



Proposed Expansion of the  
Metcash Site  
Huntingwood West

Traffic and Parking Assessment

transportation planning, design and delivery

# Proposed Expansion of the Metcash Site

## Huntingwood West

### Traffic and Parking Assessment

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## 1. Introduction

GTA Consultants (GTA) has been commissioned by Goodman Property Services (Aust) Pty Ltd (Goodman) to prepare this traffic and parking impact assessment for the proposed expansion of the Metcash site at Huntingwood West.

The subject site is currently occupied by Metcash Limited (Metcash) and is used as Metcash's distribution centre servicing its NSW operation consistent with the approvals granted for the site in Project Application MP10\_0140. The Project Application envisaged that the subject site would be developed over a number of stages. The proposed expansion involves the implementation of one of the latter stages of the approved development.

The proposal relates to the construction of a high bay warehouse as an extension to the existing warehouse (known as Warehouse 1) located in the south eastern corner of the subject site. The proposed extension would increase the currently in use warehouse floor space area by an additional 10,792m<sup>2</sup>. The proposed expansion is consistent with the previous approval for the site.

The subject site is part of a larger site known as Bungarribee Industrial Estate located in the local government area of Blacktown City Council. The Bungarribee Industrial Estate has been granted a number of approvals to allow it to be developed as employment land.

This report has been set out as follows:

- Chapter 2 provides a description of the existing situation including a summary of the existing approvals in relation to the site
- Chapter 3 describes the proposed development
- Chapter 4 assesses the traffic impacts of the proposed development
- Chapter 5 addresses parking requirement for the proposed development
- Chapter 6 provides a summary and conclusion of the assessment.

## 2. Existing Conditions

### 2.1 Site Description

The subject (Metcash) site is located within the Bungarribee Industrial Estate. The Bungarribee Industrial Estate is bounded by the Great Western Highway to the north, Brabham Drive to the east, Eastern Creek to the west and the M4 Motorway to the south.

The Bungarribee Industrial Estate site is located to the west of the existing Huntingwood industrial precinct and opposite the proposed Bungarribee Precinct across the Great Western Highway. The Bungarribee Precinct is envisaged to be developed into residential and parkland uses.

The Bungarribee Industrial Estate has been subdivided into six lots. The subject site is located on part of Lot 2 and Lot 3 located in the south eastern corner of the Bungarribee Industrial Estate.

Figure 2.1 shows the location of the subject site in relation to the overall Bungarribee Industrial Estate.

**Figure 2.1: Subject Site and Its Environs**



## 2.2 Existing Road Network

The M4 Motorway is a major east-west road between Strathfield and Penrith and forms the key link between Sydney CBD and the western suburbs. In the vicinity of the site, it is configured as a six lane divided access restricted motorway with a sign posted speed limit of 100km/hr. To the immediate west of the site, it connects to the M7 Motorway via a grade separated interchange.

The Great Western Highway is an east-west state road that also acts as link between the Sydney CBD and the western suburbs. Along the site frontage, it is constructed as a four-lane divided road with a posted speed limit of 80km/hr. Intersections along the Great Western Highway are under signal control.

Brabham Drive is a local four-lane divided industrial road. It runs along the eastern boundary of the Bungaribee Industrial Estate. It intersects with the Great Western Highway to form a signalised intersection. Brabham Drive also intersection with Huntingwood Road to form a three legged roundabout which has two lanes on each approach. Following completion of the initial stages of the Metcash development, the roundabout has been upgraded with a fourth leg which provides access to the Metcash site and other developments within the Bungaribee Industrial Estate.

## 2.3 Bungaribee Industrial Estate Approval

The Bungaribee Industrial Estate site has been the subject of numerous planning assessments and approvals.

Beginning with the approval of the original Concept Plan (MPo6\_0203) approval granted in December 2006, it allows the 46ha Bungaribee Industrial Estate site to be subdivided into 47 lots for the purposes of providing employment generating uses. This approval also allows vehicular accesses to be provided off the Great Western Highway and Brabham Drive.

Following the Concept Plan approval, a Project Application (MPo8\_0055) was submitted and subsequently approved in September 2008 to modify the approved subdivision layout to provide six lots instead of the 47 lots originally approved.

In January 2011, a separate Project Application (MPo8\_0225) was approved for Stage 1 infrastructure works associated with the Bungaribee Industrial Estate to facilitate development on the site consistent with the approved Concept Plan. This application also includes modifications to Concept Plan approval (MPo6\_0203), but does not affect approved subdivision layout.

A Section 75W application was lodged and approved in March 2011 to modify the subdivision layout approved under MPo8\_0055 which resulted in the creation of two additional lots.

## 2.4 Metcash Site Approval

Amongst the various project applications and approvals for the overall Bungaribee Industrial Estate, there was a separate Project Application (MP10\_0140) that specifically relates to the subject site. This Project Application was lodged and approved by the Department of Planning in February 2011.

The Project Application sought approval for part of Lot 2 and Lot 3 at the Bungaribee Industrial Estate to be developed as a distribution centre. The Department of Planning approved the proposed distribution centre on the subject site to provide a total floor area of 104,929m<sup>2</sup> gross floor area (GFA).

This comprises 91,471m<sup>2</sup> of warehouse floor area and 13,458m<sup>2</sup> of office area (to accommodate Metcash's regional office).

The proposed distribution centre would have three warehouse buildings with ancillary office building. It would be developed over a number of stages as follows:

- Stage 1 Warehouse 1 (42,388m<sup>2</sup>) and Regional Office (5,276m<sup>2</sup>)
- Stage 2 Warehouse 2 and Warehouse 3 (19,258m<sup>2</sup>) and Office (1,173m<sup>2</sup>)
- Stage 3 Warehouse 1 expansion (14,386m<sup>2</sup>) and Office (64m<sup>2</sup>)
- Stage 4A Office (2,315m<sup>2</sup>)
- Stage 4B Office (4,630m<sup>2</sup>)
- Stage 5 Warehouse 1 expansion (15,439m<sup>2</sup>).

In addition, it was also approved to allow 790 car parking spaces to be provided on-site.

The distribution centre was purposely designed and built for Metcash Limited (Metcash). Following the completion of Stage 1 of the facility in late 2011, Metcash has consolidated its NSW operation and relocated to the subject site. Thus far, of the five development stages Stages 1 to 4B have been completed.

The proposed expansion which is the subject matter of this assessment forms part of the previous approval for Stage 5.

## 3. Proposed Development

### 3.1 Development Description

The proposed development involves extending the existing warehouse building known as Warehouse 1 to the south. The proposed warehouse building would be attached to the southern end of the existing Warehouse 1 building. The new building would add an additional 10,792m<sup>2</sup> to the current (warehouse) development floor area.

In addition to this, further future expansions on the site are anticipated which would provide additional warehouse floor space area. These future anticipated expansions would be subject to future development applications and, as such, these are not considered further in this assessment.

The proposed additional floor space would be provided over one level only i.e. single level building. It would have a height of 27.170m beneath the ridge of the warehouse. The additional height of the building is required to accommodate advanced machinery located within the proposed building.

The proposed expansion of Warehouse 1 does not affect loading areas and truck turning facilities as these are located outside of the proposed building footprint. Nevertheless, a swept path analysis using a 26.0m B-Double truck demonstrates that this truck would be able to continue to circulate around the corner adjacent to the proposed expansion. The swept path diagram for this is shown in Figure 3.1.

The proposed development does not involve additional staff (warehouse and administration). As such, additional car parking provision is not proposed.

It is noted that as part of the traffic assessment prepared by consultant Halcrow for the Project Application for the Metcash site, the traffic and parking assessment was conducted based on a total development floor area of 103,087m<sup>2</sup> (comprising 91,067m<sup>2</sup> of warehouse plus 12,020m<sup>2</sup> of office area).

The Project Application for the Metcash site (MP10\_0140) envisaged the proposed development would be developed over a number of stages. Stage 5, the last stage of the development anticipated in the Project Application would add an additional 15,532m<sup>2</sup> of warehouse floor area as follows:

- expansion of Warehouse 1 – 8,779m<sup>2</sup>
- expansion of Warehouses 2 and 3 – 6,753m<sup>2</sup>.

It is noted there is a minor difference between the Project Application anticipated floor space area and that approved (15,532m<sup>2</sup> c.f. 15,439m<sup>2</sup>, albeit by 93m<sup>2</sup>). This is considered to have inconsequential effects.

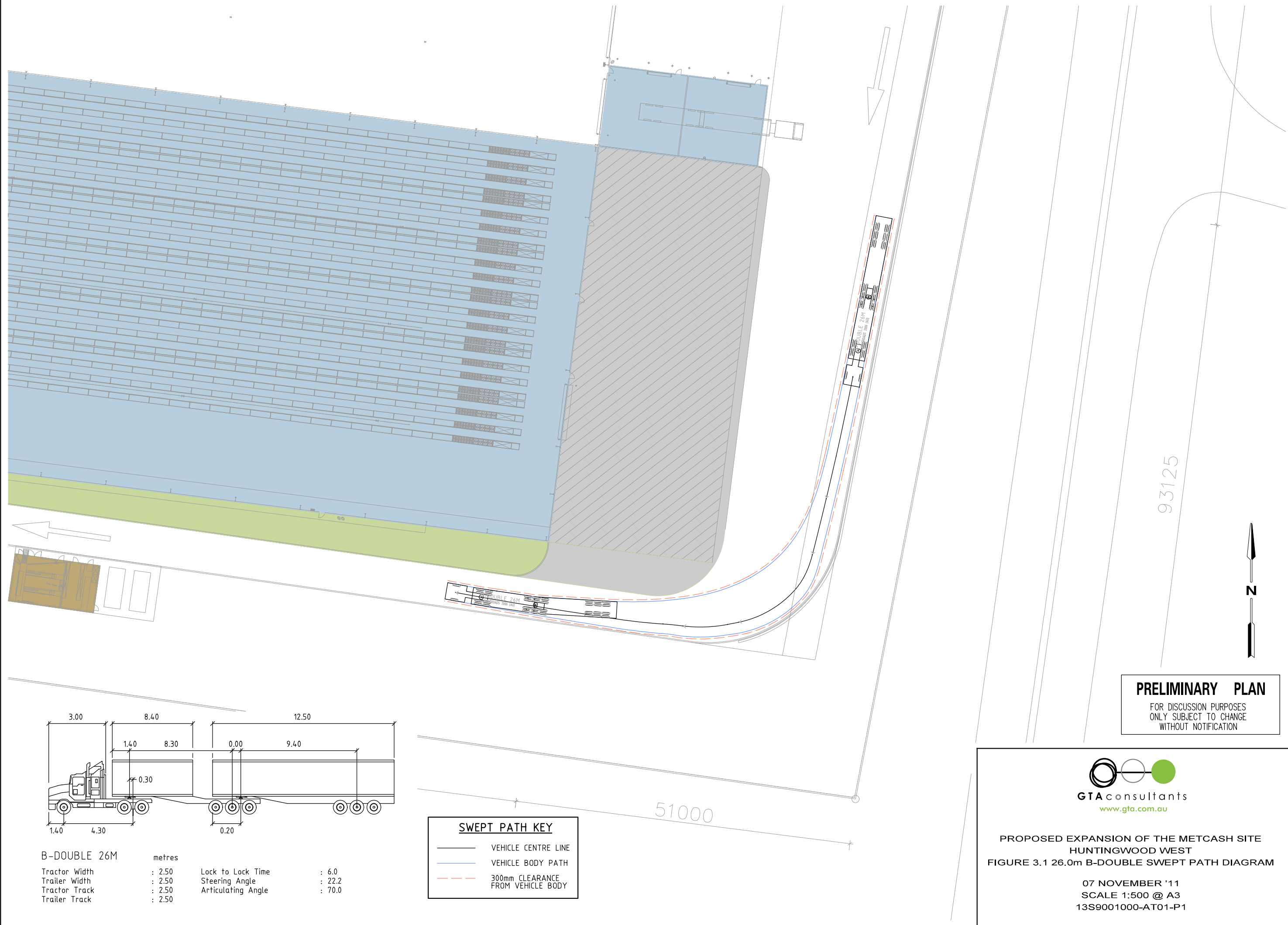
The current proposed expansion correlates to the expansion of Warehouse 1 above.

It is further noted that the Metcash site has been developed up to Stage 4.

Therefore, for traffic and parking assessment purposes the proposed expansion, in reality, is about 2,013m<sup>2</sup> being 10,792m<sup>2</sup> (current proposed) less 8,779m<sup>2</sup> (MP10\_0140 approval).



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## 4. Traffic Assessment

### 4.1 Previous Approval Traffic Generation

The Transport Mobility and Access Plan (TMAP) prepared by consultant Maunsell that accompanied the original Concept Plan application indicates that the entire Bungarribee Industrial Estate would generate a total of 840 vehicles per hour (vph) during the morning peak period. In a separate traffic study, Maunsell also estimated the Bungarribee site would generate about 813 vph.

The estimated development traffic is consistent with the traffic estimate of 837 vph provided by consultant GHD in their traffic assessment as part of the Project Application MPo8\_0055.

Subsequent to the above traffic investigations, Halcrow conducted a separate traffic assessment as part of the Project Application MP10\_0140 for the Metcash site i.e. the subject site. Based on a simple pro-rata of the respective site areas for the Metcash site (187,907m<sup>2</sup>) and the entire Masterplan site (498,599m<sup>2</sup>), it was estimated that the Metcash site, if it was continued to be developed as a general warehouse facility as assumed in the previous assessments, would generate about 306 vph.

The Halcrow report went on to provide an estimate of the development traffic for the Metcash proposal. Due to the peculiarities in the traffic generation of Metcash facilities around Australia, a traffic generation survey of another Metcash site was conducted. The Metcash Crestmead site in Logan, Brisbane was chosen as the proposed Metcash facility on the subject site has similar characteristics to the Crestmead one.

Halcrow compared car parking space provision, employee number and floor area at both sites and found that the Metcash site has higher provisions than the Crestmead site in all cases as follows:

- car parking spaces – 88 per cent
- warehouse workers – two per cent
- administration staff number – 95 per cent
- floor area – approximately five per cent.

Halcrow suggested that the additional five per cent in floor area would probably result in about an additional three to four vehicle trips per hour. Changes in the warehouse workers would result in inconsequential changes to traffic generation. In relation to administration staff traffic, Halcrow estimated that the staff at the Crestmead site generated about 51 vph during the morning peak period and about 64 vph during the evening peak period. On the basis that the proposed Metcash Bungarribee site would have about 100 per cent more car parking provision and administration staff than the Crestmead site, Halcrow estimated that the Metcash Bungarribee site would generate 100 per cent more staff traffic. In this way, Halcrow estimated the proposed Metcash Bungarribee site would generate about 218 vph and 209 vph during the morning and evening peak periods respectively.

Table 4.1 summarises the traffic estimates for the proposed Metcash Bungarribee site.

**Table 4.1: Estimated Development Traffic for Metcash Bungaribee Site**

	Morning Peak	Evening Peak
<i>Crestmead Site (from Surveys)</i>		
- Warehouse Workers Traffic	38	48
- Administration Staff Traffic	51	64
- Truck Traffic	78	33
- All Traffic	167	145
<i>Metcash Bungaribee Site</i>		
- Warehouse Workers Traffic	38	48
- Administration Staff Traffic	102	128
- Truck Traffic	78	33
- All Traffic	218	209

Source: Metcash Site, Huntingwood West Traffic Impact Assessment, 8 September 2010 (Halcrow)

The Halcrow report indicated that because the estimated development traffic for the Metcash Bungaribee site was significantly lower than those previously estimated by other consultants in relation to the Concept Plan and previous Project Application approvals, the surrounding intersections would continue to operate as previously planned. This is particularly in the light of the Huntingwood Drive-Brabham Road roundabout would operate with good level of service using the higher GHD traffic estimates.

It is noted that those previous traffic assessments for the original Concept Plan and various Project Applications went on to inform the planning assessment conducted by the Department of Planning, and were subsequently approved.

The Halcrow traffic assessment and the corresponding Project Application (MP10\_0140) for the proposed Metcash facility on the subject site was also subsequently approved.

## 4.2 Proposed Expansion Traffic Generation

The proposed expansion of the Metcash facility is not expected to generate significant volume of additional development traffic for various reasons as discussed below.

The proposed expansion is not expected to generate any additional employee traffic as employee level would remain as previously approved i.e. 675 warehouse workers and 720 administration staff. In addition, on-site parking provision would also remain consistent with the original approval for the Metcash site i.e. 790 car parking spaces.

In relation to the additional floor space area, it is also expected that the proposed expansion would not generate any significant additional traffic. The proposed actual additional floor space area (in addition to the previous approval i.e. 2,013m<sup>2</sup>) represents about two per cent of the warehouse floor area at the Crestmead site (87,109m<sup>2</sup>).

Consequently, the additional floor space area would generate less than 3 vph during the busiest peak period.

The Halcrow report indicates that the original Metcash facility would generate about 218 vph during the busiest peak period. Therefore, this essentially would continue to be the case i.e. increasing from 218 vph to 221 vph. This change in traffic is considered not to have any noticeable effects on the surrounding road network.

It is noted that the previous estimated development traffic for the Metcash facility (and the expanded facility) would be significantly less than the traffic estimates (221 vph c.f. 304 vph) adopted in the previous traffic assessments.

Therefore, if the external effects of the previously approved concept plan and various project applications were acceptable, then those arising from the proposed expansion at about 72 per cent of the various previous schemes that were approved by the Department of Planning would also be acceptable.

In view of the above, it was not considered necessary to conduct further quantitative analysis of external traffic effects.

## 5. Parking Assessment

### 5.1 Original Metcash Scheme Parking Requirement

Traffic consultant Halcrow previously assessed the parking requirement for the entire development i.e. 91,067m<sup>2</sup> of warehouse use plus 12,020m<sup>2</sup> of office component (as proposed in the Project Application).

Using Blacktown City Council parking rates, Halcrow assessed that the full development of the Metcash facility would require 757 car parking spaces. The proposed provision was 790 car parking spaces. Therefore, Halcrow concluded the proposed parking provision was satisfactory.

The Metcash development was subsequently approved with 790 car parking spaces.

It is noted that the assessed 757 car parking spaces was based on the full development of the Metcash facility including Stage 5 development which of the current proposed expansion is a part of.

### 5.2 Council's Parking Requirement

For warehouse use with floor area in excess of 7,500m<sup>2</sup>, Blacktown City Council stipulates that parking is to be provided at a rate of one space per 200m<sup>2</sup> of GFA.

Therefore, the proposed expansion (2,013m<sup>2</sup>) being an integral component of a larger warehouse facility i.e. total warehouse area 93,484m<sup>2</sup> of warehouse floor space (being 91,471m<sup>2</sup> from the original Metcash approval plus 2,013m<sup>2</sup> from the subject proposal), therefore the proposed expansion would require an additional 10 parking spaces.

Based on Halcrow's assessment, the original Metcash facility has an excess of some 33 car parking spaces (being 790 spaces less 757 spaces). As the additional required 10 parking spaces would not result in the parking requirements for the original facility plus the subject proposed expansion (767 spaces) exceeding the original parking provision (790 spaces), therefore parking provision would continue to be satisfactory.

## 6. Conclusion

This traffic and parking assessment report relates to a proposed expansion of the Metcash facility at the Bungarribee Industrial Estate. It is proposed to construct a new warehouse building to be attached to the existing Warehouse 1 building. The new building would add an additional 10,792m<sup>2</sup> warehouse floor area. The proposed development does not involve additional staff (warehouse and administration). Additional car parking provision is also not proposed.

The traffic and parking assessment conducted by consultants Halcrow has already considered the effects of the development based a total development floor area of 103,087m<sup>2</sup> which was expected to be provided over a number of stages. One of which was Stage 5 which correlates to the subject development. Stage 5 includes the expansion of Warehouse 1 with 8,779m<sup>2</sup> of warehouse floor area. Therefore, for traffic and parking assessment purposes the proposed expansion in reality is about 2,013m<sup>2</sup> being 10,792m<sup>2</sup> (current proposed) less 8,779m<sup>2</sup> (MP10\_0140 approval).

The subject traffic and parking assessment was conducted on this basis.

The proposed development is expected to generate less than 3 vph during the busiest peak period.

The expected overall development traffic for the entire expanded Metcash Bungarribee site would be about 221 vph which is significantly less than previous estimated development traffic for the subject site if it was to be continued to be developed as a generic warehouse development as intimated in the various concept plan and project application schemes approved by the Department of Planning.

Therefore, if the external effects of the previously approved planning schemes were acceptable, then those arising from the proposed expansion would also be acceptable.

From our assessment, the proposed development would require an additional 10 parking spaces.

As the traffic report prepared by Halcrow which was part of the Project Application which was subsequently approved, showed that the provision exceeded the demand by 33 spaces. Therefore, the required 10 spaces could be easily accommodated with current provision. In addition, it is not proposed to increase the work force on the site. As such, additional parking would not be required. Therefore, the proposed parking provision would be satisfactory.

Overall, the development traffic and parking effects of the proposed development would be negligible.

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