



Traffic Engineers and Transport Planners

Directors:

Henry H Turnbull
Charmaine C Dunstan
William D de Waard
Donald J Robertson

Associates:

Nathan B Woolcock
Anthony J Coyle

Traffix Group Pty Ltd ABN 32 100 481 570
Suite 8, 431 Burke Road
Glen Iris Victoria 3146
Ausdoc DX12407 Camberwell
Telephone 03 9822 2888
Facsimile 03 9822 7444
Email admin@traffixgroup.com.au

REPORT PREPARED FOR THE PANEL HEARING FOR PROPOSED AMENDMENT C12 TO THE CENTRAL GOLDFIELDS PLANNING SCHEME

**PROPOSED REZONING OF THE LAND FROM BUSINESS 4 ZONE (B4Z)
TO BUSINESS 1 ZONE (B1Z) and PLANNING PERMIT APPLICATION FOR
A RETAIL DEVELOPMENT**

at

92-96 BURKE STREET AND 57 & 59 BURNS STREET, MARYBOROUGH

Hearing to Commence 12 June 2007

Our Reference: GRP08992R9374.doc

STATEMENT TO THE PLANNING PANEL APPOINTED BY THE MINISTER FOR PLANNING FOR AMENDMENT C12 TO THE CENTRAL GOLDFIELDS PLANNING SCHEME BY DONALD JAMES ROBERTSON, TRAFFIC ENGINEER

1. QUALIFICATIONS

My name is Donald James Robertson, and I am a Director of Traffix Group Pty Ltd (Traffic Engineers and Transport Planners) which operates from 431 Burke Road, Glen Iris.

My educational qualifications are as follows:

- Bachelor of Engineering, University of Melbourne, 1980;
- Graduate Diploma of Municipal Engineering, Footscray Institute of Technology, 1988; and
- Master of Transport and Traffic, Monash University, 2003.

I have over 23 years experience as a Traffic Engineer and Transport Planner, including:

- Over 9 years with Local Government in Victoria and Queensland;
- 3 years with the Road Traffic Authority; and
- Over 11 years as a consultant.

I am accredited by VicRoads as a Senior Road Safety Auditor.

I have substantial experience and expertise in traffic engineering and transport planning, including development traffic and parking impact assessment, traffic management, road design, car park design, Local Area Traffic Management, road safety, bicycle planning, policy development and general traffic engineering. I regularly provide expert evidence to VCAT and Planning Panels on the traffic merits of various land use proposals.

2. ENGAGEMENT

I was retained by Ong Supa IGA in May 2007 to undertake a traffic engineering assessment of the proposed Amendment C12 to the Central Goldfields Planning Scheme and the planning permit application for a retail development affecting the land located at 92-96 Burke Street and 57 & 59 Burns Street, Maryborough.

In preparing this report, I have visited the site, collated relevant traffic data, made various assessments and perused relevant documentation.

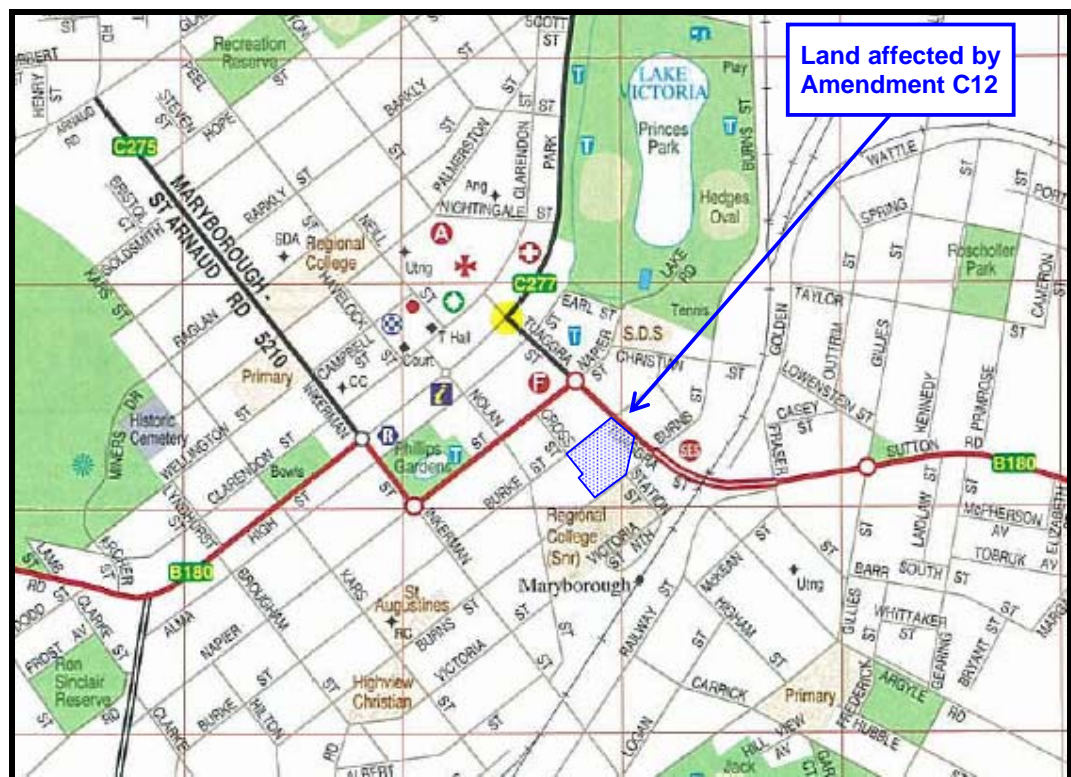
3. INTRODUCTION

This report provides an assessment of the traffic and parking issues associated with the proposed Amendment C12 to rezone the land from the Business 4 Zone (B4Z) to the Business 1 Zone (B1Z) and a proposed retail development at 92-96 Burke Street and 57 & 59 Burns Street, Maryborough. The proposed retail centre comprises a supermarket, department store, specialty shops and associated car parking. A reduction in the car parking requirement is being sought as part of the application.

4. EXISTING CONDITIONS

4.1. Subject Site and Surrounds

The site is located on the south side of Tuaggra Street between Burke Street and Burns Street, Maryborough, as presented in the locality plan at Figure 1.



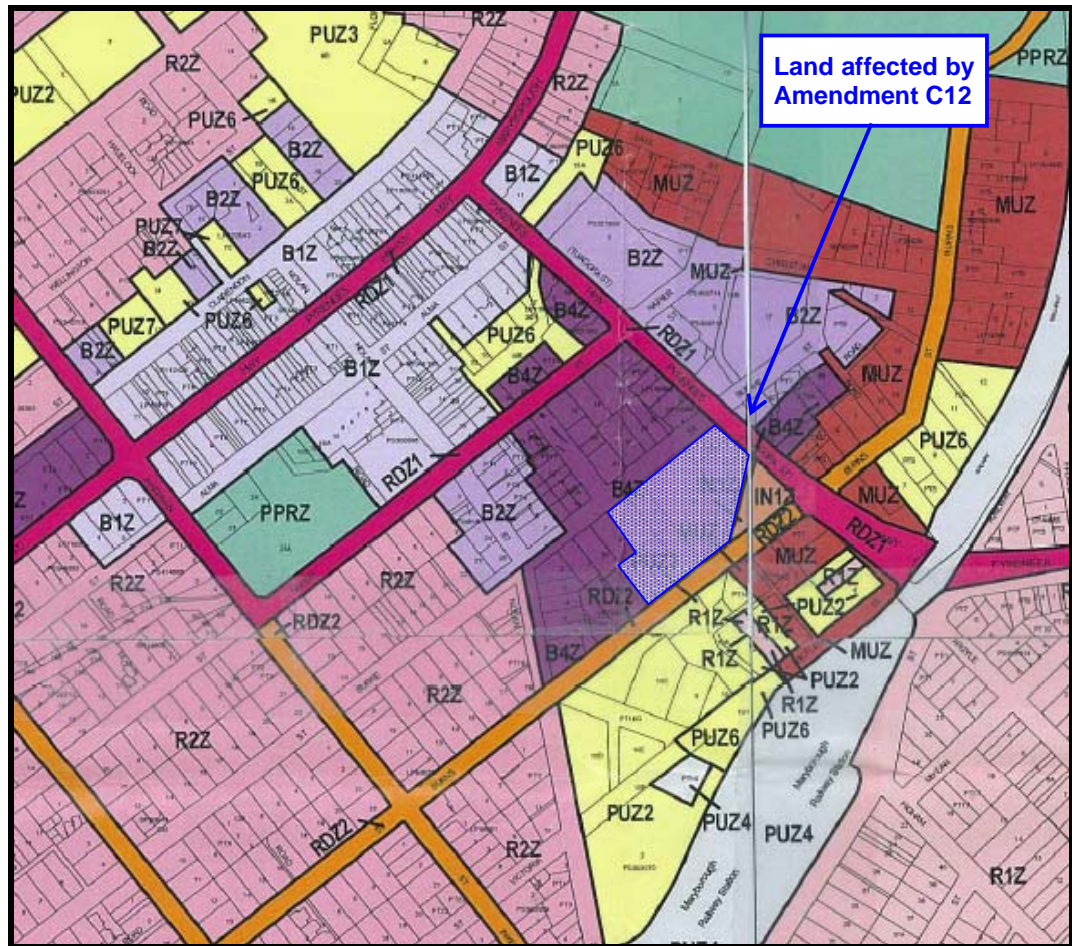
Reproduced with permission of RACV Publications Department

Figure 1: Locality Plan

The site has an irregular shape with approximate frontages of 48m to Tuaggra Street, 140m to Burke Street and 93m to Burns Street. It covers an area of approximately 13,536m².

The site comprises three properties - the former Maryborough Knitting Mills and two adjoining properties fronting Burns Street, each occupied by a dwelling.

Land affected by Amendment C12 to the Central Goldfields Planning Scheme and the proposed retail development is currently zoned Business 4 Zone (B4Z) as shown in Figure 2.



Source: Planning Schemes Online: www.dse.vic.gov.au

Figure 2: Land Use Zoning

I note that land to the west and south of the subject site is zoned Business 4 Zone (B4Z).

Significant land uses adjacent to the site include the following:

- North side of Tuaggra Street: Cramer's Rural Merchandise
Cramer Home Timber and Hardware
Mitre 10
Petrol station
- West side of Burke Street: Floor covering and carpet sales
Automotive electrician
Two dwellings
Church
- East side of Burke Street: Goldfields Employment and Learning Centre
- West side of Burns Street: Radio station
Hotel

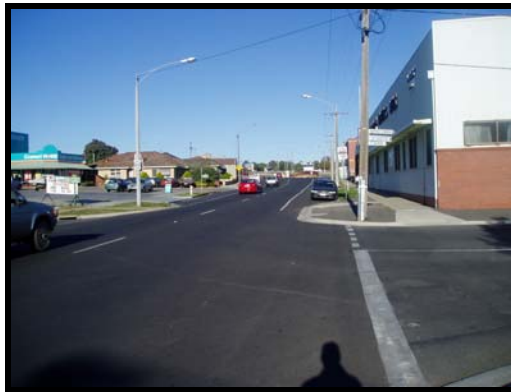
- East side of Burns Street: Disused Station Hotel
Disused Maryborough Regional College

4.2. Road Network

Tuaggra Street

Tuaggra Street is an arterial road. It forms part of the Pyrenees Highway through Maryborough, is in the Road Zone Category 1 and is under the control of VicRoads. In the vicinity of the subject site it comprises a single lane of traffic in each direction and parallel indented kerbside parking in a wide parking lane on both sides. East of Burke Street the speed limit is 60km/h. West of Burke Street the speed limit is 50km/h. Tuaggra Street passes under the railway line to the east of Burns Street.

Tuaggra Street is shown in Photographs 1 to 3.



Photograph 1: Tuaggra Street - View to East from Burke Street



Photograph 2: Tuaggra Street - View to West from Burke Street



Photograph 3: Tuaggra Street - View to East from Burns Street

Burns Street

Burns Street is in the Road Zone Category 2 and is under the control of Council. In the vicinity of the subject site it comprises a single lane of traffic in each direction and a marked kerbside parallel parking lane on both sides. Its pavement width adjacent to the site is 11.8m. A line of power poles is located on the west side of Burns Street, offset approximately 3.4m from the western property line. The default urban speed

limit of 50km/h applies to Burns Street. Burns Street forms a cross intersection with Tuaggra Street, controlled by Stop signs in Burns Street.

Burns Street is shown in Photographs 4 and 5.



Photograph 4: Burns Street - View to South from Tuaggra Street



Photograph 5: Burns Street - View to North from South of Site

Burke Street

Burke Street is a local road under the control of Council. In the vicinity of the subject site it comprises a single lane of traffic with kerbside parallel parking on both sides. Its pavement width adjacent to the subject site is 12.2m. The default urban speed limit of 50km/h applies to Burke Street. Burke Street forms a cross intersection with Tuaggra Street, controlled by a Give Way sign on the north side and a Stop sign on the south side.

Burke Street is shown in Photograph 6.



Photograph 6: Burke Street - View to South from Tuaggra Street

One Way Street Adjacent to Station Hotel

A one way street abuts the northern boundary of the Station Hotel site. This connects to Victoria Street at the rear of the hotel and intersects with Burns Street immediately south of Tuaggra Street as shown in Photograph 7.



Photograph 7: One Way Street Adjacent to Station Hotel - View to East from Burns Street

4.3. Parking Supply and Demand

Tuaggra Street

I undertook a survey of the existing on-street parking supply and demand in the vicinity of the site on Friday 11 May, 2007. The results are shown in Table 1.

This spot survey showed the following:

- The total parking supply in the area surveyed was 144 spaces (67 excluding Burns Street).
- The total parking demand was 35 spaces.
- On the west side of Burke Street:
 - Between Tuaggra Street and Cross Street, there were 5 cars parked, with 9 spaces vacant.
 - Between Cross Street and Nolan Street, there were 8 cars parked, with no spaces vacant.
- On the east side of Burke Street:
 - Between Tuaggra Street and opposite Cross Street, there were 9 cars parked, with 11 spaces vacant.
 - Between opposite Cross Street and Nolan Street, there were 4 cars parked, with 5 spaces vacant.
- There were 4 cars parked along Burns Street between Tuaggra Street and Nolan Street.

These parking demands are generated by the adjacent land uses. In particular, I note that the parking demands at the northern end of Burke Street appeared to be principally generated by the commercial uses on the west side of the road, with a small number generated by the Salvation Army Thrift Shop located within the knitting mills building on the northwest corner of the site. The Thrift Shop has trading hours that finish at 4:00pm on a Friday. For the purposes of this analysis, I have assumed that the Thrift Shop generated an on-street parking demand of 4 spaces at this time. I note that the Thrift Shop will not be located here should the proposed development proceed.

Table 1: Spot Parking Survey - Friday 11 May, 2007 at 4:00pm

<i>Location</i>	<i>Restriction</i>	<i>Supply</i>	<i>Cars Parked</i>	<i>Vacant Spaces</i>
Burke Street, West Side				
Tuaggra Street to Cross Street	2P 0am-5:30pm Mon-Sat	14	5	9
Cross Street to Nolan Street	Unrestricted	8	8	0
<i>Sub-Total</i>		<i>22</i>	<i>13</i>	<i>9</i>
Burke Street, East Side				
Tuaggra Street to Opposite Cross Street	Unrestricted	16	8	8
	Loading Zone 30 Min 9am-1pm Sat	4	1	3
Opposite Cross Street to Nolan Street	Unrestricted	9	4	5
<i>Sub-Total</i>		<i>29</i>	<i>13</i>	<i>16</i>
Burns Street, Tuaggra Street to Nolan Street				
West Side	Unrestricted	35	2	33
East Side	Unrestricted	42	2	40
<i>Sub-Total</i>		<i>77</i>	<i>4</i>	<i>73</i>
Tuaggra Street, Burke Street to Burns Street				
North Side	2P 9am-5:30pm Mon-Sat	6	1	5
South Side	2P 9am-5:30pm Mon-Sat	10	4	6
<i>Sub-Total</i>		<i>16</i>	<i>5</i>	<i>11</i>
Total		144	35	109

4.4. Public Transport

Public transport in Maryborough is limited, with the following services operating:

- Bus services to other regional centres, including Castlemaine, Ballarat, Donald, Avoca and Bendigo;
- Rail services;
- Taxis; and
- Community buses operated by Council.

5. THE PROPOSED AMENDMENT AND DEVELOPMENT

The proposed amendment to the Central Goldfields Planning Scheme (Amendment C12) is to rezone the subject site to a Business 1 Zone (B1Z) to facilitate a retail development.

The proposed development that is the subject of the planning permit application will comprise the following, as shown in the plan attached at Appendix A:

- Supermarket: 3,000m²
- Department store: 3,175m²
- Specialty shops: 869m²
- Café: 75m² plus seating area (area scaled off plans at 61m²)
- Kiosks: 33m²
- On-site car parking: 158 spaces (including 16 staff spaces at the rear)
- Bicycle racks: 25 bays
- Single shopping trolley bays (on site and on street)
- Taxi/minibus drop off zone
- Loading bays for each of the supermarket and the department store

The total retail floor area is therefore 7,213m² (including the café seating area).

In addition to the on-site parking provision, the development plans show the following on-street parking spaces:

• Burke Street:	West side:	30
	East side:	27
	<i>Sub-Total:</i>	<i>57</i>
• Burns Street:	West side:	38
	East side:	47
	<i>Sub-Total:</i>	<i>85</i>
Total:		142

The development plans therefore show a total of 300 spaces.

Vehicular access to the main car park is via one access to each of Burke Street and Burns Street. Vehicular access to the loading bays is via one access to each of Burke Street and Burns Street at the southern end of the site. The staff car park is also accessed via the loading bay accesses.

Pedestrian access to the site is provided in four locations:

- Burke Street: Direct into/from the building
Footpath along the front of the building
- Tuaggra Street: Footpath through the middle of the main car park
- Burns Street: Footpath along the front of the building

Pedestrian crossing points are indicated in Burke Street and Burns Street where pedestrians access the site.

6. KEY ISSUES

The traffic engineering issues of note with the proposed development are as follows:

- The car parking demand rate to be adopted to assess the likely peak parking demand of the proposed development.
- The design of the proposed car parking areas, in particular the on-street areas.
- The adequacy of the proposed on-site parking provision and the impact on on-street parking in the area.

I discuss these issues in detail below.

7. CAR PARKING CONSIDERATIONS

7.1. Car Parking Requirements Under Central Goldfields Planning Scheme

The car parking requirements for the proposed development are specified in Clause 52.06 of the Central Goldfields Planning Scheme.

The purpose of Clause 52.06 includes:

To ensure the provision of an appropriate number of car spaces having regard to the activities on the land and the nature of the locality.

To ensure that the design and location of car parking areas:

- *Does not adversely affect the amenity of the locality, particularly the amenity of pedestrians and other road users.*
- *Achieves a high standard of urban design.*
- *Creates a safe environment for users, particularly at night.*
- *Enables easy and efficient use.*
- *Protects the role and function of nearby roads.*
- *Facilitates the use of public transport and the movement and delivery of goods.*

The table at Clause 52.06-5 specifies the car parking requirement for a range of uses. For a “shop” other than specified in the table, the parking requirement is 8 spaces per 100m² of leasable floor area.

Application of this rate to the proposed development produces a car parking requirement of 572 spaces if the seating area is ignored and the café is treated as a “shop” or 577 spaces if the seating area is included and it and the café are treated as a “shop”.

Clause 52.06-1 allows a permit to be granted to reduce or waive the number of car spaces required by the table at Clause 52.06-5. Before a requirement for car spaces is reduced or waived, the applicant must satisfy the responsible authority that the reduced provision is justified due to:

- *Any relevant parking precinct plan.*
- *The availability of car parking in the locality.*
- *The availability of public transport in the locality.*
- *Any reduction in car parking demand due to the sharing of car spaces by multiple uses, either because of variation of car parking demand over time or because of efficiencies gained from the consolidation of shared car parking spaces.*
- *Any car parking deficiency or surplus associated with the existing use of the land.*
- *Any credit which should be allowed for a car parking demand deemed to have been provided in association with a use which existed before the change of parking requirement.*
- *Local traffic management.*
- *Local amenity including pedestrian amenity.*
- *An empirical assessment of car parking demand.*
- *Any other relevant consideration.*

I consider that a reduction in the car parking requirement is appropriate for the proposed development in light of these decision guidelines, but not to the extent sought by the applicant.

7.2. Anticipated Parking Demand

Traffix Group and others have conducted many parking demand surveys of shopping centres with supermarkets, department stores and specialty shops. Overall parking demands peak at around 5 spaces per 100m², although I note that results can vary depending on the location of the centre, its make up and its trading level. Also, shopping centres in smaller regional centres tend to have lower peak parking demand rates than metropolitan centres.

Similarly, the parking demand rates of specialty shops have been extensively surveyed by Traffix Group and others. These surveys have consistently shown peak parking demand rates in the order of 3 to 4 spaces per 100m².

I have sourced a number of typical case study results for supermarkets and small shopping centres in non-metropolitan locations as shown in Table 2.

Table 2: Non-Metropolitan Shopping Centre Parking Demand Rates

<i>Location</i>	<i>Description</i>	<i>Surveyed By</i>	<i>Sourced From</i>	<i>Peak Parking Demand Rate (per 100m²)</i>
Wonthaggi	Safeway supermarket	Grogan Richards	TTM	3.76
Moe	Safeway supermarket	Grogan Richards	TTM	3.38
Woodend	Bi Lo supermarket	Maunsell	Traffix	3.9
Wonthaggi	Safeway supermarket	Ratio Consultants	Traffix	4.0

Location	Description	Surveyed By	Sourced From	Peak Parking Demand Rate (per 100m²)
Romsey	IGA supermarket plus specialty shops	GTA	GTA	3.63
"Four Country and Regional Supermarkets"	Supermarkets plus specialty shops	Grogan Richards	Grogan Richards	4.01 to 4.65

Adopting the middle of the range for the "four country and regional supermarkets" surveyed by Grogan Richards (4.33), the average of these surveys is 3.83 spaces per 100m².

On this basis, I believe that an overall rate of 4.0 spaces per 100m² represents an appropriate upper level of car parking demand likely to be generated by the proposed development.

Application of this rate to the proposed development produces an anticipated peak parking demand of 286 spaces if the seating area is ignored and the café is treated as a "shop" or 289 spaces if the seating area is included and it and the café are treated as a "shop".

I note that in the Traffic Report prepared by Andrew O'Brien & Associates Pty Ltd (AO'B) that accompanied the application, the following rates were adopted:

- Supermarket: 5 spaces per 100m²
- Department store: 4 spaces per 100m²
- Specialty shops: 4 spaces per 100m²

This produced a peak parking demand of 315 spaces. AO'B then reduced their estimate of the peak parking demand to 252 spaces on the basis that "Typically, the peak demands are not coincident, and total peak parking demands are typically about 20% less than the sum of the individual peak demands". I am not aware of the basis for this 20% reduction in the peak parking demand. It is my experience that the retail uses in a shopping centre all tend to experience their peak demands at the same time. On this basis, the "discounted" peak demand suggested by AO'B should be disregarded.

I note that the Planning Report prepared by Cityplan Pty Ltd dated 7 August, 2006 on behalf of the applicant suggested, in the context of a Section 173 agreement in relation to car parking provision, that the following rates should apply to the calculation of the total parking requirement:

- Supermarket: 5 spaces per 100m²
- Department store: 4 spaces per 100m²
- Specialty shops: 3 spaces per 100m²

On this basis, Cityplan calculated the car parking requirement as 337 spaces.

The *Guide to Traffic Generating Developments (2002)* RTA NSW provides a useful check for parking and traffic matters of land use developments. For parking demands at shopping centres, the RTA has developed the following formula for the peak parking demand, based on types of uses (including supermarkets, department stores and the like):

$$\text{Peak Parking Demand (per 1,000m}^2\text{)} = 24 A(S) + 40 A(F) + 42 A(SM) + 45 A(SS) + 9 A(OM)$$

where: $A(S)$ = Slow Trade GLFA (major department stores, furniture, electrical and utility goods stores)

$A(F)$ = Faster Trade GLFA (discount department stores, larger specialist stores)

$A(SM)$ = Supermarket GLFA

$A(SS)$ = Specialty Shops and Secondary Retail (specialty shops and take away stores)

$A(OM)$ = Offices, medical GLFA

Application of this formula produces a peak parking demand of 298 spaces. This supports my anticipated peak parking demand of 286 to 289 spaces. (For the purposes of the following analysis, I have adopted 286 spaces for simplicity.)

7.3. Adequacy of Proposed Provision

The adequacy of the proposed car parking provision is shown in Table 3.

Table 3: Adequacy of Proposed Parking Provision

Analysis By	Anticipated Peak Parking Demand	On-Site Provision	Shortfall in On-Site Spaces	
			No.	Proportion of Total
Don Robertson	286	158	128	45%
AO'B	315	158	157	50%

By both analyses, there is a substantial shortfall in the on-site car parking provision which is to be accommodated on street in the vicinity of the subject site.

The on-street parking supply shown on the application plan is affected by a number of design considerations which, in my view, reduce the number of spaces available. I therefore assess the design of the car parking areas in Section 7.4 before I assess the impact of the on-street parking demand on the on-street parking supply in Section 7.5.

7.4. Parking Areas Design

7.4.1. On Site

Car Space and Accessway Dimensions

The on-site car parking is provided as 90° parking. No dimensions are provided on the development plans of the car spaces in the main car park.

By scaling off the plans, the majority of the spaces in the main car park appear to be 2.6m wide by 4.9m long and accessed off an aisle 6.4m wide. These dimensions accord with the requirements of Clause 52.06-3 of the Central Goldfields Planning Scheme.

The exceptions are some spaces designated as “oversize car space” which appear to be wider, as well as the row of spaces along the front of the building. This row of spaces has a length of around 4.3m. The plans show what appears to be a 0.6m overhang over the footpath at the front of the shops. This arrangement does not accord with the requirements of the Planning Scheme. The spaces should be extended to 4.9m in length.

The staff spaces are shown as 3.0m wide by 4.9m long and accessed off an aisle 5.2m wide. These spaces accord with the requirements of the Planning Scheme. Eight of these spaces are located with the wall of the department store hard against the far side of the access aisle. Under these circumstances, Clause 2.4.2(d) of AS/NZS2890.1: 2004 Parking Facilities Part 1: Off-Street Car Parking requires the access aisle to be increased by 0.3m to provide manoeuvring clearance. This should be applied in this instance. Thus, the access aisle should be at least 5.5m wide.

Shopping Trolley Bays

The locations of shopping trolley bays are indicated by arrows on the plan. Some of those arrows point to car spaces, whilst others point to landscaping areas. It is clearly desirable that an adequate number of trolley bays be provided on site in appropriate locations. To do so properly on the plans may result in the loss of a small number of car spaces.

Taxi/Minibus Drop Off

The plans show a “taxi/mini bus drop off” space measuring approximately 2.8m wide by 9.8m long. The space is not conveniently located and has no shelter. It should be relocated to adjacent to the main entry as a parallel space. Depending on its location, this may result in the loss of some car parking spaces.

Staff Parking Area

The staff parking area at the rear of the site is accessed via gates. Movements to and from the space closest to Burns Street is reliant on the adjacent gate being closed. It would appear, therefore, that it is intended to keep these gates closed, except to allow staff cars and delivery vehicles to enter and leave the site. This will limit the opportunity to share these parking spaces, effectively increasing demand in the main on-street car park. This in turn will increase the on-street parking demand. I also note that the development plans only show one door to the development from the rear staff car park - into the Supermarket.

7.4.2. On Street

Design Dimensions

The development plans show the following on-street parking provisions:

- Burke Street: 45⁰ angle parking on both sides
- Burns Street: 60⁰ angle parking on both sides

I note that the plans appear to take no account of the existing driveways on the west side of Burke Street and the east side of Burns Street, nor the row of power poles on the west side of Burns Street.

It is apparent from the development plans that both these roads are intended to continue to function as roads. I note that Burns Street is in the Road Zone Category 2, indicating a significant status in the road hierarchy of Maryborough. The relevant design standard is therefore AS 2890.1-1993 Parking Facilities Part 5: On-Street Parking.

A further consideration is the width of the footpath. The relevant design guide is "Guide to Traffic Engineering Practice Part 13 Pedestrians", AustRoads (1995). Table 2.1 of this suggests the following footpath widths:

- In areas of high pedestrian volumes: 2.4m
- For wheelchairs to pass: 1.8m (absolute minimum 1.5m)

Given the need for shopping trolleys to pass on the footpath, I believe a minimum clear width of 1.8m should be provided.

Table 4 compares the proposed design with these standards.

Table 4: On-Street Parking Design Assessment

Element	Burke Street (45°)			Burns Street (60°)		
	AS/ AustRoads	Proposed	Complies?	AS/ AustRoads	Proposed	Complies?
Footpath (West Side)	1.8m + 0.4m ⁽¹⁾	2.2m ⁽²⁾	Yes	1.8m + 0.6m ⁽¹⁾	2.0m ⁽²⁾	No
Distance from kerb to back of space ⁽³⁾	4.8m	4.4m	No	5.1m	4.7m	No
Manoeuvre Space ⁽⁴⁾	3.5m	3.6m	Yes	4.3m	3.35m	No
Manoeuvre Space ⁽⁴⁾	3.5m	3.6m	Yes	4.3m	3.35m	No
Distance from kerb to back of space ⁽³⁾	4.8m	4.4m	No	5.1m	4.7m	No
Footpath (East Side)	1.8m + 0.4m ⁽¹⁾	2.0m ⁽²⁾	No	1.8m + 0.6m ⁽¹⁾	1.3m ⁽²⁾	No
Total kerb to Kerb Width ⁽³⁾	21.0	20.2m	No	23.6m	19.4m	No

Note: All dimensions measured at 90° to the kerb.

(1) Allowance for overhang of car over footpath.

(2) Scaled off plans.

(3) Assumes cars overhang kerb.

(4) Assumes "high" use category and no encroachment over centreline of road.

The development plans show the through carriageway in Burke Street as 7.2m wide. This is sufficient for cars to enter and leave the 45° angle parking spaces without

crossing the centreline. In Burns Street, the through carriageway is shown as 6.7m wide. This will require cars entering and exiting the 60° angle parking spaces to encroach onto the adjacent lane by 0.95m. This is not provided for by the Australian Standard.

Further, the development plans do not provide sufficient depths for the car spaces or adequate footpath widths.

I would expect the road reserve to be 20.1m wide. Reference to Table 2 shows that a road reserve width of 20.1m is insufficient to accommodate the proposed angle parking on both sides of Burke Street and Burns Street.

Therefore, after taking all these factors into account, I conclude that the development plans overstate the availability of on-street parking adjacent to the site.

Both road reserves are of sufficient width to accommodate 60° parking on one side (adjacent to the proposed development) and parallel parking on the opposite side. An appropriate cross section would be:

- Footpath (opposite site): 2.45m
 - Parallel parking space: 2.3m
 - Traffic lane: 3.5m (including 0.5m clearance from parallel parking space)
 - Traffic lane: 4.3m (including 0.5m clearance from 60° parking space)
 - 60° parking space: 5.1m
 - Footpath (adjacent to site): 2.45m
- Total: 20.1m*

To achieve this cross section (and, I note, those shown in the application plans) requires the kerblines on both sides of both roads to be shifted closer to the road reserve boundaries and the total pavement width to be increased.

Other Aspects

There are a number of other aspects of the design of the on-street parking areas that I have concerns with:

- The movement of shoppers with trolleys to and from their cars within the road reserve. With angle parking on both sides, I believe there is a significant likelihood that customers heading for their cars parked on the side of the road opposite to the development will walk along the road with their trolleys. This is for the simple reason that the boot of the car is most easily accessed via the road. I do not believe this is a desirable arrangement on roads with a speed limit of 50 km/h and which are intended to be used as through routes as well as providing access to other properties.
- Shoppers with trolleys will be accessing the boots of cars from the adjacent traffic lane. Whilst there will be room for through traffic to pass, I do not believe this is appropriate for a public road in this situation.
- On-street parking is different to parking in an off-street car park as there are kerbs at the end of the parking spaces. Shopping trolleys cannot be readily taken over these kerbs, unlike within an off-street car park where movement of trolleys between bays is generally not restricted by kerbs. This will increase the likelihood that trolleys will be pushed along the road.

- The provision of an adequate number of appropriately located shopping trolley bays within the road reserve. Insufficient thought has been given to this in the design of the on-street parking area.
- Power poles. I note that a line of what appear to be significant power poles is located on the west (subject site) side Burns Street, offset by approximately 3.4m from the property boundary. Similarly a line of what appear to be minor power poles is located on the east (subject site) side of Burke Street. These appear to have not been taken into account in the design of the on-street parking areas.
- No account has been had of existing property accesses, particularly on the west side of Burke Street and the east side of Burns Street.
- Some of the kerb return radii at the various proposed site accesses are too tight (eg the access to the main car park on Burns Street).
- Some of the proposed angle parking spaces are located too close to intersections (eg on the west side of Burke Street at Tuagra Street).

Effect on Proposed Development

All of the factors I have discussed above result in the loss of a number of the 142 on-street car parking spaces shown on the development plans.

A conceptual alternative design adjacent to the subject site which addresses the issues I have raised is attached at Appendix B. This shows angle parking only adjacent to the subject site in Burke Street and Burns Street, with parallel parking elsewhere, based on the alternative cross section dimensions outlined above. Where the development plans show 142 on-site spaces, this arrangement shows 101 spaces, ie there is a reduction of 41 spaces as a result of the design changes.

7.5. Impact on On-Street Parking

The spot parking survey reported in Section 4.3 for 4:00pm on Friday 11 May, 2007 indicated that existing uses, particularly on the west side of Burke Street, generate on-street parking demands. These existing demands have not been taken into account by the AO'B application report.

I am instructed that trading at the Maryborough IGA supermarket generally peaks after school on weekday afternoons. Assuming that the new development will also peak at this time and allowing for a parking demand of 4 spaces generated by the Salvation Army (which will not exist after the proposed development), then 10 of the 105 on-street spaces shown in Figure 3 will already be occupied, ie there will be 91 spaces available to accommodate the on-street parking demand of the proposed development.

This is 37 spaces short of my assessment of the likely on-street parking demand of the proposed development (128 spaces) and 66 spaces short of the AO'B assessment (157 spaces) before the discount to their calculation was (in my view, incorrectly) applied.

The consequence of this is that parking demands generated by the proposed development will be spread further along the adjacent road network than indicated in the development plans and the alternative layout I have prepared.

At the time of the spot parking survey there were 5 spaces vacant (from a supply of 13) on Burke Street south of Cross Street, 29 spaces vacant (from a supply of 33) on Burns Street south of the subject site and 6 spaces vacant (from a supply of 10) on the south side of Tuaggra Street adjacent to the site. This spare capacity of 40 spaces will accommodate the shortfall of 37 spaces I have assessed, but will not accommodate the shortfall as assessed by AO'B.

This means that by my assessment, at times of peak parking demand generated by the proposed development all on-street parking spaces on both sides of Burke Street and Burns Street and along the site's Tuaggra Street frontage will be fully occupied. Based on the AO'B assessment, the parking demand will spread even further. (I note that this assessment does not include allowance for the provision of shopping trolley bays within the on-street parking areas.)

Therefore, the on-street parking demand generated by the proposed development will spread some 190m south of the pedestrian accesses to the site on both Burke Street and Burns Street. This will deny access to on-street parking immediately adjacent to those properties with frontage to these streets over and above any demands they make currently generate.

This is significant for other properties within the Business 4 Zone (especially the residences) that may redevelop in the future. The anticipated parking demand of the proposed development means that they will not have access to any additional on-street parking above that which was observed during my spot parking survey, unless their parking demands do not coincide with those of the proposed development. They will therefore need to provide for the bulk of their parking demands within their own sites.

7.6. Clause 52.06 Parking Objectives

My assessment of compliance with the relevant objectives of Clause 52.06 by the proposed development based on my assessment is as Shown in Table 4.

Table 4: Compliance with Clause 52.06 Objectives

<i>Objective</i>	<i>Complies?/Comment</i>
To ensure the provision of an appropriate number of car spaces having regard to the activities on the land and the nature of the locality.	No. There is an excessive reliance on on-street parking by the proposed development, resulting in nearby commercial properties not having access to the on-street parking supply at times the proposed development is generating its peak demands.
To ensure that the design and location of car parking areas:	
<ul style="list-style-type: none"> Does not adversely affect the amenity of the locality, particularly the amenity of pedestrians and other road users. 	No. The peak parking demands will extend for the full length on both sides of Burke Street and Burns Street between Tuaggra Street and Nolan Street. Shoppers will in all likelihood push trolleys along the through pavements of Burke Street and Burns Street.
<ul style="list-style-type: none"> Achieves a high standard of urban design. 	This is outside my area of expertise.

<i>Objective</i>	<i>Complies?/Comment</i>
<ul style="list-style-type: none"> Creates a safe environment for users, particularly at night. 	No. Shoppers will in all likelihood push trolleys along the through pavements of Burke Street and Burns Street.
<ul style="list-style-type: none"> Enables easy and efficient use. 	No. Parking will be located up to some 190m from the pedestrian access points to the site, with the front door a further 50m (approximately) from the road reserve.
<ul style="list-style-type: none"> Protects the role and function of nearby roads. 	No. The proposed car parking arrangements are inappropriate, particularly on Burns Street, which is in the Road Zone Category 2.
<ul style="list-style-type: none"> Facilitates the use of public transport and the movement and delivery of goods. 	Partial. Service vehicles will be able to appropriately use Burke Street and Burns Street. The proposal makes no allowance for buses to serve the development.

In my view, the proposed development does not satisfy the objectives of Clause 52.06 Car Parking of the Central Goldfields Planning Scheme.

8. OTHER ISSUES

8.1. Loading Facilities

The swept path assessments provided in the application report for the semi-trailer entering the site via Burns Street show the truck touching the southeast corner of the building. There should be at least a 300mm clearance to the building and the staff parking spaces. Similarly, there is inadequate clearance to the parked cars shown for the truck exiting via Burke Street. I note that no assessment was provided for the truck entering via Burns Street.

No swept path assessments were provided for movements within the site. In particular, movements to and from all loading bays in both loading areas by the appropriate vehicles should have been assessed, as well as movements in both directions through the “kink” in the rear service road when the K-Mart loading dock is occupied.

I have attached swept path assessments of these manoeuvres in Appendix C. These show the following:

- Supermarket Loading Dock
 - Left turn “in” from Burke Street: Turn from other side of street
Cuts kerb return
Cuts corner of building
 - Left turn “out” into Burns Street: Turn to other side of street
Cuts kerb return and parking space

- Discount Department Store Loading Dock
 - Right turn “in” from Burns Street: Cuts kerb return
Cuts corner of building
 - Right turn “out” into Burke Street: Cuts kerb return

The assessment shows that the building design needs to be modified to accommodate turning semi-trailers. Also, care will need to be taken with the design of the on-street parking areas.

There is adequate manoeuvring area within the loading area provided a semi-trailer is only required to access the northern loading dock of the discount department store loading area.

No provision appears to have been made for the specialty shops to have a loading area or, in particular, access to a communal rubbish facility. A common service corridor between the supermarket and the department store would be one possible solution.

8.2. Pedestrians

I have commented previously about the inadequate footpath widths in Burns Street and Burke Street.

Inadequate sight lines for pedestrians have been provided at three locations. Of particular concern is the sight distance for people pushing a trolley and leaving the site - the trolley will be well over the footpath before pedestrians along the footpath can be seen by the person pushing the trolley.

The three locations are as follows:

- The entry/exit to the building on Burke Street. The solid walls on both sides of the corridor severely restrict sight lines for pedestrians in both directions along the footpath. This area needs to be opened up by the provision of splays on both building corners (say 1.0m x 1.0m). Alternatively, this entry/exit could be closed.
- The pedestrian path access on Burke Street. The solid wall on the south side severely restricts sight lines for pedestrians walking from this direction. Again, a splay in the building is required (1.0m x 1.0m). Alternatively, the path needs to be moved to the north by 1.0m.
- The pedestrian path access on Burns Street. The solid wall on the south side severely restricts sight lines for pedestrians walking from this direction. Again, a splay in the building is required (1.0m x 1.0m) or the path needs to be moved to the north by 1.0m.

8.3. Bicycle Facilities

The bicycle facilities requirements for the proposed development are specified in Clause 52.34 of the Central Goldfields Planning Scheme.

Bicycle Spaces

For a shop, the bicycle space requirements are as follows:

- Staff: 1 space to each 600m² of leasable floor area if it exceeds 1,000m²
- Customers: 1 space to each 500m² of leasable floor area if it exceeds 1,000m²

For the proposed development this equates to 5 staff spaces for each of the supermarket and discount department store and 14 visitor spaces for the whole development.

It is critically important to ensure that bicycle parking is appropriately located. Clause 52.34-3 requires staff bicycle parking to be provided either in a bicycle locker or at a bicycle rail in a lockable compound. The development plans do not show such a facility.

Clause 52.34-3 requires shopper bicycle parking to be provided at a bicycle rail. These need to be appropriately located to ensure they are used, eg close to the building's entrances in areas of high visibility.

Clause 52.34-4 specifies that a bicycle space should have minimum dimensions of 1.7m in length, 1.2m in height and 0.7m in width at the handle bars.

The development plans show two bike bays of 10 and 15 bike racks within the car park. These are not appropriately located. Also, the areas set aside are not sufficient to provide spaces in accordance with the planning scheme dimensions.

Showers

Showers for staff are to be provided if 5 or more employee spaces are required at a rate of 1 shower for the first 5 employee bicycle spaces plus 1 to each 10 additional employee spaces. Therefore, the supermarket and the department store require one shower each.

Change Rooms

Change rooms for staff are to be provided at a rate of 1 for every shower that is provided.

There is scope to provide two shared shower and change room facilities for all retail premises within the development.

8.4. Traffic Considerations

I note that VicRoads requires a roundabout to be constructed at the Tuaggra Street/Burns Street intersection. I agree that this is an appropriate treatment for this intersection, but note that some aspects of its design will need careful consideration:

- The treatment of the one way street that abuts the northern boundary of the Station Hotel site and intersects with Burns Street immediately south of Tuaggra Street. Given the vertical geometry of Tuaggra Street and the street's proximity to the main intersection, this street may need to be closed at Burns Street.
- Sight distances at this intersection are already marginal. The detailed design will need to ensure that sight distances are provided to current standards. I note that

sight distances to the right from the south approach reduce as the yield point is moved further south (as will be the case with a roundabout) due to the longitudinal grade of Burns Street.

- The intersection is not at right angles, making the swept paths of some truck movements more expansive than would otherwise be the case. Also, the corner properties have minimal splays. As no functional layout plan was prepared as part of the application, it is not possible to determine whether or not a roundabout can be accommodated within the confines of the existing intersection, or whether land acquisition is required. It is important that an assessment of this critical aspect of the application be undertaken.

The roadworks that will be required to construct the roundabout will therefore be major.

9. PROPOSED CONDITIONS

My comments on the proposed traffic engineering related planning permit conditions are as follows:

3. *Pedestrian and road works shown on the endorsed plans, are to be undertaken and completed to the requirements and specifications of the Responsible Authority and VicRoads (where applicable), at the cost of the permit holder before the retail development commences trading:*
 - *A roundabout at the Tuaggra Street and Burns Street intersection;*
 - *A pedestrian crossing in Burns Street, located immediately south of the vehicle entry crossover to Burns Street;*
 - *A pedestrian crossing in Tuaggra Street further west, towards Burke Street.*

Response: The locations of the pedestrian crossing should take into account the final locations of pedestrian access points to the site and any existing crossovers.

4. *Car parking is to be provided in stages in response to demand.*
5. *Stage 1 will comprise 304 car-parking bays, 144 on-street and 140 on-site as shown in the endorsed indicative parking plan Stage 1 and shall be provided to the specification and approval of the Responsible Authority, at the permit holders cost. Such areas shall be sealed, constructed, line marked, including directional arrows and signage, all to the satisfaction of the Responsible Authority and thereafter maintained by the permit holder.*
6. *Stage 2 will comprise on-street parking provision as shown on the endorsed indicative parking plan Stage 2 generally in the order detailed. Construction will be undertaken by the Responsible Authority at times determined by the Responsible Authority at the full cost of the permit holder.*
7. *If required, Stage 3 will comprise off-street parking provision as shown on the endorsed indicative parking plan Stage 3:*
 - *At the full cost of the permit holder;*
 - *On land acquired by the permit holder;*
 - *Developed to the satisfaction of the Responsible Authority, including crossovers, car parking dimensions and landscaping;*
 - *In location or locations to the satisfaction of the Responsible Authority and accommodating at least 30 car parking spaces, unless otherwise agreed.*

8. *Timing of the implementation of Stages 2 and 3 will be determined by the Responsible Authority in response to demand.*
9. *The Stage 3 requirement will lapse at the end of 15 years of the date of the permit, if not deemed necessary prior to this time.*

Response: These three conditions relate to the adequacy and impact of the proposed car parking provision on on-street parking. They appear to originate from the Council officer's non-acceptance of the AO'B rational for reducing the required number of spaces to 252. Council officers agree that on-street parking generated by the proposed development is "a reasonable outcome", but appear to be not happy with the extent.

I have demonstrated that the spread of parking generated by the proposed development will extend to Nolan Street on both sides of Burke Street and Burns Street, to the exclusion of other users over and above their existing demands.

It is my view that the proposed development should provide more on-site parking to lessen its reliance on on-street parking to the detriment of other uses. Given the adjacent land uses, the lengths of the site's frontages to Burke Street and Burns Street and the role and function of Burke Street and Burns Street, that on-street reliance should generally be limited to the site's street frontages only. Without changing the size of the subject site, this can be achieved either through the provision of a multi-level car park, a reduction in the size of the development or a reduction in the intensity of the development, or a combination of these.

Should the panel form the view that the development in its current form can proceed, then additional on-street parking provision should be required in the first instance to ensure that adjacent uses are not adversely affected from a car parking perspective. The construction of at least an additional 37 spaces over and above the existing supply in the locations it is being located would be sufficient (ie, if the additional spaces are being constructed in an area where there is currently 15 space, then the total parking following construction should be 52 spaces). This would require the construction of on-street angle parking. Burke Street and Cross Street are appropriate locations for this additional parking to be provided. This will ensure that existing uses are not detrimentally affected in terms of accessibility to nearby on-street parking.

10. *Provision shall be made for trolley collection bays on site and on-street, in appropriate numbers and locations in all car parking stages, to the approval of the Responsible Authority.*

Response: This is an appropriate condition, although I note my concern about the safety of people pushing trolleys along public roads.

11. *Mini-bus and taxi ranks, gopher parking, disabled-persons parking and, bicycle parking of appropriate design shall be included in all car parking stages, all to the satisfaction of the Responsible Authority. Such areas shall be regularly maintained, operated and serviced to the satisfaction of the Responsible Authority.*

Response: I do not see the need to provide specific parking for "gophers" - these are electric wheelchairs. I have already commented about the location of mini-bus, taxi and bicycle parking. Disabled parking should clearly be located adjacent to the main entrance, within the off-street car park.

12. *All car-park and landscaped areas are to meet the current best practice Water Sensitive Urban Design guidelines and be designed in consultation with the Responsible Authority. These treatments shall be maintained to the satisfaction of the Responsible Authority at all times.*

Response: A design based on *Water Sensitive Urban Design* guidelines may result in a reduced car parking provision on site (in particular) and on street (to a lesser extent), with a consequent increase in the extent of the off-site parking demand.

13. A detailed site development plan, including both on and off-street areas, shall be submitted within three (3) months of the date of this permit including:

- ...
- Lighting addressing safety & security and spillage; and
- Waste minimisation and waste storage & collection facilities.

Response: I have previously commented on the lack of access to waste storage and collection facilities for the specialty shops.

24. A roundabout must be installed at the intersection of the Pyrenees Highway and Burns Street. The roundabout must be designed in accordance with 'AustRoads' and VicRoads standards, and the road construction drawings must be certified by an independent approved consultant that the drawings are in accordance with 'AustRoads' and VicRoads standards.

Response: The proposed condition is appropriate.

25 to 32

Response: These conditions are generally standard VicRoads conditions.

35 and 36

Response: These conditions are generally standard CFA conditions.

10. CONCLUSIONS

Having visited the site, perused relevant documents and plans, undertaken traffic counts, provided design advice, liaised with Council traffic engineers and undertaken various assessments, I am of the opinion that:

- (a) The anticipated peak parking demand of the proposed development is 286 spaces.
- (b) The on-street parking demand will be at least 128 spaces.
- (c) The development plans overstate the car parking supply in the proposed on-street parking areas by not taking into account a number of factors, including existing parking demands, existing crossovers and existing significant services and by adopting inappropriate road cross sections and reduced setbacks from intersections and crossovers.
- (d) The road reserves of Burke Street and Burns Street are of sufficient width to accommodate 60° angle parking on one side and parallel parking on the other side and adequate width footpaths on both sides.
- (e) At times of peak parking demand generated by the proposed development, on-street parking will be fully occupied along both sides of Burke Street and Burns Street between Tuaggra Street and Nolan Street and along the site's Tuaggra Street frontage.

- (f) At times of peak parking demand generated by the proposed development, there will be no opportunity for parking demands over and above those already generated by other abutting land uses to be accommodated on street. The additional parking demands generated by adjacent land uses as they redevelop will all need to be accommodated on site (unless they occur at different times).
- (g) The design of the off-street parking areas is inadequate in a number of areas, including the accessway width adjacent to staff spaces, the length of spaces adjacent to the front of the building, the location of shopping trolley bays and the design and location of the "taxi/mini bus drop off".
- (h) The provision of angle parking on the west side of Burke Street and the east side of Burns Street is inappropriate as it will encourage shoppers to push trolleys along the roads.
- (i) The proposed development does not satisfy the objectives of Clause 52.06 Car Parking of the Central Goldfields Planning Scheme.
- (j) Modifications are required to the design of the building to ensure that semi-trailers can enter and leave the site.
- (k) Adequate sight lines should be provided at points where pedestrian paths intersect with the footpaths within the Burke Street and Burns Street road reserves.
- (l) Two shared shower and change room facilities should be provided for use by all premises within the development.
- (m) A lockable bicycle compound should be provided for use by staff of the development, accommodating at least 10 bicycle spaces.
- (n) Customer bicycle parking for at least 14 bicycles should be located close to the building's entrances in areas of high visibility.
- (o) A roundabout is an appropriate treatment at the Tuaggra Street/Burns Street intersection. A full and proper functional design should be prepared to ensure it can be accommodated within the existing road reserve, including an assessment of the sight distance requirements.
- (p) There are sufficient traffic engineering reasons to suggest that the land located at 92-96 Burke Street and 57 & 59 Burns Street, Maryborough should not be rezoned to B1Z as proposed and that the proposed retail development should not be approved.



DON ROBERTSON
BE (Civil), Grad Dip Mun Eng, M Trans & Traff, Accredited Senior Road Safety Auditor,
MVPELA, MAITPM

4 June, 2007



APPENDIX A

Proposed Development



APPENDIX B

Alternative On-Street Parking Layout



APPENDIX C

Swept Path Assessments