14 May 2009

Ms Alexandra Douglas
Executive Officer
Road Safety Committee
Parliament of Victoria
Spring Street
EAST MELBOURNE VIC 3002

Dear Ms Douglas

INQUIRY INTO PEDESTRIAN SAFETY IN CAR PARKS

I am responding to your letter of 23 April 2009 regarding the Parliamentary Road Safety Committee’s Inquiry into Pedestrian Safety in Car Parks.

In considering your request for information, we have defined a “car park” as having the usual meaning, viz namely “an area or building for parking of cars”. This definition excludes roadside and centre of road parking and focuses therefore on off-road parking.

There are seventy off-road car parks in Hobsons Bay. Thirty nine are Council controlled and forty three are policed by Council Local Laws Officers. They may be categorised as follows:

<table>
<thead>
<tr>
<th>Type of Parking</th>
<th>Number of Car Parks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter Parking</td>
<td>8</td>
</tr>
<tr>
<td>Recreation Area Parking</td>
<td>26</td>
</tr>
<tr>
<td>Commercial &amp; Retail</td>
<td>15</td>
</tr>
<tr>
<td>Community &amp; Education</td>
<td>15</td>
</tr>
<tr>
<td>Mixed Purpose</td>
<td>4</td>
</tr>
<tr>
<td>Municipal Administration</td>
<td>2</td>
</tr>
</tbody>
</table>

Since crashes in off-road car parks do not occur on roads, they are not recorded in VicRoads CrashStats database. Such crashes are not recorded by Council either.

In the majority of car parks, Council has no indication of significant risks to pedestrian safety. In the case of a very busy car park behind Coles, Altona, Council has installed speed cushions and pedestrian crossings to reduce speeds and hence pedestrian hazards.

I attach a brief submission on matters that the Inquiry may wish to address to improve pedestrian safety in car parks more generally.

Yours sincerely

Phillip McDonald
DIRECTOR WORKS & ASSETS

End: Submission
Submission to the
Inquiry into Pedestrian Safety in Car Parks
of the
Road Safety Committee
of the
Parliament of Victoria

May 2009
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1. Introduction

There are 70 off-road car parks in Hobsons Bay, thirty-nine of which are Council-controlled and 43 of which are policed by Council Local Laws Officers. They may be categorised as follows:

**Figure 1 Type & Number of Car Parks within Hobsons Bay**

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</tbody>
</table>

Crashes occurring within car parks are not recorded in any uniform way. Off-road parking areas and parking buildings are not roads for the purpose of crash records. Consequently these crashes are not counted for the purposes of calculating the road toll, nor are they recorded in VicRoads' crash database, CrashStats.

Because of the comparatively low speeds of vehicles in the majority of car parks, injury crashes are expected to be relatively rare. Even property damage is relatively slight and normally would not require the attendance of a tow truck. However, some larger off-road car parks with long, straight sections of "road" may encourage unsafe speeds. Wider ramps in some parking buildings may have the same effect.

**Figure 2: Risk of Pedestrian Death & Serious Injury as a Function of Vehicle Impact Speed**

[Source: Lenn... paper presented to the Monash OH&S Conference 2008.

It will be clear by reference to Figure 1, above, that the risk of pedestrian death in a crash at speeds associated with most car parks in under 5%. However, the risk of serious injury at 30 kph is 27% and, at 40 kph approaches 70%. Thus there is little room for complacency.
Figure 2, below, based on less reliable speed data (police estimates), provides a similar curve for fatal pedestrian crash data and curves for less serious pedestrian injuries. This data is included because it provides an impression of the relationship of non-fatal injuries to impact speeds. In interpreting downward trends of some of the non-fatal curves, it should be borne in mind that the downward trend is compensated for by the upward trend of fatal outcomes. It will be noted that this US data does not use the injury classifications commonly used in crash casualty reporting in Australia and should therefore be used with caution.

**Figure 3: Vehicle Travel Speed & Pedestrian Injury Severity**  
*(Florida USA, 1993 -1996, pedestrians in Single Vehicle Crashes)*

[Figure 2: Speed & Pedestrian Injury Level]

[Source: Adapted from Leaf, W & Preusser, D (1999), Literature Review on Vehicle Travel Speeds and Pedestrian Injuries, National Highway Traffic Safety Agency, Department of Transportation, Washington DC, USA]

Pedestrian safety is not only of concern in car parks, but also at entry and exit points. It is possible that drivers consider these to be "roads" and expect pedestrians to give way to their vehicles. This is particularly the case where the exit/entry access is wide and resembles a standard intersection.
2. Legislative Possibilities

In order that drivers should have uniform expectations of acceptable driving behaviour in car parks and parking buildings, it is desirable that all car parks to which the public have access (whether by payment of fee or otherwise), public and private be defined as Shared Zones. This would automatically limit speed to 10 kph and would give pedestrians priority over vehicles, thus improving road safety. To ensure that enforcement may occur, it would be necessary.

![Shared Zone signs recommended at all entrances and exits to car parks](image)

Additionally, it has been noted that traffic control devices, road markings and signs, in car parks frequently fail to comply with the standards. Often pedestrian crossings are line marked in yellow. Frequently, signage that accompanies line markings is absent. Whilst there is a good argument that the owner of the car park would be liable in civil law in the event of pedestrian casualties occurring on a non-standard pedestrian facility, this, demonstrably, provides inadequate incentive to "get it right". It is therefore suggested that owners of car parks, at least those to which the public have access whether for free or otherwise, should be statutorily required to comply with the relevant Australian Standards to which road authorities are required to comply.

A concern referred to previously is where car park exits cross footpaths alongside roads. It would be desirable to require all exits to be signed, with either STOP signs or GIVE WAY signs as the particular circumstances dictate and for the appropriate line marking to be installed. It might also be desirable to indicate the extent of meaning of the sign, perhaps in the format shown below.

![Recommended traffic control signs at exits from car parks](image)
3. Planning Issues

Hobsons Bay’s Planning Scheme may be used as a more or less typical example of local planning schemes. This planning scheme stipulates, in decision guidelines for the design and construction of car parks, that the responsible authority must consider (amongst other things) the provision for pedestrian movement within and around the parking area.

This provision is sufficiently general in nature that it may encourage some developers to challenge a responsible authority’s requirement for world best practice pedestrian safety within and around car parks.

In many car parking areas, there is little provision for safe pedestrian movement. Ideally, safe pedestrian movement requires walkways physically separated from vehicular areas within the car park and, where pedestrian movement must be across a “road” within the car park, that pedestrians be protected by a formal Pedestrian Crossing marked and signed in accordance with Australian Standards, and preferably installed on the flat top of a raised speed reduction device.

Figure 6: Arial view of Central Square Shopping Centre. Altona Meadows, showing parking lane separations used for safer pedestrian walk ways (partial treatment only)