



stanmore

APPENDIX W - ROAD TRANSPORT ASSESSMENT



Isaac Downs Extension Project Road Transport Impact Assessment

Prepared for:
Stanmore Resources

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The Transport Planning Partnership

Isaac Downs Extension Project Road Transport Impact Assessment

Client: Stanmore Resources

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- C. PROJECT TRANSPORT FORECASTS
- D. PROJECT IMPACTS
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1 Introduction

Stanmore ID Extension Pty Ltd (ID Extension), a wholly owned subsidiary of Stanmore Resources Ltd (Stanmore) proposes to develop the Isaac Downs Extension Project (the Project), being an extension to the life of mining operations at the Isaac Plains Complex (IPC). IPC comprises Isaac Downs Mine (IDM) and Isaac Plains Mine (IPM), operated by wholly owned subsidiaries of Stanmore, Stanmore IP South Pty Ltd (IP South) and Stanmore IP Coal Pty Ltd (IP Coal), respectively.

The Project is located in the Bowen Basin of central Queensland, approximately 15 kilometres (km) southeast of Moranbah and 150 km southwest of Mackay, within the Isaac Regional Council (IRC) Local Government Area (LGA). The Project is located immediately to the south of and adjoining IDM (Figure 1.1).

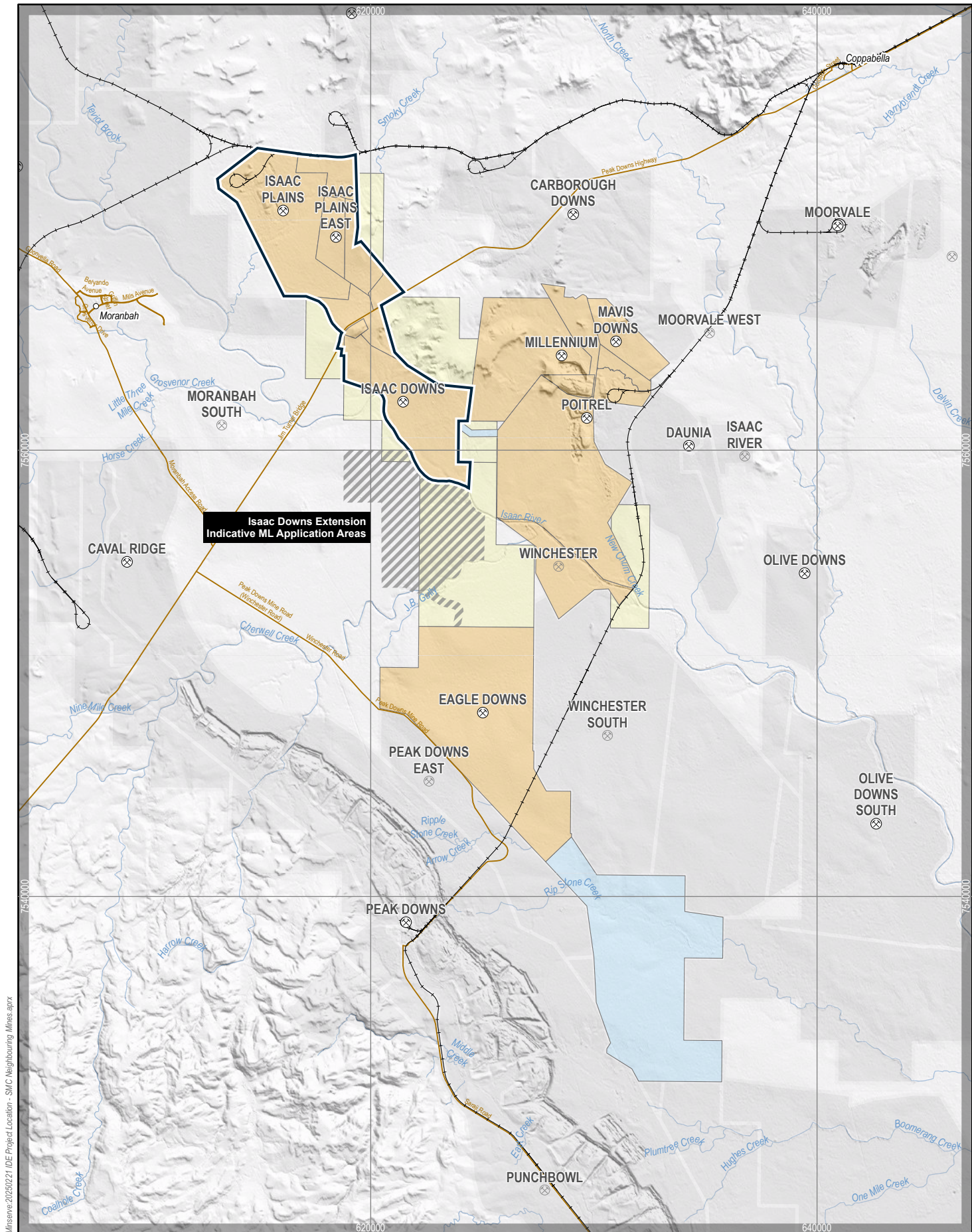
This study has been prepared with reference to the Terms of Reference (ToR) for the Project and the Department of Transport and Main Roads (TMR) *Guide to Traffic Impact Assessment* (2018). The ToR relevant to the road transport environment are:

<i>Environmental objective and outcomes</i>
<i>The construction and operation of the project must aim to:</i> <i>maintain the safety and efficiency of all affected transport modes for the project workforce and other transport system users</i> <i>avoid and mitigate impacts including those on the condition of transport infrastructure</i> <i>ensure any required works are compatible with existing infrastructure and future transport corridors.</i>

9.165 The EIS must include a clear summary of the total transport task for the project, including workforce, inputs and outputs, during the construction, operational and decommissioning phases of the project. Proponents must make appropriate choices for modes of transport to ensure efficiency and minimise impacts on the community.

9.166 Undertake the impact assessment in accordance with the department's Transport—EIS information guideline (ESR/2020/5310) (DETSI 2024). The methods used must include the following matters:

a) for impacts on roads: a traffic impact assessment report in accordance with the Guide to traffic impact assessment (TMR 2019), with traffic data in Department of Transport and Main Roads-suitable formats.



Minserve 20250201 IDE Project Location - SMAC Neighbouring Mines.aprx



 0 1 2 3 4 5

 Kilometres

 Datum: GDA2020 Zone 55

 Scale: 1 : 300,000 (A4)

 Date: 14/03/2025 11:00 AM

 Drawn: RA



 DISCLAIMER: Third party data sources are used in this map compilation. Minserve makes no warranty regarding this data's accuracy or currency.

LEGEND

 Mining Lease

 Populated Places

 Waterway

 Roads

 Rail

 Isaac Plains Complex

 Isaac Downs Extension Indicative ML Application Areas

 Stanmore Resources Ltd Subsidiary Tenements

 Mining Lease

 Mineral Development Licence

 Exploration Permit Coal



ISAAC DOWNS EXTENSION

Figure 1.1

Project Location

b) for impacts on rail level crossings: the Australian Level Crossing Assessment Model (ALCAM 2024).

9.167 Present the transport assessment for each project-affected mode (road, rail, air, port and sea) as appropriate for each phase of the project. Provide sufficient information to allow an independent assessment of how existing transport infrastructure will be affected by project transport at the local and regional level (e.g. local roads and state-controlled roads) in accordance with relevant impact assessment methodologies.

9.168 Discuss how identified impacts will be mitigated for each transport mode. Mitigation strategies may include works, contributions or other strategies that can be documented in a road-use management plan. The strategies must be prepared in close consultation with relevant transport authorities, including local government and the Queensland Police Service. They must consider the transport authorities' works programs and forward planning, and be in accordance with the relevant methodologies, guidelines and design manuals.

The remainder of the report is set out as follows:

- Section 2 describes the existing operation of the Isaac Plains Complex,
- Section 3 describes the Project, including timing of activities, workforce and production forecasts, and outlines the assessment scenarios adopted for this assessment in consideration of the TMR (2018) requirements,
- Section 4 describes the existing road transport environment, including road link and intersection conditions, traffic demands, active transport infrastructure and the road safety history.
- Section 5 discusses changes in traffic conditions in the region that are expected to occur under baseline conditions without the Project.
- Section 6 assesses the traffic expected to be generated by the Project for each of the assessment scenarios.
- Section 7 identifies the Project impact assessment areas, presents the assessment of the Project's impacts, and identifies measures to mitigate the potential impacts of the Project on the road network.
- Section 8 presents the conclusions of the study, and summarises its findings.

2 Isaac Plains Complex Operations

Stanmore owns and operates IPC, which comprises IPM and IDM. Mining operations primarily occur at IDM, with run-of-mine (ROM) coal production ramping down prior to commencement of the Project.

2.1 Coal Processing and Transport

ROM coal is processed at the coal handling and preparation plant (CHPP) located at IPM, and product coal is primarily transported from IPM by rail to the Dalrymple Bay Coal Terminal (DBCT) via the Goonyella Branch railway and to the North Queensland Export Terminal (NQXT) at Abbot Point via the Newlands rail system. Stanmore has commercial arrangements with the above and below rail operators of the Goonyella and Newlands rail systems for the transport of product coal.

A haul road between the IDM and IPM crosses under Peak Downs Highway. As the haul road crosses under the public road, haulage vehicles and vehicles on Peak Downs Highway do not interact with each other.

2.2 Workforce

The workforce at IPC, prior to Project commencement, will be approximately 450 personnel, which is inclusive of employees and contractors. The workforce at IPC is made up of approximately:

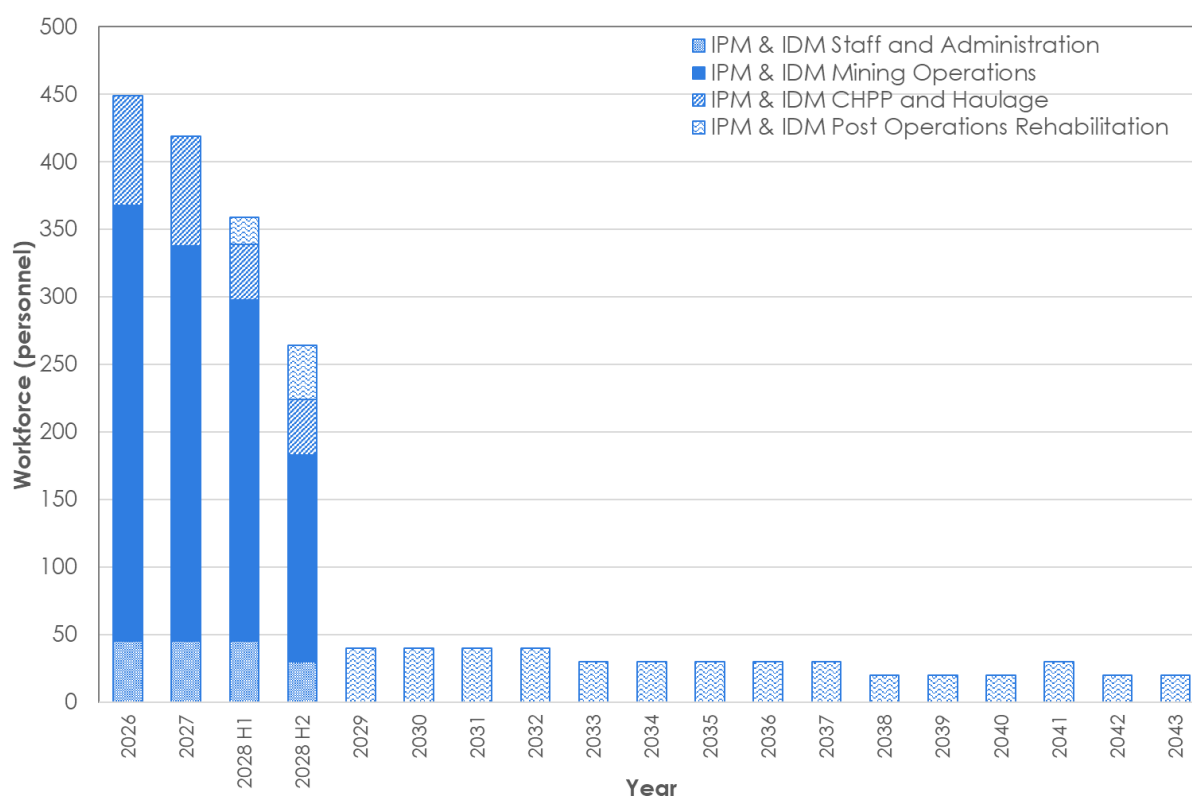
- 10 % locals, who principally reside in Moranbah;
- 76 % workers who normally reside outside of the local area (e.g. Mackay), and reside in workers accommodation villages (WAVs) in the local area during their roster period. These workers would drive-in drive-out (DIDO) either in private vehicles or using transfer bus services between their usual place of residence and the WAVs at the start and end of their roster period; and
- 14 % workers who normally reside farther afield in Queensland and interstate, and reside in the local WAVs during their roster period. These workers fly-in fly-out (FIFO) via Mackay or Moranbah, and use a combination of bus transfer services or private vehicle to travel between airports and the WAVs at the start and end of their roster period.

Approximately 30 % of the DIDO and FIFO workers reside at the Coppabella Civeo, and the remaining 70 % reside in Moranbah, primarily at the Moranbah Civeo located on Acacia Street, and the Smart Stays Village located on Bacon Street.

The workforce typically work a roster of day and night shifts with seven days on and seven days off. Administration and management staff work day shift with five days on and two days off, and make up approximately 15 % of the total operational workforce. Shifts generally operate between 6:00 am and 6:00 pm.

The expected future workforce (i.e. without the Project) is presented in Figure 2.1, which demonstrates that the operational workforce is forecast to decline to 264 personnel in the second half of 2028 (2028 H2) and thereafter, post operational rehabilitation activities at IPM and IDM are expected to employ between 20 and 40 personnel until 2043.

Figure 2.1: Workforce at IDM and IPM



2.3 Travel Management

Stanmore and its principal contractor provide shuttle bus services to transport the workforce each day, operating between IPC and WAVs in the region, notably at Coppabella and Moranbah. Bus transfer services are also provided to transport DIDO and FIFO workers between Mackay, Moranbah Airport and the WAVs at the start and end of their roster period.

The provision of shuttle and transfer services reduces the need for private travel by workers on a day-to-day basis, and to travel into and out of the region at the start and end of roster periods.

Table 2.1 summarises the shuttle services that transport Stanmore's workers and contactors between local accommodation and IPC. The services are timetabled to align with shift start and end times, with buses typically dropping workers at the mine before their shift starts and waiting to collect workers at the end of shifts, so buses do not run empty.

Table 2.1: Stanmore Bus Shuttle Services

Route	Frequency	Route Description
IPC-01	AM and PM Daily	Smart Stay Village – Moranbah Civeo – CHPP Wash Plant (IPM) – Smart Stay Village – Moranbah Civeo
EPSA	AM and PM Daily	Leichhardt Bus Stop (Smart Stays Village) Moranbah – Isaac Downs Mine – Leichhardt Bus Stop Moranbah

Source: Kinetic Group (2025)

Table 2.2 summarises the transfer bus services that are currently provided for Stanmore's workers to Mackay, which are designed to match crew rosters and change out days.

Table 2.2: Stanmore Coppabella and Nebo – Mackay Bus Transfer Services

Route	Frequency	Route Description
SMC04	PM Monday – Thursday – Monday – Tuesday – Sunday (set dates)	4:15 pm Mackay (Glenella – Northern Beach Bowls Club – Andergrove Tavern – Harney Street – Paradise Street) 5:10 pm Mackay Airport – Walkerston – Eton Shop – Nebo Junction Accommodation Village – Nebo Civeo – Coppabella Civeo 7:10 pm
SMC05	PM Monday – Thursday – Monday – Tuesday – Sunday (set dates)	7:40 pm Coppabella Civeo – Nebo Civeo – Eton Shop – Walkerston – 9:25 pm Mackay Airport – Mackay (Paradise Street – Harney Street – Andergrove Tavern – Northern Beaches Bowls Club – Glenella) 10:20 pm
SMC06	AM Monday – Tuesday – Friday – Tuesday – Wednesday (set dates)	7:40 am Coppabella Civeo – Nebo Civeo – Nebo Junction Accommodation Village – Eton Shop – Walkerston – 9:20 am Mackay Airport – Mackay (Paradise Street – Harney Street – Andergrove Tavern – Northern Beaches Bowls Club – Glenella) 10:15 pm
SMC09	AM Monday – Tuesday – Friday – Tuesday – Wednesday (set dates)	10:25 am Mackay (Glenella – Northern Beach Bowls Club – Andergrove Tavern – Harney Street – Paradise Street) – 11:20 am Mackay Airport – Walkerston – Eton Shop – Nebo Junction Accommodation Village – Nebo Civeo – Coppabella Civeo 1:25 pm
SMC11	PM Wednesday	4:15 pm Mackay (Glenella – Northern Beach Bowls Club – Andergrove Tavern – Harney Street – Paradise Street) – 5:10 pm Mackay Airport – Ooreala – Walkerston – Eton Shop – Nebo Civeo – Coppabella Civeo 7:15 pm
SMC12	PM Wednesday	7:45 pm Coppabella Civeo – Nebo Civeo – Eton Shop – Walkerston – Ooreala – 9:40 pm Mackay Airport – Mackay (Paradise Street – Harney Street – Andergrove Tavern – Northern Beaches Bowls Club – Glenella) 10:35 pm
SMC 13	AM Thursday	7:20 am Coppabella Civeo – Nebo Civeo – Eton Shop – Walkerston – Ooreala – 9:15 am Mackay Airport – Mackay (Paradise Street – Harney Street – Andergrove Tavern – Northern Beaches Bowls Club – Glenella) 10:10 am
SMC14	AM Thursday	11:35 am Mackay (Glenella – Northern Beach Bowls Club – Andergrove Tavern – Harney Street – Paradise Street) – 11:30 am Mackay Airport – Ooreala – Walkerston – Eton Shop – Nebo Civeo – Coppabella Civeo 1:35 pm

Source: Kinetic Group (2025)

The transfer bus services are designed to match crew rosters and change out days, as summarised in Table 2.3, noting that roster change out days are typically Wednesday-Thursday, or Monday-Tuesday, with services running to accommodate those as required.

Table 2.3: Bus Transfer Services Roster Match

Route	Roster Match	Roster	Service Travel Days
SMC04	Day shift in	7/7	Wednesday weekly
SMC05	Day shift out	7/7	Wednesday weekly
SMC06	Night shift out, day shift fatigue out	7/7	Thursday weekly
SMC09	Night shift in	7/7	Thursday weekly
SMC11	Day shift in	7/7 455	Monday weekly Every second Thursday, Tuesday, Sunday
SMC12	Day shift out	7/7 455	Monday weekly Every second Thursday, Tuesday, Sunday
SMC13	Night shift out, day shift fatigue out	7/7 455	Tuesday weekly Every second Monday, Friday, Wednesday
SMC14	Night shift in	7/7 455	Tuesday weekly Every second Monday, Friday, Wednesday

A Fitness for Work Standard Operating Procedure applies to all coal mine workers and visitors at IPC, and sets guidelines for fitness for work as per *Queensland Coal Mining Safety and Health Regulation 2017*, section 41 and 42. It includes guidelines for managing fatigue, with policies relating to hours of work, roster arrangements, and transport of workers. Accommodation is made available for roster workers the day prior to their shift starting (both day shift and night shift), with a room being available until 10am after the roster worker's last nightshift, and until 10am the day after the roster worker's last dayshift.

3 Isaac Downs Extension Project

3.1 Project Description

The Project would extend the life of mining operations at IPC through the development of an open cut coal mine pit and associated infrastructure, primarily mining metallurgical coal. Approximately 46 Mt of ROM coal would be mined over 15 years, at a rate of up to 4.5 million tonnes per annum (Mtpa).

The Project adjoins IDM, and its operations would be integrated into IPC. ROM coal would be washed at the IPM CHPP, utilising the existing haul road under Peak Downs Highway, and the Project would utilise the existing mine infrastructure area (MIA) at IDM.

The primary vehicular access to the Project for workers and deliveries would be via IDM's existing access road from Peak Downs Highway, and a bridge that would be constructed across the Isaac River. Access to the CHPP at IPM would be via the IPM's existing access road from Peak Downs Highway.

A secondary access route to the Project would be provided between the Project and Stanmore's Eagle Downs project, utilising new and existing roads to connect with the Peak Downs Mine Road. The secondary access would not be used on a day-to-day basis by the workers or for deliveries, rather it would be used on an infrequent basis.

3.2 Project Timing

Mining of ROM coal at IDM is expected to ramp down between 2026 and 2028, with Project construction commencing in late 2027 to early 2028 and ROM coal extraction commencing in 2029.

3.3 Coal Processing and Transport

Consistent with the existing mining operations at IPC, ROM coal would be transported to the CHPP at IPM for washing, using the existing haul road under Peak Downs Highway. New haul roads, including a bridge across Isaac River, would be constructed at the Project site to facilitate the transport of ROM coal. The dragline would be walked from IDM to the Project via a temporary crossing of the Isaac River.

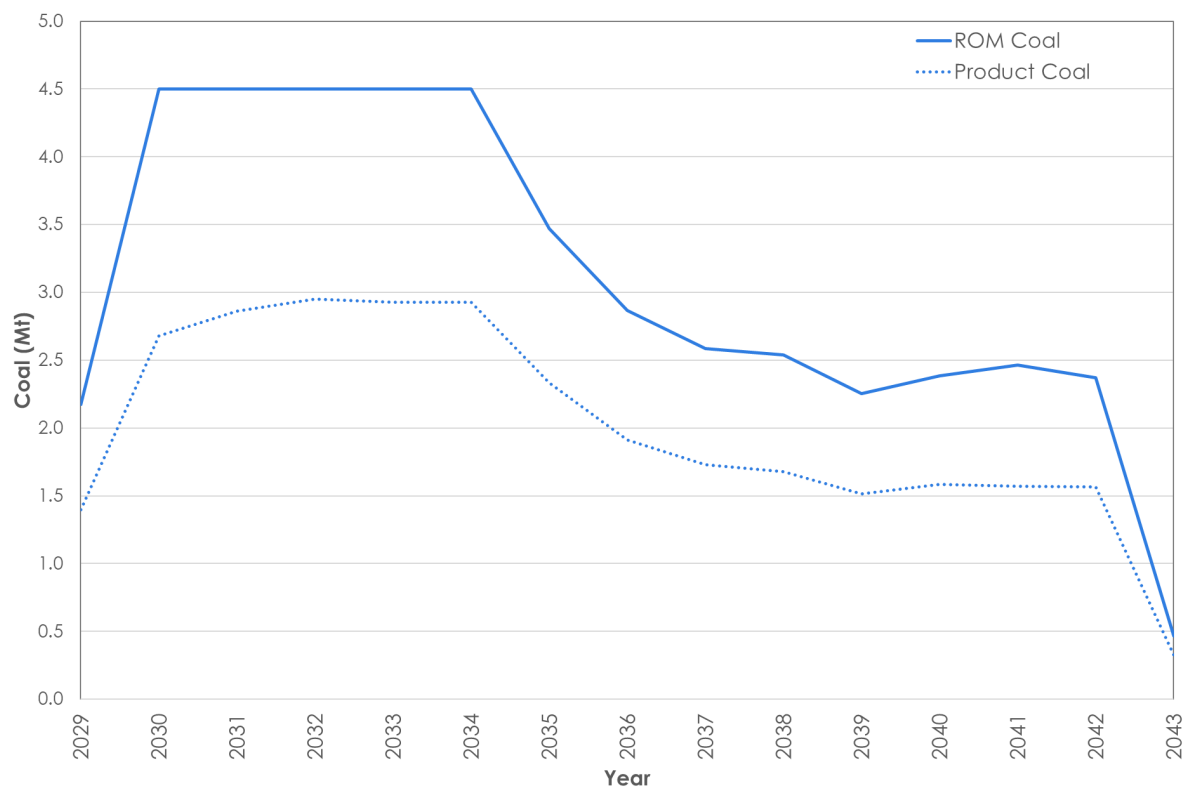
Consistent with the existing mining operations at IPC, product coal would be transported by rail only to the DBCT via the Goonyella Branch railway and to the NQXT via the Newlands rail system. Stanmore has commercial arrangements with the above and below rail operators of the Goonyella and Newlands rail systems for the transport of product coal, and no significant

changes are expected to these commercial arrangements as the product coal production from the Project replaces the product coal production from IDM.

ROM coal extraction from the Project is expected to peak at 4.5 Mtpa until approximately 2034, after which, it would decline to an average of approximately 2.5 Mtpa until 2042.

Figure 3.1 presents the annual ROM coal and product coal forecasts for the Project. This indicates that ROM coal extraction is expected to be at its peak of 4.5 Mtpa until 2034, after which it would decline to an average of approximately 2.5 Mtpa until 2042.

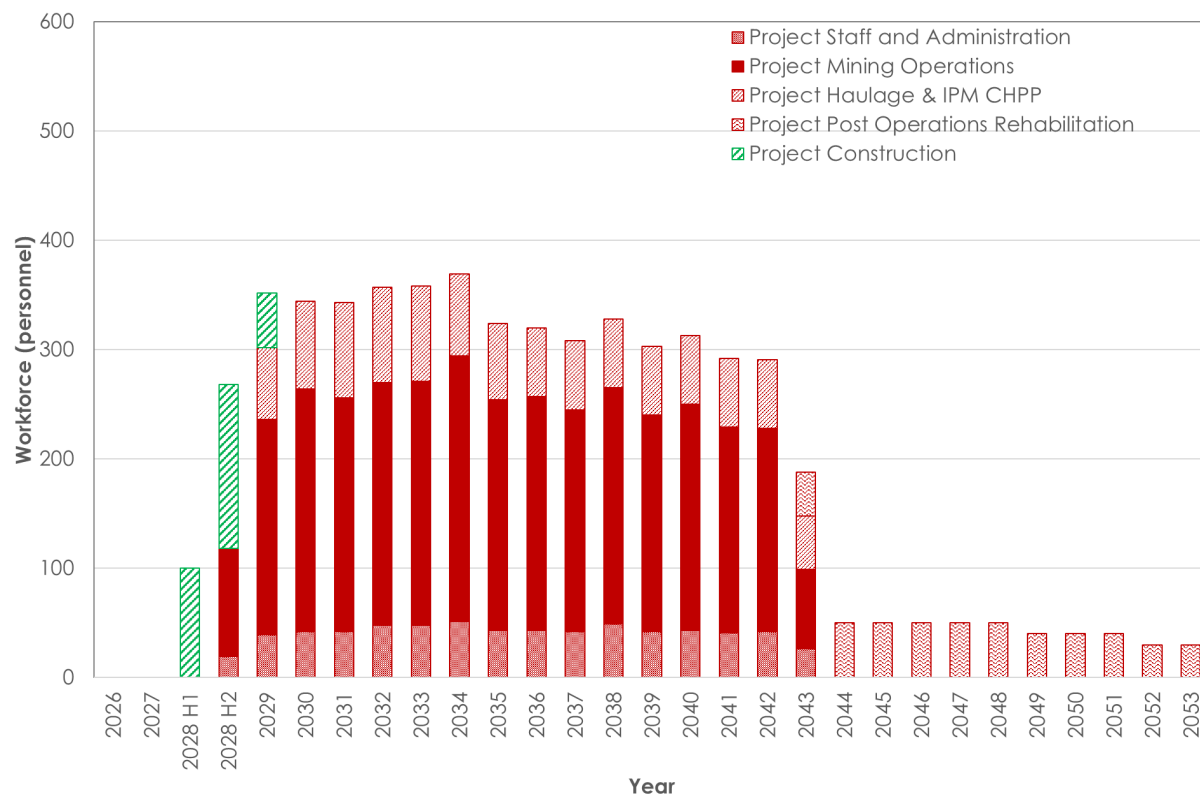
Figure 3.1: Project ROM and Product Coal Forecasts



3.4 Project Workforce

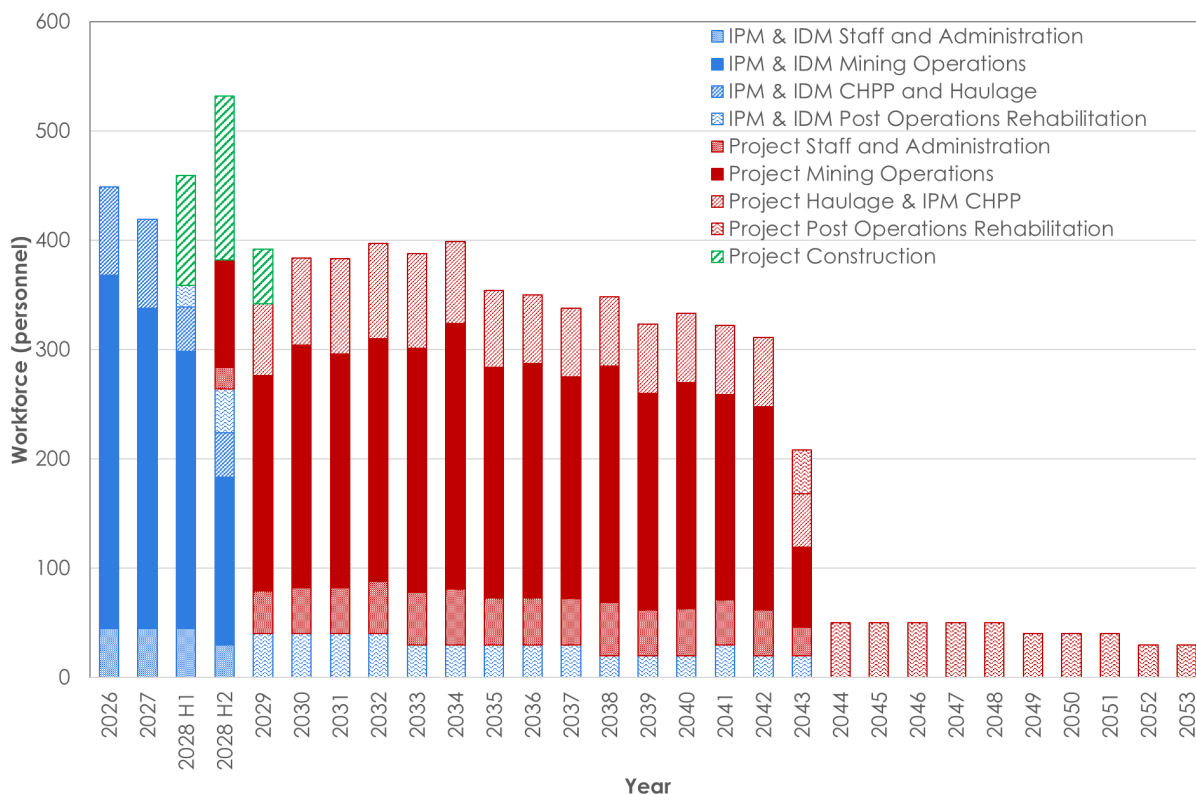
Consistent with the existing mining operations at IPC, the Project's principal generator of road-based traffic would be the movement of the workforce to the from the Project each day. Figure 3.2 presents the workforce forecast to be employed at the Project.

Figure 3.2: Forecast Project Workforce



With the Project, mining operations, coal processing and rehabilitation activities at IDM and IPM would remain consistent with that expected without the Project (refer to Section 2.2), however the operational workforce would transition to working at the Project, where mining operations are forecast to continue until 2043. The forecast total workforce at IDM, IPM and the Project is illustrated in Figure 3.3.

Figure 3.3: Forecast Total Workforce at IDM, IPM and the Project



It is anticipated that over time, the proportion of the workforce that reside in the local region would increase, with a decrease in the proportion of DIDO and FIFO workers. This change would occur over time, and the assumed distribution of the workforce by type is summarised in Table 3.1.

Table 3.1: Workforce Distribution (%)

Workforce Type	Existing IDM and IPM	Project Initial Operational Stage	Project Operations
Local	10	12	15
DIDO	76	74	71
FIFO	14	14	14

Consistent with the existing workforce, approximately 30 % of the DIDO and FIFO workers would reside in at the Coppabella Civeo, and the remaining 70 % reside in Moranbah.

3.5 Project Mitigation

The Project has considered the mitigation hierarchy to avoid potential impacts through design, to manage impacts through operational measures, and to mitigate the residual impacts. Key mitigation measures include:

- continued use of existing purpose-built access intersections on Peak Downs Highway, which separate turning and through vehicles, minimising potential impacts on safety, intersection performance and delays to through traffic on Peak Downs Highway;
- use of the existing intersection of Peak Downs Mine Road and Eagle Downs Mine Road for secondary access (used on an infrequent basis), avoiding introduction of a new access point to the public road network;
- continued management of operational workforce travel through the use of shuttle bus services to transport operational workers between the Project and accommodation facilities at Moranbah and Coppabella, thus significantly reducing the potential number of trips generated between the Project and the main accommodation locations;
- planned management of construction workforce travel through the use of shuttle bus services to transport construction workers between the Project and accommodation facilities at Moranbah and Coppabella, thus significantly reducing the potential number of trips generated between the Project and the main accommodation locations;
- continued transportation of product coal from the Project by rail, resulting in negligible change to rail traffic and no road traffic directly related to coal transport.

3.6 Road Transport Assessment Scenarios

Consistent with the principles of TMR (2018), the following key stages of the Projects have been considered:

- construction activity associated with initial development of the Project;
- initial operational activity;
- ongoing operational activity; and
- closure and rehabilitation activity.

3.6.1 Construction Activity

Construction activity is anticipated to commence in 2028 H1. As shown in Figure 3.2, the Project construction workforce is forecast to be approximately 100 personnel in 2028 H1, 150 personnel in 2028 H2, and 50 personnel in 2029. As the construction workforce would be at its peak during 2028 H2, and the total cumulative workforce during construction would also peak in 2028 H2 (as shown in Figure 3.3), this assessment has adopted 2028 H2 as the timeframe for assessment of peak construction impacts.

3.6.2 Initial Operational Activity

As the Project is the extension of existing mining activities, involving the transition of workers and mining operations from IDM and IPM to the Project, it would not have a distinct initial operational stage.

As shown in Figure 3.3, operating activity at the Project would commence in 2028 H2 while construction activity is ongoing, hence the assessment of conditions during 2028 H2 considers both peak construction and initial operations at the Project, and represents the peak cumulative workforce present over the life of the Project. On this basis, no separate assessment of initial operational activity is justified, and the construction and initial operational conditions have been assessed as a single combined scenario.

3.6.3 Ongoing Operational Activity

Figure 3.2 demonstrates that the Project workforce is forecast to peak at approximately 369 personnel in 2034, and Figure 3.3 indicates that the cumulative workforce at IDM, IPM and the Project would peak at approximately 399 personnel during that same year. ROM coal extraction and prime waste from the Project are also forecast to peak during 2034, which suggests that trip-generating operational activities (e.g. deliveries of fuel and other consumables) would also peak in 2034.

On this basis, 2034 is forecast to be the peak year for operational Project impacts, and has been adopted as the basis for assessment of ongoing operational activity.

3.6.4 Closure and Rehabilitation Activity

Figure 3.2 demonstrates that the Project rehabilitation activities are expected to occur from 2044 to 2053 inclusive, employing approximately 50 personnel between 2044 and 2048 inclusive, declining to 40 then 30 personnel between 2049 and 2053. For the purpose of this assessment, 2048 has been adopted as the indicative timeframe for assessment of rehabilitation activities, representing 20 years from the expected commencement of the Project.

4 Existing Road Transport Environment

An appreciation of the existing road transport environment can be gained by considering the existing road network, the nature of its traffic demands, and its road safety history. These aspects have been reviewed within the area that the Project transport task is expected to occur, which includes the routes between the Project Site, Moranbah, Coppabella and Mackay.

TTPP conducted a visit to the region to observe the road network conditions in June 2025, in fine and dry weather conditions. TTPP also observed traffic conditions in the region in November 2019.

4.1 Road Network

The roads that would be used by Project-generated traffic are described below.

Peak Downs Highway is a State Controlled Road (SCR) which provides the primary link between the Whitsunday Coast and the Central West, linking the towns of Mackay and Clermont. Peak Downs Highway also provides access for major towns such as Walkerston, Nebo and Moranbah. It is a primary access route for existing coal mines in the Bowen Basin. In the vicinity of the Project, Peak Downs Highway follows a north-east to south-west alignment and is aligned along the northern boundary of IDM and southern boundary of IPM. It typically has a single travel lane in each direction, with auxiliary turn lanes at major intersections and a posted speed limit of 100 kilometres per hour (km/h). Peak Downs Highway typically has a single broken centre line, and single or double unbroken centre lines near crests and curves, and unbroken edgelines, as shown in Figure 4.1. Overtaking opportunities are available where centre linemarking permits.

Figure 4.1: Peak Downs Highway



Between the access roads for IPM and IDM, Peak Downs Highway is widened, with channelised turn lanes provided, as shown in Figure 4.2.

Figure 4.2: Peak Downs Highway between IPM and IDM



Moranbah Access Road is an IRC-controlled local road, and provides the sole vehicular access between Peak Downs Highway and the town of Moranbah. Moranbah Access Road also provides vehicular access for Moranbah Airport, via a priority-controlled T-intersection approximately 5 km from Peak Downs Highway. Moranbah Access Road is an undivided sealed road with a single travel lane in each direction, sealed shoulders, and auxiliary lanes at its major intersections. It typically has a broken single centre line and unbroken edge lines. The posted speed limit is 100 km/h, reducing to 80 km/h and 60 km/h in proximity to Moranbah.

Isaac Regional Council was undertaking road works on Moranbah Access Road and on Railway Station Road at the time of TTPP's observations, with traffic control measures in place. Those road works were anticipated to occur between 17 April 2025 and 1 August 2025 (IRC, 2025).

Figure 4.3: Moranbah Access Road



Goonyella Road is the northern extension of Moranbah Access Road past Mills Avenue at Moranbah, providing access to the northern part of the town of Moranbah and for mines farther to the north. In proximity to Moranbah, Goonyella Road has a single travel lane in each direction with a posted speed limit of 60 km/h.

Figure 4.4: Goonyella Road



The primary access to the town of Moranbah from Moranbah Access Road/Goonyella Road is via **Mills Avenue**, which is constructed as a four-lane divided road, with a wide median which in parts allows centre road parking. The signposted speed limit in Moranbah is 60 km/h. Access to Moranbah is also available via **Curtin Street**, approximately 1 km north of Mills Avenue, which is also constructed as a four-lane divided road with a wide median.

Peak Downs Mine Road intersects with Peak Downs Highway at a priority-controlled seagull intersection that allows vehicles turning right out of Peak Downs Mine Road to conduct a staged movement, located approximately 90 km from Clermont and 180 km from Mackay. Peak Downs Mine Road is a sealed road with a single travel lane in each direction, a single broken centre line and unbroken edge line marking and it typically has a posted speed limit of 100 km/h. The intersection of Peak Downs Mine Road with Peak Downs Highway has street lighting and dedicated left and right turn deceleration lanes in Peak Downs Highway for vehicles turning into Peak Downs Mine Road.

At the time of TTPP's site visit, roadworks requiring temporary traffic signals were underway on Peak Downs Mine Road near Peak Downs Highway, and around the access intersection for Peak Downs Mine, which was being upgraded.

Figure 4.5: Peak Downs Mine Road



The Civeo Coppabella Village is accessed via an unnamed road, referred to herein as **Coppabella Road**. It is a two-lane, two-way road with double two-way barrier lines and a signposted speed limit of 60 km/h, as shown in Figure 4.6. It provides access only to the accommodation village. Within the accommodation village, it is signposted as a shared zone with a speed limit of 20 km/h, and includes frequent marked pedestrian crossings and speed humps.

Figure 4.6: Coppabella Road



IDM is accessed via an unnamed private road, referred to herein as **IDM Road**, that intersects with Peak Downs Highway approximately 11.2 km driving distance from Moranbah Access Road. IPM is accessed via an unnamed private road, referred to herein as **IPM Road**, that intersects with Peak Downs Highway approximately 180 m east of IDM Road.

Figure 4.7: IPM Road



Eagle Downs Mine Access Road provides access to and from Eagle Downs Mine from Peak Downs Mine Road. Eagle Downs Mine Access Road is constructed with a single travel lane in each direction, and has a gated access located approximately 120 m from Peak Downs Mine Road. For approximately 800 m beyond the gated access, the posted speed limit on Eagle Downs Mine Access Road is 60 km/h, increasing to 80 km/h farther to the east. Eagle Downs Mine Access Road has a single unbroken centreline near Peak Downs Mine Road, and single broken centreline for most of the 60 km/h length, with the exception of a double unbroken centreline through a bend approximately 800 m from Peak Downs Mine Road. It has painted edgelines and guide posts.

4.2 Intersections

The key existing intersections along routes that may be used by Project-generated traffic travelling between Moranbah, Coppabella, and the Project Site are described below.

4.2.1 Peak Downs Highway, IDM Road and IPM Road

IDM Road and IPM Road form a pair of staggered T-intersections on Peak Downs Highway, separated by approximately 180 m. The layouts of the two intersections are illustrated in Figure 4.8 and Figure 4.9. A single through lane is provided for travel in each direction along Peak Downs Highway through the two intersections.

Channelised right-turn lane and left-turn lane treatments are provided in Peak Downs Highway for vehicles entering IDM, with each turn lane being approximately 220 m long. Vehicles turning left into IDM must give way to those turning right into IDM. A single approach lane is provided in IDM Road, which is shared by vehicles turning left and right onto Peak Downs Highway.

Channelised right-turn lane and left-turn lane treatments are provided in Peak Downs Highway for vehicles entering IPM, with the left-turn lane being approximately 190 m long and the right-turn lane being approximately 210 m long. Vehicles turning left into IPM must give way to those turning right into IPM. A single approach lane is provided in IPM, which is shared by vehicles turning left and right onto Peak Downs Highway.

Figure 4.8: Peak Downs Highway and IDM Road Intersection



Figure 4.9: Peak Downs Highway and IPM Road Intersection



4.2.2 Peak Downs Highway, Maloney Street and Coppabella Road

The intersection of Maloney Street, Coppabella Road and Peak Downs Highway forms a four-way intersection, with Peak Downs Highway being the major road. The layout of the intersection is illustrated in Figure 4.10. A single through lane is provided for travel in each direction along Peak Downs Highway.

Channelised right-turn lane and auxiliary left-turn lane treatments are provided in Peak Downs Highway for vehicles entering the Civeo Coppabella and Maloney Street. The channelised right-turn lane for vehicles entering the Civeo Coppabella is approximately 200 m long, and the auxiliary left-turn lane is approximately 190 m long. The channelised right-turn lane for vehicles entering Maloney Street is approximately 100 m long, and the auxiliary left-turn lane is approximately 55 m long. Vehicles turning right into the minor roads must give way to those turning left into the minor roads. A single approach lane is provided in both Coppabella Road and Maloney Street, which is shared by vehicles turning left and right onto Peak Downs Highway.

Figure 4.10: Peak Downs Highway, Maloney Street and Coppabella Road Intersection



4.2.3 Peak Downs Highway and Moranbah Access Road

Moranbah Access Road intersects with Peak Downs Highway at a priority-controlled seagull intersection, as illustrated in Figure 4.11. It has an auxiliary left-turn lane approximately 190 m long and a channelised right-turn lane approximately 80 m long lane in Peak Downs Highway for vehicles entering Moranbah Access Road. The right turn lane length is constrained by the proximity of driveways for a service station on the northern side of Peak Downs Highway near the intersection. A single approach lane is provided in Moranbah Access Road, which is shared by vehicles turning left and right to Peak Downs Highway. Street lighting is provided at the intersection and along Peak Downs Highway near the intersection.

Figure 4.11: Peak Downs Highway and Moranbah Access Road Intersection



4.2.4 Peak Downs Highway and Peak Downs Mine Road

The intersection of Peak Downs Mine Road with Peak Downs Highway is a seagull intersection as illustrated in Figure 4.12. It has dedicated left and right turn deceleration lanes in Peak Downs Highway for vehicles entering Peak Downs Mine Road, and an acceleration lane for vehicles that have turned right from Peak Downs Mine Road. The channelised right-turn lane in Peak Downs Highway turning into Peak Downs Mine Road is approximately 220 m long, and the auxiliary left-turn lane is approximately 180 m long. The right-turn acceleration lane merges with the through traffic on Peak Downs Highway, with the merge taper ending approximately 620 m from Peak Downs Mine Road. A single approach lane is provided in Peak Downs Mine Road, which is shared by vehicles turning left and right onto Peak Downs Highway. Street lighting is provided at the intersection.

Figure 4.12: Peak Downs Highway and Peak Downs Mine Road Intersection



4.2.5 Peak Downs Mine Road and Eagle Downs Mine Access Road

The intersection of Peak Downs Mine Road with Eagle Downs Mine Road forms a priority controlled T-intersection. In Peak Downs Mine Road, a left-turn auxiliary lane approximately 150 m long, and a right-turn channelised turn lane approximately 165 m long are provided. Separate lanes are provided for left and right turns from Eagle Downs Mine Access Road, including a short left-turn lane and full length right-turn lane.

Figure 4.13: Peak Downs Mine Road and Eagle Downs Mine Road Intersection



4.3 Rail Network and Railway Level Crossings

The *Queensland Level Crossing Safety Strategy 2024-2033* (TMR, 2024a) sets out key actions and performance indicators with regard to its long term vision of zero harm at level crossings across Queensland. The strategy applies the “safe systems” approach, in which all aspects of the road-rail interface are geared to safety, and all parties, including both rail and road users are expected to contribute. The strategy identifies a wide range of initiatives, and the *Queensland Level Crossing Safety Action Plan 2024-2026* (TMR, 2024b) prioritises the key initiatives that will be pursued. The initiatives identified in the strategy include:

- promoting safe behaviour at rail level crossing;
- identifying opportunities to deliver lower-cost high impact emerging technology and innovative solutions;
- supporting the development of improved data and knowledge on level crossings; and
- increasing the coordination and sharing between these responsible for level crossing safety.

The Goonyella Rail System and Newlands System are within Aurizon's Central Queensland Coal Network (CQCN). They are owned and operated by Aurizon, and services the coal mines in the Bowen Basin. The Goonyella System carries product coal to the DBCT and Hay Point Coal Terminal at the Port of Hay Point. The Newlands System is connected to the Goonyella System at North Goonyella, and carries product coal to the NQXT at Abbot Point.

Peak Downs Highway crosses the Goonyella System at grade-separated crossings only, with no level crossings on Peak Downs Highway in the region. Goonyella Road crosses the Goonyella System at a grade-separated crossing north of Moranbah, which is not part of the primary road access routes for the Project. Peak Downs Mine Road crosses the single line Norwich Park Branch Railway (part of the Goonyella System) at an actively controlled level crossing with boom barriers and flashing lights, approximately 19 km from Peak Downs Highway to the south of Eagle Downs Mine Road, and is not on a primary road access route for the Project.

Road traffic generated by IPC and the Project does not travel through railway level crossings in the region, so this assessment does not consider the design or operation of railway levels crossings.

4.4 Road Network Planning

The *Queensland Transport and Roads Investment Program 2025-26 to 2028-29* (QTRIP) (TMR, 2025) details the current transport and road infrastructure projects that the Queensland government plans to deliver. A number of improvements are planned on the State and local road networks at locations in the vicinity of the Project or that may be used by Project-generated traffic, as summarised in Table 4.1. The improvements primarily relate to Peak Downs Highway.

Table 4.1: QTRIP Scheduled Works 2025-26 to 2028-29

Investment ID	Project Title	Notes
State Network		
3288847	Peak Downs Highway (Clermont – Nebo) Bee Creek bridge replacement and approaches upgrade, pre-construction	Planning mid-2025, further work is subject to finalisation of design
1197099	Peak Downs Highway (Clermont – Nebo) Millenium Coal Mine to Carborough Downs Coal Mine, construct overtaking lane	Construction start early 2026
3627787	Peak Downs Highway (Clermont - Nebo), west of Nebo, construct overtaking lane	Construction start 2026-27. The project is in the pre-business case stage, with scope, cost and timing subject to further planning and business case development, and consideration.
833566	Peak Downs Highway (Nebo – Mackay) Kirkup Bridge (Walkerston) upgrade timber bridge	Construction start 2026-27. The project has a business case, with scope, cost and timing subject to further project development and site investigations, and consideration.
Local Network		
2346598	Peak Downs Mine Road, rehabilitate pavement	Contractually committed investment

Source: QTRIP

The *State Infrastructure Strategy* (Department of State Development, Infrastructure, Local Government and Planning, 2022) outlines the Queensland Government's priorities for planning and prioritising their investment in the delivery of infrastructure over 20 years from 2022 to 2042. The Regional Infrastructure Plans support the State Infrastructure Strategy, and are being developed in consultation with regional stakeholders to help prioritise regionally significant infrastructure needs. The Project lies within the Greater Whitsunday region, for which the relevant Regional Infrastructure Plan has not yet been delivered. The plan will be developed in consultation with regional stakeholders (Department of State Development, Infrastructure and Planning, 2025).

4.5 Existing Traffic on State Controlled Roads

Data were obtained from TMR and the Queensland Government's Open Data Portal for the SCRs in the region of the Project that may be used by Project-generated traffic, which includes only Peak Downs Highway. The data available for 2023 and 2024 are summarised in Table 4.2 and Table 4.3, based on the Annual Average Daily Traffic (AADT) by direction, being the number of vehicles over 24 hours, averaged over a year. The table includes all segments of Peak Downs Highway, noting that not all segments are anticipated to be impacted by Project-generated traffic.

The data for Peak Downs Highway also provides information on the classification of vehicles as either light or heavy vehicles, based on the Austroads-94 Vehicle Classification System, which allocates 12 classifications to vehicles based on axle numbers and spacing. Under that system, light vehicles include motorcycles, cars, vans, four-wheel drives, and utilities (including

those towing a trailer or caravan), and heavy vehicles include single unit rigid trucks and buses, semi-trailers, rigid trucks with trailers, B-doubles and road trains.

Table 4.2 and Table 4.3 present the daily Standard Axle Repetitions (SARs) for the sealed portions of Peak Downs Highway, being a measure defining the cumulative damaging effect to the pavement of the design traffic, and is expressed in terms of the equivalent number of 80 kiloNewton (kN) axles on the pavement. As a granular pavement, the relevant load damage exponent for Peak Downs Highway is SAR4. The SARs on the sealed roads have been calculated based on the AADT and classification of vehicles described above, and applying the TMR default of 3.2 SAR4s per heavy vehicle that applied to all sealed roads with the exception of Bruce Highway (TMR, 2019b).

The data indicate that AADT volumes on Peak Downs Highway generally increase as the distance from Mackay decreases, with a notable increase in AADT east of Walkerston.

TPPP notes that the number and proportion of heavy vehicles reported on Peak Downs Highway varies, with review of the data suggesting that the classification of vehicles may be erroneous at some locations, e.g. between Moranbah Access Road and the Isaac Plains Complex in 2024, the data suggest there is 892 heavy vehicles per day travelling eastbound, and 315 heavy vehicles per day travelling westbound. This disparity between the number of heavy vehicles by direction is not evident in the 2023 data for the same road link.

Table 4.2: Summary of AADT and SAR on Peak Downs Highway 2023

SCR Segment	Length (km)	AADT With Gazetteal – Eastbound				AADT Against Gazetteal - Westbound			
		Light	Heavy	Total	SAR4	Light	Heavy	Total	SAR4
Gregory Highway, Clermont to Peak Downs Mine Road	89.1	186	97	283	310.4	202	77	279	246.4
Peak Downs Mine Road to Moranbah Access Road	1.3	1,648	374	2,022	1,196.8	1,462	458	1,920	1,465.6
Moranbah Access Road to Isaac Plains Mine Access Road	11.3	1,602	508	2,110	1,625.6	1,603	525	2,128	1,680.0
Isaac Plains Coal Mine Access Road to Coppabella	26.3	2,050	537	2,587	1,718.4	2,005	567	2,572	1,814.4
Coppabella to Fitzroy Developmental Road	21.4	1,359	671	2,030	2,147.2	1,384	635	2,019	2,032.0
Fitzroy Developmental Road to Oxford Downs Sarina Road	14.3	1,509	851	2,360	2,723.2	1,581	750	2,331	2,400.0
Oxford Downs Sarina Road to Nebo	14.6	1,657	677	2,334	2,166.4	1,878	432	2,310	1,382.4
Nebo to Blue Mountain Road	44.8	1,589	705	2,294	2,256.0	1,794	444	2,238	1,420.8
Blue Mountain Road to Eton Homebush Road	17.4	1,871	547	2,418	1,750.4	1,587	829	2,416	2,652.8
Eton Homebush Road to Camerons Road Walkerston	14.0	2,737	596	3,333	1,907.2	2,902	656	3,558	2,099.2
Camerons Road Walkerston to Mackay Eungella Road	5.4	4,795	557	5,352	1,782.4	5,375	774	6,149	2,476.8
Mackay Eungella Road to W of Mackay Ring Road	4.7	7,680	1,206	8,886	3,859.2	8,171	1,566	9,737	5,011.2
West of Mackay Ring Road to E of Mackay Ring Road	1.1	7,961	1,429	9,390	4,572.8	6,859	1,302	8,161	4,166.4
East of Mackay Ring Road to Bernborough Avenue	1.0	4,147	976	5,123	3,123.2	4,542	871	5,413	2,787.2
Bernborough Avenue to Bruce Highway, Mackay	0.8	4,953	593	5,546	1,897.6	5,340	770	6,110	2,464.0

Table 4.3: Summary of AADT and SAR on Peak Downs Highway 2024

SCR Segment	Length (km)	AADT With Gazetteal – Eastbound				AADT Against Gazetteal - Westbound			
		Light	Heavy	Total	SAR4	Light	Heavy	Total	SAR4
Gregory Highway, Clermont to Peak Downs Mine Road	89.1	155	135	290	433.2	162	122	284	389.0
Peak Downs Mine Road to Moranbah Access Road	1.3	1,511	442	1,953	1,415.5	1,376	503	1,879	1,609.6
Moranbah Access Road to Isaac Plains Mine Access Road	11.3	1,084	892	1,976	2,854.9	1,573	315	1,888	1,008.9
Isaac Plains Coal Mine Access Road to Coppabella	26.3	2,326	382	2,708	1,222.7	2,096	648	2,744	2,072.3
Coppabella to Fitzroy Developmental Road	21.4	1,842	307	2,149	983.4	1,597	416	2,013	1,330.8
Fitzroy Developmental Road to Oxford Downs Sarina Road	14.3	1,491	604	2,095	1,933.4	1,487	600	2,087	1,921.4
Oxford Downs Sarina Road to Nebo	14.6	1,964	400	2,364	1,279.2	1,687	666	2,353	2,130.1
Nebo to Blue Mountain Road	44.8	1,517	785	2,302	2,511.9	1,871	422	2,293	1,350.9
Blue Mountain Road to Eton Homebush Road	17.4	1,786	738	2,524	2,361.7	1,800	723	2,523	2,314.7
Eton Homebush Road to Camerons Road Walkerston	14.0	2,767	467	3,234	1,494.4	2,335	957	3,292	3,063.4
Camerons Road Walkerston to Mackay Eungella Road	5.4	4,597	696	5,293	2,225.6	5,085	598	5,683	1,913.1
Mackay Eungella Road to W of Mackay Ring Road	4.7	7,893	994	8,887	3,179.4	8,402	785	9,187	2,510.6
West of Mackay Ring Road to E of Mackay Ring Road	1.1	7,519	1,286	8,805	4,116.5	7,175	1,129	8,304	3,611.2
East of Mackay Ring Road to Bernborough Avenue	1.0	4,464	768	5,232	2,456.1	4,517	745	5,262	2,384.3
Bernborough Avenue to Bruce Highway, Mackay	0.8	4,391	1,268	5,659	4,058.2	4,679	1,005	5,684	3,215.8

4.6 Historic Traffic Growth on State Controlled Roads

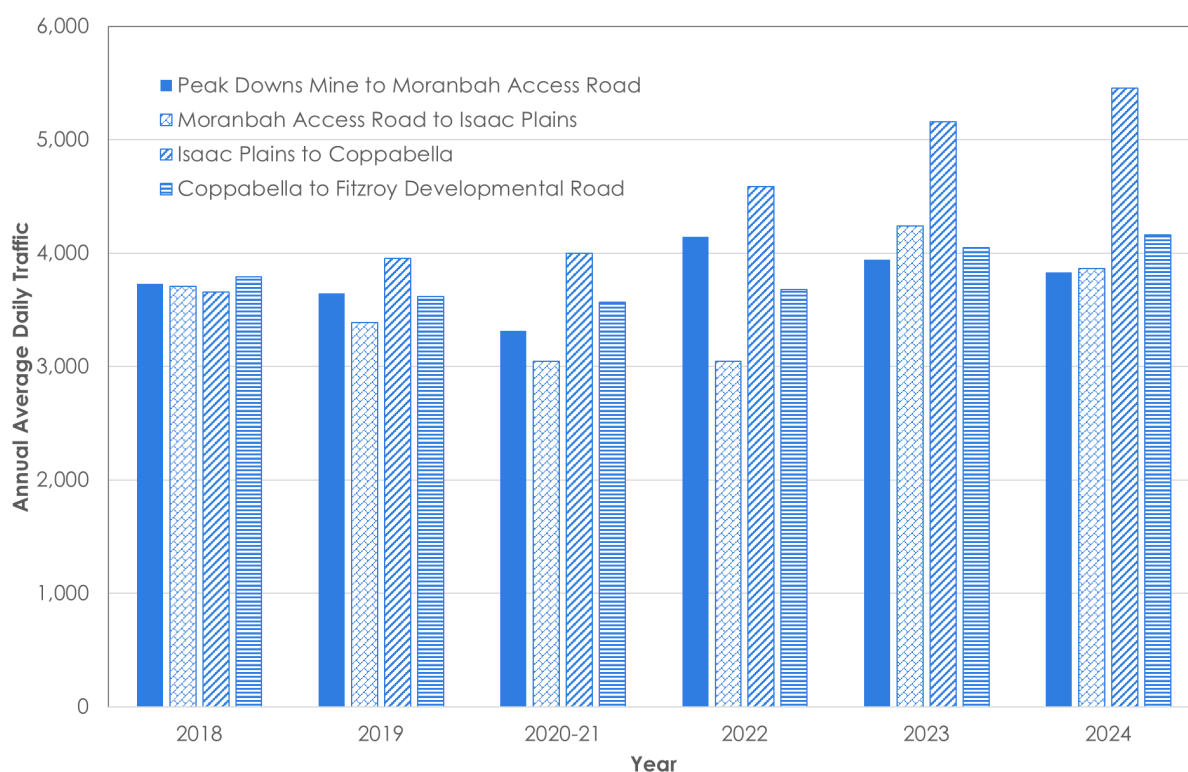
Table 4.4 summarises the available TMR data relating to the annual percent (%) growth in AADT by direction averaged over the past one, five and ten years to 2024 on all segments of Peak Downs Highway, noting that data was not available at some locations.

Table 4.4: Annual AADT Growth Rates on Peak Downs Highway to 2024 (%)

Segment of Peak Downs Highway	With Gazetted Eastbound			Against Gazetted Westbound		
	1 Year	5 Years	10 Years	1 Year	5 Years	10 Years
Gregory Highway, Clermont to Peak Downs Mine Road	2.47	0.42	0.24	1.79	0.12	0.09
Peak Downs Mine Road to Moranbah Access Road	-3.41	1.65	3.21	-2.14	1.18	2.74
Moranbah Access Road to Isaac Plains Mine Access Road	-6.35	4.16	5.04	-11.28	3.21	4.57
Isaac Plains Coal Mine Access Road to Coppabella	4.68	6.70	5.91	6.69	7.96	6.08
Coppabella to Fitzroy Developmental Road	5.86	4.43	4.53	-0.30	2.59	3.48
Fitzroy Developmental Road to Oxford Downs Sarina Road	-	-	-	-	-	-
Oxford Downs Sarina Road to Nebo	1.29	3.53	3.90	1.86	3.21	3.75
Nebo to Blue Mountain Road	0.35	2.11	2.69	2.46	2.77	2.76
Blue Mountain Road to Eton Homebush Road	4.38	3.33	3.61	4.43	3.51	3.07
Eton Homebush Road to Camerons Road Walkerston	-2.97	3.40	2.33	-7.48	4.03	2.63
Camerons Road Walkerston to Mackay Eungella Road	-1.10	3.52	2.35	-7.58	4.62	2.48
Mackay Eungella Road to W of Mackay Ring Road	0.01	2.83	1.71	-5.65	4.51	2.68
W of Mackay Ring Road to E of Mackay Ring Road	-6.23	-	-	1.75	-	-
E of Mackay Ring Road to Bernborough Avenue	2.13	2.82	1.53	-2.79	2.68	1.76
Bernborough Avenue to Bruce Highway, Mackay	2.04	2.28	1.28	-6.97	2.39	1.81

Table 4.4 shows that the average annual growth rates on Peak Downs Highway in the immediate vicinity of Moranbah and the IPC have varied substantially, which may be the result of local changes associated with one or more of the mines in the local region. To gauge the overall growth of traffic on Peak Downs Highway in the region, the two-way AADT on the lengths of Peak Downs Highway between Peak Downs Mine Road and Fitzroy Developmental Road are illustrated in Figure 4.14 for the period from 2018 to 2024, i.e. from prior to any influence of Covid-related traffic changes.

Figure 4.14: AADT on Peak Downs Highway 2018 to 2024



Across the four segments of Peak Downs Highway, the data presented in Figure 4.14 suggests traffic on Peak Downs Highway has grown at an average annual compound rate of 2.55 % since 2018.

4.7 Road Safety

Road crash data for roads of relevance to the Project have been reviewed for the five-year period from 1 January 2020 to 31 December 2024 (Queensland Government, 2025b). The data include information on location and characteristics of road traffic crashes reported to the police which resulted from the movement of at least one road vehicle on a public road or road related area, in which a person was killed or injured, or at least one vehicle was towed away. Table 4.5 summarises the general types of crashes reported on the roads of potential relevance to the Project.

Table 4.5: General Crash Types on Project Access Routes (2020 to 2024)

Route	Pedestrian	Adjacent Approaches ^A	Opposing Directions	Same Direction	Manoeuvring	Overtaking	On Path	Off Path on Straight	Off Path on Curve	Miscellaneous	Total
Peak Downs Highway (Clermont – Nebo)	1	1	6	11	2	1	2	13	15	-	52
- Gregory Highway to Peak Downs Mine Road	-	-	1	2	-	-	1	1	5	-	10
- Peak Downs Mine Road to Moranbah Access Road	-	-	-	-	-	-	2	-	-	-	2
- Moranbah Access Road to Isaac Plains Mine	-	-	-	2	-	1		1	-	-	4
- Isaac Plains Mine to Coppabella	-	-	2	1	1	-		4	1	-	9
- Coppabella to Fitzroy Developmental Road	-	-	2	5	1	-	1	2	2	-	13
- Fitzroy Developmental Road to Oxford Downs Sarina Road	1	-	1	-	-	-	-	1	5	-	8
- Oxford Downs Sarina Road to Nebo	-	1	-	1	-	-	-	2	2	-	6
Peak Downs Highway (Nebo – Mackay)	-	10	20	21	1	1	4	16	16	-	89
- Nebo to Blue Mountain Road	-	-	6	5	-	1	4	11	8	-	35
- Blue Mountain Road – Eton Homebush Road	-	-	3	1	-	-	-	2	3	-	9
- Eton Homebush Road to Walkerston	-	3	3	3	1	-	-	2	2	-	14
- North-East of Walkerston	-	1	8	12	-	-	-	1	3	-	31
Moranbah Access/Goonyella Road	-	4	1	4	-	-	2	4	4	-	19
- Peak Downs Highway to Mills Avenue	-	-	1	1	-	-	1	1	2	-	6
- Mills Avenue to Curtin Street	-	4	-	-	-	-	-	-	1	-	5
- Curtin Street to railway	-	-	-	2	-	-	-	1	-	-	3
- North-west of Railway	-	-	-	1	-	-	1	2	1	-	5
Peak Downs Mine Road	-	-	1	1	1	1	3	1	-	-	8
- Peak Downs Highway to Eagle Downs Mine Road	-	-	-	-	-	-	1	1	-	-	2
- Eagle Downs Mine Road to Peak Downs Mine	-	-	1	1	1	1	2	-	-	-	6
Total Crashes by Type	1	15	28	37	4	3	11	34	35	-	168

^A At intersections.

Table 4.6 summarises the severity of the reported crashes on the roads of relevance to the Project.

Table 4.6: Crash Severities (2020 to 2024)

	Fatal	Hospitalisation	Medical Treatment	Minor Injury
Peak Downs Highway (Clermont – Nebo)	4	34	9	5
- Gregory Highway to Peak Downs Mine Road	1	8	1	0
- Peak Downs Mine Road to Moranbah Access Road	0	2	0	0
- Moranbah Access Road to Isaac Plains Mine	0	2	1	1
- Isaac Plains Mine to Coppabella	0	4	4	1
- Coppabella to Fitzroy Developmental Road	2	9	0	2
- Fitzroy Developmental Road to Oxford Downs Sarina Road	1	5	1	1
- Oxford Downs Sarina Road to Nebo	0	4	2	0
Peak Downs Highway (Nebo – Mackay)	6	58	20	5
- Nebo to Blue Mountain Road	6	21	7	1
- Blue Mountain Road – Eton Homebush Road	0	7	2	0
- Eton Homebush Road to Walkerston	0	8	5	1
- North-East of Walkerston	0	22	6	3
Moranbah Access Road/Goonyella Road	1	12	3	3
- Peak Downs Highway to Mills Avenue	1	4	1	0
- Mills Avenue to Curtin Street	0	3	1	1
- Curtin Street to railway	0	1	0	2
- North-west of Railway	0	4	1	0
Peak Downs Mine Road	0	7	1	0
- Peak Downs Highway to Eagle Downs Mine Road	0	2	0	0
- Eagle Downs Mine Road to Peak Downs Mine	0	5	1	0
Total	11	111	33	13

The crash rate per million vehicle kilometres travelled (MVKT) has been estimated on Peak Downs Highway between Peak Downs Mine Road and Walkerston, as summarised in Table 4.7. The Project traffic is not expected to use Peak Downs Highway west of Peak Downs Mine Road. Considering the notable increase in AADT on Peak Downs Highway east of Walkerston, the Project's contribution to conditions on that part of Peak Downs Highway would be negligible.

Table 4.7: Peak Downs Highway Crash Rate per Million Vehicle Kilometres Travelled 2020-2024

	Two-Way AADT per Year					Length (km)	Crashes	Crashes per MVKT
	2020	2021	2022	2023	2024			
Peak Downs Mine Road to Moranbah Access Road	3,316	3,316	4,144	3,942	3,832	1.3	2	0.23
Moranbah Access Road to Isaac Plains Mine	3,044	3,044	3,044	4,238	3,864	11.3	4	0.06
Isaac Plains Mine to Coppabella	3,996	3,996	4,587	5,159	5,452	26.3	9	0.04
Coppabella to Fitzroy Developmental Road	3,565	3,565	3,681	4,049	4,162	21.4	13	0.09
Fitzroy Developmental Road to Oxford Downs Sarina Road	4,215	4,215	4,215	4,691	4,182	14.3	8	0.07
Oxford Downs Sarina Road to Nebo	4,062	4,062	4,311	4,644	4,717	14.6	6	0.05
Nebo to Blue Mountain Road	4,162	4,306	4,460	4,532	4,595	44.8	35	0.10
Blue Mountain Road to Eton Homebush Road	4,494	4,610	4,583	4,834	5,047	17.4	9	0.06
Eton Homebush Road to Walkerston	5,472	5,257	5,257	6,891	5,501	16.3	14	0.08

4.8 Public and Active Transport Infrastructure

There is no public transport access nor walking or cycling-specific infrastructure in the region for travel to and from the Project. Many of the mines in the region operate bus services for their workforce when travelling between the mine and local accommodation and towns, and when travelling between the local towns and airports such as Mackay and Moranbah.

As described in Section 2.3, Stanmore and its principal contractor provide shuttle bus services to transport the workforce between IPC and WAVs each day, and bus transfer services to transport DIDO and FIFO workers between Mackay and the WAVs at the start and end of roster periods. The shuttle bus and transfer bus services are tailored to meet the needs of the workforce, with seating capacity provided as required, and timing of services aligned with shift and roster requirements.

4.9 Project Traffic Surveys 2025

4.9.1 Traffic Survey Program

To quantify existing traffic conditions on routes of relevance to the Project to inform the assessment of Project impacts, a program of traffic surveys was commissioned. The surveys included automatic tube counts (ATC) over a two-week period from Wednesday 5 March 2025 to Tuesday 18 March 2025 inclusive at the following locations (refer to Figure 4.15):

1. IDM Road
2. IPM Road
3. Peak Downs Highway east of IPM Road
4. Peak Downs Highway west of IDM Road
5. Coppabella Road
6. Moranbah Access Road
7. Peak Downs Mine Road

To quantify the directional flow of traffic at key intersections and to assist calibration of the ATC counts against observations, surveys of vehicle turning movements by vehicle type were undertaken over 24 hours on Wednesday 5 March 2025 at the following intersections (refer to Figure 4.15):

- A. Peak Downs Highway and IDM Road
- B. Peak Downs Highway and IPM Road
- C. Peak Downs Highway, Coppabella Road and Maloney Street
- D. Peak Downs Highway and Moranbah Access Road
- E. Peak Downs Highway and Peak Downs Mine Road.

TPPP notes that due to their longer wheelbase, some four-wheel drives and utilities that are commonly used by workers and contractors in mining environments are identified by the ATCs as Class 3 (heavy) vehicles under the Austroads-94 Vehicle Classification System. These vehicles (such as Ford Rangers and Dodge RAM 1500 utilities) typically have a GVM below 4.5 t, and so are considered as light vehicles. Austroads has published an extended vehicle classification system which changes the wheelbase length boundary between Class 1 and Class 3 vehicles and indicates that the wheelbase threshold is expected to continue to shift.

The intersection turning movement survey visually classified vehicles as light, rigid or articulated, and direct comparison between the results of that survey with the ATC survey confirms that the ATC results based on Austroads-94 classification system overcount the number of rigid heavy vehicles and undercount the number of light vehicles. On this basis of the above, the surveyed vehicle classifications have been calibrated against the vehicle types observed during the intersection survey.

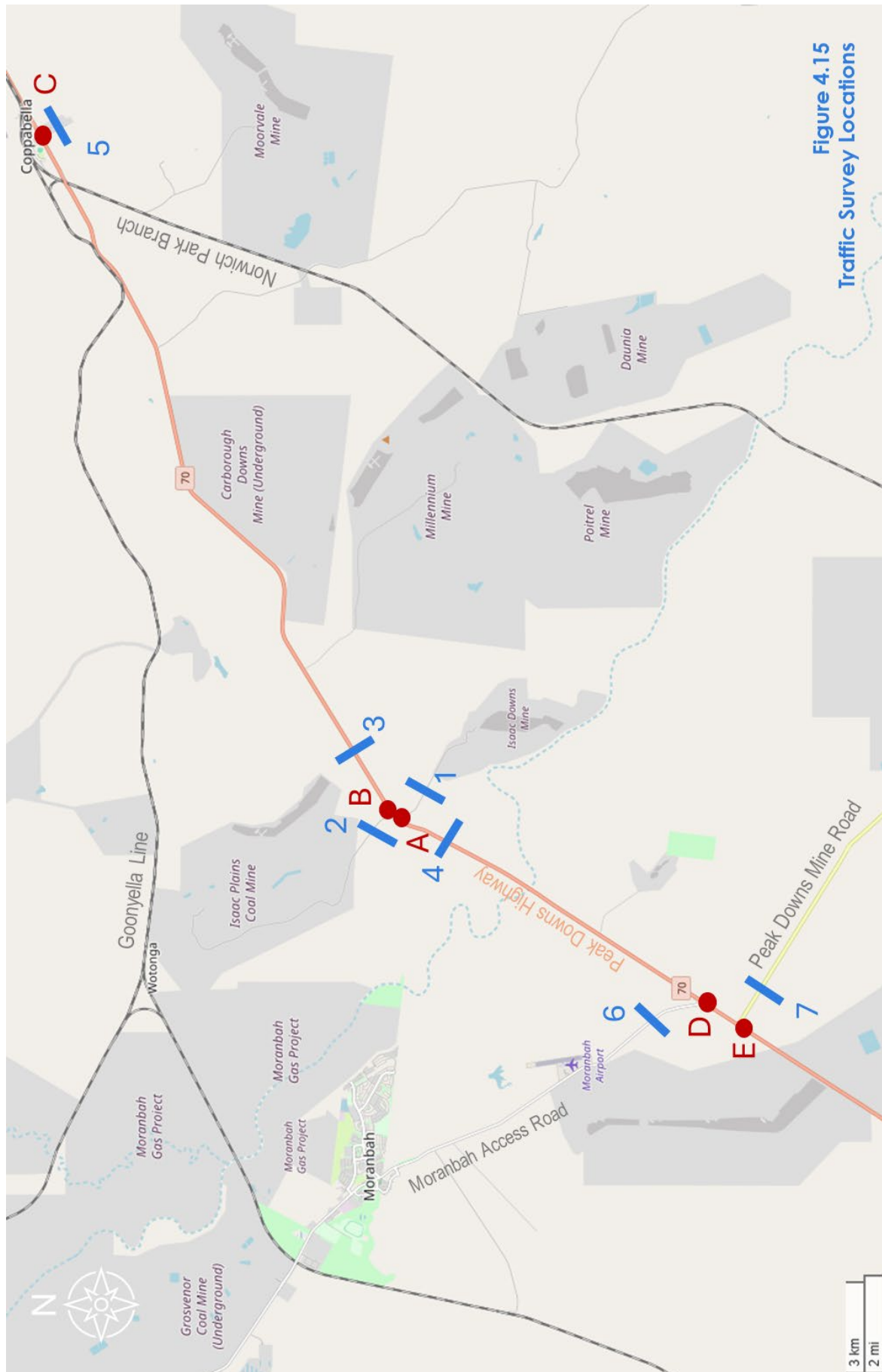


Figure 4.15
Traffic Survey Locations

4.9.2 Daily Traffic

The ATC surveys included the number and classification of vehicles based on the Austroads-94 Vehicle Classification System. Under that system, light vehicles (Classes 1 and 2) include motorcycles, cars, vans, 4-wheel drives (4WDs), and utilities (including those towing a trailer or caravan) with a wheelbase not more than 3.2 m. Heavy vehicles include single unit rigid trucks and buses with two, three or four axles and up to 14.5 m long (Classes 3 to 5), as well as articulated vehicles including semi-trailers and rigid trucks with trailers, B-Doubles and road trains where permitted (Classes 6 to 12).

The surveyed daily traffic volumes at the ATC locations are summarised in Table 4.8, and Table 4.9 presents the composition of traffic. Noting that the results in Table 4.8 display marked differences between weekday and weekend day traffic, Table 4.9 presents the traffic composition information separately for the average weekday, average weekend day, and average day across the survey period.

4.9.3 Peak Hour Traffic

The surveyed temporal distribution of traffic throughout the average day is presented in Figure 4.16, which shows the number of vehicles per hour on a rolling 15-minute basis throughout the average day at each of the ATC locations.

Figure 4.16: Surveyed Average Day Two-Way Hourly Traffic 2025

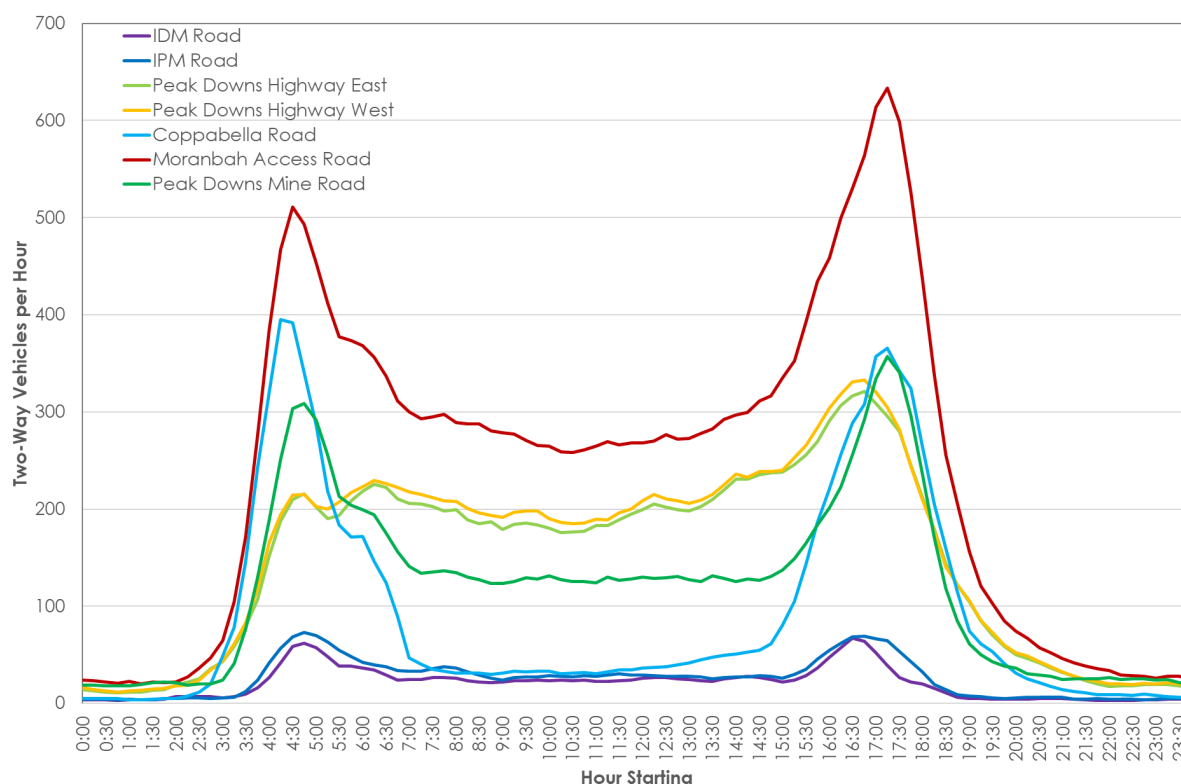


Table 4.8: Daily Traffic Volumes 2025 (vehicles per day)

Site ^A		Wed 5/3	Thu 6/3	Fri 7/3	Sat 8/3	Sun 9/3	Mon 10/3	Tue 11/3	Wed 12/3	Thu 13/3	Fri 14/3	Sat 15/3	Sun 16/3	Mon 17/3	Tue 18/3
1	IDM Road	581	556	480	401	399	506	523	587	534	483	466	445	502	530
2	IPM Road	664	586	561	472	440	636	769	851	690	661	538	476	616	675
3	Peak Downs Highway East	4,369	4,098	3,376	2,391	2,378	3,441	4,155	4,634	4,032	3,409	2,303	2,305	3,794	4,438
4	Peak Downs Highway West	4,623	4,370	3,475	2,484	2,426	3,612	4,175	4,713	4,202	3,555	2,367	2,406	3,937	4,534
5	Coppabella Road	2,653	2,184	1,805	1,620	1,698	2,324	2,580	2,939	2,484	1,937	1,738	1,805	2,414	2,671
6	Moranbah Access Road	7,283	6,391	5,444	4,102	4,164	5,880	6,752	6,910	6,435	5,885	4,009	3,991	6,081	7,248
7	Peak Downs Mine Road	3,731	3,338	2,637	2,090	2,017	2,906	3,295	3,441	3,282	2,847	2,002	2,047	3,107	3,642

^A Refer to Figure 4.15.

Table 4.9: Average Daily Traffic Composition 2025 (vehicles per day)

Site ^A		Weekday				Weekend				All Days			
		Light	Rigid	Articulated	Total	Light	Rigid	Articulated	Total	Light	Rigid	Articulated	Total
1	IDM Road	470	28	30	528	381	24	22	427	444	28	28	500
2	IPM Road	625	26	19	670	445	19	17	481	574	24	20	618
3	Peak Downs Highway East	3,363	255	356	3,974	2,018	108	219	2,345	2,979	213	317	3,509
4	Peak Downs Highway West	3,413	312	394	4,119	2,017	156	247	2,420	3,014	267	352	3,633
5	Coppabella Road	2,237	161	0	2,398	1,592	122	0	1,714	2,052	150	0	2,202
6	Moranbah Access Road	5,536	440	454	6,430	3,452	260	355	4,067	4,940	388	426	5,754
7	Peak Downs Mine Road	2,597	264	361	3,222	1,546	168	325	2,039	2,296	237	351	2,884

^A Refer to Figure 4.15.

Figure 4.16 highlights the very “peaky” nature of traffic demands on the public road network, with short and distinct peaks occurring in the early morning and early evening on several of the roads, with generally consistent volumes throughout the day between the peaks, and low volumes overnight.

The peak hours for vehicle demands at each of the ATC survey locations were identified from the survey results, and are summarised in Table 4.10 for the average day. The morning (AM) peak hour is the hour between midnight and midday during which the highest number of vehicle movements (both directions combined) was recorded at the survey location. The evening (PM) peak hour is the hour between midday and midnight during which the highest number of vehicle movements (both directions combined) was recorded at the survey location.

Table 4.10: Surveyed Average Day Peak Hourly Traffic 2025 (vehicles per hour)

Site ^A	Road	AM Peak Hour				PM Peak Hour			
		Hour Start	Light	Heavy	Total	Hour Start	Light	Heavy	Total
1	IDM Road	4:45	57	5	62	16:30	62	5	67
2	IPM Road	4:45	69	4	73	16:45	65	4	69
3	Peak Downs Highway East	6:15	190	35	225	16:45	293	27	320
4	Peak Downs Highway West	6:15	190	39	229	16:45	291	42	333
5	Coppabella Road	4:15	359	36	395	17:15	349	16	365
6	Moranbah Access Road	4:30	445	66	511	17:15	594	39	633
7	Peak Downs Mine Road	4:45	273	36	309	17:15	306	51	357

^A Refer to Figure 4.15.

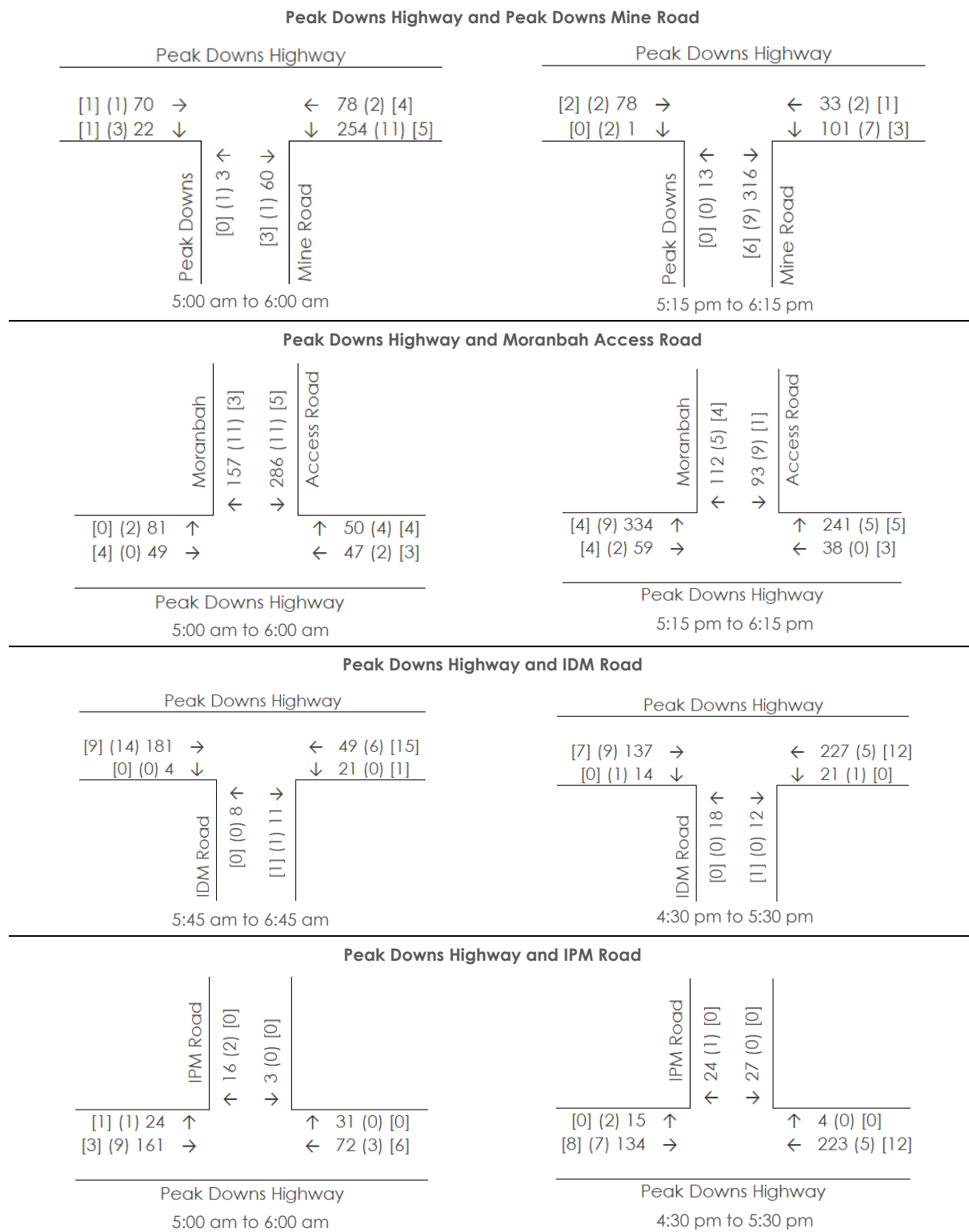
Table 4.10 indicates the relative dominance of Moranbah Access Road in the region, with peak hour demands of 511 and 633 vehicles per hour recorded during the morning and evening peak hours respectively.

4.9.4 Intersection Turning Movements

Detailed results from the intersection turning movement surveys are presented in Appendix A. Figure 4.17 illustrates the peak hourly vehicle turning movements at each of the surveyed intersections, inclusive of both light and heavy vehicles. The morning (AM) peak hour is the hour between midnight and midday during which the highest total number of vehicle movements combined was recorded at the surveyed intersection. The evening (PM) peak hour is the hour between midday and midnight during which the highest total number of vehicle movements combined was recorded at the surveyed intersection.

Figure 4.17: Peak Hour Intersection Survey Summary Results 5 March 2025

5 = light vehicles (5) = rigid heavy vehicles [5] = articulated vehicles



Peak Downs Highway and Coppabella Road

4:30 am to 5:30 am				5:00 pm to 6:00 pm			
Peak Downs		Maloney	Street	Peak Downs		Maloney	Street
[0] (1) 11	↑	← 50 (1) [0]	→	[0] (3) 46	↑	← 21 [0] [0]	→
[5] (6) 165	→	↓ 3 (1) [0]	←	[9] (9) 147	→	↓ 14 (1) [0]	←
[0] (1) 19	↓	↑ 15 [0] [0]	↓	[0] (4) 180	↓	↑ 18 [0] [0]	↓
Coppabella		Highway	Road	Coppabella		Highway	Road
[0] (21) 275	↑	↑ 2 (1) [0]	↓	[0] (9) 31	↑	↑ 29 (1) [1]	↓
[0] (0) 8	↑	← 54 (0) [10]	→	[0] (0) 8	↑	← 196 (6) [9]	↓
[0] (4) 101	↓	↓ 2 (0) [0]	↑	[0] (3) 44	↓	↓ 118 (3) [0]	↑

Comparison of the intersection survey day traffic demands compared with the other surveyed days (Table 4.8) indicates that the total traffic volumes recorded by the ATCs on the intersection survey day (Wednesday 5 March) were higher than the average day over the two-week survey period. This comparison is presented in Table 4.11.

Table 4.11: Comparison between Average Day and Intersection Survey Day Traffic Volumes

Site ^A	Road	Average Day (vehicles per day)	Intersection Survey Day 5 March 2025 (vehicles per day)	Intersection/Average Day Volume
1	IDM Road	500	581	116%
2	IPM Road	618	664	108%
3	Peak Downs Highway East	3,509	4,369	125%
4	Peak Downs Highway West	3,633	4,623	127%
5	Coppabella Road	2,202	2,653	120%
6	Moranbah Access Road	5,754	7,283	127%
7	Peak Downs Mine Road	2,884	3,731	129%

Table 4.11 suggests that the day on which the intersection surveys were conducted (5 March 2025) was a relatively busy day, with traffic volumes on that day being approximately 22 % above the average day volumes across the survey locations. On this basis, no adjustment to the intersection survey results have been made, noting they are considered to be an appropriately robust basis for assessing the Project.

4.10 Isaac Plains Complex Traffic

The 2025 traffic survey program quantifies the traffic generated by IDM and IPM, its distribution throughout the day, and directional distribution on Peak Downs Highway. The workforce at IDM and IPM during 2025 was approximately 524 personnel, as summarised in Table 4.12.

Table 4.12: IDM and IPM Workforce During 2025 Traffic Surveys

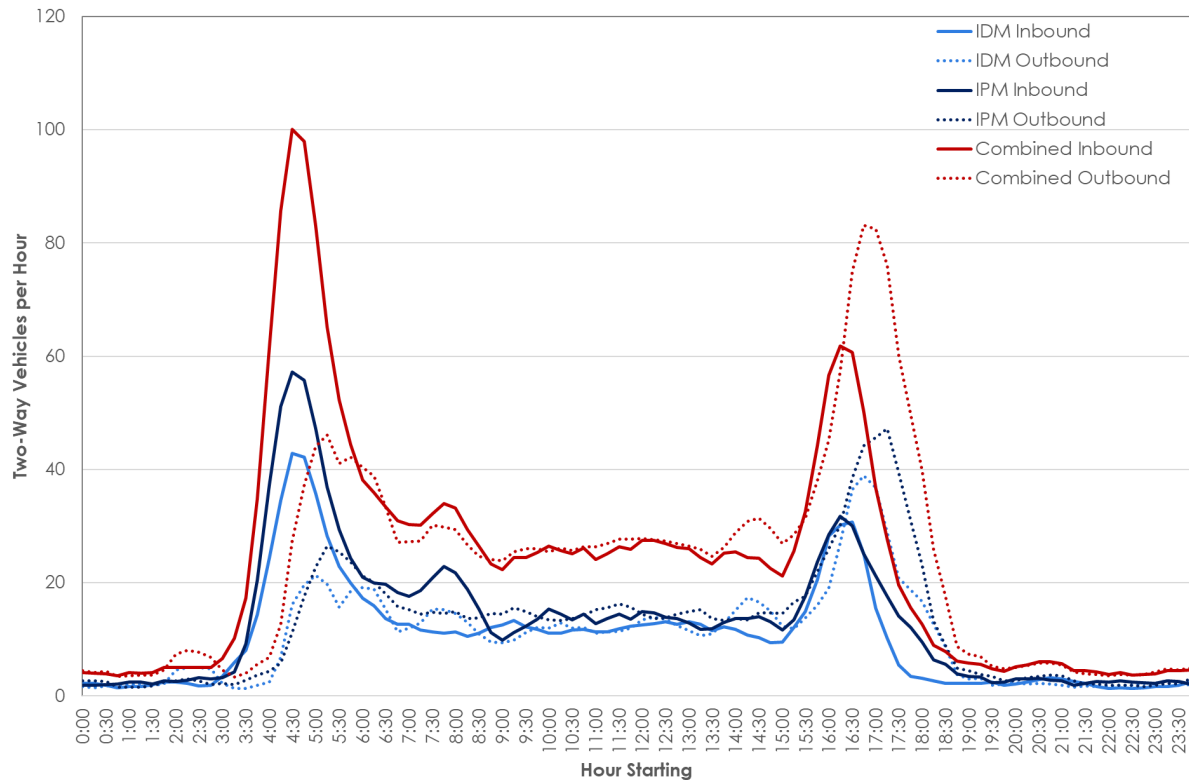
Residential Type	Personnel
Local	52
DIDO	398
FIFO	74
Total	524

4.10.1 Surveyed IPC Vehicle Movements

Figure 4.18 presents the surveyed hourly traffic generated by Isaac Downs Mine, Isaac Plains Mine and both combined throughout the average day. Figure 4.18 includes all vehicle movements recorded on the two access roads, with trips made directly between the two accesses counted on both roads. This illustrates the peaky nature of traffic generated by the mine, with short distinct peaks occurring in the morning and evening at shift change times, low generation through the daytime, and very low generation overnight.

The morning and evening peaks for two-way traffic generated by IPC (i.e. IPM Road and IDM Road combined) occur between 4:45 am and 5:45 am, and between 4:30 pm and 5:30 pm.

Figure 4.18: Surveyed Mine-Generated Average Day Two-Way Hourly Traffic 2025



Includes trips made between Isaac Downs Mine and Isaac Plains Complex

4.10.2 Distribution of IPC Trips

Review of the intersection turning movement surveys at the two access intersections on Peak Downs Highway provides information on the approach and departure directions of vehicles entering and exiting IDM and IPM. The intersection survey reveals that a significant proportion of vehicle movements recorded on IDM Road and IPM Road are the result of trips made directly between those two roads. This is demonstrated in Table 4.13 which presents the distribution recorded over the 24-hour period of the intersection surveys. These results indicate that the total number of trips generated on the public road network to the west of IDM Road and to the east of IPM Road is significantly less than the total number of trips recorded on the two access roads due to the “mine to mine” trips.

Table 4.13: Surveyed Distribution of Vehicle Arrivals and Departures on Mine Access Roads

	Vehicles per Day			
	Light	Rigid Heavy	Articulated	Total
IDM Road Outbound				
Total Left Turns	67	4	2	73
Total Right Turns	185	9	11	205
- to IPM Road (mine to mine)	132	4	5	141
- to Peak Downs Highway East of IPM Road	53	5	6	64
IDM Road Inbound				
Total Right Turns	64	6	3	73
Total Left Turns	196	9	12	217
- from IPM Road (mine to mine)	131	3	7	141
- from Peak Downs Highway East of IPM Road	65	6	5	76
IPM Road Outbound				
Total Left Turns	78	1	1	80
Total Right Turns	219	13	10	242
- to IDM Road (mine to mine)	131	3	7	141
- to Peak Downs Highway West of IDM Road	88	10	3	101
IPM Road Inbound				
Total Right Turns	71	1	1	73
Total Left Turns	237	10	8	255
- from IDM Road Mine to mine)	132	4	5	141
- from Peak Downs Highway West of IDM Road	105	6	3	114

Survey conducted Wednesday 5 March 2025

The contribution of the direct trips between IDM Road and IPM Road varied throughout the day, with a smaller proportion of overall trips being made between the two access roads during the morning and evening peak hours compared with the 24-hour day.

Review of the intersection survey results found that the articulated vehicle trips that were made between IDM Road and IPM Road were primarily made by water carting trucks, which are used for dust suppression on the access roads.

The number of deliveries of diesel and explosives are directly related to the level of mining activities at the IPC. Diesel is typically delivered in B-double tankers, and explosives are delivered in specialist vehicles similar to A-doubles. Consultation with Stanmore indicates that the number of diesel and explosives deliveries during the survey period was typical of current operating conditions at IPC. The external trips by articulated vehicles in Table 4.13 include:

- four deliveries of diesel fuel to IDM from the east, with vehicles departing to the east;
- one delivery of explosives to IDM from the east, with the vehicle departing to the east.

The remainder of external trips by articulated vehicles were deliveries of equipment and materials to IDM and IPM, with the vehicles observed to depart in the same direction from which they arrived.

The rigid heavy vehicle trips made between IDM Road and IPM Road were primarily deliveries such as potable water, parts, equipment, oils/grease, and other service vehicles. Over the average day, the external trips by rigid heavy vehicles in Table 4.13 included:

- three buses transporting workers to/from IDM which arrive from and depart to the east (Coppabella); and
- two buses transporting workers to/from IPM which arrive from and depart to the west (Moranbah).

The remainder of external trips by heavy rigid vehicles were deliveries of parts and equipment to IDM and IPM, with the vehicles observed to depart in the same direction from which they arrived.

Light vehicle trips made between IDM Road and IPM Road were primarily mining vehicles throughout the day, rather than private passenger vehicles during the peak periods for movement of the workforce to and from the IPC.

4.10.3 Average Day IPC Trip Generation

The results of the ATC and intersection surveys have been used to estimate the distribution of IPC-generated vehicle trips over the average day under the current operating conditions in 2025. Table 4.14 summarises the peak hourly and daily traffic estimated to be generated by the IDM and IPM on an average day in 2025 and its direction of travel.

Table 4.14: Average Day IDM and IPM Trip Generation in 2025

	IDM Road					IPM Road				
	Light	Rigid ^A	Bus	Articulated	Total	Light	Rigid ^A	Bus	Articulated	Total
AM Peak Hour 4:45 am to 5:45 am (vehicles per hour)										
Inbound	38	2	1	1	42	52	1	1	1	55
from West	16	0	0	0	16	18	0	1	1	20
from East	20	2	1	1	24	33	1	0	0	34
from Mine ^B	2	0	0	0	2	1	0	0	0	1
Outbound	19	1	0	0	20	17	0	1	0	18
to West	7	0	0	0	8	13	0	1	0	14
to East	11	1	0	0	11	2	0	0	0	2
to Mine ^B	1	0	0	0	1	2	0	0	0	2
PM Peak Hour 4:30 pm to 5:30 pm (vehicles per hour)										
Inbound	28	3	0	0	31	28	1	1	1	31
from West	12	2	0	0	14	15	0	1	1	17
from East	12	1	0	0	13	6	0	0	0	6
from Mine ^B	4	0	0	0	4	7	1	0	0	8
Outbound	34	2	0	1	37	36	1	0	1	38
to West	19	1	0	0	19	12	0	0	1	13
to East	8	0	0	1	10	20	1	0	0	21
to Mine ^B	7	1	0	0	8	4	0	0	0	4
Average Daily (vehicles per day)										
Inbound	222	14	3	14	250	287	12	2	10	309
from West	54	5	0	2	61	94	7	2	3	104
from East	48	5	3	6	58	73	1	0	1	75
from Mine ^B	120	4	0	6 ^C	130	120	4	0	6 ^C	130
Outbound	222	14	3	14	250	287	12	2	10	309
to West	54	5	0	2	61	94	7	2	3	104
to East	48	5	3	6	58	73	1	0	1	75
to Mine ^B	120	4	0	6 ^C	130	120	4	0	6 ^C	130

^A Excludes buses.

^B Trips made between IDM Road and IPM Road (shaded) are included on both access roads in this table.

^C Water carting trucks for dust suppression.

Table 4.15 provides a summary of the surveyed trip generation of the IDM and IPM combined for an average day in 2025.

Table 4.15: Average Day IDM and IPM Combined Trip Generation Summary 2025

	Light Vehicles	Heavy Rigid ^A	Buses	Articulated	Total Vehicles
AM Peak Hour 4:45 am to 5:45 am (vehicles per hour)					
External trips	120	4	3	2	129
Mine-to-Mine trips	3	0	0	0	3
PM Peak Hour 4:30 pm to 5:30 pm (vehicles per hour)					
External trips	104	8	1	2	113
Mine-to-Mine trips	11	1	0	0	12
Daily (vehicles per day)					
External trips	538	26	10	24 (includes 8 trips for fuel deliveries and 2 trips for explosives deliveries)	598
Mine-to-Mine trips	240	8	0	12 (water trucks)	260

^A Excludes buses.

Mine-to-mine trips are trips made directly between IPM Road and IDM Road, external trips are trips with an origin or destination elsewhere.

5 Future Baseline Transport Demands

The traffic data obtained from TMR and collected during the Project traffic surveys (Section 4.5) does not include the effects of any planned new or expanded developments in the region which were not yet operating at the time of the data collection, or the effects of any planned changes to existing developments in the region. These projects and their potential effect on background traffic conditions unrelated to the Project are described below, together with forecast growth in background traffic that may occur regardless of specific developments in the region.

5.1 Isaac Plains Complex

As described in Section 2, without the Project, the workforce at IDM and IPM would decline to 264 personnel in 2028 H2 and thereafter, post operational rehabilitation activities are expected to employ between 20 and 40 personnel until 2043. The expected distribution of the baseline workforce during the assessment years is presented in Table 5.1.

Table 5.1: Baseline IDM and IPM Workforce by Residential Type in Assessment Years

Residential Type	2026 Personnel	2028 H2 Personnel	2034 Personnel	2048 Personnel
Operational Workforce				
Local	45	27	-	-
DIDO	342	166	-	-
FIFO	63	31	-	-
Subtotal	450	224	-	-
Rehabilitation Workforce				
Local	-	5	5	-
DIDO	-	29	21	-
FIFO	-	6	4	-
Subtotal	-	40	30	-
Total Personnel	450	264	30	-

5.1.1 Operational 2028 H2

It is reasonable to assume that the light vehicle trip generation in 2025 (refer to Table 4.14) is principally comprised of trips made by the workforce, such that changes to the size of the workforce would have a pro rata impact on the number of light vehicle trips generated. The effect of the forecast changes in workforce on the number of light vehicle trips generated during the peak hours and over the average weekday is summarised in Table 5.2. It is noted that for 2028 H2, the workforce includes some rehabilitation personnel (refer to Table 5.1), as

at that time, they would form only a small proportion of the total workforce, and would be expected to have similar travel characteristics as the operational workforce.

The existing bus services are timetabled to provide a bus for each shift change between IPM and Moranbah, and a bus for each shift change between IDM and Coppabella. While the number of workers is expected to decrease, it is anticipated that the bus service would continue to operate in a manner consistent with the existing operations. On this basis, there would be no change in the number of buses travelling to and from the IPC in 2028 H2 from those operating in 2025.

Table 5.2: Baseline IDM and IPM Operational Workforce External Trip Generation

	2025		2028 H2	
	Light Vehicles	Buses	Light Vehicles	Buses
Total Workforce (personnel)	524		264	
AM Peak Hour 4:45 am to 5:45 am (vehicle trips per hour)	120	3	61	3
PM Peak Hour 4:30 pm to 5:30 pm (vehicle trips per hour)	104	1	52	1
Daily (vehicle trips per day)	538	10	271	10

Excludes mine-to-mine trips made directly between IPM Road and IDM Road.

It is reasonable to assume that the estimated external heavy vehicle trip generation in 2025 (refer to Table 4.14) is principally comprised of delivery trips generated by the level of operational activity at the mine, such that changes to the level of activity would impact the number of heavy vehicle trips generated.

As observed during the traffic surveys, externally generated heavy vehicles trips were generated by deliveries of diesel, explosives, potable water and other general equipment and parts deliveries. Under baseline conditions in 2028 H2, the amount of prime waste generated at the IPC is forecast to decrease to approximately 20 % of the 2025 level. This would directly impact the demand for diesel and explosives, which would be expected to reduce to approximately 20 % of the 2025 level, i.e. from a combined average of five deliveries per day (four diesel and one explosives) to an average of one delivery per day.

The number of other general deliveries of equipment and parts, and service vehicles would also be expected to decline, although given the range of delivery and service vehicle trip types required during operational activities, and the likelihood that rehabilitation activities would also generate some demand for heavy vehicle movements that were not occurring during 2025, the decrease would not be to the same extent as expected for diesel and explosives. It is estimated that in 2028 H2, general deliveries would generate approximately 70 % of the trips surveyed during 2025.

Table 5.3 presents the estimated heavy vehicle deliveries expected to be generated by operational activity at the IPC under baseline conditions in 2028 H2. This demonstrates that the total number of heavy vehicle delivery trips per day is expected to decrease from the

existing average of 50 trips per day (25 inbound and 25 outbound) in 2025 to an average of 30 trips per day (15 inbound and 15 outbound) in 2028 H2.

Table 5.3: Baseline IDM and IPM Operational Heavy Vehicle External Trip Generation

	2025			2028 H2		
	Heavy Rigid	Diesel and Explosives	Other Articulated	Heavy Rigid	Diesel and Explosives	Other Articulated
AM Peak Hour 4:45 am to 5:45 am (vehicle trips per hour)	4	2	0	3	0	0
PM Peak Hour 4:30 pm to 5:30 pm (vehicle trips per hour)	5	1	2	4	0	1
Daily (vehicle trips per day)	26	10	14	18	2	10

Excludes mine-to-mine trips made directly between IPM Road and IDM Road.

The directional distribution of trips generated by IDM and IPM is not anticipated to be altered under baseline conditions. On this basis, Table 5.4 summarises the forecast peak hourly and daily operational traffic generation of IDM and IPM in 2028 H2. For the purpose of this assessment, it has been assumed that on a typical day, light and heavy vehicles travelling to/from the west would principally be to/from Moranbah, light vehicle trips to/from the east would be principally to/from Coppabella, while heavy vehicle trips to/from the east would principally be to/from Mackay.

Table 5.4: Baseline IDM and IPM Combined Trip Generation in 2028 H2

	AM Peak Hour (vehicles per hour)		PM Peak Hour (vehicles per hour)		Daily (vehicles per day)	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
Light Vehicles						
West (Moranbah)	17	10	14	16	75	75
East (Coppabella)	27	7	9	14	61	61
Total	44	17	23	30	136	136
Buses						
West (Moranbah)	1	1	1	0	2	2
East (Coppabella)	1	0	0	0	3	3
Total	2	1	1	0	5	5
Heavy Vehicles (excluding Buses)						
West (Moranbah)	1	0	2	1	7	7
East (Mackay)	1	1	1	1	8	8
Total	2	1	3	2	15	15

Excludes mine-to-mine trips made directly between IPM Road and IDM Road.

Under baseline conditions, the relative level of activity at IPM and IDM would continue to change over time, with a decline in demand on the IPM Road. It has been estimated that in 2028 H2, approximately 27 % of the workforce and general delivery vehicle trips would use the IPM Road and the balance would use the IDM Road. This reflects the forecast that approximately 27 % of the workforce would be related to the CHPP, haulage and administrative staff, with the balance being mining operational workers. Buses would continue to operate via the IDM Road and IPM Road, and fuel and explosives would continue to be delivered via the IDM Road.

With the reduction in the use of the IPM Road, a reduction in the number of “mine-to-mine” trips has also been assumed to occur. For light vehicles and rigid heavy vehicles, this reduction is assumed to be in proportion to the reduced use of the IPM Road by the workforce and deliveries respectively. There would be no reduction in the trips generated by the water carting trucks used for dust suppression. Table 5.5 and Table 5.6 summarise the forecast trips by direction using the IDM Road and IPM Road respectively under baseline conditions in 2028 H2.

Table 5.5: Baseline IDM Road Trip Generation in 2028 H2

	AM Peak Hour (vehicles per hour)		PM Peak Hour (vehicles per hour)		Daily (vehicles per day)	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
Light Vehicles						
West (Moranbah)	13	7	10	13	54	54
East (Coppabella)	20	7	8	10	45	45
Total	33	13	18	23	99	99
Buses						
West (Moranbah)	0	0	0	0	0	0
East (Coppabella)	1	0	0	0	3	3
Total	1	0	0	0	3	3
Heavy Vehicles						
West (Moranbah)	0	0	2	1	5	5
East (Mackay)	1	1	1	1	7	7
Total	1	1	3	2	12	12
Mine-to-Mine Trips						
Light Vehicles	1	1	2	2	27	27
Heavy Vehicles	0	0	1	1	16	16
Total	1	1	3	3	43	43

Table 5.6: Baseline IPM Road Trip Generation in 2028 H2

	AM Peak Hour (vehicles per hour)		PM Peak Hour (vehicles per hour)		Daily (vehicles per day)	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
Light Vehicles						
West (Moranbah)	4	3	4	3	21	21
East (Coppabella)	7	0	1	4	16	16
Total	11	4	5	7	37	37
Buses						
West (Moranbah)	1	1	1	0	2	2
East (Coppabella)	0	0	0	0	0	0
Total	1	1	1	0	2	2
Heavy Vehicles						
West (Moranbah)	1	0	0	0	2	2
East (Mackay)	0	0	0	0	1	1
Total	1	0	0	0	3	3
Mine-to-Mine Trips						
Light Vehicles	1	1	2	2	27	27
Heavy Vehicles	0	0	1	1	16	16
Total	1	1	3	3	43	43

5.1.2 Closure and Rehabilitation 2034

Should the Project not proceed, during closure and rehabilitation of IDM and IPM, the workforce of 30 personnel in 2034 has been assumed to work in two teams, so that half of the total personnel are present at the Project on any one day. Closure and rehabilitation activities would typically occur during daytime only, assumed to be between 6:00 am and 6:00 pm seven days per week. The workforce would arrive prior to 6:00 am and depart after 6:00 pm.

Without the Project, the provision of dedicated bus services for the relatively small workforce may not be practical. As a conservatively high assessment of future trip generation, it is assumed that the closure and rehabilitation workforce would drive to and from the site each day, with an average of 1.2 people per vehicle. These would typically be light vehicles, including passenger cars, 4WDs, vans, and utilities.

Table 6.12 summarises the vehicle trips expected to be generated by the IDM and IPM rehabilitation workforce during 2034 should the Project not proceed.

Table 5.7: Baseline Rehabilitation IDM and IPM Workforce Trip Generation 2034

Time of Day	To/from Coppabella		To/from Moranbah		Total	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
5:30 am to 6:00 am	3	-	10	-	13	-
6:00 pm to 6:30 pm	-	3	-	10	-	13
Daily Total	3	3	10	10	13	13

Direction of travel is relative to the Project.

Closure and rehabilitation activities would generate heavy vehicles for decommissioning of infrastructure and removal of waste from the site. For the purpose of this assessment, it has been assumed that during the assessment year 2034, an average of two heavy vehicles would travel to and from the IPC each day, generating four vehicle trips per day. Trips would be spread throughout the day and would typically be expected to be sourced from either Moranbah or Mackay.

Rehabilitation activities would occur across both the IDM and IPM, with the proportion of generated traffic using the IDM Road and IPM Road potentially changing frequently. It has been assumed that (indicatively) approximately 25 % of generated trips would use the IPM Road, and 75 % would use the IDM Road. With the reduction in the use of the IPM Road, a reduction in the number of "mine-to-mine" trips has also been assumed to occur, in proportion to the reduced use of the IPM Road. The resulting forecast trip distribution during rehabilitation activity in 2034 is summarised in Table 5.8.

Table 5.8: Baseline IDM Road and IPM Road Trip Generation in 2034

	AM Peak Hour (vehicles per hour)		PM Peak Hour (vehicles per hour)		Daily (vehicles per day)	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
IDM Road – Light Vehicles						
West (Moranbah)	7	0	0	7	7	7
East (Coppabella)	2	0	0	2	2	2
Total	9	0	0	9	9	9
IDM Road – Heavy Vehicles						
West (Moranbah)	0	0	0	0	0	0
East (Mackay)	1	0	0	1	1	1
Total	1	0	0	1	1	1
IPM Road – Light Vehicles						
West (Moranbah)	3	0	0	3	3	3
East (Coppabella)	1	0	0	1	1	1
Total	4	0	0	4	4	4
IPM Road – Heavy Vehicles						
West (Moranbah)	1	0	0	1	1	1
East (Mackay)	0	0	0	0	0	0
Total	1	0	0	1	1	1
Mine-to-Mine Trips						
Light Vehicles	0	0	0	0	1	1
Heavy Vehicles	0	0	0	0	0	0
Total	0	0	0	0	1	1

5.1.3 Post-Mining 2048

Under baseline conditions in 2048, IDM and IPM would have ceased operations, and closure and rehabilitation activities would have ceased. The IDM and IPM would therefore generate no traffic under baseline conditions in 2048.

5.2 Developments in the Region

5.2.1 Eagle Downs Mine

Stanmore owns the Eagle Downs project (the future Eagle Downs Mine), an approved but currently undeveloped metallurgical coal mine located south of Peak Downs Highway and accessed via Peak Downs Mine Road and Eagle Downs Mine Access Road.

TTPP (2021) presents information on the estimated traffic movements generated by the Eagle Downs Mine as provided by South32, noting that a bus service would be provided to transport construction and operational workers between Eagle Downs Mine and the accommodation village in Moranbah. The estimated peak hourly and daily traffic expected to be generated at specific stages of Eagle Downs Mine are summarised in Table 5.9, noting that buses are included in the heavy vehicle forecasts.

Table 5.9: Eagle Downs Mine Traffic Generation

	Light Vehicles		Heavy Vehicles		Total Vehicles	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
Year 1 Construction and Initial Operation						
AM Peak ^A	96	11	17	6	113	17
PM Peak ^A	11	96	6	17	17	113
Daily ^B	218	218	65	65	283	283
Year 2 Construction and Operation						
AM Peak ^A	90	8	14	3	104	11
PM Peak ^A	8	90	3	14	11	104
Daily ^B	181	181	42	42	223	223
Year 8 Operational						
AM Peak ^A	80	5	11	1	91	6
PM Peak ^A	5	80	1	11	6	91
Daily ^B	143	143	22	22	165	165

^A vehicles per hour

^B vehicles per day

While timing of development of Eagle Downs Mine is subject to future investment decisions, for the purpose of this assessment, it is assumed that construction may commence in 2027, such that during the Project assessment years, Eagle Downs Mine would be operating as follows:

- 2028 H2 – Construction and Operation Year 2, generating traffic as shown in Table 5.9;
- 2034 – Operational Year 8, generating traffic as shown in Table 5.9; and
- 2048 – Operational, generating the same volume of traffic as Year 8 as shown in in Table 5.9.

The resulting contribution that the peak hourly and daily traffic assumed to be generated by Eagle Downs Mine would make on roads in the region is summarised in Appendix B.

5.2.2 Olive Downs Coking Coal Project

The Olive Downs Coking Coal Project (herein referred to as the Olive Downs Project) is an approved metallurgical coal mine located south-east of the Project, that commenced activities in 2023, with operations officially commencing in April 2024. It comprises the Olive Downs South mining domain, with vehicular access via Annandale Road – Daunia Road, and the Willunga mining domain, with vehicular access via Fitzroy Developmental Road. These access roads both intersect with Peak Downs Highway to the north-east of the Project.

GTA Consultants (2018 and 2019) assessed the road transport implications of the Olive Downs Project, and the trip generation forecasts were updated by TTPP (2021). Based on the forecasts prepared for a number of scenarios relating to the construction and operation of the Olive Downs Project, the total traffic generation of the Olive Downs Project (following initial construction of the Olive Downs South Domain which is now complete) is summarised in Table 5.10.

Table 5.10: Olive Downs Project Traffic Generation Forecasts

	Light Vehicles		Heavy Vehicles		Total Vehicles	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
Olive Downs South Domain Operations from Year 3 (workforce 960)						
AM Peak ^A	168	116	3	3	171	119
PM Peak ^A	116	168	0	0	116	168
Daily ^B	357	357	10	10	367	367
Willunga Domain Construction in Year 9 (workforce 200)						
AM Peak ^A	42	42	12	12	54	54
PM Peak ^A	42	42	3	3	45	45
Daily ^B	106	106	54	54	160	160
Willunga Domain Operations from Year 10 (workforce 340)						
AM Peak ^A	61	42	3	3	64	45
PM Peak ^A	42	61	0	0	42	61
Daily ^B	129	129	6	6	135	135

^A vehicles per hour

^B vehicles per day

Quarterly worker numbers (Queensland Government, 2025c) indicate that at 31 March 2025, the workforce at the Olive Downs Complex was 795 personnel. The traffic surveys undertaken in March 2025 (Section 4.9) can therefore be expected to have captured traffic generated by a workforce of 795 personnel at Olive Downs Complex, which is approximately 83 % of the peak workforce expected at the Olive Downs South Domain.

For the purpose of this assessment, it is assumed that during the Project traffic survey and assessment years, Olive Downs Complex would be operating as follows:

- 2025 – Olive Downs South Domain operating at 83 % of demand shown in Table 5.10;
- 2028 H2 – Olive Downs South Domain operating at 100 % of demand shown in Table 5.10;
- 2034 – Olive Downs South Domain operating at 100 % of demand shown in Table 5.10, and Willunga Downs Domain under construction at 100 % of demand shown in Table 5.10;
- 2048 – Olive Downs South Domain operating at 100 % of demand shown in Table 5.10, and Willunga Downs Domain operating at 100 % of demand shown in Table 5.10.

On this basis, the resulting contribution that the peak hourly and daily traffic assumed to be generated by Olive Downs Project would make on roads in the region is summarised in Appendix B.

5.2.3 Winchester South Project

The Winchester South Project is a currently undeveloped open cut mine including a CHPP, train load-out facility and rail spur, located approximately 30 km south of Moranbah. Vehicular access is proposed via both Winchester Access Road and a new access road from Eagle Downs Mine Access Road during the initial six months of the construction period. Thereafter, all vehicular access would be via the new access road from Eagle Downs Mine Road only. TTPP (2021) presents forecasts of traffic generation of the Winchester South Project during key stages of its construction and operation. These are summarised in Table 5.11.

Table 5.11: Winchester South Project Trip Generation

	Workforce Cars		Workforce Buses		Deliveries		Visitors		Total	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
Initial Construction (Year 1 Months 1 to 6) Access via Eagle Downs Mine Access Road										
AM Peak ^A	4	0	1	0	1	0	1	1	7	1
PM Peak ^A	0	2	1	0	0	1	1	1	2	4
Daily ^B	7	7	2	2	8	8	12	12	29	29
Initial Construction (Year 1 Months 1 to 6) Access via Winchester Access Road										
AM Peak ^A	15	0	2	1	2	1	3	1	22	3
PM Peak ^A	0	9	2	1	1	2	1	3	4	15
Daily ^B	29	29	6	6	20	20	30	30	85	85
Initial Construction (Year 1 Months 7 to 12) Access via Eagle Downs Mine Access Road										
AM Peak ^A	36	0	4	2	10	5	15	7	65	14
PM Peak ^A	0	22	4	2	5	10	7	15	16	49
Daily ^B	72	72	16	16	100	100	150	150	338	338
Construction and Initial Coal Production (Year 2) Access via Eagle Downs Mine Access Road										
AM Peak ^A	25	9	3	3	7	3	10	4	45	19
PM Peak ^A	9	15	3	2	3	7	4	10	19	34
Daily ^B	65	65	13	13	68	68	98	98	244	244
Peak Operations (Year 8) Access via Eagle Downs Mine Access Road										
AM Peak ^A	16	32	2	4	0	0	0	0	18	36
PM Peak ^A	32	8	4	1	1	3	1	3	38	15
Daily ^B	81	81	9	9	30	30	30	30	150	150

Source TTPP (2021)

^A Vehicles per hour.

^B Vehicles per day.

While timing of development of Winchester South Project is subject to obtaining final approval, for the purpose of this assessment, it is assumed that construction of Winchester South Project may commence in the near future, such that during the Project assessment years, Winchester South Project would be operating as follows:

- 2028 H2 – construction and initial operations, generating total traffic as shown in Table 5.11 for Year 2;
- 2034 – peak operations, generating traffic as shown in Table 5.11 for Year 8;
- 2048 – peak operations, generating traffic as shown in Table 5.11 for Year 8.

On this basis, the resulting contribution that the peak hourly and daily traffic assumed to be generated by the Winchester South Project would make on roads in the region is summarised in Appendix B.

5.2.4 Peak Downs Mine Continuation Project

Peak Downs Mine is an existing, open cut metallurgical coal mine located approximately 30 km south-east of Moranbah, with vehicular access via an access road at the intersection of Peak Downs Mine Road and Saraji Road. The Peak Downs Mine Continuation Project is identified as a coordinated project going through the EIS process in late 2025, with the draft EIS yet to be submitted. It would involve continuation of open-cut mining operations at the existing Peak Downs Mine, producing up to 18 Mtpa of product coal for approximately 93 years, for steel production. It would also involve realignment of Peak Downs Mine Road and the associated rail level crossing. The peak total workforce would remain at the same level as the existing peak workforce.

Quarterly worker numbers (Queensland Government, 2025c) indicate that at 31 March 2025, the workforce at Peak Downs Mine was 2,660 personnel, and over the most recent 12-month period, has varied between 2,599 personnel (30 September 2025) and 2,697 personnel (31 December 2024). As the traffic surveys undertaken in March 2025 (Section 4.9) can be expected to have captured traffic generated by a workforce of approximately 2,660 personnel at Peak Downs Mine, and the workforce has fluctuated only slightly, it can therefore be anticipated that should the Peak Downs Continuation Project proceed, it would not result in any significant changes to traffic conditions on the surrounding road network compared with conditions captured during the traffic survey program. No allowance has therefore been made for changes to background traffic conditions related to activity at Peak Downs Mine over the life of the Project.

5.2.5 Moranbah South Project

The Moranbah South Project is mining operation that is not yet approved and has not yet commenced. It includes the construction and operation of an underground coal mine on a greenfield site located to the south of Moranbah, extracting up to 18 Mtpa of ROM coal. Vehicular access for the Moranbah South Project mining facilities is proposed via an access road off Moranbah Access Road. A WAV would be provided south of Moranbah, which would be accessed via an access road off Moranbah Access Road. A rail line would be extended from the Blair Athol Branch of the Goonyella System, into the site, crossing Moranbah Access Road at a road overpass located to the north of Moranbah Airport.

As there is no certainty whether the Moranbah South Project will be developed in the future, and timing if it does proceed, this assessment has assumed that it would not be developed within the life of the Project. No allowance has been made for changes to background traffic conditions that may occur should it proceed.

5.2.6 Millenium Complex

Stanmore owns the Millennium Complex, located approximately 20 km south-east of Moranbah, and adjacent to Poitrel Mine. It consists of two mining areas, the Mavis Downs area and the Millennium area, which together form a single operational project. It shares access to the Red Mountain CHPP, and coal loading and transport infrastructure, with coal transported to the DBCT via the Norwich Branch of the Goonyella System.

Operations at the Millenium open pit ceased in 2023, and operations at Mavis Underground ceased in 2024. The Millenium underground mine may be developed in the future, however as there is no certainty as to whether it will be developed, or timing should it proceed, this assessment has assumed that it would not be developed within the life of the Project. No allowance has been made for changes to background traffic conditions that may occur.

5.3 Background Growth

As discussed in Section 4.6, traffic volumes on Peak Downs Highway in the immediate vicinity of the IPC and Moranbah have fluctuated significantly in recent years. It is expected that this may be the result of changes in the level of activity at one or more mines in the region, with the short-term increases and decreases experienced at specific locations being unlikely to be sustained over time.

As discussed in Section 5.2, this assessment separately considers the future influence that major developments are expected to have on traffic volumes. To gauge the overall level of traffic growth over time, over the period from 2018 to 2024, (i.e. since prior to potential Covid impacts), traffic growth on Peak Downs Highway between Peak Downs Mine Road and Fitzroy Developmental Road has occurred at an average annual compound rate of 2.55 % per annum. For the purpose of this assessment, an annual growth rate of 2.55 % per annum (compound) has been adopted and applied to background traffic.

5.4 Total Future Baseline Traffic Volumes

Table 5.12 to Table 5.14 summarise the forecasts of baseline average daily and peak hourly traffic on the roads in the region. These forecasts include the cumulative impacts of background growth above the existing volumes and changes to traffic anticipated as a result of the changes to developments in the region as described above. The peak hours refer to the peak hours related to the Project's activities, and the forecasts contained in Table 5.13 and Table 5.14 assume that the peak hours for trips generated by all major developments would coincide with the Project's peak hours.

Table 5.12: Future Base Daily Traffic (vehicles per day)

Road and Location	2028 H2				2034				2048			
	North or Eastbound		South or Westbound		North or Eastbound		South or Westbound		North or Eastbound		South or Westbound	
	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
IDM Road	135	29	135	29	10	1	10	1	0	0	0	0
IPM Road	69	22	69	22	5	1	5	1	0	0	0	0
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	1,289	1095	1,289	1,095	1,390	1,196	1,390	1,196	1,921	1,718	1,921	1,718
Peak Downs Highway Moranbah Access Road to IDM Road	1,692	377	1,618	458	1,950	358	1,865	452	2,669	537	2,548	671
Peak Downs Highway IDM Road to IPM Road	1,719	396	1,686	394	1,946	359	1,908	356	2,669	537	2,616	534
Peak Downs Highway IPM Road to Daunia Road	1,671	369	1,659	376	1,919	348	1,905	355	2,635	523	2,616	534
Peak Downs Highway Daunia Road to Coppabella	1,627	302	1,620	309	1,876	325	1,866	332	2,592	456	2,577	467
Peak Downs Highway Coppabella to Fitzroy Developmental Road	1,347	312	1,290	270	1,646	337	1,568	238	2,267	436	2,159	365
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	1,104	477	1,206	284	1,260	574	1,403	355	1,771	741	1,941	430
Moranbah Access Road North of Peak Downs Highway	2,972	340	2,728	579	3,301	383	3,017	661	4,671	529	4,267	925
Coppabella Road South of Peak Downs Highway	1,057	84	1,057	84	1,143	99	1,143	99	1,619	138	1,619	138
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	1,542	453	1,579	416	1,685	450	1,728	407	2,341	656	2,401	596
Eagle Downs Mine Access Road (IDE Secondary Access) North of Peak Downs Mine Road	344	123	344	123	254	61	254	61	306	103	306	103

Table 5.13: Future Base AM Peak Hour Traffic (vehicles per hour)

Road and Location	2028 H2				2034				2048			
	North or Eastbound		South or Westbound		North or Eastbound		South or Westbound		North or Eastbound		South or Westbound	
	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
IDM Road	15	0	27	1	0	0	9	3	0	0	0	2
IPM Road	9	3	7	1	4	3	0	2	0	2	0	2
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	101	12	410	40	142	8	440	31	162	11	606	46
Peak Downs Highway Moranbah Access Road to IDM Road	150	25	74	23	190	23	97	18	244	33	116	31
Peak Downs Highway IDM Road to IPM Road	145	25	82	15	183	23	101	9	244	33	118	17
Peak Downs Highway IPM Road to Daunia Road	139	18	82	16	175	16	102	9	237	24	118	17
Peak Downs Highway Daunia Road to Coppabella	120	14	69	9	155	15	89	9	218	20	105	10
Peak Downs Highway Coppabella to Fitzroy Developmental Road	100	15	83	13	148	24	124	6	206	22	159	12
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	83	25	77	8	97	35	92	16	134	36	127	8
Moranbah Access Road North of Peak Downs Highway	95	10	474	77	134	13	518	86	145	15	707	115
Coppabella Road South of Peak Downs Highway	240	30	56	3	260	36	54	5	366	51	75	6
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	62	18	370	56	97	16	394	50	98	22	540	73
Eagle Downs Mine Access Road (IDE Secondary Access) North of Peak Downs Mine Road	126	24	20	9	95	13	38	5	116	21	17	7

Table 5.14: Future Base PM Peak Hour Traffic (vehicles per hour)

Road and Location	2028 H2				2034				2048			
	North or Eastbound		South or Westbound		North or Eastbound		South or Westbound		North or Eastbound		South or Westbound	
	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
IDM Road	28	3	22	5	9	1	0	0	0	0	0	0
IPM Road	10	2	8	2	0	2	4	1	0	2	0	0
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	270	42	159	23	285	37	211	22	381	51	259	30
Peak Downs Highway Moranbah Access Road to IDM Road	140	26	193	33	173	20	242	31	218	32	318	46
Peak Downs Highway IDM Road to IPM Road	145	26	201	26	175	21	245	20	218	32	332	29
Peak Downs Highway IPM Road to Daunia Road	144	23	200	24	179	18	242	19	222	28	332	29
Peak Downs Highway Daunia Road to Coppabella	128	16	181	21	161	16	223	19	207	21	313	26
Peak Downs Highway Coppabella to Fitzroy Developmental Road	114	20	144	18	168	18	196	13	218	23	275	21
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	95	28	135	20	112	32	157	21	155	38	219	25
Moranbah Access Road North of Peak Downs Highway	403	34	208	37	441	35	262	41	599	43	325	54
Coppabella Road South of Peak Downs Highway	140	22	132	3	147	26	136	3	208	36	188	4
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	232	49	130	27	241	46	177	25	319	63	211	35
Eagle Downs Mine Access Road (IDE Secondary Access) North of Peak Downs Mine Road	20	10	115	23	39	6	90	15	17	8	105	20

Project PM peak hour 4:30 pm to 5:30 pm.

5.5 Baseline Pavement Loading

The SARs generated by the IPC's heavy vehicles during its operational activities has been estimated from the existing vehicle classifications surveyed in 2025 on the IDM Road and IPM Road together. Half of the heavy vehicle trips in each direction have been assumed to be loaded to capacity, and half are unloaded. The weighted average SARs generated by operational activity at the IPC is therefore estimated as 2.424 SARs per heavy vehicle, as shown in Table 5.15.

Table 5.15: Average SAR4 per Heavy Vehicle – IPC Operational Heavy Vehicles

	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12
SAR4 per loaded vehicle ^A	2.98	3.57	4.09	4.43	5.02	5.61	4.93	6.3	8.34	11.75
SAR4 per unloaded vehicle ^A	0.539	0.499	0.46	0.6	0.56	0.52	0.51	0.53	0.55	0.58
Average SAR4 per vehicle (50 % loaded, 50 % unloaded)	1.76	2.03	2.28	2.52	2.79	3.06	2.72	3.42	4.44	6.16
Proportion of heavy vehicles (%)	25.6	16.5	10.0	1.3	6.1	3.1	25.9	10.3	1.3	0.0
Weighted SAR4 per heavy vehicle	2.42									

^A Source TMR (2019)

Table 5.16 summarises the daily SARs that are forecast to be generated on the surrounding road network by the IPC under baseline conditions. It is noted that this applies the weighted average SAR4 per heavy vehicle to all IPC-generated heavy vehicles, including the buses that transport the workers to and from Moranbah and Coppabella.

Table 5.16: IPC Base Daily SARs (SAR4 per day)

Road and Location	2028 H2		2034		2048	
	North or Eastbound	South or Westbound	North or Eastbound	South or Westbound	North or Eastbound	South or Westbound
IDM Road	50.82	50.82	2.42	2.42	0.00	0.00
IPM Road	33.88	33.88	2.42	2.42	0.00	0.00
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	0.00	0.00	0.00	0.00	0.00	0.00
Peak Downs Highway Moranbah Access Road to IDM Road	0.00	0.00	0.00	0.00	0.00	0.00
Peak Downs Highway IDM Road to IPM Road	21.78	21.78	2.42	2.42	0.00	0.00
Peak Downs Highway IPM Road to Daunia Road	48.40	48.40	4.84	4.84	0.00	0.00
Peak Downs Highway Daunia Road to Coppabella	24.20	24.20	2.42	2.42	0.00	0.00
Peak Downs Highway Coppabella to Fitzroy Developmental Road	24.20	24.20	2.42	2.42	0.00	0.00
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	16.94	16.94	2.42	2.42	0.00	0.00
Moranbah Access Road North of Peak Downs Highway	16.94	16.94	2.42	2.42	0.00	0.00
Coppabella Road South of Peak Downs Highway	21.78	21.78	2.42	2.42	0.00	0.00
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	19.36	19.36	2.42	2.42	0.00	0.00
Eagle Downs Mine Access Road North of Peak Downs Mine Road	2.42	2.42	0.00	0.00	0.00	0.00

Consistent with previous assessments of the major developments in the region, the contribution of the other developments outlined in Sections 5.2.1 to 5.2.6 to future SARs has been estimated assuming that the heavy vehicles generated by those developments are:

- 10 % Class 3 two-axle rigid trucks or buses;
- 10 % Class 4 three-axle rigid trucks or buses;
- 40 % Class 9 semitrailers; and
- 40 % Class 10 B-doubles.

Half of the heavy vehicle trips in each direction have been assumed to be loaded to capacity, and half are unloaded in both directions of travel. On this basis, the weighted average SARs generated by the major developments is 2.84 SARs per heavy vehicle, as shown in Table 5.17.

Table 5.17: Average SAR4 per Heavy Vehicle – Other Developments

	Class 3	Class 4	Class 9	Class 10
SAR4 per loaded vehicle ^A	2.98	3.57	4.93	6.30
SAR4 per unloaded vehicle ^A	0.539	0.499	0.515	0.53
Average SAR4 per vehicle (50 % loaded, 50 % unloaded)	1.76	2.03	2.72	3.42
Proportion of heavy vehicles (%)	10	10	40	40
Weighted SAR4 per heavy vehicle	2.84			

^A Source TMR (2019)

The SAR data provided by TMR for SCRs are calculated based on the TMR's default of 3.2 SAR4s per heavy vehicle. This default has therefore been applied to the background traffic. The resulting base SARs generated during the assessment years are presented in Table 5.18.

Table 5.18: Future Base Daily SARs (SAR4 per day)

Road and Location	2028 H2		2034		2048	
	North or Eastbound	South or Westbound	North or Eastbound	South or Westbound	North or Eastbound	South or Westbound
IDM Road	50.82	50.82	2.42	2.42	0.00	0.00
IPM Road	33.88	33.88	2.42	2.42	0.00	0.00
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	2754.03	2754.03	3098.69	3098.69	4634.69	4634.69
Peak Downs Highway Moranbah Access Road to IDM Road	960.78	1158.28	923.74	1166.04	1356.52	1723.62
Peak Downs Highway IDM Road to IPM Road	976.94	972.10	918.90	910.86	1339.66	1331.62
Peak Downs Highway IPM Road to Daunia Road	938.22	952.74	895.56	916.48	1309.14	1339.66
Peak Downs Highway Daunia Road to Coppabella	748.61	763.13	830.47	851.39	1244.05	1274.57
Peak Downs Highway Coppabella to Fitzroy Developmental Road	804.83	700.85	890.99	623.11	1085.90	889.49
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	1194.06	711.53	1497.30	930.09	2037.81	1189.00
Moranbah Access Road North of Peak Downs Highway	843.77	1438.61	986.87	1706.51	1458.05	2555.29
Coppabella Road South of Peak Downs Highway	181.50	181.50	185.56	185.56	185.56	185.56
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	1163.73	1071.85	1175.59	1064.51	1700.39	1534.91
Eagle Downs Mine Access Road North of Peak Downs Mine Road	348.09	348.09	172.63	172.63	172.63	172.63

6 Project Transport Demands

6.1 Construction Stage 2028 H2

6.1.1 Construction Workforce Daily Travel to/from Project

Construction activity at the Project would occur during daytime only, between 6:00 am and 6:00 pm seven days per week. The 150 construction personnel would work in three rotating teams of 50 personnel, working 13 days on and eight days off. On a typical day, approximately 100 construction personnel would be present at the Project. The expected residential distribution of those 100 personnel is summarised in Table 6.1. This assumes that DIDO and FIFO workers would be spread between the Coppabella and Moranbah WAVs consistent with the distribution of the existing DIDO and FIFO workforce.

Table 6.1: Project Peak Construction Stage Personnel (Rostered On)

	Moranbah Town	Moranbah WAVs	Coppabella WAV	Total Personnel
Local	12	0	0	12
DIDO	0	52	22	74
FIFO	0	10	4	14
Total	12	62	26	100

Construction personnel working at the Project on a typical day.

The majority of the non-local construction personnel present during the peak construction stage would be transported to and from the Project using shuttle buses, while a small proportion of workers may drive a light vehicle. It is estimated that 20 % of construction personnel residing in the WAVs and all construction personnel who are local residents would travel in light vehicles with an average of 1.2 people per vehicle.

As the construction hours would be similar to some operational shift times, the Project's construction and operational workforces may travel at similar times, and a dedicated bus service for the construction workforce would not necessarily be required. As a conservative assessment of the potential impacts of the Project however, it has been assumed that in addition to the buses used to transport the operational workforce, the demand for buses generated by the construction workforce would be met by providing buses with the capacity to transport the entire construction workforce. The seating capacity of buses would vary, and may include Coaster-type minibuses and/or larger coach-style buses. As a robust assessment of the potential impacts of the Project, it has been assumed that 22-seater minibuses would be used to transport the construction workforce.

Table 6.2 summarises the travel modes and number of vehicles required to transport the construction workforce.

Table 6.2: Project Peak Construction Workforce Travel Mode to/from Project

	Personnel by Mode		Vehicles	
	Bus	Light Vehicle	Bus	Light Vehicle
Moranbah Town	0	12	0	10
Moranbah WAVs	50	12	3	10
Coppabella WAV	21	5	1	5
Total	71	29	4	25

Construction personnel working at the Project on a typical day.

The buses would depart the Project after unloading construction workers in the morning, and would return to the Project before picking up construction workers in the evening. Inbound buses would arrive at the Project prior to 6:00 am and 6:00 pm, and outbound buses would depart the Project after 6:00 am and 6:00 pm. Table 6.3 summarises the trips forecast to be generated by the construction workforce on a typical day.

Table 6.3: Project Peak Construction Workforce Trip Generation to/from Project

Time of Day	To/from Coppabella		To/from Moranbah		Total	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
Light Vehicles						
5:30 am to 6:00 am	5	0	20	0	25	0
6:00 pm to 6:30 pm	0	5	0	20	0	25
Daily Total	5	5	20	20	25	25
Buses						
5:30 am to 6:00 am	1	0	3	0	4	0
6:00 am to 6:30 am	0	1	0	3	0	4
5:30 pm to 6:00 pm	1	0	3	0	4	0
6:00 pm to 6:30 pm	0	1	0	3	0	4
Daily Total	2	2	6	6	8	8

Direction of travel is relative to the Project.

6.1.2 Construction Deliveries

Initial construction activity for the Project would include construction of a bridge over the Isaac River to provide access to the project site. Levees would be constructed to protect the mine pits from 0.1 % annual exceedance probability (AEP) flood levels, with a levee approximately 5 km in length adjacent to the Isaac River, and a levee approximately 500 m in length adjacent to Cherwell Creek. A bridge over the Cherwell Creek would be constructed to provide the secondary Project access.

Stanmore has prepared indicative schedules of construction delivery requirements, summarised as follows:

- Isaac River Bridge Construction (8 months):
 - 32 B-double deliveries from Mackay;
 - 32 oversize semitrailer deliveries from Mackay; and
 - 347 concrete agitator deliveries from Moranbah.
- Levees and Gully Diversion (8 months):
 - 1,022 B-double deliveries from local quarries;
 - 2 semitrailer deliveries from Mackay; and
 - 21 concrete agitator deliveries from Moranbah.
- Cherwell Creek Bridge Construction (8 months):
 - 32 B-double deliveries from Mackay;
 - 32 oversize semitrailer deliveries from Mackay; and
 - 347 concrete agitator deliveries from Moranbah.

During the construction stage, it is anticipated that the bridge over Isaac River would be constructed first, followed by the levees and gully diversions, then the bridge over Cherwell Creek. While those activities are expected to occur in series, this assessment has assumed that some levee and gully diversion construction activities may overlap with those of construction of one of the bridges.

For the construction of levees and gully diversions, quarry material is expected to be sourced from Quarrico's Coolibah Quarry, which is located off Peak Downs Highway to the west of the Project. The transport of quarry materials, while the levees and gully diversions are under construction, would generate 1,022 B-double deliveries spread over a period of approximately six months. The demand for quarry materials would be reasonably consistent throughout that period, generating an average of approximately 40 deliveries per week, and six deliveries per day. To allow for potential overlap of construction activities, it has been assumed that deliveries of quarry materials for construction of the levees and gully diversions may occur during construction of one of the bridges.

The total of 411 deliveries forecast for construction of each bridge would occur over a period of approximately eight months, generating an average of approximately 13 deliveries per week, or fewer than two deliveries per day. The level of activity would however vary throughout the construction period, with peaks and troughs in deliveries expected to occur, e.g. the concrete deliveries (the principal generator of bridge construction deliveries) would only occur when concrete pours are actively occurring at specific stages of construction, so would not occur consistently across the whole construction period. The indicative construction schedule indicates that concrete deliveries would be required across 11 specific stages of bridge construction, with each stage requiring between four and 99 concrete

agitator deliveries. Assuming that the busiest stage for concrete deliveries would occur over a period of two weeks, this would generate an average of approximately seven concrete deliveries per day.

For the purpose of assessing the future operation of the road network, a “busy” construction day of deliveries has been adopted, which is summarised in Table 6.4, noting that these trips would not occur on each and every day of the Project construction stage. This includes an allowance for approximately four general construction deliveries per day in addition to those identified in the schedule, with half sourced from Moranbah and half from Mackay.

Table 6.4: Peak Project Construction “Busy” Day Deliveries

Source	Deliveries per Day	Vehicle Type
Moranbah	7	Concrete agitator
Moranbah	2	General ^A
Coolibah Quarry	6	B-double
Mackay	1	B-double
Mackay	1	Oversize semitrailer
Mackay	1	Semitrailer
Mackay	2	General ^A
Total	20	-

^A General construction deliveries would include a range of vehicles from small rigid trucks to B-doubles.

TTPP notes that the schedule's forecasts of concrete deliveries assume that concrete is transported to site from Moranbah in agitator trucks and poured, however it is understood that some components may instead be precast elements that are moved to the site, likely to be from Mackay. Should precast components be transported to site, the number of concrete deliveries to IDE from Moranbah would be below that estimated, and there would be additional deliveries from Mackay. The use of precast components would also alter the total number of deliveries required, depending on the size of the precast elements. As details are to be determined in future planning, this assessment adopts the number of concrete deliveries above, all of which are assumed to be sourced from Moranbah.

Construction deliveries would generally occur during the daytime and over the construction hours (6:00 am and 6:00 pm seven days per week), generating an average of two deliveries in any one hour on the “busy” day shown in Table 6.4. While delivery vehicles would be likely to arrive after the workforce has arrived each day, and depart before the workforce departs each day, to assess the potential impacts of the Project construction activity, it has been assumed that during the peak hours for the movement of the workforce to and from the Project, one delivery vehicle may arrive and depart from each of Moranbah, Coolibah Quarry and Mackay.

While details of suppliers have not yet been resolved, this assessment assumes that trucks travelling between Coolibah Quarry and the Project would travel via the Coolibah Quarry access road, Peak Downs Highway and IDM Road. Concrete agitator trucks travelling between Moranbah and the Project would travel via Goonyella Road, Moranbah Access Road, Peak Downs Highway and IDM Road. Delivery trucks travelling between Mackay and the Project would travel via Peak Downs Highway and IDM Road.

6.1.3 Vehicular Access for Construction Activities

All vehicles associated with construction activities would enter and exit the Project via IDM Road.

6.2 Operational Stage 2028 H2 and 2034

6.2.1 Operational Workforce Daily Travel to/from Project

Table 6.5 summarises the operational workforce at the Project during the operational assessment scenario years, together with the number of personnel associated with ongoing operational activity at the existing IDM and IPM, who would be present with the Project operational workforce (primarily in 2028). It is noted that this also includes the workforce associated with rehabilitation activities at IDM and IPM (Figure 3.3), who would travel as part of the overall “operational” workforce.

Table 6.5: Operational Workforce with the Project

	2028 H2	2034
Staff and Administration	50	51
Mining Operations	252	243
CHPP and Haulage	41	75
Post Operations Rehabilitation ^A	40	30
Total	383	399

^A Rehabilitation workforce for IDM and IPM.

As discussed in Section 5.1.1, it is reasonable to assume that the light vehicle trip generation surveyed in 2025 (refer to Table 4.14) is principally comprised of trips made by the workforce, such that changes to the size of the workforce would have a pro rata impact on the number of light vehicle trips generated.

The existing bus services are timetabled to provide a bus for each shift change between IPM and Moranbah, and a bus for each shift change between IDM and Coppabella. While the number of workers is expected to vary, it is anticipated that the bus service would continue to operate in a manner consistent with the existing operations, with no additional services required. On this basis, there would be no change in the number of buses travelling to and from the IDE from those operating in 2025.

The effect of the forecast changes in workforce on the number of vehicle trips generated during the peak hours and over the average day is summarised in Table 6.6.

Table 6.6: Operational Workforce Average Day Trip Generation

	2025		2028 H2		2034	
	Light Vehicles	Buses	Light Vehicles	Buses	Light Vehicles	Buses
Total Workforce (personnel)	524		383		399 ^A	
AM Peak Hour 4:45 am to 5:45 am (vehicles per hour)	120	3	88	3	92	3
PM Peak Hour 4:30 pm to 5:30 pm (vehicles per hour)	104	1	76	1	79	1
Daily (vehicles per day)	538	10	394	10	410	10

^A Includes 30 rehabilitation personnel for IDM and IPM.
Excludes mine-to-mine trips made directly between IPM Road and IDM Road.

6.2.2 Operational Deliveries

It is reasonable to assume that the estimated external heavy vehicle trip generation in 2025 (refer to Table 4.14) is principally comprised of delivery trips generated by the level of operational activity at the mine, such that changes to the level of activity would impact the number of heavy vehicle trips generated.

As observed during the traffic surveys, externally generated heavy vehicles trips were generated by deliveries of diesel, explosives, potable water and other general equipment and parts deliveries. With the Project, Stanmore forecasts that consistent with the baseline conditions (Section 5.1.1), the amount of diesel and explosives required in 2028 H2 would decrease below that required in 2025. The number of other general deliveries of equipment and parts, and service vehicles would also be expected to decline in 2028 H2 below that occurring in 2025 with the reduced production rate. It is therefore assumed that the number of heavy vehicle deliveries with the Project in 2028 H2 would be similar to that expected under baseline conditions in 2028 H2.

The amounts of diesel and explosives required at the Project would increase after 2028 H2 to a peak in 2034. With explosives transported in articulated vehicles with an average capacity of 50 t, the forecast 19,228 t of explosives required in 2034 would require an average of one load per day. With diesel transported in B-doubles with an average capacity of 50,000 l, the forecast 27 million litres of diesel required in 2034 would require an average of 1.5 deliveries per day. The combined transport of diesel and explosives would therefore be expected to require an average of 2.5 deliveries per day, generating five trips per day. To match the number of inbound and outbound trips on the average day, this assessment has assumed that diesel and explosives deliveries would generate six trips per day in 2034.

Consistent with existing operations at IPC, general heavy vehicle deliveries would include potable water, equipment and parts. Considering the range of delivery and service vehicle trip types required to support operational activities, the number of general deliveries is not expected to decrease to the same extent as expected for diesel and explosives. With the overall level of activity at the IDE being broadly consistent with current operations, it is estimated that in 2034, the number of general deliveries would generate the same number of trips as were surveyed during 2025.

Table 6.7 summarises the number of heavy vehicle trips expected to be generated by operational activity at the Project in 2028 H2 and 2034.

Table 6.7: Project Operational Heavy Vehicle Trip Generation

	2028 H2			2034		
	Heavy Rigid	Diesel and Explosives	Other Articulated	Heavy Rigid	Diesel and Explosives	Other Articulated
AM Peak Hour 4:45 am to 5:45 am (vehicles per hour)	3	0	0	4	1	0
PM Peak Hour 4:30 pm to 5:30 pm (vehicles per hour)	4	0	1	5	1	2
Daily (vehicles per day)	18	2	10	26	6	14

Excludes mine-to-mine trips made directly between IPM Road and IDM Road.

6.2.3 Vehicular Access for Operational Activities

With the Project, the relative level of operational activity at IPM and IDM would continue to change over time, with a decline in demand on the IPM Road. It has been estimated that with the Project in 2028 H2, approximately 23 % of the workforce and general delivery trips would use the IPM Road and the balance would use the IDM Road. This reflects the forecast that approximately 23 % of the workforce would be related to the CHPP, haulage and administrative staff, with the balance being mining operational workers. Buses would continue to operate via the IDM Road and IPM Road, and fuel and explosives would continue to be delivered via the IDM Road.

Similarly, with the Project in 2034, approximately 30 % of total Project-generated trips would use the IPM Road and the balance would use the IDM Road, reflecting the forecast that approximately 30 % of the workforce would be related to the CHPP, haulage and administrative staff, with the balance being mining operational workers. Buses would continue to operate via the IDM Road and IPM Road, and fuel and explosives would continue to be delivered via the IDM Road.

With the reduction in the use of the IPM Road, a reduction in the number of “mine-to-mine” trips has also been assumed to occur. For light vehicles and rigid heavy vehicles, this reduction is assumed to be in proportion to the reduced use of the IPM Road by the workforce and deliveries respectively. With reduced use of the IPM Road, there would be a similar reduction in the demand for the water carting trucks used for dust suppression.

Table 6.8 and Table 6.9 summarise the forecast trips by direction using the IDM Road and IPM Road in 2028 H2 and 2034 respectively.

Table 6.8: Operational Trip Generation in 2028 H2 with Project

	AM Peak Hour (vehicles per hour)		PM Peak Hour (vehicles per hour)		Daily (vehicles per day)	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
IDM Road – Light Vehicles						
West (Moranbah)	20	11	16	20	84	84
East (Coppabella)	31	9	11	15	70	70
Total	51	20	27	35	154	154
IDM Road – Buses						
West (Moranbah)	0	0	0	0	0	0
East (Coppabella)	1	0	0	0	3	3
Total	1	0	0	0	3	3
IDM Road – Heavy Vehicles						
West (Moranbah)	1	0	2	1	6	6
East (Mackay)	1	1	1	1	8	8
Total	2	1	3	2	13	13
IPM Road – Light Vehicles						
West (Moranbah)	5	4	4	3	24	24
East (Coppabella)	8	1	2	5	19	19
Total	13	4	6	8	43	43
IPM Road – Buses						
West (Moranbah)	1	1	1	0	2	2
East (Coppabella)	0	0	0	0	0	0
Total	1	1	1	0	2	2
IPM Road – Heavy Vehicles						
West (Moranbah)	0	0	0	0	1	1
East (Mackay)	0	0	0	0	0	0
Total	0	0	0	0	2	2
Mine-to-Mine Trips						
Light Vehicles	1	1	2	2	31	31
Heavy Vehicles	0	0	1	1	3	3
Total	1	1	3	3	34	34

Table 6.9: Operational Trip Generation in 2034 with Project

	AM Peak Hour (vehicles per hour)		PM Peak Hour (vehicles per hour)		Daily (vehicles per day)	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
IDM Road – Light Vehicles						
West (Moranbah)	20	10	16	20	81	81
East (Coppabella)	29	10	12	14	67	67
Total	48	20	27	34	148	148
IDM Road – Buses						
West (Moranbah)	0	0	0	0	0	0
East (Coppabella)	1	0	0	0	3	3
Total	1	0	0	0	3	3
IDM Road – Heavy Vehicles						
West (Moranbah)	1	0	2	2	9	9
East (Mackay)	2	1	1	2	10	10
Total	3	1	3	3	19	19
IPM Road – Light Vehicles						
West (Moranbah)	6	5	5	4	32	32
East (Coppabella)	11	0	2	7	25	25
Total	18	5	7	11	57	57
IPM Road – Buses						
West (Moranbah)	1	1	1	0	2	2
East (Coppabella)	0	0	0	0	0	0
Total	1	1	1	0	2	2
IPM Road – Heavy Vehicles						
West (Moranbah)	0	0	0	0	2	2
East (Mackay)	0	0	0	0	0	0
Total	0	0	0	1	2	2
Mine-to-Mine Trips						
Light Vehicles	1	1	2	2	42	42
Heavy Vehicles	0	0	1	1	4	4
Total	1	1	3	3	46	46

6.3 Closure and Rehabilitation Stage 2048

6.3.1 Workforce Daily Travel to/from Project

During closure and rehabilitation, the workforce has been assumed to work in two teams, so that half of the total personnel are present at the Project on any one day. On a typical day, approximately 25 rehabilitation personnel would be present at the Project. The expected residential distribution of those 25 personnel is summarised in Table 6.10. This assumes that DIDO and FIFO workers would be spread between the Coppabella and Moranbah WAVs consistent with the distribution of the existing DIDO and FIFO workforce.

Table 6.10: Project Rehabilitation Personnel (Rostered On) in 2048

	Moranbah Town	Moranbah WAVs	Coppabella WAV	Total Personnel
Local	3	0	0	3
DIDO	0	13	5	18
FIFO	0	3	1	4
Total	3	16	6	25

Rehabilitation personnel working at the Project on a typical day.

The personnel required during closure and rehabilitation activities would be significantly lower than required for operational activities, so provision of dedicated bus services for that workforce may not be practical. As a conservatively high assessment of future trip generation, it is assumed that the closure and rehabilitation workforce would drive to and from the Project each day, with an average of 1.2 people per vehicle, as shown in Table 6.11. These would typically be light vehicles, including passenger cars, 4WDs, vans, and utilities.

Table 6.11: Project Rehabilitation Workforce Travel Mode to/from Project in 2048

	Personnel by Mode		Vehicles	
	Bus	Light Vehicle	Bus	Light Vehicle
Moranbah Town	0	3	0	3
Moranbah WAVs	0	16	0	13
Coppabella WAV	0	6	0	5
Total	0	25	0	21

Rehabilitation personnel working at the Project on a typical day.

Closure and rehabilitation activities would typically occur during daytime only, assumed to be between 6:00 am and 6:00 pm seven days per week. The workforce would arrive prior to 6:00 am, and depart after 6:00 pm.

Table 6.12 summarises the vehicle trips expected to be generated by the rehabilitation workforce during 2048.

Table 6.12: Project Rehabilitation Workforce Trip Generation in 2048

Time of Day	To/from Coppabella		To/from Moranbah		Total	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
5:30 am to 6:00 am	5	-	16	-	21	-
6:00 pm to 6:30 pm	-	5	-	16	-	21
Daily Total	5	5	16	16	21	21

Direction of travel is relative to the Project.

6.3.2 Closure and Rehabilitation Deliveries

Closure and rehabilitation activities would generate heavy vehicles for decommissioning of infrastructure and removal of waste from the site. For the purpose of this assessment, it has been assumed that during the assessment year 2048, an average of two heavy vehicles would travel to and from the Project each day, generating four vehicle trips per day. Trips would be spread throughout the day, and would be sourced principally from Moranbah or Mackay.

During rehabilitation activities, deliveries would generally occur throughout the day, between 6:00 am and 6:00 pm seven days per week. While delivery vehicles would be likely to arrive after the workforce has arrived each day, and depart before the workforce departs each day, to assess the potential impacts of the Project construction activity, it has been assumed that during the peak hours for the movement of the workforce to and from the Project, one delivery vehicle may arrive and depart from each of Moranbah and Mackay.

6.3.3 Vehicular Access for Rehabilitation Activities

While minor use of the IPM Road may occur, all vehicles associated with rehabilitation activities are assumed to enter and exit the Project via IDM Road.

6.4 Secondary Project Access Road

A secondary access route to the Project would be provided between the Project and Stanmore's Eagle Downs project, utilising new and existing roads to connect with the Peak Downs Mine Road. The secondary access would not be used on a day-to-day basis by the workers or for deliveries, rather it would be used on an infrequent basis.

Workers would be unlikely to travel directly between their place of residence and the secondary access road, and deliveries are not expected to be made to or from the secondary access road. As its use would be very limited, the impact of the secondary access on typical day-to-day traffic conditions is expected to be negligible. Nevertheless, this assessment includes a nominal allowance for 10 light vehicle trips per day from the secondary

access road to IDM Road, and from IDM Road to the secondary access road during the Project's operational year scenarios in 2028 H2 and 2034.

6.5 DIDO and FIFO Roster Change Travel

Consistent with the current IPC operations, the Project's construction, operational and rehabilitation DIDO and FIFO workforces would travel to and from the region at the start and end of their roster periods. This travel would generate trips on the road network which are not directly to or from the Project site.

The traffic surveys conducted in March 2025 captured a typical week of traffic in the region, and so included traffic generated by the existing DIDO and FIFO workforce travelling to and from the region by bus and private vehicle. TTPP has considered the change in demand for travel to/from the region that would occur with the Project, compared with the conditions captured during the traffic surveys in 2025. Table 6.13 compares the number of personnel by type during the traffic survey period with the forecast number of personnel during the Project assessment years.

Table 6.13: Workforce by Residential Type

Residential Type	2025 ^A Operational	2028 H2 Construction	2028 H2 Operational ^B	2034 Operational ^B	2048 Rehabilitation
Local	52	18	46	52	7
DIDO	398	111	283	291	36
FIFO	74	21	54	56	7
Total	524	150	383	399	50

^A During traffic surveys.

^B Includes rehabilitation personnel for IDM and IPM.

During 2028 H2, the DIDO and FIFO construction workers from each of the three construction teams would depart the region at the end of their 13 days rostered on, and return to the region at the end of their eight days off. With three rotating teams each of 50 personnel, approximately once per week, one team would travel to the region and one team would depart the region. As the majority of the operational personnel work a seven days on/seven days off roster, it can be expected that all DIDO and FIFO workers travel to and from the region approximately once per week. It is assumed that the rehabilitation DIDO and FIFO workforce would also travel to and from the region approximately once per week.

On this basis, Table 6.14 summarises the number of workers expected to travel to and from the region each week, noting that half of the workers in Table 6.14 would travel to the region, and half would travel from the region.

Table 6.14: Personnel Travelling to/from the Region per Week

Residential Type	2025 ^A Operational	2028 H2 Construction	2028 H2 Operational ^B	2034 Operational ^B	2048 Rehabilitation
DIDO	398	74	283	291	36
FIFO	74	14	54	56	7
Total	472	88	337	347	42

^A During traffic surveys.

^B Includes rehabilitation personnel for IDM and IPM.

Table 6.15 summarises the local places of residence of the DIDO and FIFO personnel expected to travel to or from the region over one week, noting that half of the workers in Table 6.15 would travel to the region, and half would travel from the region over the week.

Table 6.15: Local Places of Residence of Personnel Travelling to/from the Region

Residential Location in Region	2025 ^A Operational	2028 H2 Construction	2028 H2 Operational ^B	2034 Operational	2048 Rehabilitation
DIDO Personnel					
Moranbah WAVs	279	52	198	204	25
Coppabella WAV	119	22	85	87	11
Total	398	74	283	291	36
FIFO Personnel					
Moranbah WAVs	52	10	38	39	5
Coppabella WAV	22	4	16	17	2
Total	74	14	54	56	7

^A During traffic surveys.

^B Includes rehabilitation personnel for IDM and IPM.

It is anticipated that 70 % of FIFO workers would fly to/from Moranbah Airport, and reside in the Moranbah WAVs. Half of those FIFO workers would use a bus service to travel between Moranbah Airport and the Moranbah WAVs, and half would travel in light vehicles. The other 30 % of FIFO workers would fly to/from Mackay Airport and reside in the Coppabella WAV. Of those, 80 % would use a bus service to travel to/from the Coppabella WAV, and 20 % would travel in light vehicles.

The DIDO personnel would typically depart the region either in private vehicles or using transfer bus services between their usual place of residence and the WAVs at the start and end of their roster period. Noting that Stanmore and other transfer services operate to/from both Coppabella and Moranbah, it has been assumed that the 70 % of the DIDO workers residing at the WAVs at Coppabella and Moranbah would use a bus and the remainder would drive a light vehicle.

Table 6.16 summarises the number of personnel expected to travel to/from the region by mode of travel and route, noting that half of the workers in Table 6.16 would travel to the region, and half would travel from the region over the week.

Table 6.16: Routes and Modes of Travel of Personnel Travelling to/from the Region

Route	2025 ^A Operational	2028 H2 Construction	2028 H2 Operational ^B	2034 Operational	2048 Rehabilitation
DIDO Personnel by Bus per Week					
Moranbah WAVs – Mackay/East	195	36	139	143	18
Coppabella WAV – Mackay/East	83	15	60	61	8
DIDO Personnel by Light Vehicle per Week					
Moranbah WAVs – Mackay/East	84	16	59	61	7
Coppabella WAV – Mackay/East	36	7	25	26	3
FIFO Personnel by Bus per Week					
Moranbah WAVs – Moranbah Airport	26	5	19	20	3
Coppabella WAV – Mackay Airport	18	3	13	14	2
FIFO Personnel by Light Vehicle per Week					
Moranbah WAVs – Moranbah Airport	26	5	19	19	2
Coppabella WAV – Mackay Airport	4	1	3	3	0

^A During traffic surveys.

^B Includes rehabilitation personnel for IDM and IPM.

Table 6.17 indicates that compared with conditions surveyed during 2025, the Project would result in reductions in the weekly demand for bus transfer services and light vehicle travel to/from the region, noting that half of the workers in Table 6.17 would travel to the region, and half would travel from the region over the week.

Table 6.17: Change in Weekly Demand for Travel to/from the Region from 2025

Route	2028 H2	2034	2048
Personnel by Bus per Week			
Moranbah WAVs – Mackay/East	-20	-52	-177
Coppabella WAV – Mackay/East/Mackay Airport	-10	-26	-91
Moranbah – Moranbah Airport	-2	-6	-23
Personnel by Light Vehicle per Week			
Moranbah WAVs – Mackay/East	-9	-23	-91
Coppabella WAV – Mackay/East/Mackay Airport	-4	-11	-37
Moranbah – Moranbah Airport	-2	-7	-24

Noting that bus services are provided throughout the week to match the roster change demands (Section 4.8) it is anticipated that the demand for bus travel would occur over several days throughout the week, with the reduction in demand on any one day being only a proportion of the total reductions presented in Table 6.17. The actual reduction in the

number of buses required would be managed to ensure bus services and bus capacities continue to be matched to the workforce roster and shift arrangements. Due to the spread of trips by direction, day of the week and time of day, the reduction in bus trips generated on those routes would be small during any one hour or day.

Similarly, the timing of the light vehicle travel would be based on the roster arrangements. The longer term forecasts indicate a total reduction of 128 personnel travelling per week in light vehicles to/from the east via Peak Downs Highway to/from the Moranbah WAVs and Coppabella WAV combined, and 24 fewer personnel per week travelling per week in light vehicles between Moranbah and Moranbah Airport occurring throughout the week, and at various times of day. Due to the spread of trips by direction, day of the week and time of day, the reduction in light vehicle trips generated on those routes would be relatively small during any one hour or day.

With regard to the overall implications of the reduced demand for travel to/from the region compared with 2025 conditions, the reduction in the number of buses and light vehicles resulting from the Project is expected to be sufficiently small during any one day or hour that its impact on the operation of the road network and intersections would be negligible, and well within the day-to-day variations that occur on public roads. It has therefore not been considered further in this assessment.

6.6 Total Project Traffic Volumes

Table 6.18 to Table 6.20 summarise the forecasts of average daily and peak hourly traffic generated by the Project on the roads in the region. The peak hours refer to the morning and evening peak hours related to the Project's activities. For the purpose of this assessment it has been assumed that the construction workforce in 2028 H2 may travel during the same peak hours as the operational workforce, although practically, it is expected that those peaks may not necessarily coincide.

Table 6.18: Project Daily Traffic (vehicles per day)

Road and Location	2028 H2				2034				2048			
	Northbound or Eastbound		Southbound or Westbound		Northbound or Eastbound		Southbound or Westbound		Northbound or Eastbound		Southbound or Westbound	
	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
IDM Road	234	48	234	48	200	25	200	25	21	4	21	4
IPM Road	79	6	79	6	99	8	99	8	0	0	0	0
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	10	0	10	0	10	0	10	0	0	0	0	0
Peak Downs Highway Moranbah Access Road to IDM Road (Quarry to IDM)	138	24 (30)	138	24 (30)	123	11	123	11	16	2	16	2
Peak Downs Highway IDM Road to IPM Road	144	24	144	24	141	18	141	18	5	2	5	2
Peak Downs Highway IPM Road to Daunia Road	113	18	113	18	92	14	92	14	5	2	5	2
Peak Downs Highway Daunia Road to Coppabella	113	18	113	18	92	14	92	14	5	2	5	2
Peak Downs Highway Coppabella to Fitzroy Developmental Road	0	13	0	13	0	11	0	11	0	2	0	2
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	0	13	0	13	0	11	0	11	0	2	0	2
Moranbah Access Road North of Peak Downs Highway	128	24	128	24	113	11	113	11	16	2	16	2
Coppabella Road South of Peak Downs Highway	113	5	113	5	92	3	92	3	5	0	5	0
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	10	0	10	0	10	0	10	0	0	0	0	0
Eagle Downs Mine Access Road (IDE Secondary Access) North of Peak Downs Mine Road	10	0	10	0	10	0	10	0	0	0	0	0

Table 6.19: Project AM Peak Hour Traffic (vehicles per hour)

Road and Location	2028 H2				2034				2048			
	Northbound or Eastbound		Southbound or Westbound		Northbound or Eastbound		Southbound or Westbound		Northbound or Eastbound		Southbound or Westbound	
	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
IDM Road	24	3	67	9	22	0	37	3	0	2	21	2
IPM Road	11	1	9	1	18	1	6	1	0	0	0	0
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	1	0	1	0	1	0	1	0	0	0	0	0
Peak Downs Highway Moranbah Access Road to IDM Road (Quarry to IDM)	46	6 (7)	16	2 (3)	27	2	16	1	16	1	0	1
Peak Downs Highway IDM Road to IPM Road	17	2	30	4	17	1	21	3	0	1	5	1
Peak Downs Highway IPM Road to Daunia Road	15	1	30	3	10	0	26	2	0	1	5	1
Peak Downs Highway Daunia Road to Coppabella	15	1	30	3	10	0	26	2	0	1	5	1
Peak Downs Highway Coppabella to Fitzroy Developmental Road	0	1	0	1	0	0	0	1	0	1	0	1
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	0	1	0	1	0	0	0	1	0	1	0	1
Moranbah Access Road North of Peak Downs Highway	15	2	45	6	15	1	26	2	0	1	16	1
Coppabella Road South of Peak Downs Highway	30	2	15	0	26	1	10	0	5	0	0	0
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	1	0	1	0	1	0	1	0	0	0	0	0
Eagle Downs Mine Access Road (IDE Secondary Access) North of Peak Downs Mine Road	1	0	1	0	1	0	1	0	0	0	0	0

Project AM peak hour 4:45 am to 5:45 am

Table 6.20: Project PM Peak Hour Traffic (vehicles per hour)

Road and Location	2028 H2				2034				2048			
	Northbound or Eastbound		Southbound or Westbound		Northbound or Eastbound		Southbound or Westbound		Northbound or Eastbound		Southbound or Westbound	
	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
IDM Road	68	10	35	7	37	5	31	5	21	2	0	2
IPM Road	10	2	8	1	9	2	13	1	0	0	0	0
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	1	0	1	0	1	0	1	0	0	0	0	0
Peak Downs Highway Moranbah Access Road to IDM Road (Quarry to IDM)	21	4 (5)	44	5 (6)	22	3	25	2	0	1	16	1
Peak Downs Highway IDM Road to IPM Road	31	5	21	3	21	4	18	3	5	1	0	1
Peak Downs Highway IPM Road to Daunia Road	28	3	20	2	21	2	14	2	5	1	0	1
Peak Downs Highway Daunia Road to Coppabella	28	3	20	2	21	2	14	2	5	1	0	1
Peak Downs Highway Coppabella to Fitzroy Developmental Road	0	2	0	2	0	2	0	2	0	1	0	1
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	0	2	0	2	0	2	0	2	0	1	0	1
Moranbah Access Road North of Peak Downs Highway	43	5	20	4	24	2	21	3	16	1	0	1
Coppabella Road South of Peak Downs Highway	20	0	28	1	14	0	21	0	0	0	5	0
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	1	0	1	0	1	0	1	0	0	0	0	0
Eagle Downs Mine Access Road (IDE Secondary Access) North of Peak Downs Mine Road	1	0	1	0	1	0	1	0	0	0	0	0

Project PM peak hour 4:30 pm to 5:30 pm.

6.7 Project Pavement Loading

As described in Section 5.5, the SARs generated by the Project's heavy vehicle operational activities has been estimated on the basis of the vehicle classifications surveyed in 2025 on the IDM Road and IPM Road together, resulting in a weighted average of 2.42 SAR4 per heavy vehicle.

During construction, the heavy vehicles generated by the Project are estimated to be:

- 10 % Class 4 three-axle rigid trucks or buses;
- 40 % Class 5 four-axle rigid trucks;
- 20 % Class 9 semitrailers; and
- 30 % Class 10 B-doubles.

As the majority of construction heavy vehicle trips would be deliveries of materials and equipment to the Project, and allowing for trucks not being loaded to capacity, it has been assumed that approximately 80 % of inbound construction heavy vehicles would be loaded to capacity and 20 % would be unloaded. Similarly, 80 % of outbound construction heavy vehicles would be unloaded and 20 % would be loaded to capacity. On this basis, the weighted average SARs generated by the construction heavy vehicles is 3.99 SARs per inbound heavy vehicle and 1.37 SARs per outbound heavy vehicle, as shown in Table 6.21.

Table 6.21: Average SAR4 per Heavy Vehicle – Project Construction

	Class 4	Class 5	Class 9	Class 10
SAR4 per inbound loaded vehicle ^A	3.57	4.09	4.93	6.30
SAR4 per outbound unloaded vehicle ^A	0.50	0.46	0.51	0.53
Proportion of heavy vehicles (%)	10	40	20	30
Inbound	80 % loaded, 20 % unloaded			
Weighted SAR4 per inbound heavy vehicle	3.99			
Outbound	20 % loaded, 80 % unloaded			
Weighted SAR4 per outbound heavy vehicle	1.37			

^A Source TMR (2019)

Table 6.22 presents the forecast daily SARs generated by Project activity during the assessment years. Consistent with the baseline conditions assumptions, it is noted that this applies the weighted average of 2.42 SAR4 per heavy vehicle (refer to Table 5.15) to all operational heavy vehicles generated by the Project, including the buses that transport the workers to and from Moranbah and Coppabella.

Table 6.22: Daily Project SARs (SAR4 per day)

Road and Location	2028 H2		2034		2048	
	North or Eastbound	South or Westbound	North or Eastbound	South or Westbound	North or Eastbound	South or Westbound
IDM Road	86.76	160.12	60.50	60.50	9.68	9.68
IPM Road	14.52	14.52	19.36	19.36	0.00	0.00
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	0.00	0.00	0.00	0.00	0.00	0.00
Peak Downs Highway Moranbah Access Road to IDM Road (Quarry to IDM Road)	81.63 (105.57)	42.33 (50.55)	26.62	26.62	4.84	4.84
Peak Downs Highway IDM Road to IPM Road	50.73	69.07	43.56	43.56	4.84	4.84
Peak Downs Highway IPM Road to Daunia Road	36.21	54.55	33.88	33.88	4.84	4.84
Peak Downs Highway Daunia Road to Coppabella	36.21	54.55	33.88	33.88	4.84	4.84
Peak Downs Highway Coppabella to Fitzroy Developmental Road	26.21	39.31	26.62	26.62	4.84	4.84
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	26.21	39.31	26.62	26.62	4.84	4.84
Moranbah Access Road North of Peak Downs Highway	32.74	53.70	26.62	26.62	4.84	4.84
Coppabella Road South of Peak Downs Highway	15.24	10.00	26.62	26.62	4.84	4.84
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	0.00	0.00	0.00	0.00	0.00	0.00
Eagle Downs Mine Access Road North of Peak Downs Mine Road	0.00	0.00	0.00	0.00	0.00	0.00

6.8 Total Pavement Loading with the Project

The resulting SARs generated by the Project cumulative with the background changes from other developments and growth during the assessment years are presented in Table 6.23.

Table 6.23: Daily SARs with the Project (SAR4 per day)

Road and Location	2028 H2		2034		2048	
	North or Eastbound	South or Westbound	North or Eastbound	South or Westbound	North or Eastbound	South or Westbound
IDM Road	86.76	160.12	60.50	60.50	9.68	9.68
IPM Road	14.52	14.52	19.36	19.36	0.00	0.00
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	2,754.03	2,754.03	3,098.69	3,098.69	4,634.69	4,634.69
Peak Downs Highway Moranbah Access Road to IDM Road (Quarry to IDM Road)	1,020.63 (1,044.6)	1,178.83 (1,187.1)	947.94	1,190.24	1,361.36	1,728.46
Peak Downs Highway IDM Road to IPM Road	979.27	992.77	957.62	949.58	1,344.50	1,336.46
Peak Downs Highway IPM Road to Daunia Road	950.23	983.09	927.02	947.94	1,313.98	1,344.50
Peak Downs Highway Daunia Road to Coppabella	760.62	793.48	861.93	882.85	1,248.89	1,279.41
Peak Downs Highway Coppabella to Fitzroy Developmental Road	814.10	723.22	915.19	647.31	1,090.74	894.33
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	1,203.33	733.90	1,521.50	954.29	2,042.65	1,193.84
Moranbah Access Road North of Peak Downs Highway	854.73	1,470.53	1,011.07	1,730.71	1,462.89	2,560.13
Coppabella Road South of Peak Downs Highway	189.48	184.24	192.82	192.82	185.56	185.56
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	1,163.73	1,071.85	1,175.59	1,064.51	1,700.39	1,534.91
Eagle Downs Mine Access Road North of Peak Downs Mine Road	348.09	348.09	172.63	172.63	172.63	172.63

6.9 Rail Transport

Stanmore has commercial arrangements with the above and below rail operators of the rail system for the transport of product coal to Port. No significant changes are expected to these commercial arrangements as product coal from the Project replaces product coal from IDM.

When the Project is at peak production (approximately 3.0 Mtpa of product coal) from 2030 to 2035, approximately 85 % (2.55 Mtpa) of product coal would be sent to DBCT, and 15 % (0.45 Mtpa) of product coal would be sent to NQXT. The 2.55 Mtpa of product coal sent to DBCT equates to approximately three to five trains per week based on the Goonyella rail system's average train capacity of 10,200 t. The 0.45 Mtpa of product coal sent to NQXT equates to approximately one train per week based on the Newlands rail system's average train capacity of 6,800 t.

During the second half of the Project's life, production would reduce to approximately 1.5 Mtpa of product coal, and as a result, around 1.28 Mtpa of product coal would be sent to DBCT (around two to three trains per week) and around 0.22 Mtpa of product coal would be sent to NQXT (fewer than one train per week). The Project's rail transport requirements may vary periodically over an annual period depending on a range of operational factors (e.g. Stanmore's product coal market requirements) which is consistent with existing operations.

Stanmore would continue to manage its rail transport demands across its portfolio of mining operations in central Queensland to ensure efficiency and flexibility in delivering its product coal export-market commitments within the available rail capacity.

7 Impact Assessment and Mitigation

7.1 Project Context

The impact assessment which follows has been undertaken in accordance with the methodology outlined in TMR (2018), assessing the impacts of the Project against the baseline conditions that would occur without the Project. As the Project would involve continuation of mining activities that would decrease under baseline conditions, the impact of the Project assessed herein relates to the difference between the decreasing traffic generation forecast without the Project and the ongoing traffic that would be generated by the Project.

It is evident that the road network currently supports the trips generated by mining activities at the IPC so to consider the context of the forecast Project traffic generation against the existing conditions, Table 7.1 presents a comparison of the daily trips currently generated by the IPC, those forecast under baseline conditions (i.e. for IPC without the Project in the future being the basis of this assessment) and the trips forecast to be generated with the Project during the nominated assessment years. IDM Road and IPM Road are listed in Table 7.1 (and other tables throughout this report), however it is noted that these are privately operated mine access roads, not public roads.

Table 7.1: Traffic Generated by IPC and Project on the Road Network (vehicles per day)

Road and Location	Existing IPC 2025	Base IPC			Project		
		2028	2034	2048	2028	2034	2048
IDM Road	506	312	22	0	564	450	50
IPM Road	618	166	12	0	170	214	0
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	0	0	0	0	20	20	0
Peak Downs Highway Moranbah Access Road to IDM Road (Quarry to IDM Road)	330	168	22	0	324 (336)	268	36
Peak Downs Highway IDM Road to IPM Road	592	244	16	0	336	326	14
Peak Downs Highway IPM Road to Daunia Road	274	170	8	0	262	212	14
Peak Downs Highway Daunia Road to Coppabella	274	170	8	0	262	212	14
Peak Downs Highway Coppabella to Fitzroy Developmental Road	26	14	2	0	26	22	4
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	26	14	2	0	26	22	4
Moranbah Access Road North of Peak Downs Highway	330	168	22	0	304	248	36
Coppabella Road South of Peak Downs Highway	248	66	8	0	236	190	10
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	0	102	14	0	20	20	0
Eagle Downs Mine Access Road North of Peak Downs Mine Road	0	0	0	0	20	20	0

Table 7.1 indicates that the daily vehicle trips forecast to be generated by the Project on the wider road network would be somewhat less than those currently generated by existing mining activities at the IPC. When compared to existing operating conditions, the Project would involve reductions in trips on the road network. In contrast, when compared to the future baseline conditions without the Project, the Project would result in an increase in traffic, as IPC operations would ramp down and cease in future years should the Project not proceed.

7.2 Impact Areas

The impact area for the assessment of road link capacity and road safety impacts includes those road links identified in Table 7.2, being those road links where the Project traffic is forecast to exceed 5 % of the base traffic in either direction on the link's AADT (refer to Appendix D). The impact area identified includes local roads, which have been assessed on the same basis as the TMR (2018) methodology for SCRs.

Table 7.2: Road Links – Project Increase Above Base AADT

Road Segment	2028 H2		2034		2048	
	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound
IDM Road	>5%	>5%	>5%	>5%	>5%	>5%
IPM Road	>5%	>5%	>5%	>5%	-	-
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	-	-	-	-	-	-
Peak Downs Highway Moranbah Access Road to IDM Road	>5%	>5%	>5%	>5%	-	-
Peak Downs Highway IDM Road to IPM Road	>5%	>5%	>5%	>5%	-	-
Peak Downs Highway IPM Road to Dauniah Road	>5%	>5%	-	-	-	-
Peak Downs Highway Dauniah Road to Coppabella	>5%	>5%	-	-	-	-
Peak Downs Highway Coppabella to Fitzroy Developmental Road	-	-	-	-	-	-
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	-	-	-	-	-	-
Moranbah Access Road North of Peak Downs Highway	-	-	-	-	-	-
Coppabella Road South of Peak Downs Highway	>5%	>5%	>5%	>5%	-	-
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	-	-	-	-	-	-

The impact area for the assessment of intersection delay and road safety impacts includes those intersections identified in Table 7.3, being those intersections where the Project traffic is forecast to exceed five percent of the future base traffic (i.e. future conditions where IPC traffic has ramped down or ceased, refer to Appendix D) for any movement in the design peak hours.

Table 7.3: Intersection Movements – Project Increase Above Base on Any Movement

Intersection	2028 H2		2034		2048	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Peak Downs Highway and Peak Downs Mine Road	-	-	-	-	-	-
Peak Downs Highway and Moranbah Access Road	>5%	>5%	>5%	>5%	-	-
Peak Downs Highway and IDM Road	>5%	>5%	>5%	>5%	>5%	>5%
Peak Downs Highway and IPM Road	>5%	>5%	>5%	>5%	-	-
Peak Downs Highway and Coppabella Road	>5%	>5%	>5%	>5%	-	>5%

The impact assessment area with regard to pavement impacts includes all road links where the Project SARs exceed 5 % of the base traffic SARs in either direction (refer to Appendix D for assessment years). Table 7.4 (for northbound or eastbound travel) and Table 7.5 (for southbound or westbound travel) identify those SCR links which meet the relevant SAR4 criteria for the Project assessment scenarios with regard to pavement impacts in accordance with TMR (2018).

Table 7.4: Pavement Impact Assessment Area: Project SAR More Than 5% Above Base SAR in Northbound or Eastbound Direction

Road Link	2028 H2	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
IDM Road (private mine road)	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%
IPM Road (private mine road)	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	-	-	-	-	-
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Highway Moranbah Access Road to IDM Road	>5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Highway IDM Road to IPM Road	>5%	>5%	>5%	>5%	>5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Highway IPM Road to Daunia Road	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Highway Daunia Road to Coppabella	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Highway Coppabella to Fitzroy Developmental Road	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moranbah Access Road North of Peak Downs Highway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coppabella Road South of Peak Downs Highway	>5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eagle Downs Mine Access Road (private mine road)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7.5: Pavement Impact Assessment Area: Project SAR More Than 5% Above Base SAR in Southbound or Westbound Direction

Road Link	2028 H2	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
IDM Road (private mine road)	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%
IPM Road (private mine road)	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	>5%	-	-	-	-	-
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Highway Moranbah Access Road to IDM Road	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Highway IDM Road to IPM Road	>5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Highway IPM Road to Daunia Road	>5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Highway Daunia Road to Coppabella	>5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Highway Coppabella to Fitzroy Developmental Road	>5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	>5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moranbah Access Road North of Peak Downs Highway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coppabella Road South of Peak Downs Highway	>5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eagle Downs Mine Access Road (private mine road)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

7.3 Road Safety

The impact area for the assessment of road safety impacts includes those intersections and road links identified in Table 7.2 and Table 7.3, being those intersections where the Project traffic is forecast to exceed five percent of the base traffic for any movement in the design peak hours, and those road links where the Project traffic is forecast to exceed five percent of the base traffic in either direction on the link's AADT.

TMR (2018) indicates that the desired outcome is for road safety at any location on the SCR network to not be significantly worsened as a result of new development, and that any pre-existing unacceptable safety risk or development-introduced safety risk is addressed. In consideration of the use of local roads for Project access, the risk assessment includes the local roads that would be used by Project-generated traffic.

A road safety impact assessment has been undertaken in accordance with TMR (2018) and has:

- identified existing safety risks relevant to the impact assessment area;
- identified likely new or modified risks resulting from the Project; and
- recommended management or mitigation works to ensure the risk rating is not worsened as a result of the Project and that any unacceptable safety risk is addressed.

Changes to the risk profile within the impact assessment area are expected to be primarily associated with increases in traffic volumes, including additional heavy vehicles. The Project of itself proposes:

- no changes to pedestrian or cyclist desire lines;
- no increases in the posted speed limit on any road;
- no changes in visibility for movements to, from or along the SCR or local road network;
- no introduction of over-dimension or heavy vehicles to roads not currently used by such vehicles;
- no changes in the road network; and
- no additional traffic at intersections that would result in queues in auxiliary lanes overflowing into adjacent lanes.

Traffic safety risks have been identified and scored using the *Guide to Traffic Impact Assessment* risk scoring matrix, presented in Table 7.6.

Table 7.6: Risk Scoring Matrix

		Potential consequence				
		Property only (1)	Minor injury (2)	Medical treatment (3)	Hospitalisation (4)	Fatality (5)
Potential likelihood	Almost certain (5)	M	M	H	H	H
	Likely (4)	M	M	M	H	H
	Moderate (3)	L	M	M	M	H
	Unlikely (2)	L	L	M	M	M
	Rare (1)	L	L	L	M	M

L: Low risk
M: Medium risk
H: High risk

Source: TMR, 2018

Table 7.7 presents the risk assessment of the likelihood and consequence of safety risks being increased as a consequence of Project-generated traffic. This is a desktop assessment which considers footage captured by TTPP staff along the access routes in June 2025, including Peak Downs Highway, Moranbah Access Road and Peak Downs Mine Road.

Table 7.7: Risk Assessment

Risk Item	Base			With Project			Mitigation Measures	With Project and Mitigation		
	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score		Likelihood	Consequence	Risk Score
General – Road Links										
The majority of the Project workforce would be accommodated in Moranbah and Coppabella which would require daily travel to the Project using the main access route via Moranbah Access Road and Peak Downs Highway. The mine is currently operational. With the continuation of the Project, it will operate with lower traffic generation compared to the existing conditions and the period during which the road crash data applies. The net change from the existing traffic generated by IPC to traffic generated by the Project in the impact area is (refer to Table 7.1) is as follows: - Peak Downs Highway IPM Road to Coppabella, decrease of 12 vehicles per day in 2028 H2; - Peak Downs Highway IDM Road to IPM Road, reduction of 256 vehicles per day in 2028 H2 and 274 vehicles per day in 2034; - Peak Downs Highway Moranbah Access Road to IDM Road, reduction of 6 vehicles per day (increase of 6 vehicles per day between the Quarry and IDM) in 2028 H2 and reduction of 62 vehicles per day in 2034; - Moranbah Access Road, reduction of 26 vehicles per day in 2028 H2 and 82 vehicles per day in 2034; and - Coppabella Road south of Peak Downs Highway, reduction of 12 vehicles per day in 2028 H2 and 58 vehicles per day in 2034. This level of traffic reduction compared with existing has the potential to reduce the likelihood of crash occurrence along	Moderate	Hospitalisation	Medium (12)	Moderate	Hospitalisation	Medium (12)	Note overtaking lane planned for construction between Millenium Coal Mine and Carborough Downs Coal Mine (QTRIP Investment ID 1197099, refer to Table 4.1) No change to risk score with the Project without mitigation measures, no mitigation measures required as a consequence of the Project. Likelihood of existing safety risks may however be reduced via ongoing management of Project-generated traffic consistent with current operations: - Stanmore to continue to provide buses between the Project, Coppabella and Moranbah for day-to-day construction and operational workforce travel, and actively encourage use of the buses to minimise the Project-generated traffic volumes on a day-to-day basis. - Stanmore to continue to provide dedicated transfer buses to/from Mackay and the wider region for FIFO and DIDO workers at the start and end of their roster period. Roster periods to be offset to spread shift change traffic over several days of the week to minimise the Project generated traffic volumes on the road network. - The shuttle bus and transfer bus services would continue to be tailored to meet	Unlikely	Hospitalisation	Medium (8)

Risk Item	Base			With Project			Mitigation Measures	With Project and Mitigation		
	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score		Likelihood	Consequence	Risk Score
the access routes for road users, including the workforce and the wider community. Table 4.5 indicates the predominant crash type along the main access route is of the same-direction type (RUM 30 to RUM 39), represented by 37 (or 22 %) out of 168 crashes that were reported between 2020 and 2024. 20 crashes (54 % of 37 same-direction crashes) occurred either at, or on approach to an intersection/driveway, but turning facilities are generally available at these locations in most of these crashes. 12 crashes (32 % of 37 same-direction crashes) occurred at mid-block locations in the two-lane highway. 21 crashes (57 % of 37 same-direction crashes) resulted in hospitalisation of road users involved. - These same-direction crashes could be correlated with road deficiencies in relation to linemarking at intersections, lack of passing lanes and pavement conditions. The second predominant crash type is off path on curve (RUM 80 to RUM 89), represented by 35 (or 21 %) out of 168 crashes that were reported between 2020 and 2024. 18 crashes (51% of 35 off path on curve crashes) occurred on either rainy, dark or near dark conditions where visibility to the road is reduced. However, it is noted audio tactile edgeline marking is provided in some road sections along Peak Downs Highway. 24 crashes (69 % of 35 off path on curve crashes) resulted in hospitalisation. - These crashes could be correlated with road deficiencies in relation to unprotected roadside hazards, substandard safety barriers to be further discussed in this table. It can be inferred from the crash data that the level of the existing crash risks is generally medium, based on a moderate							the needs of the workforce, with seating capacity provided as required, and timing of services aligned with shift and roster requirements. - Continued implementation of the Fatigue Management Policy, including a swipe card system to monitor hours worked, use of buses to transport workers, and coordinated car-pooling arrangements. - New drivers would continue to be appropriately trained and licensed for the type of vehicle being operated and inducted with safety information. - Truck drivers and workers would continue to be encouraged to take breaks when driving along the highway. There are a number of rest areas along Peak Downs Highway.			

Risk Item	Base			With Project			Mitigation Measures	With Project and Mitigation		
	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score		Likelihood	Consequence	Risk Score
likelihood with hospitalisation as a consequence under the existing conditions.										

Intersection of Peak Downs Highway and IPM Road

 Centreline marking on the IPM Road approaching the intersection has been worn out with low visibility. IPC/Project drivers not positioned correctly within the travel lane may increase the risk of a side-swipe crash with a vehicle travelling in the opposite direction.	Unlikely	Medical Treatment	Medium (6)	Rare	Medical Treatment	Low (3)	Reduction to risk score with the Project without mitigation measures due to decreased use of the private IPM Road. No mitigation required as a consequence of the Project. Nevertheless, ongoing monitoring of mining traffic movements on IPM Road and continued maintenance of IPM Road (including its linemarking) would be undertaken by Stanmore.	Rare	Medical Treatment	Low (3)
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Intersection of Peak Downs Highway and IDM Road

	Unlikely	Medical Treatment	Medium (6)	Moderate	Medical Treatment	Medium (9)	Worsening of risk score with the Project without mitigation measures due to ongoing and increased use of the private IDM Road over the life of the Project. Mitigate via improving linemarking on IDM Road as part of ongoing maintenance by Stanmore, and monitoring of mining traffic movements on IDM Road.	Unlikely	Medical Treatment	Medium (6)
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Risk Item	Base			With Project			Mitigation Measures	With Project and Mitigation		
	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score		Likelihood	Consequence	Risk Score
Centreline marking on the IDM Road has been worn out with low visibility. IPC/Project drivers not positioned correctly within the travel lane may increase the risk of a side-swipe crash with a vehicle travelling in the opposite direction.										
Intersection of Peak Downs Highway and Moranbah Access Road										
There is no provision of a sight board at the Peak Downs Highway and Moranbah Access Road intersection to emphasise the termination of Moranbah Access Road. Failure to yield on Moranbah Access Road (includes IPC/Project traffic to/from Moranbah) may lead to a possible collision with the through traffic on Peak Downs Highway.  Further, the hold line on Moranbah Access Road is worn, with little visibility to the motorists approaching the intersection on the Moranbah Access Road approach (includes IPC/Project traffic to/from Moranbah). This may result in vehicles overshooting into the through lane on Peak Downs Highway, increasing the likelihood of a conflict between the through traffic and traffic leaving Moranbah Access Road. In conjunction with the missing sight board, this safety deficiency would increase the likelihood of a crash between	Unlikely	Hospitalisation	Medium (8)	Unlikely	Hospitalisation	Medium (8)	No change to risk score with the Project without mitigation measures, no mitigation required as a consequence of the Project. Existing safety risk may be managed via continued maintenance of Peak Downs Highway and ongoing monitoring of mining traffic movements by TMR.	Unlikely	Hospitalisation	Medium (8)

Risk Item	Base			With Project			Mitigation Measures	With Project and Mitigation		
	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score		Likelihood	Consequence	Risk Score
traffic exiting Moranbah Access Road (includes IPC/Project traffic) and through traffic on Peak Downs Highway. 										
Intersection of Peak Downs Highway and Coppabella Access Road										
No safety issues have been identified at this intersection										

Risk Item	Base			With Project			Mitigation Measures	With Project and Mitigation		
	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score		Likelihood	Consequence	Risk Score
Peak Downs Highway (Moranbah Access Road to Isaac Plains Mine)										
To the north and south of the bridge, the crashworthiness of the safety barriers is questionable whether they can re-direct an errant vehicle on approach to and on departure from the bridge. This is a risk for run-off road type of crashes which will increase the severity outcome. IPC/Project traffic to and from Moranbah uses this bridge.  Both ends of Jim Turner Bridge (across Isaac River) – E148.1308,S22.0488 and E148.1302,S22.0497	Rare	Hospitalisation	Medium (4)	Rare	Hospitalisation	Medium (4)	No change to risk score with the Project without mitigation measures, no mitigation required as a consequence of the Project. Existing safety risk may be managed via inspection of the crashworthiness of the safety barriers under TMR's ongoing maintenance program.	Rare	Hospitalisation	Medium (4)

Risk Item	Base			With Project			Mitigation Measures	With Project and Mitigation		
	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score		Likelihood	Consequence	Risk Score
Peak Downs Highway (Isaac Plains Mine to Coppabella)										
The loose soil on the slope presents a risk of landslide, especially under adverse weather conditions. Fallen rocks and dirt onto the road are hazardous to passing traffic. IPC/Project traffic to/from Coppabella and Mackay uses this part of Peak Downs Highway.  E148.3320,S21.9235	Unlikely	Hospitalisation	Medium (8)	Unlikely	Hospitalisation	Medium (8)	No change to risk score with the Project without mitigation measures, no mitigation required as a consequence of the Project. Implementation of slope stabilisation under TMR's ongoing maintenance program would mitigate the existing safety risk. Note overtaking lane planned for construction between Millenium Coal Mine and Carborough Downs Coal Mine (QTRIP Investment ID 1197099, refer to Table 4.1).	.	.	No risk (0)
The embankment slopes on both sides of the road are unprotected as they do not appear to be traversable for errant vehicles. IPC/Project traffic to/from Coppabella and Mackay uses this part of Peak Downs Highway.	Unlikely	Hospitalisation	Medium (8)	Unlikely	Hospitalisation	Medium (8)	No change to risk score with the Project without mitigation measures, no mitigation required as a consequence of the Project. Existing safety risk may be managed via ongoing monitoring of mining traffic movements traversing this road section by TMR.	Unlikely	Hospitalisation	Medium (8)

Risk Item	Base			With Project			Mitigation Measures	With Project and Mitigation		
	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score		Likelihood	Consequence	Risk Score
 E148.3294,S21.9245										
The crashworthiness of the bridge parapet is questionable on both sides of the North Creek bridge (8.5 km southwest of Coppabella). There is no provision of a guardrail rigid transition between a W-beam and a bridge parapet to enable a gradual and snag-free connection and to re-direct an errant vehicle. This would increase the likelihood of run-off road type of crashes and increase the severity outcome. IPC/Project traffic to/from Coppabella and Mackay uses this part of Peak Downs Highway. 	Unlikely	Hospitalisation	Medium (8)	Unlikely	Hospitalisation	Medium (8)	No change to risk score with the Project without mitigation measures, no mitigation required as a consequence of the Project. Existing safety risk may be managed via inspection of the crashworthiness of the bridge parapet and safety barriers under TMR's maintenance program.	Unlikely	Hospitalisation	Medium (8)

Risk Item	Base			With Project			Mitigation Measures	With Project and Mitigation		
	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score		Likelihood	Consequence	Risk Score
 Both ends of North Creek bridge – E148.2982,S21.9417 and E148.2980,S21.9418										

Table 7.7 indicates that:

- no high level risk items were identified under base conditions or with the Project;
- worsening of the side-swipe crash risk score on the IDM Road with the Project would be appropriately mitigated via improving the linemarking on the IDM Road as part of Stanmore's maintenance program and monitoring traffic movements on the road;
- the Project would result in reduction in safety risk associated with use of the IPM Road; and
- the other risk items would not be worsened by the project, with no mitigation measures required as a consequence of the Project.

The Project's travel demand management measures would minimise increases in traffic to reduce the likelihood of road crashes, and the other pre-existing safety risks not impacted by the Project would be addressed under TMR's regular maintenance programs, and ongoing monitoring of traffic movements.

With ongoing implementation of Stanmore's existing traffic management measures and maintenance of its private access roads, the Project would therefore meet the desired outcome of no significant worsening of road safety at any location on the SCR network, nor on the local roads that would be used by Project-generated traffic.

7.4 Access and Frontage

The required impact assessment area with regard to access and frontage includes the SCR corridor for the extent of the geometric frontage of the Project, and includes works on both the frontage side and potentially on the opposite side of the road.

The Project has access and frontage to Peak Downs Highway, with a secondary access proposed via Peak Downs Mine Road and Eagle Downs Mine Road. The Project does not propose any changes to the existing frontage treatments on Peak Downs Highway, nor to the existing intersection of Peak Downs Mine Road and Eagle Downs Mine Road.

Nevertheless, the suitability of the existing treatments along those frontages have been reviewed with respect to the future forecast demands, discussed below.

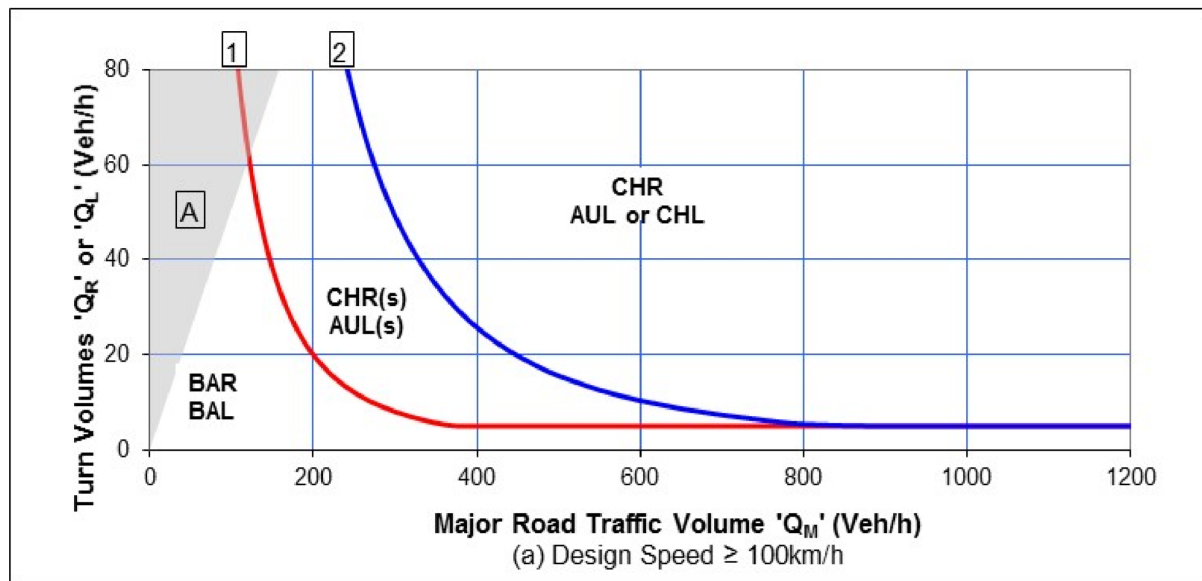
7.4.1 Major Road Treatments at Intersections

The treatment of the intersections of Peak Downs Highway with IDM Road and IPM Road, and of Peak Downs Mine Road with Eagle Downs Mine Road have been assessed with regard to the Austroads (2020b) warrants for rural road turn treatments for high-speed rural roads. It is noted that the Austroads warrants are based on construction of intersections on new roads,

however may be used as a reference for the intervention levels when upgrading existing intersection turn treatments.

The observed sight lines at the intersection exceed those required for the posted speed limit of 100 km/h, so no change to the warrants would be required as a result of any sight distance constraint. For clarity, the warrant graph, together with the calculation method for Q_R , Q_L and Q_M are presented in Figure 7.1.

Figure 7.1: Austroads Major Road Treatment Warrant



Road Type	Turn Type	Splitter Island	Q_M (veh/h)
2 Lane 2 Way	Right	No	$= Q_{T1} + Q_{T2} + Q_L$
		Yes	$= Q_{T1} + Q_{T2}$
	Left	Yes/No	$= Q_{T2}$
4 Lane 2 Way	Right	No	$= 50\% \times Q_{T1} + Q_{T2} + Q_L$
		Yes	$= 50\% \times Q_{T1} + Q_{T2}$
	Left	Yes/No	$= 50\% \times Q_{T2}$
6 Lane 2 Way	Right	No	$= 33\% \times Q_{T1} + Q_{T2} + Q_L$
		Yes	$= 33\% \times Q_{T1} + Q_{T2}$
	Left	Yes/No	$= 33\% \times Q_{T2}$

Table 7.8 summarises the turn treatments warranted in Peak Downs Highway at the IDM Road and IPM Road, and in Peak Downs Mine Road at Eagle Downs Mine Road, which would be used as Project secondary access, based on the forecast peak hour traffic demands with the

Project. These comparisons against the warrants are based on the major road being a two-lane, two-way road at each of the access intersections.

Table 7.8: Access Intersections Major Road Turn Treatment Warrants with the Project

	AM Peak						PM Peak					
	Right Turn			Left Turn			Right Turn			Left Turn		
	Q _M	Q _R	Type	Q _M	Q _L	Type	Q _M	Q _R	Type	Q _M	Q _L	Type
Peak Downs Highway and IDM Road												
Existing Treatment	CHR			CHL			CHR			CHL		
Project 2028 H2	277	45	CHR(S)	79	29	BAL	395	19	CHR(S)	220	21	AUL(S)
Project 2034	340	22	CHR(S)	113	18	BAL	55	2	BAR	30	3	BAL
Project 2048	408	17	CHR(S)	128	6	BAL	627	1	BAR	381	1	BAL
Peak Downs Highway and IPM Road												
Existing Treatment	CHR			CHL			CHR			CHL		
Project 2028 H2	273	5	BAR	166	7	BAL	408	4	BAR	177	8	BAL
Project 2034	332	11	CHR(S)	202	8	BAL	44	0	BAR	21	2	BAL
Project 2048	392	0	BAR	261	0	BAL	613	0	BAR	253	0	BAL
Peak Downs Mine Road and Eagle Downs Mine Road												
Existing Treatment	CHR			AUL			CHR			AUL		
Project 2028 H2	543	18	CHR	343	133	AUL or CHL	369	2	BAR	145	29	BAL
Project 2034	588	16	CHR	409	93	AUL or CHL	459	2	BAR	179	44	AUL(S)
Project 2048	784	16	CHR	573	92	AUL or CHL	620	2	CHR(S)	249	43	AUL(S)

BA = basic treatment, AU = auxiliary lane treatment, CH = channelised treatment, (S) = shorter deceleration lane

Table 7.8 indicates that the existing turn treatments in Peak Downs Highway at the IDM Road and IPM intersections, and in Peak Downs Mine Road at Eagle Downs Mine Road meet or exceed those that would be warranted by Austroads with the Project-generated traffic, and so the Project would not require any upgrade to the existing treatment types due to any concerns regarding potential safety impacts.

7.4.2 Operation of Access Intersections

The operating characteristics of the intersections were assessed using SIDRA INTERSECTION 10, which determines characteristics of intersection operating conditions including the degree of saturation, average delays, and Levels of Service. The degree of saturation, or x-value, is the ratio of the arrival rate of vehicles to the capacity. The average delay, expressed in seconds per vehicle, is measured over all movements at signalised intersections, and over the movement with the highest average delay at roundabout and priority intersections. Average vehicle delay is the commonly used measure of intersection performance, and Table 7.9 shows the criteria adopted for assessing the Level of Service, noting that all the intersections

serving the Project are under sign control. The target for acceptable operation is generally accepted as Level of Service D.

Table 7.9: Intersection Level of Service Criteria

Level of Service	Control Delay per Vehicle (seconds per vehicle)		
	Signals	Roundabout	Sign Control
A	≤ 10	≤ 10	≤ 10
B	10 to ≤ 20	10 to ≤ 20	10 to ≤ 15
C	20 to ≤ 35	20 to ≤ 35	15 to ≤ 25
D	35 to ≤ 55	35 to ≤ 50	25 to ≤ 35
E	55 to ≤ 80	50 to ≤ 70	35 to ≤ 50
F	> 80	> 70	> 50

Source: SIDRA INTERSECTION User Manual

Table 7.10 summarises the forecast Levels of Service for the worst movement at the access intersections for the Project with the Project-generated traffic and under baseline conditions without the Project.

Table 7.10: Future Access Intersection Levels of Service

Intersection	2028 H2		2034		2048	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Baseline No Project						
Peak Downs Highway and IDM Road	A	B	A	B	-	-
Peak Downs Highway and IPM Road	B	B	A	B	-	-
Peak Downs Mine Road and Eagle Downs Mine Road	B	B	B	B	C	C
With the Project						
Peak Downs Highway and IDM Road	A	B	A	B	C	B
Peak Downs Highway and IPM Road	A	B	B	B	B	B
Peak Downs Mine Road and Eagle Downs Mine Road	B	B	B	B	C	C

The results in Table 7.10 demonstrate that the Project access intersections can be expected to operate at good Levels of Service, with acceptable delays to traffic during the Project peak hours. These results suggest that no additional treatments would be required at the access intersections on capacity grounds to accommodate the Project-generated traffic.

SIDRA also provides output of the 95th percentile queue that would form on approaches to the intersections, with the key queues being those that form in the lanes on the major road, as overflowing of the available storage space may block through traffic on the major road.

Table 7.11 presents the 95th percentile queues forecast in the major road turn lanes during the Project peak hours.

Table 7.11: Future Access Intersection 95th Percentile Queues with the Project (m)

Intersection	2028 H2		2034		2048	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Baseline No Project						
Peak Downs Highway Right turn in to IDM Road	0.0	0.1	0.0	0.0	-	-
Peak Downs Highway Left turn in to IDM Road	0.0	0.0	0.0	0.0	-	-
Peak Downs Highway Right turn in to IPM Road	0.0	0.0	0.0	0.0	-	-
Peak Downs Highway Left turn in to IPM Road	0.0	0.0	0.0	0.0	-	-
Peak Downs Mine Road Right turn in to Eagle Downs Mine Road	0.7	0.1	0.6	0.1	0.8	0.1
With the Project						
Peak Downs Highway Right turn in to IDM Road	0.1	0.1	0.0	0.1	0.0	0.0
Peak Downs Highway Left turn in to IDM Road	0.0	0.0	0.0	0.0	0.0	0.0
Peak Downs Highway Right turn in to IPM Road	0.0	0.0	0.0	0.0	-	-
Peak Downs Highway Left turn in to IPM Road	0.0	0.0	0.0	0.0	-	-
Peak Downs Mine Road Right turn in to Eagle Downs Mine Road	0.7	0.1	0.6	0.1	0.8	0.1

The results in Table 7.11 indicate that the 95th percentile queues forecast in the major road turn lanes would be negligible, and the Project would not result in any significant change to the queue lengths. These results suggest that no additional treatments would be required at the access intersections to accommodate the Project-generated traffic within the existing intersection geometries.

7.4.3 Turn Lane Lengths

7.4.3.1 Project Access Intersections on Peak Downs Highway

As described in Section 4.2.1, the intersections of Peak Downs Highway with the IDM Road and IPM Road each include a channelised left-turn lane, and a channelised right-turn lane for vehicles entering the minor roads from Peak Downs Highway. Each channelised lane is approximately 220 m long, including the diverge taper.

The existing lane lengths at the intersections have been compared with the deceleration length requirements of Austroads (2023) for a design speed of 100 km/h on Peak Downs

Highway. Due to the intersection priorities, both right-turning and left-turning vehicles entering the minor roads may need to decelerate to a stop. To decelerate from 100 km/h to stop, a deceleration lane length (including taper) of 155 m is required on a level grade and a comfortable deceleration rate. As demonstrated in Table 7.14, the 95th percentile queue in the left-turn and right-turn lanes in Peak Downs Highway would be negligible, hence the storage component of the deceleration lanes would appropriately be for one design vehicle.

The existing turn lane lengths of 220 m exceed the deceleration requirements, providing approximately 65 m of storage should vehicles need to stop and queue in the deceleration lane to wait for a gap in opposing traffic. The design of the existing intersection turn lanes are therefore consistent with the requirements of Austroads (2023), and the Project would not trigger any need to amend the design of the intersections.

7.4.3.2 Secondary Access via Eagle Downs Mine Road

As described in Section 4.2.5, the intersection of Peak Downs Mine Road and Eagle Downs Mine Road includes an auxiliary left-turn lane approximately 150 m long, and a channelised right-turn lane approximately 165 m long for vehicles entering Eagle Downs Mine Road from Peak Downs Mine Road.

The existing lane lengths at the intersections have been compared with the deceleration length requirements of Austroads (2023) for a design speed of 100 km/h on Peak Downs Mine Road. Left-turning vehicles entering Eagle Downs Mine Road have priority and would not need to decelerate to a stop, while right-turning vehicles may need to decelerate to a stop. To decelerate from 100 km/h to a turning speed of 30 km/h, a deceleration lane length of 140 m (including taper) is required on a level grade and a comfortable deceleration rate. As the left-turn traffic would have priority, no storage length is needed, and the existing auxiliary left-turn lane meets this requirement. To decelerate from 100 km/h to stop, a deceleration lane length (including taper) of 155 m is required on a level grade and a comfortable deceleration rate. As demonstrated in Table 7.14, the 95th percentile queue in the right-turn lane in Peak Downs Mine Road would be negligible, hence the storage component of the right-turn deceleration lane would appropriately be for one design vehicle. The existing channelised right-turn lane is approximately 165 m long and is therefore reasonably consistent with the requirement. The Project-generated traffic would not increase the length of queues and so would not trigger any requirement to amend the design of the intersections.

7.4.4 Sight Distances at Intersections

Observations on-site indicate that the available sight distances to and from the existing access intersections are satisfactory, and exceed the minimum requirements for Safe Intersection Sight Distance between drivers on the major and minor roads at each intersection.

The Project would therefore not exacerbate any existing concerns regarding sight distance at the access intersections.

7.5 Intersection Delay

The required impact assessment area with regard to intersection delay includes those intersections identified in Table 7.3. The operation of the intersections in the impact area under both base conditions and with the Project-generated traffic has been assessed using SIDRA INTERSECTION 10 and the resulting Levels of Service are summarised in Table 7.12.

Table 7.12: Levels of Service at Intersections in Impact Area

Intersection	2028 H2		2034		2048	
	AM	PM	AM	PM	AM	PM
Base Conditions						
Peak Downs Highway and Moranbah Access Road	B	B	B	B	-	-
Peak Downs Highway and IDM Road	A	B	A	B	-	-
Peak Downs Highway and IPM Road	A	B	A	B	-	-
Peak Downs Highway and Coppabella Road	B	B	B	B	-	C
With Project						
Peak Downs Highway and Moranbah Access Road	B	B	B	B	-	-
Peak Downs Highway and IDM Road	A	B	A	B	C	C
Peak Downs Highway and IPM Road	A	B	B	B	-	-
Peak Downs Highway and Coppabella Road	B	B	B	C	-	C

The results demonstrate that the impacted intersections can be expected to operate at acceptable Levels of Service, with acceptable delays to traffic during the Project peak hours. These results suggest that no additional treatments would be required at the impacted intersections on capacity grounds to accommodate the Project-generated traffic.

The desired outcome is to ensure the sum of intersection delays on base traffic does not significantly worsen, i.e., does not increase average delays by more than 5 % in aggregate (TMR, 2018). The aggregate intersection delay impact has been calculated in accordance with TMR (2018), being the difference between the base case and “with development” intersection vehicle-minutes, where the “with development” vehicle-minutes is calculated by multiplying the “with development” average delay by movement to the base case volume on each movement.

Table 7.13 and Table 7.14 present summaries of the AM and PM peak hour intersection delays respectively, calculated as above using SIDRA INTERSECTION 10 to determine characteristics of intersection operating conditions.

Table 7.13: AM Peak Hour Intersection Delays to Base Traffic (vehicle-minutes per hour)

Intersection	Base			With Project		
	2028 H2	2034	2048	2028 H2	2034	2048
Peak Downs Highway and Moranbah Access Road	123.3	156.2	-	128.1	163.7	-
Peak Downs Highway and IDM Road	5.3	1.2	0.0	5.6	1.2	0.0
Peak Downs Highway and IPM Road	2.7	0.5	-	2.6	0.5	-
Peak Downs Highway and Coppabella Road	62.6	76.1	-	50.2	63.7	-
Total All Intersections	193.9	234.0	0.0	186.5	229.1	0.0

Table 7.14: PM Peak Hour Intersection Delays to Base Traffic (vehicle-minutes per hour)

Intersection	Base			With Project		
	2028 H2	2034	2048	2028 H2	2034	2048
Peak Downs Highway and Moranbah Access Road	137.5	169.1	-	139.0	173.0	-
Peak Downs Highway and IDM Road	8.4	1.8	0.0	8.6	1.8	0.0
Peak Downs Highway and IPM Road	3.0	1.0	-	3.0	0.9	-
Peak Downs Highway and Coppabella Road	78.5	84.8	112.5	73.3	83.8	85.3
Total All Intersections	227.4	256.6	112.5	223.8	259.4	85.3

On the basis of the above, the intersection delay impact during the design peaks is summarised in Table 7.15, in which the impact is expressed as the percent increase (or decrease) with the intersection delay aggregate with the Project over that of the base conditions without the Project.

Table 7.15: Project Intersection Delay Impact (vehicle minutes)

	AM Peak Hour			PM Peak Hour		
	Base	Project	Impact ^A	Base	Project	Impact ^A
2028 H2	193.9	186.5	-3.8%	227.4	223.8	-1.6%
2034	234.0	229.1	-2.1%	256.6	259.4	1.1%
2048	0.0	0.0	0.0%	112.5	85.3	-24.2%

^A Impact calculated as percent increase with Project compared with Base conditions

From Table 7.15, the sum of intersection delays on base traffic does not increase average delays by more than 5 % in aggregate, hence the desired outcome is achieved without need for any mitigation measures.

7.6 Road Link Capacity

Table 7.2 indicates the impact area for consideration of road link capacity. The desired outcome is to ensure that traffic generated by the Project does not significantly worsen the operational capacity of SCR links, with the intent being to ensure no significant worsening of the level of service for each link in the impact area.

Level of Service represents road users' perceptions of the quality of service provided by a road link, and describes operational conditions in terms of factors such as speed and travel time, freedom to manoeuvre, traffic interruptions, comfort, convenience and safety. Levels of Service are designated A through F, with Level of Service A providing the best traffic conditions, with no restriction on desired travel speed or overtaking. Level of Service B to D describes progressively worse traffic conditions. Level of Service E occurs when traffic conditions are at or close to capacity, and there is virtually no freedom to select desired speeds or to manoeuvre in the traffic stream. The service flow rate for Level of Service E is taken as the capacity of a lane or roadway. In rural situations, Level of Service C is generally considered to be acceptable. At Level of Service C, most vehicles are travelling in platoons, and travel speeds are curtailed. At Level of Service D, platooning increases significantly, and the demand for passing is high, but the capacity to do so is low. The target for acceptable conditions is generally accepted as Level of Service D.

The Level of Service experienced by drivers on two-way rural roads is dependent on the drivers' expectations regarding the road, and three classes of road are defined in the HCM. Class I roads are those on which motorists expect to travel at relatively high speeds, and most often serve long-distance trips or provide connecting links between facilities that serve long-distance trips. Class II roads are those on which motorists do not necessarily expect to travel at high speeds, and may function as access routes to Class I facilities, serve as scenic or recreational routes or pass through rugged terrain. Class III roads serve moderately developed areas, and may be portions of a Class I or Class II highway that pass through small towns or developed recreational areas, where local traffic mixes with through traffic, and the density of unsignalised roadside access points increases. The Level of Service criteria for two lane roads are as shown in Table 7.16.

Table 7.16: Level of Service Criteria for Two-Lane Two-Way Roads

Level of Service	Class I		Class II	Class III
	Average Travel Speed [ATS] (km/h)	Percent Time Spent Following [PTSF] (%)	Percent Time Spent Following (%)	Percent Free Flow Speed [PFFS] (%)
A	> 90	≤ 35	≤ 40	> 91.7
B	> 80 – 90	> 35 – 50	> 40 – 55	> 83.3 – 91.7
C	> 70 – 80	> 50 – 65	> 55 – 70	> 75.0 – 83.3
D	> 60 – 70	> 65 – 80	> 70 – 85	> 66.7 – 75.0
E	≤ 60	≥ 80	≥ 85	≤ 66.7

Source: Austroads (2020a)

For the purpose of this review, TPP has adopted the methodology for the assessment of the capacity and performance of two lane, two-way rural roads outlined in Austroads (2020a) *Guide to Traffic Management Part 3: Traffic Studies and Analysis*, which in turn, refers to the *Highway Capacity Manual (HCM)* (Transportation Research Board, 2016).

For the purpose of this review and considering its regional context, Peak Downs Highway is considered as a Class I route, which applies more stringent criteria for calculation of Level of Service. The PTSF for Peak Downs Highway results in a poorer result for the calculated Level of Service than ATS, hence the results reported herein are based on the PTSF. These indicative results assume that overtaking is not permitted over 20 percent of each part of the route and that the terrain does not significantly impact the speeds of heavy vehicles.

It is noted that the signposted speed limit of Coppabella Road is 60 km/h, while the HCM method applies to roads with a posted speed limit of 45 miles per hour (72 km/h) or more, hence for the purpose of this review, a posted speed limit of 70 km/h has been adopted. Coppabella Road and the IDE access roads have been assessed as Class III roads, in consideration of the changed expectations that drivers would have on their ability to select their travel speed on those roads.

It is also noted that due to the channelised lanes available in Peak Downs Highway between the IDM Road and IPM Road, the assessment methodology does not strictly apply, as it refers to two-lane, two-way roads only. Nevertheless, it has been assessed using this methodology, however the results should be considered indicative only.

Table 7.17 summarises the Levels of Service during the Project AM and PM peak hours respectively over the identified impact assessment areas in 2028 H2, calculated using the methodology described above.

Table 7.17: AM and PM Project Peak Hour Midblock Levels of Service in 2028 H2

Impacted Segment	AM Project Peak Hour				PM Project Peak Hour			
	Northbound or Eastbound		Southbound or Westbound		Northbound or Eastbound		Southbound or Westbound	
	Base	Project	Base	Project	Base	Project	Base	Project
IDM Road	A	A	A	A	A	A	A	A
IPM Road	A	A	A	A	A	A	A	A
Peak Downs Highway Moranbah Access Road to IDM Road	B	B	A	A	B	B	B	C
Peak Downs Highway IDM Road to IPM Road ^A	B	B	A	A	B	B	B	B
Peak Downs Highway IPM Road to Daunia Road	B	B	A	A	B	B	B	B
Peak Downs Highway Daunia Road to Coppabella	B	B	A	A	A	B	B	B
Coppabella Road South of Peak Downs Highway	B	B	B	B	B	B	B	B

^A indicative only, level of service would be better than reported due to turn lanes.

Table 7.17 indicates that the Project would not result in any significant worsening of the level of service for each link in the impact area in 2028 H2, with the levels of service on the impacted links remaining satisfactory with the Project.

Table 7.18 summarises the Levels of Service during the Project AM and PM peak hours respectively over the identified impact assessment areas in 2034, calculated using the methodology described above.

Table 7.18: AM and PM Project Peak Hour Midblock Levels of Service in 2034

Impacted Segment	AM Project Peak Hour				PM Project Peak Hour			
	Northbound or Eastbound		Southbound or Westbound		Northbound or Eastbound		Southbound or Westbound	
	Base	Project	Base	Project	Base	Project	Base	Project
IDM Road	-	A	-	A	-	A	-	A
IPM Road	-	A	-	A	-	A	-	A
Peak Downs Highway Moranbah Access Road to IDM Road	B	B	A	A	B	B	C	C
Peak Downs Highway IDM Road to IPM Road ^A	B	B	A	A	B	B	C	C
Coppabella Road South of Peak Downs Highway	B	B	B	B	B	B	B	B

^A indicative only, level of service would be better than reported due to turn lanes.

Table 7.18 indicates that the Project would not result in any significant worsening of the level of service for each link in the impact area in 2034, with the levels of service forecast on the impacted links remaining satisfactory with the Project.

Table 7.19 summarises the Levels of Service during the Project AM and PM peak hours respectively over the identified impact assessment areas in 2048, calculated using the methodology described above.

Table 7.19: AM and PM Project Peak Hour Midblock Levels of Service in 2048

Impacted Segment	AM Project Peak Hour				PM Project Peak Hour			
	North or Eastbound		South or Westbound		North or Eastbound		South or Westbound	
	Base	Project	Base	Project	Base	Project	Base	Project
IDM Road	-	A	-	A	-	A	-	A

Table 7.19 indicates that the forecast level of service on the impacted link in 2048 would be satisfactory with the Project.

7.7 Pavement

The impact assessment area with regard to pavement impacts includes all road links where the Project SARs or LUs exceed 5 % of the base traffic SARs or LUs in either direction. The road links which meet the relevant SAR4 criteria for the Project assessment scenarios with regard to pavement impacts in accordance with TMR (2018) are shown in Table 7.4 and Table 7.5.

It is noted that as for all impact areas in this assessment, these calculations are based on the comparison against baseline conditions without the Project, which would assume a decline in activity at the IPC after 2025 should the Project not proceed. While IPC-generated SARs are practically expected to decline under baseline conditions, which is reflected in the baseline forecasts, the IPC could theoretically continue to generate the same number of heavy vehicles (and hence SARs on the road network) as it does currently until mining operations cease, without further reference to TMR. To illustrate this, Table 7.20 compares the SARs generated by the IPC in 2025 to those forecast during the existing life of the mine in 2028 H2 under baseline conditions with the expected decrease in mining operations, and during the existing life of the mine in 2028 H2 with the Project conditions. This demonstrates that while the Project is forecast to increase pavement impacts compared with baseline conditions, in many locations, it is forecast to result in a decrease in SARs compared with operating conditions in 2025.

Table 7.20: IPC-Generated Daily SARs in Existing Mine Operational Life

Road and Location	2025 Existing IPC		2028 H2 Base IPC		2028 H2 Project	
	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound
IDM Road	75.02	75.02	50.82	50.82	86.76	160.12
IPM Road	53.24	53.24	33.88	33.88	14.52	14.52
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	0.00	0.00	0.00	0.00	0.00	0.00
Peak Downs Highway Moranbah Access Road to IDM Road (Quarry to IDM Road)	41.14	41.14	21.78	21.78	81.63 (105.57)	42.33 (50.55)
Peak Downs Highway IDM Road to IPM Road	82.28	82.28	48.40	48.40	50.73	69.07
Peak Downs Highway IPM Road to Daunia Road	38.72	38.72	24.20	24.20	36.21	54.55
Peak Downs Highway Daunia Road to Coppabella	38.72	38.72	24.20	24.20	36.21	54.55
Peak Downs Highway Coppabella to Fitzroy Developmental Road	31.46	31.46	16.94	16.94	26.21	39.31
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	31.46	31.46	16.94	16.94	26.21	39.31
Moranbah Access Road North of Peak Downs Highway	41.14	41.14	21.78	21.78	42.33	81.63
Coppabella Road South of Peak Downs Highway	7.26	7.26	7.26	7.26	15.24	10.00
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	0.00	0.00	0.00	0.00	0.00	0.00

The forecast SARs generated by the IPC under baseline conditions and by the Project in the impact area for pavement assessment (against baseline conditions) are summarised in Table 7.21 (for northbound or eastbound travel) and Table 7.22 (for southbound or westbound travel). For clarity, these tables include only roads in the pavement impact area as identified in Table 7.4 and Table 7.5.

With regard to road pavements, the desired outcome is to ensure no net worsening to SCR pavements as a result of increased heavy vehicle traffic from the Project. TMR requires development contributions for all roads within the SCR network where development generated SAR4s exceed 5 % of base SAR4s. Contributions may be based on the marginal cost rate method (TMR, 2019), which applies a cost per SAR-km generated by the Project traffic. Table 7.23 summarises the total indicative SAR-km and cost on each section of Peak Downs Highway within the Project assessment area to inform that calculation.

Table 7.21: With Gazettal (Northbound or Eastbound) Daily IPC and Project SARs on Peak Downs Highway Impact Area

Road Link	2028 H2	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Base IPC Daily SARs																					
Moranbah Access Road to IDM Road	21.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IDM Road to IPM Road	48.40	4.84	4.84	4.84	4.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Daily SARs																					
Moranbah Access Road to Quarry	81.63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quarry to IDM Road	105.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IDM Road to IPM Road	50.73	43.56	43.56	43.56	43.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Impact																					
Moranbah Access Road to Quarry	59.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quarry to IDM Road	83.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IDM Road to IPM Road	2.33	38.72	38.72	38.72	38.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Refer to Table 7.4 for pavement impact area, shaded cells are outside the impact area.

Table 7.22: Against Gazettal (Southbound or Westbound) Daily IPC and Project SARs on Peak Downs Highway Impact Area

Road Link	2028 H2	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Base IPC Daily SARs																					
IDM Road to IPM Road	69.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IPM Road to Coppabella	54.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coppabella to Oxford Downs Sarina Road	39.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Daily SARs																					
IDM Road to IPM Road	69.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IPM Road to Coppabella	54.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coppabella to Oxford Downs Sarina Road	39.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Impact Daily SARs																					
IDM Road to IPM Road	20.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IPM Road to Coppabella	30.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coppabella to Oxford Downs Sarina Road	22.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Refer to Table 7.5 for pavement impact area, shaded cells are outside the impact area.

Table 7.23: Total Marginal Cost Pavement Impact Peak Downs Highway

Road Link	Daily Project Impact SARs					Distance (km)	Annual Project Impact SAR-km ('000)					Cumulative Total Project Impact SAR-km ('000)	Marginal Cost (cents per 0.1 km segment) ^A	Total Cost (\$)
	2028 H2	2029	2030	2031	2032		2028 H2	2029	2030	2031	2032			
With Gazettal														
Moranbah Access Road to Quarry	59.85	-	-	-	-	4.0	87.4	-	-	-	-	87.4	2.37	20,709
Quarry to IDM Road	83.79					7.2	220.2					220.2	2.64	58,274
IDM Road to IPM Road	2.33	38.72	38.72	38.72	38.72	0.2	-	2.8	2.8	2.8	2.8	11.4	4.08	4,682
Against Gazettal														
IDM Road to IPM Road	20.67	-	-	-	-	0.2	1.5	-	-	-	-	1.5	4.08	615
IPM Road to Coppabella	30.35	-	-	-	-	25.8	285.8	-	-	-	-	285.8	2.91	83,302
Coppabella to Oxford Downs Sarina Road	22.37	-	-	-	-	35.7	291.4	-	-	-	-	291.4	3.13	91,487

^A Source TMR Data Request Reference DR3411, average marginal cost rate over nominated segment length.

7.8 Railway Level Crossings

The Project would not generate additional road traffic at existing railway level crossings in the region.

The Project would continue to generate rail movements for the transport of product coal to the DBCT via the Goonyella Branch railway and the NQXT via the Newlands System. As discussed (Section 6.9), at peak production between 2030 to 2035, the Project is anticipated to generate approximately three to five trains per week on the Goonyella system to DBCT, and approximately one train per week on the Newlands rail system to NQXT. During the second half of the Project's life, this would reduce to approximately two to three trains per week on the Goonyella system to DBCT and fewer than one train per week on the Newlands system to NQXT. The Project's impact at rail level crossings on the Goonyella and Newlands systems would therefore be very low, and generally consistent with the current operations.

7.9 Other Considerations

7.9.1 DIDO and FIFO Roster Change Travel

With the changes forecast in the size of the workforce, changes would occur in the demand for transfer bus services and flights to and from Moranbah and Mackay. As discussed in Section 6.5, the Project is expected to result in an overall reduction in the number of workers travelling to and from the region each week compared to existing travel volumes, with those trips spread over several days of the week. The number of transfer buses and flights would be adjusted to meet the demands, with the impact on any one day being sufficiently small that detailed forecasts are not considered to be warranted.

7.9.2 Product Coal to Port

The Project would continue to generate rail movements for the transport of product coal to the DBCT via the Goonyella Branch railway and the NQXT via the Newlands System. As discussed (Section 6.9), at peak production between 2030 to 2035, the Project is anticipated to generate approximately three to five trains per week on the Goonyella system to DBCT, and approximately one train per week on the Newlands rail system to NQXT. During the second half of the Project's life, this would reduce to approximately two to three trains per week on the Goonyella system to DBCT and fewer than one train per week on the Newlands system to NQXT.

Stanmore would continue to manage its rail transport demands across its portfolio of mining operations in central Queensland to ensure efficiency and flexibility in delivering its product coal export-market commitments within the available rail capacity.

8 Summary and Conclusions

8.1 Summary

The Project

The Project would extend the life of mining operations at IPC (which comprises IDM and IPM) through the development of an open cut coal mine pit and associated infrastructure, primarily mining metallurgical coal. Approximately 46 Mt of ROM coal would be mined over 15 years, at a rate of up to 4.5 million tonnes per annum (Mtpa).

The Project adjoins IDM, and its operations would be integrated into IPC. ROM coal would be washed at the IPM CHPP, utilising the existing haul road under Peak Downs Highway, and the Project would utilise the existing MIA at IDM.

The primary vehicular access to the Project for workers and deliveries would be via IDM's existing access road from Peak Downs Highway, and a bridge that would be constructed across the Isaac River. Access to the CHPP at IPM would be via the IPM's existing access road from Peak Downs Highway.

A secondary access route to the Project would be provided between the Project and Stanmore's Eagle Downs project, utilising new and existing roads to connect with the Peak Downs Mine Road. The secondary access would not be used on a day-to-day basis by the workers or for deliveries, rather it would be used on an infrequent basis.

Road Safety Impacts

A road safety impact assessment has been undertaken, and changes to the risk profile within the impact assessment area with the Project identified, along with mitigation measures to mitigate any worsening of risks as a consequence of the Project. This found that:

- no high level risk items were identified under base conditions or with the Project;
- worsening of the side-swipe crash risk score on the IDM Road with the Project would be appropriately mitigated via improving the linemarking on the IDM Road as part of Stanmore's maintenance program and monitoring traffic movements on the road;
- the Project would result in reduction in safety risk associated with use of the IPM Road; and
- the other risk items would not be worsened by the project, with no mitigation measures required as a consequence of the Project.

The Project's travel demand management measures would minimise increases in traffic to reduce the likelihood of road crashes, and the other pre-existing safety risks not impacted by the Project would be addressed under TMR's regular maintenance programs, and ongoing monitoring of traffic movements.

With ongoing implementation of Stanmore's existing traffic management measures and maintenance of its private access roads, the Project would therefore meet the desired outcome of no significant worsening of road safety at any location on the SCR network, nor on the local roads that would be used by Project-generated traffic.

Access and Frontage Impacts

The Project's principal access would be via the existing intersections of Peak Downs Highway with the purpose-built intersections with IDM Road and IPM Road, both of which are constructed with CHL and CHR treatments in Peak Downs Highway which meet or exceed requirements based on forecast future demands.

The secondary access via Eagle Downs Mine Road would be used on an infrequent basis only, noting the intersection of Eagle Downs Mine Road and Peak Downs Mine Road is constructed with AUL and CHR treatments in Peak Downs Mine Road.

The access intersections are expected to operate at good levels of service with forecast peak demands, and sight distances meet or exceed requirements.

Intersection Delay Impacts

The key intersections used by Project-generated traffic would operate at good levels of service, with acceptable delays to vehicles with future demands. The Project would not increase average delays by more than 5 % in aggregate at the intersections in the impact area, hence the desired outcome is achieved without need for any mitigation measures. No infrastructure works would be required to accommodate the Project-generated traffic at the key intersections.

Road Link Capacity Impacts

Levels of Service on road links have been assessed using the *Highway Capacity Manual* method used by Austroads. Compared with base conditions, the Project would not result in any significant worsening of the level of service on road links, with levels of service forecast to be satisfactory. No measures would be required to provide additional capacity to accommodate the Project-generated traffic.

Pavement Impacts

The assessment of base and Project-generated SARs on the SCR (Peak Downs Highway) has identified the Project's impacts on pavement life compared with base conditions. The Project's SAR contribution on the impacted roads has been assessed to inform discussions with TMR. That assessment is considered to overestimate the Project's impacts, which is continuation of an existing mining operations at IPC and hence does not represent a material change compared to existing conditions. While practically, the baseline forecasts assumed that IPC-generated traffic will decline after 2025, it could continue to generate the higher number of heavy vehicle trips until mining operations cease. The impact assessment

compared Project forecasts against the declining baseline SARs rather than the potential higher SARs, thereby overestimating its impact.

Railway Level Crossings Impacts

The Project would not contribute road traffic at level crossings in the region, and would have negligible impact on the number of train movements compared with existing conditions. It would therefore have negligible impact on the safety or operation of railway level crossings.

Other Considerations

With the forecast minor reduction in the size of the workforce compared to the current IPC workforce, there would be minor reductions in the demand for transfer bus services and flights to and from Moranbah and Mackay. The Project is expected to result in an overall reduction in the number of workers travelling to and from the region each week, with those trips spread over several days of the week. The number of transfer buses and flights would be adjusted to meet the demands, with the impact on any one day being small.

8.2 Conclusions

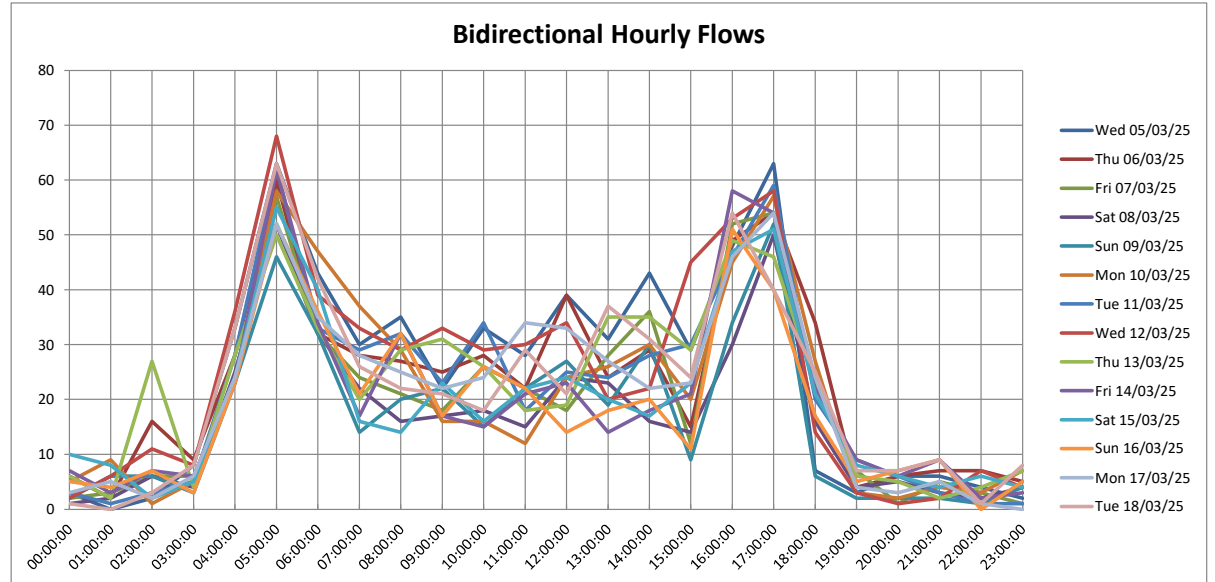
No upgrades to existing road and intersection infrastructure are required to support the Project, and the potential impacts of the Project can be appropriately managed or mitigated through:

- continued Project travel demand management through use of shuttle and transfer bus services for the operational and construction workforces;
- discussions with TMR with respect to appropriate contributions to support maintenance of Peak Downs Highway where the impacts of the Project on the pavement exceed those accounted for by the operation of the IPC; and
- ongoing implementation of Stanmore's existing traffic management measures and maintenance of the private site access roads.

Appendix A

Traffic Surveys

Client	TTPP
Project No.	25001
Suburb	Moranbah
Coordinates	22°00'50.6"S 148°09'06.9"E
Location	Isaac Downs Mine Access Road
Speed Limit	60 km/h
Start Day/Date	Wed 05/03/25
End Day/Date	Tue 18/03/25



Datetime	Wed 05/03/25	Thu 06/03/25	Fri 07/03/25	Sat 08/03/25	Sun 09/03/25	Mon 10/03/25	Tue 11/03/25	Wed 12/03/25	Thu 13/03/25	Fri 14/03/25	Sat 15/03/25	Sun 16/03/25	Mon 17/03/25	Tue 18/03/25	Virtual Weekday	Virtual Weekend
00:00:00	3	6	2	1	2	5	3	2	6	7	10	5	3	1	4	5
01:00:00	0	2	3	2	6	9	1	6	2	3	8	4	5	0	3	5
02:00:00	2	16	6	6	6	1	3	11	27	7	2	7	2	3	8	5
03:00:00	8	9	6	4	3	5	5	8	4	6	5	3	6	8	7	4
04:00:00	33	28	24	25	23	23	28	36	28	23	24	23	24	33	28	24
05:00:00	63	60	57	52	46	58	62	68	50	62	55	52	52	63	60	51
06:00:00	43	32	32	32	32	47	33	39	33	34	40	36	35	42	37	35
07:00:00	30	28	24	22	14	37	29	33	20	17	16	21	28	26	27	18
08:00:00	35	27	21	16	20	29	32	29	29	32	14	32	25	22	28	21
09:00:00	22	25	18	17	22	16	23	33	31	17	23	17	22	21	23	20
10:00:00	33	28	26	18	15	16	34	29	26	15	16	26	24	18	25	19
11:00:00	28	22	22	15	22	12	18	30	18	21	22	22	34	29	23	20
12:00:00	39	39	18	24	27	24	25	34	19	23	24	14	33	21	28	22
13:00:00	31	24	28	23	19	26	24	20	35	14	20	18	27	37	27	20
14:00:00	43	29	36	16	30	30	28	22	35	18	17	20	22	31	29	21
15:00:00	29	15	12	14	9	20	30	45	29	21	23	11	23	24	25	14
16:00:00	48	49	52	30	34	45	46	53	49	58	47	51	46	54	50	41
17:00:00	63	54	54	50	52	57	59	58	46	54	51	40	54	40	54	48
18:00:00	7	34	22	16	6	27	20	14	23	22	21	17	24	25	22	15
19:00:00	3	4	7	4	2	3	9	3	6	9	8	5	4	7	6	5
20:00:00	6	6	1	5	2	2	6	1	5	6	6	7	3	7	4	5
21:00:00	6	7	5	3	2	4	3	2	2	9	4	9	5	9	5	5
22:00:00	4	7	3	2	1	3	1	7	4	2	6	0	1	1	3	2
23:00:00	2	5	1	4	4	7	1	4	7	3	4	5	0	8	4	4
TOTAL	581	556	480	401	399	506	523	587	534	483	466	445	502	530	530	429

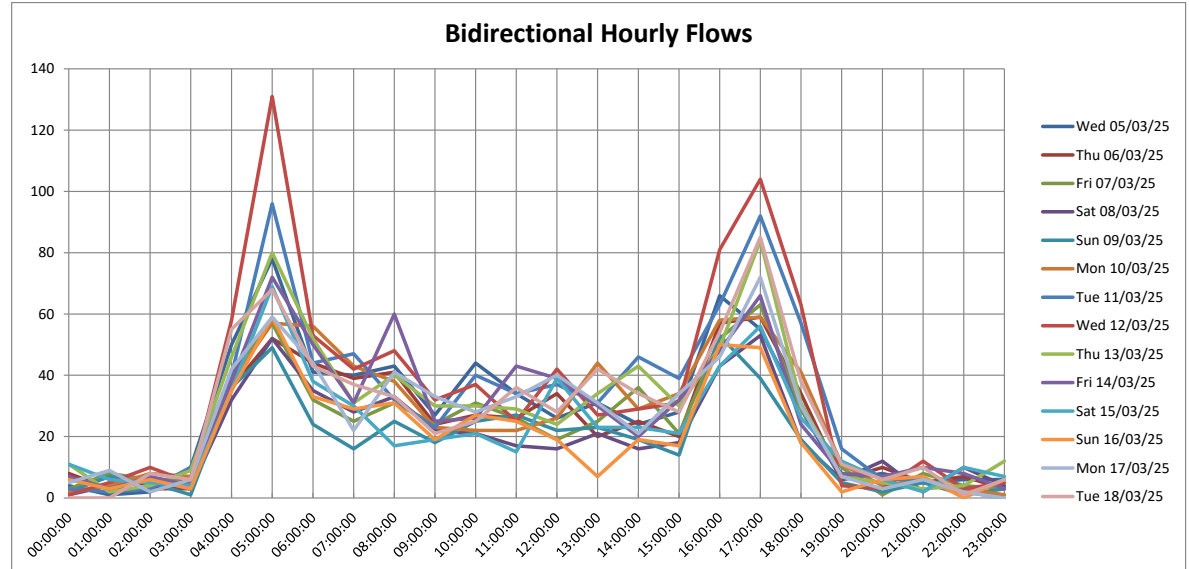
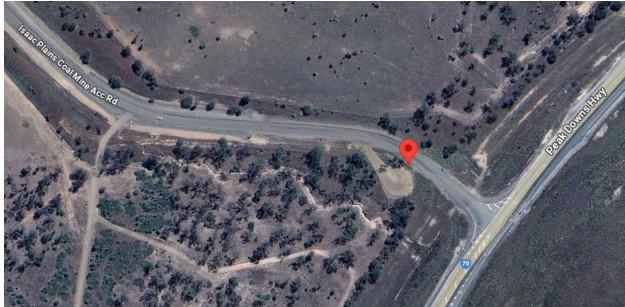
Criteria	Value
Daily Average (veh)	500
Weekday Average (veh)	528
Weekend Average (veh)	428
Busiest Day	Wed 12/03/25
Busiest Day Volume (veh)	587
Busiest Hour (starting on...)	Tue 2025-03-18 16:15:00
Busiest Hour Volume (veh)	80
Virtual Weekday AM Peak Hour	05:00:00
Virtual Weekday PM Peak Hour	17:00:00
Virtual Weekend AM Peak Hour	05:00:00
Virtual Weekend PM Peak Hour	17:00:00

Light Vehicle %	58%
Heavy Rigid Vehicle %	37%
Heavy Articulated Vehicle %	6%

Average Speed (km/h)	52.8
Maximum Speed (km/h)	99.8
85th Percentile Speed (km/h)	63.4

Eastbound %	50.12%
Westbound %	49.88%

Client	TTPP	
Project No.	25001	
Suburb	Moranbah	
Coordinates	22°00'50.6"S 148°09'06.9"E	
Location	Isaac Plains Coal Mine Acces Road	
Speed Limit	60 km/h	
Start Day/Date	Wed 05/03/25	
End Day/Date	Tue 18/03/25	



Datetime	Wed 05/03/25	Thu 06/03/25	Fri 07/03/25	Sat 08/03/25	Sun 09/03/25	Mon 10/03/25	Tue 11/03/25	Wed 12/03/25	Thu 13/03/25	Fri 14/03/25	Sat 15/03/25	Sun 16/03/25	Mon 17/03/25	Tue 18/03/25	Virtual Weekday	Virtual Weekend
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01:00:00	1	3	8	4	7	4	2	5	2	3	6	3	9	0	4	5
02:00:00	2	3	6	5	5	8	3	10	4	7	5	6	2	8	5	5
03:00:00	10	3	6	3	1	7	10	5	9	4	4	3	6	6	7	3
04:00:00	50	36	41	32	36	38	40	58	46	38	35	35	42	55	44	35
05:00:00	78	52	57	52	49	57	96	131	80	72	69	59	59	68	75	57
06:00:00	41	44	32	35	24	56	44	53	52	50	38	33	44	43	46	33
07:00:00	40	39	25	28	16	43	47	42	31	31	30	29	22	37	36	26
08:00:00	43	41	31	33	25	38	32	48	40	60	17	31	41	33	41	27
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22:00:00	6	7	4	10	1	3	2	3	4	8	10	0	2	1	4	5
23:00:00	6	3	3	4	3	1	0	5	12	3	7	6	0	6	4	5
TOTAL	664	586	561	472	440	636	769	851	690	661	538	476	616	675	673	484

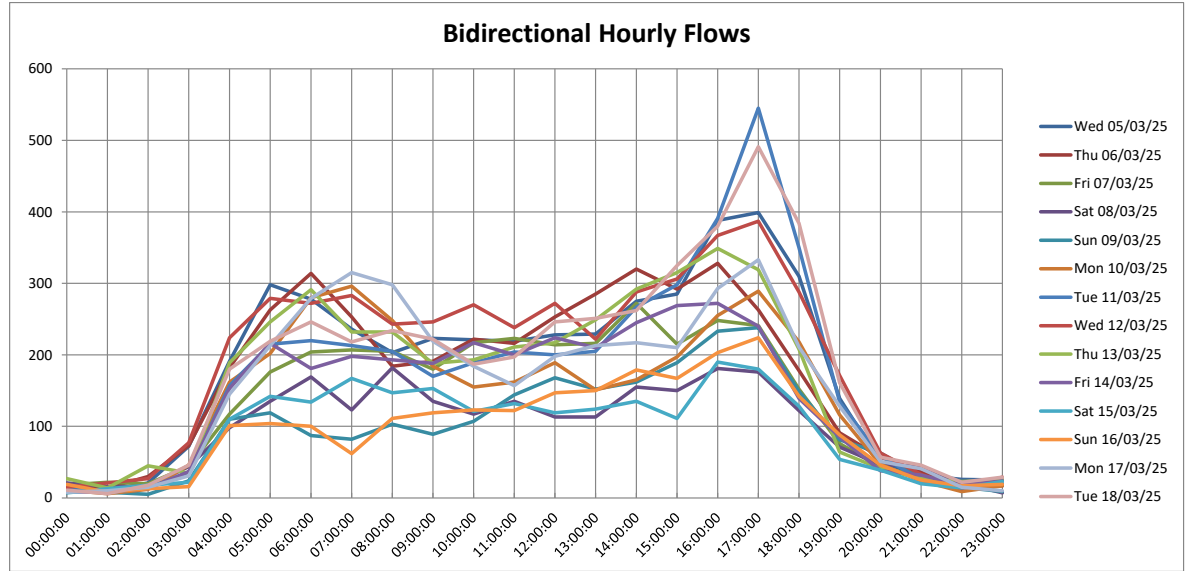
Criteria	Value
Daily Average (veh)	617
Weekday Average (veh)	671
Weekend Average (veh)	482
Busiest Day	Wed 12/03/25
Busiest Day Volume (veh)	851
Busiest Hour (starting on...)	Thu 2025-03-13 04:00:00
Busiest Hour Volume (veh)	131
Virtual Weekday AM Peak Hour	05:00:00
Virtual Weekday PM Peak Hour	17:00:00
Virtual Weekend AM Peak Hour	05:00:00
Virtual Weekend PM Peak Hour	17:00:00

Light Vehicle %	80%
Heavy Rigid Vehicle %	18%
Heavy Articulated Vehicle %	2%

Average Speed (km/h)	41.9
Maximum Speed (km/h)	101.1
85th Percentile Speed (km/h)	48.2

Eastbound %	48.26%
Westbound %	51.74%

Client	TTPP	
Project No.	25001	
Suburb	Moranbah	
Coordinates	22°00'31.1"S 148°09'20.7"E	
Location	Peak Downs Hwy	
Speed Limit	100 km/h	
Start Day/Date	Wed 05/03/25	
End Day/Date	Tue 18/03/25	



Datetime	Wed 05/03/25	Thu 06/03/25	Fri 07/03/25	Sat 08/03/25	Sun 09/03/25	Mon 10/03/25	Tue 11/03/25	Wed 12/03/25	Thu 13/03/25	Fri 14/03/25	Sat 15/03/25	Sun 16/03/25	Mon 17/03/25	Tue 18/03/25	Virtual Weekday	Virtual Weekend
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03:00:00	72	73	44	44	24	46	36	77	35	37	22	16	31	46	50	27
04:00:00	191	182	117	98	110	162	157	224	189	153	110	101	145	180	170	105
05:00:00	298	263	176	135	119	202	215	279	246	216	142	104	213	219	233	125
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08:00:00	203	184	205	182	103	248	205	243	232	193	147	111	298	234	225	136
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10:00:00	221	222	217	117	107	155	189	270	193	217	121	123	184	187	206	117
11:00:00	219	216	223	135	144	162	204	238	211	200	132	122	157	197	203	133
12:00:00	228	253	214	113	168	189	200	272	217	224	119	147	198	246	224	137
13:00:00	229	285	216	113	152	151	205	222	249	210	124	150	213	251	223	135
14:00:00	275	320	272	155	162	165	267	288	292	245	135	179	217	262	260	158
15:00:00	285	292	215	150	189	197	298	306	315	269	111	167	210	325	271	154
16:00:00	388	328	248	181	233	255	391	367	349	272	190	203	293	380	327	202
17:00:00	399	263	241	176	238	289	545	387	319	240	180	224	333	491	351	205
18:00:00	310	178	152	122	149	218	350	288	208	139	128	142	211	384	244	135
19:00:00	139	91	76	71	81	116	134	171	64	85	54	88	128	161	117	74
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23:00:00	25	17	18	7	9	17	20	29	25	24	23	19	10	29	21	15
TOTAL	4369	4098	3376	2391	2378	3441	4155	4634	4032	3409	2303	2305	3794	4438	3978	2349

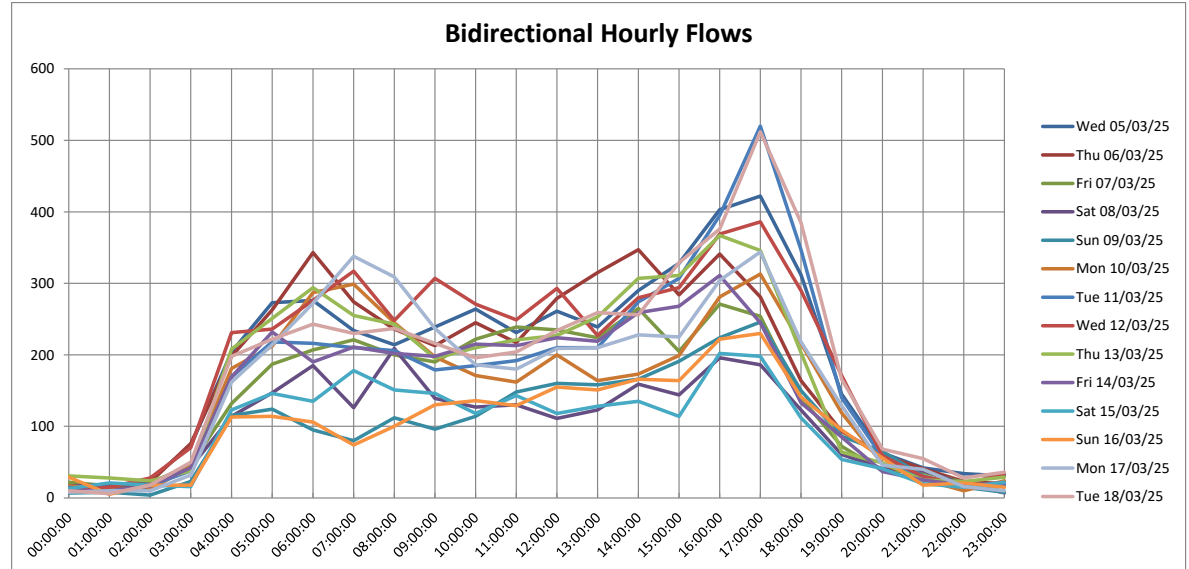
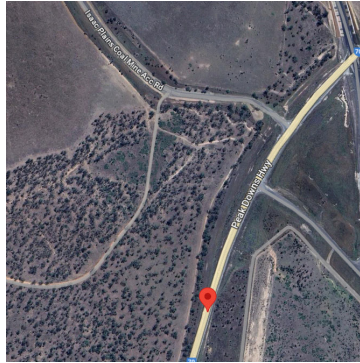
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Weekday Average (veh)	3975
Weekend Average (veh)	2344
Busiest Day	Wed 12/03/25
Busiest Day Volume (veh)	4634
Busiest Hour (starting on...)	Fri 2025-03-07 10:45:00
Busiest Hour Volume (veh)	545
Virtual Weekday AM Peak Hour	06:00:00
Virtual Weekday PM Peak Hour	17:00:00
Virtual Weekend AM Peak Hour	08:00:00
Virtual Weekend PM Peak Hour	17:00:00

Light Vehicle %	81%
Heavy Rigid Vehicle %	10%
Heavy Articulated Vehicle %	9%

Average Speed (km/h)	98.2
Maximum Speed (km/h)	159.8
85th Percentile Speed (km/h)	104.1

Southbound %	49.92%
Northbound %	50.08%

Client	TTPP	
Project No.	25001	
Suburb	Moranbah	
Coordinates	22°00'59.6"S 148°08'58.1"E	
Location	Peak Downs Hwy	
Speed Limit	100 km/h	
Start Day/Date	Wed 05/03/25	
End Day/Date	Tue 18/03/25	



Datetime	Wed 05/03/25	Thu 06/03/25	Fri 07/03/25	Sat 08/03/25	Sun 09/03/25	Mon 10/03/25	Tue 11/03/25	Wed 12/03/25	Thu 13/03/25	Fri 14/03/25	Sat 15/03/25	Sun 16/03/25	Mon 17/03/25	Tue 18/03/25	Virtual Weekday	Virtual Weekend
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05:00:00	273	263	187	147	124	212	218	236	251	232	146	114	214	222	231	133
06:00:00	276	343	207	185	95	287	216	276	294	190	135	106	272	243	260	130
07:00:00	234	274	221	126	80	299	210	317	255	211	178	74	338	230	259	115
08:00:00	214	236	200	209	112	245	206	248	243	202	151	100	309	237	234	143
09:00:00	239	213	190	139	96	197	179	307	195	198	146	130	237	216	217	128
10:00:00	264	245	222	127	114	171	185	271	210	215	118	136	186	196	217	124
11:00:00	231	217	239	130	148	162	192	249	221	213	143	129	180	204	211	138
12:00:00	261	279	235	111	160	200	210	293	227	224	118	155	209	234	237	136
13:00:00	239	315	224	123	158	164	210	227	253	219	128	151	210	259	232	140
14:00:00	290	347	265	159	166	173	274	280	307	259	135	166	228	256	268	157
15:00:00	328	284	205	144	191	199	307	294	311	268	114	164	225	329	275	153
16:00:00	403	341	271	196	224	281	395	369	367	311	202	222	304	376	342	211
17:00:00	422	281	254	186	246	313	520	386	346	245	198	230	344	512	362	215
18:00:00	312	164	140	123	150	216	347	290	203	133	112	141	218	385	241	132
19:00:00	145	93	72	61	86	119	140	171	64	85	54	95	129	166	118	74
20:00:00	63	60	38	41	65	48	57	59	49	37	41	56	46	68	53	51
21:00:00	42	41	36	38	31	26	27	30	25	25	20	18	40	55	35	27
22:00:00	34	23	22	20	15	10	19	19	23	18	15	21	16	28	21	18
23:00:00	31	20	9	7	8	24	18	34	29	21	22	15	10	36	23	13
TOTAL	4623	4370	3475	2484	2426	3612	4175	4713	4202	3555	2367	2406	3937	4534	4120	2424

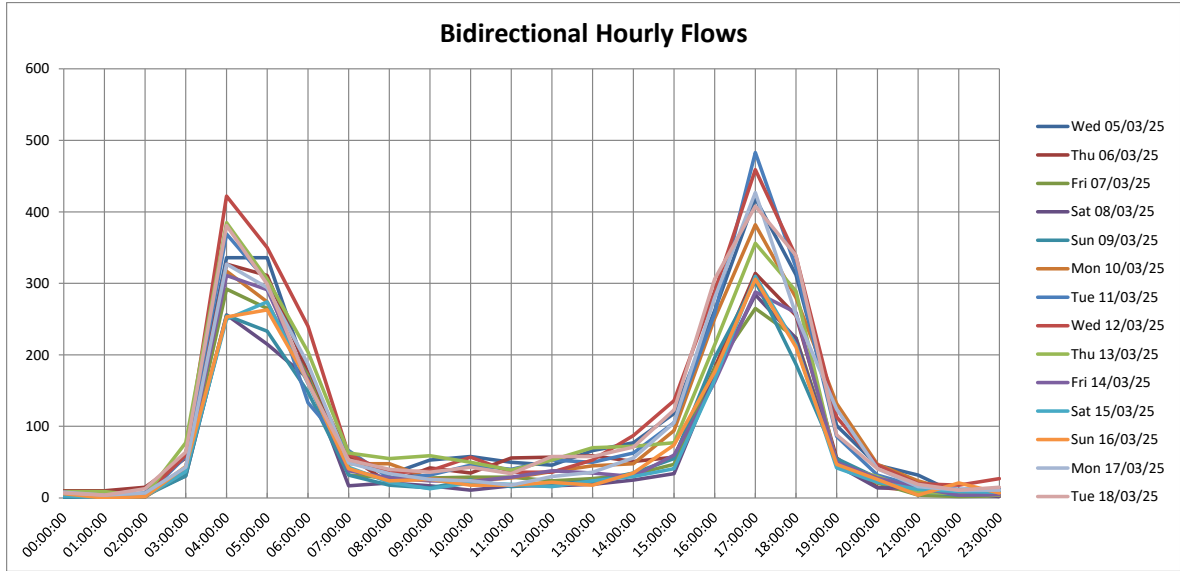
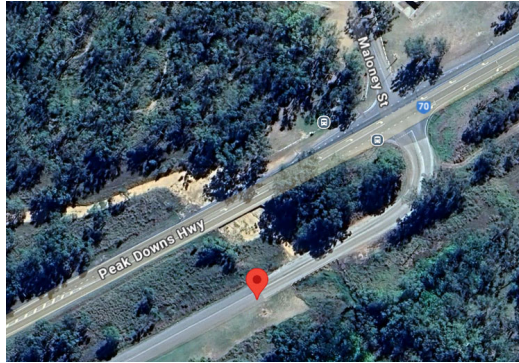
Criteria	Value
Daily Average (veh)	3634
Weekday Average (veh)	4120
Weekend Average (veh)	2421
Busiest Day	Wed 12/03/25
Busiest Day Volume (veh)	4713
Busiest Hour (starting on...)	Wed 2025-03-12 10:30:00
Busiest Hour Volume (veh)	520
Virtual Weekday AM Peak Hour	06:00:00
Virtual Weekday PM Peak Hour	17:00:00
Virtual Weekend AM Peak Hour	08:00:00
Virtual Weekend PM Peak Hour	17:00:00

Light Vehicle %	74%
Heavy Rigid Vehicle %	17%
Heavy Articulated Vehicle %	8%

Average Speed (km/h)	99.1
Maximum Speed (km/h)	157.6
85th Percentile Speed (km/h)	106.4

Southbound %	50.10%
Northbound %	49.90%

Client	TTPP
Project No.	25001
Suburb	Moranbah
Coordinates	21°54'22.4"S 148°22'12.1"E
Location	Civeo Access Rd
Speed Limit	60 km/h
Start Day/Date	Wed 05/03/25
End Day/Date	Tue 18/03/25



Datetime	Wed 05/03/25	Thu 06/03/25	Fri 07/03/25	Sat 08/03/25	Sun 09/03/25	Mon 10/03/25	Tue 11/03/25	Wed 12/03/25	Thu 13/03/25	Fri 14/03/25	Sat 15/03/25	Sun 16/03/25	Mon 17/03/25	Tue 18/03/25	Virtual Weekday	Virtual Weekend
00:00:00	1	10	2	4	1	4	3	6	9	8	3	6	8	7	6	4
01:00:00	3	10	4	1	2	1	7	8	9	2	1	0	4	4	5	1
02:00:00	7	15	5	5	3	1	2	4	3	3	2	2	7	13	6	3
03:00:00	62	56	37	31	31	38	58	60	77	43	37	44	43	64	54	36
04:00:00	336	327	292	256	255	317	369	422	385	311	250	253	327	381	347	254
05:00:00	336	311	265	215	233	274	303	350	306	291	274	263	294	299	303	246
06:00:00	170	175	171	167	148	162	133	240	204	164	160	163	187	160	177	160
07:00:00	52	58	32	17	32	48	66	61	63	38	43	41	49	53	52	33
08:00:00	33	21	28	21	18	48	28	35	55	28	22	24	34	40	35	21
09:00:00	53	42	28	17	14	27	32	38	59	24	13	26	26	36	37	18
10:00:00	58	35	29	11	25	24	46	57	50	23	21	18	24	43	39	19
11:00:00	50	56	29	17	16	28	40	36	39	29	19	18	18	34	36	18
12:00:00	46	57	24	17	20	37	53	36	53	38	16	22	30	58	43	19
13:00:00	66	59	27	19	23	45	50	53	70	35	24	18	36	58	50	21
14:00:00	77	51	33	25	35	48	63	87	72	30	30	35	56	71	59	31
15:00:00	118	57	47	34	55	94	105	136	77	60	41	74	105	123	92	51
16:00:00	262	182	181	172	196	251	258	289	214	162	165	176	280	306	239	177
17:00:00	419	314	265	284	303	382	483	459	356	288	310	306	427	408	380	301
18:00:00	312	255	224	223	187	280	322	338	289	259	214	211	256	339	287	209
19:00:00	101	56	52	46	55	132	86	113	46	50	42	47	124	88	85	48
20:00:00	46	15	21	14	28	47	32	46	30	28	22	26	41	41	35	23
21:00:00	32	10	4	14	9	24	16	20	8	14	12	4	16	19	16	10
22:00:00	5	9	2	8	4	8	12	18	6	4	9	21	11	11	9	11
23:00:00	8	3	3	2	5	4	13	27	4	5	8	7	11	15	9	6
TOTAL	2653	2184	1805	1620	1698	2324	2580	2939	2484	1937	1738	1805	2414	2671	2401	1720

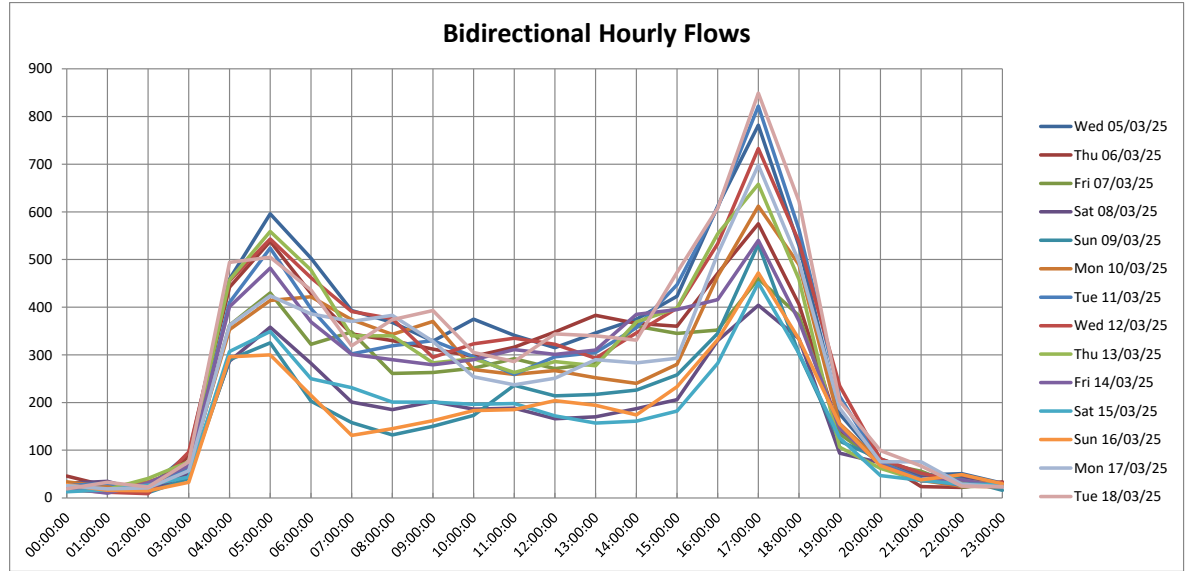
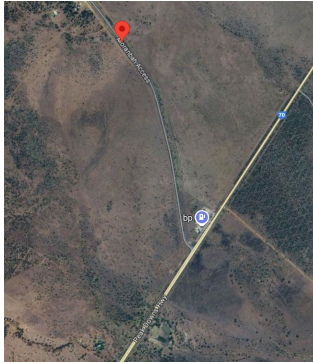
Criteria	Value
Daily Average (veh)	2204
Weekday Average (veh)	2399
Weekend Average (veh)	1715
Busiest Day	Wed 12/03/25
Busiest Day Volume (veh)	2939
Busiest Hour (starting on...)	Wed 2025-03-05 04:45:00
Busiest Hour Volume (veh)	512
Virtual Weekday AM Peak Hour	04:00:00
Virtual Weekday PM Peak Hour	17:00:00
Virtual Weekend AM Peak Hour	04:00:00
Virtual Weekend PM Peak Hour	17:00:00

Light Vehicle %	83%
Heavy Rigid Vehicle %	17%
Heavy Articulated Vehicle %	0%

Average Speed (km/h)	50.9
Maximum Speed (km/h)	136.8
85th Percentile Speed (km/h)	58.5

Southbound %	49.98%
Northbound %	50.02%

Client	TTPP	
Project No.	25001	
Suburb	Moranbah	
Coordinates	22°05'09.1"S 148°05'22.7"E	
Location	Moranbah Access Rd	
Speed Limit	100 km/h	
Start Day/Date	Wed 05/03/25	
End Day/Date	Tue 18/03/25	



Datetime	Wed 05/03/25	Thu 06/03/25	Fri 07/03/25	Sat 08/03/25	Sun 09/03/25	Mon 10/03/25	Tue 11/03/25	Wed 12/03/25	Thu 13/03/25	Fri 14/03/25	Sat 15/03/25	Sun 16/03/25	Mon 17/03/25	Tue 18/03/25	Virtual Weekday	Virtual Weekend
00:00:00	20	46	17	31	14	34	26	17	22	21	13	28	26	19	25	22
01:00:00	19	25	26	35	30	23	31	12	18	10	17	16	19	33	22	25
02:00:00	22	20	27	12	11	34	17	9	41	32	27	15	21	23	25	16
03:00:00	92	87	57	52	41	63	64	96	76	67	44	33	57	76	74	43
04:00:00	459	442	362	287	290	353	410	455	457	401	307	296	362	494	420	295
05:00:00	596	538	430	358	325	414	524	543	559	482	349	300	424	505	502	333
06:00:00	503	429	322	282	203	422	397	462	478	369	250	215	386	436	420	238
07:00:00	393	344	348	201	158	374	302	391	340	301	231	131	370	319	348	180
08:00:00	368	330	261	185	132	343	319	376	340	290	201	145	383	374	338	166
09:00:00	329	312	263	202	150	370	330	295	283	279	201	162	328	393	318	179
10:00:00	375	297	272	186	173	269	296	323	292	290	196	183	254	305	297	185
11:00:00	341	316	292	188	236	259	259	335	263	311	198	185	237	286	290	202
12:00:00	315	348	271	166	214	267	296	322	286	301	172	204	251	344	300	189
13:00:00	346	383	282	170	217	252	305	293	277	310	157	194	290	340	308	185
14:00:00	375	366	360	187	226	240	357	346	369	385	161	174	283	331	341	187
15:00:00	423	360	345	206	258	280	447	398	398	395	182	233	293	473	381	220
16:00:00	612	471	352	330	345	465	609	533	554	416	282	332	512	608	513	322
17:00:00	782	575	460	404	532	612	822	733	658	540	451	472	698	849	673	465
18:00:00	529	406	382	334	302	489	563	537	458	371	303	333	495	622	485	318
19:00:00	176	139	134	94	119	156	213	235	106	146	126	155	188	203	170	124
20:00:00	78	77	74	74	82	76	74	82	62	71	47	68	76	99	77	68
21:00:00	48	24	56	47	51	37	40	52	36	36	37	38	76	67	47	43
22:00:00	51	22	23	45	39	25	27	33	37	38	29	49	29	25	31	41
23:00:00	31	34	28	26	16	23	24	32	25	23	28	30	23	24	27	25
TOTAL	7283	6391	5444	4102	4164	5880	6752	6910	6435	5885	4009	3991	6081	7248	6432	4071

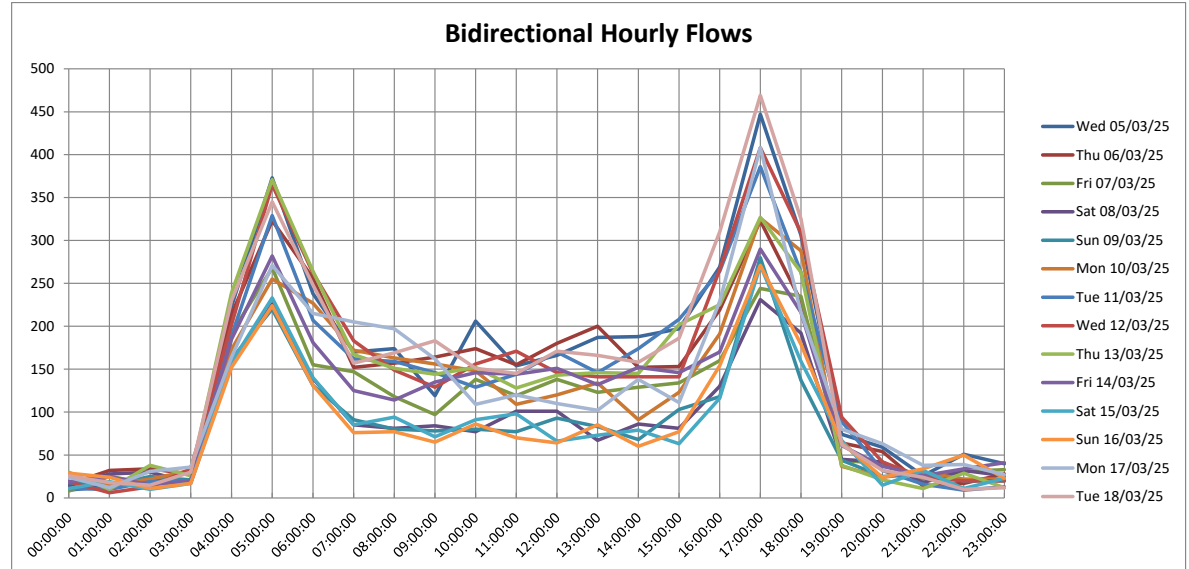
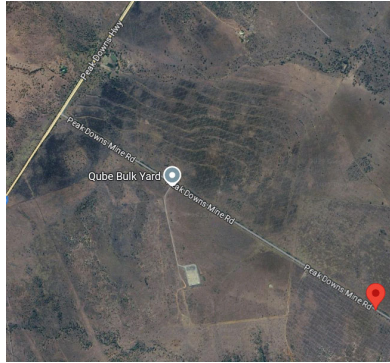
Criteria	Value
Daily Average (veh)	5755
Weekday Average (veh)	6431
Weekend Average (veh)	4067
Busiest Day	Wed 05/03/25
Busiest Day Volume (veh)	7283
Busiest Hour (starting on...)	Fri 2025-03-07 10:00:00
Busiest Hour Volume (veh)	872
Virtual Weekday AM Peak Hour	05:00:00
Virtual Weekday PM Peak Hour	17:00:00
Virtual Weekend AM Peak Hour	05:00:00
Virtual Weekend PM Peak Hour	17:00:00

Light Vehicle %	68%
Heavy Rigid Vehicle %	25%
Heavy Articulated Vehicle %	7%

Average Speed (km/h)	95.7
Maximum Speed (km/h)	159.0
85th Percentile Speed (km/h)	104.9

Northbound %	50.04%
Southbound %	49.96%

Client	TTPP	
Project No.	25001	
Suburb	Moranbah	
Coordinates	22°07'39.7"S 148°07'05.7"E	
Location	Peak Downs Mine Rd	
Speed Limit	100 km/h	
Start Day/Date	Wed 05/03/25	
End Day/Date	Tue 18/03/25	



Datetime	Wed 05/03/25	Thu 06/03/25	Fri 07/03/25	Sat 08/03/25	Sun 09/03/25	Mon 10/03/25	Tue 11/03/25	Wed 12/03/25	Thu 13/03/25	Fri 14/03/25	Sat 15/03/25	Sun 16/03/25	Mon 17/03/25	Tue 18/03/25	Virtual Weekday	Virtual Weekend
00:00:00	9	16	8	14	18	26	11	19	30	19	11	29	24	26	19	18
01:00:00	14	32	25	28	15	15	10	6	10	25	19	24	12	18	17	22
02:00:00	21	34	17	30	25	22	19	13	38	15	10	11	31	15	23	19
03:00:00	20	28	20	18	21	32	20	34	26	20	17	17	36	30	27	18
04:00:00	223	214	192	156	162	173	189	202	239	185	158	152	164	230	201	157
05:00:00	373	323	268	226	220	255	329	365	371	282	233	224	271	345	318	226
06:00:00	238	256	155	139	131	227	207	262	264	181	140	131	215	248	225	135
07:00:00	170	152	147	85	91	172	162	183	167	125	85	76	205	157	164	84
08:00:00	174	157	118	81	80	163	159	149	151	114	94	77	197	169	155	83
09:00:00	119	164	97	84	78	156	146	129	144	135	71	65	162	183	144	75
10:00:00	206	174	138	77	80	148	129	156	152	146	91	86	109	151	151	84
11:00:00	154	155	119	101	77	109	144	171	128	144	98	70	120	145	139	87
12:00:00	166	180	138	101	93	120	170	146	143	151	66	64	110	171	150	81
13:00:00	187	200	123	67	83	134	146	141	146	132	73	85	102	166	148	77
14:00:00	188	152	129	86	68	91	174	141	145	152	79	60	138	158	147	73
15:00:00	197	153	134	81	103	123	208	141	202	146	63	77	111	186	160	81
16:00:00	269	219	160	130	118	191	264	266	225	170	116	154	229	310	230	130
17:00:00	447	323	244	231	280	326	386	408	327	290	271	271	408	469	363	263
18:00:00	306	229	235	192	137	288	263	309	263	216	159	179	216	325	265	167
19:00:00	74	64	44	45	44	37	89	94	38	61	67	64	80	62	64	55
20:00:00	59	54	40	42	25	24	32	42	21	37	15	24	63	32	40	27
21:00:00	26	14	22	18	28	30	16	24	11	26	32	34	38	24	23	28
22:00:00	51	17	31	32	20	22	9	20	29	34	11	50	39	10	26	28
23:00:00	40	28	33	26	20	22	13	20	12	41	23	23	27	12	25	23
TOTAL	3731	3338	2637	2090	2017	2906	3295	3441	3282	2847	2002	2047	3107	3642	3224	2041

Criteria	Value
Daily Average (veh)	2884
Weekday Average (veh)	3223
Weekend Average (veh)	2039
Busiest Day	Wed 05/03/25
Busiest Day Volume (veh)	3731
Busiest Hour (starting on...)	Mon 2025-03-17 15:45:00
Busiest Hour Volume (veh)	485
Virtual Weekday AM Peak Hour	05:00:00
Virtual Weekday PM Peak Hour	17:00:00
Virtual Weekend AM Peak Hour	05:00:00
Virtual Weekend PM Peak Hour	17:00:00

Light Vehicle %	63%
Heavy Rigid Vehicle %	27%
Heavy Articulated Vehicle %	10%

Average Speed (km/h)	101.2
Maximum Speed (km/h)	159.0
85th Percentile Speed (km/h)	108.7

Northbound %	50.00%
Southbound %	50.00%

Client	TTPP
Project No.	25001
Suburb	Moranbah
Intersection	Peak Downs Hwy / Isaac Downs Mine Access
Coordinates	22°00'59.6"S 148°08'58.1"E
Day/Date	Wednesday, 5 March 2025
Weather	Fine
Control	Priority



Displayed Volume
Light Vehicles

Displayed Volume
Heavy Rigid Vehicles





Displayed Volume
Light Vehicles

Displayed Volume
Heavy Rigid Vehicles





Displayed Volume
Heavy Articulated Vehicle

Displayed Volume
Total Vehicles









Displayed Volume
Heavy Rigid Vehicles

The diagram shows a 3x3x3 Minesweeper minefield. The top row is labeled 'AM' (Ant Mine) and the bottom row is labeled 'PM' (Pit Mine). The middle row is labeled 'SP' (Spike Mine). The top row is labeled 'Total Eastbd' and the bottom row is labeled 'Total Westbd'. The middle row is labeled 'Peds'.

AM	PM	SP	Total Eastbd
0	0	0	0
60	316	1406	108
1	9	0	0
3	13	55	12
1	0	1,461	120
AM	PM	SP	Total Westbd

The diagram also includes a 3x3x3 grid of cells. The top row is labeled 'AM' (Ant Mine) and the bottom row is labeled 'PM' (Pit Mine). The middle row is labeled 'SP' (Spike Mine). The top row is labeled 'Total Eastbd' and the bottom row is labeled 'Total Westbd'. The middle row is labeled 'Peds'.

Client	TTTP
Project No.	25001
Suburb	Moranbah
Intersection	Peak Downs Hwy / Peak Downs Mine Rd
Coordinates	22°06'36.1"S 148°05'15.9"E
Day/Date	Wednesday, 5 March 2025
Weather	Fine
Control	Priority

Appendix B

Development Transport Forecasts

Eagle Downs Mine Traffic Contribution in 2028 (Year 2 Construction and Operation)

Road and Location	AM Peak (vehicles per hour)				PM Peak (vehicles per hour)				Daily (vehicles per day)			
	Inbound		Outbound		Inbound		Outbound		Inbound		Outbound	
	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
Eagle Downs Mine Access	90	14	8	3	8	3	90	14	181	42	181	42
Peak Downs Mine Road – Saraji Road Dysart to Eagle Downs Mine	18	0	2	0	2	0	18	0	36	6	36	6
Peak Downs Mine Road Eagle Downs Mine to Peak Downs Highway	72	14	6	3	6	3	72	14	145	36	145	36
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	72	14	6	3	6	3	72	14	145	36	145	36
Peak Downs Highway Moranbah Access Road to Coppabella	9	3	6	3	6	3	9	3	66	22	66	22
Peak Downs Highway Coppabella to Mackay	6	3	6	3	6	3	6	3	63	22	63	22
Moranbah Access Road Peak Downs Highway to Mills Avenue	63	11	0	0	0	0	63	11	79	14	79	14
Mills Avenue, Moranbah	8	0	0	0	0	0	8	0	10	0	10	0
Goonyella Road Mills Avenue to Curtin Street	55	11	0	0	0	0	55	11	69	14	69	14
Curtin Street, Moranbah	55	11	0	0	0	0	55	11	69	14	69	14
Coppabella Access	3	0	0	0	0	0	3	0	3	0	3	0

Direction of travel is relative to Eagle Downs Mine.

Eagle Downs Mine Traffic Contribution in 2034 and 2048 (Year 8 Operation)

Road and Location	AM Peak (vehicles per hour)				PM Peak (vehicles per hour)				Daily (vehicles per day)			
	Inbound		Outbound		Inbound		Outbound		Inbound		Outbound	
	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
Eagle Downs Mine Access	80	11	5	1	5	1	80	11	143	22	143	22
Peak Downs Mine Road – Saraji Road Dysart to Eagle Downs Mine	16	0	1	0	1	0	16	0	29	2	29	2
Peak Downs Mine Road Eagle Downs Mine to Peak Downs Highway	64	11	4	1	4	1	64	11	114	20	114	20
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	64	11	4	1	4	1	64	11	114	20	114	20
Peak Downs Highway Moranbah Access Road to Coppabella	6	1	4	1	4	1	6	1	42	8	42	8
Peak Downs Highway Coppabella to Mackay	4	1	4	1	4	1	4	1	40	8	40	8
Moranbah Access Road Peak Downs Highway to Mills Avenue	58	10	0	0	0	0	58	10	72	12	72	12
Mills Avenue, Moranbah	9	0	0	0	0	0	9	0	11	0	11	0
Goonyella Road Mills Avenue to Curtin Street	49	10	0	0	0	0	49	10	61	12	61	12
Curtin Street, Moranbah	49	10	0	0	0	0	49	10	61	12	61	12
Coppabella Access	2	0	0	0	0	0	2	0	2	0	2	0

Direction of travel is relative to Eagle Downs Mine.

Olive Downs Project – Additional Olive Downs South Domain Traffic Contribution in 2028 H2, 2034 and 2048 (above 2025)

Road and Location	AM Peak (vehicles per hour)				PM Peak (vehicles per hour)				Daily (vehicles per day)			
	Inbound		Outbound		Inbound		Outbound		Inbound		Outbound	
	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
Daunia Road south of Peak Downs Hwy	24	1	18	0	18	0	24	0	53	1	53	1
Peak Downs Highway Nebo/Mackay to Daunia Road	3	0	2	0	2	0	3	0	7	1	7	1
Peak Downs Highway Daunia Road to Moranbah Access Road	21	1	16	0	16	0	21	0	46	0	46	0
Peak Downs Highway Moranbah Access Road to Peak Downs Mine Road	7	0	5	0	5	0	7	0	15	0	15	0
Peak Downs Highway Moranbah Access Road to Peak Downs Mine Road	7	0	5	0	5	0	7	0	15	0	15	0
Peak Downs Mine Road / Saraji Road Peak Downs Highway to Dysart	7	0	5	0	5	0	7	0	15	0	15	0
Moranbah Access Road Peak Downs Highway to Mills Avenue	14	1	11	0	11	0	14	0	31	0	31	0
Mills Avenue, Moranbah	2	0	2	0	2	0	2	0	5	0	5	0
Goonyella Road Mills Avenue to Curtin Street	12	1	9	0	9	0	12	0	26	0	26	0
Curtin Street, Moranbah	12	1	9	0	9	0	12	0	26	0	26	0
Garnham Drive, Dysart	7	0	5	0	5	0	7	0	15	0	15	0

Direction of travel is relative to Olive Downs Mine Olive Downs South Domain.

Traffic is additional to surveyed conditions in 2025, with increase in workforce from 83 % of peak to 100 % of peak.

Excludes traffic generated to/from south via Annandale Road that does not use Project access routes.

Olive Downs Project – Willunga Downs Domain Traffic Contribution in 2034

Road and Location	AM Peak (vehicles per hour)				PM Peak (vehicles per hour)				Daily (vehicles per day)			
	Inbound		Outbound		Inbound		Outbound		Inbound		Outbound	
	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
Fitzroy Developmental Road Willunga Domain Access to Peak Downs Highway	36	12	35	12	35	3	36	3	89	54	89	54
Peak Downs Highway Nebo/Mackay to Fitzroy Developmental Road	5	10	4	10	4	3	5	3	11	50	11	50
Peak Downs Highway Fitzroy Developmental Road to Coppabella	31	2	31	2	31	0	31	0	78	4	78	4
Peak Downs Highway Coppabella to Moranbah Access Road	31	1	31	1	31	0	31	0	78	2	78	2
Peak Downs Highway Moranbah Access Road to Peak Downs Mine Road	11	0	11	0	11	0	11	0	28	0	28	0
Coppabella Access Road	11	0	11	0	11	0	11	0	28	0	28	0
Peak Downs Mine Road / Saraji Road Peak Downs Highway to Dysart	0	1	0	1	0	0	0	0	0	2	0	2
Moranbah Access Road Peak Downs Highway to Mills Avenue	20	1	20	1	20	0	20	0	50	2	50	2
Mills Avenue, Moranbah	3	0	3	0	3	0	3	0	7	0	7	0
Goonyella Road Mills Avenue to Curtin Street	17	1	17	1	17	0	17	0	43	2	43	2
Curtin Street, Moranbah	17	1	17	1	17	0	17	0	43	2	43	2
Garnham Drive, Dysart	11	0	11	0	11	0	11	0	28	0	28	0

Direction of travel is relative to Olive Downs Mine Willunga Downs Domain.

Excludes traffic generated to/from south via Fitzroy Developmental Road that does not use Project access routes.

Olive Downs Project – Willunga Downs Domain Traffic Contribution in 2048

Road and Location	AM Peak (vehicles per hour)				PM Peak (vehicles per hour)				Daily (vehicles per day)			
	Inbound		Outbound		Inbound		Outbound		Inbound		Outbound	
	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
Fitzroy Developmental Road Willunga Domain Access to Peak Downs Highway	51	3	34	3	34	0	51	0	107	5	107	5
Peak Downs Highway Nebo/Mackay to Fitzroy Developmental Road	7	1	4	1	4	0	7	0	14	1	14	1
Peak Downs Highway Fitzroy Developmental Road to Coppabella	44	2	30	2	30	0	44	0	93	4	93	4
Peak Downs Highway Coppabella to Moranbah Access Road	44	1	30	1	30	0	44	0	93	2	93	2
Peak Downs Highway Moranbah Access Road to Peak Downs Mine Road	14	0	10	0	10	0	14	0	31	0	31	0
Coppabella Access Road	14	0	10	0	10	0	14	0	31	0	31	0
Peak Downs Mine Road / Saraji Road Peak Downs Highway to Dysart	0	1	0	1	0	0	0	0	0	2	0	2
Moranbah Access Road Peak Downs Highway to Mills Avenue	30	1	20	1	20	0	30	0	62	2	62	2
Mills Avenue, Moranbah	5	0	3	0	3	0	5	0	9	0	9	0
Goonyella Road Mills Avenue to Curtin Street	25	1	17	1	17	0	25	0	53	2	53	2
Curtin Street, Moranbah	25	1	17	1	17	0	25	0	53	2	53	2
Garnham Drive, Dysart	14	0	10	0	10	0	14	0	31	0	31	0

Direction of travel is relative to Olive Downs Mine Willunga Downs Domain.

Excludes traffic generated to/from south via Fitzroy Developmental Road that does not use Project access routes.

Winchester South Project Traffic Contribution in 2028 H2 (Year 2 Construction and Initial Coal Production)

Road and Location	AM Peak (vehicles per hour)				PM Peak (vehicles per hour)				Daily (vehicles per day)			
	Inbound		Outbound		Inbound		Outbound		Inbound		Outbound	
	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
Winchester South Access (Eagle Downs Mine Access)	36	10	12	6	12	7	25	9	163	81	163	81
Peak Downs Mine Road / Saraji Road Dysart to Winchester South Access	0	0	0	0	0	0	0	0	1	0	1	0
Peak Downs Mine Road Winchester South Access to Peak Downs Highway	36	10	12	6	12	7	25	9	162	81	162	81
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	36	10	12	6	12	7	25	9	162	81	162	81
Peak Downs Highway Moranbah Access Road to Coppabella	1	7	0	3	0	3	0	7	2	68	2	68
Peak Downs Highway Coppabella to Mackay	0	7	0	3	0	3	0	7	0	68	0	68
Moranbah Access Road Peak Downs Highway to Mills Avenue	35	3	12	3	12	4	25	2	160	13	160	13
Mills Avenue, Moranbah	12	0	5	0	5	0	11	0	103	0	103	0
Goonyella Road Mills Avenue to Curtin Street	23	3	7	3	7	4	14	2	57	13	57	13
Curtin Street, Moranbah	23	3	7	3	7	4	14	2	57	13	57	13
Coppabella Access	1	0	0	0	0	0	0	0	2	0	2	0

Direction of travel is relative to Winchester South Project.

Winchester South Project Traffic Contribution in 2034 and 2048 (Year 8 Peak Operations)

Road and Location	AM Peak (vehicles per hour)				PM Peak (vehicles per hour)				Daily (vehicles per day)			
	Inbound		Outbound		Inbound		Outbound		Inbound		Outbound	
	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
Winchester South Access (Eagle Downs Mine Access)	15	2	33	4	34	5	10	4	111	39	111	39
Peak Downs Mine Road / Saraji Road Dysart to Winchester South Access	0	0	1	0	1	0	0	0	2	0	2	0
Peak Downs Mine Road Winchester South Access to Peak Downs Highway	15	2	32	4	33	5	10	4	109	39	109	39
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	15	2	32	4	33	5	10	4	109	39	109	39
Peak Downs Highway Moranbah Access Road to Coppabella	0	0	1	0	1	0	3	2	26	24	26	24
Peak Downs Highway Coppabella to Mackay	0	0	0	0	0	0	3	2	24	24	24	24
Moranbah Access Road Peak Downs Highway to Mills Avenue	15	2	31	4	32	5	7	2	83	15	83	15
Mills Avenue, Moranbah	2	0	5	0	6	1	1	1	18	6	18	6
Goonyella Road Mills Avenue to Curtin Street	13	2	26	4	26	4	6	1	65	9	65	9
Curtin Street, Moranbah	13	2	26	4	26	4	6	1	65	9	65	9
Coppabella Access	0	0	1	0	1	0	0	0	2	0	2	0

Direction of travel is relative to Winchester South Project.

Appendix C

Project Transport Forecasts

Project Traffic 2028 H2 – Construction

	IDM Road			IPM Road		
	Light	Heavy	Total	Light	Heavy	Total
AM Peak Hour (vehicles per hour)						
Inbound	25	7	32	0	0	0
from West	20	5	25	0	0	0
from East	5	2	7	0	0	0
from Mine ^A	0	0	0	0	0	0
Outbound	0	3	3	0	0	0
to West	0	2	2	0	0	0
to East	0	1	1	0	0	0
to Mine ^A	0	0	0	0	0	0
PM Peak Hour (vehicles per hour)						
Inbound	0	3	3	0	0	0
from West	0	2	2	0	0	0
from East	0	1	1	0	0	0
from Mine ^A	0	0	0	0	0	0
Outbound	25	7	32	0	0	0
to West	20	5	25	0	0	0
to East	5	2	7	0	0	0
to Mine ^A	0	0	0	0	0	0
Average Daily (vehicles per day)						
Inbound	25	28	53	0	0	0
from West	20	21	41	0	0	0
from East	5	7	12	0	0	0
from Mine ^A	0	0	0	0	0	0
Outbound	25	28	40	0	0	0
to West	20	21	41	0	0	0
to East	5	7	12	0	0	0
to Mine ^A	0	0	0	0	0	0

^A Trips made between IDM Road and IPM Road (shaded) are included on both access roads in this table.

Project Traffic 2028 H2 – Operational

	IDM Road			IPM Road		
	Light	Heavy	Total	Light	Heavy	Total
AM Peak Hour 4:45 am to 5:45 am (vehicles per hour)						
Inbound	42	2	44	11	1	12
from West	21	1	22	5	1	6
from East	20	1	21	5	0	5
from Mine ^A	1	0	1	1	0	1
Outbound	24	0	24	9	1	10
to West	12	0	12	4	1	5
to East	11	0	11	4	0	4
to Mine ^A	1	0	1	1	0	1
PM Peak Hour 4:30 pm to 5:30 pm (vehicles per hour)						
Inbound	35	4	39	10	2	12
from West	17	2	19	4	1	5
from East	16	1	17	4	0	4
from Mine ^A	2	1	3	2	1	3
Outbound	43	3	46	8	1	9
to West	21	1	22	3	0	3
to East	20	1	21	3	0	3
to Mine ^A	2	1	3	2	1	3
Average Daily (vehicles per day)						
Inbound	209	20	229	79	6	85
from West	94	6	100	24	3	27
from East	84	11	95	24	0	24
from Mine ^A	31	3	34	31	3	34
Outbound	209	20	229	79	6	85
to West	94	6	100	24	3	27
to East	84	11	95	24	0	24
to Mine ^A	31	3	34	31	3	34

^A Trips made between IDM Road and IPM Road (shaded) are included on both access roads in this table.

Project Traffic 2034

	IDM Road			IPM Road		
	Light	Heavy	Total	Light	Heavy	Total
AM Peak Hour 4:45 am to 5:45 am (vehicles per hour)						
Inbound	37	3	40	18	1	19
from West	21	1	22	6	1	7
from East	15	2	17	11	0	11
from Mine ^A	1	0	1	1	0	1
Outbound	22	0	22	6	1	7
to West	11	0	11	5	1	6
to East	10	0	10	0	0	0
to Mine ^A	1	0	1	1	0	1
PM Peak Hour 4:30 pm to 5:30 pm (vehicles per hour)						
Inbound	31	5	36	9	2	11
from West	17	2	19	5	1	6
from East	12	2	14	2	0	2
from Mine ^A	2	1	3	2	1	3
Outbound	37	5	42	13	1	14
to West	21	2	23	4	0	4
to East	14	2	16	7	0	7
to Mine ^A	2	1	3	2	1	3
Average Daily (vehicles per day)						
Inbound	200	25	225	99	8	107
from West	91	9	100	32	2	34
from East	67	12	79	25	2	27
from Mine ^A	42	4	46	42	4	46
Outbound	200	25	225	99	8	107
to West	91	9	100	32	2	34
to East	67	12	79	25	2	27
to Mine ^A	42	4	46	42	4	46

^A Trips made between IDM Road and IPM Road (shaded) are included on both access roads in this table.

Project Traffic 2048

	IDM Road			IPM Road		
	Light	Heavy	Total	Light	Heavy	Total
AM Peak Hour 4:45 am to 5:45 am (vehicles per hour)						
Inbound	21	2	23	0	0	0
from West	16	2	18	0	0	0
from East	5	0	5	0	0	0
from Mine ^A	0	0	0	0	0	0
Outbound	0	2	2	0	0	0
to West	0	2	2	0	0	0
to East	0	0	0	0	0	0
to Mine ^A	0	0	0	0	0	0
PM Peak Hour 4:30 pm to 5:30 pm (vehicles per hour)						
Inbound	0	2	2	0	0	0
from West	0	2	2	0	0	0
from East	0	0	0	0	0	0
from Mine ^A	0	0	0	0	0	0
Outbound	21	2	23	0	0	0
to West	16	2	18	0	0	0
to East	5	0	5	0	0	0
to Mine ^A	0	0	0	0	0	0
Average Daily (vehicles per day)						
Inbound	21	4	25	0	0	0
from West	16	4	20	0	0	0
from East	5	0	5	0	0	0
from Mine ^A	0	0	0	0	0	0
Outbound	21	4	25	0	0	0
to West	16	4	20	0	0	0
to East	5	0	5	0	0	0
to Mine ^A	0	0	0	0	0	0

^A Trips made between IDM Road and IPM Road (shaded) are included on both access roads in this table.

Appendix D

Project Impacts

Link Impact Area 2028 H2 – AADT

	Base AADT		Project AADT		Project > 5 % of Base	
	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound
IDM Road	156	156	282	282	>5%	>5%
IPM Road	83	83	85	85	>5%	>5%
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	2,384	2,384	10	10	-	-
Peak Downs Highway Moranbah Access Road to Quarry Access	2,067	2,073	162	162	>5%	>5%
Peak Downs Highway Quarry Access to IDM Road	2,101	2,066	168	168	>5%	>5%
Peak Downs Highway IDM Road to IPM Road	2,037	2,031	168	168	>5%	>5%
Peak Downs Highway IPM Road to Daunia Road	1,926	1,925	131	131	>5%	>5%
Peak Downs Highway Daunia Road to Coppabella	1,659	1,560	131	131	>5%	>5%
Peak Downs Highway Coppabella to Fitzroy Developmental Road	1,581	1,490	13	13	-	-
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	3,309	3,305	13	13	-	-
Moranbah Access Road North of Peak Downs Highway	83	83	152	152	-	-
Coppabella Road South of Peak Downs Highway	1,995	1,995	118	118	>5%	>5%
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	0	0	10	10	-	-

Link Impact Area 2034 – AADT

	Base AADT		Project AADT		Project > 5 % of Base	
	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound
IDM Road	11	11	225	225	>5%	>5%
IPM Road	6	6	107	107	>5%	>5%
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	2,586	2,586	10	10	-	-
Peak Downs Highway Moranbah Access Road to IDM Road	2,305	2,314	134	134	>5%	>5%
Peak Downs Highway IDM Road to IPM Road	2,299	2,258	159	159	>5%	>5%
Peak Downs Highway IPM Road to Daunia Road	2,263	2,257	106	106	-	-
Peak Downs Highway Daunia Road to Coppabella	2,197	2,195	106	106	-	-
Peak Downs Highway Coppabella to Fitzroy Developmental Road	1,983	1,806	11	11	-	-
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	1,834	1,758	11	11	-	-
Moranbah Access Road North of Peak Downs Highway	3,681	3,676	124	124	-	-
Coppabella Road South of Peak Downs Highway	988	988	95	95	>5%	>5%
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	2,135	2,135	10	10	-	-

Link Impact Area 2048 – AADT

	Base AADT		Project AADT		Project > 5 % of Base	
	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound
IDM Road	0	0	25	25	>5%	>5%
IPM Road	0	0	0	0	-	-
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	3,544	3,544	0	0	-	-
Peak Downs Highway Moranbah Access Road to IDM Road	3,183	3,195	18	18	-	-
Peak Downs Highway IDM Road to IPM Road	3,177	3,121	7	7	-	-
Peak Downs Highway IPM Road to Daunia Road	3,132	3,124	7	7	-	-
Peak Downs Highway Daunia Road to Coppabella	3,066	3,062	7	7	-	-
Peak Downs Highway Coppabella to Fitzroy Developmental Road	2,683	2,504	2	2	-	-
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	2,508	2,395	2	2	-	-
Moranbah Access Road North of Peak Downs Highway	5,121	5,114	18	18	-	-
Coppabella Road South of Peak Downs Highway	985	985	5	5	-	-
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	2,902	2,902	0	0	-	-

Link Impact Area 2028 H2 – SARs

	Base SARs		Project SARs		Project > 5 % of Base	
	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound
IDM Road	50.82	50.82	86.76	160.12	>5%	>5%
IPM Road	33.88	33.88	14.52	14.52	>5%	>5%
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	2754.03	2754.03	0	0	-	-
Peak Downs Highway Moranbah Access Road to Quarry Access	960.78	1158.28	81.63	42.33	>5%	-
Peak Downs Highway Quarry Access to IDM Road	976.94	972.1	105.57	50.55	>5%	-
Peak Downs Highway IDM Road to IPM Road	976.94	972.1	50.73	69.07	>5%	>5%
Peak Downs Highway IPM Road to Daunia Road	938.22	952.74	36.21	54.55	-	>5%
Peak Downs Highway Daunia Road to Coppabella	748.61	763.13	36.21	54.55	-	>5%
Peak Downs Highway Coppabella to Fitzroy Developmental Road	804.83	700.85	26.21	39.31	-	>5%
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	1194.06	711.53	26.21	39.31	-	>5%
Moranbah Access Road North of Peak Downs Highway	843.77	1438.61	42.33	81.63	>5%	>5%
Coppabella Road South of Peak Downs Highway	181.50	181.50	15.24	10.00	>5%	>5%
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	1163.73	1071.85	0	0	-	-

Link Impact Area 2034 – AADT

	Base SARs		Project SARs		Project > 5 % of Base	
	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound
IDM Road	2.42	2.42	60.5	60.5	>5%	>5%
IPM Road	2.42	2.42	19.36	19.36	>5%	>5%
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	3,098.69	3,098.69	0	0	-	-
Peak Downs Highway Moranbah Access Road to IDM Road	923.74	1,166.04	26.62	26.62	-	-
Peak Downs Highway IDM Road to IPM Road	918.9	910.86	43.56	43.56	-	-
Peak Downs Highway IPM Road to Daunia Road	895.56	916.48	33.88	33.88	-	-
Peak Downs Highway Daunia Road to Coppabella	830.47	851.39	33.88	33.88	-	-
Peak Downs Highway Coppabella to Fitzroy Developmental Road	890.99	623.11	26.62	26.62	-	-
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	1497.3	930.09	26.62	26.62	-	-
Moranbah Access Road North of Peak Downs Highway	986.87	1706.51	26.62	26.62	-	-
Coppabella Road South of Peak Downs Highway	185.56	185.56	7.26	7.26	-	-
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	1,175.59	1,064.51	0	0	-	-

Link Impact Area 2048 – AADT

	Base SARs		Project SARs		Project > 5 % of Base	
	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound	Northbound or Eastbound	Southbound or Westbound
IDM Road	0	0	9.68	9.68	>5%	>5%
IPM Road	0	0	0	0	-	-
Peak Downs Highway Peak Downs Mine Road to Moranbah Access Road	4,634.69	4,634.69	0	0	-	-
Peak Downs Highway Moranbah Access Road to IDM Road	1,356.52	1,723.62	4.84	4.84	-	-
Peak Downs Highway IDM Road to IPM Road	1,339.66	1,331.62	4.84	4.84	-	-
Peak Downs Highway IPM Road to Daunia Road	1,309.14	1,339.66	4.84	4.84	-	-
Peak Downs Highway Daunia Road to Coppabella	1,244.05	1,274.57	4.84	4.84	-	-
Peak Downs Highway Coppabella to Fitzroy Developmental Road	1,085.9	889.49	4.84	4.84	-	-
Peak Downs Highway Fitzroy Developmental Road Oxford Downs Sarina Road	2,037.81	1,189.00	4.84	4.84	-	-
Moranbah Access Road North of Peak Downs Highway	1,458.05	2,555.29	4.84	4.84	-	-
Coppabella Road South of Peak Downs Highway	185.56	185.56	0	0	-	-
Peak Downs Mine Road Peak Downs Highway to Eagle Downs Mine Road	1,700.39	1,534.91	0	0	-	-

Appendix E

Certification

Certification of Traffic Impact Assessment Report

Registered Professional Engineer Queensland

for:

Project title:	Isaac Downs Extension Project
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As a professional engineer registered by the Board of Professional Engineers of Queensland pursuant to the *Professional Engineers Act 2002* as competent in my areas of nominated expertise, I understand and recognise:

- the significant role of engineering as a profession, and that
- the community has a legitimate expectation that my certification affixed to this engineering work can be trusted, and that
- I am responsible for ensuring its preparation has satisfied all necessary standards, conduct and contemporary practice.

As the responsible RPEQ, I certify:

- I am satisfied that all submitted components comprising this traffic impact assessment, listed in the following table, have been completed in accordance with the *Guide to Traffic Impact Assessment* published by the Queensland Department of Transport and Main Roads and using sound engineering principles, and
- where specialised areas of work have not been under my direct supervision, I have reviewed the outcomes of the work and consider the work and its outcomes as suitable for the purposes of this traffic impact assessment, and that
- the outcomes of this traffic impact assessment are a true reflection of results of assessment, and that
- I believe the strategies recommended for mitigating impacts by this traffic impact assessment, embrace contemporary practice initiatives and will deliver the desired outcomes.

Name:	Penny Dalton	RPEQ No:	20950
RPEQ competencies:	Civil		
Signature:		Date:	24 March 2026
Postal address:	PO Box 237 St Leonards NSW 1590		
Email:	penny.dalton@ttpp.net.au		

The Transport Planning Partnership
Suite 402 Level 4, 22 Atchison Street
St Leonards NSW 2065

P.O. Box 237
St Leonards NSW 1590

02 8437 7800

info@tpp.net.au

www.tpp.net.au