The Strains of Growth: Perspectives on Access Issues in the City of Casey

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Executive Summary

Context

High quality access to goods, services and to other people is central to the achievement of both economic and social wellbeing. Accessibility is hampered by traffic congestion and by a shortage of travel options.

Bus Association Victoria (BAV), the Municipal Association of Victoria (MAV), Royal Automobile Club of Victoria (RACV) and Victorian Transport Association (VTA) believe that there is insufficient attention paid to the quality of access and its links to economic and social wellbeing. To improve knowledge of these matters, the four organizations have agreed to jointly fund some studies into access issues in different parts of Victoria. These studies are being undertaken in a range of environments, reflective of Victoria’s diversity.

This paper outlines findings from studies undertaken in the City of Casey, in Melbourne’s outer south-east. It aims to investigate travel issues and problems faced by people living in the Casey area and to suggest priorities for improving access opportunities available within the area.

Over 200,000 people live in Casey, a very fast growing part of outer suburban Melbourne. Typical of fast growing areas, young people are a high proportion of the population, with nearly one in three residents being aged under 18.

The City has very high levels of car ownership and use, although one in three households does not have a car or has only one car, suggesting some reliance on public transport. However, public transport accounts for only about 5% of travel in Casey. This is likely to be partly a result of poor levels of bus service availability: service frequencies, operating hours and availability of weekend services are all relatively poor. This combination of circumstances suggests the possibility of significant social exclusion existing in the area. Bus service improvements implemented in recent times have been well patronized.

Traffic volumes on many Casey arterial roads are well above 10,000 vehicles a day, very high relative to practical capacity. This reflects rapid growth in demand for road use, well ahead of the rate of improvement in the road network. Trucks form a significant proportion of the traffic mix. One consequence of these traffic growth pressures on a frequently congested network is casualty accident rates well above State-wide rates on both arterial and local roads, with intersections being a particular concern. Intrusion of through traffic in some residential areas is reflective of a shortage of capacity on the arterial system. A number of roads exceed their practical capacity because of this flow-over effect.
Conclusions on Survey Findings

The four surveys undertaken for this study cannot purport to be exhaustive in terms of their coverage of issues or groups. However, they do provide a good picture of some of the major access issues faced by Casey residents, a picture confirmed by other investigations undertaken during this study and/or by other research in the area. They also suggest some possible solutions to these issues, especially in the bus service area.

The area’s heavy reliance on car use was reflected in the shopping centre survey and, to a lesser extent, in travel to/from school by secondary students. Buses were more important for travel by both shoppers and secondary school students surveyed than is indicated by broader mode choice work.

Overall, roads constitute the most important transport infrastructure in the area, being important for both car users and for many using public transport (i.e. buses travel on roads), as well as for freight movement. However, people are typically only “somewhat satisfied” with road service standards.

Buses and trains are also important, particularly to those who rely on them but also to those who may not use them on a regular basis, reflecting a perceived need by respondents for travel options. Day-time bus users largely see they are “captive” to this choice of mode, this factor probably explaining the very high importance rating given by bus users to buses. Some striking examples of social exclusion amongst the bus-using group were identified.

Even though typical surveyed trip distances were often less than 5 kilometres, walking and bicycle use are not significant, even representing only a small proportion of trips to secondary school. This is thought to be partly a reflection of concerns about the safety of walking along/across busy roads in the area. In the case of shopping trips, short trip lengths also suggest that the main shopping centres are not playing a major extra-regional role at present, although Fountain Gate seems to be positioning itself for this function.

The main focus for transport improvements among those shoppers interviewed was for road upgrading to reduce traffic congestion and improve road safety, with the major focus being on the need to upgrade arterial roads. Shoppers tend not to nominate particular trouble spots (although Thompson’s Rd was singled out), which is likely to reflect the generality of traffic congestion and safety concerns across the area. Car-using shoppers also emphasized the importance of improving bus services, presumably to give them mobility options.

Bus users argued for what are fast becoming the basic criteria for an acceptable bus service: frequent services (including weekend services and services into the evening) and reliable services (e.g. some bus priority to assist operation), with the need for improved bus-train connectivity often noted.
Secondary school students tend to be highly bus reliant and argue strongly for improved services, adding to the frequency/reliability messages some messages about a need for more direct services and better stops/shelters and also placing more emphasis on improving night-time services.

**Conclusions on Road Traffic Issues**

Traffic count and road crash casualty data (referenced under “Context” above), showing a road system under stress, is reinforced by the results of RACV Red Spot analysis for Casey. That analysis revealed many of the top scoring Red Spots were in Melbourne’s rapidly growing outer areas, with Casey accounting for 112 nominations. All the nine Red Spot sites in Casey that were nominated at least 5 times were intersections, with 7 being arterial/arterial intersections and 2 State Highway intersections with arterials.

Common themes in the Casey Red Spot nominations are (1) peak period congestion, (2) long queues at unsignalised intersections and (3) signalized intersections with inadequate lane capacity, all suggesting that traffic growth is running ahead of motorists’ expectations of road capacity to handle that traffic.

A detailed RACV analysis of arterial road upgrading needs in Casey identified $429 million worth of works (2002 prices), representing a high 30% of the total needs identified by that analysis for Melbourne. The 8 projects that comprised the $429 million dealt with 8 of the 9 major Red Spot sites identified by the RACV in Casey. Most of the upgrading works proposed by RACV are on major arterials, not on State Highways.

In expenditure terms, Vicroads’ work program in Casey has focused mainly on State Highway upgrading works, with three major upgrading projects completed, in-progress or planned (the latter, Pakenham Bypass, is mainly in Cardinia, not Casey). The Vicroads’ average annual expenditure rate in Casey on major arterials that are not State Highways seems to be about $14 million. The focus on upgrading State Highways may help explain why the RACV analysis has underlined the need for extensive upgrading works on major arterials (other than State Highways).

City of Casey uses a significant proportion of its own funds for road works on local roads in the municipality. The major application of such funds is to improve collector/feeder roads, where some minor easing in traffic pressures on nearby arterials may result but the main purpose is to facilitate safer and easier access to/from the arterial network, and localized improvements in areas of high pedestrian activity, such as school zones. Casey Council sees the most pressing priorities for road upgrading as being on the heavily congested arterial network, which is Vicroads’ responsibility.

Community research in Doveton-Eumemmerring, and in Casey more generally, emphasizes how traffic intrusion/speeding is perceived as the major problem of living in the area and how important public transport services are to transport disadvantaged people. Improvements in both areas (roads/traffic and public transport) are seen as among the most important changes to keep people in the Doveton-Eumemmerring area.
The type of public transport service improvement identified as important in that research supports the study’s survey findings.

At a more micro scale, standards of many bus stops and bus interchanges in Casey leave much to be desired. Building patronage of public transport will require attention to standards of such facilities. Responsibility for funding such improvements is currently a vexed issue. The State Government, Local Government and the BAV should agree minimum standards, and funding arrangements, for bus stops and interchanges, to improve their functionality and enhance their contribution to growing service patronage levels, towards the 20/2020 target. Resolving funding obligations for meeting DDA requirements at bus stops is an important matter requiring resolution in this regard, given the costs involved (estimated by Casey Council at over $10 million for Casey).

Casey Council is concerned about the State Government (unwritten) policy position that roads should be planned to avoid at-grade level crossings. A number of level crossings are located on local roads but Council is unlikely to be able to afford the high cost of grade separation (which might involve two years of Council expenditure for one grade separated crossing). If State policy requires grade separation, State funding should contribute to the realization of this policy position.

**Overview on Directions**

The common themes in this report have been:

- pervasive traffic congestion associated with rapid population growth and motor vehicle use in a low density area, with associated problems of road safety and traffic intrusion;
- pressures on infrastructure and services from rapid population growth;
- the importance of bus services to transport disadvantaged people in the area; and,
- the lack of agreed standards for provision of infrastructure (e.g. arterial roads, transport interchanges) and bus services.

The study has identified the kind of improvements to **bus services** in the Casey area that are needed to increase patronage levels and improve accessibility, particularly for those transport disadvantaged groups who are most dependent on public transport. The key improvements are:

- increased service frequency;
- provision of weekend services where they are lacking;
- more late night services;
- improved bus stops, including provision of information;
- more reliable and faster running times (bus priority measures);
- more direct bus services (especially between Pearcedale and Cranbourne); and,
- improved train-bus connectivity.
Establishing and implementing a **decent basic level of local bus services** across Melbourne is a critical first step for growth in patronage and improved accessibility.

What is a decent base set of local bus service standards for Melbourne? Based on analysis of the experience of a number of bus systems elsewhere that capture significant mode shares, the BAV suggests they are the following:

- **Monday to Friday**: 6.00am start, with the last run starting at 8.00pm; frequencies of at least 30 minutes at peak and inter-peak times and 60 minutes at off-peak.
- **Saturday**: 7.00am start; 8.00pm start of last run; 60 minutes frequency.
- **Sunday**: 8.00am start; 6.00pm start of last run; 60 minutes frequency.

These standards for local bus services are very modest, particularly compared to what is available to residents of inner and middle suburbs. They should only be seen as a first stage of improvement. One would expect finishing times to be at least 2 hours later in a well developed service. In areas of high demand, higher frequencies and longer spans of hours would be expected. The committed Stud Rd *SmartBus* is an example of the appropriate service standard on major routes.

These standards should form the minimum base towards which current Melbourne local bus service standards are moved over a three to four year period. The cost of achieving the BAV’s proposed minimum service standards across Casey, including new services in growth suburbs, has been estimated at an additional $5 million per annum in recurrent costs. The annual cost Melbourne-wide would be about $57 million. The 2005-06 State Budget has provided an annual bus service funding increase of $10 million, which goes only a very small way to achieving the minimum standards.

Bus priority measures and bus stop/interchange upgrades will add to this cost. There are currently no agreed standards for bus priority measures in Melbourne and there is no State Government forward program to provide operating priority to buses, other than on selected *SmartBus* links. Standards for bus priority measures should be agreed and a program to meet such standards over a definite time period should be prepared by Government, in consultation with the bus industry and local government. Similar comments apply to the need for upgrading bus stops and interchanges, where the need for improvement is apparent and local government responsibilities are greater.

The State Government recognizes that transport infrastructure in outer areas has not kept pace with growth in demand and that two-lane arterial *roads* are frequently carrying excessive loads. However, there is no definitive State Government plan to deal with this problem. The State Government needs to adopt a long term, strategic approach to funding long-lived transport infrastructure and service upgrades, rather than continuing the present approach which is dominated by the annual budget cycle.

VicRoads’ road upgrading effort in Casey is focused mainly on a small number of major projects on State Highways. At the current rate of spending on upgrading arterial roads, **it would take about 27 years to overcome the Casey backlog identified by the RACV**. This rate of road improvement needs to be increased significantly.
The report proposes an annual 5 year rolling program of arterial road upgrading works (exc. State Highways) of at least $100 million per annum above the 2004-05 arterial road expenditure rates for Melbourne as a whole, to deal with the needs backlog. The 2005-06 State Budget provided an increase of about one-third this rate for three years, a useful beginning but just a beginning. Even with an increase of $100 million p.a., it would still take many years to deal with the backlog Melbourne-wide identified by RACV. This increase in expenditure would still leave Victorian State Government per capita arterial road funding from its own sources at lower levels than NSW and Queensland.

The Victorian road funding situation is not helped by the very low share of Federal road funding received by the State. Although Victoria accounts for about one quarter of Australia on most measures of aggregate economic activity, the State receives a much smaller share of Commonwealth road funds (18.4% this year). The hold-up in passing $560 million to Victoria associated with Mitcham-Frankston Freeway (Eastlink) does little to help in this regard. Low Commonwealth road funding to Victoria compounds the problem of relatively low State road spending from its own revenue sources. Both contribute to a deteriorating congestion outcome. The Commonwealth should substantially increase its road funding allocations to Victoria, so they better reflect the economic significance of the State and its road system. Some of these funds should be used to improve roads for public transport priority operation.

Local road improvements are funded mainly from Council’s own revenue sources (the major source in Casey) and Federal road grants. Increasing the rate of improvement on the arterial system, which is the major problem area, would also assist in easing pressures on the local road system.

Federal road grants to Casey seem broadly in line with expectations, though there is a suggestion that the current Local Road Grants distribution formula may place insufficient emphasis on population growth as an influence on road needs.

Adding road capacity, as proposed in this report, to deal with existing backlogs in the fast growing outer growth suburbs requires a delicate balancing act, to ensure that the extra capacity so added does not in itself encourage further urban expansion, defeating the State Government’s urban development goals. BAV believes that the selected arterial road duplication projects identified in this report should proceed but that this should only be done in the context of:

- strict adherence to the principles of Melbourne 2030;
- provision of local public transport services (at no less than the proposed minimum standards) in developing estates at the time those estates develop; and,
- provision for fast and reliable bus priority operation over roads that have been duplicated, to encourage higher use of public transport services.

Improving long term transport sustainability requires improved transport infrastructure and services. It also requires an emphasis on accessibility planning, since meeting
access objectives is the major rationale for personal transport. The deficiencies in road infrastructure and public transport (bus) services identified in this report suggest that there is inadequate attention given to regional accessibility planning.

The State Government should engage with local government and representatives of key urban development, social policy and transport user groups on a regional basis to prepare regional transport development programs that can contribute to meeting the State Government’s urban development goals, as set out in Melbourne 2030, and to delivering 20% mode share for public transport by 2020. In areas like Casey, improving arterial road service levels and bus service levels should be major foci for such work. Resulting infrastructure and services improvement programs should be aggregated up to a forward metropolitan transport plan then linked to medium term forward funding commitments through the Budget process. Three to five year time horizons should characterize the funding process. Such initiatives are needed to convert Linking Melbourne from a high level transport strategy to a transport plan for Melbourne.
1. The Victorian Access Study

1.1 Context

High quality access to goods, services and to other people is central to the achievement of both economic and social wellbeing. Traffic congestion reduces accessibility, while increasing the costs of economic activity and hindering social interaction (and also creating adverse environmental impacts). Social interaction is also hampered by a shortage of access options, particularly for those people who are sometimes regarded as being transport disadvantaged (e.g. young people, people with a disability, low income people, seniors, rurally isolated people, indigenous people).

Bus Association Victoria (BAV), the Municipal Association of Victoria (MAV), Royal Automobile Club of Victoria (RACV) and Victorian Transport Association (VTA) believe that there is insufficient attention paid to the quality of access and its links to economic and social wellbeing. To improve knowledge of these matters, the four organizations have agreed to jointly fund some studies into access issues in different parts of Victoria. These studies are being undertaken in a range of environments, reflective of Victoria’s diversity.

This paper outlines findings from studies undertaken in the City of Casey, a fast growing suburb in Melbourne’s outer east. The report aims to investigate travel issues and problems faced by people living in the Casey area and to suggest priorities for improving access opportunities available within the area. It draws on three key information sources:

- one-on-one structured personal interview surveys conducted by the BAV Study leader in the area, targeting groups who are (respectively) car users and public transport users;
- research from several other organizations who have studied the area (e.g. the City of Casey, RACV, Brotherhood of St Laurence);
- data and analysis supplied by VicRoads and City of Casey on road conditions and works in the area.

This is complemented by field observations made by the two members of the BAV Study Team, both of whom have extensive experience in transport planning and policy work.

The strong theme coming through the report is the stress on infrastructure and services associated with rapid population growth in a low density outer suburban area. This is most evident in the traffic congestion that characterizes much of this highly car-dependent area but also in the absence of weekend bus services and poor quality of many bus stops, aspects of service provision that reinforce car-dependence and the associated traffic congestion. Those groups who have little choice in terms of transport options suffer disadvantage because of this combination of events. The issues and directions raised in the report shed light on desirable Government transport policy directions for the area, as an example of an outer suburban growth suburb.
1.2 Report Structure

Chapter 2 of this report presents some overview data on demography and transport systems in the Casey area, including some data on traffic volumes, public transport use and road casualties. Chapter 3 sets out findings from four surveys undertaken as part of the study. These surveys cover people from major shopping centres, bus users and secondary school students. In chapter 4, a range of data is presented on road conditions in Casey, including some survey data from the Brotherhood of St Laurence on resident response to traffic. Chapter 5 proposes ways to improve access opportunities in the area, through road and bus service enhancements.

Bus Association Victoria thanks those people and organizations who have made time available to talk to its Study Team and/or to provide information or analysis for the research. None of these people are responsible for the way the BAV has used the material/information so provided.
2. Casey

2.1 Population

The City of Casey is located southeast of Melbourne, beyond Dandenong, and north of Westernport Bay (Map 1). It includes some of the fastest growing areas of Australia. The City has five distinct geographic regions:

1. the **foothills**, made up of Lysterfield, Harkaway and Narre Warren North, is mainly used for grazing, horse agistment and regional open space;
2. the **main residential and commercial sector** is around the Princes Highway and the South Gippsland Highway corridors. There are two regional shopping centres, at Narre Warren-Fountain Gate and Cranbourne, as well as sub-regional centres at Endeavour Hills, Hampton Park and Berwick Village;
3. the **urban growth area** covers the areas immediately to the south, east and west of Cranbourne. This area is characterised by strong building activity and rapid population growth;
4. the **farm**, around Clyde, Five Ways, Devon Meadows and Pearcedale, is mainly used for market gardening, flower growing and grazing;
5. the **bay**, on the southern border, is home to the picturesque coastal hamlets of Tooradin, Cannons Creek, Warneet and Blind Bight and contains extensive coastal reserves. It forms a link between the popular tourist destinations of Mornington Peninsula and Phillip Island.

The City is estimated to have passed 200,000 population in 2003 and is projected to contain 300,000 people by 2031 (DSE 2004). Over recent years, resident numbers have increased by about 7,000-10,000 per year. Population growth rates have been extremely high: 7.4% p.a. 1986-91; 5.1% p.a. 1991-96; 4.2% p.a. 1996-2001. In contrast, Melbourne’s overall population growth rate has typically been about 1% p.a. over this period, with a high 1.5% p.a. 1996-2001. Between 1996 and 2001, Melbourne’s population increased by about 228,000. Casey accounted for about one-seventh of this growth.

Table 1 sets out the age distribution of Casey’s 2001 population, compared to the Melbourne Statistical Division. Typical of a fast growing suburb, Casey has a relatively high proportion of young people in its population mix. For example, in 2001 Casey had 31.3% of its population aged less than 18 years, whereas the comparable Melbourne share was 23.8%. Conversely, Casey had only 9.6% of its population aged 60 or more, well below the Melbourne share of 16.1%. Numbers in the young age groups in Casey are projected by the State Government to grow rapidly. For example, numbers in the 10-19 years age groups are projected to grow by 4800 between 2001 and 2006, the time of the expected highest growth (absolute and relative) in these age groups over the next couple of decades. With young people generally tending to be among the more transport

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1 The following descriptive material (numbered points) is drawn directly from the City of Casey’s website, with very minor editing (http://www.casey.vic.gov.au/casey/article.asp?item=263)
disadvantaged groups in our community, it is likely that their access issues will be
accentuated in the environment of fast population growth. For this reason, young people
are a particular focus of the report, to illustrate the kinds of issues they face with respect
to access.

Map 1: City of Casey
Table 1: Population Age Distribution: Casey and Melbourne 2001.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Casey (%)</th>
<th>Melbourne SD (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>8.76</td>
<td>6.43</td>
</tr>
<tr>
<td>5-17</td>
<td>22.51</td>
<td>17.35</td>
</tr>
<tr>
<td>18-24</td>
<td>9.08</td>
<td>10.17</td>
</tr>
<tr>
<td>25-34</td>
<td>16.13</td>
<td>15.99</td>
</tr>
<tr>
<td>35-49</td>
<td>24.31</td>
<td>22.54</td>
</tr>
<tr>
<td>50-59</td>
<td>9.62</td>
<td>11.46</td>
</tr>
<tr>
<td>60-69</td>
<td>5.04</td>
<td>7.30</td>
</tr>
<tr>
<td>70-84</td>
<td>3.97</td>
<td>7.34</td>
</tr>
<tr>
<td>85+</td>
<td>0.58</td>
<td>1.42</td>
</tr>
</tbody>
</table>


2.2 Travel

2.2.1 Macro Indicators

As a fast growing outer suburb, with relatively low levels of public transport service provision, Casey has high levels of car ownership and use; there is little alternative for most households. Table 2 compares the level of car ownership in Casey with that in Melbourne as a whole. There is only about half the proportion of households without cars in Casey as in Melbourne as a whole and substantially more households with 2, 3 or more cars per household. Some 61.3% of Casey households had 2 or more cars in 2001, compared to 49.1% in the Melbourne SD as a whole.

Table 2: Car Ownership Rates in Casey and Melbourne, 2001.

<table>
<thead>
<tr>
<th>Motor Vehicles per Household</th>
<th>Casey (%)</th>
<th>Melbourne SD (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No motor vehicles</td>
<td>4.23</td>
<td>9.51</td>
</tr>
<tr>
<td>1</td>
<td>29.62</td>
<td>34.74</td>
</tr>
<tr>
<td>2</td>
<td>44.36</td>
<td>35.34</td>
</tr>
<tr>
<td>3 or more</td>
<td>16.94</td>
<td>13.75</td>
</tr>
<tr>
<td>Not stated</td>
<td>4.86</td>
<td>6.67</td>
</tr>
</tbody>
</table>

A new housing estate in Cranbourne, showing high levels of car dependency. Unless public transport services are available at time of estate opening, car dependency quickly becomes entrenched.

This relatively high rate of car ownership is reflected in relatively high levels of car use. For example, the 2001 census shows that 75.6% of work trips made by Casey residents were taken as car driver (69.5%) or car passenger (6.1%). In Melbourne SD the comparable modal shares were 61.7% as car driver and 5.1% as car passenger. The high modal share for car in Casey is mirrored in a low modal share for public transport. Public transport accounted for only 2.7% of Casey work trips in 2001, well below the Melbourne overall share of 7.4%. Reflecting in part the low density development patterns of the area, walking and cycling also account for low modal shares in the journey to work, at 1.0% and 0.2% respectively in 2001, well down on the Melbourne SD shares of 2.4% and 0.8%.

While the car clearly dominates modal choice, Table 2 shows that about one in three households have only one or no cars. If that car is used for the work trip, it means that a significant number of people will be facing restricted travel options because of the relatively low levels of public transport availability.

2.2.2 Road Use and Safety

VicRoads kindly provided traffic count data for a number of declared roads in Casey and an analysis of road crash data for the period January 2000 to December 2004 to assist this study. This section summarises key findings from the analysis.

Table 3 shows peak traffic volumes on the State Highways/Freeways in the area, with South Gippsland Freeway and Monash Freeway carrying around 70,000 vehicles a day (ADT), Princes Highway East about 40,000 and Westernport Highway in the mid-30,000s. Several major arterial roads carry volumes in the 20-30,000 ADT range and
others sit just below this range. Many of these routes are two lane roads of rural origin and volumes at this level are very high. Truck volumes on the declared roads average around 7% of ADT but many roads, both Freeways/Highways and major arterial roads carry much higher proportions.

Table 3 also presents some summary data on casualty crashes for key road links and declared/local roads more generally in Casey. It highlights those road segments which have the largest numbers of casualty crashes and the highest casualty accident rates, per kilometer of road length and per hundred million vehicle kilometers.

Key headline findings for Casey can be summarized as follows (drawing mainly on data in Table 3 but also on other analyses undertaken by Vicroads for this study):

- the average casualty crash rate per annum on all declared roads in Casey over the 2000-2004 period was over four times the rate for Victoria as a whole in terms of road kms (2.26 compared to 0.50) and twice the Victorian rate per hundred million vkms (24.5 compared to 12.3);
- the relativity per road kilometer between Casey and the State as a whole was similar for local roads to that for declared roads;
- those roads having the highest number of casualty crashes over the 2000-2004 period were Princes Highway East (365), South Gippsland Highway (345), Hallam Road (228), Cranbourne-Narre Warren Rd (166), Western Port Highway (139), Narre Warren North Rd (129), Heatherton Rd (111), Thompsons Rd (111) and Monash Freeway (109);
- highest casualty crash rates per road km per annum were on Princes Highway East (8.16), Fullard Rd (6.92), Hallam Rd (5.09), Narre Warren North Rd (5.02), Pound Rd (4.90), Berwick-Beaconsfield Rd (3.99), Heatherton Rd (3.28), South Gippsland Freeway (3.20), Cranbourne-Narre Warren Rd (3.12). all these roads have casualty crash rates per road kilometer more than six times the State average for declared roads (of 0.50);
- highest casualty crash rates per 100 million vkms were on Hallam Rd (73.9), Pound Rd (59.4), Narre Warren North Rd (58.1), Baxter-Tooradin Rd (57.0), Thompson Rd (56.9), Princes Highway East (54.6), Cranbourne-Frankston Rd (50.6), Berwick-Cranbourne Rd (49.9). All these roads were at least four times the State average rate for declared roads over that period;
- on declared roads, the most common casualty crash type and the fastest increasing type of casualty crash were side impact crashes at intersections;
- on local roads, run-off-the road casualty crashes were the most common.

These figures are strongly suggestive of traffic volumes well in excess of the capacity of the area’s road network to safely handle such volumes, particularly on 2 lane arterial roads, with intersections being the main danger locations.

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2 Vicroads did not estimate a casualty accident rate per hundred million vkms for local roads, presumably because of an absence of data on vkms.
Table 3 also shows some of the safety benefits of freeways: the casualty accident rates on these links are typically well below those on other arterial roads in relation to traffic carried.

Table 3: Casualty Crashes on Declared Roads in City of Casey, 2000 to 2004.

<table>
<thead>
<tr>
<th>Road</th>
<th>Total Casualty Accidents</th>
<th>ADT (03/04)</th>
<th>% Trucks</th>
<th>Casualty Crashes /km/p.a.</th>
<th>Casualty Crashes 100m vkm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Princes H’way East</td>
<td>365</td>
<td>40987</td>
<td>-</td>
<td>8.16</td>
<td>54.6</td>
</tr>
<tr>
<td>Princes F’way East</td>
<td>32</td>
<td>42991</td>
<td>-</td>
<td>1.16</td>
<td>7.4</td>
</tr>
<tr>
<td>Monash Freeway</td>
<td>109</td>
<td>67860</td>
<td>13.9</td>
<td>1.92</td>
<td>7.7</td>
</tr>
<tr>
<td>S Gippsland H’way</td>
<td>345</td>
<td>17206</td>
<td>9.4</td>
<td>2.45</td>
<td>39.0</td>
</tr>
<tr>
<td>S Gippsland F’way</td>
<td>82</td>
<td>74652</td>
<td>13.2</td>
<td>3.20</td>
<td>11.7</td>
</tr>
<tr>
<td>Western Port H’way</td>
<td>139</td>
<td>36285</td>
<td>-</td>
<td>1.46</td>
<td>11.0</td>
</tr>
<tr>
<td>Berwick-Beaconsfield Rd</td>
<td>91</td>
<td>30100</td>
<td>-</td>
<td>3.99</td>
<td>36.3</td>
</tr>
<tr>
<td>C’bourne-Narre Warren Rd</td>
<td>166</td>
<td>18105</td>
<td>5.9</td>
<td>3.12</td>
<td>47.5</td>
</tr>
<tr>
<td>Narre Warren Nth Rd</td>
<td>129</td>
<td>23654</td>
<td>-</td>
<td>5.02</td>
<td>58.1</td>
</tr>
<tr>
<td>Belgrave-Hallam Rd</td>
<td>18</td>
<td>15155</td>
<td>7.2</td>
<td>1.89</td>
<td>34.2</td>
</tr>
<tr>
<td>Berwick-C’bourne Rd</td>
<td>139</td>
<td>11023</td>
<td>-</td>
<td>2.01</td>
<td>49.9</td>
</tr>
<tr>
<td>Ballarto Rd</td>
<td>13</td>
<td>-</td>
<td>0.37</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Clive-Five Ways Rd</td>
<td>15</td>
<td>3800</td>
<td>11.6</td>
<td>0.65</td>
<td>46.6</td>
</tr>
<tr>
<td>Baxter-Tooradin Rd</td>
<td>88</td>
<td>7012</td>
<td>7.0</td>
<td>1.46</td>
<td>57.0</td>
</tr>
<tr>
<td>Hallam Rd</td>
<td>228</td>
<td>18858</td>
<td>3.2</td>
<td>5.09</td>
<td>73.9</td>
</tr>
<tr>
<td>Heatherton Rd</td>
<td>111</td>
<td>31967</td>
<td>-</td>
<td>3.28</td>
<td>28.2</td>
</tr>
<tr>
<td>Thompsons Rd</td>
<td>111</td>
<td>12908</td>
<td>10.6</td>
<td>2.68</td>
<td>56.9</td>
</tr>
<tr>
<td>Cranbourne-Frankston Rd</td>
<td>85</td>
<td>14502</td>
<td>8.7</td>
<td>2.68</td>
<td>50.6</td>
</tr>
<tr>
<td>Pound Rd</td>
<td>72</td>
<td>22600</td>
<td>-</td>
<td>4.90</td>
<td>59.4</td>
</tr>
<tr>
<td>Fullard Rd</td>
<td>18</td>
<td>-</td>
<td>-</td>
<td>6.92</td>
<td>-</td>
</tr>
<tr>
<td>Shrive Rd</td>
<td>21</td>
<td>-</td>
<td>-</td>
<td>2.14</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Road</th>
<th>Total Casualty Accidents</th>
<th>ADT (03/04)</th>
<th>% Trucks</th>
<th>Casualty Crashes /km/p.a.</th>
<th>Casualty Crashes 100m vkm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casey – All Declared Roads</td>
<td>1963</td>
<td>25258</td>
<td>7.4</td>
<td>2.26</td>
<td>24.5</td>
</tr>
<tr>
<td>Casey – All Local Roads</td>
<td>1007</td>
<td>-</td>
<td>-</td>
<td>0.13</td>
<td>-</td>
</tr>
<tr>
<td>Casey – All Roads</td>
<td>2970</td>
<td>-</td>
<td>-</td>
<td>0.35</td>
<td>-</td>
</tr>
<tr>
<td>Victoria – All Declared</td>
<td>55799</td>
<td>-</td>
<td>-</td>
<td>0.50</td>
<td>12.3</td>
</tr>
<tr>
<td>Roads</td>
<td>11118</td>
<td>-</td>
<td>-</td>
<td>0.50</td>
<td>12.3</td>
</tr>
<tr>
<td>Victoria – Local Roads</td>
<td>30082</td>
<td>-</td>
<td>-</td>
<td>0.03</td>
<td>-</td>
</tr>
<tr>
<td>Victoria – All Roads</td>
<td>85881</td>
<td>-</td>
<td>-</td>
<td>0.09</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Data supplied by VicRoads.

Some examples of traffic pressure on roads in Casey are provided in City of Casey submissions to the VicRoads’ Truck Operations Committee, of which Victorian Transport Association (VTA) and BAV are both members. The specific details of the City’s submissions are not relevant to this report but some aspects are notable for the light they shed on matters considered in the current report.

Paperbark Street/Frawley Road provides an east-west route between Belgrave/Hallam Rd and McCrae Street, Dandenong, via Box Street, and also serves an access function to the Dandenong District Centre. Drainage reserves and access controls associated with
Freeways limit local connectivity through the area, resulting in significant traffic volumes being attracted to the route and also to Power Road, which provides a north-south link between Princes Highway and Heatherton Rd. Power Rd/Kidds Rd route is used by traffic from Endeavour Hills to access the Dandenong District Centre.

Paperbark St/Frawley Rd and Power Rd/Kidds Rd are all two-lane roads, carrying very high traffic volumes (reflecting a lack of alternative route capacity), with a resulting impact on residential amenity. This impact is evident in the results of community surveys carried out in the Doveton-Eumemmering area by the Brotherhood of St Laurence, outlined in section 4.5 later in this report. Average daily traffic volumes are as follows:

<table>
<thead>
<tr>
<th>Road Description</th>
<th>Pre Hallam Bypass</th>
<th>Post Hallam Bypass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paperbark St east of Oak Ave</td>
<td>12600 (6/2003 count)</td>
<td>11638 (2002 count)</td>
</tr>
<tr>
<td>Power Rd @ Freeway</td>
<td>15400 (6/2003 count)</td>
<td>15350 (11/2003 count)</td>
</tr>
</tbody>
</table>

Traffic engineering practice suggests that a two-lane urban road in a residential area should not carry more than 8000 to 10,000 vehicles a day (or 12000 if the area is primarily industrial). These numbers suggest that the roads in question are in excess of their practical capacity, given their operating environment. This problem reflects the access function served by the routes in question, both for their local area but also for rapidly growing areas outside the specific count locations.

2.2.3 Public Transport Services and Use

General

Booz Allen & Hamilton (2001) have indicated that public transport has an overall mode share of 4.7% in the cities of Greater Dandenong and Casey combined, based on analysis of Victorian Activity Travel Survey data for the 1995-98 period. Their analysis indicates a total of over one million trips a day to/from/within the region (which would have grown since that time), car travel accounting for 81.8% and public transport 4.7%. Trips solely within the area accounted for 60.1% of total trips. BAH’s investigations suggested car travel accounts for 76% of internal trips and 90% of external trips. Public transport’s mode share was estimated at 2% for internal trips (mainly bus) and 8% for external trips (mainly train).

---

3 Opening of Hallam Bypass seemed to lead to a reduction of about 10% in traffic on Frawley Rd.
BAH point out that, for external travel (outside the region), car trips are well spread in a spatial sense, whereas transit trips are predominantly radial in nature. Some 50% of external PT trips originating within the region have a destination in the CAD (central Melbourne), whereas the comparable car share is only 12%. The radial nature of the rail network and lack of high quality circumferential bus services influences this outcome for public transport.

**Bus Services and Use**

The Melbourne Bus Plan prepared for DOI presents data for a region it defines as “Outer East (South)”, comprising the Cities of Casey and Greater Dandenong. With Greater Dandenong being the regional centre for Casey and many trip patterns involving Greater Dandenong, bus data is presented for the two areas rather than just for Casey.4

BAH identified 41 bus routes serving the Outer East (South) region (Map 2), with many of these routes extending beyond the area. The Booz Allen & Hamilton analysis of these services led to the conclusion that service levels are low. Average headways were assessed at around 45 minutes in the peak and 50 minutes off-peak. Buses finish early (about 6.18pm on average) and there were no Sunday services identified by BAH at that time. Service levels of such a low standard are inevitably reflected in relatively low levels of use – households living in the area have little alternative than to acquire a second private vehicle.

The State Government has recognized the need for improved bus services in Casey and has implemented several service enhancements over the past few years. Routes on which improvements have been implemented are:

Grenda Corporation services: routes 837, 838, 839, 841, 840, 842, 843/5/9 and 861.
Cranbourne Transit services: routes 789, 790, 791, 896, 897..

The kind of improvements that have been implemented have mainly been to increase frequency, operate buses later into the evening (with later services on Fridays and Saturdays) and provide weekend services. However, as discussed in Chapter 5, there is still a substantial need for further service enhancements to establish a solid base service level across the whole City.

Bus service improvements in Casey in recent years have been successful in growing patronage. For example, the improved Grenda services have increased patronage by about 0.5 million trips per year. Further patronage growth would be expected if a measure of on-road priority was provided to facilitate faster bus operation on the congested peak arterial network in Casey.

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2.3 Overview

Over 200,000 people live in Casey, a very fast growing part of outer suburban Melbourne. Typical of fast growing areas, young people are a high proportion of the population, with nearly one in three residents being aged under 18 in 2001.

The City has very high levels of car ownership and use, although one in three households does not have a car or has only one car, suggesting some reliance on public transport. However, public transport accounts for only about 5% of travel in Casey. This is likely to be partly a result of poor levels of bus service availability: service frequencies, operating hours and availability of weekend services are all relatively poor. This combination of circumstances (i.e. a significant proportion likely to be relatively dependent on PT for mobility/accessibility; poor bus service levels; and, low levels of PT use) suggests the possibility of significant social exclusion existing in the area. Service improvements implemented in recent times have been well patronized.
Traffic volumes on many Casey arterial roads are very high, relative to practical capacity, reflecting rapid growth in demand for road use. Volumes typically exceed 40,000 ADT on Highways and are often in the 10,000-25,000 ADT range on other arterial roads. Trucks form a significant proportion of the traffic mix.

One consequence of these traffic growth pressures on a frequently congested network is casualty accident rates well above State-wide rates on both arterial and local roads, with intersections being a particular concern. Intrusion of through traffic in residential areas in some parts of Casey is reflective of a shortage of capacity on the arterial system. A number of roads exceed their practical capacity because of this flow-over effect.
3. **Casey Surveys**

3.1 **Target Groups**

The major focus of this report is to identify travel issues and problems faced by people living in Casey and to suggest priorities for improving access opportunities in the area. Time and available funds preclude an exhaustive examination of access and mobility questions. As a result, the study decided to focus on access/mobility issues faced by three main groups of people: day-time shoppers, bus users and secondary school children. The reasons for this choice are two-fold: first, it is expected that it will cover the main transport modes (car and public transport) and thus give insights into personal access/mobility issues on a fairly broad front; and, second, the groups are thought likely to exhibit some characteristics of transport disadvantage:

- some day-time shoppers because of the possible lack of availability of a household car during the day;
- bus users because of limited service availability for people who typically have very limited choices for travel; and,
- secondary school children (year 10 students) because this group typically seeks independence in activities but often lacks the mobility options needed to realize this independence.

Transport disadvantage is known to often be associated with social exclusion, an area of significant policy interest to many governments at present (BAV 2004; SEU 2003).

3.2 **Types of Surveys**

To shed light on access issues faced by the target groups indicated, four surveys were undertaken:

1. shopper surveys at major shopping centres – Fountain Gate and Cranbourne Park (two regional shopping centres), plus Hampton Park. These surveys involved 89 personal interviews (Fountain Gate 32; Hampton Park 32; Cranbourne 25), most of those interviewed being car users;
2. on-board surveys of bus users, with personal interviews being conducted with 49 bus users on Grenda Corporation services or Cranbourne Transit services. Bus users are typically transport disadvantaged people who are expected to have different access issues to car users;
3. surveys of people at the Fountain Gate Shopping Centre Bus interchange (N=30), to shed light on access issues faced by people who typically have a change in public transport travel mode within their trip structures; and,
4. classroom surveys of secondary school students (N=108 year 10 students at St Peters Cranbourne).

In total, some 276 people were included in these surveys.
The results of the surveys are set out below. In some cases, comparisons are made with findings from the BAV’s recent study undertaken in Warrnambool (BAV 2004). This provides some interesting similarities and contrasts between a fast growing regional centre and the very fast growing outer southeast of Melbourne.

### 3.3 Major Shopping Centre Survey

Of the 89 people interviewed at the three shopping centres, 27 were male and 62 female, mainly reflecting the timing of the surveys (during the day-time, in an area with a high proportion of young children).

Figure 1 sets out the age distribution of shopping/bus interviewees compared to the Casey population numbers in the same age groups. This figure shows that, compared to their representation in the population as a whole, shopping centre interviewees in the 18-24, 56-69 and 70 or more age groups were somewhat overrepresented in the survey sample and those aged 25-55 and 13-17 somewhat underrepresented.

![Fig. 1: Age Distribution of Interviewees](image)

Source: BAV surveys plus census data.

In terms of both sex and age distribution, the study does not represent the broad Casey population. This not an issue since it is not the intention of this section of the study to represent mobility issues across the Casey municipality as a whole, so much as to focus on issues faced by particular groups thought likely to experience some degree of transport disadvantage.
Shoppers interviewed at all three shopping centres in Casey had similar trip length distributions. Only Cranbourne had any shoppers interviewed who traveled further than 10 kilometres (Fig. 2). Over 90% of shoppers at all centres traveled less than 5 kms, with 6-12% traveling under 1 km. The most common travel distance was 1-5 kms, with 76-88% being in this range for the respective centres. Even though two of the three centres are regional facilities, this (limited) data suggests that the catchment is fairly localised.

Figure 2 also includes trip length distributions for the two main shopping centres in Warrnambool, the long established central Warrnambool shopping area and relatively recent Gateway Plaza, a regional shopping centre located some four kilometers from central Warrnambool. Both Warrnambool centres had shoppers from beyond 20 kilometres, with a significant proportion (one in three) visiting Gateway Plaza coming from 50 kilometres or more away. This comparison shows the regional shopping centre role played by Warrnambool, a role that appears to be absent to the same extent at Casey. Dandenong, for example, would probably fill the major regional shopping function for Casey, with the wider Melbourne area also providing a vast array of high order shopping options. Chadstone Shopping Centre, for example, is likely to be an influence on the small number of longer distance trips to the shopping centres in the Casey area. Fountain Gate seems to be positioning itself to assume a larger role in this function within Casey.

**Mode Choice**

Car travel dominates shopper mode choice to the three Casey shopping centres (Fig. 3). It accounts for between 78.2% (Hampton Park) and 87.5% (Fountain Gate) of trips by those interviewed. Car passengers typically accounted for one quarter to one-fifth of car users to the three centres. The journey to work data cited in Section 2.2.1 suggests an
average car occupancy rate for the journey to work in Casey (2001) of about 1.1\(^5\). The shopper survey data suggests an adult vehicle occupancy rate of about 1.26, which is considerably higher, and a higher rate yet again once children are included (see section 3.4 below). This suggests that a relative lack of car availability in some households during the day is compensated by trip sharing with others.

It is interesting to note that the car occupancy rate found in the BAV Warrnambool shopping surveys was higher than the Casey figure, at about 1.44 adult persons per car. Based on discussions held with interviewees, it is suggested that the social inclusion aspect of shopping is possibly stronger in Warrnambool than in Casey. This may be partly attributable to the relatively higher numbers of older people in Warrnambool, these people sometimes accompanying their adult children for shopping purposes.

A route bus was used by between 6.3% (Fountain Gate) and 16.0% (Cranbourne) of shoppers interviewed, accounting for 10.1% (overall) of shopping trips surveyed. Recalling the overall mode share for buses, estimated at 2% by Booz Allen & Hamilton (reported in Section 2.2.3), the high shopping mode share by bus may reflect a lack of car availability during the day-time.

Only three people, from a total of 89 interviewed, walked to the shopping centre. This may be due to the difficulties of carrying shopping but the number seems surprisingly low. These three all walked to Hampton Park shopping centre, which is the closest of all three to neighbouring housing. No-one who was interviewed at any of the three centres had ridden a bicycle to the shopping centre. Given the growing community concern about obesity and lack of exercise, this low mode share of walking and cycling is of concern.

![Fig. 3: Shopping Survey Mode Choice: Casey and Warrnambool](image)

Source: BAV Surveys.

\(^5\) Based on dividing the car driver plus passenger mode shares by the driver share – this is an imprecise but indicative assessment of vehicle occupancy rate, which assumes no other passengers in the vehicle (e.g. school children).
Gateway Plaza in Warrnambool tends to mirror the mode choice picture of the Casey shopping centres, with a high 90.2% of interviewees (higher than each of the 3 Casey shares) accessing the centre by car, one in four of these (adults) being a car passenger. The strong regional role played by Gateway and relative lack of regional public transport service alternatives underpins this high modal share.

Central Warrnambool is also car dependent but walking and, to a lesser extent, cycling are more important access modes for this shopping centre than for the other centres shown. Older shoppers were often walkers to central Warrnambool and were a higher proportion of the population in that municipality than for Casey. The location of accommodation close to central Warrnambool shopping centre can be expected to partly explain its larger walking component.

Convenience and habit were the major reasons for mode choice among Casey shoppers. Over half of the shoppers who were interviewed listed “convenience” as one of the main reasons for their mode choice, with 55.1% listing it as the single major reason for their choice. Habit (“always travel this way”) was the second most important factor mentioned. Eleven interviewees said “no car” was the main determinant of their mode choice. Bus was chosen by 7 of these 11 and taxi by 3, the remaining person walking. This data supports the contention noted previously about the relatively solid bus mode share for the shopping trip being partly linked to lack of car availability.

These findings again partly mirror Warrnambool, where almost 50% of shoppers indicated “convenience” was their main factor in mode choice. As with Casey, most of these people were car users. However, one in three Warrnambool respondents said their mode choice was mainly due to “no alternative”, with almost all of these people traveling by car. This partly reflects the absence of public transport in the mental maps of many Warrnambool residents, even in areas where service is available. Car dependence is very strong in that area. Walking as an activity benefiting health was also a notable, though small, inclusion in the central Warrnambool reasons for mode choice.

### 3.4 Bus User and Bus Interchange Interviewees

Those interviewed at the bus interchange were mainly concentrated in the younger age groups (13-17, mainly students and 18-24) and 25-55 year olds, mainly workers. The older age groups tended to be women on personal business or visiting friends. Eight of the 30 interviewed at the interchange (26.7%) were male and 22 (73.3%) were female.

On the buses, those interviewed tended to be in the 13-17, 18-24 and 56-69 age groups, with smaller numbers in the 25-55 and 70 or older groupings. Males accounted for 40.8% of bus users interviewed and females 59.2%, which is close to the relative proportions of males/females at 43%/57% among Melbourne bus users (Booz Allen & Hamilton, Metropolitan Bus Plan. Stage 2: Base Line Studies. Task B3 Market Perspectives, Melbourne, June 2002).
Trip Length Distribution

The two groups of Casey bus users who were surveyed had quite similar trip length distributions, as shown in Figure 4. Trips in the 1-5 km range accounted for over half of the trips for both bus groups. The bus interchange contained a few interviewees who had long total trip lengths (e.g. students studying in the central city) but otherwise there was little between the two sets of trip length distributions, for the broad distance ranges shown.

![Fig. 4: Casey Bus Users Trip Length Distribution](image)

If Figure 4 is compared with Figure 2, the tendency for Casey bus users who were surveyed to make longer trips than shoppers surveyed is apparent during the day-time inter-peak period (when the surveys were undertaken). About 90% of Casey shopping trips were typically under 5 kms in length, whereas the two sets of Casey bus user interviews suggest only about 60% of bus trips are under 5 kms in length. This partly reflects the presence of some RMIT students traveling home from University (in the Melbourne CAD) in the bus survey mix.

Reasons for Mode Choice

Bus users were asked reasons for their choice of travel mode. Users were interviewed both on the bus and at the Bus Interchange at Fountain Gate Shopping Centre. Those interviewed on-bus were on services provided by Cranbourne Transit or the Grenda group.

The main reasons given by those interviewed “on-bus” for using the bus were “no car available”, the most commonly mentioned reason, together with “always travel this way”, “most convenient” and “no alternative available”. When asked to nominate the single major reason for their choice, “no car available” accounted for over two-thirds of the responses, as shown in Table 3 below. “No alternative” accounted for a further 12% of reasons, being a broader categorization than “no car”. In short, four out of five bus users saw they had little alternative other than the bus. Some 8% of users who were interviewed gave “most convenient” as the main reason for choosing bus, which suggests

27
a positive choice in favour of the bus for at least some users. This is reinforced by the number who listed “most convenient” within their three of four main reasons for mode choice.

People interviewed at the Fountain Gate Shopping Centre bus interchange (94% of whom were bus users) indicated the same four major reasons for traveling by bus as those interviewed on-bus but with a different ordering of significance. “Most convenient” was the most common response from this group, with almost all interviewees listing this factor as important to their mode choice and two-thirds suggesting it as the single most important factor in that choice (Table 3). “No car available” or “no alternative” each accounted for only about one in ten responses from the people interviewed at the bus interchange, although over two-thirds of those interviewed on-bus, in contrast, said “no car available” was their dominant driver of mode choice. Why the difference between the two groups of bus users?

Those interviewed at the bus interchange were largely people returning from work or study, trips that are made on a regular basis. In contrast, those interviewed “on-bus” were mainly traveling for recreational or shopping purposes, which are likely to be less regular than work/educational trips. Less regular and probably more diverse trips (recreation/shopping) may possibly be more influenced by car availability than regular trips (work/school), where public transport options might be sought out more assiduously.

Table 3: Casey Bus Users Main Reasons for Mode Choice

<table>
<thead>
<tr>
<th>Main Reason for Mode Choice</th>
<th>Cranbourne Routes 789/790/892/795 (N=16)</th>
<th>Grenda Routes 841/849/845/861 (N=33)</th>
<th>Totals On-Bus (N=49)</th>
<th>Bus Interchange (N=30)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>No car available</td>
<td>13 (81%)</td>
<td>21 (64%)</td>
<td>34 (69%)</td>
<td>3 (9%)</td>
</tr>
<tr>
<td>No alternative</td>
<td>2 (13%)</td>
<td>4 (12%)</td>
<td>6 (12%)</td>
<td>3 (9%)</td>
</tr>
<tr>
<td>Most Convenient</td>
<td>1 (6%)</td>
<td>3 (9%)</td>
<td>4 (8%)</td>
<td>4 (8%)</td>
</tr>
<tr>
<td>Always use it</td>
<td>2 (6%)</td>
<td>2 (6%)</td>
<td>2 (4%)</td>
<td>21 (66%)</td>
</tr>
<tr>
<td>Fastest</td>
<td></td>
<td>1 (3%)</td>
<td>1 (2%)</td>
<td>5 (16%)</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>2 (6%)</td>
<td>2 (4%)</td>
<td></td>
</tr>
</tbody>
</table>

Note: * Two respondents gave 2 answers to this question, making the total responses 32. Source: BAV Surveys.

Reflecting the different trip purposes between those interviewed on-bus and those interviewed at the bus interchange, 89.3% of bus users interviewed at the interchange traveled alone, whereas a lower 77.6% of those interviewed on-bus were alone. The rest interviewed on-bus were traveling with another one or more adults, suggesting a social component of their trip (e.g. shopping with a friend).
The proportions of accompanied trips were higher for shoppers surveyed by BAV, with only 53/89 (59.6%) shoppers who were interviewed traveling alone. Another 13 (14.6%) travelled with pre-school aged children, reflecting the demography of the area, and 23 (25.8%) were accompanied by one or more other adults. This latter proportion, in particular, reflects a social dimension to the shopping experience.

Some 12 of the 28 bus users (from the total of 30 people interviewed) at the Fountain Gate bus interchange engaged in some form of activity at that Centre, particularly undertaking some form of personal business (e.g. banking) or recreation. Most (75% of bus users) stayed at the centre less than one hour, indicating that the timing of the modal transfer process probably dictated their time allocated to such activities. Over 90% of those interviewed listed “home” as their next destination.

Two Illustrations of Social Exclusion:

1. The Study Team interviewed a young woman of 18 years of age. This person has two young children, one 3yrs old and the other 8months, and she is pregnant. She is currently in a relationship and her male partner, a shift worker, takes the car for work. They currently rent a house some 3kms from the shopping centre and the area is not well serviced by buses. This young woman finds it extremely difficult getting to the bus stop and also difficult on a bus with a young child, pusher and being pregnant, so much so that she limits her need to visit the centre. The trips to the shopping centre are her only social interaction with other young mothers and this is done in the large eating areas of the complex.

2. A person aged in her mid forties was interviewed. The participant was a volunteer teaching after school literacy at a Cranbourne Primary School. She travelled every week from Frankston by bus. One of her students, who required extra tuition, was willing to participate but was not able to attend. The student came from a one parent family and there was no-one able to pick her up from school if attending later, for extra tuition. The student had no other way of getting home. This student lived near Pearcedale, which would mean a bus trip from Cranbourne to Frankston, changing at Frankston, then a second trip from Frankston to Pearcedale. Her parent would not allow such a trip unaccompanied. A direct trip would have been acceptable to her parent.

3.5 Assessment of Transport Modes

Interviewees were asked to rate the importance (to them) of a range of transport components, using a scaled score-card. Table 4 sets out the results for the three groups of interviewees (shoppers, bus users and people interviewed at the bus interchange). The sample sizes in each category are reasonable to give a feel for how these various components are assessed.
The importance ratings shown in Table 4 exclude those who said that a particular mode was “not relevant” to them. The numbers in brackets indicate how many thought each of the modes was not relevant to them. These “not relevant” numbers are a good macro guide to the relative significance of particular modes to those interviewed. Almost all interviewees thought that major and minor roads were relevant. A higher proportion of shoppers rated major and minor roads as relevant than did bus users, which is to be expected given the high level of car use by shoppers. Those modes that were rated as “not relevant” by the largest numbers of respondents were V/Line services, school bus services and air services. This would reflect usage.

The “average” importance scores for each of the individual transport elements are derived from scores on a 0 to 4 scale provided by those who rated each element as relevant (see footnote 4 for a comment on this scoring). Thus, a high average importance score where a large number indicate a particular transport element is not relevant to them suggests that that mode remains important to a few people⁶.

Table 4 suggests that the most important transport modes for shoppers are “major” then “minor” roads, with train and route bus services also rating relatively well. Only four shopper respondents did not rate major and minor roads as relevant to them and the “average” importance ratings were strong at 3.3 for major roads and 3.1 for minor roads. Both major and minor roads were most commonly rated as “very important”. The ratings of roads are to be expected, given the high level of car use for shopping centre access.

Train and route bus services were also rated relatively highly in importance terms by shoppers. Only 11/89 thought trains were “not relevant” to them and 26/89 thought this about route buses. The average importance rating derived from the scores provided by those shoppers who saw relevance for trains and route buses were 3.0 and 2.8 respectively, which are solid numbers. Both trains and route buses received most common (or modal) ratings in the “very important” category.

⁶ The “average” figure reported is simply the average score calculated across all respondents answers, using the scoring system provided (from 0 to 4 inclusive, with “not relevant” also possible). There is an arbitrary element in this scoring, due to the implicit assumptions involved in the process used to convert ordinal data to cardinal data. The second measure, the “mode”, is the most common assessment response provided by interviewees. It is provided to provide support the assessment profile.
### Table 4: Importance Rating of Various Transport Components

<table>
<thead>
<tr>
<th>Transport Component</th>
<th>Measure</th>
<th>Shoppers (N=89)</th>
<th>Bus Interchange (N=30)</th>
<th>On-Bus (N=49)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor roads</td>
<td>“Average score” Mode</td>
<td>3.1 (4 = n.r.*)</td>
<td>3.0 (7)</td>
<td>2.7(5)</td>
</tr>
<tr>
<td>Major roads</td>
<td>“Average score” Mode</td>
<td>3.3 (4)</td>
<td>2.8 (2)</td>
<td>Very imp. 2.9 (2)</td>
</tr>
<tr>
<td>School bus services</td>
<td>“Average score” Mode</td>
<td>2.7 (64)</td>
<td>Very imp. 4.0 (29)</td>
<td>Very imp. 3.3 (36)</td>
</tr>
<tr>
<td>Route bus services</td>
<td>“Average score” Mode</td>
<td>Not relevant 2.8 (26)</td>
<td>Not relevant 3.9 (2)</td>
<td>Not relevant 3.9 (0)</td>
</tr>
<tr>
<td>V/Line services</td>
<td>“Average score” Mode</td>
<td>NR/VI 2.7 (72)</td>
<td>Very imp. 2.7 (22)</td>
<td>Very imp. 2.7 (34)</td>
</tr>
<tr>
<td>Metro train services</td>
<td>“Average score” Mode</td>
<td>Not relevant 3.0 (11)</td>
<td>Not relevant 3.8 (2)</td>
<td>Not relevant 3.5 (2)</td>
</tr>
<tr>
<td>Air services</td>
<td>“Average score” Mode</td>
<td>Very imp. 2.4 (63)</td>
<td>Very imp. 2.4 (23)</td>
<td>Very imp. 1.8 (37)</td>
</tr>
</tbody>
</table>

Note: “n.r.” = not relevant to respondent.
Source: BAV Surveys.

The relatively strong importance ratings of train and route bus services by shoppers suggests that these modes are used for some trip purposes and/or are seen as providing alternative travel options should they be required (sometimes called “option demand” in the economics literature).

Bus users (both groups) also rated major roads and minor roads as very important or important, with major roads again typically rating slightly higher than minor roads. Route bus services were, not surprisingly, given the highest “average” importance rating by bus users, at a very high 3.9/4.0. This is thought to reflect the relative dependence of bus users on bus services (i.e. lack of choice).

Bus users also rated metro train services as very important, more so than the rating given to train services by shoppers (mainly car users). People interviewed at the bus interchange tended to rate train services as being slightly more important than did on-bus interviewees but both groups scored trains high on importance. This emphasizes the importance of network connectivity. The pattern of importance rating by bus users interviewed on-bus and those interviewed at the Fountain Gate bus interchange was quite similar overall.

Interviewees were also asked to indicate their satisfaction with the quality of service provided by the each of the various aspects of transport in their area. The assessments of...
the relevance of various transport elements provided in the satisfaction assessment largely reflected that provided in the importance rating, providing some confidence in the consistency of responses. Major and minor roads, followed by trains and route buses stand out again as the modes of most relevance.

If “average” satisfaction scores are calculated (0 to 4 rating scale) for those who saw particular elements as relevant to them, Table 5 shows that there is little difference between average satisfaction scores for particular transport elements. Major roads tend to be seen as relevant by most and to rate marginally better than minor roads in terms of satisfaction, which is probably appropriate given the much higher volumes that will be carried on major roads and the need for this task to be managed safely and efficiently.

If verbal rating descriptions are used rather than “average” satisfaction scores, “somewhat satisfied” best describes the satisfaction rating of major and minor roads and metro train and route bus services by all respondents. “Not relevant to me” best fits the assessment of school bus services, V/Line services and air services. However, for those respondents who did provide a satisfaction assessment of school bus services, V/Line services and air services, “somewhat satisfied” was again the most common assessment.
Table 5: Satisfaction Rating of Various Transport Components

<table>
<thead>
<tr>
<th>Transport Component</th>
<th>Measure</th>
<th>Shoppers (N=89)</th>
<th>Bus Interchange (N=30)</th>
<th>Bus Users (N=49)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor roads</td>
<td>“Average score” Mode</td>
<td>2.8 (7 = n.r.*) S’what sat.</td>
<td>2.9 (7) S’what sat.</td>
<td>2.8 (5) S’what sat.</td>
</tr>
<tr>
<td>Major roads</td>
<td>“Average score” Mode</td>
<td>3.0 (6) S’what sat.</td>
<td>3.2 (3) S’what sat.</td>
<td>2.9 (2) S’what sat.</td>
</tr>
<tr>
<td>School bus services</td>
<td>“Average score” Mode</td>
<td>2.9 (60) S’what sat.</td>
<td>3.5 (28) S’what sat.</td>
<td>2.6 (36) S’what sat.</td>
</tr>
<tr>
<td>Route bus services</td>
<td>“Average score” Mode</td>
<td>2.9 (29) NR (SS)</td>
<td>3.2 (2) NR (SS)</td>
<td>3.2 (0) NR (SS)</td>
</tr>
<tr>
<td>V/Line services</td>
<td>“Average score” Mode</td>
<td>2.8 (69) S’what sat.</td>
<td>3.0 (22) S’what sat.</td>
<td>2.8 (35) S’what sat.</td>
</tr>
<tr>
<td>Metro train services</td>
<td>“Average score” Mode</td>
<td>3.0 (13) NR (SS)</td>
<td>3.1 (4) NR (SS)</td>
<td>2.9 (2) S’what sat.</td>
</tr>
<tr>
<td>Air services</td>
<td>“Average score” Mode</td>
<td>3.2 (65) S’what sat.</td>
<td>2.4 (23) S’what sat.</td>
<td>2.6 (39) NR (SS)</td>
</tr>
</tbody>
</table>

Source: BAV Surveys

3.5 Transport Improvement Ideas

Respondents were asked to suggest which transport improvements would most assist their living in this area. This provided them with an opportunity to highlight specific issues they considered required attention. Table 6 sets out the replies, according to source.

Bus users interviewed at Fountain Gate interchange highlighted the specific issue of a need for more reliable services on route 840 (Berwick/Narre Warren, via Fountain Gate), which is often adversely affected by traffic congestion. More generally, bus users (both groups) emphasized the need for more frequent bus services and better weekend services. There was not great emphasis on services operating later in the evening (although one in ten interviewed at the Fountain Gate bus interchange did list this as needed), largely because “more frequent services” includes frequency later in the day. Also, some services on which the interviews were conducted now operate until 8.00pm or later (unlike a few years ago, as reflected in the Bus Plan data cited in Section 2.2.3).

Improving bus/train connectivity was also mentioned as important by a number of respondents. Providing additional bus shelters and doing something to improve safety on trains (or at least the perception of lack of safety on trains) was also mentioned several times.
This picture of a perceived need for improved bus service frequency and better span of operating times (e.g. to take in weekend services and ensure adequate evening services) reflects findings in most other studies undertaken in Melbourne. For example, the Booz Allen & Hamilton workshops undertaken for the Outer East (South) Bus Plan work identified the following three top issues of concern with regional bus services (BAH 2001):

- unreliable services (interaction with other traffic causing delays to buses);
- poor road design in some estates, especially traffic calming devices) slowing traffic; and,
- poor service frequency; lack of weekend services.

Among shoppers, most of whom traveled by car, improving the local road network was seen as the major requirement. By “local”, interviewees meant both major and minor roads in their area. There were several aspects seen to this requirement:

- increasing capacity to reduce congestion, which has arisen because of the fast growth in regional/local traffic, including heavy vehicle traffic, exceeding additions to road capacity;
- widening some roads, partly for reasons of reducing congestion but more commonly because of safety concerns from narrow pavements; and,
- improving local roads in new areas, particularly those roads providing connector functions.

It was interesting that a number of shoppers at each of the three interview locations mentioned the need for improved bus service frequency as a priority. About one in five to one in four respondents at each location mentioned this issue. Use of public transport to access the various shopping centres was much lower than these proportions. As suggested previously, respondents are probably reflecting a concern about lack of travel alternatives in this car dependent area in singling out a need for better bus services.

Improving the condition of Thompson’s Rd was singled out for attention by almost half the interviewees at Cranbourne Shopping Centre, with the Evans Rd intersection being seen as a particular concern. This road also stands out in RACV Red Spot identification (see section 4.2 below).

It is noteworthy that a few respondent bus users and shoppers volunteered the view that they were happy with bus/transport services in the area. This amounted to one in seven interviewed on the buses. In the shopping centres, it was just under one in ten who said they were happy with current transport services.
### Table 6: Transport Improvement Ideas

<table>
<thead>
<tr>
<th>Improvement Idea</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(1)</em> Fountain Gate Shopping Centre - Bus Interchange</td>
<td>(N=30)</td>
</tr>
<tr>
<td>Route 840 – improve on-time running</td>
<td>12</td>
</tr>
<tr>
<td>Increase bus frequency</td>
<td>8</td>
</tr>
<tr>
<td>More weekend services</td>
<td>7</td>
</tr>
<tr>
<td>Improve bus-train connectivity</td>
<td>3</td>
</tr>
<tr>
<td>More late night bus services</td>
<td>3</td>
</tr>
<tr>
<td><em>(2)</em> On-bus interviewees</td>
<td>(N=49)</td>
</tr>
<tr>
<td>More frequent buses</td>
<td>19</td>
</tr>
<tr>
<td>Improve bus/train connectivity</td>
<td>7</td>
</tr>
<tr>
<td>Happy with buses</td>
<td>7</td>
</tr>
<tr>
<td>Provide increased weekend bus services</td>
<td>6</td>
</tr>
<tr>
<td>Improve safety on trains (perception thereof)</td>
<td>4</td>
</tr>
<tr>
<td>Provide more bus shelters</td>
<td>4</td>
</tr>
<tr>
<td><em>(3)</em> Fountain Gate Shopping Centre – Shoppers</td>
<td>(N=32)</td>
</tr>
<tr>
<td>Improve local road network (e.g. widening, connectivity)</td>
<td>8</td>
</tr>
<tr>
<td>Increase bus frequency</td>
<td>7</td>
</tr>
<tr>
<td>Increase road capacity (to reduce congestion – trucks, cars, etc)</td>
<td>7</td>
</tr>
<tr>
<td>Improve all public transport</td>
<td>3</td>
</tr>
<tr>
<td>Happy with all transport</td>
<td>3</td>
</tr>
<tr>
<td><em>(4)</em> Hampton Park Shopping Centre – Shoppers</td>
<td>(N=32)</td>
</tr>
<tr>
<td>Improve local roads in new areas</td>
<td>12</td>
</tr>
<tr>
<td>Increase road capacity (to reduce congestion)</td>
<td>6</td>
</tr>
<tr>
<td>Improve bus frequency</td>
<td>6</td>
</tr>
<tr>
<td>Improve weekend bus services</td>
<td>3</td>
</tr>
<tr>
<td>Happy with transport</td>
<td>3</td>
</tr>
<tr>
<td><em>(4)</em> Cranbourne Shopping Centre – Shoppers</td>
<td>(N=25)</td>
</tr>
<tr>
<td>Upgrade Thompsons Rd, esp. intersection with Evans Rd</td>
<td>12</td>
</tr>
<tr>
<td>Improve local roads in new areas</td>
<td>7</td>
</tr>
<tr>
<td>Increase road capacity (to reduce congestion)</td>
<td>5</td>
</tr>
<tr>
<td>Improve bus frequency</td>
<td>3</td>
</tr>
<tr>
<td>Improve weekend bus services</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: BAV Surveys.

### 3.6 Secondary School Students

Secondary school students sometimes face mobility problems, typically being too young to have their own car/driving licence and often being dependent on others, such as parents, for travel. Public transport is particularly important to this group, since it can increase their transport independence. A meeting was held with 108 students from year 10 at St Peter’s College in Cranbourne, to gain insights into their travel patterns and mobility issues.
Figure 5 shows the distance these students lived from their school. Some 59% lived more than 5 kilometres from school and slightly less than one in four lived within 3 kms of the school. The average distance traveled to St Peters by the surveyed year 10 students was 8.3 kms. With St Peter’s being a Catholic Secondary College, these travel distances would be expected to be a little longer than to the local State Government Secondary College, because of the influence of parental choice of school in the catholic system.

BAV found an average trip to Warrnambool Secondary College by students in this age group was 7.8 kms, compared to 11.2 kms for travel to Emmanual Catholic College. Those averages were raised by the presence of a significant number of students who traveled more than 20 kms to school, as is expected in regional Victoria. For example, 8 out of 41 (19.5%) students at Emmanual College in Warrnambool and 3/40 (7.5%) at Warrnambool Secondary College traveled further than 20 kms, whereas the comparable percentage at St Peter’s was only 2%. The free school bus service in regional areas assists in catering for these longer trips.

Figure 6 shows travel mode for the trip to school by year 10 students who were surveyed at St Peter’s in Cranbourne. Almost half the students traveled by car, a small number as learner drivers (not shown separately in the figure). Some 26% traveled to school by bus, split evenly between school buses and route buses. A slightly smaller percentage (12%) walked to school. Train (7%) and bike (4%) accounted for most of the remainder.
The car modal share for school travel in Warrnambool was 42.7%, as revealed by BAV surveys, is broadly similar to the share to St Peter’s (46.2%). The closer proximity to school at St Peters, however, is not reflected in a larger mode share for walking to that school. To the contrary, average trip lengths to Warrnambool Secondary College and St Peters Cranbourne were very similar, yet WSC had 20.0% of students walk to school (or one in five), compared to only 12.6% (or one in eight) walking to St Peters. There appear to be two main reasons for this result:

1. while the average trip lengths at WSC and St Peters are quite similar, Warrnambool had about 60% of students living within 3 or so kilometers from school, compared to under a quarter for St Peters living within this distance band. The trip distribution is highly skewed towards shorter trips at WSC, favouring walking;
2. with Cranbourne being a rapid growth area, students walking to school at St Peters can be expected to encounter significantly higher peak arterial and local traffic volumes, relative to road condition, than encountered by students traveling to WSC, with greater associated safety concerns (discouraging walking). Poor footpath condition also discourages walking to St Peters, as shown in the accompanying photo.

Some 30% of year 10 students at St Peters travel to school by public transport, with 26% using bus and 4% train (some using both modes). The share in Warrnambool was almost the same, primarily because of the major role played by the government free school bus service in regional areas. Route bus services play a relatively insignificant role in the trip to secondary school in Warrnambool but an important role in Cranbourne.

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7 St Peter’s location on the fast growing outskirts of Cranbourne means that the neighbouring catchment is mainly “one-sided”, a contributor to the trip pattern.
Pipe laying close to St Peter’s school has not encouraged walking in the short term but footpaths more generally are not generally available close to the school.

When asked the reasons for their choice of travel mode to school, students gave a wide range of answers. “Fastest”, “most convenient” and “no alternative available” were the three most common responses. When asked to indicate the single most important reason, “most convenient” (28.4%) and “no alternative available” (18.2%) were the two main reasons mentioned. Those reporting “no alternative available” mainly traveled as car passengers, walked or used a route bus.

When asked about the variability of their movement patterns to/from school, about one in five students reported that they do not travel home from school the same way they travel to school. 37% said they traveled to school a different way at least once a week and 45% travelled home a different way at least once a week. One or two variations in travel patterns per week were most common. The main reasons travel patterns vary were given as “employment”, “sport” and “visit friends or relations”.

The St Peter’s students were also asked to say what transport improvements would most help them. Table 7 sets out responses. These responses show the reliance young people in the Cranbourne area have on bus services, almost all of their most frequently mentioned ideas relating to ways of improving bus services in the area.

The focus on improving the directness of services reflected a tendency for friendships to occur outside the normal public transport radial movement corridors. Thus, for example, students living in Pearcedale and attending school in Cranbourne had indirect trips via Frankston to meet with these friends. The highlighting of a need for extending service spans of hours and days of the week on which services operate reflects concerns that are widespread across the outer suburbs of Melbourne. The general focus of the ideas was local rather than to/from Melbourne.
Table 7: St Peters, Cranbourne, Secondary Schools Students Transport Improvement Ideas (Year 10)

<table>
<thead>
<tr>
<th>Improvement Idea</th>
<th>Frequency (N=108)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve directness of route bus services</td>
<td>19</td>
</tr>
<tr>
<td>Improve span of bus hours and days of service (inc. weekends)</td>
<td>17</td>
</tr>
<tr>
<td>More frequent bus services</td>
<td>14</td>
</tr>
<tr>
<td>Increase night time bus services</td>
<td>10</td>
</tr>
<tr>
<td>Increase number of bus stops/shelters</td>
<td>10</td>
</tr>
<tr>
<td>No problems</td>
<td>10</td>
</tr>
<tr>
<td>Reduce public transport fares</td>
<td>8</td>
</tr>
<tr>
<td>Improve on-time running of buses</td>
<td>6</td>
</tr>
<tr>
<td>Improve road conditions</td>
<td>6</td>
</tr>
<tr>
<td>Increase train frequency to/from city</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: BAV Survey.

3.7 Conclusions on Survey Findings

The four surveys undertaken for this study cannot purport to be exhaustive in terms of their coverage of issues or groups. However, they do provide a good picture of some of the major access issues faced by Casey residents, a picture confirmed by other investigations undertaken during this study and/or by other research in the area, and of some possible solutions to these issues, especially in the bus service area.

The area’s heavy reliance on car use was reflected in the shopping centre survey and, to a lesser extent, in travel to/from school by secondary students. Buses were more important for travel by both shoppers and secondary school students surveyed than is indicated by broader mode choice work (e.g. the VATS mode choice findings cited in Section 2.2.3 of this report).

Overall, roads constitute the most important transport infrastructure in the area, being important for both car users and for many using public transport (i.e. buses travel on roads). However, people are typically only “somewhat satisfied” with road service standards.

Buses and trains are also important, particularly to those who rely on them but also to those who may not use them on a regular basis, reflecting a perceived need by respondents for travel options. Day-time bus users largely see they are “captive” to this choice of mode, this factor probably explaining the very high importance rating given by bus users to buses. Some striking examples of social exclusion amongst the bus-using group were identified.

Even though typical surveyed trip distances were often less than 5 kilometres, walking and bicycle use are not significant, even representing only a small proportion of trips to
secondary school. This is thought to be partly a reflection of concerns about the safety of walking along/across busy roads in the area. In the case of shopping trips, short trip lengths also suggest that the major shopping centres are not playing a major extra-regional role at present, although Fountain Gate seems to be positioning itself for this function.

The main focus for transport improvements among those shoppers interviewed was for road upgrading to reduce traffic congestion and improve road safety. Shoppers tend to talk about improving “local roads” in general, without differentiating between major and minor roads and without tending to nominate particular trouble spots (although Thompson’s Rd was singled out). This is likely to reflect the generality of traffic congestion and safety concerns across the area. Car-using shoppers also emphasized the importance of improving bus services, presumably to give them mobility options.

Bus users argued for what are fast becoming the basic criteria for an acceptable bus service: frequent services (including weekend services and services into the evening) and reliable services (e.g. some bus priority to assist operation), with the need for improved bus-train connectivity often noted.

Secondary school students tend to be highly bus reliant and argue strongly for improved services, adding to the frequency/reliability messages some messages about a need for more direct services and better stops/shelters and also placing more emphasis on improving night-time services.
4. Some Aspects of Road Traffic in Casey

4.1 Scope

Sections 2 and 3 of the report indicated the high level of reliance on the car for personal travel in Casey. The road network is also the basis for freight movement to/from and within the area. With rapid population growth, it is common to find two-lane collector and arterial roads carrying very high traffic volumes and widespread congestion at peak periods. This is both economically wasteful and has an adverse impact on the quality of life experienced by residents.

A community survey recently undertaken in Doveton and Eumemmering, for example, found that the single most disliked aspect about living in that neighbourhood was “traffic speed/volume/noise”. No other aspect of the area came close to this factor. Among those 6 factors mentioned most often by respondents to that survey that were thought most likely to make people want to stay longer in the area were “improvements in roads/traffic” and “better public transport”. In short, traffic/access issues are high on the radar of locals.

This study has not attempted to assemble a complete analysis of traffic conditions in Casey. Instead, it presents a number of pieces of research information, gathered from several sources, which build a picture of road infrastructure under considerable stress, stress that needs attention on a number of fronts. It also reports on VicRoads and Council initiatives that are seeking to deal with road congestion/safety issues.

4.2 RACV Red Spots

One of the supporting organizations for this study, the RACV, undertakes a biennial survey of “Redspots” on Victoria’s road network. A “Redspot” is defined as a location on the road network that causes seemingly unnecessary delays and frustration and makes drivers “see red”. The latest (2004) survey indicated that “… many of the top scorers are in Melbourne’s rapidly growing outer areas, or on the roads that bring traffic from these areas into Melbourne” (RACV 2004, p. 1). The 2004 RACV Redspot survey received over 6600 responses, so it represents a considerable cross-section of views on congestion/delay points in the road network, most of which is Melbourne-focused.

Within Melbourne, about 3300 separate Redspots were identified in the 2004 Survey, 112 of which were in the City of Casey. Sites in Casey nominated at least 5 times are described below, with some BAV Study Team comments on road performance. Photos of most sites follow.

1. Thompson’s Rd/Western Port Highway roundabout (33 nominations). The main problem nominated was peak period through traffic congestion/long
queues, particularly for southbound traffic, with the afternoon peak more of a concern than the morning peak. This site was the most frequently nominated site in the City by a considerable margin. Possible solutions nominated by a number of respondents were to construct a bridge or tunnel (n=16), install traffic lights/change intersection layout (n=13) and construct more lanes (n=11). Thompson’s Rd is a very good example of an old country farm road (two lane, two way), now carrying high volumes of essentially suburban traffic. The use of Thompson’s road is varied during the day, from carrying high numbers of peak morning and evening cars on work trips to truck and trailer traffic for the residential building taking place in the large catchment of the City of Casey. The road carries a significant proportion of heavy vehicles and this is unlikely to change within the next ten years.

2. Pound Rd/Shrives Rd unsignalised intersection (10 nominations). Again the problem was a peak problem, this time for a right turning movement (mainly eastbound). Signalisation of the intersection or installation of a roundabout was suggested by 9 respondents. This intersection provides local traffic access to significant residential areas but is also heavily used by car and truck through traffic. Pound Rd is a major east west route and carries a mix of traffic, including significant numbers of delivery trucks. The intersection is extremely busy at peaks but maintains a high usage level throughout the day and long delays occur most peaks.

3. Evans Rd/Thompson’s Rd unsignalised intersection (9 nominations). Peak problems turning right. Additional lane(s) and signalization were the main suggested solutions. The obvious presence of Thompson’s Rd in the Red Spot list reinforces the findings from the shopping centre surveys. As noted above, Thompson’s Rd is typically an old farm road unable to cope with heavy metropolitan traffic loads. The intersection of Evans and Thompson’s Roads is under constant pressure throughout the day trying to cater for high car usage in peaks (mainly for work trips) and the large numbers of heavy vehicles during the day. Heavy vehicles use Evans Rd to access the Cranbourne-Frankston Road, with usage dominated by vehicles carrying building materials, such as cement, timber, bricks and tiles. The traffic is also intermixed with a significant number of delivery trucks. The conflict in vehicle type is a recipe for traffic confusion and the Study Team observed several cars seeking refuge from heavy vehicles by using the roadside verge. This intersection is committed for upgrade.

4. Belgrave-Hallam Rd/Hallam North Rd unsignalised intersection (9 nominations). Peak problems of through traffic congestion/long queues, mainly southbound. Signalisation/roundabout was the main solution proposed. This T-intersection has a high volume of traffic throughout most of the day and the congestion in peaks can last for a considerable length of time. The traffic conflict appears to come from through movements on the Belgrave-Hallam Rd intersecting with traffic going to/from Narre Warren North Road, compounded by traffic from nearby Heatherton Rd just to the north of this intersection. During the survey period there were significant queues of southbound traffic on
Belgrave-Hallam Rd exiting on to Narre Warren North Rd. Improvements are committed for this location.

5. Pound Rd/South Gippsland Highway signalized intersection (8 nominations). Morning peak problem of through traffic congestion with long queues. Additional lane(s) most common suggestion. East west commuter movements encounter a high proportion of heavy vehicle traffic from the South Gippsland Highway (Western Port) going and coming from the manufacturing area.

6. Clyde Rd/Enterprise Ave unsignalised intersection (7 nominations). A problem at many times during the day, mainly for right turning traffic. Signalisation/roundabout was the most common suggestion. This intersection is the entrance to a business park where there is a large mix of small and medium operations, panel beaters, paper supplies, retail/wholesale, etc. To complicate matters, to the north on Clyde Rd is a signalized railway crossing (Pakenham line and country rail). Significant north-south traffic on Clyde Rd, entry and exit from the Enterprise Ave business park and a train line in close proximity can lead to interesting and trying times!

7. Hallam Rd South/Keppel Dr railway crossing (6 nominations). Peak period problems of queues, delays and turning difficulties. Improved signalization/changed intersection layout was suggested by 5/6 respondents. This is a significant manufacturing area and Hallam Rd is a main distributor, Keppel Dr feeding into Hallam Rd. There are conflicts between heavy vehicles, cars, smaller delivery trucks and buses but, to make matters more difficult, the intersection is just north of a signalized major railway crossing. The Hallam Railway station is positioned just to the south of the crossing and the bus only has a small run off area and then needs to fight its way back into the traffic (see photo on p. 29 of this report).

8. Cranbourne-Frankston Rd/Hall Rd signalized intersection (5 nominations). Peak period problems of queues, delays and turning difficulties in east/south directions, particularly in the evening peak. Heavy north-south and east-west traffic volumes meet at this intersection, once again servicing both car travel by local residents but also heavy vehicles servicing the residential building growth. Queues are constant on Hall Rd exiting either to the north or south but can also be a problem for south bound traffic turning into Hall Rd.

9. Clyde Rd/Princes Highway signalized intersection (5 nominations). Peak period problems of queues/delays and turning movement difficulties. Additional lane(s) suggested. This is a very busy intersection and is complicated because of the nature of the Princes Highway, being so wide. There always seems to be someone waiting to enter the Hwy, turning right, a steady stream of traffic on the Highway and the dash to get across in front of the traffic traveling south.

Common themes in these Redspots are (1) peak period congestion, (2) long queues at unsignalised intersections and (3) signalized intersections with inadequate lane capacity, all suggesting that traffic growth is running ahead of motorists’ expectations of road capacity to handle that traffic. The accompanying photos show 8 of these 9 sites.
Thompsons Rd and Westernport Highway roundabout.

Pound Rd/Shrives Rd intersection.
Evans/Thompsons Rds intersection.

Belgrave-Hallam/Hallam North Rds.

Pound Rd/Sth Gippsland Highway
Note truck use of roadside for turning.

Clyde Rd/Enterprise Ave.

Hallam Rd Sth/Keppel Dr.

Clyde Rd/Princes Highway.
4.3 **RACV’s Missing Links**

RACV has expressed concern about substandard infrastructure in the fast growing outer suburbs of Melbourne in its *Special Report: The Missing Links - Outer Metropolitan Transport Needs* (October, 2002). That report placed the relevant arterial road backlog at about $1.4 billion. Within this $1.4 billion backlog were projects with a total value of $429.2 million in City of Casey, accounting for about 30% of the total backlog (Table 9). This emphasises the extent of the task required in Casey to bring arterial road standards up to acceptable levels. The real costs in question would have increased since the time of the RACV investigations (e.g. at the very least because of inflation).

**Table 9: RACV Proposed Arterial Road Upgrades in Casey**

<table>
<thead>
<tr>
<th>Road name</th>
<th>Route details</th>
<th>Traffic volume ('000)</th>
<th>No. of crashes (95-99)</th>
<th>Costs of crashes (95-99) $m</th>
<th>Investment req’d $m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hallam North Rd</td>
<td>Duplication Heatherton Rd to PHE and prioritise Belgrave Hallam Rd intersections</td>
<td>8</td>
<td>62</td>
<td>6.2</td>
<td>19.2</td>
</tr>
<tr>
<td>Hallam Rd</td>
<td>Duplication Princes H’way to S Gippsland H’way</td>
<td>15</td>
<td>134</td>
<td>11.6</td>
<td>28</td>
</tr>
<tr>
<td>Berwick-Cranbourne Rd</td>
<td>Duplication Greaves Rd to S Gippsland H’way</td>
<td>10</td>
<td>58</td>
<td>6.0</td>
<td>130.0</td>
</tr>
<tr>
<td>Clyde Rd</td>
<td>Duplication Princes F’way to Princes H’way (High St)</td>
<td>10</td>
<td>25</td>
<td>2.2</td>
<td>5.5</td>
</tr>
<tr>
<td>Narre Warren-Cranbourne Rd</td>
<td>Duplication Princes H’way to S Gippsland H’way</td>
<td>37*</td>
<td>124</td>
<td>11.7</td>
<td>75.0</td>
</tr>
<tr>
<td>Cranbourne-Frankston Rd</td>
<td>Duplication McClelland Dve to S Gippsland H’way</td>
<td>14</td>
<td>185</td>
<td>17.7</td>
<td>60.5</td>
</tr>
<tr>
<td>Thompasons Rd</td>
<td>Duplication MPF to Berwick-Cranbourne Rd</td>
<td>12</td>
<td>42</td>
<td>4.2</td>
<td>21.0</td>
</tr>
<tr>
<td>Western Port H’way</td>
<td>Duplication Cranbourne-Frankston Rd to Frankston-Flinders Rd</td>
<td>6</td>
<td>70</td>
<td>7.3</td>
<td>80.0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>700</strong></td>
<td><strong>67.0</strong></td>
<td><strong>429.2</strong></td>
<td></td>
</tr>
</tbody>
</table>

Note: * This figure seems likely to be a typographical error, VicRoads counts suggesting much lower volumes.


Table 9 shows that there were 8 specific road upgrading projects identified in Casey by RACV, all involving duplication works. These 8 sections of road had 700 crashes over the 1995-99 period, with crash costs alone totaling $67 million.
More recent traffic count data than that shown by the RACV table (and repeated in table 9 above) suggests that traffic volumes at some sites may in fact be considerably higher than those shown. For example, late 2003 City of Casey traffic counts on Hallam Rd south of the railway line suggest an AADT of 23,800, about 50% higher than the RACV numbers shown in Table 9. Volumes on Hallam North Rd between Heatherton Rd and Princes Highway East were counted at 20,800 by City of Casey, more than double the RACV numbers. These examples suggest that traffic densities at some locations are worse than suggested by the RACV, underlining the urgency of doing something to ease traffic pressures.

The RACV’s proposed set of road improvements would provide a connected arterial road network in Casey, catering for both north-south and east-west traffic movements. The main emphasis is on north-south movement, which is where the relative traffic volumes on two-lane two-way roads tend to be greatest. The proposed improvements would deal with 8 of the 9 sites having the highest reporting rates in the RACV Red Spot Survey (outlined in Section 4.3), so they are targeting both areas of high traffic congestion (as evidenced by traffic volumes) and high safety concerns (as shown in both the accident numbers and Red Spot rankings).8

### 4.4 Road projects

Previous sections have outlined some of the problem locations on the Casey road network and presented RACV ideas about arterial road improvement priorities. This section examines road projects that have been undertaken in the area in recent times, as a contrast to the discussion on problem locations. On-going road maintenance expenditures are excluded, the focus being on improvements in the condition of the road capital stock.

#### 4.4.1 VicRoads projects

VicRoads was asked to provide information on improvement and upgrading roadworks undertaken from State Government funds in Casey over the past three years. Table 10 sets out the information provided, which details “…projects completed, commenced or announced by the Government in the City of Casey over the past 3 years”. The actual period over which the expenditure shown in Table 10 might take place is thus likely to be more like 6-7 years then three, in terms of interpretation of the information provided.

Table 10 shows that $384 million (of State funds) was allocated to improvement and upgrading road projects in City of Casey. It includes $121.2 million on the Pakenham Bypass and a further $1.05m for planning of that Bypass, most of which is located in Cardinia Shire not City of Casey. Table 10 makes it clear that the dominant focus of VicRoads improvement and upgrading works in Casey has been on the State Highways, some $314 million of the $384 million being spent on such works (on Hallam Bypass,

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8 City of Casey comments that there are severe capacity limitations in the north and around Dandenong and the east-west routes are equally important to provide alternatives.
Pakenham Bypass and Westernport Highway). Only $70 million was spent on improving/upgrading arterial roads and even some of this expenditure is on upgrading intersections with State Highways.

It can probably be assumed that the expenditure on upgrading arterial roads within Table 10 would be spread over about 5 years, since lead times on delivering such projects would be less than for major works on the State Highways. This implies an annual average expenditure rate of about $14 million on arterial road upgrading in Casey. The major links to benefit from such works include Narre Warren-Cranbourne Rd, Hallam Rd, Berwick-Cranbourne Rd and Narre Warren North Rd.
4.4.2 City of Casey projects

Traffic growth on the arterial road system has led to spillover of traffic volumes onto the local road system, where many “local” roads are performing functions of an arterial.
nature. This leads to increased damage costs on roads that are Council responsibilities and reduced neighbourhood amenity for those living in the affected areas.

Local road improvements are funded mainly from Federal road grants and Councils’ own revenue sources. Federal road grants are of two types at present: Local Road Grants and Roads to Recovery funds. The State received $98.1 million Local Roads Funding in 2004-05, of which Casey’s allocation was $1.336m. Over the four years to 2005, Victoria received $250 million under the Roads to Recovery program, with $3.6 million being Casey’s share. In 2002-04, Casey received a total of $2.341m Federal road funding (not all of which must necessarily be spent on roads). Total road spending in that year was $10.495m, so Federal funds accounted for only 22.3% of total road spending by Council. This comparison indicates the importance Council attaches to improving the condition of its road network.

**Federal Local Road Grants** are distributed in Victoria by the Victoria Grants Commission. VGC takes into account several factors in distributing these grants:

- road length (for all surface types);
- traffic volumes, categorised into volume ranges for roads of different surface types, with average annual preservation costs estimated for given volume ranges by surface type;
- various cost modifiers – freight loading, climate, materials, sub-grade conditions and strategic routes.

Casey’s $1.336 m from Local Roads Grants represented $1136/km of road length and $6.62 per capita. These figures are compared to some other fringe growth municipalities in Table 13, which also shows Commonwealth General Purpose Grants to these councils. The latter grants total $265 million for Victoria as a whole, far larger than the $98 million Local Roads Grants to the State, and General Purpose Grants can be used by Council for any purpose, including roads, depending on their local priorities.

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9 Developer contributions are also relevant but did not account for any expenditure in the most recent year in Casey. The State Government does not fund road works on local roads.
Table 13: Federal Grants to Some Outer Melbourne Councils in 2004-05.

<table>
<thead>
<tr>
<th>Council</th>
<th>General Purpose Grants per capita ($/p.c.)</th>
<th>Local Road Grants per Kilometre ($/km)</th>
<th>Local Road Grants per capita ($/p.c.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casey</td>
<td>52.1</td>
<td>1136.2</td>
<td>6.62</td>
</tr>
<tr>
<td>Cardinia</td>
<td>77.2</td>
<td>1084.5</td>
<td>29.75</td>
</tr>
<tr>
<td>Frankston</td>
<td>53.2</td>
<td>1178.5</td>
<td>6.44</td>
</tr>
<tr>
<td>Greater Dandenong</td>
<td>40.8</td>
<td>1016.9</td>
<td>7.17</td>
</tr>
<tr>
<td>Hume</td>
<td>41.0</td>
<td>1296.7</td>
<td>7.84</td>
</tr>
<tr>
<td>Melton</td>
<td>71.3</td>
<td>1142.1</td>
<td>11.23</td>
</tr>
<tr>
<td>Mornington P’sula</td>
<td>33.3</td>
<td>992.5</td>
<td>11.93</td>
</tr>
<tr>
<td>Nillimbik</td>
<td>35.4</td>
<td>1028.0</td>
<td>12.98</td>
</tr>
<tr>
<td>Whittlesea</td>
<td>49.6</td>
<td>1237.7</td>
<td>7.32</td>
</tr>
<tr>
<td>Wyndham</td>
<td>54.9</td>
<td>1128.0</td>
<td>8.15</td>
</tr>
</tbody>
</table>


Casey is receiving broadly similar General Purpose Grants per capita to the fringe areas of Wyndham, Whittlesea and Frankston but is well below Melton and Cardinia, both of which are much smaller in population numbers than Casey (and presumably have disability factors arising therefrom).

Local Road Grants per kilometer of road length received by Casey are pretty similar to those for Wyndham, Whittlesea, Frankston, Melton and Cardinia. When road grants are assessed in per capita terms, not a measure taken into account in the distribution of these funds (although incorporated indirectly via traffic volumes), Casey receives less than the fringe councils shown (e.g. Melton, Wyndham, Whittlesea, Nillimbik, Mornington Peninsula), by perhaps a $1/p.c. or so (or about $200,000 in total). This may be a result of the grants distribution formula being based mainly on traffic volumes that are categorized into volume ranges. Unless fast population growth moves a council from one volume range to a higher one, grants per unit of road length will not increase with population/traffic.

The VGC distribution formula should be reviewed to assess the adequacy with which the road needs associated with fast population growth are handled. In general terms, however, it seems that Casey fares reasonably in terms of grant allocations, with a suggestion that it might be a little on the light side in per capita terms.

Federal Roads to Recovery funding to local councils is distributed by formula, with Casey receiving about $0.9 million annually under the four years of the program to 2005. Works undertaken with this funding were as follows:
• Ormond Rd., Hampton Park, various stages: to provide a link and access to a new school, to provide adequate traffic capacity linking Hampton Park and Narre Warren South, plus a roundabout and a major culvert;
• Roundabout at Browns Rd and Craig Road, Devon Meadows: to improve intersection safety;
• Browns Rd., Devon Meadows: pavement construction to provide a sealed road linking Cranbourne South to Frankston;
• Pearcedale Rd Stages 1 and 2: pavement construction to provide a sealed road to Cranbourne;
• Warneet Rd, Blind Bight: to provide a continuous sealed road to Warneet and Blind Bight;
• Josephine Avenue, Narre Warren: pavement widening, including concrete kerbing and channeling;
• Tinks Rd., Narre Warren: pavement widening plus associated utility relocations.

These works are mainly a combination of improvements to collector/feeder roads, where some minor easing in traffic pressures on nearby arterials may result but the main purpose is to facilitate safer and easier access to/from the arterial network, and localized improvements in areas of high pedestrian activity, such as school zones. Similar priorities are reflected in Councils spending from Local Road Grants and from its own revenue sources. Council is of the firm view, however, that the most pressing needs in terms of road upgrading remain on the arterial road network, which is VicRoads’ responsibility.

Map 3 sets out the City’s priorities for road system development in coming years, distinguishing between Main Road Duplications/Upgrades, Main Road Intersection treatments, Main Road intersection upgrades where these involve neighbouring municipalities and Main Road Diversions. It is notable in this map that north-south arterials are a major focus for improvement works, with Clyde Rd, Hallam RD, Narre Warren Cranbourne Rd as examples. Many of the intersection treatments that are indicated are on intersections of Main Roads and State Highways. There are also some important east-west upgrading works indicated, on roads such as Thompsons Rd, Pound Rd and Heatherton Rd.

Council is concerned about the State Government (unwritten) policy position that roads should be planned to avoid at-grade level crossings. A number of level crossings are located on local roads but Council is unlikely to be able to afford the high cost of grade separation (which might involve two years of Council expenditure for one grade separated crossing). If State policy requires grade separation, State funding should contribute to the realization of this policy position.
Map 3: City of Casey Road System Development Priorities
### 4.5 Doveton-Eumemmerring Community Survey

During 2004, the Brotherhood of St Laurence undertook a community survey as part of a Neighbourhood Renewal Evaluation in the Doveton-Eumemmerring area, one of 15 such exercises undertaken for the Department of Human services. The Neighbourhood Renewal Program brings together the resources and ideas of residents, governments, businesses and community groups to tackle disadvantage in areas with concentrations of public housing. Some of the traffic count data presented in Section 2.2.2 of this report is for routes that serve major access functions through this primarily residential area. The Brotherhood’s work involved 300 one-on-one interviews with residents living within the Doveton-Eumemmerring 3177 postcode together with a telephone survey of 150 residents living in suburbs surrounding the Neighbourhood Renewal area and within the City of Casey. BAV thanks the residents who participated in this survey for their agreement for relevant findings to be reported in this study.

As noted previously, the single factor most frequently mentioned as most disliked about living in the neighbourhood (Doveton-Eumemmerring) was “traffic speed/volume/noise”, mentioned by 19% of the 300 respondents. “People doing burnouts/hoons” rated equal second at 11%, an adverse impact of car use in the area. Conversely, some 23% listed “public transport” as the thing they most liked about living in the area, the third most frequently mentioned factor. This partly reflects the relative dependence of those living in this area on public transport for access purposes: while 58.2% of respondents said that a car or motor bike was their main form of transport, a high 26.0% of Doveton-Eumemmerring respondents said public transport was their main means of transport. With 79.6% of respondents receiving some form of government pension, benefit or income support, a relatively high reliance on public transport is not unexpected.

When asked what changes or improvements might make people want to stay longer in the area, “improvements in roads/traffic” (5%) and “better public transport” 3% both rated within the top 6 factors mentioned (with 7% being the mention rate for the single most frequently mentioned factor).

Respondents were asked to rate various problems in their area. “Noise” was a minor problem for 40.0% of respondents and a big problem for 26.0%. Conversely, for the surveyed control group outside the Neighbourhood Renewal area it was “no problem” for 55.3% and a big problem for only 6.6%. “Traffic and speeding” was a minor problem for 21.3% in Doveton-Eumemmerring and a big problem for a very high 69.3%. No other problem questioned came anywhere near this rate of assessment as a “big problem”. Some 9 out of 10 respondents in Doveton-Eumemmerring thus saw traffic and speeding as a problem.

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Broadly similar comments apply for respondents in the wider City of Casey. Some 31.6% of them saw “traffic and speeding” as a big problem and 46.1% saw it as a minor problem, giving over three in four respondents listing “traffic and speeding” as a problem. This was easily the highest rating of an issue as a “big problem” for the wider City of Casey respondents, followed by “children’s playgrounds” with a much lower 11.8% “big problem” rating. This is compelling support for the proposition that traffic intrusion on the one hand, and traffic congestion on the other, is having an adverse impact on life in Casey. When asked what is needed to improve the physical environment of your neighbourhood, 26% of Doveton-Eumemmering respondents mentioned a traffic related issue, the most frequent response (more gardens/improved appearance rated second with 21% mentioning this factor).

The quality of public transport services in the Doveton-Eumemmering area was rated as “good” by 47% of respondents, “average” by 26.7% but poor by 19.7%. In the wider Casey survey undertaken by the Brotherhood, the proportion indicating they thought public transport services were “good” fell to 36.2%. This possibly reflects the existence of higher service levels in the older Doveton-Eumemmering section of Casey.

It is interesting to observe that, in the wider Casey survey, lower income groups tended to rate public transport as poorer than higher income groups. It is also likely that lower income groups will be more frequent users of the service.

When asked what is needed to improve public transport services in the Doveton-Eumemmering area, respondents gave very similar answers to those given in the BAV bus users surveys reported in Section 3 of the report. Table 11 summarises the main factors mentioned.

**Table 11: Major Public Transport Improvements Needed in Doveton-Eumemmering**

<table>
<thead>
<tr>
<th>Improvement</th>
<th>% of respondents (N=300)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekend buses</td>
<td>32</td>
</tr>
<tr>
<td>More bus routes/variation to routes</td>
<td>14</td>
</tr>
<tr>
<td>Increased bus frequency</td>
<td>14</td>
</tr>
<tr>
<td>Sunday bus services</td>
<td>13</td>
</tr>
<tr>
<td>Extended hours for buses</td>
<td>12</td>
</tr>
</tbody>
</table>


About one in five respondents thought that public transport services in their neighbourhood had improved in the last 12 months but 2/3 saw no change and one in 12 thought that services had got worse.
4.6 Urban Design Considerations for Bus Services

Being an area undergoing rapid population growth, much of Casey’s infrastructure is under stress. This shows up, for example, as 2 lane arterial roads carrying very high traffic volumes, bus stops without shelters and poorly planned provision of some bus stops. At the same time, new urban subdivisions sometimes proceed without adequate consideration of the access needs of public transport services, limiting options for service provision. Such examples became very evident to the BAV Study Team during the course of this study.

Research by Currie (2005) suggests that urban design considerations can have a direct impact on travel mode choice. By way of example, the quality of a public transport interchange experience directly affects the way travelers value (or “cost”) the modes involved in that trip. A good experience will be associated with a lower relative generalized cost of travel and a correspondingly higher relative prospect of a public transport choice being taken. It was thought useful to catalogue a number of examples of design that were thought to be good or poor, to encourage better future practice. The photos that follow show examples of “what is” and of “what is possible”. Currie’s research emphasizes the importance of improving the quality of bus stops/interchanges as part of a package of service level enhancements.

The following photos indicate a need for upgrading the quality of many stops and interchanges in Casey. Similar comments apply more broadly in Melbourne. Responsibility for funding such improvements is currently a vexed issue and should be resolved between local government, the State Government and the public transport sector (in this case mainly buses). The costs of DDA compliance for bus stops is substantial (estimated at in excess of $10 million for the immediate bus stop treatments in Casey. MAV believes that this is a State Government responsibility. Funding responsibilities need early resolution to deal with such matters and enable a roll-out of improvements to stops.
Bus Stops

What can we say!!!. It had been raining heavily in Melbourne but....

This stop outside the Cranbourne TAFE College is on a narrow section of roadway (single lane), has no shelter and is not accessible.
This stop at the intersection of Frankston-Cranbourne Rd and Warrandyte Rd, Langwarrin, has good customer access, tactile paving, shelter and good bus access/egress but lacks a route signage pole.

**Bus Interchanges**

Hallam Station has no off-street bus interchange. The on-street stop is faced with high levels of peak traffic congestion and a rail level crossing to re-join traffic flow.
Dandenong Station bus interchange provides an example of good design: short walking distance for transfers, shelter, seating, customer information (inside the shelter), clear route signage (using the new Metlink signage system) and good hardstanding for buses. It lacks tactile paving for disability access.

Fountain Gate bus interchange is well located relative to the shopping centre but suffers from vandalism (broken glass).
4.7 Conclusions on Road Traffic Issues

Traffic count and road crash casualty data presented in Section 2.2.2 is reinforced by the results of RACV Red Spot analysis for Casey. That analysis revealed many of the top scoring Red Spots were in Melbourne’s rapidly growing outer areas, with Casey accounting for 112 nominations. All the nine Red Spot sites in Casey that were nominated at least 5 times were intersections, with 7 being arterial/arterial intersections and 2 State Highway intersections with arterials. Common themes in the Casey Red Spot nominations are (1) peak period congestion, (2) long queues at unsignalised intersections and (3) signalized intersections with inadequate lane capacity, all suggesting that traffic growth is running ahead of motorists’ expectations of road capacity to handle that traffic.

A detailed RACV analysis of arterial road upgrading needs in Casey identified $429 million worth of works (2002 prices), representing a high 30% of the total needs identified by that analysis in Melbourne. The 8 projects that comprised the $429 million dealt with 8 of the 9 major Red Spot sites identified by the RACV in Casey. Most of the upgrading works proposed by RACV are on major arterials, not State Highways. The Vicroads’ average annual expenditure rate in Casey on major arterials that are not State Highways seems to be about $14 million.

In expenditure terms, Vicroads work program in Casey has focused very strongly on State Highway upgrading works, with three major upgrading projects completed, in-progress or planned (the latter mainly in Cardinia, not Casey). This focus on State Highways may help explain why the RACV analysis has underlined the need for upgrading works on major arterials (other than State Highways).

City of Casey uses a significant proportion of its own funds for road works on local roads in the municipality. The major application of such funds is to improve collector/feeder roads, where some minor easing in traffic pressures on nearby arterials may result but the main purpose is to facilitate safer and easier access to/from the arterial network, and localized improvements in areas of high pedestrian activity, such as school zones.

Council sees the most pressing priorities for road upgrading as being on the heavily congested arterial network. Council’s local road spending of just over $10 million per annum is not much less than Vicroads estimated spending (~$14m p.a.) on arterials that are not State Highways, underlining the need for greater efforts on the arterial system.

Brotherhood of St Laurence research in Doveton-Eumemmerring and in Casey more generally emphasizes how traffic intrusion/speeding is perceived as the major problem of living in the area and how important public transport services are to transport disadvantaged people. Improvements in both areas (roads/traffic and public transport) are seen as among the most important changes to keep people in the Doveton-Eumemmerring area. The type of public transport service improvement identified as important supports the survey findings from Chapter 3 of the current report.
At a more micro scale, standards of many bus stops and bus interchanges in Casey leave much to be desired. Building patronage of public transport will require attention to standards of such facilities. Responsibility for funding such improvements is currently a vexed issue and should be resolved between local government, the State Government and the public transport sector (in this case mainly buses).
5. Policy Program Directions

5.1 Scope

This report has canvassed a number of important transport/access issues faced by people in the Casey area. The common themes have been:

- pervasive traffic congestion associated with rapid population growth and motor vehicle use in a low density area, with associated problems of road safety and traffic intrusion;
- pressures on infrastructure and services from rapid population growth; and,
- the importance of bus services to transport disadvantaged people in the area.

The State Government’s Melbourne 2030 Strategy recognizes the interconnectedness between land use development and transport requirements and also recognizes that Melbourne cannot continue to grow at low density without restraint on its fringes. Policy measures like the development of Dandenong as an Activity Centre should help to improve the long term sustainability of Melbourne’s urban structure and its associated travel patterns, by reducing growth in the need for travel and helping to facilitate travel by more sustainable modes (walking, cycling and public transport).

At the same time, the majority of person and freight trips are made on roads and will continue to be made on roads long into the future. Dealing with the

- economic waste associated with traffic congestion,
- social waste associated with road accidents,
- environmental damage of road traffic,
- amenity impacts of traffic intrusion and the
- social exclusion that results from poor mobility

remains vitally important if the transport task is to be catered for in a long term sustainable manner. The following sections of the report set out initiatives that will contribute to significantly improved transport sustainability.

5.2 Bus Service Improvements

The surveys reported in Section 3 of this report, together with the results of the Brotherhood of St Laurence surveys reported in Section 4.5, provide a clear indication of the kind of improvements to bus services in the Casey area that are needed to increase patronage levels and improve accessibility, especially for those transport disadvantaged groups who are most reliant on public transport. These findings are supportive of a range of other research, such as Melbourne Bus Plan (BAH 2003). The key improvements are:
• increased service frequency;
• provision of weekend services where they are lacking;
• more late night services;
• improved bus shelters, including provision of information;
• more reliable and faster running times (bus priority measures);
• more direct bus services (especially between Pearcedale and Cranbourne); and,
• improved train-bus connectivity.

BAV strongly believes that establishing a **decent basic level of local bus services** across Melbourne is critical for growth in patronage and for dealing with the transport sustainability problems noted above. What is a decent minimum or base set of local bus service standards for Melbourne? Based on analysis of the experience of a number of bus systems elsewhere that capture significant mode shares, the Association suggests they are the following:

- **Monday to Friday:** 6.00am start, with the last run starting at 8.00pm; frequencies of at least 30 minutes at peak and inter-peak times and 60 minutes at off-peak.
- **Saturday:** 7.00am start; 8.00pm start of last run; 60 minutes frequency.
- **Sunday:** 8.00am start; 6.00pm start of last run; 60 minutes frequency.

These standards are very modest, particularly compared to what is available to residents of inner and middle suburbs. They should only be seen as a first stage of improvement. One would expect finishing times to be at least 2 hours later in a well developed local service and, in areas of high demand, higher frequencies and longer spans of hours would be expected. The committed Stud Rd *SmartBus* is an example of the appropriate service standard on major routes.

BAV has recently surveyed its Melbourne operators to identify gaps in current service levels against these standards. In undertaking this survey, operators were asked to not apply the standards in a slavish manner. For example, if a service was to an industrial area where there was no weekend work, the Association would not expect the weekend standards to be applied. Also, if a service is meeting a train which runs at 20 minute headways, the Association would settle for meeting every second train (at 40 minutes) in the basic service standards.

This survey led to identification of a $47 million (gross recurrent cost) package of service improvements required to bring current Melbourne bus services up to these minimum standards. The 2005-06 State Budget has provided only $10 million p.a. to meet such needs and provide services in areas where they are currently lacking, suggesting much of Melbourne will continue to fail to meet the minimum service standards.

Table 12 sets out the approximate annual costs for upgrading particular bus services in Casey that do not meet these standards. In total, service improvements costing about
$4.6 million a year are required to meet the Association’s minimum service standards in Casey. This represents almost 10% of the total for Melbourne as a whole.

Table 12: Bus Service Upgrading Costs to Meet BAV Base Service Standards

<table>
<thead>
<tr>
<th>Route</th>
<th>Upgrade Cost ($'000 p.a.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>789/790</td>
<td>487</td>
</tr>
<tr>
<td>826</td>
<td>259</td>
</tr>
<tr>
<td>827</td>
<td>265</td>
</tr>
<tr>
<td>828</td>
<td>251</td>
</tr>
<tr>
<td>837</td>
<td>138</td>
</tr>
<tr>
<td>838</td>
<td>343</td>
</tr>
<tr>
<td>839</td>
<td>91</td>
</tr>
<tr>
<td>840</td>
<td>844</td>
</tr>
<tr>
<td>841</td>
<td>405</td>
</tr>
<tr>
<td>842</td>
<td>151</td>
</tr>
<tr>
<td>843</td>
<td>0 (meets standard)</td>
</tr>
<tr>
<td>844</td>
<td>205</td>
</tr>
<tr>
<td>892</td>
<td>336</td>
</tr>
<tr>
<td>893</td>
<td>386</td>
</tr>
<tr>
<td>894/895</td>
<td>403</td>
</tr>
<tr>
<td>Total</td>
<td>4564</td>
</tr>
</tbody>
</table>

Source: BAV bus operator survey.

Table 12 only includes service enhancements in locations where services currently exist. BAV also sees the establishment of **new bus services in fast growing outer suburbs** as vital to growing public transport use. By way of example, surveys undertaken for the Casey study identified support from Cranbourne secondary students for a new service between Pearcedale and Cranbourne. This would cost about $370,000 annually to implement. BAV has not been able to assess potential patronage of such a service but, given population growth, it has potential and could be approached on a “use it or lose it” basis.

Another area where the Association is seeking major improvements in bus service levels is in **bus priority**. Melbourne has only scratched the surface in terms of implementing **SmartBus** opportunities to date and localized initiatives to enhance bus travel speeds have been modest at best!

In Casey, Berwick is congested most of the time, which adversely affects operation of Grenda routes 837, 839 and 840. All three routes require additional run time mainly due to congestion in Berwick. Clyde Rd creates operational problems for buses as it narrows from three lanes to one in less than one kilometer, with a level crossing adding to these problems. Table 13 sets out locations in Casey where bus priority measures are needed.
in the Grenda area of bus operation, to illustrate the kinds of problems and opportunities that exist and Table 14 presents comparable information for Cranbourne Transit.

There are currently no agreed standards for bus priority measures in Melbourne and there is no State Government program to provide operating priority to buses, other than on selected SmartBus links. Standards for bus priority measures should be agreed and a program to meet such standards over a definite time period should be prepared by Government, in consultation with the bus industry and local government.

**Bus stops and interchanges** in the Casey area are frequently in need of improvement, as graphically illustrated in some of the photographs included in this report. The study has not been able to prepare a comprehensive estimate of requirements in this regard but notes that it is an integral part of a comprehensive approach to achieving the State Government’s goal of 20% of trips being made on public transport in 2020. The State Government, Local Government and the BAV should agree minimum standards of, and funding arrangements for, bus stops and interchanges, to improve their functionality and enhance their contribution to growing service patronage levels. The costs of meeting DDA requirements at stops mean that funding responsibilities need early resolution if a widespread stop upgrade program is to be implemented.
<table>
<thead>
<tr>
<th>Location</th>
<th>Route(s)</th>
<th>Problem</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clyde Rd, Berwick</td>
<td>837, 839</td>
<td>Turn into Reserve St from Clyde Rd</td>
<td>Bus lane in Clyde Rd from Monash Uni to Reserve St.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peak periods, worse in PM.</td>
<td>Clyde Rd is single lane from Monash Uni to High St.</td>
</tr>
<tr>
<td>Clyde Rd, Berwick</td>
<td>840</td>
<td>Turn from Mansfield St into Clyde Rd.</td>
<td>Bus lane in Clyde Rd from Mansfield St to High St.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peak periods, worse in PM.</td>
<td>Bus priority signals &amp;/or bus slip lane.</td>
</tr>
<tr>
<td>High St, Berwick.</td>
<td>837, 839</td>
<td>General congestion, worse in</td>
<td>Bus priority at lights, reduce or eliminate parking in High St.</td>
</tr>
<tr>
<td></td>
<td>840</td>
<td>Weekday peaks.</td>
<td>Lengthen bus bays.</td>
</tr>
<tr>
<td>Gloucester Ave</td>
<td>837, 839</td>
<td>Congestion in peaks due to</td>
<td>Manage car movements more effectively, no standing on one side in peaks. Also turn into High St, priority light.</td>
</tr>
<tr>
<td>Berwick.</td>
<td>840</td>
<td>St Margaret's School.</td>
<td></td>
</tr>
<tr>
<td>Webb St</td>
<td>840, 841</td>
<td>Congestion, Rail crossing.</td>
<td>Long term eliminate level crossing. Priority turn at Fullard Rd</td>
</tr>
<tr>
<td>Narre Warren</td>
<td></td>
<td>Webb St intersection turning out of Fullard St. Minimise Car movements in Webb St Nth of crossing due to shopping movements.</td>
<td></td>
</tr>
<tr>
<td>Princes Hwy &amp; Belgrave Rd.</td>
<td>826-828</td>
<td>R turn into Hallam Belgrave Rd.</td>
<td>Bus turn signal in Princes Hwy from L lane would enable bus to stop closer</td>
</tr>
<tr>
<td>Sth Gippsland Hwy</td>
<td>841</td>
<td>R turn into Thompsons Rd. Peaks.</td>
<td>Priority in peak periods.</td>
</tr>
<tr>
<td>Narre Warren</td>
<td>841</td>
<td>R turn from Kurrajong Rd into</td>
<td>Requires bus only signals to break into traffic.</td>
</tr>
<tr>
<td>Prospect Hill Rd &amp; Victoria Rd</td>
<td>840</td>
<td>Congestion due to inadequate car parking for Fountain Gate Pmy &amp;</td>
<td>Restrict car movements in Prospect Hill Rd, provide more off street parking.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eumemmerring S/C. PM peak issue.</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Route(s)</td>
<td>Problem</td>
<td>Remedy</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------</td>
<td>----------------------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Princes Hwy &amp; Sth</td>
<td>892</td>
<td>Traffic congestion travelling south PM</td>
<td>Bus priority lane</td>
</tr>
<tr>
<td>Gippsland Hwy</td>
<td></td>
<td>peak worse</td>
<td></td>
</tr>
<tr>
<td>Vanessa Drive &amp; Pound Rd</td>
<td>892, 893, 894</td>
<td>Traffic congestion turning east into</td>
<td>Traffic lights at intersection</td>
</tr>
<tr>
<td></td>
<td>894</td>
<td>Pound Rd</td>
<td></td>
</tr>
<tr>
<td>Oaktree Drive &amp; Pound Rd</td>
<td>893, 894</td>
<td>Turning west into Pound Rd,</td>
<td>Traffic lights or Bus priority lights</td>
</tr>
<tr>
<td></td>
<td></td>
<td>general congestion, worse am and pm</td>
<td></td>
</tr>
<tr>
<td>Shrives Rd &amp; Pound Rd</td>
<td>895</td>
<td>Traffic turning right into Shrives Rd,</td>
<td>Traffic lights at intersection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>congestion in am and pm peaks</td>
<td></td>
</tr>
<tr>
<td>Centre Rd &amp; Cranbourne Rd</td>
<td>790</td>
<td>Congestion turning right into</td>
<td>Traffic lights at intersection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cranbourne Rd from Centre Rd</td>
<td></td>
</tr>
<tr>
<td>Langwarren</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cranbourne Rd</td>
<td>789, 790</td>
<td>Shoulders on Cranbourne road in poor</td>
<td>Install new and repair roadside shoulders</td>
</tr>
<tr>
<td>Between Monohans Rd &amp; High St</td>
<td>791, 797</td>
<td>condition</td>
<td></td>
</tr>
<tr>
<td>Cranbourne</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5.3 Road Improvements

5.3.1 Arterial Roads


*Transport infrastructure in outer areas has not kept pace with growth in demand due to the rapid pace of growth of outer suburban development. Two-lane, two-way roads constructed to service rural land use now carry large volumes of traffic, causing safety issues and significant delays to private and commercial traffic and public transport.*

That report also acknowledges that a substantial on-going program is required to address deficiencies. However, no such program is contained in the report. Instead, the report says that a program of road capacity improvements will be implemented and candidate projects will be considered, in line with various criteria, in a rolling annual process.

The Transport Plan refers to recent commitments of $164 million to upgrade metropolitan arterial roads in outer growth corridors, including Berwick, Langwarrin and Endeavour Hills, although no time scale is put on this expenditure.

The RACV in its *Submission: State Budget, 2005-06* (Jan 2005) expressed concern about the State Government’s approach to road infrastructure, noting

*...the apparent disconnect between the planning process and the Government’s commitment to implementation of major transport infrastructure beyond the scope of a single State budget...*  
*...Metropolitan Transport Plan stopped well short of presenting a mechanism to facilitate delivery of major transport projects...*

BAV has similar concerns about funding of bus service improvements.

Transport infrastructure, particularly roads, tends to be long lived, with 30-50 year useful lives being typical for sealed roads. Bus service planning and development is also a multi-year activity. BAV and its Victorian Access Study partners (RACV, MAV and VTA) do not believe that annual State Budget decision-making is the best way to plan for and fund such infrastructure. Three to five year programs for allocating transport infrastructure funding are common in many countries and have been used in Australia in the past, allowing efficient planning, bidding and delivery processes to be adopted. We propose such an approach be adopted by the State Government for outer metropolitan arterial roads and public transport services, to overcome the substantial backlog that has developed.
Sections 4.3 and 4.4 of the report highlighted a number of roadway duplication projects that have been proposed by RACV in Casey to ease traffic congestion and reduce its high costs, and to improve road safety levels. Eight specific improvement projects were identified by RACV at a cost of $429 million in 2002, which would probably be closer to $475 million today. If works on the Westernport Highway are excluded, the figure for Casey would fall from about $475 million to about $380 million, being for works on major arterial roads other than State Highways.

Section 4.6.1 of this report suggested that VicRoads is currently spending about $14 million annually on upgrading major arterial roads in Casey (excluding State Highways). **At this rate, it would take about 27 years to overcome the backlog identified by the RACV.** This suggests that the current expenditure rate should be increased significantly.

Vicroads’ expenditure relativities in Casey area suggest that the organization is primarily focusing expenditure on a few major projects on State Highways. These works on State highways have good benefit-cost ratios and should be sustained. However, there are many arterial roads carrying over 10,000 vehicles a day also in urgent need of upgrading, under pressure of rapid population growth. This suggests a requirement for a significant increase in road funding allocations to deal with the large backlog of works on two-lane arterials.

The 2005 State Budget provides an increase of $97.4 million for outer metropolitan arterial roads, spread mainly over three years. One quarter of this increase is committed for South Road extension, with $73 million being available for other projects on the outer metropolitan arterial network. This is a modest start to dealing with the backlog of $1.4 billion identified by RACV. A much more substantial increase in funding is required to overcome that backlog, including projects in Casey.

The Study Team proposes an annual 5 year rolling program of arterial road upgrading works (exc. State Highways) of at least $100 million per annum above the 2004-05 expenditure rates for Melbourne as a whole, to deal with the needs backlog. **At this expenditure rate it would still take many years to deal with the backlog Melbourne-wide identified by RACV, by which time many new needs will have emerged.** This increased level of works would require an increase of almost 10% in the total VicRoads budget if no other category of works was reduced.

Figure 7 shows State per capita spending on roads for 2000-01, sourced from BTRE work. It indicates Victoria lagging well behind the other major east coast states of NSW and Queensland, spending $110 less per capita than NSW and $173 less than Queensland in that year. Victoria’s expenditure rate was comparable with that of the small States of SA and Tasmania but well behind WA and NT, which have vast areas of remote country.

2000-01 was a year of relatively high State Government funding of roads in Victoria, as shown in Figure 8. Since 2000-01, State spending on roads has fallen in Victoria (prior to the 2005 Budget), from $705.1 million to $592.1 million, according to VicRoads Annual reports, so the 2000-01 comparison is relatively favourable to Victoria.
If Victoria had spent a similar amount per capita from its own sources as NSW in 2000-01, it would have meant an extra $500 million road expenditure in round terms, far more than sufficient to fund the proposed $100 million outer urban arterial upgrade program.

The Victorian road funding situation is not helped by the very low share of Federal road funding received by the State. Although Victoria accounts for about one quarter of Australia on most measures of aggregate economic activity, the State receives a much smaller share of Commonwealth road funds (18.4% this year). The hold-up in passing $560 million to Victoria associated with Mitcham-Frankston Freeway (Eastlink) does little to help in this regard. Low Commonwealth road funding to Victoria compounds the problem of relatively low State spending from its own revenue sources. Both contribute to a deteriorating congestion outcome. The Commonwealth should substantially increase its road funding allocations to Victoria, so they better reflect the economic significance of the State and its’ road system. Some of these funds should be used to improve roads for public transport priority operation.

![Fig. 7: Estimated State Road Expenditure Per Capita (2000-01)](source)

Source: BTRE Working Paper 56, Table 2.7, June 2003; ABS 1350.0, Table 9.2.
5.3.2 Local Roads

Road improvements are seen by City of Casey as the second most important issue to local residents and Council is using significant amounts of its own revenue to improve road conditions in the municipality. However, it is not the local road system where road needs are the most pressing but the arterials. If pressures are eased on the arterial system, this should help to reduce traffic intrusion on collector roads in the older parts of Casey, where network design allows intrusion.

Council is concerned about the State Government (unwritten) policy position that roads should be planned to avoid at-grade level crossings. A number of level crossings are located on local roads but Council is unlikely to be able to afford the high cost of grade separation (which might involve two years of Council expenditure for one grade separated crossing). If State policy requires grade separation, State funding should contribute to the realization of this policy position.

Federal funding accounts for just short of one quarter of Council’s road funding at present. The Casey share of such funding seems to be generally in line with relative measures of need, though with a suggestion that the current distribution formula for Local Road Grants may not make sufficient provision for the influence of population growth on road funding needs.

5.4 Urban Planning

A sustainable land transport system needs to provide travel choices for the local population and to ensure that land use and transport decisions are taken in an integrated
manner, to reduce the long term need for travel to achieve accessibility. The State Government has recognized that continued low density urban development is unsustainable long term. Melbourne 2030 is the Government’s response\textsuperscript{11}. Melbourne 2030’s major emphasis is

... to continue to protect the livability of the established areas and to increasingly concentrate major change in strategic redevelopment sites such as activity centres and underdeveloped land. While a good supply of land for development will be maintained in growth areas, over time there will be a shift away from growth on the fringe of the city.

Under Melbourne 2030, State policy will pursue, inter alia, a more compact city and better management of metropolitan growth, with establishment of an urban growth boundary setting clear limits on outward development. Urban expansion is to be concentrated into growth areas served by high capacity public transport.

Adding road capacity to deal with existing backlogs in the fast growing outer growth suburbs requires a delicate balancing act, to ensure that the extra capacity so added does not in itself encourage further urban expansion and traffic growth, defeating the urban development goal. Past experience in Melbourne suggests that it is very difficult to contain urban growth and that high car ownership rates and added road capacity on the fringe are two elements that exacerbate this difficulty. At the same time, the community costs of existing fringe area traffic congestion and road accidents require action.

BAV believes that the selected arterial road duplication projects identified in this report should proceed but that this should only be done in the context of:

- strict adherence to the principles of Melbourne 2030, backed by adequate medium to long term funding support to ensure that programs like the Transit Cities program (and activity centres) can achieve their goal of encouraging thriving higher density mixed use centres;
- provision of local public transport services in developing estates (at no less than the proposed minimum standards) at the time those estates develop, to reduce pressures for second car ownership and the associated pressures for extended low density development. A corollary of this requirement is the development of housing estates that facilitate bus access to within reasonable access distance of properties and activity centres that provide good access/interchange facilities for public transport services and their customers. Melbourne 2030 asserts such requirements but, to date, has not provided the funding to realize the objective. The bus service enhancements proposed previously would contribute substantially in this regard, if provided at an early date;
- provision for fast and reliable bus operation over roads that have been duplicated, to encourage higher use of public transport services. All the roads listed in Table 9 as requiring duplication are existing bus routes, so the road upgradings in question will assist bus operation as well as cars and trucks, particularly if attention is paid to

\textsuperscript{11} Material on Melbourne 2030 in this section of the report has been sourced from http://www.dse.vic.gov.au/melbourne2030online/content/introduction/02_summary.html
ensuring that buses are not held up at choke points. Low cost bus priority measures can usually be implemented to achieve this outcome.

5.5 Accessibility Planning

Personal transport is essentially about meeting accessibility needs and fostering social inclusion. However, institutional arrangements for service delivery tend to occur along different lines (e.g. particular services and modes), such that no government entity is responsible for accessibility. Public transport services, school bus services and community transport services operate mainly in isolation, rather than being seen as part of a single service delivery system.

The British approach is to implement an “accessibility planning” approach, based on giving local government ownership of accessibility problems. By this approach, clear responsibility is assigned for dealing with issues raised by transport disadvantage/social exclusion.

The nine studies currently being carried out in Victoria as part of the Transport Connections program are, in some ways, attempting to carry out an accessibility planning function. However, these studies lack a strategic framework within which to approach accessibility planning.

In BAV’s recent report, *Improving Public Transport to Meet Community Needs: A Warrnambool Case-study* (18th October, 2004), the Association argued for the establishment of Regional Accessibility Planning Councils to focus on developing integrated regional priorities for improving access arrangements. These should be established around transport/activity catchment areas and driven by local government, undertaking needs assessments and proposing improvement priorities. Higher level (system-wide) co-ordination should be undertaken at State level. Regional transport resources should be managed in a more co-ordinated way to meet such needs.
References

Booz Allen & Hamilton (2001), Metropolitan Bus Plan: Bus Services Improvement Program. Outer East (South) – Option Definition and Review, Melbourne, November.


Booz Allen & Hamilton (2003), Metropolitan Bus Plan, Report prepared for the Victorian Department of Infrastructure, Melbourne, March.


