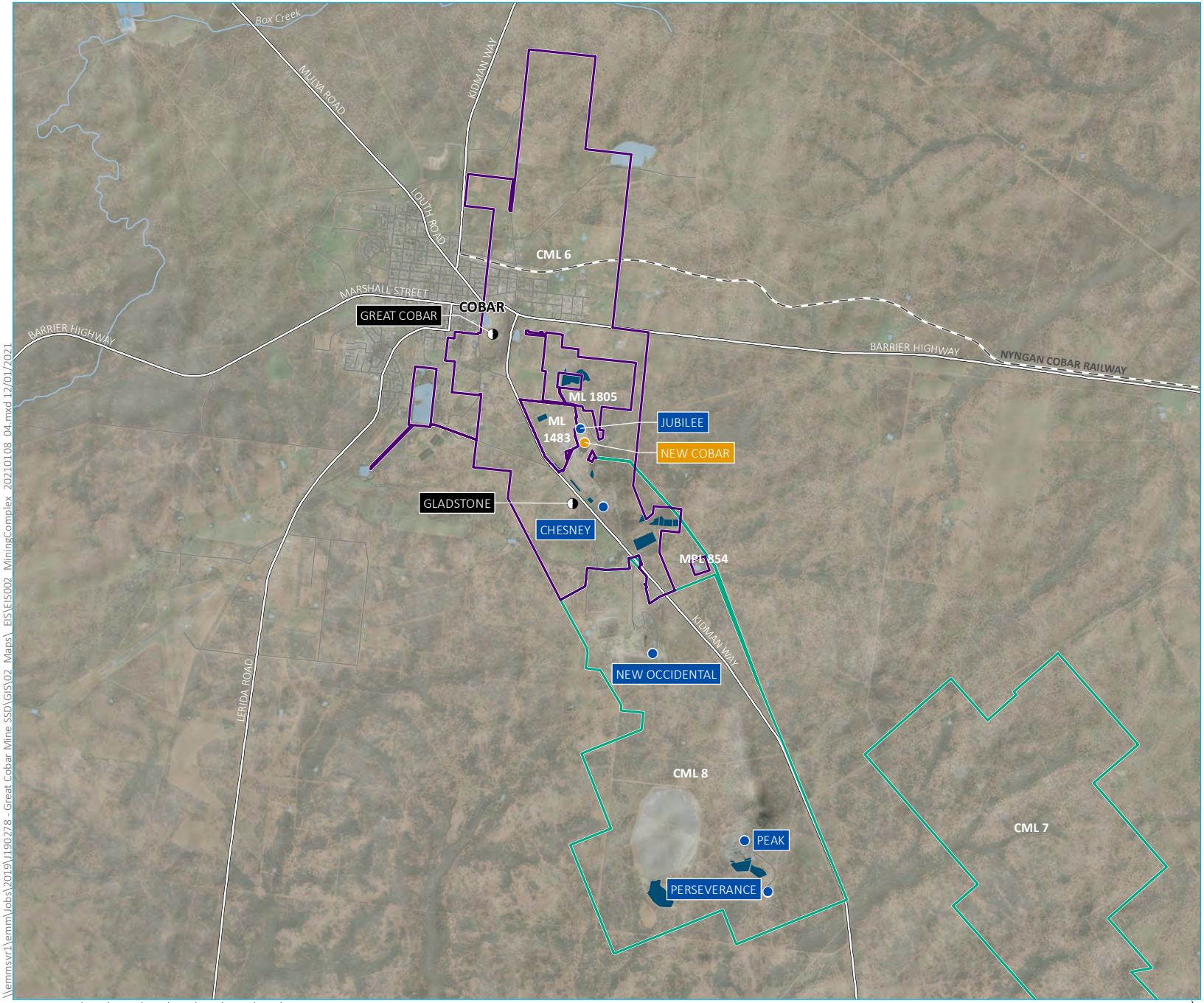
Regional location of the Peak Gold Mine

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

EMM creating opportunities



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

Mining leases and mining complexes

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

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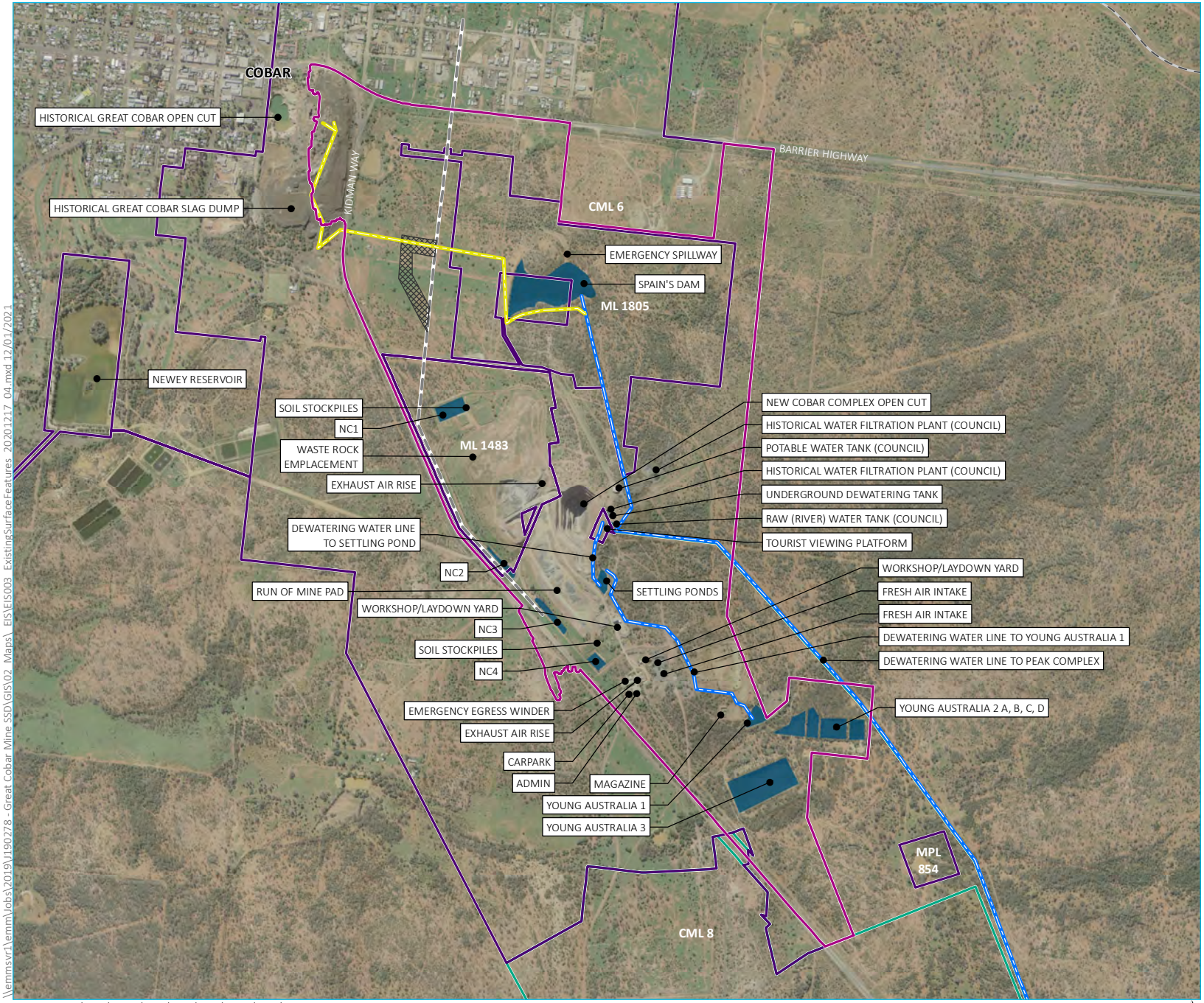
1.1.2 Project overview

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 (e.g. 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 (e.g. tailings dam lifts).
- Deposition of potentially acid forming waste rock brought to the surface and stored within the WRE where it can be used for construction activities (e.g. internal batters of tailings dam lifts) or at end of mine life it will be capped, or progressively returned underground for disposal.
- Continuation of all other approved activities within the New Cobar Complex.



KEY

- Project area
- Pipeline route
- Great Cobar dewatering pipeline
- Existing 22 kV powerline
- Rail line
- Proposed power line corridor
- Mine water management storage

Mining lease boundaries

- New Cobar Complex
- Peak Complex

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

0 0.5 1 km

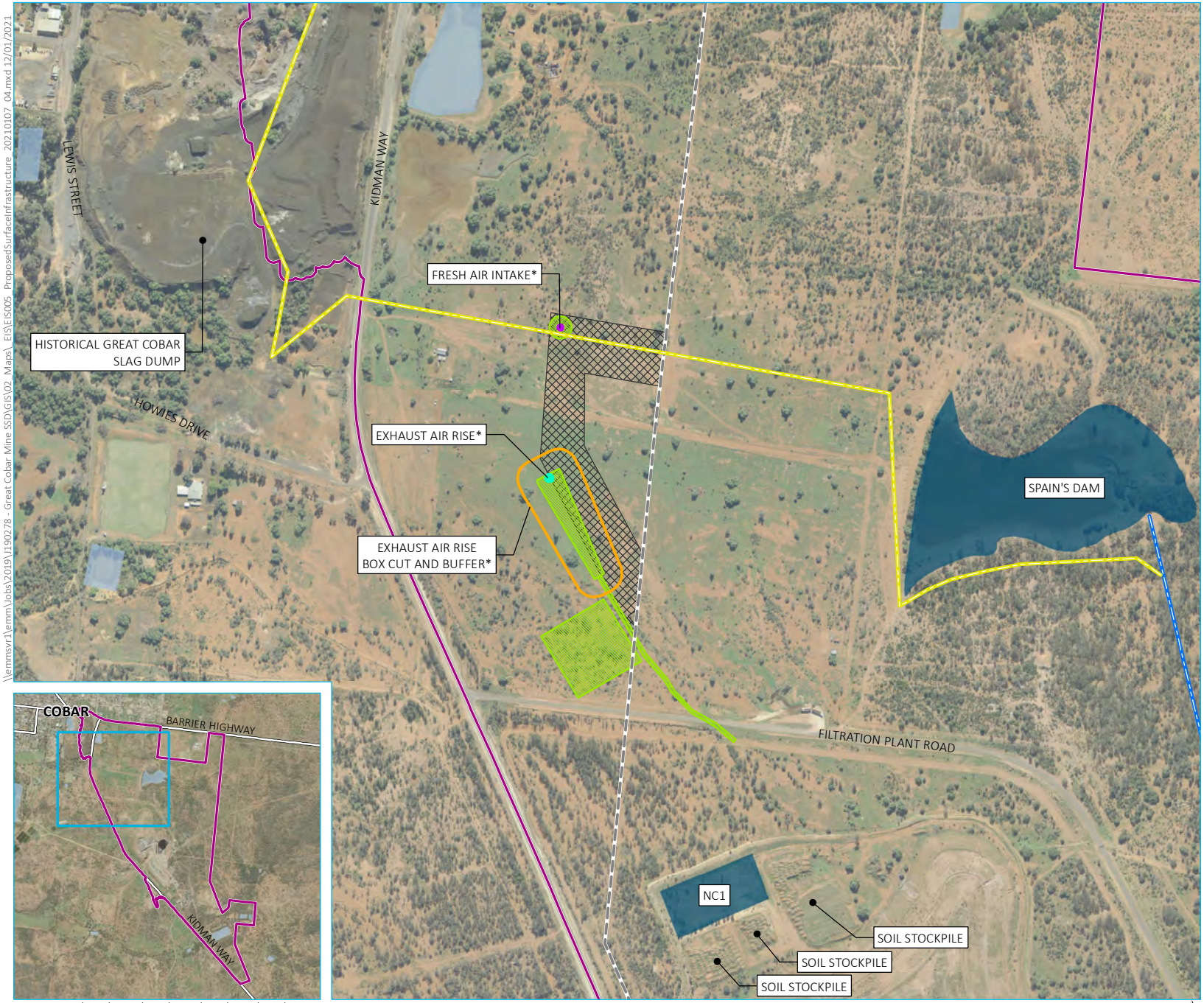
GDA 1994 MGA Zone 55

N

Existing surface features

Peak Gold Mines
New Cobar Complex Project
Social 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
Social 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 Pty Ltd (EMM) has been engaged by PGM to prepare and submit an environmental impact statement (EIS) to support an SSD application for the Project 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 in December 2019; these were received in February 2020 and amended in October 2020 following the receipt of a Biodiversity Development Assessment Report (BDAR) waiver. The SEARs included requirements to assess potential social risks associated with the construction and operation of the Project. This social impact assessment (SIA) 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 social related matters and EMM responses are tabulated in Table 1.1.

Table 1.1 Summary of SEARs for social impacts

SEARs		Report section
Social		
An assessment of the likely social impacts of the development on the local and regional community generally in accordance with the Social Impact Assessment Guidelines for State Significant Mining, Petroleum Production and Extractive Industry Development (2017), including:		Across all sections but in particular in Section 8
a)	the likely impacts of the development on the local community;	8
b)	cumulative impacts (considering other mining developments in the locality); and	8.6
c)	consideration of workforce accommodation.	8.1.7 and 8.5.1,

This SIA report supports the EIS for the Project. It documents the assessment methods and results, the initiatives built into the Project design to avoid and minimise associated impacts to the local community, and the mitigation and management measures proposed to address any unavoidable residual impacts.

This SIA report has been prepared in accordance with relevant government assessment requirements, guidelines and policies, including the *Social impact assessment guideline: For State significant mining, petroleum production and extractive industry development* (SIA Guideline) (DPE[2] 2017) (see Section 0). This SIA addresses the social impacts and benefits of the Project to the local region, and to the State. It considers whether the Project increases the demand for community infrastructure and services. Each of the factors identified by the SEARs were considered

[2] The Department of Planning and Environment has been replaced by the Department of Planning, Industry and Environment following the publication of the SIA Guideline.

and addressed as a component of the SIA using evidence from the social baseline, community input, academic and government research, and findings of the technical studies.

The specific objectives of this SIA are to:

- describe the existing social conditions and demographic profile;
- identify and assess the extent and nature of potential social risks;
- evaluate the significance of the social impacts, both positive and negative, arising from the Project;
- provide mitigation measures to reduce the negative social impacts and enhancement measures for significant positive impacts; and
- develop a monitoring and management framework.

2 Project description

Specific details of the Project are presented in Table 2.1 in the context of existing PGM approvals. For a full, detailed Project description, please see Chapter 2 of the New Cobar Complex EIS.

Table 2.1 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 stoping level, voids are backfilled. In some instances, mining against rock fill is required. In these instances, a	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. 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.

Table 2.1 Detailed overview of the Project

Development component	Approved New Cobar Complex operations	New Cobar Complex Project SSD
	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.	
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 2.1 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 2.1 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 2.1 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 Methodology

The scope of this SIA has been developed in accordance with the:

- SEARs for the Project;
- social characteristics and community values of the local area and CSC; and
- SIA Guideline (DPE 2017).

The assessment of social impacts was conducted using the SIA Guideline (DPE 2017) definition of social impacts which refers to potential changes to people's:

- **way of life**: how people live, work, play and interact;
- **community**: its composition, cohesion, character, how it operates and sense of place;
- **access to and use of infrastructure, services and facilities**: provided by all levels of government, not-for-profit organisations, or volunteers;
- **culture**: shared beliefs, customs, values and stories, and connection to land, places and buildings;
- **health and well-being**: physical and mental health;
- **surroundings**: access to and use of ecosystems, public safety and security, access to and use of natural and built environment, aesthetic value and/or amenity;
- **personal and property rights**: economic livelihoods, personal disadvantage or civil liberties;
- **decision-making systems**: the extent to which members of the community can have a say in decisions that affect their lives, access to complaint, remedy and grievance mechanisms; and
- **fears and aspirations**: related to any of the above impacts, or about future of their community.

This SIA has been informed by best practice guidance and standards set out by the International Association for Impact Assessment (IAIA) and International Finance Corporation (IFC).

3.1 Social impact assessment scope

The scope of this SIA has been developed in accordance with:

- SEARs, issued by DPIE on 13 February 2020. The SEARS state:

  > **Social:** including an assessment of the likely social impacts of the development on the local and regional community generally in accordance with the Social Impact Assessment Guidelines for State Significant Mining, Petroleum Production and Extractive Industry Development (2017), including the likely impacts of the development on the local community, cumulative impacts (considering other mining developments in the locality), and consideration of workforce accommodation;

- the SIA Guideline (DPE 2017); and

- the social characteristics and community values of the local area and CSC.

To inform preparation of the SEARs, DPIE invited relevant government agencies to advise on matters to be addressed in the EIS. These matters were considered by the Secretary for DPIE when preparing the SEARs.

3.2 Area of social influence

This SIA addresses the social impacts and benefits of the Project to the local area, the region, and to the State. It considers whether the Project increases the demand for community infrastructure and services.

This SIA, including determination of the area of social influence, has been prepared in accordance with the SIA Guideline (DPE 2017).

The area of social influence is described in Section 5.1. In identifying the area of social influence, supply chains, haulage of resources, transport of goods, materials and equipment, and the movement of workers (including fly-in-fly-out and drive-in-drive-out working arrangements) were considered. Other considerations included the scale and nature of the Project and its associated activities; those that may be affected by the Project (see Section 3.3); potentially affected built or natural features located identified as having social value or importance; relevant social trends and social change processes being experienced by local communities; and the history and background of the Project and how local communities have experienced the Project and other mines to date.

3.3 Potentially affected communities

This section describes potentially affected communities in the local and regional areas which may be impacted, negatively or positively, by the Project.

The key consideration for identifying potentially affected communities is the risk of social impacts (negative and positive) as a result of the Project. Factors considered in defining potentially affected communities include:

- proximity of properties and communities to the Project and its access routes;
- vulnerabilities that increase risk, and/or magnitude of potential impacts on communities or groups;
- the role, culture and identity of communities in the region;
- availability, and capacity of, housing and other social infrastructure to attract and support potential growth;
- availability of skilled workforce and experienced personnel, or ability of residents to gain the skills required for the mining industry;
- native title rights and other interests held by Aboriginal and/or Torres Strait Islander groups;
- location of businesses who could supply the Project;
- communities and vulnerable groups potentially affected by other projects within the region; and
- likelihood of social impacts and opportunities for each town.

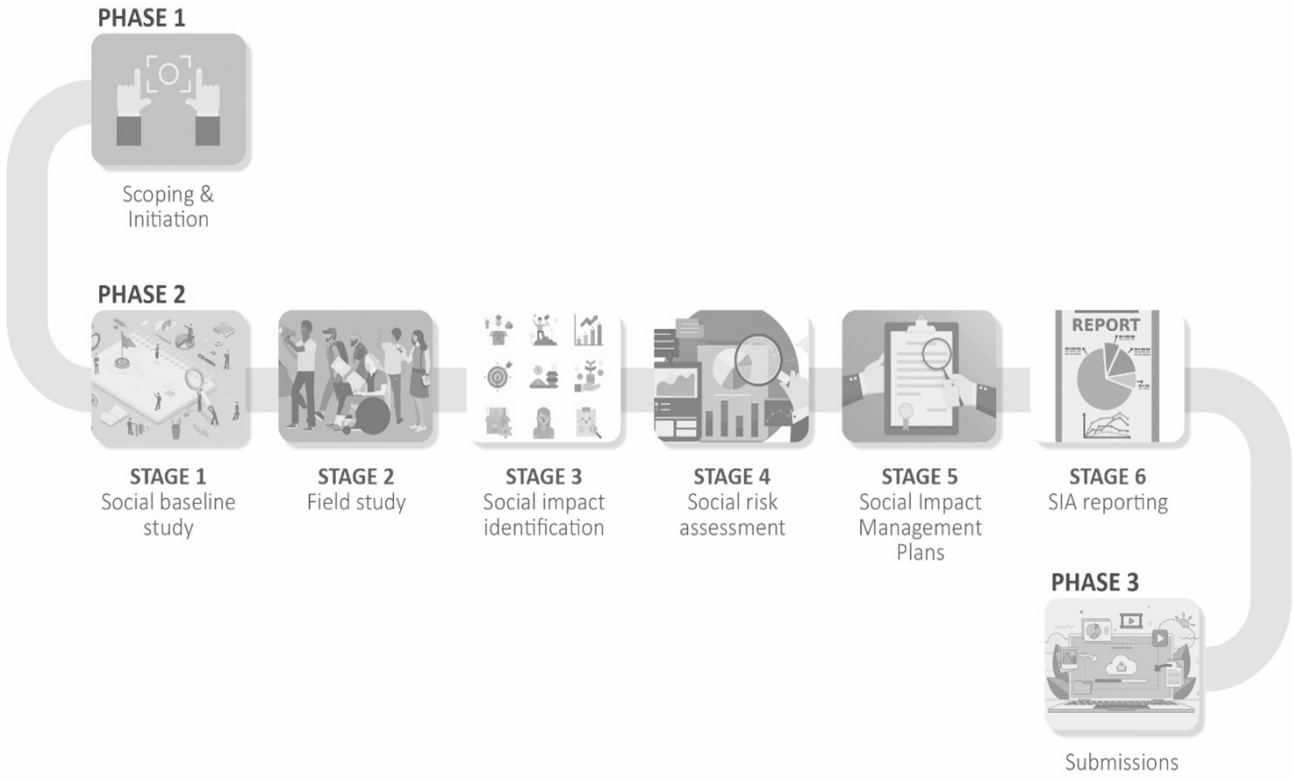
Members of the local community and stakeholders with the potential to benefit or be impacted by the Project include:

- residents of the township of Cobar;
- Cobar Local Aboriginal Land Council;
- landholders and nearby neighbours, including businesses;
- service providers, including health services, education services, and emergency services;
- local businesses and industries; and
- current employees of the operation.

3.4 Methodological approach

The methodology used for this SIA follows the SIA Guideline (DPE 2017). The phases of the SIA methodology are described in Figure 3.1.

Figure 3.1 Phases of the SIA methodology



Phase 1

Scoping and initiation

A scoping report for the Project was prepared by EMM on behalf of PGM and submitted to DPIE on 20 December 2019. Stakeholder engagement meetings and workshops were undertaken by PGM and EMM in September 2019 to inform the scoping report.

The SIA Guideline (DPE 2017) requires that the applicant identify and understand the Project's area of social influence. As such, a demographic profile was developed through stakeholder consultation and the area of social influence was identified during the scoping phase and proposed in the scoping report submitted to DPIE in Phase 1.

Phase 2

Stage 1 – Social baseline study

Understanding the existing social environment and identifying trends relevant to potential social impacts was the first step in the preparation of the SIA. A social baseline study was prepared using existing demographic, health, housing, and socio-economic data from the Australian Bureau of Statistics, government agencies, and local government; published literature and social research; government policies and plans; and documents relating to similar resource projects to:

- provide a community profile, including a socio-economic profile of the area of social influence;
- provide an analysis of the social infrastructure and capacity within the area of social influence; and
- review relevant government strategic policies and plans.

The baseline study conducted by EMM provides the benchmark against which potential social impacts are identified and assessed and informs subsequent stages. The baseline study is presented in Appendix B.

Stage 2 – Field study

Due to the COVID-19 pandemic, social distancing requirements were enforced during all field studies, community consultation and engagement activities. The specific methods and outcomes of the community engagement and SIA field studies are presented Section 6.

Key engagement objectives set out in the SIA Guideline include "understanding the interests that potentially affected and interested people have in the project; and how potential impacts are predicted to be experienced from their perspectives" and "considering the views of potentially affected and interested people in a meaningful way, and using these insights to inform project planning and design, mitigation and enhancement measures, and monitoring and management frameworks" (DPE 2017, p.12).

Community consultation used social research methods, including surveys and in-depth interviews, to collect qualitative and quantitative data to:

- validate baseline data and assumptions;
- identify/test impacts that may be experienced by nearby neighbours and the broader community;
- confirm identified impacts and determine potential management strategies; and
- provide communities with opportunities to express their concerns.

PGM will continue to ensure there are opportunities for community members to comment on the Project as it progresses through the approvals process.

Stage 3 – Social impact identification

With a clear understanding of the scope of the Project, social baseline and input from the field study, expert social scientists (see Appendix C) identified the Project's potential social impacts. This analysis informed the socio-economic risk assessment (Stage 4).

The identification of the Project's potential social impacts and benefits was completed through several different complementary approaches, helping to triangulate the findings and confirm their accuracy. These approaches included:

- Consideration of environmental constraints – review of previously identified environmental impacts created by the Project and other similar projects in the local area as well as available literature to identify potential impacts.
- Consideration of field findings – findings from field studies contributed to the identification of potential impacts and benefits from the Project. Field studies were also be used to identify opportunities.
- Consideration of technical reports – findings from other technical disciplines that contributed to the EIS were reviewed and potential social impacts identified.
- Consideration of cumulative impacts – review of documentation from other existing projects in the social area of influence.
- Consideration of local plans and policies – findings from the review aided to contextualise and understand the local priorities as well as to identify local values.

Stage 4 – Social risk assessment

The social risk assessment stage assessed each of the social impacts identified to predict the nature and scale of potential social impacts for the life of the Project and post closure. A social risk assessment workshop to consider all identified potential social impacts was conducted on 20th of November 2020, where all members of the SIA technical team (see Appendix D) participated. A social risk approach was adopted to assess the consequence and likelihood of potential positive and negative social impacts with and without mitigation. The social risk assessment matrix used for the assessment can be found in Appendix A.

Stage 5 – Social impact mitigation and management

A mitigation and management framework was prepared for all potential social impacts and benefits to allow for the identification of:

- required impact mitigation measures;
- enhancement measures to maximise the potential benefits; and
- partnership opportunities.

Findings from Stages 1–5 were used to distil and analyse recommendations for the SIA report. This stage used a multidisciplinary approach lead by EMM's social scientists supported by environmental advisers.

Stage 6 – SIA reporting

Development of this SIA technical report and internal peer review were conducted by EMM's social team and project management team.

4 Political and planning context

This section provides a summary of the relevant plans and strategies across Cobar LGA area that inform the social risk assessment and mitigation and management strategies.

4.1 Federal

At a federal level, the Project is located within the federal electorate of Parkes, which is currently represented (in the House of Representatives) by Hon Mark Coulton MP, member of the National Party of Australia. The Hon Mark Coulton MP is also the Minister for Regional Health, Regional Communications and Local Government.

There are no specific federal legislative or regulatory instruments that directly impact on the social impact assessment for the Project, however, the release of the *Keep it in the regions report* (Commonwealth of Australia 2018) in November 2018 is relevant. The report recommends several measures aimed at increasing the potential for local communities to benefit economically from resourcing projects located near their community.

4.2 State

The NSW Parliament consists of a Legislative Assembly (lower house) and Legislative Council (upper house).

At a state level, the Project sits within the NSW state electorate of Barwon. The current member for Barwon is Roy Butler MP of the Shooters, Fishers and Farmers Party.

The recognition, protection, and conservation of cultural heritage sites and protected areas fall under the *Environmental Protection and Biodiversity Conservation Act 1999* administered by the Department of Agriculture, Water. Additionally, DPIE administer acts and regulations which concern the recognition, protection and conservation of cultural heritage sites and protected areas. Such acts are the *NSW Environment Biodiversity Conservation Act 2016*, *National Parks and Wildlife Act 1974*, *Protection of Environmental Operations Act 1997* and the *National Parks and Wildlife Regulation 2009*.

DPIE is responsible for administering the EP&A Act and its subordinate legislation and policies:

- *Environmental Planning and Assessment Act Regulation 2000;*
- *State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004;*
- *State Environmental Planning Policy (Major Development) 2005;*
- *State Environmental Planning Policy (Infrastructure) 2007;*
- *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007; and*
- *Planning Legislation Amendment Bill 2019*

As the capital investment value of the proposed expansion will be greater than $30M, the development is considered a State Significant Development with respect to the *Environmental Planning and Assessment Act 1979* and the *State Environmental Planning Policy (State Regional Development) 2011* and therefore requires approval from the State. As a result, PGM is seeking to consolidate all existing development consents applicable to the New Cobar Complex within a single modern consent issued by DPIE.

4.2.1 State strategies

i A 20-Year Economic Vision for Regional NSW, 2018–2038

A 20-Year Economic Vision for Regional NSW 2018–2038 presents a strategy for Regional NSW that encourages its role as a vibrant and growing part of the NSW economy, and fosters decisions to live in the regions. The vision is organised into five sections that form a pathway to a prosperous Regional NSW. The sections include:

- a snapshot of Regional NSW today that presents the current economic and demographic environment, with particular mention of the thriving agricultural, energy and resources industries, and strong manufacturing, tourism, and services sectors;
- the global forces shaping regional economies, and the implications of these trends;
- the means of rising to economic challenges, such as investing in infrastructure, skills, advocacy and promotion, and the business environment;
- a presentation of a bright future for Regional NSW that highlights growth in key sectors, increased regional populations, and supporting infrastructure and services; and
- the current priorities for the NSW government.

ii State Infrastructure Strategy 2018, Infrastructure NSW, 2018–2038

This 20-year Strategy sets out Infrastructure NSW's independent advice on the current state of NSW's infrastructure and the needs and priorities over the next 20 years. It looks beyond the current projects and identifies policies and strategies needed to provide infrastructure that meets the needs of a growing population and a growing economy.

The Strategy is comprised of three sections. These include:

- strategic directions: six cross-sectoral strategic directions are incorporated into the strategy to ensure good-practice across infrastructure sectors and throughout infrastructure lifecycles;
- geographic infrastructure directions: the strategy recognises the different opportunities and needs experienced within NSW, Regional NSW, and Greater Sydney and Outer Metro, and outlines geographic-specific approaches for infrastructure planning, investment and policy; and
- sectors: using the strategic and geographic infrastructure directions, policy and investment strategies are outlined across key infrastructure sectors (i.e. transport, energy, water, health, education, justice, and culture, sport and tourism).

The State Infrastructure Strategy (Infrastructure NSW 2018) identifies mining as a key industry in several regions across NSW, including Cobar. Strategic objectives are presented for infrastructure that supports the mining industry, particularly water and transportation, to ensure its continued economic viability.

iii Far West Regional Plan 2036, DPIE, 2017–2036

The regional plan acknowledges the opportunity for improved regional coordination and local leadership throughout the Far West region. Some key elements of this plan include:

- requirement for investment in roads, rail networks, and telecommunications to enhance opportunities in various sectors (including mining);

- recognition of the mining presence in Cobar, and a commitment to the sustainable management of mineral resources, with particular attention to local employment, economic diversification, long-term land use considerations, and strategic water and energy use and infrastructure;
- actions to empower Aboriginal peoples through business development;
- the management of natural assets; and
- the provision of better services, education and employment to encourage younger people to stay in the region.

4.2.2 State policies and guidelines

i Social impact assessment guideline for State significant mining, petroleum production and extractive industry development, DPE, 2017

The SIA Guideline provides direction on assessing impacts arising from state significant resources projects in the context of the environmental impact assessment (EIA) process under the EP&A Act. In this guideline, SIA is the process of identifying, predicting, evaluating and developing responses to the social impacts of a proposed state significant resource project which requires proportionate and tailored assessment to suit each project's context and the nature and scale of its potential impacts and benefits.

The objectives of this guideline are to:

- provide a clear, consistent and rigorous framework for identifying, predicting, evaluating and responding to the social impacts of State significant resource projects, as part of the overall EIA process;
- facilitate improved project planning and design through earlier identification of potential social impacts;
- promote better development outcomes through a focus on minimising negative social impacts and enhancing positive social impacts;
- support informed decision-making by strengthening the quality and relevance of information and analysis provided to the consent authority;
- facilitate meaningful, respectful and effective community and stakeholder engagement on social impacts across each EIA phase, from scoping to post-approval; and
- ensure that the potential social impacts of approved projects are managed in a transparent and accountable way over the project life cycle through conditions of consent and monitoring and reporting requirements.

ii Community and stakeholder engagement draft environmental impact assessment guidance series, DPE, 2017

The community and stakeholder engagement (CSE) guideline describes how DPIE expects proponents to engage with the community and other stakeholders during EIA for state significant projects. It emphasises earlier engagement, commencing during the scoping phase, and improved participation throughout EIA, by focusing on what participation is to achieve and allowing proponents to choose from a range of techniques to best meet outcomes. The primary audience of this guideline is proponents and their teams, who are responsible for engaging with the community and other stakeholders during EIA. This guideline also provides the community and other stakeholders with a better understanding of how, when and on what they can provide feedback, and how it will be addressed by proponents and decision-makers.

The CSE guideline outlines specific requirements for community and stakeholder participation for all phases of the planning approvals process, including:

- scoping of the EIS;
- preparation of the EIS;
- EIS exhibition and responding to submissions;
- assessment and determination;
- post-approval; and
- during modifications.

4.3 Local

The Project is located in the Cobar LGA which has the highest proportion of directly impacted stakeholders. A summary of the relevant CSC Mayor and Councillors (Cr) is provided in Table 4.1.

Table 4.1 Councillors, 2020

Role	Councillors	
Mayor	Cr Lilliane Brady OAM	
Deputy Mayor	Cr Peter Abbott	
Councillors	Cr Janine Lea-Barrett	Cr Bob Sinclair
	Cr Jarrod Marsden	Cr Harley Toomey
	Cr Peter Maxwell	Cr Kate Winders
	Cr Julie Payne	Cr Peter Yench

CSC has regional and strategic plans that articulate their vision for the future of their community. These are summarised in Table 4.2.

Table 4.2 Regional Planning Context

Plan/Strategy	Summary	Responsibility	Timeframe
Cobar Shire Council Community Strategic Plan	The Community Strategic Plan is part of CSC's Strategic Planning Framework, which also includes their Community Engagement Strategy, Delivery Program, Annual Operational Plan, and Resource Strategy. The plan is a long-term strategy spanning 13 years that identifies the key values and challenges within the community, strategic response to these challenges that reflects community visions and values, and outcome measures. It is built on the social justice principals of equity, access, participation, and rights. It is informed by the NSW State Plan 2021, the RDA Orana Plan, and community consultation. The issues, challenges, and outcomes are addressed under the categories: • community strategies, • economic strategies, • governance strategies, • infrastructure strategies, and • environmental strategies. Key focus areas that relate to the Project include support for families and young people to attract and retain them in the region; provision of adequate social infrastructure and services; and development of initiatives to maximise the benefits and minimise the negative impacts of mining.	Cobar Shire Council	2017 – 2030
Cobar Shire Council Community Engagement Strategy	The Community Engagement Strategy outlines the ways in which CSC aims to improve their relationship with the community and relevant stakeholders through the establishment of goals and principals for community engagement. This strategy indicates how CSC will engage with the community, both relating to the development of the Community Strategic Plan and into the future. The plan establishes specific engagement strategies for a variety of identified target groups. Many of the groups identified as being key stakeholders in the consultation process reflect the potentially impacted groups and stakeholders within the Project. These groups include miners, farmers, youth, community and sporting organisations, Indigenous groups, CSC councillors and staff, persons with a disability, aged persons, business and tourism groups, health organisations, Rural Roads Advisory Committee, and the general community.	Cobar Shire Council	2017 – 2030

Table 4.2 Regional Planning Context

Plan/Strategy	Summary	Responsibility	Timeframe
Cobar Shire Council Delivery Program	The Delivery Program creates a link between the planning outlined in the Community Strategic Plan and the means of implementation identified in the Annual Operational Plan, focusing on the strategies and activities that Council specifically will undertake within their 4-year term to achieve the community objectives. The services, initiatives and programs that CSC intends to undertake include: • an active participation in the Far West initiative and other government groups; • updating the Youth Development Plan and the creation of youth recreational activities; • work with schools and TAFE to diversify educational opportunities; and • development initiatives to minimise the negative impact of fly-in/flyout and drive-in/drive-out (FIFO/DIDO) and shift work and encourage residential living for employees.	Cobar Shire Council	2017/2018 – 2020/2021
Cobar Shire Council Annual Operational Plan	The Annual Operational Plan outlines CSC's services and infrastructure activities and tasks for the year. The plan is organised into: • community strategies, • economic strategies, • governance strategies, • infrastructure strategies, and • environmental strategies. Each strategy category includes specific intended community outcomes, and associated council strategies and activities to meet these outcomes. CSC actions and strategies relevant to the Project include: • to develop and implement new ideas to bring people to Cobar; • to maintain and improve village facilities and services; and • to communicate any complaints or concerns on air pollution to the mines or relevant state regulatory authorities.	Cobar Shire Council	2019/2020
Cobar Shire Council Resource Strategy: Asset Management Policy and Strategy	The Asset Management Policy provides guidelines for implementing consistent Asset Management processes throughout CSC. This policy intends to ensure sustainable and long-term provision of major assets throughout Cobar. The Asset Management Strategy outlines how asset management objectives will be achieved. The strategy supports and implements the policy and demonstrates how CSC's assets support the needs of the community.	Cobar Shire Council	Various timeframes
Cobar Shire Council Resource Strategy: Asset Management Plans	The Resource Strategy Asset Management Plans present long-term approaches to the management of specific assets, including actions to be taken and resources involved with each asset. These plans provide a defined level of service to be provided throughout each asset group's lifecycle, identifying the most cost-effective management options, tools for performance monitoring, and linkages to the CSC's financial plans. The Project has the potential to impact multiple CSC assets, such as: transport, buildings, recreation, and water supplies.	Cobar Shire Council	Each asset management plan's timeframe varies, as they are based on the identified lifecycle of the physical asset.

5 Social baseline

This chapter provides a summary of the baseline information for the local area and key social conditions for the area of social influence for the Project that contribute to the identified social impacts. The complete baseline study that forms the basis for this SIA is provided in Appendix B.

5.1 Area of social influence

The Project is located south of the town of Cobar and as such its community makes up the **local area of social influence** for the Project.

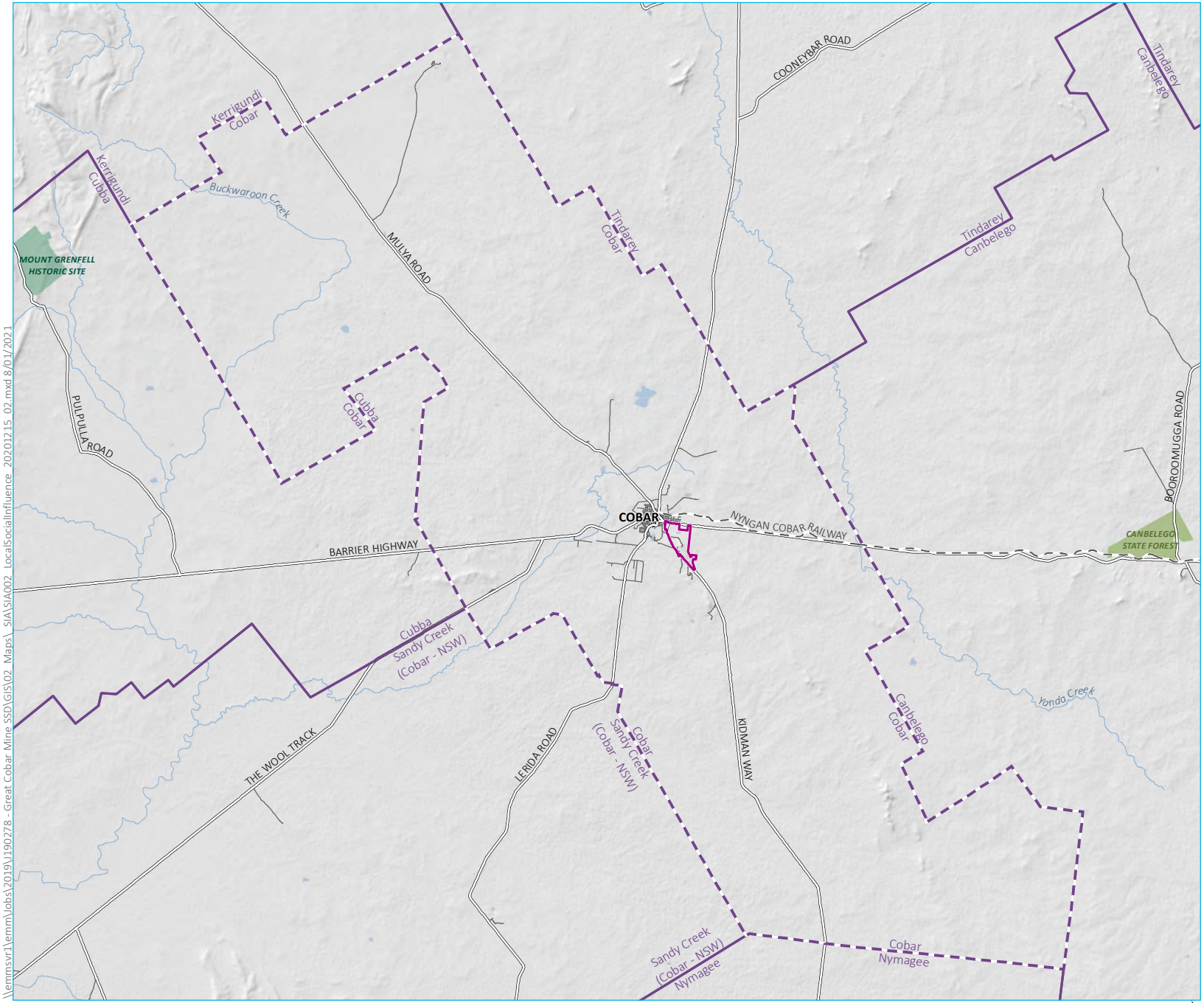
The Project is likely to have a broader reach due to supply chains, haulage routes, transportation of goods, materials and equipment, and the movement of its workforce, some of which may have drive-in-drive-out and/or fly-in-fly-out arrangements (DPE 2017). These factors require the area of social influence to include regional areas likely to be impacted by the Project which will extend to the Cobar LGA region. This region forms the **regional area of social influence**. These communities have the potential to benefit and/or be impacted as a result of the Project.

For comparative purposes, Far West and Orana SA4 is identified as the **area of reference**. This area will provide social trends and data for communities more consistent with the local and regional areas of influence, thus providing a meaningful point of comparison. Similarly, comparison is made against the State of NSW.

These communities have been mapped to the Australian Bureau of Statistics (ABS) categories used for data collection (Table 5.1) and the local and regional area of social influence (hereto referred to as local area or regional area), illustrated in Figure 5.1 and Figure 5.2.

Table 5.1 Area of social influence

Areas	Geographic area	ABS data category	Referred to in report as:
Local area of social influence	Cobar Suburb	Cobar State Suburb (SSC)	Local area
Regional area of social influence	Cobar region	Cobar LGA	Regional area
Area of reference	Far West and Orana region	Far West and Orana SA4	Area of reference
State of New South Wales	State of New South Wales	New South Wales STE	NSW



Source: EMM (2020); ABS (2016); DFSI (2017); GA (2011)

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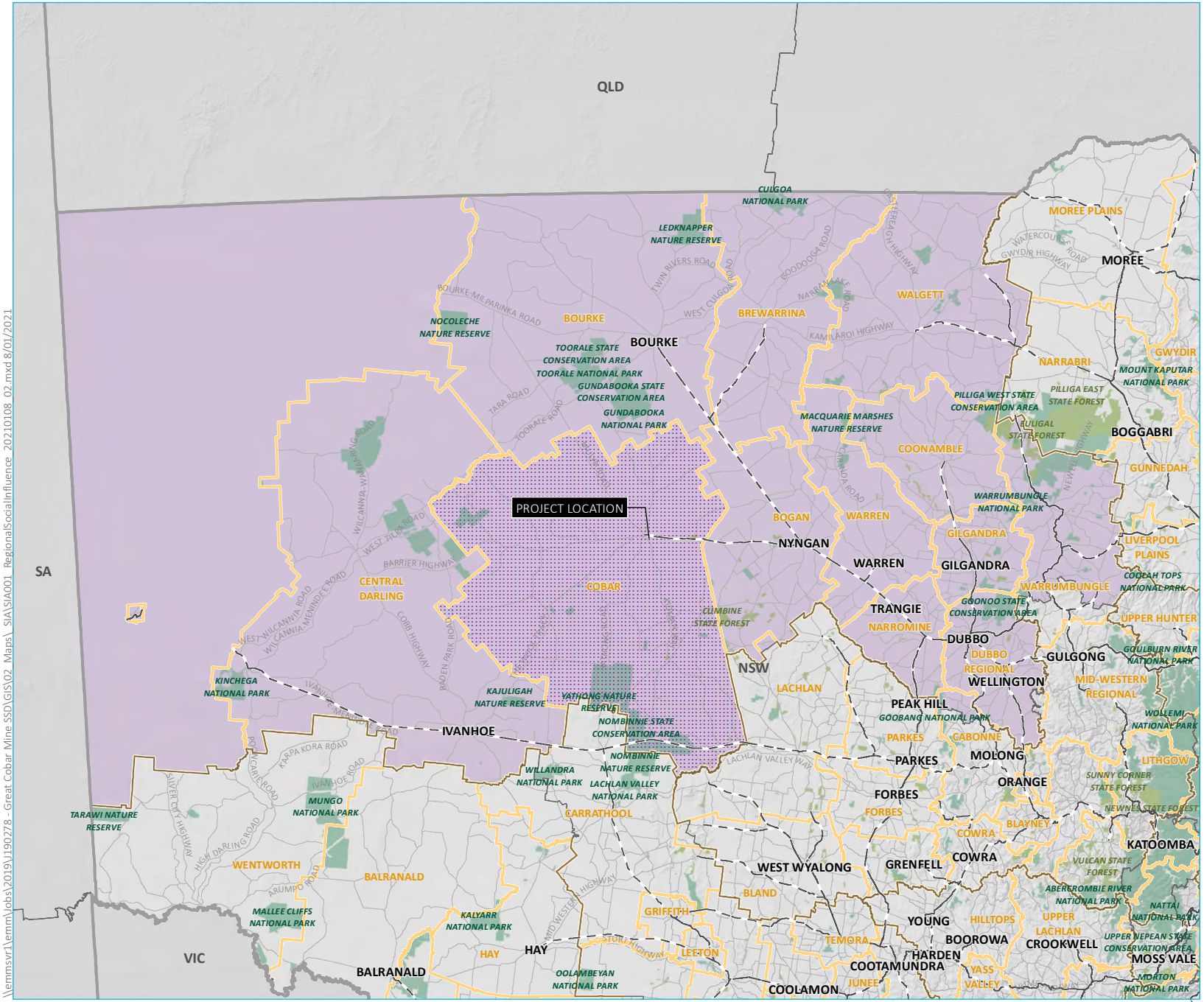
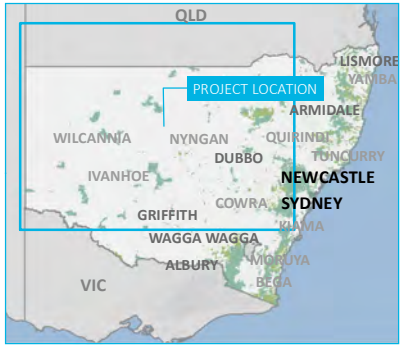
Local area of social influence

Peak Gold Mines
New Cobar Complex Project
Social impact assessment
Figure 5.1

EMM
creating opportunities





KEY

- State boundary
- Regional area
- Area of reference (Far West and Orana SA4)
- Rail line
- Major road
- Local government area
- Statistical area level 4 (SA4)
- NPWS reserve
- State forest

Source: EMM (2020); ABS (2016); DFSI (2017); GA (2011)

Area of social influence

Peak Gold Mines
New Cobar Complex Project
Social impact assessment
Figure 5.2

EMM creating opportunities

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Cobar is a small rural township located in central western New South Wales, 550 km northwest of Sydney. According to the 2016 Census of Population and Housing (ABS 2016), the local area has a total population of 3,990 people, representing a 5.0% population decrease since 2006. The population of the regional area also decreased by 6.0% from 2006–2016. The population of the regional area is projected to continue to decline. The projected population of the regional area is estimated to decrease from a projection of 4,647 in 2016 to 4,235 in 2041. This represents a total projected population decrease of 423 people or 8.9% (see Figure 5.3). This trend contrasts the trends for NSW, which are projected to increase by 36.7% by 2041 (DPIE 2019). The birth rate across Western NSW Local Health District (LHD) of 2.11 is above the Australian replacement rate of 2.10[3] (Ministry of Health 2020) and as such the declining population is likely primarily a result of migration out of the regional area. This migration could be influenced by people seeking education or work opportunities not readily available in regional communities and enhanced access to community, social and health services (AIHW 2005; Hugo, & Harris 2011; D'Alessandro & Bassu 2015). Community consultation conducted as part of the SIA field study revealed that a declining population is a particular concern amongst residents of the local area, as this affects local businesses, provision of social services, and their ability to engage in recreation activities.

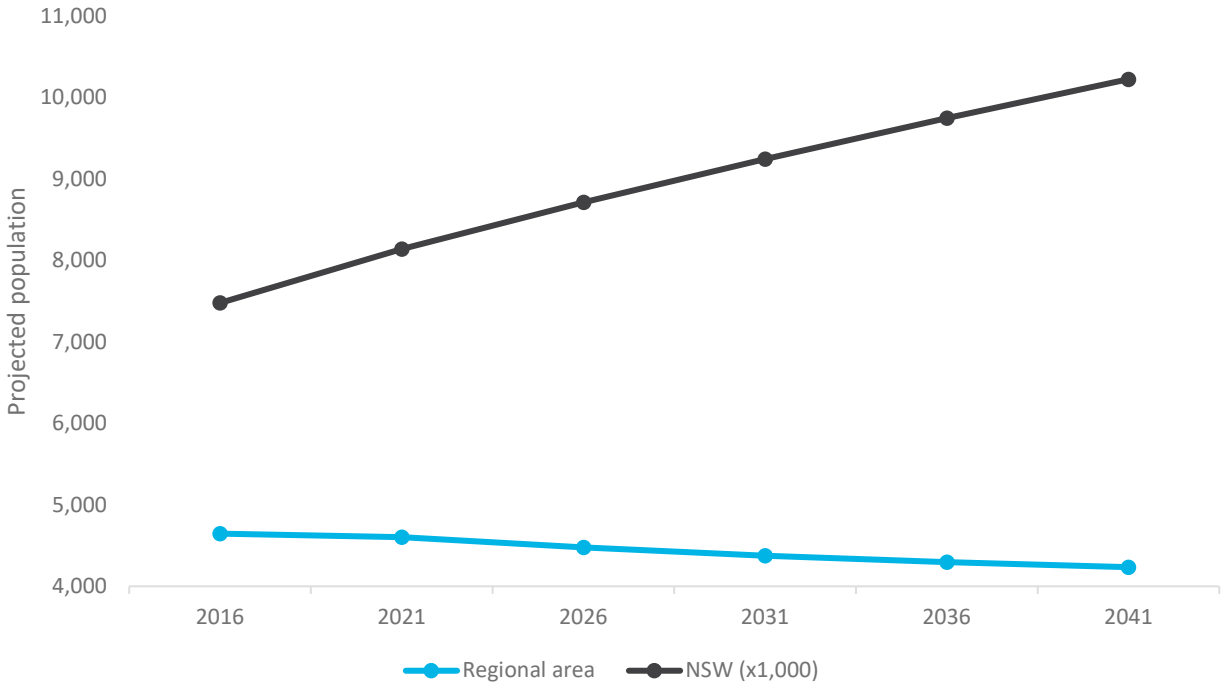


Figure 5.3 Adjusted regional area and NSW projected population, 2016–2041

5.2 Economy, local businesses, and industry

Mining is overwhelmingly the top industry of employment in the local and regional area, with 35.9% of employed persons in the local area and 32.0% of employed persons in the regional area working in the mining industry. Other top industries of employment in the local area include health care and social assistance (8.0%) and retail trade (7.6%). However, mining is a much smaller employer in the area of reference where health care and social assistance employs the largest proportion of workers (14.1%), followed next by agriculture, forestry and fishing (12.7%), and retail trade (9.6%). Of the 456 registered businesses in the regional area, 39.9% were in the agriculture, forestry and fishing industry. The unemployment rate in the local area is 5.8%, which is lower than both the area of reference and NSW. The youth unemployment rate in the local area (15.6%) is higher than the NSW average (13.6%) and the

[3] Birth rates are not available below the LHD level. The trends at the LHD level have been assumed to reflect the local and regional areas.

regional area (13.5%). The weekly median personal income and median household income in the local area is $755 and $1,650, respectively. This is significantly higher than the NSW average, as well as the area of reference. In the local area, the top three occupations are technicians and trades workers, machinery operators and drivers, and professionals. This is indicative of a strong mining presence in the area. The higher incomes in the local area and regional area are likely due to the relatively high incomes associated with mining-related work (Constructive 2018) and the large proportion of workers employed by the mining industry in the local area and regional area.

In 2018, there were 456 registered businesses in Cobar LGA, none of which employed more than 200 employees. Of these registered businesses, 98.5% were classed as small businesses employing fewer than 20 people (ABS 2019). Additionally, only 4.2% of businesses turned over $2 million or more, with most businesses operating within the $200,000 to $2 million (m) range. Evidence supports that in Australia there are long-term problems of workforce shortages and maldistribution, difficulties with recruitment and retention, and inadequate access to, and availability of, appropriate services to rural areas (Wakerman & Humphreys 2019).

5.3 Social infrastructure and services

Cobar is the central hub for the regional area and offers a range of community services, including Aboriginal services and organisations, ageing services, children's services, community legal services, counselling, disability services, family and women's services and housing and homelessness services. Although the services offered are varied, there are a relatively small number of providers. The local area and regional area have access to the Cobar Health Service, a 10-bed public hospital and health service. It provides 24-hour emergency care in addition to acute inpatient and outpatient services. The next closest hospital is the Nyngan Health Service, located in Nyngan, approximately 133 km from Cobar. Dubbo Hospital, located approximately 289 kms from the local area, is likely the provider for people from the local and regional areas requiring specialist care. The Australian Institute of Health and Welfare (2020) data shows that the number of admissions to Cobar Health Service has decreased or remained stable from 2011–2017. However, an absence of admissions for acute emergencies and non-emergencies and mental health treatment indicates that the community experiences a reduced range of health services, requiring travel to larger regional centres like Dubbo to receive adequate care. In Cobar there is a police station, an ambulance service, a rural fire service, a fire and rescue service, and a local SES unit.

5.4 Housing and accommodation

At the time of the 2016 Census, there were significantly fewer proportion of private dwellings occupied in the local area compared to NSW. This oversupply of private dwellings may indicate a departure from the local and regional areas to regional centres and larger cities due to the lack of social and health services within local and regional areas and the employment opportunities within regional centres and larger cities (AIHW 2005; Hugo, & Harris 2011; D'Alessandro & Bassu 2015). In the local area, most private dwellings are rented (39.3%). This is also true of the regional area. However, most homes are owned outright in the area of reference (30.6%). The higher instance of renting compared to home ownership could indicate lower levels of socio-economic advantage as rental housing may be associated with less financial and social stability with more than 50.0% of renters in Australia stating they are unable to afford their own property (AIHW 2018). Both mortgage repayments and rent payments throughout the local area, regional area, and area of reference are substantially lower than NSW averages.

The residential vacancy rate in the Orana region (includes the local and regional areas) has remained relatively stable, with brief increases in availability in May 2019 and July 2019. However, the rate is consistently much lower than 3.0%, indicating a lack of available rental housing (undersupply).

5.5 Recreation

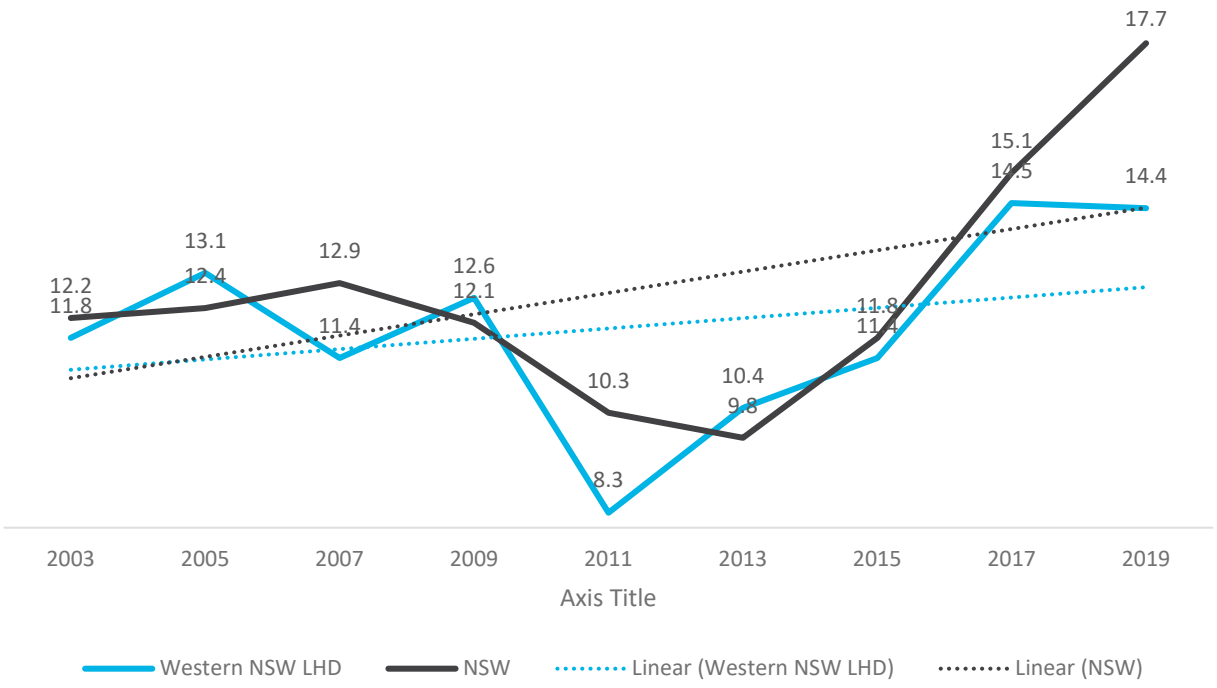
The local area encompasses various sporting and recreational facilities. These include parks with facilities for picnics, functions, playgrounds, skating, barbeques, and more. There are sporting grounds and two reservoirs with opportunities for recreational water sports activities such as fishing, canoeing, and water skiing. While there is a range of sporting clubs and facilities in Cobar (eg rugby, netball, soccer, athletics, cricket, shooting, horse riding, swimming, bowling, motocross, dance, and judo), evidence from the local community suggests that involvement in recreational activities such as sporting clubs and subsequent use of these facilities is declining. This may be indicative of the declining population within the local area, which has seen a 5% population decrease since 2006 (see Section 5.1).

5.6 Community health and well-being

The local area is located within Western NSW Local Health District (LHD). Western NSW LHD has a higher percentage of the population who are obese, smoke daily, and consume alcohol at high-risk levels in comparison to NSW (Ministry of Health 2019). Intentional self-harm hospitalisations trends in the regional area have been consistently higher than NSW trends, however the overall trend of self-harm hospitalisations in the regional area is decreasing, while the trend for NSW continues to increase.

Data is also collected by NSW Health regarding the level of psychological distress using the Kessler 10 (K10) approach. This approach uses a 10-item questionnaire that measures anxiety, depression, agitation, and psychological fatigue in the most recent 4-week period and has been adopted by NSW Health as an indicator of mental health. PHIDU (2019) reports the proportion of people with high or very high psychological distress based on the K10 Scale to be 12.8% in the regional area and 11.0% in NSW. The trend data is only available at the LHD level and indicates that levels of psychological distress rated between high and very high in the Western NSW LHD have been mostly in line with those seen across NSW, with a slight decrease in Western NSW LHD since 2017 (see Figure 5.4

Social determinants of health, described as “the circumstances in which people grow, live, work, age, and the systems put in place to deal with illness…which are shaped by political, social, and economic forces” (AIHW 2020), also indicate the health of a population. These include factors such as conditions of employment, provision of social services and support, and socio-economic position. Although the local area has a lower level of unemployment, there is a declining provision of social infrastructure and social services and fewer people in high-skill occupations compared to the rest of NSW, suggesting higher rates of socio-economic disadvantage.



Source: Ministry of Health 2019, *Health Statistics NSW*.

Figure 5.4 High and very high levels of psychological distress based on Kessler 10 scale (proportion of persons aged 16 years and older), 2003–2005 to 2017–2019

5.7 Socio-economic advantage and disadvantage

The level of disadvantage or advantage in the population is indicated in the Socio-Economic Indexes for Areas (SEIFA) which focuses on low-income earners, relatively lower education attainment, high unemployment and dwellings without motor vehicles. According to the 2016 SEIFA the communities in the local area experience higher levels of disadvantage compared to other suburbs, LGAs, and regions in NSW and Australia, as each of the identified communities are in the 5th or lower decile for all indexes (i.e. in the bottom 50% of communities in NSW). The local area falls within decile 3 for the Index of Relative Socio-Economic Disadvantage (IRSD), the Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD), and the Index of Economic Resources (IER). This means that there are likely many households with low income, many with residents with no qualifications/many residents in low skill occupations, few households with high incomes and in skilled occupations, and many households paying low rent in the area. A decile ranking of 2 for the Index of Education and Occupation (IEO) is likely attributable to the local area having fewer people with qualifications and in highly skilled occupations. Although a low IEO could also be indicative that there may be a higher number of unemployed persons compared to other areas of NSW, the unemployment rate in the local area is lower than that of NSW as a whole.

The local area and regional area have a significantly smaller proportion of persons who have completed Year 12 or equivalent compared to NSW, with a higher percentage of their population completing Year 10 and 11 or equivalent. Of those people with a non-school qualification throughout the area of social influence, most have a certificate qualification, followed by a Bachelor-level degree. The distribution of non-school degrees is fairly consistent throughout the area of social influence. However, the trends are quite different compared to NSW, where a significantly larger proportion of persons with a non-school qualification hold a Bachelor-level degree and Postgraduate-level degree. The higher pursuance of certificate-level degrees in the local and regional areas reflects the main industries of employment in the area, particularly mining. However, a lower proportion of university level

qualifications within an area can also be reflective of educational outcomes and socio-economic disadvantage in the area (Karmel & Lim 2013; APA 2017).

5.8 Vulnerable groups

There are a few identified groups that would be considered vulnerable in the local area and regional areas. Firstly, there is an indication of a small homeless population with 8 homeless people identified in the regional area during the 2016 Census (ABS 2016). Within the regional area, 4.0% of residents require assistance when undertaking core activities due to a long-term health condition, a disability or old age (ABS 2016). Unemployed youth represent another potentially vulnerable group in the local area. The youth unemployment rate in the local area (15.6%) is higher than the NSW average (13.6%) and the regional area (13.5%).

5.9 Community values

The community vision as described by CSC is for Cobar Shire to be "an attractive, healthy and caring environment in which to live, work and play, achieved in partnership with the community through initiative, foresight and leadership". There is a dedication to values that promote cooperation and equity, the sustainable ecological and economic development of the region, and community involvement in decision-making processes (CSC 2019).

5.10 Community strengths and vulnerabilities

A summary of the key strengths and vulnerabilities within the community based on the existing social conditions and indicated by community members during the SIA field study is provided in Table 5.2.

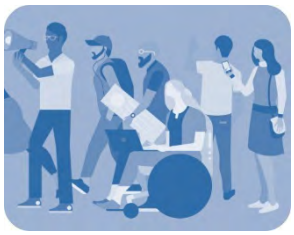
Table 5.2 Community strengths and vulnerabilities

Vulnerabilities	Impacts	Strengths
Declining population.		Close, interconnected community structure with strong support.
High socio-economic disadvantage. Lack of opportunity for residents.		'Small-town' feel, suitable for raising a young family. Recreational and sporting oriented, evidence of various recreational facilities (i.e. Newey Reservoir) and sporting clubs.
Lack of diversity in terms of larger businesses and industries. New businesses deterred and not being established in the area.		Evidence of high-paying roles attributed to the mining industry.
Undersupply of rental properties and tight rental market. Oversupply of private dwellings indicative of residents relocating.		Availability of private dwellings.

Table 5.2 Community strengths and vulnerabilities

Vulnerabilities	Impacts	Strengths
High youth unemployment. Low higher-qualification and education attainment.		Available workforce with skills suitable for mining and construction industries. Low (adult) unemployment.
Limited range of health services resulting in residents travelling to larger towns (i.e. Dubbo) for additional services. Decline in the creative industries and infrastructure.		'Central Hub of the regional area'. Well-serviced in terms of community services. Road (Barrier Highway and Kidman Way), rail and air links to most major cities)
Reduced participation in recreational activities (e.g. sports and arts)) and declining provision of social services due to declining population affecting social determinants of health		Close-knit community.
Dry and arid landscapes (low agricultural value).		Local heritage and mining history supporting the tourism within the local area.

6 Community and stakeholder engagement



This section summarises the findings from the community engagement activities undertaken in relation to the Project as part of the:

- EIS engagement; and
- data collection for the SIA.

The SIA guideline has integrated the above elements of the engagement program to reduce the risk of engagement fatigue for potentially affected communities.

6.1 EIS engagement

For the EIS engagement process, the existing PGM Community Consultative Committee (CCC) was consulted about the Project, newsletters were distributed to the local community, and a social pinpoint webpage was made available for the public. To present the results from the EIS technical studies, a community information session (CIS) was held in December 2020. The methods of engagement and participation involved in such events are provided in Table 6.1. A detailed description of the EIS engagement process and outcomes is available in Chapter 5 of the EIS.

Table 6.1 Participation by engagement event

Method	Event	Administered	Timeframe	Invited	Participated
Newsletter	New Cobar Complex	Hard copies placed at the Cobar Library	3 December 2020	--	--
Online website	New Cobar Complex Social Pinpoint Page	Online	30 March 2020 – 20 October	--	1976 views by 439 users
Meeting	CCC Presentation Meeting	Face to face	3 December 2020	9	9
Information session	Cobar Community information session	Face to face	4 – 5 December 2020	Open to all residents of the local and regional areas and key stakeholders	8
Interviews	New Cobar EIS Engagement interviews	Face to face and online	4 – 7 December 2020	20	5

6.1.1 New Cobar Complex Social Pinpoint Page

The interactive web-map presented the site of the Project with markings allowing users to clearly identify the Project area, and the locations of traffic investigations and surveys, surface water and groundwater site visits, and soil sampling locations. The website also provided information about the Project, stakeholder and community consultation taking place, and contact information. The website had 1976 visits from 439 different users from 30 March 2020 to 20 October 2020.

6.1.2 Community Consultative Committee

The Community Consultative Committee (CCC) was consulted to ensure the community's involvement with PGM's activities for the Project and to determine key issues and opinions held within the community related to the Project. Members of the CCC include:

- an independent chair;
- three community representatives;
- three PGM representatives;
- one Aurelia representative; and
- one observer from CSC.

A meeting between the EIS team and the CCC was held during the EIS Delivery phase on 3 December 2020 in Cobar.

6.1.3 Community information session

Two community information sessions were held face-to-face in Cobar on the 4 and 5 December 2020. The sessions presented the findings from the EIS technical reports and offered and opportunity for local community members to engage technical experts.

6.2 SIA field study

This section provides a summary of the SIA field study activities and findings. Consultation for this assessment was carried out during the COVID-19 pandemic and conducted in accordance with applicable Australian and NSW Government health agency advice.

6.2.1 Participation

The methods of SIA field study with community and key stakeholders and details of participation are summarised in Table 6.2.

Table 6.2 Participation by engagement event

Method	Event	Administered	Timeframe	Invited	Participated
Survey	Online community survey	Online	Available from 24 September 2020 – 26 October 2020	Open to all residents of the local and regional areas and key stakeholders	24
In-depth interview	Briefing and SIA consultation meetings	Teleconference (on-line or via phone)	Conducted from 24 September 2020 – 30 October 2020	25	11
Information session	Cobar Community information session	Face to face	Conducted from 4 – 5 December 2020	Open to all residents of the local and regional areas and key stakeholders	8

i Online community survey

An online community survey was open to the general public to identify issues and potential impacts relating to the Project. The survey included open ended, multiple choice, and rating-style questions which provided both qualitative and quantitative data. The survey was available for response from 24 September 2020 – 30 October 2020. There was also the opportunity for respondents to provide their contact details for any follow up information or consultation regarding the Project.

The online survey was advertised using the Aurelia Metals Facebook page and the New Cobar Complex Social Pinpoint website. A total of 24 responses were received from residents (63%), business owners (21%) and landholders (38%) in Cobar.

ii Consultation interviews

Interviews and meetings which informed the SIA were conducted with Cobar community members, representatives of service providers, councillors from CSC, and the CCC from 27 October 2020 – 29 October 2020. Due to the COVID-19 pandemic, interviews were conducted as a teleconference either via phone or online. A total of 25 stakeholders were invited to participate in consultation, with 11 interviews successfully conducted with:

- a landholder;
- a CCC member;
- representatives from the Cobar Rugby Club;
- State Emergency Services;
- the Ambulance Station;
- the Cobar Memorial Services Club;
- the Great Cobar Heritage Centre;
- the Cobar Health Service;
- Cobar Public School;
- Cobar High School; and
- CSC.

6.2.2 SIA field study findings

i Consultation interviews

Interviews found that participants perceive Cobar to be a welcoming and inclusive mining town with a wonderful, unique, and friendly community. Many noted that Cobar is a safe town and an ideal location to raise children as it has an environment suitable for small families. However, stakeholders felt that Cobar is in decline due to the lack of services and product availability in the local area which is believed to have influenced the decrease in population. Participants described there to be a high level of cohesion within the small community. However, some felt that Cobar was 'losing its sense of cohesion' due to the divide in values and perceptions of mining in the local area. The current nature of the mining workforce and rostering was also believed to influence this divide. Interviewees felt

that Cobar was a vibrant town, prior to the fly-in-fly-out (FIFO) and drive-in-drive-out (DIDO) workforce. Therefore, significant concerns and issues were raised regarding the FIFO/DIDO workforce.

Workforce rostering and DIDO/FIFO workers was frequently perceived as detrimental to the town. The seven day on, seven day off work roster was described as an issue for local stakeholders, as it is perceived to create a barrier for establishing life within Cobar, with workers not contributing to the local community (i.e. through supporting local businesses, clubs or local events). Concerns were also raised regarding the ability to attract potential businesses to the town, with one participant expressing how DIDO/FIFO workforces often deter potential business owners from Cobar. This is due to the notion that DIDO/FIFO workers do not contribute to the local community. Many felt that there would be benefits and opportunities with the Project if the workforce consisted of a predominantly residential workforce, where workers contribute to and are involved with the local community which would help increase services in the area, improve on infrastructure, and attract new residents to the area.

Further concerns were raised over vibrations and blasting of existing mining developments and how this Project has the potential to exacerbate existing issues. Blasting and vibrations are reportedly felt by residents and visitors within Cobar, with some reporting damage to their residential homes and local infrastructure such local shops, the Cobar Rugby clubhouse and schools within the local area. Noise (described as 'metal-like') from operational activities and blasting is a particular annoyance for local stakeholders, with additional reports of noise as a result of blasting scaring children during school hours.

Water quality and impacts to the Cobar Rugby Club and Newey Reservoir were mentioned with concerns over how recreational activities will be impacted. Participants frequently mentioned the decline of participation in local recreational activities, specifically sporting activities. The impacts of water draw down on the rugby club's bore water raised concerns over how it will impact the maintenance of the fields over time, as the fields require bore water to sustain the fields. It was found that the fields cannot last longer than eight weeks without water, rendering them unusable. Many participants mentioned the Newey Reservoir and its value for local residents due to its accessibility and recreational use. It was found the reservoir is used by residents in the town for recreational purposes, such as swimming and water skiing. Therefore, concerns were raised regarding water quality and how it will impact future use of the reservoir.

Stakeholder perceptions of mining often concerned how mining has impacted the local population, recreational activities, and community cohesion. However, it was frequently mentioned that Cobar is recognised as a 'mining town' that receives industry support from mining. Stakeholders mentioned that sporting culture throughout the town has been greatly impacted, with an insufficient number of community members involved in sports such as little league, swimming club, and soccer. This was believed to be a result of the declining population and poor work/life balance of mining families as they are unable to commit to recreational activities. Attitudes towards mining were also found to influence a divide within the community, with community cohesion slowly decreasing.

Overall, many stakeholders felt that the Project will provide workforce stability from ongoing employment and benefit the local community through the flow on effect of supporting local businesses and services. The increased availability of traineeship opportunities would also be useful for the community.

ii Online community survey

Out of the 24 responses received from the online community survey, 50.0% of respondents indicated they have had previous interactions with PGM or Aurelia with 41% not at all satisfied with the response received to issues raised. A further 41% indicated they were neutral, 12% were somewhat satisfied, and 6% were very satisfied. Issues raised with PGM or Aurelia concerned impacts on noise, the Great Cobar Heritage Centre, air pollution, dust, vibration, DIDO/FIFO workers and rostering, the Cobar Rugby Club bore water, mental and physical health of workers and the local community, and traffic. Awareness for the Project varied, with 33% of respondents reporting very poor or poor awareness, 25% reporting a fair awareness, and 42% reporting having good or very good awareness.

Participants were provided with a list of potential impacts associated with the Project and were asked to rate each impact as either very negative, negative, neutral, positive or very positive. The most negatively rated were health (29%) and vibration (29%) impacts, followed by noise (25%), air quality (25%) and ground water (25%). Survey respondents also raised concerns over the FIFO/DIDO working rosters, particularly regarding the negative impact of a seven day on, seven day off arrangement on the local community. Concerns were also raised related to health due to the mining of lead and zinc. The most positively rated impacts associated with the Project were local economy (17%), employment (17%) and regional economy (13%) where some respondents felt that the continuation of the site will sustain employment.

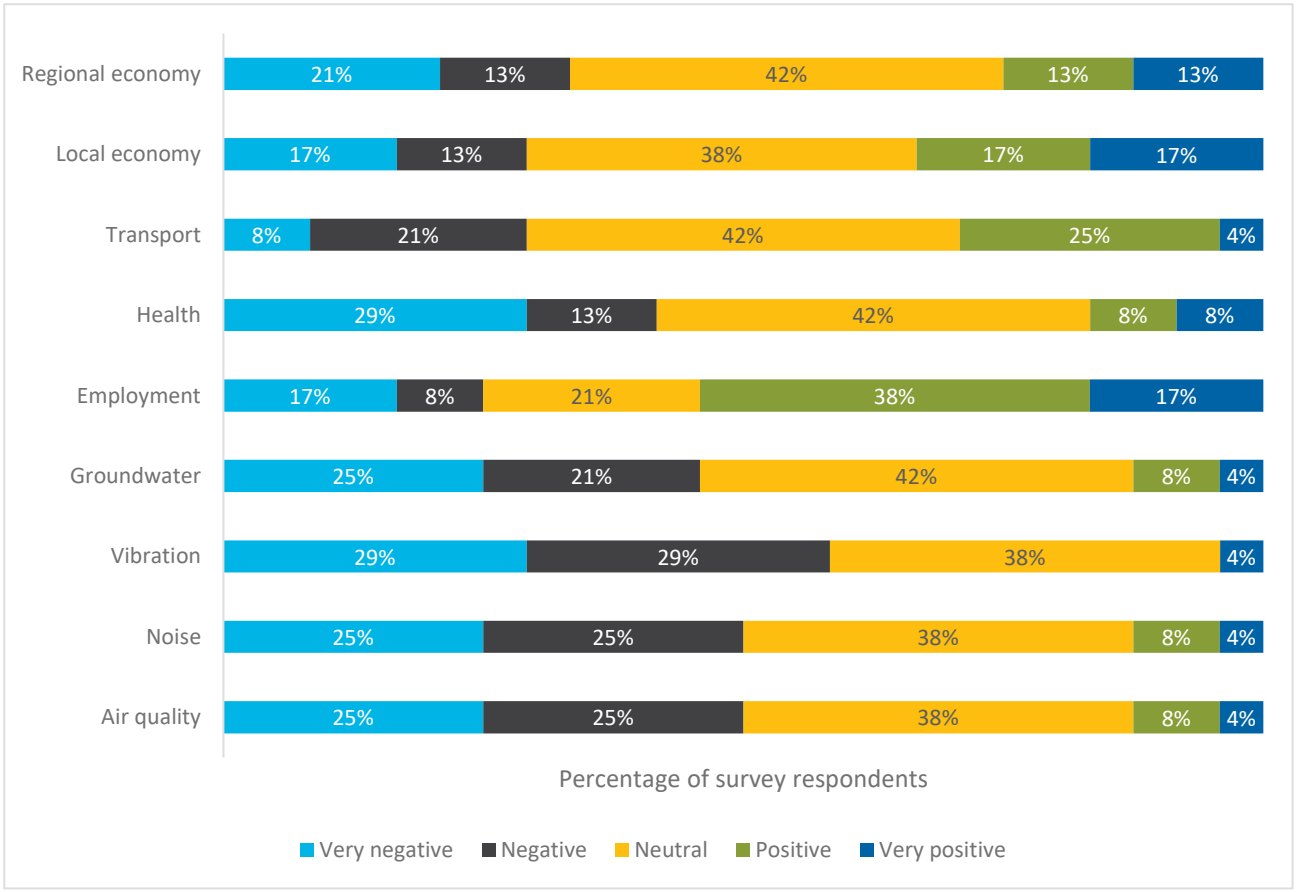


Figure 6.1 Potential impacts associated with the Project as identified by survey respondents

6.2.3 Summary of SIA field study findings

A summary of the community and stakeholder consultation findings from the online community survey and interviews are shown in Table 6.3.

Table 6.3 Summary of community and stakeholder engagement findings

Issue	Detail
Livelihood and employment	Perceived benefits from ongoing employment of the Project, particularly for local workers.
Local economy and resilience	Cobar is identified as a 'mining town' that receives industry support from mining. Mining is necessary to the continued existence of the town and economy in its current form.
Community engagement	Recognition during stakeholder consultation that community consultation has improved in the last two years, which has improved the relationship between the local community and PGM. Participants often mentioned that they appreciated the contributions and the improved community engagement and were interested in the continued development and strengthening of this relationship.
Water drawdown	Concerns over how water drawn down will impact the bore water supply used to maintain the Cobar Rugby Club playing fields during drought.
Recreational use of the Newey Reservoir	Concerns were raised over the impact of water quality on the Newey Reservoir and how it will disrupt recreational use.
DIDO/FIFO Workers	Many participants felt that the FIFO/DIDO workforce have greatly impacted the community due to the lack of contribution from workers which has led to a divide in the community and sense of cohesion decreasing. Concerns that the FIFO/DIDO workforce deters local businesses from establishing their business in the local area.
Traffic and road safety	Mention of the road quality and how increased movements of heavy vehicles will impact the road. Concerns were raised regarding road damage and who will be monitoring and maintaining it.
Lack of services	Concerns were raised regarding the lack of services in the area, which influences residents to move away from Cobar.
Vibration and blasting	Concerns that existing mining operations have impacted the infrastructure of local buildings and residential properties. Vibrations from blasting can also be felt within the town.
Air quality	Perceived health impacts of air emissions and dust from site on the air quality for local residents, particularly for children.
Noise	Noises from existing operations can be heard from the town which causes annoyance. Blasting noises scaring younger children.

6.2.4 Community identified impacts and opportunities

A summary of the potential social impacts identified by participants during the SIA field study are provided in Table 6.4.

Table 6.4 Community identified impacts and opportunities

Impacts	Themes	Opportunities
Draw down impacts on local bore water facilities, specifically at the Cobar Rugby Club. Fears over contamination at the Newey Reservoir.		Not identified by the community.
Loss of recreational activities (sporting, water activities). Amenity impacts mainly concerning vibration and noise from blasting.		Ongoing community support for community programs. Increase engagement and involvement with the community.
Not identified by community.		Increase local industry through local engagement and opportunity.
Loss of community cohesion and exacerbated lack of trust. Stress caused by blasting impacts.		Ongoing support and flow-on effect back into the community.
Residential property, building and infrastructure impacts from blasting and vibrations.		Not identified by the community.

7 Social impact themes

This section summarises the social impact themes from across the social baseline data and findings from community stakeholder engagement.

7.1 Workforce and community cohesion

Community stakeholder engagement and social baseline research found that the local area is perceived to be a community-orientated, inclusive, and close-knit town with council visions premised on the local and regional area becoming "an attractive, healthy and caring environment" (CSC 2019). Volunteering data shows that 22.6% of the Cobar population engage in voluntary work, which is greater than general NSW where volunteering rates are 18.1% (ABS 2016). This suggests a higher level of social cohesion and social connection which contributes to strong social capital within the town as it reflects willingness of people to help one another. Community cohesion and connection was reflected throughout consults, where participants felt that as a small town, the local area had a high level of cohesion. However, upon further reflection participants felt that this sense of cohesion has been deteriorating. As a mining town, there is significant reliance on the mining industry for economic support and employment. There are perceptions of the FIFO/DIDO workforce being a detriment to the town due to their lack of contribution and involvement within the local community with participants in the engagement process believing this has led to the loss of social cohesion. It is also believed the town's declining population exacerbates these feelings of loss of cohesion.

Workforce and community cohesion were key themes found throughout community and stakeholder engagement and baseline research. Consultation participants felt that, as a mining town, hiring locally and community engagement would be the best way to encourage community cohesion. Although the Project is largely a continuation of current operations, rather than employing a new workforce, the perception of the community's cohesion and issues with workforce were frequently mentioned to be a great concern relating to the Project. As a result, such issues were taken into consideration when the conducting social impact assessment.

7.2 Health and wellbeing

Indicators of poor population health (relating to alcohol consumption, smoking and obesity) were found to be higher within the regional area and the Western NSW Local Health District in comparison to all of NSW (Ministry of Health 2019) (see Section B.9 in Appendix B for further information). This may indicate the prevalence of long-term health issues within the local area. However, based on self-assessed health data, which reflects an overall population's health (PHN 2016), a similar proportion of the regional area consider themselves to be in good health, akin to the proportion for all of NSW (Section B.9 in Appendix B).

Concerns were raised relating to the perceptions of blasting and vibrations from existing operations as well as air quality which has the potential to impact health and well-being. A community member involved in consultations expressed that blasting startles local residents, with noise associated with the blasts scaring children. The data relating to psychological distress (based on the Kessler 10 indicator) is higher in the local area (12.8%) compared to general NSW (11.0%) (PHIDU 2019) (see Section B.9 in Appendix B). Although the technical reports indicate minimal impacts, the community reported experiencing impacts, to varying degrees, to their health and wellbeing as a consequence to blasting activities.

Concerns over air quality and impacts from fumes associated with blasting and dust were also raised. Although the Project is the continuation of an underground mining infrastructure, with construction expecting minimal dust impacts, this was also taken into consideration.

7.3 Recreation

Within the local area there are various sporting and recreational facilities consisting of local parks, sporting grounds, reservoirs and clubs (see Section B.5 in Appendix B). Community participation in recreational activities, particularly within sporting clubs and teams, as well as utilisation of the Newey Reservoir (for water skiing, canoeing, etc) was found to be of great importance to the town. However, consultations found that there has been a decline in participation within the local sporting clubs, with fears over what a declining population will mean to being able to continue to field sporting teams and continue participation in regional sporting activities. This decline in recreational activities was mentioned in stakeholder interviews and meetings to be attributed to the town's declining population, which has decreased by 5.0% since 2006 (DPIE 2019) (see Section 5) in conjunction with the poor work/life balance amongst mine workers. These concerns were frequently raised throughout consultations and are thus identified as a social impact theme.

Further concerns regarding water drawdown impacts to the bore water at the local rugby club grounds and the potential contamination of the Newey Reservoir were also raised during community engagement. Consultations found that the maintenance of the rugby club grounds utilise bore water during times of drought. Therefore, if that source of water is impacted, it will influence the maintenance of the fields and potential future use. These issues were raised as a concern regarding the future of recreation in the local and regional areas.

7.4 Livelihood and local economy

As the local area is recognised as a mining town with 35.9% of employed persons in the local employed within the mining industry (ABS 2016), the town relies on the mining industry for economic support and employment. Throughout consultations, workforce stability encouraged through ongoing employment from the Project was acknowledged as a potential benefit. It is perceived across PGM, CSC and the broader community that the Project and the mining industry create flow-on benefits and support local businesses in the area. Stakeholders indicated this to be dependent on the nature of the workforce as FIFO/DIDO workforce is perceived to contribute minimally to the local community. To encourage sustainable livelihoods within the local community, stakeholders expressed the desire for a local workforce and enhanced community engagement. The opportunity to increase traineeship opportunities for the local area was also mentioned during consultation. Considering high youth unemployment within the local area and the low education attainment, reflected by the local area's Index of Education and Occupation (IEO) (see Section B.6 in Appendix B for further analysis) the opportunity to upskill the local workforce was frequently mentioned during consultation.

7.5 Transparency and trust

Results from the community survey found that after interactions with PGM or Aurelia, 41.0% of respondents were not at all satisfied with their interactions. This sentiment was also reflected during interviews and meetings with local stakeholders, where participants and stakeholders felt that PGM offer minimal interactions with local community, which influences the community's perception of transparency and trust in relation to the Project. As the local area is currently experiencing a decline in population, there is great community fear in relation to how significant developments will further exacerbate this decline. Community consultation found that residents believe people outside of the local area are deterred from living within the local area due to the nature of mining in the local area (specifically due to vibrations and the presence of a FIFO/DIDO workforce being a deterrence). The local community recognises the importance of mining for the local and regional area but indicated that it needs to be more community orientated. As a result of a historical lack of community engagement, trust towards some mining developments in the community is fragmented. However, there was also recognition during stakeholder consultation that community consultation has improved in the last two years, which has improved the relationship between the local community and PGM. Participants often mentioned that they appreciated the contributions and the improved community engagement and were interested in the continued development and strengthening of this relationship.

8 Social impact assessment

This chapter provides a ranking of the identified social impacts of the Project. The aim of the SIA is to assess the proposed change to the current social conditions and has utilised data from several sources to develop a layered picture of the potential social impacts that are likely consequences or changes experienced by the community in which the Project is located.

In order to prioritise the identified social impacts, a risk-based framework (see Appendix A) has been adopted in the assessment of social impacts. Consideration of the findings from technical reports as well as the perceptions of stakeholders when conducting the social risk ranking to ensure an integration of expert and local knowledge in impact assessment and the development of appropriate impact mitigation, amelioration, and enhancement strategies.

Assessment of social impacts is complex and as such requires the balancing of a range of factors and often competing interests. The impact assessment is reflective of this and has:

- assessed some aspects of the Project as both negative and positive as they relate to different stakeholders;
- included negative impacts on local communities while documenting the benefits to the broader region;
- considered the impacts on vulnerable groups and provided management strategies to ensure that any existing disadvantages are not exacerbated; and
- considered each community's access to critical resources, such as housing and health care, and how this affects their resilience.

The social impacts below have been assessed on a worst-case scenario initially and then the residual effect is assessed on the basis that mitigation of negative impacts or enhancement of positive impacts are successfully implemented. The assessment uses the terms unmitigated and mitigated when referring to negative impacts and un-enhanced or enhanced when referring to positive impacts.

The following data and information have been used to identify the impacts and their associated risks:

- data collected as part of the social baseline;
- findings from community and stakeholder consultation activities;
- findings from technical studies;
- academic research; and
- relevant high-quality government and agency reports.

A social impact workshop was conducted to assess impacts using a social risk framework shown in Appendix A. The workshop took place once the impacts were identified and described. The workshop was conducted by two associate social scientists with a combined 42 years' experience in completing SIAs and other types of social science research. One social planner and two graduate social planners also contributed to the workshop. Using the consequence and likelihood framework allows the assessment of the level of significance of a social impact as negligible, marginal, moderate, major, or intolerable, and the assessment of the level of significance of a social benefit as minimal, minor, desirable, or highly desirable, based on a combination of likelihood and consequence. Both negative impacts and benefits have been assessed. The social risk assessment is informed by the primary and

secondary data collected from the literature review, social baseline study, SIA field study, and findings of technical studies.

This SIA was conducted in the context of the COVID-19 pandemic. The impacts of COVID-19 on the labour market are ongoing and as such, there is difficulty in measuring the full extent of those impacts currently in and into the future. Although this context did affect the approach to the SIA field study and consultation, the COVID-19 pandemic is not anticipated to disproportionately impact Cobar or the Project in terms of demographic, economic, and social trends and data which inform the assessment.

8.1 Way of life impacts

This section provides an assessment of the unmitigated/mitigated and unenhanced/enhanced way of life impacts on the local and regional communities as a consequence of the Project. The matters assessed as having a potential social impact on how the communities live, work, play, and interact include:

- drawdown of bore water affecting use of the rugby facility;
- noise and vibrations from blasting causing amenity issues;
- surface water quality and amenity of the Newey Reservoir; and
- livelihood benefits from ongoing employment and mining operation.

8.1.1 Drawdown of bore water affecting use of rugby grounds – unmitigated

The groundwater impact assessment (EMM 2020a) determined that mine dewatering associated with the Project will result in localised drawdown of the regional water table, with greater than 2 m drawdown of the water table predicted to occur (maximum drawdown of approximately 12.5 m predicted to occur around 2050) in some places. This drawdown has the potential to impact other groundwater users and may be cumulative to other groundwater abstraction in the area. The Cobar District Rugby Club grounds and irrigation bore are within the range of the >2 m area and will most likely be impacted by mine dewatering associated with the Project. The Cobar District Rugby Club relies on bore water for playing field irrigation during drought conditions when high security water supplies are not available.

Impacts on the Cobar District Rugby Club grounds were frequently mentioned as an area of concern from community members involved in stakeholder engagement. A representative from the club felt that dewatering may result in the Cobar District Rugby Club grounds becoming unviable. The fields can only be sustained without watering for a maximum duration of eight weeks (during summer). If neglected, it would impact the town's access to recreational services. During consultation multiple stakeholders expressed concerns about the consequences of the drawdown of the regional water table affecting useability of the rugby field. Stakeholders indicated that sporting activities are of great significance for the local community and feared that a loss of the rugby field would greatly impact the future of recreation opportunities available in the local area for both youth and adults. The impact to the grounds would also have consequential potential implications if teams outside of the local and regional area were unable to visit the local area for tournaments held by the Cobar District Rugby Club, further impacting their local and regional recreational capacity.

As stated in Section 5, the populations of the local area and regional area have been declining since 2006, with populations projected to continue to decline into the future. The decreasing population of the local and regional areas could be influenced by people seeking education or work opportunities not readily available in regional communities and enhanced access to community, social and health services (AIHW 2005; Hugo, & Harris 2011; D'Alessandro & Bassu 2015). Stakeholders revealed that they have already witnessed impacts on other sporting

facilities and recreational activities related to the town's declining population. Consultation participants noted that there have been decreases in member numbers in the local swimming club, soccer club, children's little league, and other recreational activities such as theatre and arts and crafts. The impact to the useability of the rugby field and decreasing recreation opportunities within the local and regional area is compounded by this baseline scenario of a declining population creating an environment where way of life impacts are already experienced due feelings of loss associated with members of the local community moving elsewhere.

Unmitigated, the impact to local recreation capacity and opportunity due to drawdown of bore water affecting use of the rugby grounds is assessed as High-12 as the likelihood of the impact is almost certain and there is the potential for moderate consequences due to the socio-economic impact associated with loss of recreation opportunity in the local area, which is compounded by a decreasing population and existing impacts to recreational amenity. The socio-economic impact would depend on a reasonable amount of resources to recover (namely alternative water sources) and the impacts on liveability within the local and regional area could survive long after the life of the Project.

8.1.2 Drawdown of bore water affecting use of rugby grounds – mitigated

Under the NSW Government's Aquifer Interference Policy (AIP), if a cumulative groundwater drawdown of more than 2 m is experienced at water supply works (i.e. groundwater bores), 'make good' arrangements will apply. This means that there is a requirement to ensure that third parties with water supply works have access to an equivalent supply of water through enhanced infrastructure or other means, for example deepening an existing bore, compensating for extra pumping costs or providing alternative water. PGM has committed to make good arrangements to supply supplementary water to the Cobar District Rugby Club to replace any reduction in pumping capacity that may occur due to the drawdown of the water table. This will be done in consultation with the Cobar District Rugby Club to achieve a solution that is in all parties' best interests.

The development of a community and stakeholder engagement strategy which incorporates communication provisions related to the state of the water table and the state of the rugby grounds will provide increased transparency related to the potential impacts to the rugby grounds and would contribute to the management of these potential impacts. Measures such as regular updates of ongoing water monitoring results and encouraged stakeholder input are recommended. The community and stakeholder engagement strategy will ensure consistent communication and actively engaging the local community within the communication process. The strategy will require ongoing monitoring and recording of feedback from community stakeholders to ensure adequate consultation and inform any necessary revisions to the strategy.

Following mitigation, way of life impacts arising from drawdown of bore water affecting use of the rugby grounds is assessed as Low-6. Upon successful implementation of the proposed mitigation measures, including the make good arrangement, the development and application of a community and stakeholder engagement strategy, and the provision of monitoring results, the potential consequence is reduced to negligible. However, the likelihood of the impact remains almost certain. A summary of the assessment is provided in Table 8.1.

Table 8.1 Summary of drawdown of bore water affecting use of rugby sporting facility

Impact	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
	Drawdown of bore water affecting recreational use and amenity of rugby grounds	Cobar Rugby Club, local area and regional area residents (users of the rugby field on a regular basis) and wider area users (ie tournament participants)	Operation and post-closure	Local area and regional area	High-12	Low-6

8.1.3 Noise and vibrations from blasting causing amenity issues – unmitigated

Blasting will be used for the development of the underground workings. Delays will be used to adjust sequencing and prevent any interaction or vibration enhancement from adjacent blastholes, with the maximum number of blasts to be three per 24-hour period, 20 per 7-day period.

During consultation, concerns were raised over vibrations from blasting of existing mining developments and how the Project has the potential to exacerbate existing issues. Blasting and vibrations are reportedly felt by residents and visitors within the local area with some reporting damage attributed to blast vibrations to a residential homes and local infrastructure such as shops, the Rugby Clubhouse and schools. There have been reports of blast vibration causing "pictures to fall from walls" and scaring children during school hours. Noise from operation activities (described as 'metal-like') is a particular annoyance for some local stakeholders.

Whilst the majority of the future operation will be underground, there will be noise impacts from ventilation fan noise and surface operations at the New Cobar Complex such as loading material into a road trucks, haul trucks unloading material at the waste rock emplacement, or haul trucks unloading material at the RoM pad (EMM 2020b). Most of these noises (excluding the proposed vent fan) are existing and are unlikely to substantially change from current levels. While the predicted noise and vibrations as a result of the Project will comply with regulatory limits set by the NSW Government for amenity, sleep disturbance and human health, they are likely to still be noticeable by local stakeholders. These noise impacts may also contribute to impacts to local amenity.

The community's experiences with noise and vibration from blasting are consistent with the 'startle response'. The startle response is reactionary defensive response to sudden or threatening stimuli, such as sudden noise or sharp movement. The startle reflex, the physical reaction accompanying the startle response, is "a rapid, generalised motor response to a sudden, surprise stimulus" (Hallett 2012). The startle reflex generally results in negative 'fight or flight' effects such as muscular tension and increased heart rate, resulting in a reduced ability to relax (Wouter et al. 2010). Local communities subject to noise and vibration from blasting can experience reduced liveability and amenity associated with frequent experience of the startle response (Australian Government 2016). However, the magnitude of the startle response is experienced to varying degrees, with proximity, habituation, and personal management of stress affecting the severity of the startle response from person to person (Phelps et al. 2012).

All operational blast activities at the New Cobar Complex and the Peak Complex are conducted underground. Due to this, the noise and vibration impact assessment (NVIA) (EMM 2020b) has assessed that the potential impacts associated with flyrock and overpressure will be negligible, with the only potential impact related to ground vibration. Furthermore, there will be no changes to the existing blasting approvals with the development of the Project.

Unmitigated, the impact from noise and vibrations from blasting causing amenity issues during operation of the Project is assessed as Low-7 as noise and vibrations are likely to continue to be experienced by the local area. The potential consequences are marginal as the impacts on liveability within the local area are limited to the life of the Project (medium-term) and the minimal additional resources would be required to any potential socio-economic impacts.

8.1.4 Noise and vibrations from blasting causing amenity issues – mitigated

Potential impacts from blast ground vibration at off-site receivers is currently managed by PGM through blast monitoring in accordance with the limits provided in the Environment Protection License (EPL) (3596). PGM will continue to implement mitigation measures currently in place at the New Cobar and Peak complexes to reduce the potential impact of blast ground vibration at nearby receivers. Current mitigation measures implemented by PGM to reduce the potential impacts from ground vibration at off-site receivers include the following:

- reducing the maximum instantaneous charge (MIC) – this is the amount of explosive used per charge;
- optimising blasting using electronic detonators; and
- using a ground vibration prediction model throughout the planning process and altering the blast design to comply with limits where required (EMM 2020b).

Although noise and vibration due to blasting are regular occurrences within the local area accustomed to mining, the local community still experiences negative reactions to noise and vibration if they are not readily anticipating them to occur. It is recommended to further develop and implement a blasting notification procedure as part of the proposed community and stakeholder engagement strategy to reduce potential noise and vibration impacts from blasting. PGM already notify the Water Treatment Plant and Cobar Heritage Centre prior to blasting, but additional sensitive receivers can be added to this notification process. By notifying local residents of blasting events, the 'element of surprise' is removed and habituation will occur. This will in turn reduce the 'startle response' to the vibrations and the negative physical and mental responses occurring as a result of the body's response to stress. The blasting notification procedure should remain consistent and appropriately timed to ensure that the local community comes to trust and accept the notification procedure. Notification procedures could incorporate methods such as texts, calls, and/or email alerts that blasting will take place. PGM will also maintain community grievance mechanisms to ensure negative experiences related to blasting continue to be recorded and addressed accordingly.

The mitigated way of life impact due to noise and vibrations from blasting causing amenity issues is assessed as Negligible-2. Pending the application of the mitigation measures identified in the NVIA (EMM 2020b) and consistent and adequate communication, the likelihood of impact is reduced to unlikely with the expected consequence reduced to negligible. A summary of the assessment is provided in Table 8.2.

Table 8.2 Summary of noise and vibrations from blasting causing amenity issues

Impact	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
	Noise and vibration from blasting causing amenity issues	Residents, businesses, and service providers of the local area (particularly those located on the Eastern side of the town)	Operation	Local area (particularly the population located on the Eastern side of the town)	Low-7	Negligible-2

8.1.5 Surface water quality and amenity of the Newey Reservoir – unmitigated

The Newey Reservoir has been identified within the surface water assessment (SWA) as a place of recreational significance for the local community (EMM 2020c). The Newey Reservoir was mentioned throughout community consultations to be of great importance for local residents due to its accessibility and recreational use such as canoeing, water skiing and swimming.

The SWA determined that there would be no potential impacts to visual and recreational amenity or water quality at the Newey Reservoir as a result of the Project (EMM 2020c). Potential overflows from Spain's Dam, if they occur, are likely to be infrequent, short term and well-mixed before flowing downstream beyond the Salty. Overflows are not expected to have elevated concentrations of oils, suspended solids, petrochemicals and floating debris, or nuisance organisms such as algae. Furthermore, elevated concentrations of faecal coliforms, enterococci or protozoans are not anticipated as there is no source of these pollutants within the water management system (see Appendix J of the EIS for more detail).

A water management plan (WMP) is in place for PGM's existing operations, including the New Cobar Complex. The WMP is a sub-plan of the environmental management system and was most recently reviewed in May 2020 by EMM and distributed to Natural Resources Access Regulator (NRAR) in May 2020 with no response received to date. The WMP documents the proposed mitigation and management measures for approved activities, and includes the surface and groundwater monitoring program, reporting requirements, spill management and response, water quality trigger levels, corrective actions, contingencies, and responsibilities for management measures. The WMP will be updated in consultation with DPIE Water, NRAR and NSW Environment Protection Authority (EPA), and will consider concerns raised during the exhibition and approvals process for the Project. The WMP will outline the compliance reporting requirements against each of the Project approvals. The existing EPL (3596) will be reviewed for adequacy against the Project.

The unmitigated impact of Project activities on the Newey Reservoir is assessed as Negligible-2. Due to the characteristics of the anticipated impacts and the existing mitigation measures in place, the likelihood of impact is unlikely, with negligible socio-economic impacts anticipated.

8.1.6 Surface water quality and amenity of the Newey Reservoir – mitigated

To manage any community concerns related to the recreational amenity of Newey Reservoir, it is recommended that PGM continue to include information about water quality monitoring in any updates provided to the local community as part of their community and stakeholder engagement strategy. The mitigated impact remains as Negligible-2. A summary of the assessment is provided in Table 8.3.

Table 8.3 Summary of surface water quality and amenity of the Newey Reservoir

Impact	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
	Surface water quality and amenity of the Newey Reservoir	Residents of the local area (particularly users of the Newey Reservoir)	Operation	Local area	Negligible-2	Negligible-2

8.1.7 Livelihood benefits from ongoing employment and mining operation – unenhanced

The 2019/2020 workforce at PGM totalled 404 full time equivalents (FTE) across both the Peak and New Cobar complexes. This includes PGM staff and on-site contractor personnel. This number will ramp up to 414 FTE in 2026/27 before ramping down to the end of mine life. The number represents an increase in 10 FTE at peak production during additional mining at Great Cobar and Gladstone. Annual labour estimates for the New Cobar Complex for mining and underground maintenance staff range from 57 FTE in 2020/21 to a peak of 272 FTE in 2026/27; however, these will not be new employees. Staff will relocate from the Peak Complex to the New Cobar Complex as their primary location of employment activity as mining at the Peak Complex ramps down and mining at the New Cobar Complex ramps up. These numbers can be accommodated within the existing facilities at New Cobar Complex without the need for further development as workforce facilities were constructed for a much larger workforce which operated during the development of the open cut between 2000 and 2004. This figure also includes the continued employment of administrative staff, maintenance staff and processing plant staff at the Peak Complex.

Stakeholders consulted during the SIA field study felt that the Project would provide workforce stability through ongoing secure employment, as well as benefit the local community through the flow-on effect of supporting local businesses and services. Survey respondents also indicated that the Project would provide benefits related to

employment, with 38.0% of respondents indicating that the Project would have positive impacts on employment and 17.0% of respondents identifying the Project as having very positive impacts on employment.

Ongoing local employment creates a multitude of local benefits, including continued provision of income for local workers, recirculation of a greater share per dollar into the local economy due to local supply chains and investment in local employees (Civic Economics 2012, 2013), and improved community well-being and resilience (Adams 2018). According to the conducted economic impact assessment (EIA) (Appendix R of the EIS), the Project will also contribute to economic growth through increased Gross Regional/State Product (GRP/GSP) during construction, operations and decommissioning/rehabilitation phases, compared to what would occur without the Project, flowing from both direct and flow-on impacts (AEC 2020, p. iii). Economic benefits arising from the continuation of the mining operation will extend to stakeholders across NSW, including economic growth, employment and incomes, support for upstream supply chain businesses, support for downstream customers, and government revenue (AEC 2020). The Project will provide a continuation of existing operations at the New Cobar and Peak Complexes, with mining of the Great Cobar and Gladstone deposits ramping up as mining of other existing deposits winds down. As such, the Project is not expected to result in significant changes to workforce and economic benefits from existing levels.

Unenhanced, the benefit from ongoing local employment during the operation of the Project is assessed as Moderate-8 as employment of the Project workforce and associated flow-on economic benefits are almost certain if the Project goes ahead. The positive consequences will be minor due to the Project consisting of a continuation of current operations rather than increasing operations. The local economy will benefit from the Project, with benefits being limited to the life of the Project (realised in the medium term).

8.1.8 Livelihood benefits from ongoing employment and mining operation – enhanced

PGM actively encourages workers to reside locally, with more than half of the existing workforce at the Peak and New Cobar complexes residing within the local area of social influence. PGM aims to continue to source the majority of its workforce locally, including contracted workers. To enhance the livelihood benefits arising from ongoing employment and mining operation it is recommended that PGM and workforce contractors implement a local participation strategy. The strategy should continue to encourage local sourcing of labour where possible and practical as part of the operation, as well as provide training and skill-enhancement opportunities to the employees. The provision of staff development and training opportunities is shown to increase job satisfaction amongst employees, resulting in increased productivity and quality of work (Truitt 2011; Australian Government 2020). Additionally, training and upskilling employees also leads to improved company competitiveness due to maximisation of employee knowledge and innovation (Marin-Diaz 2014). In the local area, there are employment services who offer training, apprenticeship and traineeship services, and employment support services (see Section B.3.3 in Appendix B) (Ask Izzy 2020; TAFE 2020). Liaison and/or partnership with these services could aid in the successful training of operation employees.

To maximise local benefits derived from the Project, PGM (and contractors engaged by PGM) will continue to support local business by utilising their established supply networks and providing sufficient opportunities and information for local business to secure new supply contracts. Wherever possible and practical, PGM will work with CSC, local businesses, and the local community to encourage workers to relocate and/or stay in town. This transition will enable increased integration of the workforce into the local community, facilitating further local economic benefits through workers using local businesses and services, such as local restaurants, accommodation providers, and shops. PGM acknowledge that this must be balanced with the commercial reality that not all jobs will be able to be filled by local workers and that some, regardless of PGM encouragement, may choose to live elsewhere.

Enhanced, the livelihood benefits from ongoing employment and mining operation is assessed as Significant-12. With the successful implementation of training and apprenticeship opportunities as well as encouraged workforce integration into the community, the likelihood of benefit increases to almost certain. The positive consequences

increase to desirable as the local and regional economy will benefit from increased use of local businesses and services, with benefits realising in the medium term. These benefits may or may not be permanent. A summary of the assessment is provided in Table 8.4.

Table 8.4 Summary of livelihood benefits from ongoing employment and mining operation

Impact	Matter	Affected parties	Duration	Extent	Unenhanced	Enhanced
	Livelihood benefits from ongoing employment and mining operation	Resident workers, FIFO/DIDO workers, and businesses comprising the supply chain	Operation (medium-term)	NSW	Moderate-8	Significant-12

8.2 Community impacts

This section provides a detailed assessment, unmitigated and mitigated, on the community impacts and the matters that may significantly impact the community as a result of the Project. The matters assessed as having a potential social impact on community composition, cohesion, character, operation, or sense of place include social cohesion, capital, and resilience in the local community.

8.2.1 Social cohesion, capital, and resilience in the local community– unenhanced

Social cohesion refers to the degree of solidarity and connectedness within a group or community, including "the sense of belonging of a community and the relationships among members within the community itself" (Manca 2014). Building social cohesion within a community requires the engagement of the local community and the establishment and maintenance of effective long-term partnerships (Australian Human Rights Commission 2015).

CSC envisions the local and regional area to be "an attractive, healthy and caring environment to live, work and play, achieved in partnership with the community through initiative, foresight and leadership". There is a dedication to values that promote cooperation and equity, the sustainable ecological and economic development of the region, and community involvement in decision-making processes (CSC 2019).

The local community embraces communication and involvement in the community. During consultation, stakeholders expressed that the local community is generally community-orientated, inclusive, and close-knit (see Section 7.1). However, consultation found there was a lack of trust between the local community and PGM due to perceptions of the company not investing within the community. This perceived inadequate investment within the local community is likely attributable to previous poor communication between PGM's previous owners, New Gold, and the community.

During consultation, stakeholders recognised the improvements to PGM's community consultation since ownership by Aurelia Metals, and appreciated PGM's contributions to the community. Within the last two years, PGM has increased their community contributions, including:

- A significant donation to the Brennan Centre aged care centre to assist with the installation of reverse-cycle air conditioners;
- assisting in upgrading the garden and courtyard area at Cobar Public School; and
- the Clean Up Australia Day PGM employees and contractors roadside clean up effort.

There was recognition during stakeholder consultation that community consultation has improved in the last two years, which has improved the relationship between the local community and PGM. Participants often mentioned that they appreciated the improved community engagement and were interested in the continued development and strengthening of this relationship.

Unenhanced, the likelihood of community benefits arising from social cohesion, capital and resilience in the local community, specifically relating to the Project, is likely as the community currently expresses that they experience a high level of cohesion. Furthermore, PGM has increasingly invested in and contributed to the local area in the last two years (since Aurelia Metals involvement), improving their relationship with the local community. However, without additional enhancement measures the positive consequence is minimal due to the short-term nature of this benefit, and the anticipated marginal improvements on the liveability of the local area. Therefore, the unenhanced benefit to the community is assessed as Limited-4.

8.2.2 Social cohesion, capital, and resilience benefits in the local community – enhanced

The approval of the Project will stabilise the community by providing ongoing secure employment, which is particularly important due to the local and regional areas' current declining populations. The development and implementation of a community and stakeholder engagement strategy will strengthen social cohesion, capital, and resilience in the local area by increasing Project transparency and facilitating investment into the local community.

As part of the proposed community and stakeholder engagement strategy, it is recommended to create a position for a 'local community engagement and social representative', to be filled by a local resident, to aid in the oversight of the management of social impacts and foster a transparent and meaningful relationship between PGM and the local community. This would be accomplished through consistent engagement with the local community and reporting of any community feedback for consideration in the review of impact monitoring and management measures.

It is also recommended to develop a strategy for the enhanced identification and implementation of shared value opportunities within the local area. Creating shared value is an approach to business that emphasises the mutual dependency of the competitiveness of a company and the health of surrounding communities. Creating shared value involves the interaction between company assets and expertise, business opportunities, and social need (Shared Value Project 2020). Through the shared value approach, social challenges are solved through business activities themselves.

Examples of additional shared value opportunities for the Project could include further developing:

- the creation of training programs and apprenticeship programs, in consultation with the mining school run by TAFE, based on Project workforce and supplier needs (this would be particularly beneficial to the local community considering the high rate of youth unemployment in the local area compared to the regional area and NSW – see Section 5.8);
- the development of local catering arrangements for the Project workforce and other local procurement activities to service the Project; and
- events and initiatives in partnership with the Great Cobar Heritage Centre that emphasises the history of mining in the local area and experiences today.

This strategy will allow PGM to identify potential risks to their ongoing social licence to operate and establish adequate and appropriate means of community consultation to minimise negative impacts and maximise positive community and company benefits, as well as ensuring that benefits are experienced by PGM and the community that address local community issues. Both the community and stakeholder engagement strategy and shared value strategy will require ongoing monitoring and recording of feedback from community stakeholders to ensure adequate consultation and inform any necessary revisions to either strategy.

The enhanced benefit from social cohesion, capital and resilience in the local community is assessed as Significant-12. A summary of the assessment is provided in Table 8.5.

Table 8.5 Summary of social cohesion, capital and resilience benefits in the local community

Impact	Matter	Affected parties	Duration	Extent	Unenhanced	Enhanced
	Social cohesion, capital and resilience benefits in the local community	Residents of the local area	Operation (medium-term)	Local area	Limited-4	Significant-12

8.3 Health and wellbeing impacts

This section provides an assessment of the mitigated/unmitigated and unenhanced/enhanced health and well-being impacts on the local and regional communities as a consequence of the Project. The matters assessed as having a potential social impact on the community's health and well-being include:

- stress due to noise and vibration from blasting;
- health issues arising from/exacerbated by dust; and
- physical and mental health impacts due to heavy metals

8.3.1 Stress due to noise and vibration from blasting – unmitigated

Potential health risks associated with noise and vibration from operational activities not only include the physical impacts of noise and vibration, but also its impacts on disturbance of sleep, cognitive effects, and decreased mental well-being due to annoyance and stress (Department of Health 2018). As discussed in section 8.1.4, concerns about impacts from noise and vibration were frequently raised during the SIA field study. Consultation found that local residents feel vibrations during underground firings, with fears that the Project will amplify vibration impacts and overall discomfort experienced. Vibrations were also reported by one consultee to scare local children when blasting occurred during school hours. A minority of stakeholders have also reported negative experiences related to blasting and vibration from the current operations, particularly in relation to blast vibration impacting the condition of their residence and other structures within the local area.

Research conducted on personal and community experiences related to blasting and vibration associated with mining projects reveals that vibrations are likely to exacerbate stress reactions in nearby residents, which may lead to reduced health and wellbeing (Australian Government 2016). As a result, the actual experiences of residents of the local area may be disconnected from the results of the conducted NVIA. Although the NVIA demonstrates that the expected noise and vibration levels are anticipated to remain within the limits outlined by EPL (3596), a minority of stakeholders still report blasting causing negative experiences within the local area. This includes stress related to perceived damage to homes and structures from blast vibrations (and associated stress related to the economic cost of repairing damages, an inability to sell their home, and potential damage to personal effects) and stress related to the 'startling' nature of the vibrations. Stakeholder experiences and associated stress related to noise and vibration arising from blasting from the Project vary across a spectrum, with a few stakeholders experiencing higher levels of stress than others. There is the potential for additional stress as a result of blasting to impact local residents already experiencing high levels of stress due to other causes. Whilst the majority of the future operation

will be underground, there will be noise impacts from ventilation fan noise and surface operations at the New Cobar Complex such as loading material into a road trucks, haul trucks unloading material at the waste rock emplacement, or haul trucks unloading material at the RoM pad (EMM 2020b). These noise impacts may also contribute to impacts to the health and well-being of local residents.

People with pre-existing mental health conditions may also experience heightened stress as a consequence of continued blasting. As previously discussed in Section 8.1.3, blasting can cause a startle response in the body. This startle response also activates areas of the brain responsible for stress and anxiety responses (Lee & Davis 1997). Data is collected by NSW Health regarding the level of psychological distress using the Kessler 10 (K10) approach. This approach uses a 10-item questionnaire that measures anxiety, depression, agitation, and psychological fatigue in the most recent 4-week period and has been adopted by NSW Health as an indicator of mental health. PHIDU (2019) reports the proportion of people with high or very high psychological distress based on the K10 Scale to be 12.8% in the regional area and 11.0% in NSW. The trend data is only available at the LHD level and indicates that levels of psychological distress rated between high and very high in the Western NSW LHD have been mostly in line with those seen across NSW, with a slight decrease in Western NSW LHD since 2017 (see Figure 5.4for more detail). It is assumed that a small proportion of local residents within the local area will have pre-existing mental health conditions that increase their vulnerability to stress-inducing activities.

The unmitigated health and wellbeing impact from stress due to noise and vibration from blasting is assessed as High-12 for residents experiencing the most adverse impact. As the Project is a continuation of operations, stakeholders previously reporting adverse experiences related to blasting will almost certainly continue to experience the impacts. The negative consequence is assessed as moderate as the impacts on liveability will survive the life of the Project. Although blasting will end with the end of Project operation, mental health impacts may not end with the closure and post-closure of the Project, particularly in the context of prolonged exposure and any stress caused by perceived damages to homes.

8.3.2 Stress due to noise and vibration from blasting – mitigated

PGM will continue to implement mitigation measures currently in place at the New Cobar and Peak complexes to reduce the potential impact of blast ground vibration at nearby receivers. It is recommended that monitoring results are communicated to the local community as part of a community and stakeholder engagement strategy. Additionally, stakeholders will be encouraged to raise any concerns they have using the established community grievance mechanism, with PGM representatives adequately addressing and managing received complaints. It is also recommended to develop and implement a blasting notification procedure as part of the proposed community and stakeholder engagement strategy to reduce the impact from noise and vibration due to blasting. By notifying local residents of blasting that will occur, it is thought that the ‘element of surprise’ is removed, which reduces negative physical and mental responses. These measures will aid in addressing the disconnect between the results of vibrations monitoring and the actual experiences of stakeholders.

Mitigated, the social impact is assessed as Low-6. With successful implementation of the proposed mitigation measures, the likelihood of impact is reduced to possible, with the negative consequences reduced to marginal. A summary of the assessment is provided in Table 8.6.

Table 8.6 Summary of stress due to noise and vibration from blasting

Impact	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
	Stress due to noise and vibration from blasting	Residents, businesses, and service providers of the local area (particularly those located on the Eastern side of the town)	Operation	Local area (particularly the population located on the Easter side of town)	High-12	Low-6

8.3.3 Health issues due to dust and emissions – unmitigated

The proximity of the air exhaust rise to the residential areas of Cobar raised concerns during consultation regarding air quality impacts from Project related dust and emissions. People with asthma and other respiratory conditions are more vulnerable to the effects of poor air quality. While data for the local health district suggests that rates of hospitalisation for asthma are lower than the NSW average, they are still quite high at 160 per 100,000 people with significant variation over time (Ministry of Health 2019). This means that some residents within the local area may be more prone to respiratory impacts from poor air quality conditions.

The air quality assessment (Appendix E of the EIS) determined that there is limited potential for adverse impacts from the construction and operation phase of the Project as:

- impacts from existing operations do not result in exceedance of air quality criteria at all private assessment locations;
- the addition of emissions as a result of the Project increases predicted air emission levels, however all predicted concentrations and deposition rates are below air quality criteria at all private assessment locations;
- the increase in transportation of ore from New Cobar Complex to Peak Complex by road trucks is not predicted to generate significant air quality impacts as the route is sealed; and
- predicted concentrations of all metals and metalloids in deposited dust are negligible to very low beyond the PGM boundary.

The unmitigated impact from health issues due to dust is assessed as Negligible-2. Based on the findings from the air quality assessment, it is unlikely that social impacts will arise due to dust and emissions created by the Project, with negligible anticipated negative consequences.

8.3.4 Health issues due to dust and emissions – mitigated

PGM will continue to manage and monitor their community grievance mechanism and provide opportunities for community feedback related to air quality which may arise as a consequence of the Project. It is recommended that these processes are incorporated into a community and stakeholder engagement strategy. The mitigated impact of health issues due to dust and emissions remains as Negligible-2. A summary of the assessment is provided in Table 8.7.

Table 8.7 Summary of health issues due to dust and emissions

Impact	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
	Health issues due to dust and emissions	Residents of the local area (particularly residents located near the construction)	Construction and operation	Local area, including Project area and haulage routes	Negligible-2	Negligible-2

8.3.5 Physical and mental health impacts from heavy metals – unmitigated

Lead (Pb) is the principal chemical of potential concern for human health, owing to the local area's long mining history, as well as increased awareness within the community of exposure to lead. As comprehensive data for existing soil and dust lead levels in Cobar were not available before commencing the EIS, a soil and dust sampling and analysis program was undertaken by EMM. Twelve metals of potential concern (including lead) were identified based on mineralogy analysis undertaken for ore within emitted dust. These occur in a mineralised form (and require solubilisation and absorption into the body in order for potential health effects to occur) and include lead, silver, antimony, arsenic, barium, beryllium, cadmium, chromium, copper, mercury, manganese, nickel and zinc. The presence of these metals within the dust are part of the geology of the ore mined at Cobar. Results of the sampling and analysis program was used to inform a human health risk assessment (HHRA) undertaken by SLR consulting (SLR 2020) that examined various exposure scenarios related to lead and other metals of potential concern. The HHRA determined that there is a rare likelihood of impact from exposure to lead and other metals of concerns as a consequence of the Project, with negligible risk of harm to children or adults from exposure. The sampling and analysis program, assessment methods, and results are described in the HHRA in Appendix F of the EIS.

Although the HHRA has assessed the potential human health risk posed by heavy metals as negligible, there is still the potential for community members to perceive a health risk posed by heavy metals if information is not adequately and appropriately communicated to the local community.

Unmitigated, the physical health impact as a consequence of heavy metals is assessed as Negligible-2. According to the results of the conducted HHRA, the likelihood of impact is unlikely, with negligible anticipated socio-economic impact. However, the unmitigated mental health impacts are assessed as Medium-9. Without mitigation measures in place, the likelihood of mental health impacts associated with concern about the potential presence of heavy metals as a consequence of the Project is possible, with the anticipated socio-economic impacts potentially surviving the life of the Project and requiring minimal external resources to restore.

8.3.6 Physical and mental health impacts from heavy metals – mitigated

The mitigated physical health impact from heavy metals remains Negligible-2. To manage any community concerns related to human health risks from exposure to heavy metals, it is recommended that PGM include information about heavy metals monitoring in any updates provided to the local community as part of their community and stakeholder engagement strategy. The inclusion of this mitigation measure decreases the likelihood of mental health impacts to unlikely, with the consequences reduced to negligible. A summary of the assessment is provided in Table 8.8.

Table 8.8 Summary of health impacts from heavy metals

Impact	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
	Physical health impacts from heavy metals	Residents of the local area	Operation and post-closure (long-term)	Local area	Negligible-2	Negligible-2
	Mental health impacts from perceived heavy metals				Medium-9	Negligible-2

8.4 Personal and property rights impacts

This section provides an assessment of the mitigated/unmitigated and unenhanced/enhanced personal and property rights impacts on the local and regional communities as a consequence of the Project. The matters assessed as having a potential social impact on the community's personal and property rights include damage to housing and structures due to vibrations from blasting.

8.4.1 Damage to housing and structures due to vibrations from blasting – unmitigated

During consultation, concerns were raised by multiple stakeholders regarding the impacts of blasting on residential properties and local infrastructure from existing operations. A continuation of such operations raised fears for the state of infrastructure within the town, including the Great Cobar Heritage Centre, Cobar Rugby Clubhouse, local schools and residential homes. One resident expressed concerns that vibration as a result of ongoing blasting had impacted the integrity of their residential home with significant concerns on whether continued operations would cause additional structural damage. There was another report of damage to the local primary school due to vibration. However, these two reports were the most consequential experiences expressed during consultation.

According to the NVIA (EMM 2020b), vibration as a result of blasting has the potential to impact non-residential receivers (i.e. buildings or items of historic heritage significance) near the Project area. The blast ground vibration criterion used in the NVIA for residential receivers (5 mm/s peak particle velocity (PPV)) is lower than the criterion for structural damage to buildings (10 mm/s PPV). Therefore, no impacts from blasting on non-residential receivers (i.e. structural damage to buildings) is anticipated from the Project if the limiting MICs provided for the nearest residential receivers are followed (EMM 2020b). Other blasting standards such as the Australian Standard AS2187.2, the German Standard DIN4150 and the British Standard BS7385, indicate similar levels of ground vibration that are considered appropriate to protect the amenity and eliminate the risk of superficial or structural damage to buildings. The limits provided in the current development consent and EPL (3596) for PGM operations are more stringent than the values provided in these standards; however, some of the residents of Cobar did not perceive blasting limits to be sufficient to prevent damage to their properties.

There will be no changes to the existing blasting approvals with the development of the Project. Based on the NVIA, the personal and property rights impact from damage to housing and structures due to vibrations from blasting is assessed as Low-6 as the likelihood of impact is unlikely with marginal socio-economic impacts anticipated.

8.4.2 Damage to housing and structures due to vibrations from blasting – mitigated

Potential impacts from blast vibration at off-site receivers is currently managed by PGM in accordance with the limits provided in the EPL (3596), including blast monitoring. PGM will continue to implement mitigation measures currently in place at PGM to reduce the potential impact of blast vibration at nearby receivers. Current mitigation

measures implemented by PGM to reduce the potential impacts from ground vibration at off-site receivers include the following:

- reducing the MICs;
- optimising blasting underground through the use of electronic detonators; and
- using a ground vibration prediction model throughout the planning process and altering the blast design where required (EMM 2020b).

However, the results from the NVIA and the SIA consultation reveal a disconnect in the measurement and technical standards related to blast monitoring and management, and the experiences of local stakeholders. It is recommended that monitoring results continue to be communicated to the local community as part of a community and stakeholder engagement strategy. Additionally, stakeholders should be encouraged to raise any concerns they have using the established community grievance mechanism, with PGM representatives adequately addressing and managing received complaints.

Contingent on the successful implementation of mitigation measures recommended in the NVIA (Including continued monitoring) and the development and application of the recommended community and stakeholder engagement strategy, the mitigated impact to personal and property rights due to damage to housing and structures from blasting vibrations is assessed as Negligible-1. With the mitigation measures in place, there will be negligible consequences with a rare likelihood of impact occurring. A summary of the assessment is provided in Table 8.9.

Table 8.9 Summary of damage to housing and structures due to vibrations from blasting

Impact	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
	Damage to housing and structures due to vibrations from blasting	Residents, businesses, and service providers of the local area (particularly those located on the Eastern side of the town)	Operation and post-closure	Local area (particularly the population located on the Easter side of town)	Low-6	Negligible-1

8.5 Fears and aspirations impacts

This section provides an assessment of the mitigated/unmitigated impacts and unenhanced/enhanced benefits on local and regional fears and aspirations as a consequence of the Project. The matters assessed as having a potential social impact on the community's fears and aspirations include:

- community and cohesion issues related to the Project's workforce;
- continuity of mining operation in Cobar; and
- fear of subsidence.

8.5.1 Community cohesion issues related to mining workforce – unmitigated

Resident workers constitute more than half of PGM's workforce. Potential impacts to community cohesion as a result of the workforce were raised throughout consultation. Stakeholders felt that as a small town, the local area

had a high level of cohesion. However, participants raised concerns that this sense of cohesion has been diminishing. Evidence from community consultation reveals that multiple stakeholders were critical of the PGM workforce management, with many claiming to experience negative impacts from shift rostering and the presence of non-resident workforce for the current operations. Many stakeholders perceived local resident employees to have been recently replaced by contractors, increasing the presence of the FIFO/DIDO workforce, which is believed will increase as a consequence of the Project.

As a mining town, there is significant reliance on the mining industry for economic support and employment. There are perceptions that the FIFO/DIDO workforce and rostering arrangements are detrimental to the town. Consultation participants believe that the community is losing its sense of cohesion due to the lack of contribution and involvement of the non-resident workforce within the local community. These concerns relate to non-resident workers contracted by PGM as well as other companies. It is also believed the town's declining population creates a divide in values associated with mining, with notions of 'us and them' between the mining workforce and community members, leading to sentiments of a lack of cohesion.

This is a common perception expressed by residents living in mining towns with a significant proportion of FIFO/DIDO workers residing in temporary accommodation camps (Carrington & Pereira 2011; APH 2013). Frequent criticisms of mining shift rostering and FIFO/DIDO working arrangements, particularly those which use workforce accommodation camps include:

- a lack of purchasing from local businesses;
- a lack of contributions to sporting clubs, volunteer organisations, and other local groups due to families residing elsewhere;
- reductions in public facilities such as schools and health services due to declining population; and
- general disruption to the social fabric and 'feeling' of a town (Carrington & Pereira 2011; APH 2013).

Carrington and Pereira (2011) explain that "where a sense of local community based on dense patterns of acquaintanceship, participation in local sporting and other activities and high levels of implicit trust is seriously eroded, rural communities become less attractive places to live and enter into a spiral of 'rural crisis'" (Carrington & Pereira 2011, p. 36). This fear was reflected during stakeholder consultation, where multiple residents noted that the declining population within the local area and subsequent declines in participation in local organisations and activities is already reducing the cohesiveness and social strength of the community. Unaddressed resident concerns, experiences, and expectations related to workforce arrangement impacts on the community's cohesion and resilience could also contribute to a situation of 'self-fulfilling prophecy' whereby predictions, fears, and worries associated with the future become reality (Schaedig 2020). Although this Project is a continuation of mining operations, the existing angst and concerns apparent within the local community could be exacerbated if not mitigated.

Unmitigated, the impact to community fears arising from community cohesion issues related to the mining workforce is assessed as Medium-10. Without mitigation measures in place, the likelihood of impact is likely as stakeholders have already expressed concerns and declining community cohesion due to local perceptions of the workforce not engaging in and contributing to the local community. The socio-economic consequence is anticipated to be moderate as impacts on liveability could survive the life of the Project if fears remain unaddressed. While community engagement has been reported as improving over the last two years since Aurelia Metals acquired PGM, this improvement needs to continue. Unmitigated fears, heightened by inadequate communication and transparency from PGM, could contribute to declining cohesion within the local community, requiring additional resources to recover the potential socio-economic impact.

8.5.2 Community cohesion issues related to mining workforce – mitigated

From consultation, participants felt that, as a mining town, hiring locally and enhancing community engagement activities would be the best way to encourage community cohesion. Although the Project is largely a continuation of current operations, rather than employing a new workforce, the perception of the community's cohesion and issues with workforce were frequently mentioned to be a significant concern relating to the Project. Further enhancing communication between PGM and the local community would continue to improve the company relationship with the community and address existing trust issues.

i Mitigation measures

Currently, PGM sources labour (including contractors) locally where possible. PGM advertises all roles using *The Cobar Weekly*, with 15 vacant positions at PGM and 4 vacant positions at Hera advertised as of 29 October 2020 (*The Cobar Weekly* 2020). For specialised roles, if personnel are not available within the local area, arrangements for FIFO or DIDO will be made. The development of a formal local participation strategy would demonstrate this intention to the local community and address concerns about an increasingly non-resident workforce. The development and implementation of a community and stakeholder engagement strategy would also increase transparency and provide clear expectations by communicating the intention for PGM to hire locally where possible. With successful implementation of the minimum recommended mitigation measures (the community and stakeholder engagement strategy and local participation strategy), the mitigated impact is assessed as Negligible-3. Although the likelihood of impact is still possible, the anticipated negative consequence is reduced to negligible due to adequate provision of information and engagement with the local community addressing fears about non-resident workforces within the local community.

ii Enhancement measures

With the implementation of further mitigation measures, which include a revised accommodation strategy and development of a local business and local industry procurement strategy, the mitigated impact becomes a benefit, assessed as Limited-3. Wherever possible and practical, PGM will continue to work with CSC, local businesses, and the local community to encourage workers to relocate and/or stay in town. This transition will increase the visibility of workers in the local community and facilitate increased contributions to the local economy due to workers using local businesses and services, such as local restaurants, accommodation providers, and shops. Increased local residence by workers would also encourage worker involvement in local clubs, groups, and organisations.

A commitment to local procurement of goods and services in the form of a local business and local industry procurement strategy specific to the Project will enhance the benefit of increased local economic activity from industry procurement. Currently, PGM uses local suppliers for much of their maintenance and projects contracting, as well as the purchasing of goods – where local supply is available and price is deemed appropriate. However, there are no formal arrangements in place. The development and implementation of a formal local business and industry procurement strategy for the Project would further prioritise procurement from local businesses and services, and demonstrate commitment to the community, increasing the likelihood of local benefit. The formal intention for the Project to use local accommodation, goods, and services would result in a possible benefit, with further contributions to the local economy and community cohesion. A summary of the assessment is provided in Table 8.10

Table 8.10 Summary of community cohesion issues related to workforce

Impact	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Fears and aspirations	Community cohesion issues related to Project workforce	Residents of the local area	Operation	Local area	Medium-10	Negligible-3
						Enhanced
						Limited-3

8.5.3 Continuity of mining in Cobar and the effects on the population – unmitigated

During consultation, stakeholders repeatedly described Cobar as a 'mining town', which is reflected in the significant proportion of the working population of the local and regional area being employed in the mining industry (refer to Section 5.2). The local area relies heavily on the mining industry for economic development, employment, and training opportunities. Consultation participants expressed that they value mining, and that their livelihoods and ability to continue residing in the local area depends on the continued operation of mining.

The Project will extend the life of mine by 12 years to 2035 (based on current market conditions). Although this will extend the economic and livelihood benefits currently provided through the current operations, the benefits will only be realised within the medium term as they will be limited to the life of the Project (plus some ramp-down employment opportunities through rehabilitation). The closure of major mining sites and mining legacies has the potential to impact on the town through social dislocation (from unemployment) and regional economic loss which could lead to residents and previous employees moving if there are no further employment opportunities within the local area (Vivoda, Kemp & Owen 2019). This has the potential to exacerbate the local area's declining population, which was a concern raised throughout consultations. Without Project approval, consequences from the closure of the site could be realised in the short-term, contributing to fears about the future of the local area.

During consultation, stakeholders also expressed dissatisfaction with the engagement and provision of information provided by PGM for the existing operations. The results of the online community survey reveal that stakeholders are not satisfied with the responses by PGM to the issues that they have previously raised. Poor communication procedures and inadequate provision of information related to the anticipated future of the operation could exacerbate the existing uncertainty and associated fears about the future of the operation in the local area, and by extension the future of the local community. However, there was also recognition during stakeholder consultation that community consultation by PGM has improved, particularly in the last two years since Aurelia became the parent company. This has contributed to an improved relationship between the local community and PGM. Stakeholders expressed appreciation for the community contributions and the improved community engagement by PGM and were interested in the continued development and strengthening of this relationship to facilitate mutually beneficial operation of the Project. These improvements will contribute to the continued strengthening of the relationship between PGM and the local community.

Unmitigated, the impact of uncertainty and fear about the future of the operation in the local area is assessed as Medium-10. Without mitigation measures in place, the likelihood of impact is likely as stakeholders have already expressed concern and uncertainty about the future of their town related to the future of the PGM operation. The socio-economic consequence is anticipated to be moderate impacts on liveability which could extend beyond the life of the Project if fears remain unaddressed. Furthermore, unmitigated fears and inadequate provision of information related to the status of the operation could result in the local community being unprepared for the eventual closure of the operation in the medium term, requiring additional resources to recover the potential socio-economic impact.

8.5.4 Continuity of mining in Cobar and the effects on the population – mitigated

The approval of the Project will mitigate community uncertainty about the future of the Project and mining operations in the local area. Without the approval of the Project, the local population would be likely to experience further declines in their population due to loss of jobs and economic investment in the community. However, communication, transparency, and increased engagement with the local community will be the key components in managing this social impact. Development and implementation of a community and stakeholder engagement strategy which includes provisions for communicating regular updates to the local, regional, and extended area about the status and life of the Project will aid in the reduction of community and stakeholder fears associated with the continuity of mining operation in the local area.

With successful implementation of the minimum recommended mitigation measures, the mitigated impact is assessed as Negligible-3. Although the likelihood of impact is still possible, the anticipated negative consequence is reduced to negligible due to adequate provision of information and engagement with the local community addressing fears associated with the continuity of the mining operations.

With the implementation of further mitigation measures, namely the inclusion of the local community in post-closure and rehabilitation strategy (including consideration for post-mining land use and post-mining employment opportunities for the Project workforce), the mitigated impact becomes a benefit, assessed as Moderate-6. The active involvement of the local community in the preparation for the closure of the mine will have minor positive consequences, including improvements to social cohesion, with a possible likelihood of benefit. A summary of the assessment is provided in Table 8.11.

Table 8.11 Summary of continuity of mining operation in Cobar

Impact	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Fears and aspirations	Continuity of mining operation in Cobar	Residents of the regional area and parties incorporated into mining supply chain	Operation and post-closure	Regional area and extended area due to supply chains	Medium-10	Negligible-3 **Enhanced** Moderate-6

8.5.5 Fear of subsidence – unmitigated

During consultation, stakeholders raised concerns about subsidence that may have occurred as a consequence of previous mining operations within the local area and how this may be exacerbated by proposed operations as a result of the Project. Stakeholders raised specific concerns regarding the Cobar District Rugby Club and if subsidence will impact the future conditions of the playing fields.

The geotechnical assessment for the Project undertaken by Beck Engineering (Beck Engineering 2020) determined that surface subsidence forecasts are very low (less than 15mm) and are considered negligible for the purposes of the Project. Subsidence is anticipated to be negligible due to the following factors:

- the small footprint of future underground mining;
- relatively strong rockmass conditions;
- small (narrow) stopes with a small footprint;

- low extraction ratio due to the narrow stopes and small amount of rock planned to be mined (compared to other larger stoping mines); and
- use of backfill (see Appendix H of the EIS for more detail).

Although the geotechnical assessment determined that subsidence forecasts are considered negligible, without monitoring results being effectively and regularly communicated, there is the potential for the community to perceive subsidence as a potential impact. The unmitigated impact of fear of subsidence being exacerbated by the Project is assessed as Medium-9. Due to the nature of the underground mining operations, the likelihood of impact is possible, with moderate consequence due to persistent concern about subsidence, which may survive the life of the Project if not successfully mitigated.

8.5.6 Fear of subsidence – mitigated

As outlined in the geotechnical assessment, routine monitoring such as biannual or annual survey pick-ups of key locations as well as geotechnical inspections will be considered by PGM. PGM will adopt an observational approach and continuously evaluate the rockmass response to mining and adjust the mine plan, if required, as mining continues and as additional geotechnical information becomes available (Beck Engineering 2020).

To manage any community concerns related to subsidence, it is recommended that PGM include information about subsidence monitoring in any updates provided to the local community as part of their community and stakeholder engagement strategy. The mitigated impact remains as Negligible-2. A summary of the assessment is provided in Table 8.12.

Table 8.12 Summary of subsidence (fear)

Impact	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Fears and aspirations	Subsidence (fear)	Residents of the local area	Operation	Local area	Medium-9	Negligible-2

8.6 Cumulative impacts

There are several concurrent development projects operating or intended to operate in and around the Project. These projects may contribute cumulative impacts. A summary of potential cumulative impacts of nearby State significant development projects as identified through the NSW DPIE (2020) Major Projects website in construction and operational phases, as well as other relevant projects is given in Table 8.13.

Table 8.13 Concurrent development projects

LGA	Project name	Anticipated timeframe/ project life	Development type	Status	Determination date	Construction workforce	Current or expected operational workforce (FTE)
SSD projects							
Cobar Shire	New Cobar Complex Project[1]	12 years	Minerals Mining	Prepare EIS	-	-	40[1]
Cobar Shire	Peak Complex[1]	4 years	Minerals Mining	Operational	-	-	364[1]

Table 8.13 Concurrent development projects

LGA	Project name	Anticipated timeframe/ project life	Development type	Status	Determination date	Construction workforce	Current or expected operational workforce (FTE)
SSD projects							
Cobar Shire	Hera Mine[2]	4 years	Minerals Mining	Operational	July 2012	-	132[2]
Cobar Shire	Cobar BioHub	30 years	Waste collection, treatment and disposal	Prepare EIS	-	40	30
Cobar Shire	CSA Mine	10 years	Minerals Mining	Operational	-	-	300
Bogan Shire Cobar Shire Coonamble Shire Lachlan Shire Narrabri Shire Walgett Shire Warren Shire	Western Slopes Pipeline Project	12 months (construction) 40 years (operation)	Gas supply	Prepare EIS	-	250 – 350	4 – 5
Bogan Shire	Yarren Hut Solar Farm	50 years	Electricity Generation-Solar	Assessment	-	40	2
Bogan Shire	Nyngan Scandium Mine	21 years	Minerals Mining	Approved	November 2016	60	75
Other projects							
Cobar Shire	Peak Complex TSF lifts	6 months for waste rock movement and 12 months per lift stage	Minerals Mining	SoEE submitted		15	nil
Cobar Shire	Federation Project[2]		Minerals Mining	Scoping phase		20	132
					TOTAL Workforce	520	948

1. PGM will continue to maintain operational control of the workforce across the Peak and New Cobar complexes, and workforce numbers will remain stable across PGM operations as a whole, but fluctuate between the two complexes.
2. Hera Resources will continue to maintain operational control of the workforce across the Hera Mine and Federation Project, and workforce numbers will remain stable across Hera Resources operations as a whole, but fluctuate between the two projects.

A total of ten development projects were identified within the area of influence, with the main development type consisting of mineral mining ventures which reflects the strong presence of the mining industry within the local area. Within Cobar Shire, five projects were identified; three projects are operational and all minerals mining developments and two are currently preparing an EIS. The remainder of the projects are located within the Bogan

Shire, Coonamble Shire, Lachlan Shire, Narrabri Shire, Walgett Shire and Warren Shire and can be grouped as mining (minerals), and energy (gas supply and electricity generation (solar)) development types.

There is the potential that interactions from the concurrent developments can produce socio-economic impacts concurrently or sequentially. Additionally, the development of new projects may provide employment for construction workers and employment continuity once projects cease construction. As the top three occupations in the local area are technicians and trades workers, machinery operators and drivers, and professionals (refer to Section 5.4) the concurrent projects may benefit local employment or may place a strain depending on workforce availability.

The known construction workforce associated with the concurrent projects is an expected maximum of 520 full-time employees. The potential of a non-resident workforce and increased construction workforce from the concurrent developments may contribute to the cumulative impacts for the local area. This will depend on how the workforces will be managed and accommodation arrangements which has the potential to exacerbate already existing tensions associated with workforce management and accommodation within the local area. However, as the Project is a continuation of current operations, no construction for additional surface infrastructure is required, only the construction of a short powerline and compact substation.

The project with the most significant construction workforce is the Western Slope Pipeline Project, which is a proposed gas supply development that consists of a pipeline running through multiple LGAs and the Cobar Shire. Based on the scoping report for the project, the construction workforce associated with the Western Slopes Pipeline Project will comprise approximately 250-350 non-resident personnel who will stay in construction camps close to the alignment, the nearest point of which is approximately 130 km to the east of Cobar. Considering the magnitude of the required construction workforce it has the potential to contribute to the cumulative impacts on the local area.

Personnel required for the concurrent Stage 6 and 7 TSF lifts (the Stage 5 TSF lift will occur prior to commencement of the project) at the Peak Complex will be a construction contractor workforce of 8-10 personnel. Therefore, cumulative socio-economic impacts as a result of the TSF lifts at the Peak Complex will be negligible.

The maximum known workforce associated with the operational phases of the concurrent projects is 948 workers. The nature of the workforces for the concurrent developments has the potential to impact the local area. A predominant non-resident workforce would place strain on community tensions and accommodation within the local area. There are also opportunities for the local area as the local population is currently experiencing a decline. Therefore, there is the potential to benefit the local area through providing continued employment opportunities. Overall, the Project contribution to the cumulative impacts are minimal due to the nature of the Project being a continuation with no significant construction. Annual labour estimates for the New Cobar Complex range from 57 FTE in 2020/21 to a peak of 272 FTE in 2026/27. These however will not be new employees but will be part of the existing PGM workforce, and PGM will continue to maintain operational control across the complexes.

The implementation of mitigation measures to manage socio-economic impacts related to the Project will also reduce the magnitude and likelihood of any potential cumulative impacts.

8.6.1 Closure of mining developments

The closure of the Project and concurrent developments within the local area has the potential to incur significant impacts on the local community and the compounding impacts of multiple mine closures can be significant for the local community as well as the local and regional economy (Franks et al. 2010). Cobar, as a mining township, heavily relies on the mining industry for economic development, employment, and training opportunities. When considering the working population in Cobar, 35.9% of employed persons work within the mining industry (refer to Section 5.2) with community consultations reaffirming the sentiment of Cobar being a 'mining town'. Therefore, the closure of major mining sites has the potential to impact on the town through social dislocation (from unemployment), regional economic loss which could lead to residents and previous employees moving if there are

no further employment opportunities within the local area. This has the potential to exacerbate the local area's declining population, which was a concern raised throughout consultations.

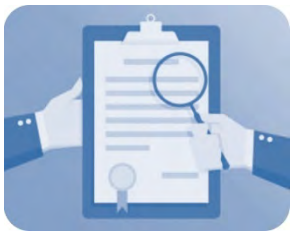
Three existing mines operate within proximity of Cobar and local area of social influence (see Table 8.27).

Table 8.14 Major developments in the local area

Project Name	Development Type	Expected Closure[1]	Operational Workforce
CSA Mine	Minerals Mining	2029	300
Hera Gold Mine[2]	Minerals Mining	2025	132
Peak Gold Mine[2]	Minerals Mining	2023	364
		TOTAL	**796**

1. Based on current market assumptions.
2. The workforce numbers at PGM and Hera are expected to ramp down as the New Cobar Complex Project and the Federation Project (respectively) ramp up. Therefore it is unlikely that 'closure' of these projects will have an overall impact on their respective workforces as they will migrate to the new project.

All three mines employ a combined operational workforce of 796 personnel with expected closures between 2023 and 2029. Closures of the mines has the potential to impact the local community through job loss if further employment opportunities are not available within the local area. Without Project approval, the closure of the New Cobar Complex would coincide with the closure of Peak and Hera, further increasing the magnitude and consequence of the cumulative impact. Therefore, it is important to take into consideration how the closure of the Project has the potential to contribute to the impacts of mine closures within the local area.



9 Mitigation and management

This section provides a summary of the identified social impacts along with the corresponding perceived stakeholder risk rankings and mitigated technical risk rankings. In addition, key potential stakeholder partners have been identified to participate in the monitoring and management of impacts, along with a range of proposed social impact mitigation and management strategies. A summary is provided in Table 9.1. This section also provides a monitoring and management framework.

Table 9.1 Summary of mitigation and management strategies

Social impact	Matter	Unmitigated	Mitigated	Responsibility	Potential partners	Proposed mitigation and management
Way of life - Impact	Drawdown of bore water affecting use of rugby grounds	High-12	Low-6	PGM	Cobar District Rugby Club	PGM has committed to make good arrangements to supply supplementary water to the Cobar District Rugby Club to replace any reduction in pumping capacity that may occur due to the drawdown of the water table. This will be done in consultation with the Cobar District Rugby Club to achieve a solution that is in all parties' best interests. Development and implementation of a community and stakeholder engagement strategy which includes provisions for information distribution and feedback mechanisms related to the ongoing operation and state of the rugby grounds.
Way of life - Impact	Noise and vibration from blasting causing amenity issues	Low-7	Negligible-2	PGM		Development and implementation of a consistent blasting notification procedure as part of the community and stakeholder engagement strategy. Implementation of mitigation measures as outlined in the NVIA.
Way of life - Impact	Surface water quality and amenity of the Newey Reservoir	Negligible-2	Negligible-2	PGM		Continued implementation of the WMP during operation of the Project. Inclusion of information about water quality monitoring in any updates provided to the local community as part of the community and stakeholder engagement strategy.
Way of life - Benefit	Livelihood benefits from ongoing employment and mining operation	Moderate-8	Significant-12	PGM Contractors	Local training providers such as TAFE	Provision of training, apprenticeship and upskilling opportunities for the Project workforce. Encourage and support further integration of the Project workforce into the local community where possible
Community – Benefit	Social cohesion, capital and resilience in the local community	Limited-4	Significant-12	PGM	Local training providers such as TAFE Great Cobar Heritage Centre Local groups, organisations and residents	Development of a strategy for the enhanced identification and implementation of shared value opportunities within the local area.

Table 9.1 Summary of mitigation and management strategies

Social impact	Matter	Unmitigated	Mitigated	Responsibility	Potential partners	Proposed mitigation and management
 Health and community wellbeing – Impact	Stress due to noise and vibration from blasting	High-12	Low-6	PGM		Development and implementation of a consistent blasting notification procedure as part of the community and stakeholder engagement strategy. Implementation of mitigation measures as outlined in the NVIA.
 Health and community wellbeing – Impact	Health issues due to dust and emissions	Negligible-2	Negligible-2	PGM Contractors		PGM will continue to manage and monitor their community grievance mechanism and provide opportunities for community feedback related to air quality which may arise as a consequence of the Project.
 Health and community wellbeing – Impact	Physical health impacts from heavy metals	Negligible-2	Negligible-2	PGM		Include information about heavy metals monitoring in any updates provided to the local community as part of their community and stakeholder engagement strategy.
 Health and community wellbeing – Impact	Mental health impacts from perceived heavy metals	Medium-9	Negligible-2	PGM		Include information about heavy metals monitoring in any updates provided to the local community as part of their community and stakeholder engagement strategy.
 Personal and property rights – Impact	Damage to housing and structures due to vibrations from blasting	Low-6	Negligible-1	PGM		Development and implementation of a consistent blasting notification procedure as part of the community and stakeholder engagement strategy. Implementation of mitigation measures as outlined in the NVIA.
Fears and aspirations – Impact/Benefit	Community cohesion issues related to Project workforce	Medium-10	Negligible-3 (or Limited-3 if enhanced)	PGM Contractors	Local businesses and service providers, including accommodation and catering	The development and implementation of a community and stakeholder engagement strategy would also increase transparency and provide clear expectations by communicating the intention for PGM to hire locally where possible. Encourage and support further integration of the Project workforce into the local community where possible. A commitment to local procurement of goods and services in

Table 9.1 Summary of mitigation and management strategies

Social impact	Matter	Unmitigated	Mitigated	Responsibility	Potential partners	Proposed mitigation and management
						the form of a local business and local industry procurement strategy specific to the Project
Fears and aspirations – Impact/Benefit	Continuity of mining operation in Cobar	Medium-10	Negligible-3 (or Moderate-6 if enhanced)	PGM	Local groups, organisations and residents	Operation of the Project. Development and implementation of a community and stakeholder engagement strategy which includes provision for consistent updates on the status and life of the Project. Involvement of the local community in post-closure and rehabilitation strategy (including consideration for post-mining land use and post-mining employment opportunities for the Project workforce).
Fears and aspirations – Impact	Subsidence (fear)	Medium-9	Negligible-2	PGM		Inclusion of information about subsidence monitoring in any updates provided to the local community as part of the community and stakeholder engagement strategy.

9.1 Monitoring and management framework

It is proposed that a monitoring and management framework be developed to ensure that the identified positive and negative impacts are monitored over time to measure the effectiveness or otherwise of the proposed management measures, including the changing conditions and trends in the Cobar region over the same period.

It is proposed that the monitoring and management framework identifies the following key aspects:

- track progress of mitigation and management strategies;
- assess actual Project impacts against predicted impacts;
- identify how information will be captured for reporting to impacted stakeholders including landholders, communities and government on progress and achievements;
- key performance indicators, targets and outcomes;
- responsible parties; and
- mechanisms for ongoing adaption of management measures when and if required.

To ensure the effectiveness of the management measures for the identified positive and negative impacts, it is recommended that a continuous improvement approach be adopted allowing for the review and adaption of impacts, management measure and outcomes.

An approach that ensures stakeholders from various sections of the community are regularly informed and given the opportunity to participate and collaborate is recommended. This approach is used successfully to manage social impacts from mining operations in several other mining regions throughout Australia and around the world.

The community and stakeholder engagement strategy will include provisions that provide information and encourage community feedback related to (but not limited to):

- the ongoing monitoring of irrigation water availability for the Cobar District Rugby Club;
- blasting, including blasting notification procedures,
- updates on the status and life of the Project; and
- identification of ongoing shared value opportunities within the local community.

A community and stakeholder engagement strategy often incorporates a range of communication strategies and opportunities for the community to provide feedback through a variety of channels including:

- regular community surveys (every 2, 3 or 5 years);
- social media channels;
- website contact forms;
- community grievance mechanism (i.e. complaints register);
- community information sessions;

- briefings;
- e-newsletters; and
- letterbox drops.

The community consultation strategy will consider all options and will apply the instruments that best fit the overall needs of the Project. However, the approach will ensure that mechanisms for both information dissemination and feedback collection are incorporated.

10 Acronyms

Table 10.1 Acronyms

Acronym	
ACHA	aboriginal cultural heritage assessment
AHMAC	Australian Health Ministers' Advisory Council
AHURI	Australian Housing and Urban Research Institute
AIHW	Australian Institute of Health and Welfare
ASGS	Australian Statistical Geography Standard
bgl	below ground level
CCC	Community Consultative Committee
CIS	community information session
Cr	Councillors
CSE	community and stakeholder engagement
EIA	economic impact assessment
EPA	Environmental Protection Authority
EPL	Environment Protection License
FTE	full-time equivalent
FYTD	fiscal year-to-date
GP	general practitioner
GRP	gross regional product
GSP	gross state product
HHRA	human health risk assessment
IEO	Index of Education and Occupation
IER	Index of Economic Resources
IRSAD	Index of Relative Socio-Economic Advantage and Disadvantage
IRSD	Index of Relative Socio-Economic Disadvantage
kV	kilovolt
K10	Kessler 10
LGA	local government area
LHD	local health district
MIC	maximum instantaneous charge
NRAR	Natural Resources Access Regulator
NVIA	noise and vibration impact assessment
OSHC	outside of school hours care
Pb	lead
PES	post enumeration survey

Table 10.1 Acronyms

Acronym	
PHIDU	Public Health Information Development Unit
PHN	Primary Health Network
PPV	peak particle velocity
QGSO	Queensland Government Statistician's Office
REINSW	Real Estate Institute of New South Wales
RoM	Run-of-mine
SEIFA	Socio-Economic Indexes for Areas
SES	State Emergency Service
STE	State and Territory
SWA	surface water assessment
tpa	tonnes per annum
tpa	Tonnes per annum

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Appendix A

Risk-based framework

A.1 SIA risk-based framework

A social impact workshop was conducted to assess impacts using a social risk framework shown in Figure A.1. Using the consequence and likelihood framework allows the assessment of the level of significance of a social impact as negligible, marginal, moderate, major, or intolerable, and the assessment of the level of significance of a social benefit as minimal, minor, desirable, or highly desirable, based on a combination of likelihood and consequence. Both negative impacts and benefits have been assessed. The social risk assessment is informed by the primary and secondary data collected from the literature review, social baseline study, SIA field study, and findings of technical studies.

EMM creating opportunities

Risk rating methodology for SIA ®

SIA definitions	Positive Consequences (Benefits)				Negative Consequence (Impacts)					SIA definitions
Extent of the benefit (people & geography)	The local, regional and potentially the national economy will benefit significantly. Improvements on social services and/or social cohesion.	The local and regional economy will benefit. Improvements on social services.	The local economy will benefit. Improvements on social services.	Marginal improvements/ contribution to local economy. Marginal improvements/ contribution to social services and/or social cohesion.	No or negligible socioeconomic impact.	Socioeconomic impact that will take small effort to restore and does not threaten livelihood. No exogenous resources are required for the recovery.	Socioeconomic impact will require minimal additional external resources to recover.	Socioeconomic impact will depend on reasonable amount of external resources to recover.	Socioeconomic impact will depend on significant external resources to recover and may not be back to how it was before the impact.	**Level of impact**
Cumulative duration the benefit is experienced	Benefits will realise in the **short term** and will be permanent	Benefits will realise in the **short to medium term** and may or may not be permanent	Benefits will realise in the **medium to long term** and are not permanent	Benefits will realise in the **short term** and are not permanent	Short timeframe impact on livelihood or liveability.	Impacts on the livelihood or liveability are limited to the life of the project.	Impacts on livelihood and/or liveability will survive the life of the project.	Impacts on livelihood and liveability could survive long after the life of the project or can be permanent.	Impacts on livelihood and liveability survive long after the life of the project and are permanent.	**Cumulative duration the impact is experienced**

Note: Sections shaded in grey need to be customised for each discipline, currently these are for SIA.

			4	3	2	1	1	2	3	4	5
			Higly Desirable	Desirable	Minor	Minimal	Negligible	Marginal	Moderate	Major	Intolerable
Has occurred in the past in this project (or operation) or in similar project OR circumstances could cause it to happen during the project (or operation).	5	Almost certain	Significant (15)	Significant (12)	Moderate (8)	Limited (5)	Low (6)	Medium (8)	High (12)	Unacceptable (16)	Unacceptable (16)
Has occurred in the life of this project (or similar project*) or in the last few years of operations or circumstances could cause it to occur again in the short term.	4	Likely	Significant (14)	Significant (11)	Moderate (7)	Limited (4)	Negligible (4)	Low (7)	Medium (10)	High (14)	Unacceptable (16)
Has occurred at least once in this project or a similar project (or in the history of this operation).	3	Possible	Significant (13)	Significant (10)	Moderate (6)	Limited (3)	Negligible (3)	Low (6)	Medium (9)	High (13)	Unacceptable (16)
Has never occurred in this project (or operation) but has occurred at other similar projects (operations) with similar risk/benefit profile.	2	Unlikely	Significant (12)	Moderate (9)	Limited (5)	Limited (2)	Negligible (2)	Low (6)	Medium (8)	Medium (11)	Unacceptable (16)
Is possible, but has not occurred to date in this project or similar projects.	1	Rare	Significant (11)	Moderate (8)	Limited (4)	Limited (1)	Negligible (1)	Negligible (5)	Low (7)	Medium (10)	High (15)

Likelihood

Maximise benefit — **Aim** — Minimise impact

Benefit assessment and enhancement plan

Promote actions and /or design that realises the benefit with limited inputs. Investigate whether changes in the implementation/design can make the benefit 'moderate' or 'significant'	Limited (1-5)
Actively promote actions and/or design that realises the benefit. Investigate whether changes in the implementation/design can make the benefit 'significant'	Moderate (6-9)
Actively promote and prioritise actions and/or design that realises the residual benefit.	Significant (10-15)

Short term __ months/years
Medium term __ months/years
Long term __ month/years

Residual risk assessment and mitigations plan

No major concern - systems and processes managing risks are adequate	Negligible (1-5)	Low (6-7)
Periodic monitoring - improve controls or monitor risk to ensure residual rating does not increase	Medium (8-11)	
Continuous review - confirm adequacy of controls and continued monitoring to maintain or reduce risk	High (12-15)	
Active management - urgent treatment required to allow project to proceed	Unacceptable (16)	

Appendix B

Social Baseline Study

B.1 Purpose

The baseline study describes the existing population and social conditions of potentially affected communities within the Social Impact Assessment (SIA) area of social influence which forms the benchmark against which the social impacts outlined in Section 8 were assessed. The *Social impact assessment guideline: For State significant mining, petroleum production and extractive industry development, September 2017* (SIA Guideline) states that a social baseline is crucial to understand the "relevant pre-existing social pressures" (DPE 2017). By presenting data related to key social variables that document the pre-impact conditions and trends, the direct, indirect, and cumulative social impacts, both negative and positive, can be predicted and analysed. Although all social indicators assessed in the social baseline study will not necessarily be impacted, it is imperative to obtain a thorough understanding of the social conditions and trends in the social area of influence. This is necessary because change due to the Project is measured according to what has happened in the community versus what would have happened without the Project in the community (IAIA 2015). Accordingly, an in-depth understanding of the social change processes that will occur regardless of the Project is required. The social baseline provided in Section 5 presents a summary of the baseline information which informs the identified impacts and benefits in the social area of influence for the Project. A social baseline study is a requirement of the Guideline.

B.2 Area of social influence

The Project is located south of the town of Cobar and as such its community makes up the **local area of social influence** for the Project.

The Project is likely to have a broader reach due to supply chains, haulage routes, transportation of goods, materials and equipment, and the movement of its workforce, some of which may have drive-in-drive-out and/or fly-in-fly-out arrangements (DPE 2017). These factors require the area of social influence to include regional areas likely to be impacted by the Project which will extend to the Cobar LGA region. This region forms the **regional area of social influence**. These communities have the potential to benefit and/or be impacted as a result of the Project.

For comparative purposes, Far West and Orana SA4 is identified as the **area of reference**. This area will provide social trends and data for communities more consistent with the local and regional areas of influence, thus providing a meaningful point of comparison. Similarly, comparison is made against the State of NSW.

These communities have been mapped to the Australian Bureau of Statistics (ABS) categories used for data collection (Table 5.1) and the local and regional area of social influence (hereto referred to as local area or regional area).

Table B.1 Area of social influence

Areas	Geographic area	ABS data category	Referred to in report as:
Local area of social influence	Cobar Suburb	Cobar State Suburb (SSC)	Local area
Regional area of social influence	Cobar region	Cobar LGA	Regional area
Area of reference	Far West and Orana region	Far West and Orana SA4	Area of reference
State of New South Wales	State of New South Wales	New South Wales STE	NSW

B.3 Demographic profile

According to the 2016 Census of Population and Housing, Cobar, the local area, has a total population of 3,990 people, representing a 0.5% annual population decrease since 2006. The population of the regional area also

decreased from 2006 – 2016. Although the fertility rates in Western NSW Local Health District (LHD) also declined during this period the total fertility rate still remained above the replacement rate of 2 (Ministry of Health 2019). The population decrease could then indicate a shift away from this area, likely closer to larger city centres. The population of Far West and Orana has increased slightly, but only by a total of 2.0% from 2006 – 2016. The small population increase is likely sustained due to migration from more regional and remote areas to regional centres Dubbo and Broken Hill. The differences in population growth between the State and the areas of interest is significant, however, not atypical from rural and remote communities.

The population trends within the area of social influence are presented in Table B.2.

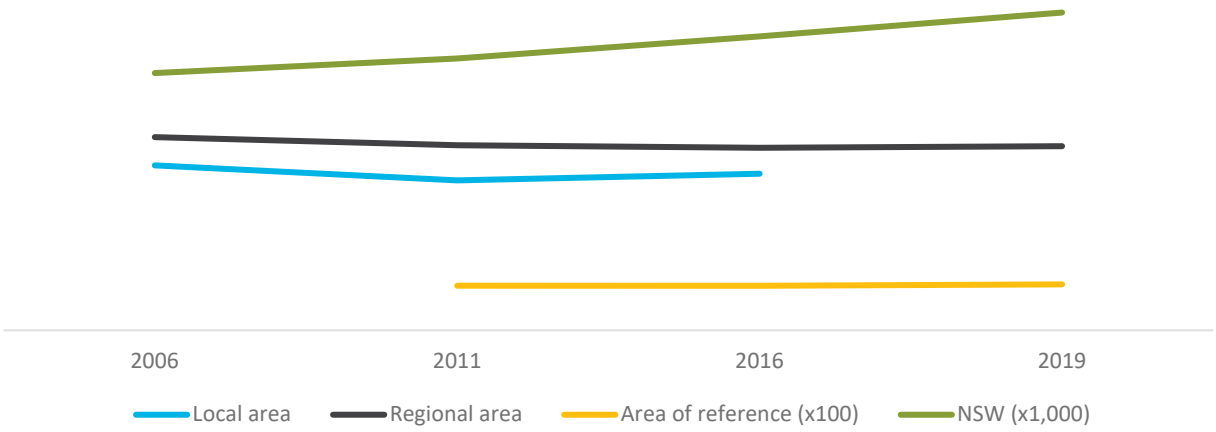
Table B.2 Population trends, 2006 – 2016

	Location	2006	2011	2016	2019[1]	Total % change 2006 – 2016	Total % change 2011 – 2016
Local area	Cobar	4,199	3,817	3,990	NA	-5.0%	-0.5%
Regional area	Cobar LGA	4,918	4,710	4,647	4,685	-5.5%	-0.6%
Area of reference	Far West and Orana	NA	113,591	113,779	116,962	0.2%[2]	0.0%
NSW		**6,549,174**	**6,917,656**	**7,480,228**	**8,089,817**	14.2%	+1.4%

Source: *ABS 2016, Census of Population and Housing: General Community Profiles; ^ABS 2019, population projections, 3218.0 – Regional Population Growth, Australia 2017-18.

Notes: 1. The population indicated in 2019 is a rebased estimate of the resident population of provided by the ABS, while the population data for 2006, 2011, and 2016 is provided from the 2016 Census.
2. The total % change and average annual growth rate for Far West and Orana has been calculated from 2011 to 2016.

The negative annual population growth in the local area and the regional area contrasts the positive annual population growth rate in the area of reference and NSW. The population trends from 2006 – 2016 are presented in Figure B.1.



Source: ABS 2016, Census of Population and Housing: General Community Profiles.

Figure B.1 Population trends, 2006 – 2019

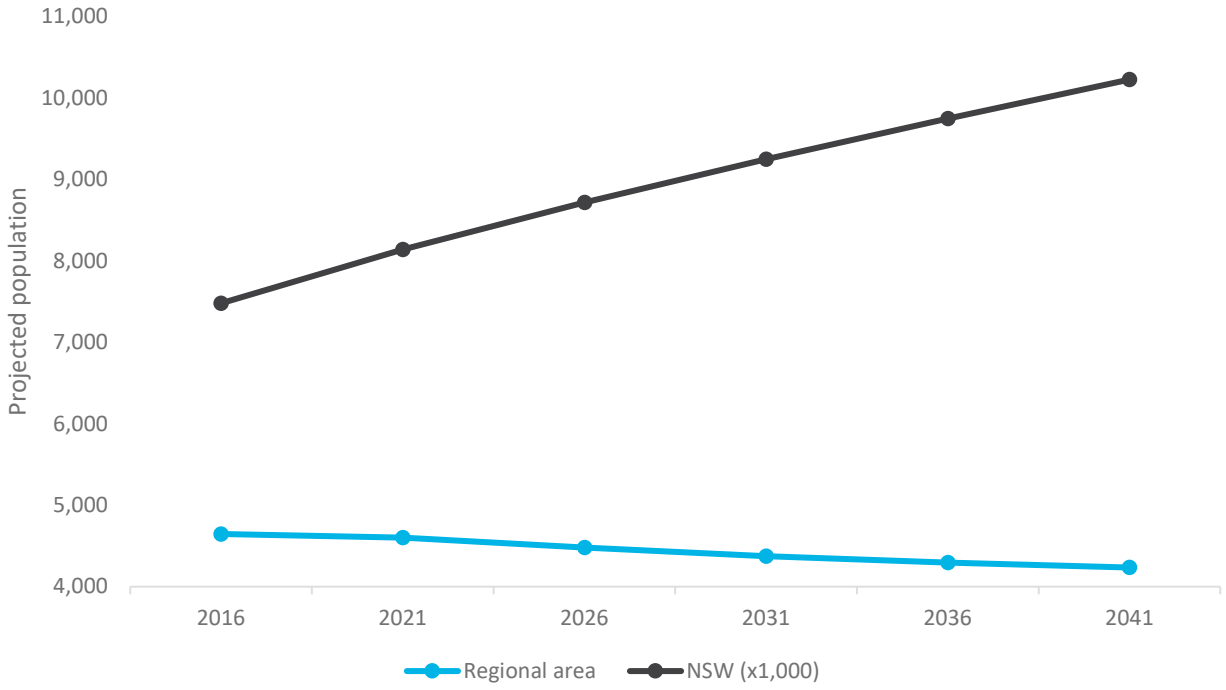
The projected population of the regional area is estimated to decrease from a projection of 4,647 in 2016 to 4,235 in 2041. This represents a total projected population decrease of 423 people or 8.9%. This trend contrasts the trends for NSW, which is projected to increase by 36.7% by 2041 (see Table B.3 and Figure B.2). These projections indicate a large proportion of rural to urban migration, particularly from more regional areas like the regional area. This migration could be influenced by people seeking education or work opportunities not readily available in regional communities and enhanced access to community, social and health services (AIHW 2005; Hugo, & Harris 2011; D'Alessandro & Bassu 2015).

Table B.3 Projected population[1], 2016 – 2041

	2016	2021	2026	2031	2036	2041	Total change 2016 – 2041	Total % change 2016 – 2041	Average annual growth rate 2016 – 2041
Regional area	4,647	4,602	4,479	4,375	4,297	4,235	-412	-8.9%	-0.3%
NSW	7,480,228	8,140,063	8,716,623	9,248,226	9,748,720	10,227,289	2,747,061	36.7%	1.5%

Source: DPIE 2019, Population projections; ABS 2016, Census of Population and Housing: General Community Profiles.

Notes: 1. The projected population has been determined by applying a projected population proportion created using the population projection data provided by DPIE to ABS 2016 Census population data to create adjusted population projections based on the latest Census population data. The data adjustment has not altered the shape of the population trend curves; it has just resulted in shifted population numbers.



Source: DPIE 2019, Population Projections

Figure B.2 Adjusted regional area and NSW projected population, 2016 to 2041

B.3.1 Population by age and sex

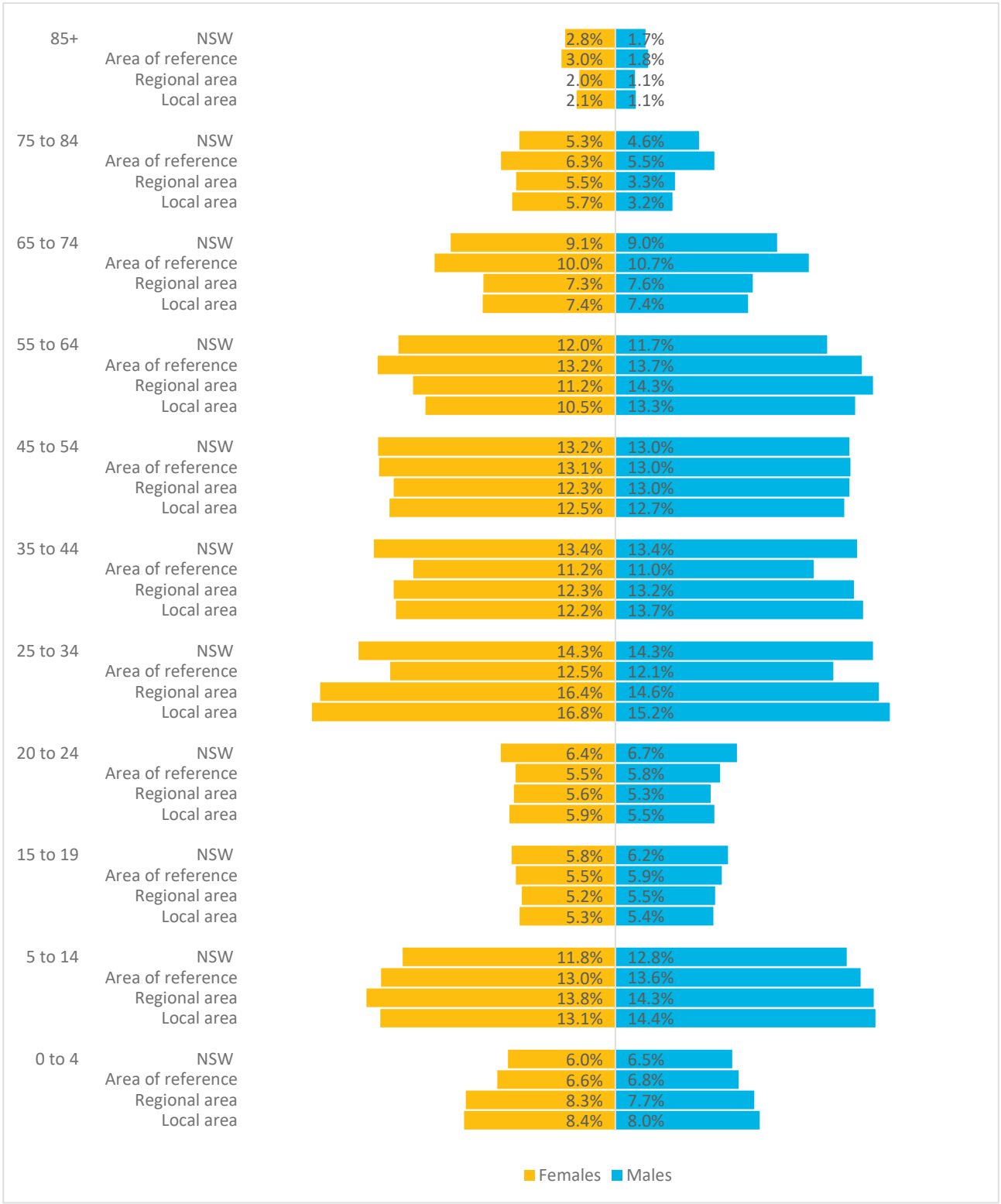
The population of the area of social influence is younger than the NSW average, with 21.9% of the population of the local area being younger than 15 and 13.3% of people being older than 65. Far West and Orana has a significantly higher proportion of persons aged 65 years and older (18.7%) compared to the primary area of social influence. The local area, regional area, and area of reference area have a much larger proportion of infants (0 – 4 years) compared to NSW. Although the local area and the regional area also have a greater proportion of persons aged 25 – 35 years (16.0% and 15.5% respectively) compared to NSW (14.3%), the proportion in the area of reference is lower (12.3%). The median age for the area of social influence is 35 years in the local area, compared to 36 years in the regional area, 40 years for Far West and Orana, and a NSW median age of 38. The age group distribution and median age is presented in Table B.4.

Table B.4 Age group distribution and median age, 2016

Age group	**Local area**	**Regional area**	**Area of reference**	**NSW**
	Cobar	Cobar LGA	Far West and Orana	
0 – 4 years	8.2%	8.0%	6.7%	3.3%
5 – 14 years	13.7%	14.1%	13.3%	12.3%
15 – 19 years	5.4%	5.4%	5.7%	6.0%
20 – 24 years	5.7%	5.4%	5.7%	6.5%
25 – 34 years	16.0%	15.5%	12.3%	14.3%
35 – 44 years	12.9%	12.8%	11.1%	13.4%
45 – 54 years	12.6%	12.6%	13.1%	13.1%
55 – 64 years	11.9%	12.8%	13.5%	11.9%
65 – 74 years	7.3%	7.5%	10.4%	9.1%
75 – 84 years	4.4%	4.4%	5.9%	5.0%
85 years and older	1.6%	1.5%	2.4%	2.2%
Median age of persons 2016	35	36	40	**38**

Source: ABS 2016, Census of Population and Housing: General Community Profiles.

The distribution of males and females in the area of social influence is relatively even, with slight variances in each age group. Throughout the region there is a significant reduction in the population of young people (15 –24 years old). This is again indicative of their moving closer to larger city centres to pursue work and education that is not available in the area of social influence, as well as a desire to live closer to more abundant social and health services, cultural activities, and desire for overseas travel (AIHW 2005; Hugo, & Harris 2011; D'Alessandro & Bassu 2015). The distribution of the population by age and sex is presented in Figure B.3.



Source: ABS 2016, Census of Population and Housing: General Community Profiles.

Figure B.3 Population distribution, 2016

B.3.2 Aboriginal and Torres Strait Islander population

In the local area, 11.8% of the population identified as Aboriginal and/or Torres Strait Islander. In the regional area the percentage of the population who identified as Indigenous is higher at 13.7%. In Far West and Orana, Aboriginal and/or Torres Strait Islanders constitute an even larger proportion of the population at 16.7%. Aboriginal and/or Torres Strait Islanders constitute a substantially higher proportion of the population in the social area of influence compared to the population of NSW (3.0.%) (see Table B.5).

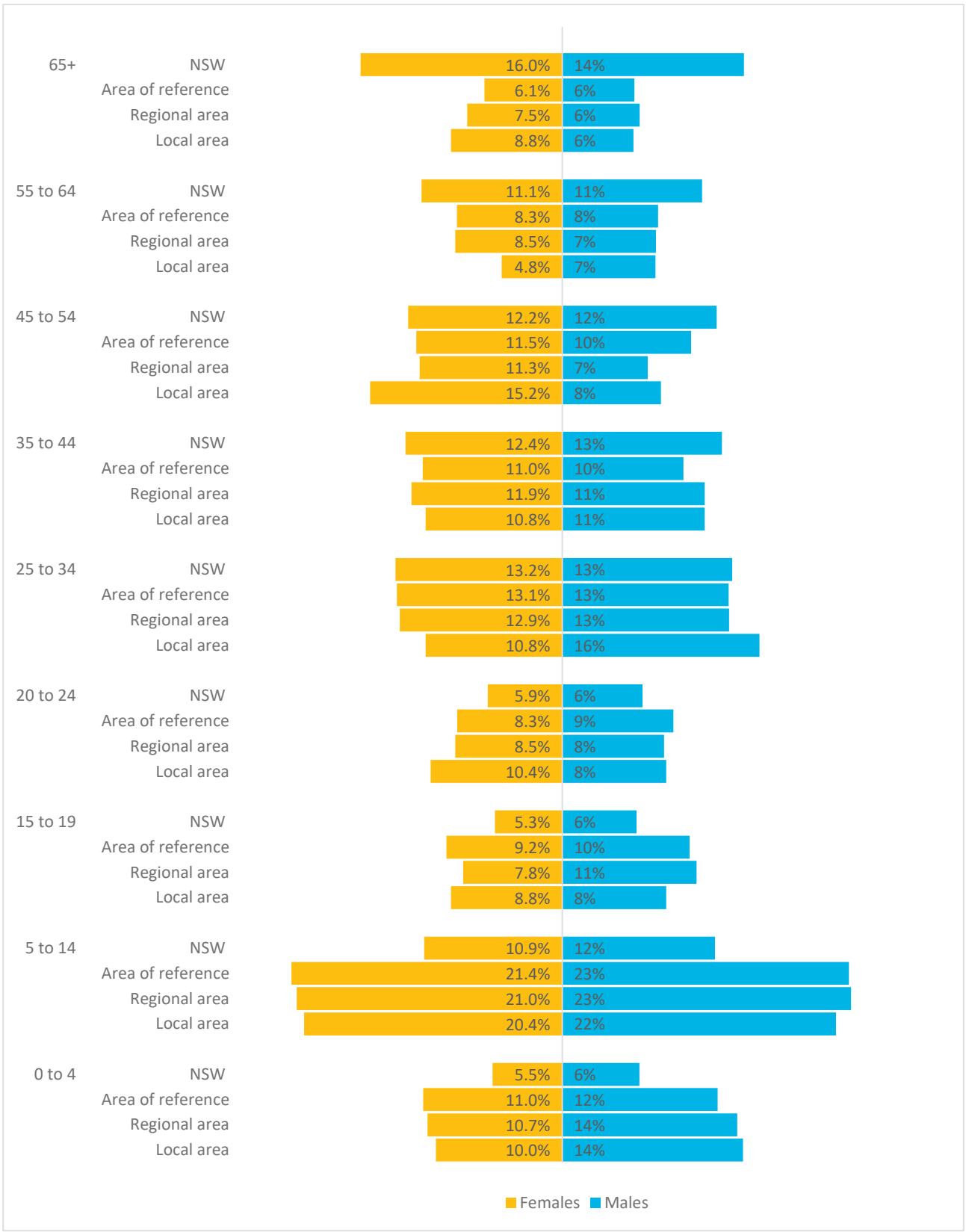
Table B.5 Indigenous persons as percentage of population, 2016

	Location	Indigenous population
Local area	Cobar	11.8%
Regional area	Cobar LGA	13.7%
Area of reference	Far West and Orana	16.7%
NSW		**3.0%**

Source: ABS 2016, Census of Population and Housing: General Community Profiles.

Overall, the distribution of Indigenous males and females in the local area is fairly even, though there are more females, particularly in the 45–54 year and 65 years and older age groups. The Indigenous population's smaller proportion of the population (both males and females) living beyond 65 years aligns with the lower life expectancy among Indigenous Australian's nationally that is particularly acute in Indigenous males (AIHW 2019), with much of this gap is explained by the relationships between increased socio-economic disadvantage, worsened mental health outcomes, and related health risk behaviours, including greater proportions of smoking and alcohol use (AHMAC 2017).

The largest demographic in the Indigenous community in the local area is children (aged 5 –14 years). The distribution of Indigenous and non-Indigenous populations within the area of social influence is presented in Figure B.4.



Source: ABS 2016, Census of Population and Housing: General Community Profiles

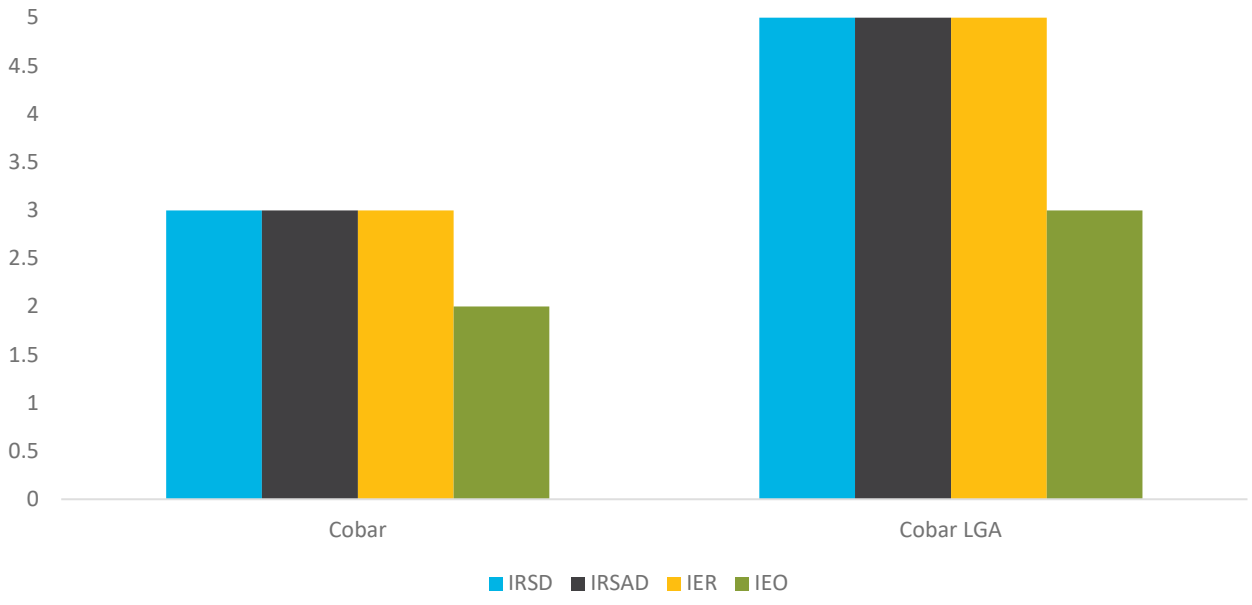
Figure B.4 Population distribution of Aboriginal and/or Torres Strait Islander persons, 2016

B.3.3 Vulnerable groups

The level of disadvantage or advantage in the population is indicated in the Socio-Economic Indexes for Areas (SEIFA) which focuses on low-income earners, relatively lower education attainment, high unemployment and dwellings without motor vehicles. SEIFA is a suite of four summary measures that were created from Census data, including:

- the Index of Relative Socio-Economic Disadvantage (IRSD);
- the Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD);
- the Index of Education and Occupation (IEO); and
- the Index of Economic Resources (IER).

Each index is a summary of a different subset of Census variables and focuses on a different aspect of socio-economic advantage and disadvantage. Low rankings are deemed most disadvantaged and high rankings least disadvantaged within a decile ranking system where the lowest 10% of areas within Australia are given a decile number of 1 and the highest 10% of areas are given a decile number of 10. Figure B.5 demonstrates the rankings of the communities within the area of social influence for each of the four summary measures.



Source: ABS 2016, 2033.0.55.001 – Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA).

Figure B.5 SEIFA deciles in the study area, 2016

According to the 2016 SEIFA, the communities in the area of social influence experience higher levels of disadvantage compared to other suburbs, LGAs, and regions in NSW and Australia, as each of the identified communities are in the 5th or lower decile for all indexes (ie in the bottom 50% of communities in NSW).

The local area falls within decile 3 for the IRSD, IRSAD, and IER. This means that there are likely many households with low income, many with residents with no qualifications/many residents in low skill occupations, few households with high incomes and in skilled occupations, and many households paying low rent in the area. A decile ranking of 2 for the IEO is likely attributable to the local area's having fewer people with qualifications (see Figure B.7) and in highly skilled occupations (see Table B.19) Although a low IEO could also be indicative that there may be a higher number of unemployed persons compared to other areas of NSW, the unemployment rate in the local area is lower than that of NSW as a whole (see Table B.18).

B.3.4 Cultural diversity

The area of social influence and area of reference are less diverse than the rest of NSW. In the local area, the majority of the population is Australian born (65.5%). Other common countries of birth were New Zealand (1.7%), South Africa (0.7%), England (0.7%), Papua New Guinea (0.5%) and India (0.4%). The cultural diversity is consistent with the diversity of the regional area. However, the cultural diversity of the area of social influence is significantly less than that of NSW where 65.5% of the population was born in Australia.

The area of social influence and area of reference also have a much higher instance of generational Australians compared to the whole of NSW. In the local area, 69.9% of people stated that both of their parents were born in Australia, compared to 45.4% of people in NSW. 84.5% of people in the local area spoke only English at home, while only 4.5% of households spoke a language other than English. This is also significantly lower compared to the NSW average of 26.5% of household that were speaking a non-English language at home. Cultural diversity in the area of social influence is presented in Table B.6.

Table B.6 Country of birth, 2016

		Born in Australia	Both parents born in Australia	English only spoken at home	Households where a non-English language is spoken
Local area	Cobar	78.5%	69.9%	83.4%	4.5%
Regional area	Cobar LGA	80.0%	72.2%	84.5%	4.2%
Area of reference	Far West and Orana	83.6%	76.1%	86.6%	4.7%
NSW		**65.5%**	**45.4%**	**68.5%**	**26.5%**

Source: ABS 2016, Census of Population and Housing: General Community Profiles.

B.3.5 Disability

Population in the area of social influence generally requires less assistance than that in the rest of NSW. Table B.7 demonstrates the core activity need for assistance in the area of social influence. In the local area, 3.8% of people have a need for assistance in one or more of the three core activities of self-care, mobility and communication due to a long-term health condition (lasting 6 months or longer), a disability (lasting 6 months or longer), or old age. This number is lower than the NSW average of 5.4% and the Far West and Orana average of 6.1%. However, the proportion of the population that does not have a need for assistance is also lower than the NSW average (83.0% in the local area compared to 87.7% in NSW). This is generally attributable to less accessibility to social services, and disability services in particular, in the local area. Baxter, Hayes and Gray (2011) of the Australian Institute of Family Studies reveal that people living in major cities are less likely to have problems accessing services such as doctors and disability services, while those in outer regional or remote areas have the most trouble accessing these services. This likely prompts people to migrate to regional centres and larger cities where those services are more readily available.

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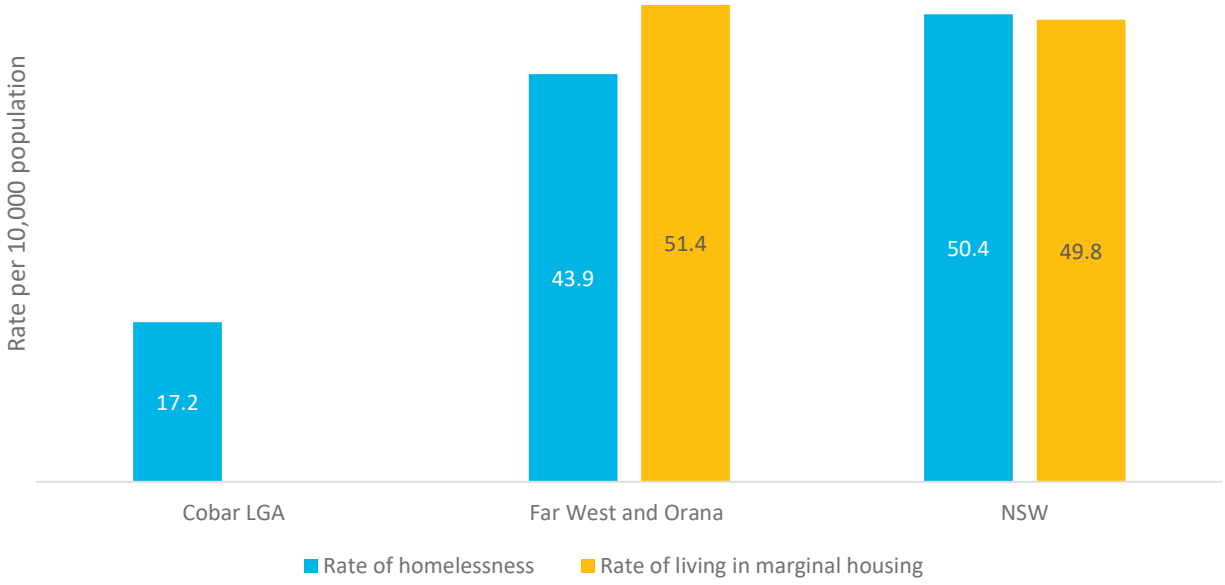
Table B.7 Core activity need for assistance, 2016

		Has need for assistance	Does not have need for assistance
Local area	Cobar	3.8%	83.0%
Regional area	Cobar LGA	4.0%	83.6%
Area of reference	Far West and Orana	6.1%	83.1%
NSW		**5.4%**	**87.7%**

Source: ABS 2016, Census of Population and Housing: General Community Profiles.

B.3.6 Homelessness

According to the 2016 Census estimations on homelessness, rates of homelessness in the regional area are significantly lower than NSW rates, with a rate of only 17.2 homeless persons per 10,000 persons in the regional area compared to a rate of 50.4 homeless persons per 10,000 persons in NSW. Rates of homelessness in the wider region are also lower than NSW averages, but are not as disparate. However, rates of persons living in other marginal housing, including crowded dwellings, improvised dwellings, and marginal housing in caravan parks, are slightly higher in Far West and Orana (51.4 per 10,000 persons) compared to NSW (49.8 per 10,000 persons).Rates of homelessness in the area of social influence are presented in Figure B.6.



Source: ABS 2016, 2049.0 – Census of Population and Housing: Estimating Homelessness
Notes: Data for persons living in marginal housing was not available at the LGA level.

Figure B.6 Rates of homelessness per 10,000 persons, 2016

B.4 Community culture, values, and aspirations

The community vision as described by CSC is for Cobar Shire to be "an attractive, healthy and caring environment in which to live, work and play, achieved in partnership with the community through initiative, foresight and leadership". There is a dedication to values that promote cooperation and equity, the sustainable ecological and economic development of the region, and community involvement in decision-making processes (CSC 2019).

B.4.1 Indigenous history

The local area is the traditional home of the Ngiyampaa (Ngemba) and Wongaibon (Wangaaypuwan, Ngiyampaa Wangaaypuwan) people. The Ngiyampaa and Wongaibon are clans of the larger Ngiyampaa nation. Wongaibon territory stretches from Nyngan to the East, north along the Bogan River towards Bourke, and southwest down to Ivanhoe, including Narromine, Nyngan, and Cobar (Tindale 1974; AIATSIS 2018), with Ngiyampaa territory located south of the south bank of the Barwon and Darling rivers from Brewarrina to Dunlop, including Yanda Creek, south to the head of Mulga Creek, and on the Bogan River (Tindale 1974).

The Ngiyampaa are known for their innovative fish-traps. Mount Grenfell, located approximately 80 km northwest of Cobar, is a culturally and spiritually significant site for the Ngiyampaa and Wongaibon, which is home to hundreds of Indigenous rick drawings (DPIE 2004). Aboriginal people mined ceremonial pigments of ochre, kaolin and blue and green copper minerals at 'Kubbur', an Aboriginal water hole and quarry (McQueen 2016).

At the time of the 2016 ABS Census of Population and Housing, Ngiyampaa language was not identified as being spoken across Australia (ABS 2016). The latest record of speaker numbers is an estimate from the National Indigenous Languages Survey Report 2005 of 2 speakers of the Ngiyampaa language (AIATSIS n.d.).

The Cobar Local Aboriginal Land Council manages the range of support services and serves the Aboriginal and Torres Strait Islander communities in the local and regional areas (CSC 2020). The Cobar Local Aboriginal Land Council also holds the deeds for the Mount Grenfell Historic Site on behalf of the Aboriginal Owners (DPIE 2004).

B.4.2 Non-Indigenous history

Pastoralists began to move into the local area area in the mid-1860s (Aussie Towns 2020). Not long after, mining started to become a prominent feature of the local community. In 1870, three tank sitters, Charles Campbell, Thomas Hartman, and George Gibb, travelling with two Aboriginal guides, Boney and Frank, found copper while camping at the 'Kubbur' water hole (CSC 2020). This was followed by the discovery of significant copper deposits by the Cornish, Scottish and Australia (CSA) Mining company in 1872 and led to the development of the Great Cobar Copper Mine, which became the largest copper mine in Australia as a result of the 1876 merger of the South Cobar Mining Company and the Cobar Copper Mining Company. From 1870 to 1900, several developments occured in the local area, including the opening of the Cobar Hotel and Great Western Hotel and the extension of the railway to Cobar (Aussie Towns 2020).

By 1900 the local area had a population of approximately 10,000 people, growing on the wealth created from the Great Cobar Mine which peaked production and number of workers (2,000) in 1912. However, the Great Cobar Mine Company closed shortly after this in 1919 due to the vast reduction in copper demand as a result of WWI. This resulted in major unemployment and a reduction of the local area's population to fewer than 1,000 people (CSC 2020). One year later, the CSA mine also shut down following un underground fire that burned for the next 16 years. The CSA mine has since re-opened in 1965, closed again in 1998, and re-opened once more (CSC 2020). Today, the CSA mine is fully operational and is one of NSW's largest producers of copper and zinc (CSA Mine n.d.)

McQueen (2016) summarises the local area's mining history in his identification of four major stages of mining activity:

- 1870–1921: copper and later gold mining dominated by the Great Cobar mine;
- 1930–1952: gold mining focussed on the New Occidental and Cobar gold mines;
- 1961–1985: major base-metal mining following discoveries at CSA and Elura (now Endeavor) mines; and
- 1985 to present: renaissance in gold and continued base-metal mining, with new discoveries following systematic exploration.

Peak Gold Mines opened in 1992 and has since continued to mine gold on the New Cobar site. Today, the local area is a town that promotes its rich heritage through museums, parks, and natural attractions.

B.5 Social Infrastructure

B.5.1 Childcare and early learning

There are 4 approved childcare services in the area of social influence. Of these, 3 are centre-based care providers and 1 is a family day care provider. The services range from long day care, preschool, and outside of school hours care (OSHC).The childcare services available in the local and regional areas are presented in Table B.8.

Table B.8 Childcare services, 2019

Service name	Type	Service	Number of places
Cobar			

Table B.8 Childcare services, 2019

Service name	Type	Service	Number of places
Cobar Outside of School Hours Service	Centre-Based Care	OSHC	30
Cobar Preschool Centre	Centre-Based Care	Preschool	30
Far West Family Day Care Services	Family Day Care	Long day care	Maximum 50 educators
Kubby House Child Care Centre	Centre-Based Care	Long day care	31

Source: https://www.acecqa.gov.au/resources/national-registers/services.

B.5.2 Education

At the time of the 2016 Census, there were 1,325 persons attending an educational institution in the local area (preschool, infants/primary, secondary, technical or further educational institution, university or other tertiary institution, and other type of educational institution). The proportion of persons attending preschool and primary school in the local area, regional area, and area of reference are consistent with NSW averages. There are fewer persons attending secondary and university or other tertiary institutions throughout the area of social influence. This is likely due to a lack of education and qualification resources in the area of social influence, with only one secondary school (see Table B.10) and TAFE as the only tertiary institution in the local area (see B.3.3.2ii) and the tendency for young people to leave to pursue education and work elsewhere. However, a significant proportion of persons attending an educational institution in the local area, the regional area, and the area of reference attend another type of educational institution. Educational institution attendance in the area of social influence, as a percentage of total attendees, is demonstrated in Table B.9.

Table B.9 Educational institution attendance, 2016

		Preschool	Infants/primary	Secondary	Technical or further educational institution	University or other tertiary institution	Other type of educational institution
Type of education institution attending 2016 (% of persons attending an educational institution)							
Local area	Cobar	5.4%	26.0%	16.6%	6.3%	4.3%	39.6%
Regional area	Cobar LGA	5.5%	27.4%	16.5%	6.0%	3.8%	39.0%
Area of reference	Far West and Orana	6.5%	27.0%	18.2%	6.4%	5.2%	35.5%
Local area	Cobar	5.4%	26.0%	16.6%	6.3%	4.3%	39.6%
NSW		5.7%	26.1%	20.1%	6.2%	16.2%	23.0%

Source: ABS 2016, Census of Population and Housing: General Community Profiles.

i Primary and secondary

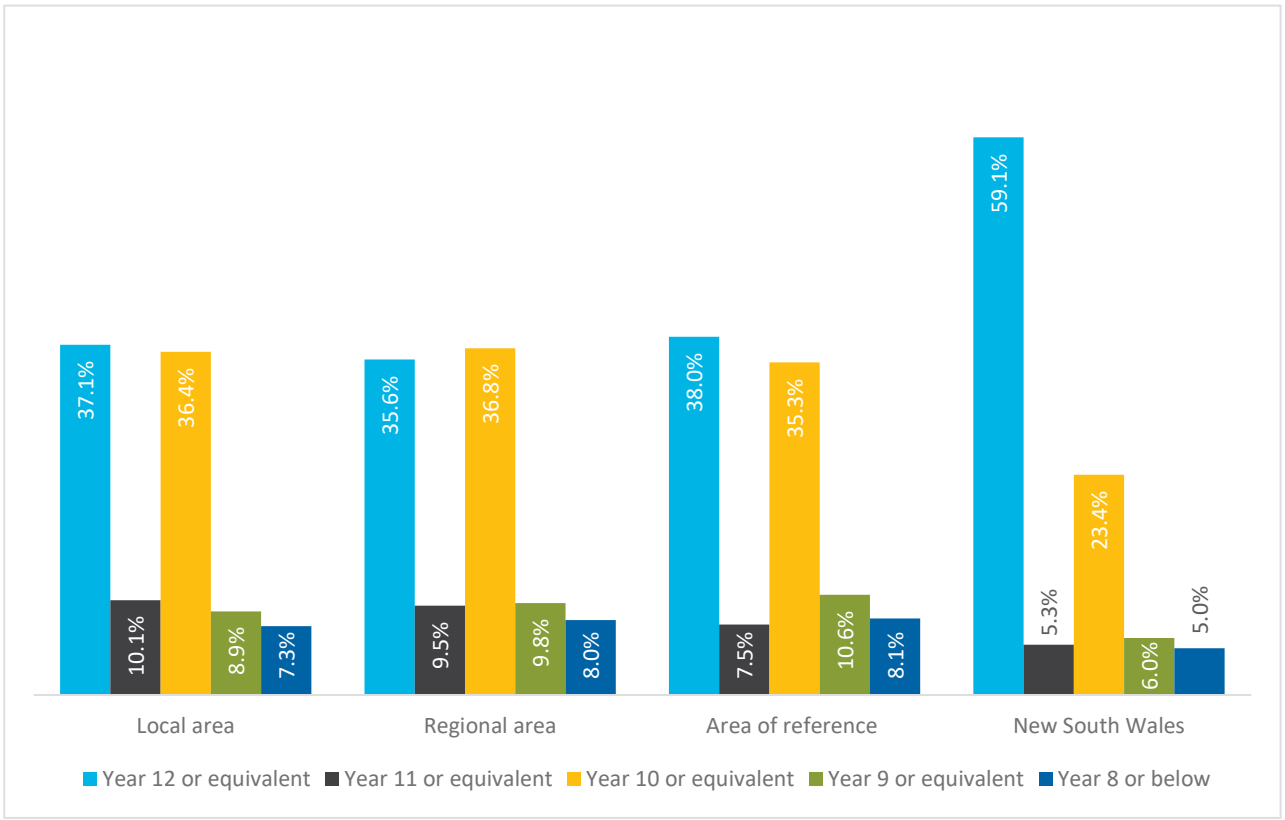
There are 3 primary schools and 1 secondary school in the local area. Of these, 3 are government schools and 1 is a non-government school. The schools range from kindergarten to Year 12, with each school having 260 student enrolments or fewer. Information on primary and secondary schools in the area of social influence is presented in Table B.10

Table B.10 Schools in the local area, 2018

School	Sector	Type	Year range	Student enrolments	Full-time equivalent teaching staff
Local area of social influence					
Cobar High School	Government	Secondary	U, 7-12	260	28.4
Cobar Public School	Government	Primary	U, K-6	240	15
Cobargo Public School	Government	Primary	K-6	62	4
St John's Primary School	Non-government	Primary	K-6	188	11.6

Source: myschool.edu.au.

Figure B.7 presents the highest level of schooling completed within the area of social influence. Each of the communities in the area of social influence have a significantly smaller proportion of persons who have completed Year 12 or equivalent compared to NSW, with a higher percentage of their population completing Year 10 and 11 or equivalent. This pattern is apparent in communities throughout regional, rural, and remote Australia, where students have reduced access to education services and lower reports of positive school experiences (ie relating to belonging, self-confidence, purpose, and perseverance) compared to students in metropolitan areas (Mitchell Institute 2015).



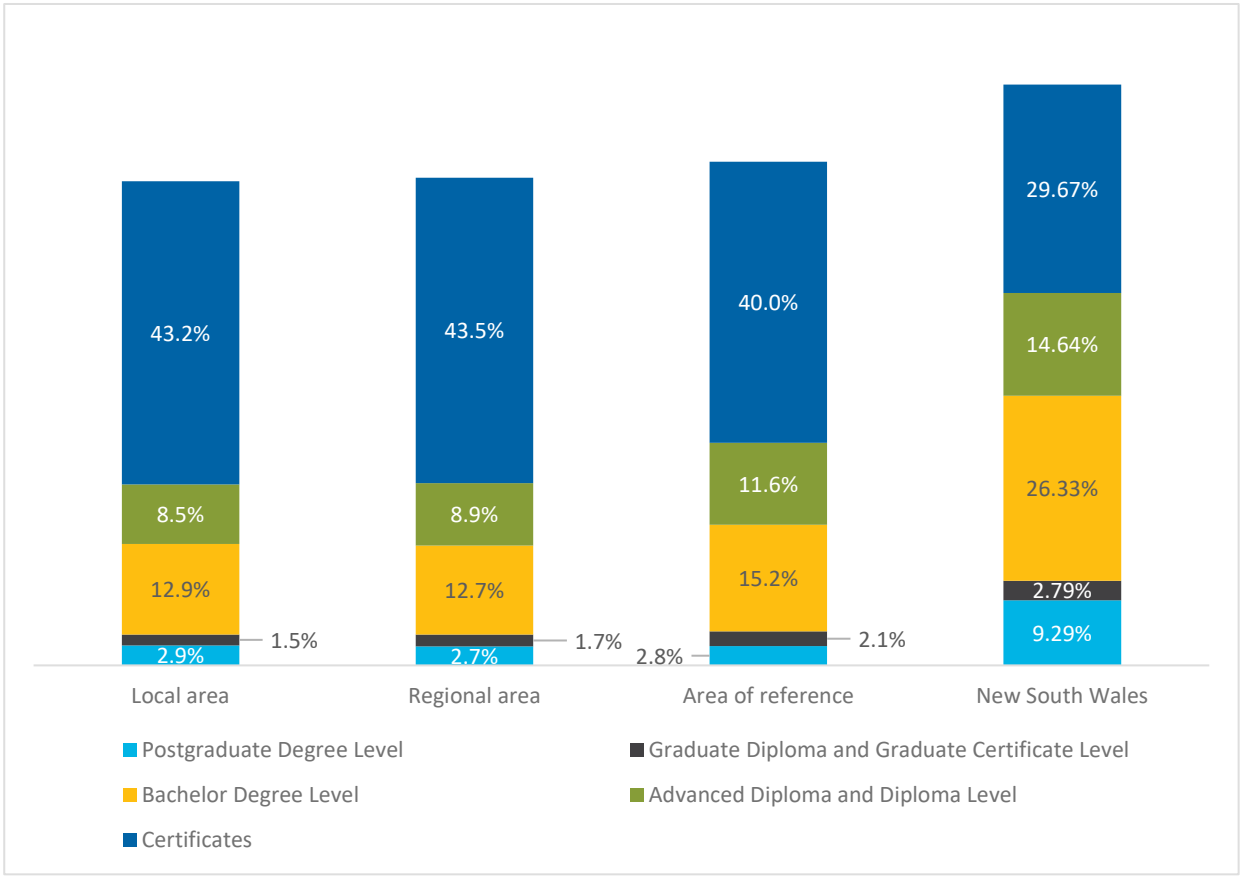
Source: ABS 2016, Census of Population and Housing: General Community Profiles.

Figure B.7 Highest level of schooling completed for persons 15 years and older, 2016

ii Tertiary

TAFE NSW Cobar is the only tertiary institution in the local area. In addition to general education courses, it offers specific programs geared towards mining and rural communities. Although some programs offered allow traineeships, apprenticeships are not allowed (TAFE NSW 2019).

Of those people with a non-school qualification throughout the area of social influence, most have a certificate qualification, followed by a Bachelor-level degree. The distribution of non-school degrees is fairly consistent throughout the area of influence. However, the trends are quite different compared to NSW, where a significantly larger proportion of persons with a non-school qualification hold a Bachelor-level degree and Postgraduate-level degree (see Figure B.7) This is consistent with a decreasing trend of pursuing university and postgraduate education with increasing remoteness in Australia (Halsey 2017) due to fewer education options, less tertiary support, and compounded socio-economic inequalities related to primary and secondary education resources and income (Regional Education Expert Advisory Group 2019). The higher pursuance of certificate-level degrees in the local area and the regional area also reflects the main industries of employment in the area, particularly mining.



Source: ABS 2016, Census of Population and Housing: General Community Profiles.

Figure B.8 Proportion of persons over 15 with a non-school qualification, 2016

B.5.3 Health services

The local area is located within the Western NSW Local Health District. However, the wider region is also serviced by Far West NSW Local Health District.

i Hospital service

The local area is serviced by the Cobar Health Service, a 10-bed public hospital and health service. It provides 24-hour emergency care in addition to acute inpatient and outpatient services.

The details of the closest hospitals in the area of social influence are presented in Table B.11.

Table B.11 Hospitals in the area of social influence, 2020

Hospital	Location	Type	Number of beds
Cobar Health Service	Cobar	Public	10
Ivanhoe Hospital	Ivanhoe	Public	<50

Source: MyHospitals

As shown in Table B.12 the total number of patients admitted to Cobar Health Service has decreased each financial year from 2011 – 2012 to 2016 – 2017, falling from 1,108 to 861. This reflects the declining population in the local area and the wider region. However, this could also reflect reduced range of hospital and health services offered by the Cobar Health Service as indicated by the community. This inability to provide sufficient health care is also reflected in the numbers for other acute (emergency and non-emergency) admissions. Despite car accidents resulting in injury increasing each year from 2014 – 2018, there have been 0 admissions over this period for other acute emergencies and non-emergencies, indicating that patients are being sent to health facilities outside of Cobar for treatment. There have also been 0 reported admissions related to mental health despite the reporting of intentional self-harm hospitalisations in the regional area over this period (see Table B.12). and increasing levels of high and very high psychological distress (see B.3.1) The number of admissions for each admission category have also all decreased or have remained stable from 2011 – 2017. This evidence supports community experiences of a lack of health services requiring travel to larger regional centres like Dubbo to receive adequate care.

Table B.12 Number of admissions to Cobar Health Service 2011 – 2017

Admission category	2011 – 2012	2012 – 2013	2013 – 2014	2014 – 2015	2015 – 2016	2016 – 2017
Childbirth	<5	<5	<5	<5	<5	<5
Surgical (emergency)	<5	0	<5	<5	0	0
Surgical (non-emergency)	<5	0	<5	0	0	0
Medical (emergency)	731	798	726	818	626	576
Medical (non-emergency)	340	311	369	247	233	280
Other acute (emergency)	0	0	0	0	0	0

Table B.12 Number of admissions to Cobar Health Service 2011 – 2017

Admission category	2011 – 2012	2012 – 2013	2013 – 2014	2014 – 2015	2015 – 2016	2016 – 2017
Other acute (non-emergency)	0	0	0	0	0	0
Mental health	0	0	0	0	0	0
Rehabilitation	9	<5	<5	0	<5	0
Palliative	10	7	<5	<5	<5	<5
Other subacute and non-acute	18	12	8	7	7	5
Total	1,108	1,128	1,103	1,072	866	861

Source: AIHW 2020

ii General practitioner services

Health services are also provided by the Cobar Community Health Centre, including mental health and counselling services, paediatric services, aged care services, women and family health, Aboriginal health care services, and general surgery. These services are provided by local and visiting professionals, with possible home visits (CSC 2019). The Cobar Primary Health Care Centre also offers GP and visiting specialist services.

Table B.13 GP practices in the local area

Practice	Type
Cobar Community Health Centre	Community Health Centre
Cobar Primary Health Care Centre	GP
Dr. Indra Karalashingham Surgery	GP
Total	**3**

Source: cobar.nsw.gov.au

B.5.4 Other health services

i Mental health services

Most mental health service available in the local area operate out of existing health centres. The Cobar Community Health Centre offers various mental health services, including an adult mental health service and a Child and Adolescent Mental Health Service (CAMHS) with specific services for youth and their families. Mental health services are also available at the Cobar Primary Health Care Centre through the NSW Outback Division of General Practice.

ii Aged care services

There are two main aged care facilities in the local area. Lilliane Brady Village is a non-profit service owned and run by CSC. It is a 34-bed aged care facility that is a co-located hostel and nursing home with 24-hour care provided (CSC 2019). The WS Bill Brennan Centre is a subsidised rental facility operated by the Cobar Senior Citizens

Amenities Organisation. It consists of 18 single units that suit aged pensioners plus an Amenities Centre for communal use. The facility's funding and support is dependent on local organisations and donations, and consistently runs at full capacity (Cobar Weekly 2017). Residents in the local area can also access some services by phone or online, such as the Australian Government's My Aged Care service that connects seniors with care providers and services that range from assistance at home to aged care homes (Australian Government 2019), or the Integrated living government funded program operated through Telehealth.

iii Specialist services

In the local area there is a chiropractor and an optometrist. However, most specialist medical and allied health services in the local area are part of outreach programs from Dubbo and Orange (CSC 2019). The frequency at which the specialists visiting the NSW Outback Division of General Practice service in the local area range from once a month to a couple weeks every month, depending on the service (NSW Outback Division of General Practice 2019). As such, there are likely significant difficulties and delays in accessing specialist services for persons who are unable to travel to larger regional hubs.

B.5.5 Emergency services

In the local area there is a police station, an ambulance service, a rural fire service, a fire and rescue service, and a local SES unit. The number of available emergency services selected suburbs in the local area are summarised in Table B.14.

Table B.14 Emergency services

Police station	Ambulance station	Fire and rescue station	SES unit
1	1	2	1

Source: police.nsw.gov.au; ambulance.nsw.gov.au; fire.nsw.gov.au; ses.nsw.gov.au

B.5.6 Transport infrastructure

i Modes of travel

In the local area, the primary means of travel to work is by car, either as the driver or as a passenger (71.7%). Only 0.7% of the population of the local area travels to work using public transport. Modes of travel to work in the area of social influence are summarised in Table B.15.

Table B.15 Modes of travel, 2016

		By car (as driver, as passenger)	By public transport (train, bus, ferry, tram)
Local area	Cobar	71.7%	0.7%
Regional area	Cobar LGA	67.4%	0.7%
Area of Social Influence	Far West and Orana	72.2%	0.7%
NSW		**64.6%**	**16.0%**

Source: ABS 2016, Census of Population and Housing: General Community Profiles.

ii Public transport

There are no fixed public transport lines (ie city buses, trams, rapid transit, and ferries) running within the local area itself. However, there is a limited number of private bus services available for hire and taxis operating within the town. There is a daily Regional Coach Network that runs from Dubbo to Broken Hill and back, with a stop in the local area. From Dubbo, there are NSW TrainLink Regional trains and multiple coach services that connect to most major city centres (Transport for NSW, 2019).

Motor vehicle ownership in the area of social influence is higher than in the rest of the State. Within the area of social influence, 6.5% of occupied private dwellings had no motor vehicles compared to 9.2% of occupied dwellings in NSW.

iii Air

Cobar Regional Airport is located about 5km southwest of Cobar Town Centre and is owned and operated by CSC. Cobar Regional Airport offers flights through Fly Pelican shuttling people to and from the destinations of:

- Sydney;
- Dubbo;
- Mudgee;
- Newcastle; and
- Taree (Fly Pelican 2019).

Dubbo Airport is the closest airport to the local area offering flights to other major centres which include Brisbane and Melbourne, as well as flights to Broken Hill, Walgett, Bourke, and Lightning Ridge (Dubbo Airport 2020). Additional destinations for both domestic and international flights are available from Sydney Airport and Newcastle Airport.

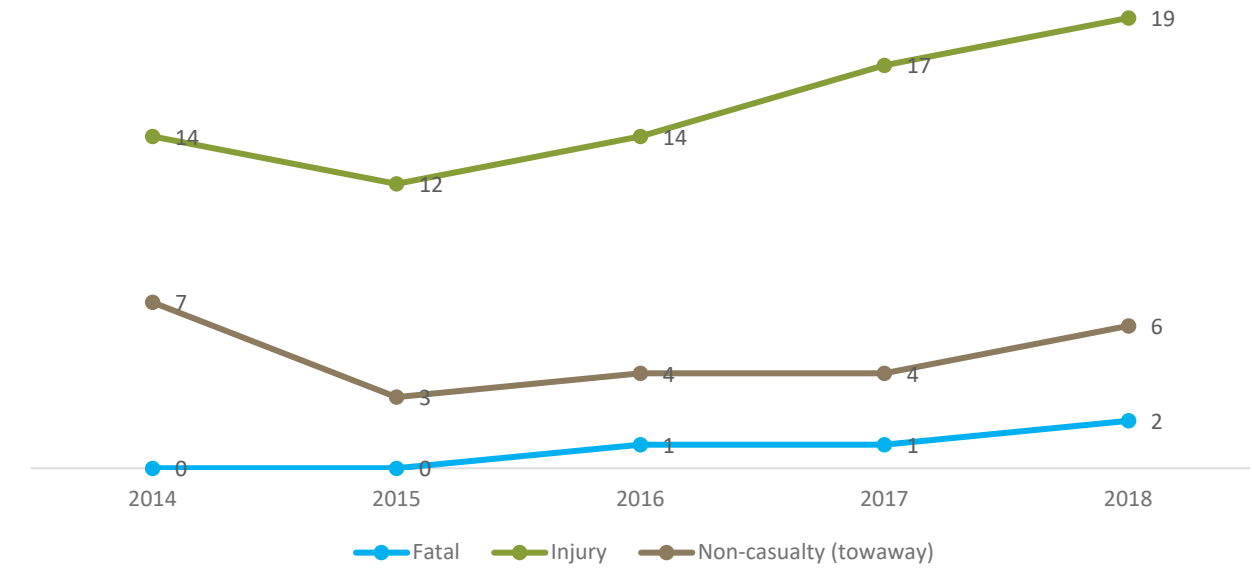
iv Road network

There are two state highways running through the local area. The Kidman Highway connects the local area to Bourke Shire to the North and Carathool Shire to the South, while the Barrier Highway runs towards Central Darling Shire to the West and Bogan Shire to the East. Mulya Road (sealed regional road) and Lerida Road (sealed shire road) also run through the local area, from the North-West and the South-West, respectively.

A variety of sealed and unsealed shire and regional roads run throughout the regional area (CSC 2019). The vast majority of the shire roads are unsealed (43/49), with most of the regional roads unsealed as well (7/12).

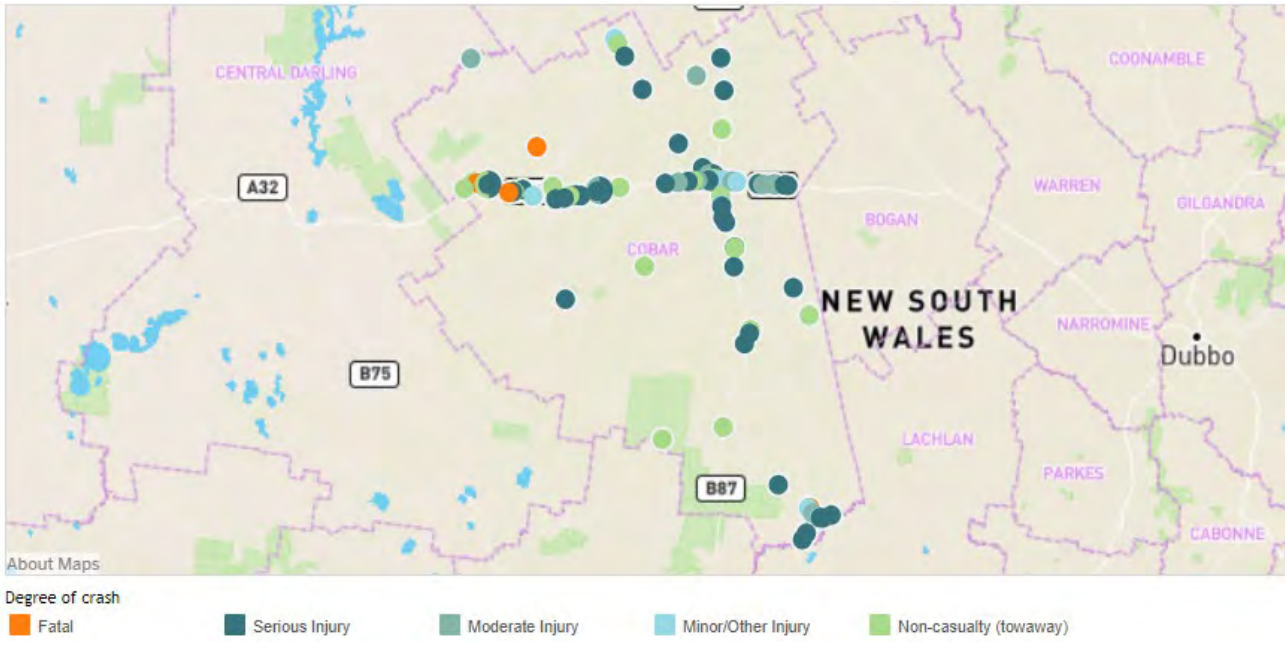
v Road incidents

Overall, road incidents resulting in fatality, injury, and non-casualty (towaway) have increased in the regional area from 2014 – 2018. Most crashes result in some level of injury. Crash trends for the regional area are presented in Figure B.9.



Source: Transport for NSW 2019

Figure B.9 Crash trends in Tenterfield LGA, 2014 – 2018



Source: Transport for NSW 2019

Figure B.10 Regional area crashes map, 2014 – 2018

B.5.7 Community services

The local area offers a range of community services, including Aboriginal services and organisations; ageing services; children's services; community legal services; counselling; disability services; family & women's services; and

housing and homelessness services. Although the services offered are varied, there are a relatively small number of providers. Cultural and community facilities in the local area are presented in Table B.16.

Table B.16 Cultural and community facilities in the local area

Cultural facilities	Community facilities	Clubs and groups
Cobar Miners Heritage Park	Cobar Shire and TAFE Library	221 Army Cadet Unit
Great Cobar Heritage Centre and Cobar Visitor Information Centre	Cobar Memorial Services Club	50 and Over Club
	Cobar Community Services Centre	Cobar and District Mother's Association
		Cobar Bookaholics book club
		Cobar Fergie's tractor club
		Cobar Girl Guides
		Cobar Parkrun
		Cobar View Club charitable social club
		Copper City Men's Shed
		Country Women's Association
		Lilliane Brady Village Pink Ladies
		PP Organisation not for profit group
		Probus retirees club
		Rotary Club of Cobar
		RSL Cobar Sub-Branch
		Cobar Lodge No. 97 Masonic Lodge

Source: cobar.nsw.gov.au

B.5.8 Recreation services

The local area encompasses numerous sporting and recreational facilities. These include, but are not limited to: parks, sporting grounds, sports facilities, and various sport and recreational clubs. However, reports from the community reveal that participation in, and availability of, recreation services and clubs is declining in the local area due to a declining population. The recreational and sporting facilities within the social area of influence are presented in Table B.17.

Table B.17 Sporting and recreational facilities in the local area

Parks facilities		
Park name	**Park uses**	**Park facilities offered**

Table B.17 Sporting and recreational facilities in the local area

Acacia Drive Park	• picnics; • functions; • recreation	• playground equipment; • table; • gardens; • lawns
Apex Park	• picnics; • functions; • recreation	• playground equipment; • lawns
Dalton Park	• picnics; • functions; • recreation	• playground equipment; • table and seating; • lawns
Drummond Park	• barbeques; • picnics; • functions; • recreation	• playground equipment; • skate park; • tables and seating; • pathways; • gardens; • lawns; • 3 barbeques
Jandra Crescent Park	• picnics; • functions; • recreation	• table and seating; • lawns
Lions Park	• picnics; • functions; • recreation	• playground equipment; • tables and seating; • lawns
Little Tassie Park	• picnics; • functions; • recreation	• playground equipment; • lawns
Morelli Park	• barbeques • picnics; • functions; • recreation	• barbeque facilities
Mulga Place Park	• picnics; • functions; • recreation	• playground equipment; • table and seating; • lawns
Wilga Park	• recreation	• natural space
Bathurst Street Reserve	• tennis; • rugby	• tennis courts; • Tom Knight Rugby League Oval

Table B.17 Sporting and recreational facilities in the local area

The Old Reservoir	• canoeing; • fishing; • water skiing; • dog walking; • wildlife watching; • camping; • recreation	• water recreation areas; • walking trails; • camping facilities
The Newey Reservoir	• canoeing; • fishing; • water skiing; • swimming; • camping; • recreation	• water recreation areas; • park area; • camping facilities

Sporting facilities

Facility name	Users	Sport facilities offered
Tom Knight Memorial Oval	• Cobar Rugby League Club	• 1 grassed oval
Ward Oval	• Cobar District Cricket Association • Cobar Netball Association • Cobar Junior Netball Association • Cobar Little Athletics • Cobar Junior Soccer	• 3 grassed ovals; • 3 turf and synthetic cricket pitches; • netball courts
Ailsa Fitzsimmons Oval	• Cobar and District Rugby Union Club	• 1 grassed oval
Cobar Amateur Pistol Club Shooting Range	• Cobar Amateur Pistol Club	• 10m air pistol range; • 25m range; • 50m range
Cobar Clay Target Club Shooting Range	• Cobar Clay Target Club	• clay target shooting facilities
Cobar Rifle Club Shooting Range	• Cobar Rifle Club	• long range target shoots (300yd to 900yd)
Nymagee Gymkhana Grounds	• Nymagee Gymkhana Committee	• gymkhana grounds
Nymagee Tennis Club	• Nymagee Tennis Committee	• Tennis courts
Nymagee Cricket Ground	• Nymagee Cricket Club	• Cricket pitch
Cobar Youth and Fitness Centre	--	• games room; • 2 basketball courts; • 2 netball courts; • 1 indoor soccer field; • 3 squash courts; • gymnasium; • 2 tennis courts; • skate park
Cobar Tennis Club	• Cobar Tennis Club	• tennis courts

Table B.17 Sporting and recreational facilities in the local area

Dalton Park Horse Sports Complex	• Cobar Pony Club	• equestrian grounds
Cobar Memorial Swimming Pool	• Cobar Swimming Club	• outdoor 50m swimming pool; • hydro play area
Cobar Memorial Services and Bowling Club	• Cobar Memorial Services Club	• 1 bowling green
Cobar Bowman Club	• Cobar Bowman Club	• archery facilities
Cobar Bowling and Golf Club	• Cobar Bowling and Golf Club	• 2 bowling greens; • 18-hole golf course
Cobar Auto Club	• Cobar Auto Club	• motocross track; • dirt (flat oval) track
Copper City Dance Centre	• Copper City Dance Centre	• dance studio
Western Studio of Performing Arts	• Western Studio of Performing Arts	• dance studio
Cobar Public School Hall	• Cobar Judo Club	•

Source: cobar.nsw.gov.au

B.6 Workforce and income

B.6.1 Employment

The unemployment rate in the local area is 5.8%, which is lower than both the Far West and Orana region and NSW. The youth unemployment rate in the local area is higher than the NSW average at 15.6%. However, the youth unemployment rate in the regional area is reported as being slightly lower (13.5%). Unemployment and labour force participation rates are presented in Table B.18.

Table B.18 Unemployment and labour force participation rates, 2016

		Unemployment rate	Youth unemployment rate	Labour force participation rate (15 years and older)
Local area	Cobar	5.8%	15.6%	59.9%
Regional area	Cobar LGA	5.8%	13.5%	59.0%
Area of reference	Far West and Orana	7.0%	14.5%	55.1%
NSW		6.3%	13.6%	59.2%

Source: ABS 2016, Census of Population and Housing: General Community Profiles.

In the local area, the top three occupations are technicians and trades workers, machinery operators and drivers, and professionals. This is indicative of a strong mining presence in the area. However, a higher proportion of trades-related occupations is also reflective of educational outcomes, income, and advantage/disadvantage in the area. As discussed in B.2ii, most people with a non-school qualification throughout the area of social influence have a certificate qualification, which can be indicative of less education opportunities and education resources available throughout the area (Regional Education Expert Advisory Group 2019) B.5This is also reflective of the lower SEIFA rankings indicating higher levels of disadvantage in these communities. The occupations within the social area of influence are presented in Table B.19, with the top three occupations highlighted in each area.

Table B.19 Occupations, 2016

Occupation	Local area	Regional area	Area of reference	NSW
	Cobar	Cobar LGA	Far West and Orana	
Managers	10.4%	15.6%	17.1%	13.5%
Professionals	12.8%	12.0%	15.6%	23.6%
Technicians and trades workers	20.5%	18.5%	13.3%	12.7%
Community and personal service workers	10.0%	8.9%	12.7%	10.4%
Clerical and administrative workers	9.6%	9.2%	11.2%	13.8%
Sales workers	5.9%	5.5%	8.8%	9.2%
Machinery operators and drivers	18.9%	17.8%	7.8%	6.1%
Labourers	10.4%	10.6%	11.8%	8.8%

Source: ABS 2016, Census of Population and Housing: General Community Profiles.

B.6.2 Income

The weekly median personal income and median household income in the local area is $755 and $1,650, respectively. This is significantly higher than the NSW average, as well as the Far West Sand Orana region average. The higher incomes in the local area and the regional area are likely due to the relatively high incomes associated with mining-related work (Constructive 2018) and the large proportion of workers employed by the mining industry in the local area and the regional area (Table B.20.

Table B.20 Median income, 2016

	Local area	Regional area	Area of reference	NSW
	Cobar	Cobar LGA	Far West and Orana	
Individual (median income $ weekly)	755	706	590	**664**
Household (median income $ weekly)	1,650	1,495	1,110	**1,486**

Source: ABS 2016, Census of Population and Housing: General Community Profiles.

B.7 Housing and accommodation

B.7.1 Housing type and structure

In the local area, most private dwellings are separate houses (89.1%). This is also true of the areas in the wider region. Compared to NSW, there were significantly fewer private dwellings that were occupied at the time of the 2016 Census. This oversupply of private dwellings indicates a departure from the local area and the regional area to regional centres and larger cities. The higher proportion of occupied dwellings in Far West and Orana compared to the local area and the regional area is likely largely attributable to dwelling occupancy in Dubbo and Broken Hill.

Housing type and structure is presented in Table B.21

Table B.21 Housing type and structure, 2016

	Local area	**Regional area**	**Area of reference**	**NSW**
	Cobar	Cobar LGA	Far West and Orana	
Separate house	89.1%	90.3%	89.1%	66.4%
Semi-detached, row or terrace house, townhouse	1.6%	1.3%	3.4%	12.2%
Flat or apartment	7.0%	6.4%	4.9%	19.9%
Other dwelling	1.6%	2.0%	1.8%	0.9%
Total private dwellings	1,811	2,145	49,234	2,889,057
Total occupied dwellings	78.2%	76.5%	83.8%	90.1%

Source: ABS 2016, Census of Population and Housing: General Community Profiles.

In the local area, regional area, and in the area of reference, most households are composed of families, followed by lone person households, and then group households. However, there are fewer family households and more lone person households across the area of social influence and area of reference compared to NSW (see Table B.22 Household composition, 2016).

Table B.22 Household composition, 2016

Household type	**Local area**	**Regional Area**	**Area of reference**	**NSW**
	Cobar	Cobar LGA	Far West and Orana	
Family households	66.4%	67.1%	67.3%	72.1%
Group households	1.8%	2.2%	2.7%	4.2%
Lone person households	31.4%	30.7%	29.9%	23.7%

Source: ABS 2016, Census of Population and Housing: General Community Profiles

In the local area, most private dwellings are rented (39.3%). This is also true of the regional area. However, most homes are owned outright in the area of reference (30.6%). The higher instance of renting compared to home ownership could indicate lower levels of socio-economic advantage. Tenure within the area of social influence is presented in Table B.23.

Table B.23 Tenure (based on total private dwellings), 2016

	Local area	Regional area	Area of reference	NSW
	Cobar	Cobar LGA	Far West and Orana	
Owned outright	30.1%	31.7%	30.6%	32.2%
Owned with a mortgage	25.4%	25.1%	23.6%	32.3%
Rented	39.3%	38.0%	25.4%	31.8%
Other tenure	0.7%	1.0%	1.1%	0.9%

Source: ABS 2016, Census of Population and Housing: General Community Profiles

B.7.2 Mortgage repayment and rent

Rent and mortgage repayments constitute a significant proportion of household costs. Both mortgage repayments and rent payments throughout the area of social influence and area of reference are substantially lower than NSW averages. Again, the lower repayments are indicative of greater levels of disadvantage within the area (see Table B.24

Table B.24 Mortgage repayment and rent, 2016

	Local area	Regional area	Area of reference	NSW
	Cobar	Cobar LGA	Far West and Orana	
Mortgage repayments (median mortgage repayments $ monthly)	1,300	1,300	1,278	1986
Rent (median rent $ weekly)	170	160	190	380

Source: ABS 2016, Census of Population and Housing: General Community Profiles

Housing stress is considered to occur when households in the lower 40% of income distribution spend more than 30% of their income in housing costs (rents or mortgage repayments) (AHURI 2019). This can mean that local people who are not employed in high-paying jobs may be unable to afford local rents which can be pushed up by higher salaries. Housing affordability in the area of social influence is demonstrated in Table B.25.

Table B.25 Housing affordability, 2016

		Households where rent payments are greater than or equal to 30% of household income (%)	Households where mortgage payments are greater than or equal to 30% of household income (%)
Local area	Cobar	6.2%	2.6%

Table B.25 Housing affordability, 2016

		Households where rent payments are greater than or equal to 30% of household income (%)	Households where mortgage payments are greater than or equal to 30% of household income (%)
Regional area	Cobar LGA	5.7%	3.0%
Area of reference	Far West and Orana	8.1%	3.9%
NSW		12.9%	7.4%

Source: ABS 2016, Census of Population and Housing: General Community Profiles

As exhibited by the table above, there is a smaller proportion of household with rent and mortgage payments greater than or equal to 30% of their household income in the area of social influence. Lower levels of home ownership with a mortgage, combined with low rental costs, contribute to the lower levels of housing stress.

B.7.3 Housing and rental market trends

i Mortgage repayment and rent trends

Annual mortgage repayment growth trends per year in the local area generally reflect the growth rates of the area of reference and NSW, excluding mortgage repayment in Far West and Orana from 2011 – 2013 which have increased instead of decreased or remained the same. However, annual rent repayment amounts in the local area and the regional area have increased at a much slower rate than in NSW and Far West and Orana. Table B.26 reveals the annual mortgage and rent repayment growth rates in the area of social influence.

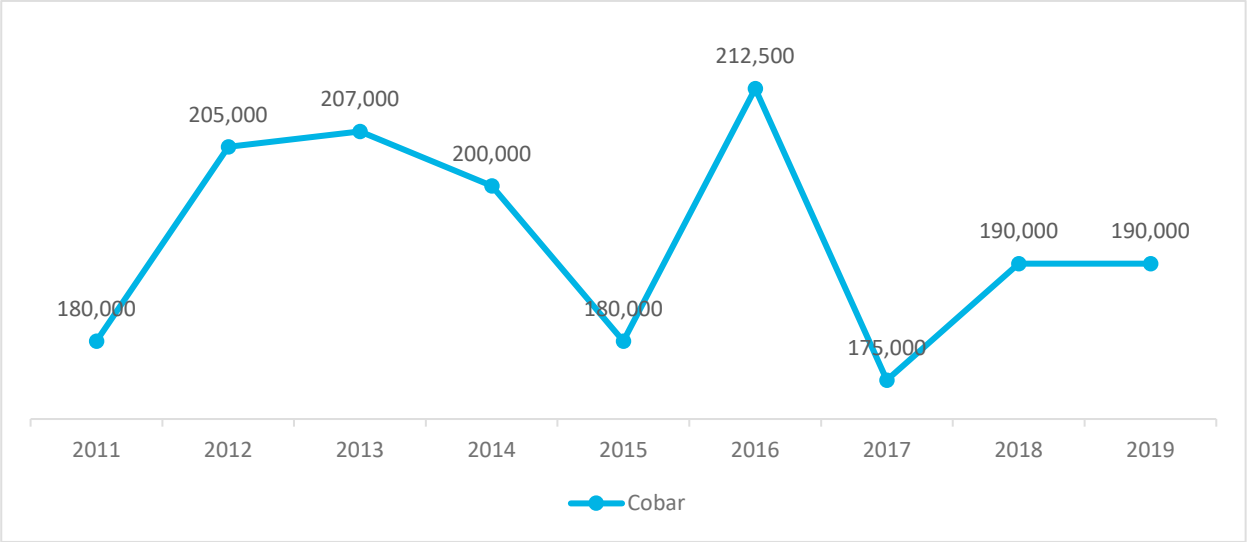
Table B.26 Mortgage repayment and rent growth rates, 2006–2016

		Average annual growth rate 2006 – 2016	Average annual growth rate 2011 – 2016
	Mortgage repayments		
Local area	Cobar	**4.5%**	**-0.3%**
Regional area	Cobar LGA	**4.4%**	0.0%
Area of reference	Far West and Orana	NA	**1.3%**
NSW		**3.1%**	**-0.1%**
	Rent repayments		
Area of social influence	Cobar	**3.1%**	**2.7%**
Regional area	Cobar LGA	**2.3%**	**2.4%**
Area of social influence	Far West and Orana	NA	**6.2%**
NSW		**8.1%**	**5.3%**

Source: ABS 2016, Census of Population and Housing: General Community Profiles

ii Median property price trends

Property prices in the local area have remained relatively stable, with small fluctuations from 2015-2017. Housing price trends for the local area from 2011 – 2019 are demonstrated in Figure B.11.



Source: realestate.com.au/neighbourhoods

Figure B.11 Median property price trends for houses in the local area, 2011 – 2019

iii Residential vacancy rates

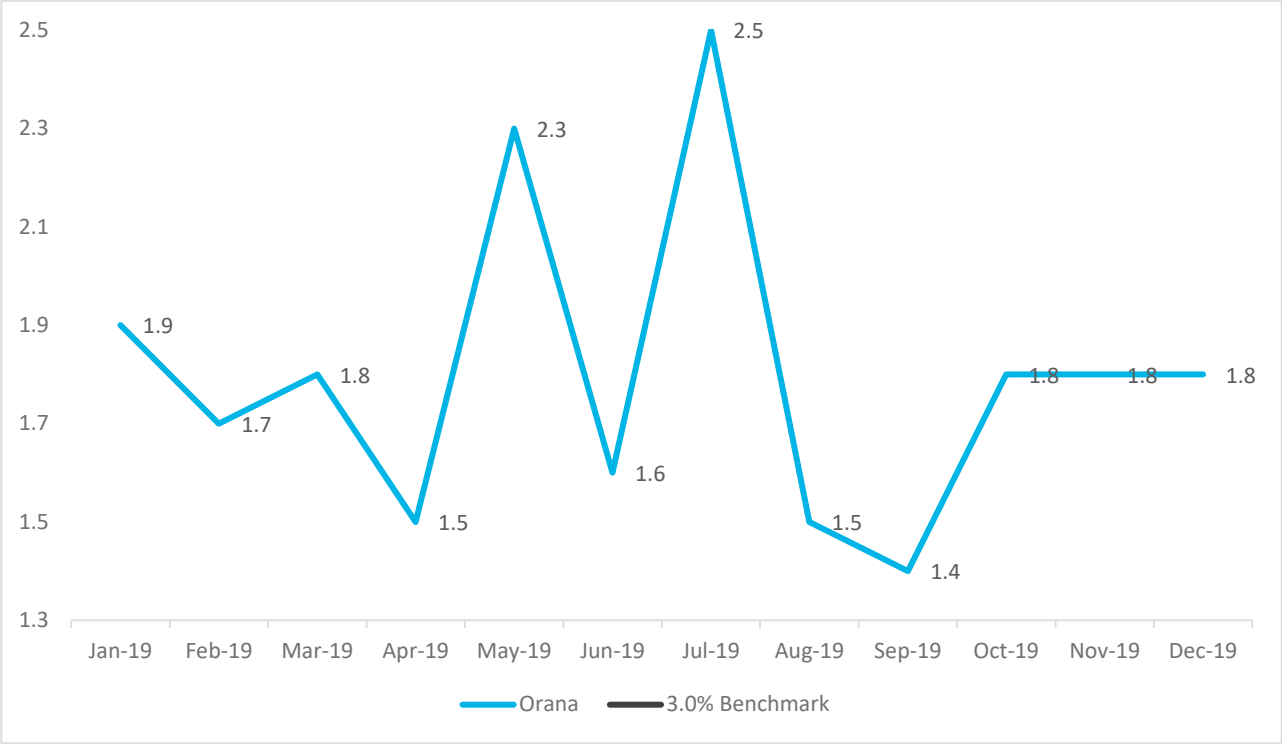
On 22 January 2020, there were 64 properties listed for sale and 38 properties listed for rental in the local area.

Table B.27 Properties for sale and rent in the local area, 22 January 2020

	Number of properties for sale	Number of properties for rent
Cobar	64	38

Source: realestate.com.au/neighbourhoods

According to REINSW, rental vacancy rates are traditional market indicators that "measure the proportion of residential properties vacant and available for rent at any point in time" (REINSW 2019). A higher vacancy rate indicates that there are a higher proportion of vacant (unoccupied) units, based on the total number of units in an area. Vacancy rates under 3% are low and indicate a tight rental market with an undersupply rental options while vacancy rates above 3% indicate an oversupply of rental options. A rental market with a vacancy rate of 3% is considered at equilibrium (Brewsters Property Group n.d). The residential vacancy rate in the Orana region has remained relatively stable, with brief increases in availability in May 2019 and July 2019. However, the rate is consistently much lower than 3.0%, indicating a lack of available rental housing (undersupply). The residential vacancy rate trend for the Orana region (includes the local area) is available in Figure B.12. Vacancy rates for the Far West region were not available in this publication.



Source: REINSW 2019, Vacancy Rates Survey Results December 2019

Figure B.12 Residential vacancy rate trends, 2019

B.7.4 New housing and rental supply

Housing forecasts for the regional area predict a total increase of 67 required dwellings between 2016 – 2041 in response to population growth and shifting patters in household structure and number (see Table B.28) (DPIE 2019).

Table B.28 Household requirement and population growth forecasts for the regional area

	2016	2021	2026	2031	2036	2041
Total population	4,775	4,729	4,602	4,496	4,415	4,352
Total households	2,035	2,071	2,077	2,083	2,091	2,089
Average household size	2.33	2.26	2.19	2.13	2.08	2.04
Required dwellings	2,562	2,606	2,614	2,621	2,631	2,629
Total dwelling change (required new dwellings)	--	44	8	7	10	-2

Source: DPIE 2019, NSW 2019 Population projections

Notes: 1. The projected population has been determined by using the ABS ERP population count which takes Census counts of people where they usually live (accounting for interstate visitors and removing overseas visitors), adjusts for Census undercount and overcount using the Census Post Enumeration Survey (PES), adds in Australians who are temporarily overseas, and applies further demographic adjustments.

2. Average household size is taken from NSW DPIE 2019 but there is a mathematical discrepancy – average household size is not equal to the total population divided by the total number of households.

Recent growth in housing supply can be estimated from residential building approval figures for the regional area. In the year ending June 2019, there were 3 approvals for new houses and 0 approvals for other residential buildings (equalling a total of 3 new residential building approvals for the year). This represents an increase of 1 from the previous year. There have also been 3 residential buildings approved to be built in the regional area in the financial year 2019–2020 as of March 2020 fiscal year-to-date (FYTD) (see Table B.29).

Table B.29 Total residential building approvals in the regional area

Year (ending June 30)	Number			Changes on prior year		
	Houses	Other	Total	Houses	Other	Total
2019-20 Mar FYTD	3	0	3	--	--	--
2018-19	3	0	3	1	0	1
2017-18	2	0	2	1	0	1
2016-17	1	0	1	-1	0	-1
2015-16	2	0	2	0	0	0
2014-15	2	0	2	0	0	0
2013-14	2	0	2	-6	-2	-8
2012-13	8	2	10	--	--	--

Source: ABS 2020, 8731.0 – Building Approvals, Australia

To determine if residential building approvals in the regional area will adequately support expected demand for new dwellings, the median of the total residential building approvals from 2012 – 2019, equalling 2 approvals per year, is used to create a reasonable estimation of residential building approvals into the future. The median of the total number of residential approvals from 2012 – 2019 provides a conservative estimate of the expected trends for building approvals in the regional area into the future, as it takes into account the fluctuations present in the previous approval rates. Although it is possible that actual residential approval totals could be higher or lower, without complete certainty in the factors that are driving approval decisions year on year, the median provides a reasonable degree of confidence in these estimations. The projected residential building approvals from 2016 – 2041 are demonstrated in Table B.30.

Table B.30 Estimates of future building approvals in the regional area

	2016–2021[1]	2021–2026[2]	2026–2031	2031–2036	2036–2041
Estimated residential building approvals	11	10	10	10	10

Notes: 1. 2016 – 2021 includes number of actual approvals from 2016 – 2020, and an estimate of 2 residential approvals per year from 2020 – 2021.
2. Projections from 2021 – 2041 are based on an estimate of 2 residential approvals per year.

The above table illustrates the capacity of the local building industry. Assuming that building approvals continue at a rate of the median of 2 approvals per year, this is insufficient to meet the expected demand for new dwellings

shown in Table B.28 from 2016 – 2021. The higher projected dwelling required by 2021 could reflect recurring trends of housing shortages in resource boom towns, which also directly affects staff retention in both the public and private sector (especially in the service sector) (AHURI 2009).

B.7.5 Tourist accommodation

Table B.31 Tourist accommodation, 2020

Tourist accommodation	Type of accommodation
Cobar Oasis Motel	Motel
Copper City Motel	Motel
Cobar Crossroads Motel	Motel
Cobar Town & Country Motor Inn	Motel
Cobar Central Motor Inn	Motel
Cobar Motor Inn	Motel
Hi-Way Motel	Motel
Cobar Caravan Park	Caravan park
Great Western Hotel	Hotel and bar
Grand Hotel	Hotel and bar
Empire Hotel	Hotel and bar

Source: Google 2020; booking.com.au; tripadvisor.com,au.

B.8 Local business and industry

employed in the mining industry. Other top industries of employment are health care and social assistance (8.0%), and retail trade (7.6%). These trends are also true of the regional area. However, mining is a much smaller employer in the Far West and Orana region. There, health care and social assistance employs the largest proportion of workers (14.1%), followed next by agriculture, forestry and fishing (12.7%), and retail trade (9.6%). The industries of employment within the area of social influence are available in Table B.32, with the top three industries in each area highlighted.

Table B.32 Industry of employment, 2016

Industry	Local area	Regional area	Area of reference	NSW
	Cobar	Cobar LGA	Far West and Orana	
Agriculture, Forestry and Fishing	4.0%	11.7%	12.7%	2.1%
Mining	35.9%	32.0%	4.2%	0.9%
Manufacturing	1.9%	1.8%	3.8%	5.8%
Electricity, Gas, Water and Waste Services	1.1%	1.0%	1.3%	0.9%
Construction	3.8%	3.9%	6.4%	8.4%
Wholesale Trade	0.9%	0.7%	2.3%	3.1%

Table B.32 Industry of employment, 2016

Industry	Local area	Regional area	Area of reference	NSW
	Cobar	Cobar LGA	Far West and Orana	
Retail Trade	7.6%	6.8%	9.6%	9.7%
Accommodation and Food Services	6.8%	5.9%	7.0%	7.1%
Transport, Postal and Warehousing	2.5%	2.8%	3.7%	4.7%
Information Media and Telecommunications	0.3%	0.3%	0.8%	2.2%
Financial and Insurance Services	0.6%	0.5%	1.3%	4.9%
Rental, Hiring and Real Estate Services	1.3%	1.2%	0.9%	1.8%
Professional, Scientific and Technical Services	1.5%	1.8%	3.1%	8.1%
Administrative and Support Services	2.7%	2.6%	2.6%	3.5%
Public Administration and Safety	7.2%	6.6%	7.7%	6.0%
Education and Training	6.2%	6.0%	9.5%	8.4%
Health Care and Social Assistance	8.0%	7.2%	14.1%	12.5%
Arts and Recreation Services	0.7%	0.6%	1.2%	1.5%
Other Services	3.4%	3.2%	3.9%	3.7%

Source: ABS 2016, Census of Population and Housing: General Community Profiles

In 2018, there were 456 registered businesses in the regional area, none of which employed more than 200 employees. Of these registered businesses, 98.5% were classed as small businesses employing fewer than 20 people (ABS 2019). Additionally, only 4.2% of businesses turned over $2 million or more, with most businesses operating within the $200k to $2m range (see Table B.33 and Table B.34).

Table B.33 Registered businesses by employment size, 2018

Area	Non-employing	1 – 19 employees	20 – 199 employees	200+ employees	Total
Cobar LGA	62.1%	36.4%	1.1%	0.0%	456

Source: ABS 2019, 8165.0—Counts of Australian Businesses, including Entries and Exists, June 2014 to June 2018

Table B.34 Registered businesses by turnover range, 2018

Area	$0 to less than $50k	$50k to less than 200k	$200k to less than $2m	$2m or more	Total
Cobar LGA	17.3%	35.3%	43.0%	4.2%	456

Source: ABS 2019, 8165.0—Counts of Australian Businesses, including Entries and Exists, June 2014 to June 2018

Of the 456 registered businesses in the regional area, 39.9% were in the agriculture, forestry and fishing industry. The agriculture industry provides much of the economic viability for local communities. The industry with the next highest percentage of registered businesses was construction (13.2%), followed by transport, postal and warehousing (6.1%), other services (6.1%), and rental, hiring, and retail trade (5.5%). Registered businesses by industry are presented in Table B.35.

Table B.35 Registered businesses by industry, 2018

Industry	No.	%
Agriculture, forestry and fishing	182	39.9%
Mining	5	1.1%
Manufacturing	12	2.6%
Electricity, gas, water and waste services	3	0.7%
Construction	60	13.2%
Wholesale trade	5	1.1%
Retail trade	25	5.5%
Accommodation and food services	18	4.0%
Transport, postal and warehousing	28	6.1%
Information media and telecommunications	3	0.7%
Financial and insurance services	18	4.0%
Rental, hiring and real estate services	23	5.0%
Professional, scientific and technical services	21	4.6%
Administrative and support services	14	3.1%
Public administration and safety	0	0.0%
Education and training	0	0.0%
Health Care and Social Assistance	18	4.0%
Arts and recreation services	3	0.7%
Other services	28	6.1%
Total	**456**	

Source: ABS 2019, 8165.0—Counts of Australian Businesses, including Entries and Exists, June 2014 to June 2018

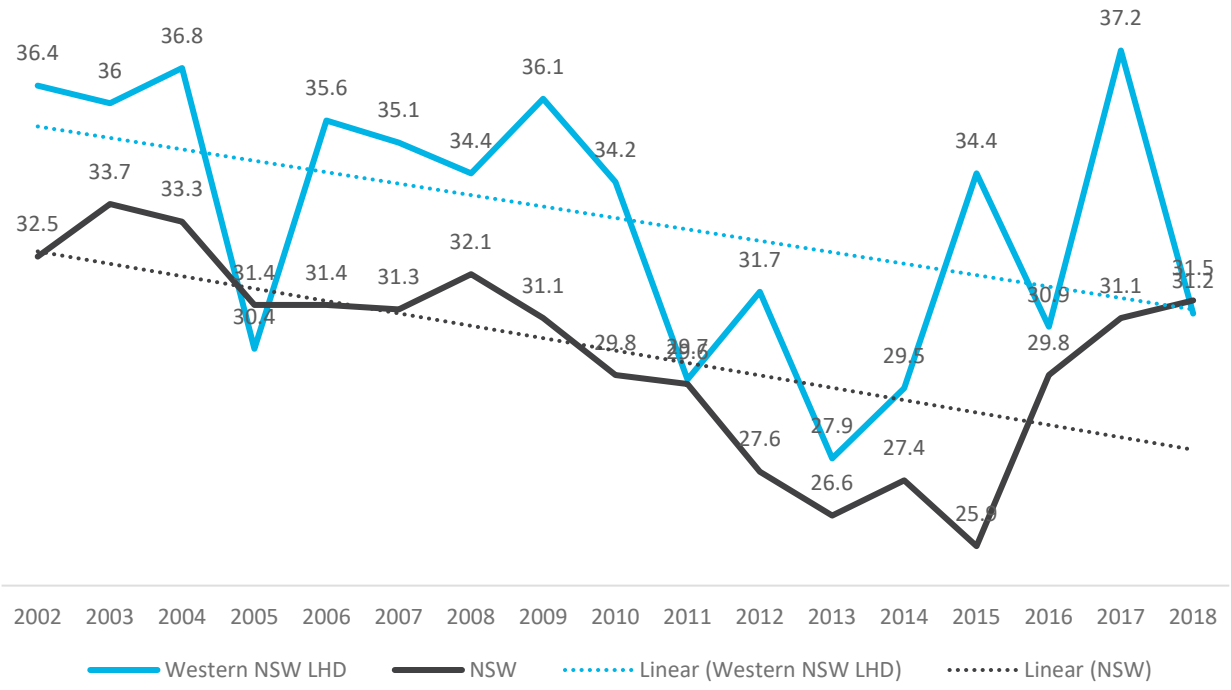
B.9 Health and community well-being

B.9.1 Community health

i Physical health

There are three major health risk factors that can be used as an indicator of population health: alcohol consumption, smoking, and obesity.

The regional area had a higher percentage of the population who consumed alcohol at levels considered to be a high risk to health[4] than NSW, at 20.7% and 16.7% respectively (PHIDU 2019). Trends were not available at the LGA level. However, trends in relation to the number of people who consume alcohol at levels posing a long-term health risk in the Western NSW Local Health District (LHD) are decreasing at a similar rate to NSW, with a consistently higher proportion of risky drinkers (see Figure B.13).

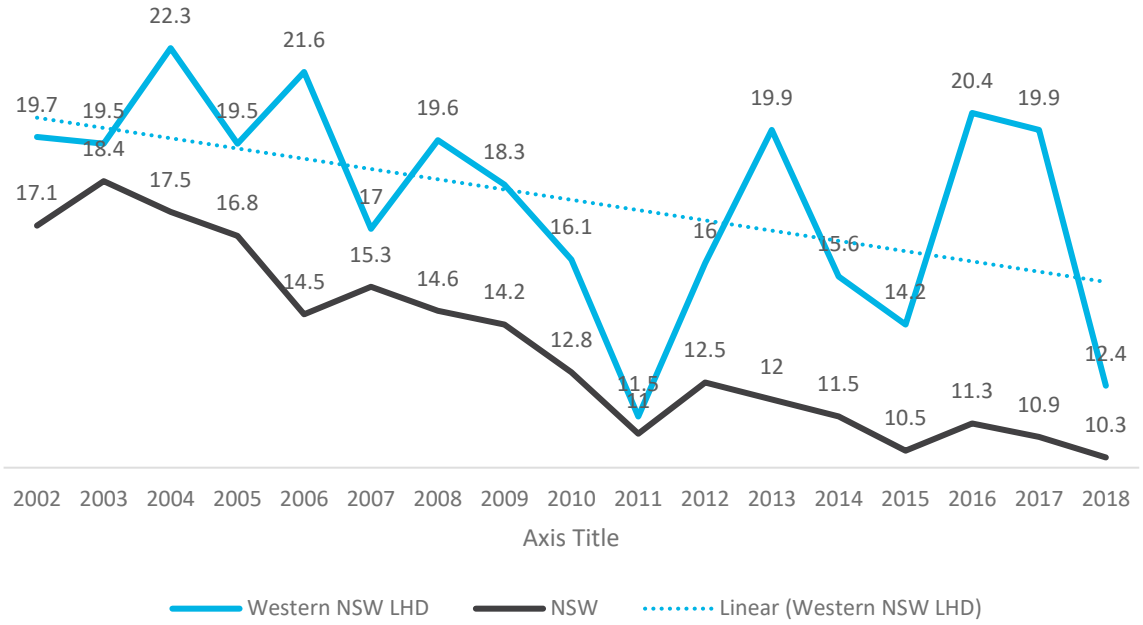


Source: Ministry of Health 2019, *Health Statistics NSW*.

Figure B.13 Alcohol consumption at levels posing a long-term health risk (proportion of persons aged 16 years and older), 2002–2018

Persons who smoke were also above the state average with 25.4% of persons over 18 years being current smokers in the regional area and 16.0% in NSW (PHIDU 2019). Trends were not available at the LGA level but were available at the LHD level. The results are slightly higher in Western NSW LHD with much higher variation year on year, but the overarching trend reflects the results seen across NSW (see Figure B.14).

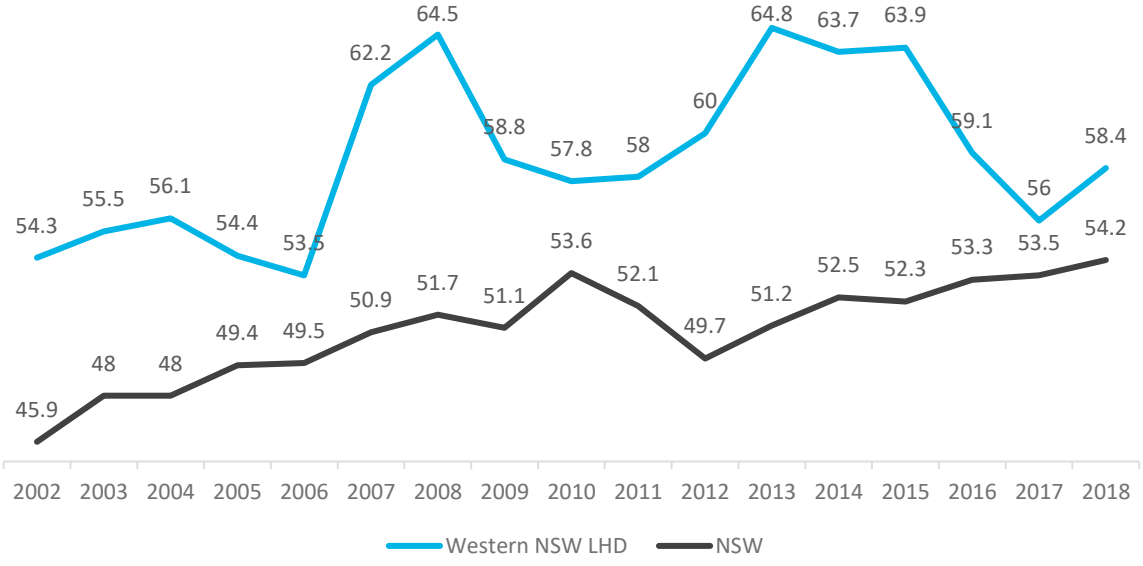
[4] High risk drinking is defined as the consumption of more than 2 standard drinks per day.



Source: Ministry of Health 2019, *Health Statistics NSW*.

Figure B.14 Daily smoking in adults (proportion of persons), 2002–2018

There was a much higher rate of obesity among the regional area population (42.2%) compared with NSW (28.2%) (PHIDU 2019). Trends can be identified through self-reported data at the LHD level regarding people reporting as either overweight or obese. The data indicates that, whilst the Western NSW LHD rates are slightly above those seen throughout NSW, the overarching trend is comparable to NSW (see Figure B.15).



Source: Ministry of Health 2019, *Health Statistics NSW*.

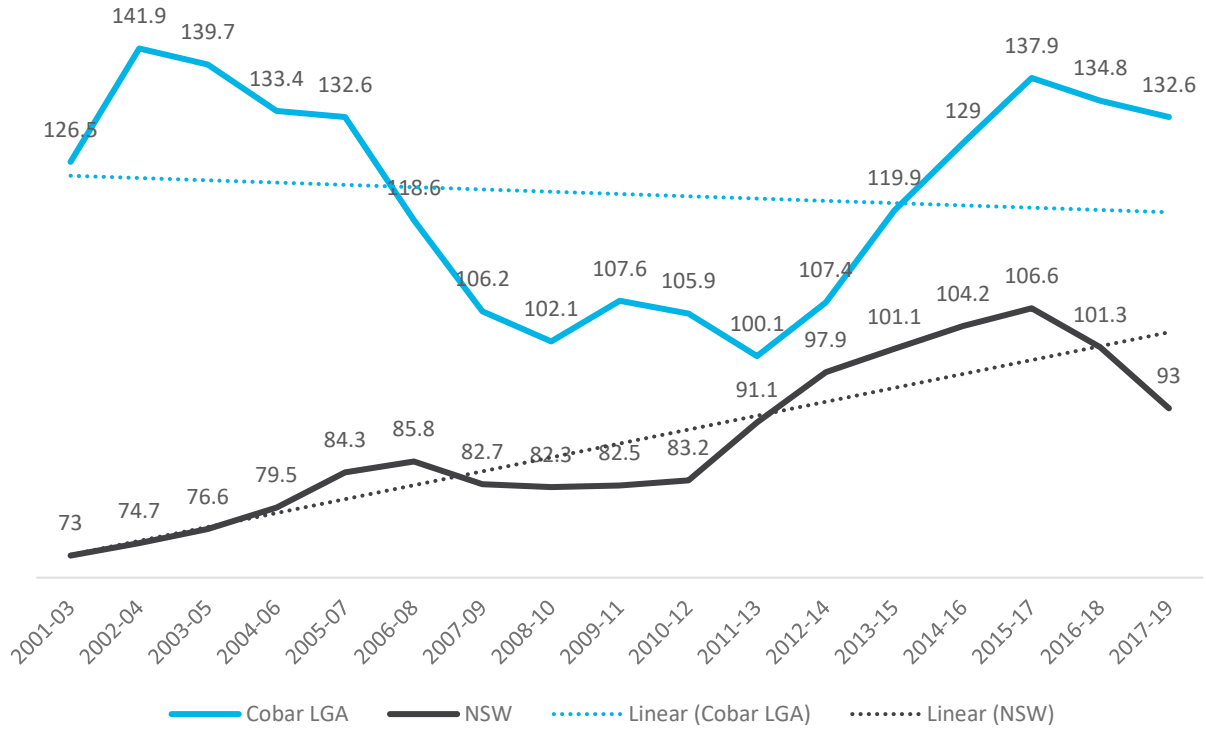
Figure B.15 Overweight or obese adults (proportion of persons aged 16 years and older), 2002–2018

Self-assessed health is another measure that can reflect the overall level of a population's health (PHN 2016). In the regional area, 14.1% of the population self-assess their health as fair or poor compared to 14.3% of the population of NSW (PHIDU 2019), meaning a similar proportion of the regional area population considers themselves in good health compared to NSW.

Although the data indicates that the regional area community experiences a lower level of physical health compared to NSW, the health trends do not indicate any significant increases in physical health indicators specific to the regional area compared to NSW.

ii Mental health

Data relating to the number of people that have been hospitalised as a result of self-harm is indicative of very poor and/or poorly managed mental health. Intentional self-harm hospitalisations trends in the regional area have been consistently higher than NSW trends, with a peak in 2002 – 2004 and an increase from 2011 – 2013 to 2015 – 2017 in the regional area. However, the overall trend of self-harm hospitalisations in the regional area is decreasing, while the trend for NSW continues to increase. Data for intentional self-harm hospitalisations is presented in Figure B.16.

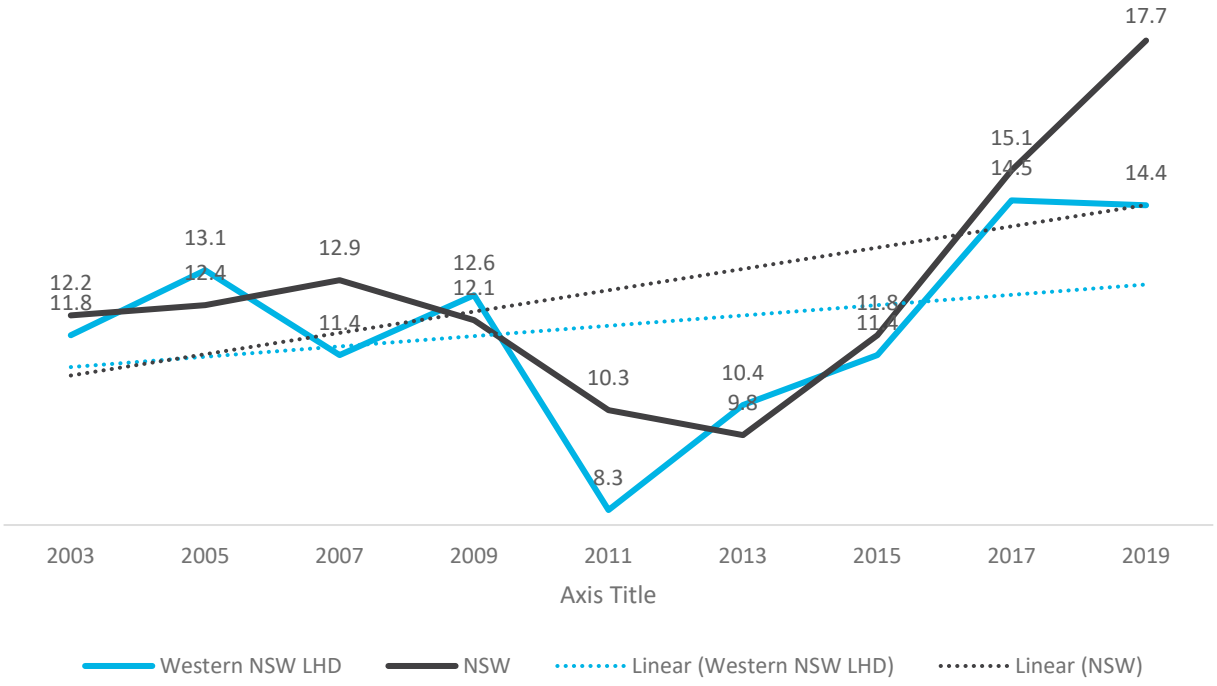


Source: Ministry of Health 2019, *Health Statistics NSW*.

Figure B.16 Intentional self-harm hospitalisations (rate per 100,000 persons of all ages), 2001–2003 to 2016–2018

Data is also collected by NSW Health regarding the level of psychological distress using the Kessler 10 (K10) approach. This approach uses a 10-item questionnaire that measures anxiety, depression, agitation, and psychological fatigue in the most recent 4-week period and has been adopted by NSW Health as an indicator of mental health.

PHIDU (2019) reports the proportion of people with high or very high psychological distress based on the K10 Scale to be 12.8% in the regional area and 11.0% in NSW. The trend data is only available at the LHD level and indicates that levels of psychological distress rated between high and very high in the Western NSW LHD have been mostly in line with those seen across NSW, with a slight decrease in Western NSW LHD since 2017 (see Figure B.17 for more detail).



Source: Ministry of Health 2019, *Health Statistics NSW*.

Figure B.17 High and very high levels of psychological distress based on Kessler 10 scale (proportion of persons aged 16 years and older), 2003–2005 to 2017–2019

B.9.2 Voluntary work

Volunteering rates can give an indication of social cohesion in a community, and the willingness of people to help each other. The proportion of the population who engaged in voluntary work in the area of social influence are slightly higher than volunteering rates for NSW (see Table B.36).

Table B.36 Volunteering rates, 2016

		Did voluntary work through an organisation or group (last 12 months)
Local area	Cobar	22.6%
Regional area	Cobar LGA	22.3%
Area of reference	Far West and Orana	21.3%
NSW		18.1%

Source: ABS 2016, Census of Population and Housing: General Community Profiles

B.9.3 Community safety and crime

Overall, crime has decreased in the regional area from 2015 – 2019. In 2019, the reported incident with the highest rate per 100,000 population in the regional area was malicious damage to property with a rate of 1,609.5 per 100,000 population (ranked 9th out of 119[5] LGAs). The highest ranked reported offence was trespass, with a ranking of 1 out of 119 LGAs (rate of 1,524.8 per 100,000 population). The regional area has been ranked first for reported incidents of trespassing each year (excluding 2018) from 2015 – 2019. The top 5 reported offences that experienced the largest increases and the top 5 reported offences that experienced the largest decreases from 2015 –2019 are available in Table B.37. Crime trends from 2015 –2019, including ranks, for Cobar LGA are presented in Table B.38.

Table B.37 Largest increases and decreases in reported offences, regional area, 2015–2019

Offence	Total change	Average annual change
Largest increases in reported offences		
Offensive conduct	64.3%	12.9%
Fraud	59.5%	11.9%
Assault non-domestic violence	17.9%	3.6%
Prohibited weapons offences	9.3%	1.9%
Sexual offences	8.8%	1.8%
Largest decreases in reported offences		
Offensive language	-88.1%	-17.6%
Break and enter non-dwelling	-59.0%	-11.8%
Breach AVO	-47.2%	-9.4%
Steal from motor vehicle	-40.9%	-8.2%
Receiving stolen goods	-39.1%	-7.8%

Source: NSW Department of Justice 2019, Bureau of Crime Statistics and Research— Recorded crime reports: Local Government Area Rankings.

Offensive conduct experienced the largest increase in reported offenses from 2015 – 2019, with the rate of reported offences per 100,000 population increasing by 64.3% (12.9% average annual increase). Fraud, assault non-domestic violence, prohibited weapons offences, and sexual offences also experienced significant total and average annual increases. Offensive language experienced the largest decrease in reported offences, falling by 88.1% (-17.6% average annual decrease). break and enter non-dwelling, breach AVO, steal from motor vehicle, and receiving stolen goods were the next most significant decreases in reported offences. The trends presented in Table B.38 indicate that there are more decreases in rates of reported offences than increases.

[5] Sydney LGA and LGAs with a population of fewer than 3,000 have been excluded from the ranking.

Table B.38 Crime trends, 2015–2019

	2015		2016		2017		2018		2019		Rate % change 2015–2019	Average annual % change 2015–2019
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank		
Tenterfield												
Assault – domestic violence	1,084.7	4	879.6	7	697.1	12	974.2	8	762.4	15	**-29.7%**	**-5.9%**
Assault – non-domestic violence	646.6	17	712.0	12	908.3	5	868.3	4	762.4	8	**17.9%**	**3.6%**
Sexual offences	292.0	17	146.6	81	464.7	3	381.2	10	317.7	22	**8.8%**	**1.8%**
Robbery	--	NA	41.9	15	--	NA	21.2	46	--	NA	**--**	**--**
Break and enter dwelling	604.9	28	1,005.2	9	507.0	34	444.7	37	487.1	34	**-19.5%**	**-3.9%**
Break and enter non-dwelling	980.4	3	460.7	13	380.2	13	360.0	15	402.4	9	**-59.0%**	**-11.8%**
Motor vehicle theft	521.5	1	460.7	5	316.9	10	338.8	9	423.5	7	**-18.8%**	**-3.8%**
Steal from motor vehicle	1,147.3	6	753.9	19	929.4	11	487.1	42	677.7	18	**-40.9%**	**-8.2%**
Steal from retail store	125.2	79	335.1	32	42.2	106	63.5	103	127.1	89	**1.5%**	**0.3%**
Steam from dwelling	438.0	31	460.7	28	232.4	75	169.4	96	338.8	41	**-22.6%**	**-4.5%**
Steal from person	--	NA	20.9	71	--	NA	21.2	61	-	NA	**--**	**--**
Fraud	438.0	46	544.5	35	338.0	82	444.7	70	698.9	18	**59.5%**	**11.9%**
Malicious damage to property	2,357.1	4	1,926.7	7	1,964.5	5	2,223.6	4	1,609.5	9	**-31.7%**	**-6.3%**
Harassment threatening	959.5	11	1,005.2	7	992.8	8	1,651.8	3	804.7	23	**-16.1%**	**-3.2%**
Receiving stolen goods	104.3	39	104.7	44	63.4	69	42.4	85	63.5	74	**-39.1%**	**-7.8%**

Table B.38 Crime trends, 2015–2019

	2015		2016		2017		2018		2019		Rate % change 2015–2019	Average annual % change 2015–2019
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank		
Other theft	521.5	17	733.0	7	359.1	44	423.5	31	550.6	10	**5.6%**	**1.1%**
Arson	271.2	6	104.7	41	232.4	13	444.7	5	169.4	22	**-37.5%**	**-7.5%**
Possession use of cannabis	250.3	54	293.2	41	253.5	40	233.0	44	254.1	44	**1.5%**	**0.3%**
Prohibited weapons offences	542.3	5	502.6	12	464.7	9	571.8	8	593.0	10	**9.3%**	**1.9%**
Trespass	1,960.8	1	1,549.7	1	1,309.7	1	1,122.4	2	1,524.8	1	**-22.2%**	**-4.4%**
Offensive conduct	119.2	39	134.4	29	180.2	12	75.3	46	195.8	4	**64.3%**	**12.9%**
Offensive language	354.6	6	251.3	4	126.7	11	84.7	26	42.4	45	**-88.1%**	**-17.6%**
Liquor offences	250.3	25	188.5	29	380.2	9	169.4	47	169.4	40	**-32.3%**	**-6.5%**
Breach AVO	521.5	8	607.3	7	528.1	10	720.0	5	275.3	52	**-47.2%**	**-9.4%**
Breach bail conditions	688.4	19	1,193.7	8	1,098.4	11	1,101.2	13	508.3	55	**-26.2%**	**-5.2%**
Resist or hinder officer	292.0	3	230.4	5	169.0	15	360.0	3	190.6	10	**-34.7%**	**-6.9%**
Transport regulatory offences	20.9	51	--	NA	--	NA	21.2	54	--	NA		**-20.0%**

Source: NSW Department of Justice 2019, Bureau of Crime Statistics and Research— Recorded crime reports: Local Government Area Rankings.

Notes: 1. Rate is per 100,000 population.
2. Total % change and average annual change have been calculated from 2016 – 2019

Appendix C

Authorship

C.1 SIA technical team

Personnel	Qualifications	Relevant Experience
Santiago Ayala Associate – Social Scientist	• Master of International Relations/Peace and Conflict Studies, The University of Queensland, 2010 • Master of Social Planning and Development, The University of Queensland, 2005 • Bachelor of Social Anthropology, University of Andes Colombia, 1999 • Negotiation and Leadership, Harvard University, Law School, 2017	Santiago is a social and strategic planning professional with over 21 years' experience in Australia and overseas. His breadth of expertise includes policy development, social safeguards and resettlement, stakeholder engagement and management, social performance, and government and community relations. Santiago has expertise working with and for private, government clients and multilateral organisations across a range of sectors including energy, water and sanitation management, infrastructure, mining, and oil and gas incorporating engineering solutions as well as behavioural change.
Andrea Kanaris Associate – National Technical Leader	• Masters Social Planning and Development (Post Graduate Diploma), University of Queensland (UQ), • Bachelor of Social Science – Community and International Development, UQ • Former Chair and Full Member Social Planning Chapter Queensland – Planning Institute Australia • Member International Association of Impact Assessment	Andrea is a Social Scientist / Social Planner with over 20 years' experience across corporate and government sectors. She is an innovative, result-driven leader and facilitator of positive change and strategic direction. She has gained a broad range of expertise in providing government and corporate stakeholders advice on policy, program management, quality assurance, planning, sustainability and stakeholder engagement. She has also provided contemporary strategic advice on social impact assessment, led and delivered policies and achieved quality stakeholder engagement outcomes.
Amanda Micallef Social Planner	• Master of Development Practice, University of Queensland, 2019 • Bachelor of Arts in International Development, University of Guelph, 2017 • Member Planning Institute of Australia	Since joining EMM, Amanda has conducted a range of social planning and impact assessment projects, including baseline studies, risk assessments, data analysis, and community and stakeholder engagement. Her community engagement experience includes online community engagement, indigenous engagement, and the co-creation of youth indigenous development programs in Guatemala. Amanda has worked with clients across a range of sectors, including mining and extractives, and water, in New South Wales and Queensland.
Jessica Walker Graduate Social Planner	• Bachelor of Arts in Geography, University of Queensland, 2020 • Bachelor of Social Science in Development, University of Queensland, 2020	As a graduate social planner at EMM, Jess has assisted in the preparation of social impact assessments, including baseline compilation, consultation, data analysis, and reporting.
Alexa Dietrich Graduate Social Planner	• Bachelor of Social Science in Development, University of Queensland, 2020	As a graduate social planner at EMM, Alexa has assisted in the preparation of social impact assessments, including baseline compilation, consultation, data analysis, and reporting.