Traffic Impact Assessment

Rosemaur Gallery

V161949

Prepared for
Rose & Maurice Hogg Gallery Ltd

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1 Introduction

Cardno was engaged by Rose & Maurice Hogg Gallery Ltd to undertake a traffic and transport assessment of the proposed gallery and restaurant / function centre development at 193-209 King Road in Harkaway.

In the course of preparing this assessment, the subject site and its environs have been inspected, plans of the development by Architecture Associates (Drawings TP000 through TP012, dated 15/06/20) examined, and all relevant traffic volume data collected and analysed.

2 Background and Existing Conditions

2.1 Location and Land Use

The subject site is located at 193-209 King Road in Harkaway on the corner of King Road and Hilden Drive, as shown in Figure 2-1, with street frontages of approximately 320 metres to King Road and 310 metres to Hilden Drive.

![Site Location](image)

The subject site is irregular in shape with an approximate area of eight hectares. The site is bound to the north and east by King Road and Hilden Drive respectively, and to the south and west by rural residential lots. Land use surrounding the site is generally rural residential, with a local town centre located in Harkaway approximately two kilometres to the west. Of note within the surrounding area is Berwick Railway Station approximately 7 kilometres to the southwest.

The site is currently vacant, comprising sloping grasslands currently utilised as pastures.
2.2 Planning Zones

Figure 2-2 shows the location of the site and the Casey Planning Scheme Zones.

![Planning Scheme Zones](image)

Figure 2-2 indicates that the subject site is located within the Green Wedge A Zone – Schedule 4 (GWAZ4). The permitted uses for the GWAZ4 are listed in Clause 35.04 of the Casey Planning Scheme.

2.3 Road Network

2.3.1 King Road

King Road is a local road, generally aligned in an east-west direction, from Hilden Drive in the east to Brundrett Road in the west, where it continues as Robinson Road. King Road is also a designated safe riding road within the City of Casey Equestrian Strategy.

In the vicinity of the site, King Road generally comprises an unsealed 5.5 metre surface with localised sections reduced to 4.5 metres in width, accommodating two-way traffic flows for properties along the road. A posted speed limit of 50 km/h applies along King Road near to the site. Figure 2-3 and Figure 2-4 show the cross section and condition of King Road.

![King Road, looking east beyond the subject site](image)
2.3.2 Hilden Drive

Hilden Drive is a local road, which runs north-south from King Road in the north along the boundary of the subject site, then runs east-west towards Sewell Drive in the east.

In the vicinity of the subject site, Hilden Drive comprises a 4.5 metre wide unsealed surface that provides for traffic movements in both directions. Figure 2-5 presents the operating conditions along Hilden Drive.
2.4 Public Transport

The public transport network within Harkaway does not provide services in reasonable proximity to the subject site. Of note, Berwick Railway Station is located approximately seven kilometres to the southwest of the site. Figure 2-6 presents the location of the subject site relative to the closest public transport services, while Table 2-1 provides further detail of the services.

<table>
<thead>
<tr>
<th>Service</th>
<th>Route</th>
<th>Nearest Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Train</td>
<td>Pakenham</td>
<td>Berwick (7.0 km)</td>
</tr>
</tbody>
</table>

Source: Public Transport Victoria (PTV)
3 Proposed Development

3.1 General

Based on the revised plans of the proposed development, it is proposed to develop the subject site for the purposes of a gallery and restaurant / function centre facility, comprising western, central and eastern wings within the central part of the site.

The restaurant / function centre, located within the western wing of the structure, will accommodate up to 150 patrons / seats including the proposed private dining facility.

The proposed development is summarised in Table 3-1.

<table>
<thead>
<tr>
<th>Proposed Facility</th>
<th>Proposed Floor Area (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Gallery (incl. ancillary areas)</td>
<td>4,215</td>
</tr>
<tr>
<td>Restaurant / Function Centre (150 patrons/seats)</td>
<td>785</td>
</tr>
</tbody>
</table>

In addition to the gallery and restaurant / function centre, the proposed development includes ancillary land uses as follows:

> Dwellings (2 no.);
> A café servicing the gallery;
> A studio; and
> Boardroom / staff rooms and facilities.

The gallery is proposed to be open Tuesday to Sunday from 10:00am to 5:00pm, whilst the restaurant / function centre is proposed to operate during the following times:

> Sunday – Thursday: 7:00am – 11:00pm
> Friday - Saturday: 7:00am to 1:00am

It is also proposed to hold events at the gallery and restaurant / function centre.

The expected patronages have been adopted from patronages observed at other regional Victorian galleries of a similar nature to the proposed use, which has been provided by Architecture Associates. The anticipated patronages are summarised in Table 3-2.

<table>
<thead>
<tr>
<th>Proposed Facility</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallery</td>
<td>-</td>
<td>80</td>
<td>80</td>
<td>100</td>
<td>100</td>
<td>150</td>
<td>250</td>
<td>580*</td>
</tr>
<tr>
<td>Restaurant / Function Centre (Breakfast)</td>
<td>38 (25% occupied)</td>
<td>38 (25% occupied)</td>
<td>38 (25% occupied)</td>
<td>38 (25% occupied)</td>
<td>38 (25% occupied)</td>
<td>38 (25% occupied)</td>
<td>150 (100% occupied)</td>
<td></td>
</tr>
<tr>
<td>Restaurant / Function Centre (Lunch / Dinner)</td>
<td>75 (50% occupied)</td>
<td>75 (50% occupied)</td>
<td>75 (50% occupied)</td>
<td>75 (50% occupied)</td>
<td>120 (80% occupied)</td>
<td>120 (80% occupied)</td>
<td>75 (50% occupied)</td>
<td>150 (100% occupied)</td>
</tr>
</tbody>
</table>

* This is a site maximum patronage – i.e. includes patrons within restaurant/function centre

3.2 Parking and Access

It is proposed to accommodate the abovementioned patrons within two on-site car parking areas, which have been outlined in Table 3-3. The majority of formal car parking (120 parking spaces) is located in the south-western part of the site. Overflow car parking (153 parking spaces) is to be provided in the north-eastern part of the site, and bicycle parking is proposed adjacent to the centre access points.
### Proposed Parking Arrangements

<table>
<thead>
<tr>
<th>Proposed Parking Area</th>
<th>Intended Operating Conditions</th>
<th>Proposed Parking Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal Car Park</td>
<td>Typical operating periods</td>
<td>120 car parking spaces</td>
</tr>
<tr>
<td>Overflow Car Park</td>
<td>Major event periods</td>
<td>153 car parking spaces</td>
</tr>
</tbody>
</table>

The formal car parking areas are proposed to accommodate typical operating conditions observed for the majority of opening hours, whilst the overflow car parking area is proposed to accommodate additional car parking requirements during the larger but infrequent events.

In addition to the proposed car parking areas, it is proposed to provide a bus drop off and pick up area near to the gallery entrance, providing facilities for buses transporting groups of patrons. A double garage is also proposed to service the ancillary dwellings.

Access to the proposed car parking areas is via two new access points from King Road, located: (1) approximately 130 metres west of the corner of King Road and Hilden Drive; and (2) adjacent to the western property boundary. The formal car parking area is proposed with a sealed asphalt surface with appropriate car parking space delineation. The overflow car parking area is proposed with a grass surface without delineation.

### 3.3 Loading and Access

Loading is proposed to occur within the following areas:

- A dedicated loading area for the gallery located at the end of the eastern gallery wing for the loading/unloading of art pieces, accessed via the eastern accessway; and
- A shared loading area for the restaurant / function centre located on the south western façade of the restaurant / function centre for the loading/unloading of restaurant goods, accessed via the western accessway.

Both loading areas will be able to accommodate medium rigid vehicles, with loading activities expected to occur on a daily basis.

### 3.4 Waste Collection

Waste collection is proposed on-site, adjacent to the bus drop off and pick up area, and is expected to be undertaken by a private waste collector. The collection is expected to be undertaken by waste vehicles of 9.8 metres in length on a weekly basis.

Waste collection, which is expected to be a relatively quick activity, will occur on a weekly (approximate) basis outside of peak hours (before or after opening hours) to minimise the disruption to users of the bus facilities and pedestrians accessing the site.
4 Design Considerations

4.1 Car Parking and Access

The car park and access design has been assessed against the requirements of the Australian Standard for off-street car parking (AS2890.1:2004) and the Casey Planning Scheme.

All standard car spaces within both the formal and overflow car parking areas meet the minimum dimension requirements of the Planning Scheme, being 2.6 metres in width and 4.9 metres in length. The proposed double garage meets the minimum dimensions of Clause 52.06-9 the Planning Scheme, being at least 5.5 metres in width and 6.0 metres in length. Accessible parking spaces have been designed in accordance with the Australian Standard for off-street parking for people with disabilities (AS2890.6:2009) being at least 2.6 metres wide, 4.9 metres long (permitted under the planning scheme) and provided with shared spaces of the same dimensions immediately adjacent the space.

Access to the proposed car parking areas is via two new access points from King Road. The western accessway proposes a 5.5 metre width road to accommodate two-way traffic flows, continuing as a single width 4.0 metre accessway south of the car parking areas accessing the restaurant / function centre loading area. The eastern accessway facilities two-way traffic flows within a 5.5 metre width, continuing as a one-way loop south of the overflow car parking accessway onto the bus loop, loading and waste collection areas. Sight lines at the access points are in accordance with the Australian Standard, as sight triangles of 2.0 metres by 2.5 metres are to be provided.

The aisles within the formal and informal car parking areas propose a minimum width of 6.4 metres in accordance with the Australian Standard. Within the formal car parking area, a one-way loop running clockwise is to provide access to parking spaces; the width of the eastern curved circulation roadway is in accordance with the Australian Standard, having inner and outer radii greater than 4.0 metres and 7.6 metres respectively.

4.2 Bicycle Parking and Access

Bicycle parking will be provided in the form of ‘Flat Top’ horizontal bike rails. Racks / rails are to be staggered in direct accordance with the manufacturer’s specifications as outlined in Appendix A to this report, and also in accordance with the requirements of the Australian Standard for bicycle parking (AS2890.3:2015). Access to the bicycle parking area is to be provided via the eastern site access point. All accessways and aisles satisfy the requirements of the Australian Standard, being at least 1.5 metres in width.

4.3 Bus Drop Off and Pickup

It is intended that buses will enter the site via King Road, and travel to the bus drop off and pick up area via the one-way loop to load / unload passengers, before departing the site. Up to two (2) 12.5 metre buses are able to be accommodated within the drop off and pick up area at any given time, and may enter and exit independent of one another.

Accessways and circulation roadways generally meet the requirements of the Australian Standard for Commercial Vehicles (AS2890.2:2002). A swept path analysis has been prepared for a 12.5 metre bus entering and exiting the bus drop off and pick up area, as well as the site access point from King Road, as shown in Appendix A.

4.4 Loading and Access

It is intended that medium rigid loading vehicles will enter the loading area in a forwards direction, manoeuvre in reverse to the loading door, and exit in a forwards direction, with adequate manoeuvring area provided to allow loading vehicles to manoeuvre appropriately.

Accessways and circulation roadways generally meet the requirements of the Australian Standard for Commercial Vehicles (AS2890.2:2002). Swept path diagrams have been prepared for an 8.8 metre medium rigid vehicle entering and exiting the gallery and restaurant / function centre loading areas, as shown in Appendix A.
4.5 Waste Collection

It is intended that the waste vehicle will enter the waste collection area in reverse, and exit in a forwards direction. Swept path diagrams have been prepared for a 9.8 metre waste vehicle accessing and egressing the waste collection area, as shown in Appendix A.

5 Bicycle Parking Considerations

5.1 Statutory Bicycle Parking Requirements

Clause 52.34 of the Casey Planning Scheme specifies the bicycle parking provision requirements with regard to the different components of the proposed development. The bicycle parking rate for a Place of Assembly has been adopted as representative of the gallery component, whilst the rate for a restaurant is specified.

<table>
<thead>
<tr>
<th>Component</th>
<th>Area</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallery</td>
<td>4,215m²</td>
<td>1 to each 1500 sq m of net floor area for employees 2 plus 1 to each 1500 sq m of net floor area for visitors</td>
<td>3 no. 5 no.</td>
</tr>
<tr>
<td>Restaurant</td>
<td>785m²</td>
<td>1 to each 100 sq m of floor area available to the public for employees 2 plus 1 to each 200 sq m of floor area available to the public if the floor area available to the public exceeds 400 sq m</td>
<td>8 no. 6 no.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>22 no.</strong></td>
</tr>
</tbody>
</table>

Furthermore, Clause 52.34 specifies that if 5 or more employee bicycle spaces are provided, 1 shower is required for the first 5 spaces plus 1 to each 10 employee spaces thereafter. The proposal generates a requirement to provide 11 employee bicycle spaces, and therefore has a requirement to provide one shower.

5.2 Proposed Bicycle Parking Provision and Adequacy

Whilst the development generates a statutory requirement to provide for bicycle parking facilities, further consideration has been given to ensure it is reasonable and appropriate given the context of the site.

Having consideration to the below items, it is considered reasonable in this instance that minimal bicycle facility is provided on site:

> the site location – it is located within a rural setting with no immediate catchment and with no defined cycling provision;
> the unpaved gravel access road; and
> the nature of the proposed development,

Notwithstanding, it is noted that some storage opportunities may exist under the proposed developments enclaves and this will be sufficient to cater for any unlikely bicycle parking demands on the site.

Accordingly, no formal bicycle facilities are proposed to be provided on site and this is considered to be a satisfactory outcome having regard to the above.
6 Car Parking Considerations

6.1 Statutory Car Parking Requirements

The statutory car parking requirements relevant to the proposed development are listed within Clause 52.06 of the Casey Planning Scheme, with car parking rates provided in Table 1 of Clause 52.06-5.

It is considered that the art gallery centre component of the proposed development represents a Place of Assembly with regards to the planning scheme definitions including for major events, whilst the restaurant / function centre component will be assessed as a restaurant. As previously mentioned in Section 3.1, the ancillary land uses (dwelling, studio and staff facilities) are considered complementary uses associated with the gallery and have therefore not been considered as part of this assessment.

The statutory parking rates and subsequent requirements that apply to the proposed development are outlined in Table 6-1, based on the proposed maximum patronage specified in Table 3-2.

<table>
<thead>
<tr>
<th>Use</th>
<th>Description</th>
<th>No. Patrons</th>
<th>Rate per Patron</th>
<th>Car Parking Measure</th>
<th>Requirement (No. spaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallery</td>
<td>(Weekly Typical)</td>
<td>250</td>
<td>0.3</td>
<td>To each patron</td>
<td>75 spaces</td>
</tr>
<tr>
<td></td>
<td>(Event Maximum)</td>
<td>580*</td>
<td>0.3</td>
<td>To each patron</td>
<td>174 spaces</td>
</tr>
<tr>
<td>Restaurant /</td>
<td>(Maximum)</td>
<td>150</td>
<td>0.4</td>
<td>To each patron</td>
<td>60 spaces</td>
</tr>
<tr>
<td>Function Centre</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* This is a site maximum patronage – i.e. includes patrons within restaurant/function centre. The requirement should be 430 patrons x 0.3 = 129 spaces if restaurant is calculated separately at its maximum patronage.

Based on the above requirements the proposed development generates a statutory requirement for 135 spaces for a typical weekly operation and up to 189 car parking spaces for maximum event patronages which assume that the gallery and restaurant / function centre are operating at their maximum respective capacities.

In addition to the abovementioned requirements, the development generates a requirement to provide one accessible parking space per 50 car parking spaces provided, under the Building Code of Australia – Part D3.

6.2 Proposed Car Parking Provision

It is proposed to provide the following car parking provisions for the proposed development:

> A total of 120 spaces within a formal car parking area adjacent to the proposed development; and
> A total of 153 spaces within an overflow car parking area.

A total of 120 formal car parking spaces are therefore proposed, including four (4) accessible parking spaces, with an overflow provision of up to 153 additional spaces. The total car parking provision including the overflow provision, being 273 spaces, exceeds the statutory requirement and is therefore considered appropriate in this instance.

Generally, it is considered that the formal carparking provided will generally accommodate the typical operation of the proposed development, with the overflow car parking area to be opened and managed as required.

Notwithstanding that the proposed car parking provision exceeds the statutory requirement, to clarify the following section has been prepared to demonstrate the expected car parking demand and adequacy of the proposed car parking provision.

6.3 Car Parking Demand Assessment

6.3.1 Empirical Assessment

As previously discussed in Section 3.1, the proposed development is not anticipated to generate a demand for car parking in line with the maximum potential occupancy of the gallery and restaurant / function centre.
Rather, based on a regional Victorian gallery of a similar nature to the proposed use (information provided by Architecture Associates), expected patronages have been adopted as outlined in Table 3-2.

It is noted again here that the ancillary land uses (dwelling, studio and staff facilities) are considered complementary uses and therefore are not considered to generate separate car parking demands to the gallery and restaurant uses. Based on these anticipated patronages, the following key assumptions regarding vehicle occupancy have been made in line with the statutory car parking requirement:

- **Gallery**: assuming vehicle occupancy of 3.3 patrons per vehicle per day (0.3 vehicles per patron); and
- **Restaurant / Function Centre**: assuming vehicle occupancy of 2.5 patrons per vehicle (0.4 vehicles per patron) and a regular seat turnover of one seat per lunchtime period and one seat per dinner period.

It is expected that during the gallery opening hours, patrons from the restaurant / function centre will also visit the gallery, inferring that the two uses will share a portion of the anticipated car parking demand. Before 10:00am and after 5:00pm, the restaurant / function centre will be considered to act independently from the facility.

As such, between 10:00am and 5:00pm, it is conservatively assumed that approximately 30% of the demand for car parking will be shared across the gallery and restaurant / function centre during typical patronages, reflecting three out of ten patrons to the site. The anticipated car parking demand across a range of activity periods has been estimated and summarised in Table 6-2.

### Table 6-2 Anticipated Car Parking Demand Profile

<table>
<thead>
<tr>
<th>Proposed Use</th>
<th>Car Parking Demand (no. spaces)</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
<th>Events*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallery</td>
<td></td>
<td>24</td>
<td>24</td>
<td>30</td>
<td>30</td>
<td>45</td>
<td>75</td>
<td>130^</td>
<td></td>
</tr>
<tr>
<td>Restaurant / Function Centre</td>
<td></td>
<td>30</td>
<td>38</td>
<td>38</td>
<td>42</td>
<td>55</td>
<td>65</td>
<td>74</td>
<td>190</td>
</tr>
<tr>
<td><strong>Total (7:00am – 10:00am)</strong></td>
<td></td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>24</td>
<td>24</td>
<td>15</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total (10:00am – 5:00pm)</strong></td>
<td></td>
<td>30</td>
<td>38</td>
<td>38</td>
<td>42</td>
<td>55</td>
<td>65</td>
<td>74</td>
<td>190</td>
</tr>
<tr>
<td><strong>Total (5:00pm – late)</strong></td>
<td></td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>48</td>
<td>48</td>
<td>30</td>
<td>60</td>
</tr>
</tbody>
</table>

*Event car parking demand has been conservatively assessed based on the car parking requirement rate and assumes both the restaurant / function centre and gallery have separate car parking demands.

*Calculated based on 430 patrons (with remaining 150 patrons permitted for restaurant)

As outlined above, the typical weekday and weekend operations will be expected to generate car parking demands below 80 car parking spaces at any given time, with the highest demand experienced during gallery opening hours on a Sunday (74 spaces), and as such will be expected to be accommodated within the 120 formal car parking spaces proposed for the site.

Notwithstanding the above, it is important to note that the maximum patronage of 580 across the gallery and restaurant / function centre, as outlined in Table 6-1, will be adequately accommodated within the total on-site car parking provision of up to 273 spaces with the overflow parking area in operation.

## 7 Traffic Considerations

### 7.1 Existing Traffic Conditions

A seven day traffic volume tube count was undertaken by Nationwide Traffic Surveys on behalf of Cardno Pty Ltd along King Road to the east of Baker Road, from Sunday 5th March 2017 until Sunday 12th March 2017. The results of the tube count are shown in Table 7-1.

### Table 7-1 Existing Traffic Volumes – King Road (5th March 2017 – 12th March 2017)

<table>
<thead>
<tr>
<th>Direction</th>
<th>AM Peak (8am-9am)</th>
<th>PM Peak (3pm-4pm)</th>
<th>Daily (weekday)</th>
<th>Daily (weekend)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Westbound</td>
<td>8</td>
<td>9</td>
<td>128</td>
<td>113</td>
</tr>
<tr>
<td>Eastbound</td>
<td>14</td>
<td>14</td>
<td>128</td>
<td>111</td>
</tr>
<tr>
<td>Two Way</td>
<td>22</td>
<td>23</td>
<td>256</td>
<td>224</td>
</tr>
</tbody>
</table>
As shown in the preceding table, King Road is carrying in the order of 250 vehicles per day during the week and 225 vehicles per day on the weekend. Peak hour movements, both AM and PM, are in the order of 8-14 movements in each direction, and account for between 6% and 11% of daily traffic volumes. It is also noted that average travel speeds along King Road were recorded to be below 35 km/h.

7.2 Traffic Generation

The RTA Guide to Traffic Generating Developments provides guidance in determining the likely traffic generation from restaurants, however does not provide guidance in determining traffic generation rates for galleries. Accordingly, an empirical assessment has been undertaken to determine the likely traffic generation for the development.

The anticipated traffic generation rates for typical and event patronage levels, as outlined in Table 3-2, are summarised in Table 7-2. The following key assumptions regarding vehicle occupancy have been made in line with the statutory car parking requirement:

> **Gallery**: assuming vehicle occupancy of 3.3 patrons per vehicle (0.3 vehicles per patron); and

> **Restaurant / Function centre**: assuming vehicle occupancy of 2.5 patrons per vehicle (0.4 vehicles per patron) and a regular seat turnover of one seat per lunchtime period and one seat per dinner period.

As per the assumptions used in the car parking demand assessment, it is conservatively assumed that approximately 30% of the demand for car parking will be shared across the gallery and restaurant / function centre during gallery opening hours and under typical patronage levels, reflecting three out of ten patrons to the site.

During event patronages, it is assumed that the gallery and restaurant / function centre will generate traffic volumes that are independent from one another, under the scenario that each use operates to its respective maximum patronage level.

### Table 7-2 Anticipated Typical Traffic Volumes

<table>
<thead>
<tr>
<th>Proposed Use</th>
<th>Monday (vpd)</th>
<th>Tuesday (vpd)</th>
<th>Wednesday (vpd)</th>
<th>Thursday (vpd)</th>
<th>Friday (vpd)</th>
<th>Saturday (vpd)</th>
<th>Sunday (vpd)</th>
<th>Events* (vpd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallery</td>
<td>-</td>
<td>48</td>
<td>48</td>
<td>60</td>
<td>60</td>
<td>90</td>
<td>150</td>
<td>260</td>
</tr>
<tr>
<td>Restaurant / Function Centre</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>240</td>
<td>240</td>
<td>150</td>
<td>240</td>
</tr>
<tr>
<td><strong>Total (incl. 30% shared traffic for typical days)</strong></td>
<td><strong>150</strong></td>
<td><strong>166</strong></td>
<td><strong>166</strong></td>
<td><strong>174</strong></td>
<td><strong>254</strong></td>
<td><strong>274</strong></td>
<td><strong>238</strong></td>
<td><strong>500</strong></td>
</tr>
</tbody>
</table>

*For the purposes of estimating the expected traffic volumes during events, it has been assumed that no more than two (2) events will occur at the restaurant / function centre in a given day i.e. a breakfast event and a dinner event.

7.2.2 Loading & Waste Collection

It is expected that waste collection for the facilities on site will be undertaken by a private collector on a weekly basis (approximate), while loading activities are anticipated to occur on a daily basis (approximate).

7.3 Traffic Distribution

The traffic generated from the proposed development will exit the site to the surrounding road network via King Road to the west, and will travel westbound towards the roundabout at Harkaway Road, approximately 2.5 kilometres to the west of the site.

7.4 Traffic Impact

The expected typical traffic generation of the gallery and restaurant / function centre (during a typical week) is likely to increase the traffic volumes along King Road by approximately 150-300 vehicles per day. Based on the operation of the site, traffic volumes are anticipated to be towards the upper end of these limits from Friday to Sunday. It is noted that minimal increases in traffic volumes are expected to be observed before 10:00am.

This volume of traffic is considered to be manageable for King Road, noting that King Road generally provides 5.5 metres of width with opportunities for passing along its length, and is not anticipated to impact on the operation and functionality of the road, nor on the amenity of the surrounding area.
Given the unlikely and conservative scenario of two (2) major events in a day allowing for 580 patrons alongside peak restaurant / function centre patronage, it is anticipated that the site would generate traffic volumes up to 500 vehicles per day above existing traffic volumes. When combined with existing traffic volumes this would generally result in daily vehicle movements in the order of 800 vehicles on King Road in the vicinity of the site.

Considering King Road in its current condition, being a (generally and approximately) 5.5 metre wide unsealed road, it is considered that King Road would be able to accommodate this level of traffic activity on a on a fortnightly basis, as regular passing opportunities are provided along the length of King Road between the site and Barker Road. It is noted that speeds along King Road are limited to the posted speed limit of 50 km/h, and existing average speeds are recorded below 35 km/h, which provides a safe environment conducive to passing.

A typical local road providing a 5.5 metre wide sealed carriageway, operating under a 50 km/hr speed limit, is generally able to accommodate daily traffic volumes of 1,000 vehicles per day with minimal impact on safety and functionality. Accordingly, under the scenario that King Road is reconstructed with a sealed surface from Hilden Drive to Baker Road, which would result in a (generally and approximately) 5.5 metre wide sealed surface with regular passing opportunities, it is considered that the level of traffic activity generated by the proposed maximum site patronage of 580 patrons (up to 500 vehicles per day) could be accommodated satisfactorily on a daily basis, if this occur.

During events it is proposed that vehicle movements are managed by car park and access point wardens to ensure conflict between vehicles, pedestrians and cyclists are minimised. Given that the overflow car park is proposed as a grassed area, ongoing monitoring and management of the condition of the surface is proposed during major events to ensure that functionality and safety of the car park are maintained.

Loading and waste collection activities are not expected to cause detrimental impact on the operation of King Road and the surrounding road network.

Regarding the intersection of King Road and Harkaway Road, given that the latter is designated as a secondary arterial road, it is anticipated that the traffic generated by the proposed development will be able to be accommodated without significant impact on the operation of the intersection.
8 Conclusions

It is proposed to develop the site, located at 193-209 King Road, for the purposes of a gallery with a floor area of 4,215 square metres and a restaurant / function centre with a floor area of 785 square metres. Included in the proposal are formal and overflow car parking areas, bus drop off and pick up facilities, loading facilities and waste collection facilities.

Based on the foregoing analysis it is concluded that:

> The development has a requirement to provide 189 car parking spaces for the proposed maximum patronage of 580 patrons, in accordance with Clause 52.06 of the City of Casey Planning Scheme;

> The proposal includes a car parking provision of 273 spaces, comprising of 120 (including four (4) accessible) spaces within a formal car parking area and up to 153 spaces within an overflow car park. The total car parking provision including the overflow provision therefore exceeds the statutory requirement;

> Based on the variation of car parking demand over time, it is expected that typical weekday and weekend car parking demands can be accommodated within the proposed formal car parking provision. In this context, the proposed formal car parking provision is considered to be satisfactory;

> The proposal does not include any bicycle parking provision but this is considered to be satisfactory having consideration to the site location, access roads and the development use;

> The proposed car parking areas and access arrangements have been assessed against the Australian Standard for Off-Street Car Parking (AS2890.1:2004) and the Casey Planning Scheme, and are considered satisfactory;

> The proposed loading and waste collection arrangements are considered appropriate for the development;

> The proposed development is anticipated to generate between 150 and 300 vehicles for typical patronage levels, and up to 500 vehicle movements per event at the maximum patronage levels, to be accommodated by King Road;

> Event traffic management is proposed to ensure conflict between road users is minimised, and ongoing monitoring of the overflow car park’s surface condition is proposed to ensure functionality and safety of the car park is maintained;

> The daily traffic volumes generated by the proposed development are considered to represent an acceptable level of traffic increases over current traffic volumes and is expected to remain within the capacity threshold for King Road;

> Under the scenario that King Road continues to operate with an unsealed carriageway, it is expected that King Road would be able to accommodate the level of traffic activity generated from the proposed maximum patronage (580 patrons) up to a fortnightly frequency;

> Under the scenario that King Road is reconstructed with a sealed carriageway, it is expected that King Road would be able to accommodate the level of traffic activity generated from the proposed maximum patronage (580 patrons) on a daily frequency; and

> The daily and event traffic volumes generated by the development are expected to be able to be accommodated at the intersection of Harkaway Road and King Road without any detrimental impact.
APPENDIX A

SWEPT PATH DIAGRAMS
SWEPT PATH ANALYSIS

193-209 KING ROAD, HARKAWAY

LOADING & WASTE COLLECTION ACCESSIBILITY

501 Swanston Street, Melbourne, VIC Australia 3000
ABN: 47 106 610 913

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Cardno Limited
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Email: victoria@cardno.com.au  Web: www.cardno.com.au/victoria
Phone (+61 3) 8415 7777  Fax (+61 3) 8415 7788

5.00
3.50
8.80

8.8m MRV SWEEP PATH
INGRESS / EGRESS MOVEMENT (0.6m CLEARANCE SHOWN)

1.50
5.00

DESIGN VEHICLES

SERVICE VEHICLE

Width
2.50

Track
2.50

Lock to Lock Time: 6.0

Steering Angle: 38.7

subject site

MELWAY MAP REF 109 J12