Submission on behalf of the Public Transport Users Association

Planning Panels Victoria

Planning and Environment Act 1987

Amendment C154

Stonnington Planning Scheme

25 May 2012

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BACKGROUND

Chadstone Shopping Centre was initially developed in the early 1960's when the car was king. It has been progressively expanded, most recently with the 2003 Chadstone Place development, without any effective effort being made to change the transport modal mix at Chadstone. As a consequence, road congestion with all its attendant negative environmental, economic and social effects have worsened over the years, and the great majority of visitor and employee trips to Chadstone continue to be made by motor car.

The PTUA said in its submission to the Stonnington City Council in February 2012 that the Chadstone Shopping Centre business strategy is past its use-by-date as it relied on cheap motorised transport and free parking.

There were a large number of submissions (129) to the Stonnington City Council on the proposed amendment. Many of these were from local long-term residents and in the main they oppose the application. It was clear from reading many of these submissions that they reflect very long term concerns that people have about successive expansions of Chadstone. The bulk of the opposition relates to the increasing volumes of car traffic attracted to Chadstone. They reflected strong majority opposition to the expansion mainly because of the car dominance of the place.

It would be fair to say, though, that just a few envisaged a Chadstone with higher levels of economic activity but with fewer cars and a greater contribution from sustainable forms of transport. Many saw the route bus services as largely a residual operation that people availed themselves of if they had no other choice. There were strong protests against increased traffic congestion, but many sought additional parking, in the main because of the threat of the spill over effect of parking on local streets.

The decision in the late 1950's to locate the shopping centre at the intersection of Warrigal Road and Dandenong Road was the result of a detailed survey of traffic patterns and prospective residential development which showed that the largest potential patronage in Melbourne was centred there. At that time more than 400,000 people lived within an 8

kilometre radius of the location and 66% of households in the area owned a car.[1] The investment decision was taken during a period when the Victorian government of the day was quite relaxed about letting public transport services fall into disuse and ultimately closing down many of them.

Public Transport Victoria has also pointed out to the Panel that in addition to Chadstone many of Melbourne's shopping centres, including Northland, Southland, Knox and others were conceived at a time when private motor vehicles dominated public thinking and policy.

In fact, a 2001 review of activity centres in Melbourne and Geelong found that the success of Chadstone led the then owner, Myer, and other firms to desist from seeking sites for suburban retail centres in transit-oriented locations.[2] Chadstone was then followed in quick order by Northland, Doncaster, Eastland, Southland and Highpoint. The MMBW's District Centre policy was abandoned during the same period - a period when Sydney had a greater number of suburban retail developments than Melbourne, but most were located in transit-oriented sites.

The 2001 activity centre review found that Chadstone performed fair to poorly on environmental grounds with only 7% of trips to the centre being by public transport. The environmental performance was explained by the extent of car usage to the centre which was reflected in a high level of car fume pollution. The PTUA submits that urban growth, environmental strictures and infrastructure inefficiencies have brought us to a brink that requires an essentially different approach in future.

THE 2003 CHADSTONE REDEVELOPMENT

The most recent redevelopment was triggered by Planning Amendment C32 in 2003. The Public Transport Users Association declared opposition to that expansion in a formal submission at the time [3] on the basis that:

- Chadstone is isolated from the major public transport networks;
- Major public transport upgrades are required to bring public transport at Chadstone up to the required standard; and
- It would be counter-productive to permit a large scale increase in the area of Chadstone prior to such public transport improvements being undertaken.

In addition, the PTUA called on the Stonnington City Council to assist in the development of public transport capacity in the area by:

- opposing inappropriate (car dependent) developments;
- adopting pro-public transport planning policies; and

- On their own behalf and in conjunction with other councils through representations to the Victorian government to ensure that appropriate public transport is provided as a matter of urgency.

2003 INTEGRATED TRANSPORT PLAN

An Integrated Transport Plan was developed in association with the 2003 Chadstone Place project[4] with the objective of providing "..improved travel options for visitors and staff and to encourage the use of more sustainable modes of travel."

It was found at that time that there were on average 41,000 visitors per day[5] with 52% of them visiting on Fridays, Saturdays and Sundays. Mondays, with an average of 32,000 visitors was the quietest day. Exit survey responses showed that 72% of these visitors were shoppers.

Visitor origin

As shown in Table 1 below, the exit survey showed that the majority (53%) of visitors to Chadstone in 2003 travelled no further than 3 kilometres to the centre but that by 2010 a majority of Chadstone's by then much larger customer base were travelling longer distances to visit the centre. In 2010 it was found that just 41% of all visitors travelled less than 3 kilometres to Chadstone, 30% between 3 and 6 kilometres and 28% 6 kilometres or more. It appears that the greatest percentage growth has been in the secondary catchment for the centre which in seven years increased from 17% of all visitors to 30%.

Table 1: Catchment area for Chadstone Shopping Centre

Catchment area	Percentage of all visitors 2003	Percentage of all visitors 2010
Primary (less than 3 kilometres)	53	41
Secondary (between 3 kilometres and less than 6 kilometres)	17	30
Tertiary (6 kilometres or greater)	30	28

Sources: Gandel Retail Management, Exit Survey, March 2003, quoted in Booz, Allen, Hamilton, *Chadstone Place Development Integrated Transport Plan, Final Report* (August 2003) p.16 and Urbis, Chadstone Exit Survey, in *Vision for the Future Economic Analysis* (December 2011), p.13

Current travel modes

Individual measures of travel mode taken in 2003 were somewhat variable, showing between 64% and 84% of visitors travelled by car. Exit surveys reported that travel by car comprised 77% of all trips.

Staff car parking then accounted for an astounding 27-44% of all car parking demand.

The assessed bus mode share (the only available form of public transport) was similarly indeterminate and depending on the data source was estimated to be in the order of 8% to 17% of all motorised trips, compared with 9% for the metropolitan area as a whole. (2003 Integrated Transport Plan, p. 6).

There may be a temptation to draw comfort from the latter figure but it should be remembered that the wider metropolitan area includes some areas which include very low public transport take-up indeed.

A more appropriate aspirational target for Chadstone might be the Melbourne CBD where in 2006, 72% of all journeys to work were by public transport, cycling or walking. It is noteworthy that a policy target of 90% of all these trips is being proposed by 2020 by the City of Melbourne.[(6)]

Generation of new demand

The 2003 Integrated Transport Plan referred to *Melbourne 2030*'s Activity Centre policy which emphasised future development within existing centres to increase the opportunity for 'linked trips" using non-motorised modes (2003 Integrated Transport Plan, p. 7).

The Integrated Transport Plan asserted that there would be 45-65% less motorised trips at Chadstone under the 2003 redevelopment proposals than would be the case if the expanded capacity were to have been provided as a stand-alone development. (2003 Integrated Transport Plan, p. 7).

It is worth reflecting, however, that this was not the only notional option. If equivalent development were to have taken place in a location with better existing access to public transport, and particularly heavy rail, then arguably the proportion of motorised trips would have been much less again.

The 2003 Integrated Travel Plan also included Action Plans to improve travel options and encourage more sustainable travel patterns, with a focus on travel demand management, pedestrian access, bicycle access, bus services and traffic facilities.

THE ACTION PLANS

Action Plans were developed under the 2003 Integrated Transport Plan to encourage the use of more sustainable modes of travel at Chadstone. These included a travel demand management action plan, a walking action plan, a cycling action plan, and a public transport action plan. (2003 Integrated Transport Plan, pp. 41-50)

Travel Demand Action Plan

The travel demand action plan was relatively unambitious. It included a Green Travel Plan for staff, which comprised a staff survey and the development and implementation of unspecified initiatives and their subsequent monitoring and possible modification. The initiatives were to be implemented in the short term. The Green Travel Plan for visitors provided only for the preparation of travel information and its inclusion in promotional material for Chadstone, classified as a short to medium term measure.

Walking Action Plan

Actions for the walking action plan included improved pedestrian access to the centre, improved pedestrian access within the centre, pedestrian wayfinding signage, and deliveries and other day pick up. Specific measures included the possible establishment of an entrance from Castlebar Road, a pedestrian path along Middle Road, a broad landscaped pedestrian path within the new retail street, a pedestrian crossing on the internal ring road at Chadstone Place and new directional signage within and to the centre, and home delivery for local residents and provision of other day pick up services.

Cycling Action Plan

The cycling action plan proposed the provision of improved bicycle access to and within Chadstone Shopping Centre by the continuation of the bicycle path along Middle Road to the centre and possible bicycle access from Castlebar Road into the centre. To further assist cyclists, there were also (unspecified) end-trip facilities at Chadstone. Action on these items were all envisaged to be in the short-term.

Public Transport Action Plan

There were three action items in the public transport action plan. The first of these envisaged a "Bus Plan" to improve bus services to the centre, within a medium to long-term time frame. It was proposed, secondly, that interchange facilities at Chadstone be improved by the provision of a new bus lounge at the interchange area, which was seen as a measure for short-term implementation, and the installation of a Dynamic Bus Bay Allocation System, envisaged as a medium to long term measure. Finally, it was proposed that inter-modal connections to the centre be promoted as a short-term measure by the provision of signage at the Chadstone bus interchange and railway stations.

WHAT HAPPENED TO THE ACTION PLANS?

Travel Demand Action Plan

The Green Travel Plan for staff had relatively little impact. As shown in Table 2, below, staff, customers and visitors still drive or are driven by car and park at Chadstone in proportionately large numbers (about 80%). There are many reasons why Green Travel Plans fail, but one of the major factors that contribute to such failure is that it is viewed by senior management as a discretionary activity and is accordingly not assigned any priority for which final results have significance for the organisation.[7]

Table 2: Travel mode for Chadstone customers, visitors and staff, December 2011

	CUSTOMERS/ VISITORS	STAFF
Car drivers	71	77
Car passengers	9	4
Bus	12	14
Walk/cycle	4	3
Other	4	2

Source: Tim De Young, GTA Consultants, Expert witness statement for Colonial First State Global Asset Management and Gandel Group, Stonnington Planning Scheme Amendment C 154, p. 8

Whilst the aspirations for the Green Travel Plan for visitors were very modest, the results have been disappointing. The travel information that was to have been included in Chadstone's promotional material is not in evidence in the hard copy material available today at the shopping centre. In addition the information on public transport, walking, cycling and car sharing available on the Chadstone webpage is very slim.

Walking Action Plan

With nine discrete external entrances for walkers, the activity centre for the most part remains "walled off" from surrounding residential suburbs. The total perimeter length is an estimated 2.2 kilometres. The most inaccessible area is probably in the south-east along Castlebar Street and Capon Street where there is no walking or bicycle access to the centre for about half a kilometre. Only one of the entrances appears to have been purpose-built for both walkers and cyclists, this being the one on Middle Road. There appears to be little, if any, wayfinding signage to direct walkers to these accessways to the centre or to locations beyond. Similarly there appears to be no signage to direct walker to the bus terminals in the activity centre, either from points external to the centre or from within it.

With most activity centres where the notion of sustainable transport had been a major consideration in design and physical layout, people could be expected to be able to traverse the centre more or less as "the crow flies". This is far from the case at Chadstone. As a consequence, there is significant incentive to travel by car, both to the centre and to points beyond, rather than by more sustainable means.

Cycling Action Plan

A cycling path has been extended along Middle Road to the entrance of the activity centre. Cyclists then make their way in mixed traffic within the centre. There appear to be no signage to direct cyclists to destinations within the centre or beyond. There are now four locations at Chadstone where visitor bicycles may be stored, at least three of which are associated with car parks. One has the merit of being within striking distance of the bus terminals.

Public Transport Action Plan

Since 2003 there has been some advance with the first of the three action items in the public Transport Action Plan, with the improvement in some bus services to the centre. We will come back to that later in this presentation. A bus lounge at the interchange area was provided. However, the Dynamic Bus Bay Allocation System was not installed. The fourth measure, the provision of signage to promote inter-modal connections between the centre and connecting rail services is not visible at Chadstone, nine years later.

Another obvious initiative to promote public transport usage at Chadstone would be the provision of high quality information on the centre's website. However, the information that is provided is disappointing. Chadstone is not alone amongst the large "drive-in" shopping centres in this regard.

La Trobe University (see http://www.latrobe.edu.au/travelsmart/public-transport) and Austin Health (see http://www.austin.org.au/Page.aspx?ID=61) are two institutional bodies with large visitor numbers who provide better quality web-based information on public transport services.

CAR DEPENDENCY HAS INCREASED AT CHADSTONE

Table 3 below shows that car dependency at Chadstone has increased in the period between 2002 and 2011. This is despite the fact that there has been discernibly stronger growth in public transport patronage in Melbourne since about 2004, and especially in inner and middle suburbs.

Table 3: Customer/visitor mode share, Chadstone Shopping Centre, 2002 and 2011

	2002	2011
Car driver	61	71

Car passenger	14	9
All car travellers	*75*	*80*
Bus	17	12
Walk/ cycle	5	3
Other	3	5

Source: Tim De Young, GTA Consultants, Expert witness statement for Colonial First State Global Asset Management and Gandel Group, Stonnington Planning Scheme Amendment C 154, p. 9

As concluded by Mr De Young "car dependency of the Activities Area has actually increased during the period (2002-2011) and that more substantial action is required if state and local government policy expectations of achieving a mode shift increase to sustainable transport is to be achieved." (8)

Conclusions to be drawn from the 2003 Integrated Transport Plan

Whilst a number of recommendations in the 2003 Integrated Transport Plan were implemented, it is clear that the Plan had few durable positive effects. The most important message from the experience is that there was no compulsion to meet quantifiable objectives to significantly increase the proportion of trips undertaken by public transport and active transport. In the view of the PTUA, the main task is to achieve significant changes in transport behaviour and for this to be achieved a judicious mix of supply and demand-side initiatives will be required.

COMPARABLE SHOPPING CENTRES

It is contended in the transport impact assessment report prepared for the project proponents that three comparable shopping centres, Doncaster, Highpoint and Southland, currently have markedly lower car parking to floor area ratios than Chadstone.(9) However, there are particular characteristics of each of these four centres that make the comparisons less straightforward than this.

Doncaster Hill

Whilst Doncaster Shoppingtown does have relatively few car parks, unlike Chadstone, some modest pricing discipline is attached to the car parks which may modify to some degree visitor demand for travel by car. However, Doncaster does have some advantages with public transport, being served by 16 route bus services, most of which run seven days a week with a reasonable daily service span, and which include three higher frequency SmartBus services, the 902, 903 and 907. With suitable service frequencies, the Manningham Mover route bus service also has the potential to provide a service to Doncaster Hill for residents not on major public transport routes and in a way not matched at Chadstone. Depending on prevailing

traffic conditions on Williamsons Road and Doncaster Road, buses are able to exit the terminal quite speedily, with typical timetabled running time of two minutes between the terminal and the next bus stop. Equivalent timetabled running time for entry and exit at Chadstone is in the order of eight minutes.

The Victorian government also has a major study underway which is examining the extension of the heavy rail network to Doncaster Hill. This project, which is long overdue, would significantly improve the capability of the public transport network at Doncaster Hill and in the area generally.

Regrettably, however, there are also adverse trends at play at Doncaster, much in the same way as at Chadstone. It is understood that Westfield is about to make application for a significant number of additional car parks at Shoppingtown. In addition, a major new retail, commercial and residential complex by Bunnings is also about to be placed on exhibition by the Manningham City Council. Bunnings key business strategy has similarities with the Chadstone model of the late 1950's, that of a "category killer" based on large volumes of free car parking, although its implementation lags that of Chadstone by a generation.

Highpoint

Highpoint Shopping Centre is served by seven route bus services and, unlike Chadstone, also has the advantage of two tram services, the 82 service between Moonee Ponds and Footscray, and the 57 service between Maribyrnong and the Melbourne CBD. The tram services are relatively easily accessible from stops on Rosamond Road and Raleigh Road at the south-west and north-west corners of the centre, respectively. The "U"- shaped bus terminal has easy access from Rosamond Road and is quite well designed to drop off passengers at a central location at the centre without conflict with pedestrian and other road traffic. Although the GTA report shows that Highpoint has 6271 parking spaces, a ratio of five spaces per 100 square metres of floor space, [(10)] according to the Highpoint website there are only 4,700 parking bays currently available. Many of these bays are now subject to a four hour restriction as the centre undergoes a major redevelopment. The Maribyrnong City Council has taken responsibility for enforcing these on-site restrictions and Council penalties apply for non-compliance. The redevelopment of the centre now underway includes the addition of bicycle racks, showers and locker facilities.

Southland

Whilst Westfield Southland is currently serviced by 14 route bus services, several of which connect to rail services at Cheltenham station on the Frankston line, it is expected to have direct access to a rail service. Following a Victorian government 2011-12 budget commitment, a new station is to be constructed at Southland on the Frankston line between the existing Highett and Cheltenham railway stations. This will benefit many customers and staff and is likely to confer a competitive advantage for Southland over other shopping centres without direct rail access.

Increased frequency rail services

Also a much increased frequency of weekend rail services was introduced on 22 April by Metro onto the Ringwood, Dandenong and Frankston lines. Services now run every 10 minutes on these lines between about 10.00 am and 7.00 pm on these days.

These service upgrades will be of significant advantage to the retail service areas on these lines. Higher frequency services are also required on other lines on the Melbourne rail network and these improved frequencies are expected to also be extended in future.

ISSUES WITH THE ROAD NETWORK AND ROUTE BUS SERVICES AT CHADSTONE

The panel has heard that the arterial road network around Chadstone is now saturated. This is despite the fact that it is said that the growth of through traffic on Warrigal Road and Princes Highway in particular has been relatively modest since the last redevelopment at Chadstone and that the full approved development permissible at Chadstone itself has not yet been completed. One consequence of this is that people are now utilising routes other than those that are most direct one to travel in the area. This includes many people other than those who are visiting Chadstone. As a consequence, travellers to destinations other than Chadstone are increasingly being forced to bear the time costs associated with the growth of motor car traffic to the shopping centre.

The fact that the road network is saturated adversely affects bus services to and from Chadstone, especially on Warrigal Road and Princes Highway. These two primary arterial roads are designated as Bus Priority Routes under VicRoads SmartRoads Plan.

To illustrate, bus travel time between Holmesglen and Oakleigh, in particular, is very poor. It has been observed that the 1.8 kilometres from Holmesglen to Chadstone can take up to 15 minutes by bus and that buses can spend 50% of journey time delayed by red lights with just 10% of travel time spent picking up and setting down passengers. The consequence of this real world experience is schedules are set for slow running times which further reduce the attractiveness of bus services.

Given the critical situation that has been reached, PTUA has had discussions with VicRoads over the last 12 months or so on how the road network may be improved for bus services.

Measures recommended by PTUA include the installation of dedicated bus lanes on Warrigal Road and a dedicated bus right turning lane from Warrigal Road to Middle Road, southbound.

In doing so we have also sought to impress upon VicRoads the importance of effecting mode shift in favour of bus travel on this part of the road network in particular. In the view of the PTUA, a major objective of the transport system is the mobility/movement of people rather than that of vehicle units. We have therefore sought to impress upon VicRoads that, in assessing the benefits of assigning dedicated road space to buses, it is important to calculate the numbers of persons on public transport relative to other vehicles, not simply the numbers of vehicles occupying the space.

In our view the only short-term relief for the current road congestion in the vicinity of Chadstone is a significant increase in the capacity and use of route bus services and the creation of favourable on-road conditions for the delivery of these services.

TRENDS IN USAGE OF PUBLIC TRANSPORT AT CHADSTONE SHOPPING CENTRE

There is no reliable up-to-date data that is available publicly on visitor arrivals and departures from Chadstone by route bus services. Survey data collected by the Department of Transport in 2007 and 2010, and set out in Table 4, below, show in aggregate that there are 3844 passenger arrivals on weekdays and 3170 passenger departures. These counts may understate the current situation to some degree as there has been some growth since then on some of these routes, especially for the higher quality services. For instance, Public Transport Victoria last week told this hearing that the daily patronage count at Chadstone for the 903 SmartBus is now about 2,000 each day, which appears to be about a 48% advance on the figure in 2010.

The significant difference between the boarding and disembarking figures shown in the table are difficult to reconcile, except that there may be a significant number of post-7.00 pm departures on weekdays, including staff. Overall, however, these figures suggest that the contribution of public transport to visitor numbers is very modest.

Table 4: Bus passenger counts Chadstone Shopping Centre

ROUTE	Passengers boarding	Passengers disembarking
612	266	91
623	271	360
624	278	214
627	N/A	N/A
742	N/A	91
767	365	439

800	342	182
802	252	66
804	198	163
822	212	147
862	120	101
900	849	658
903	691	658
Total (excluding route 742)	3,844	3079

Source: Public Transport Victoria

These daily counts were taken between 7.00 am and 7.00 pm. The counts for routes 802, 804, 900 and 903 were conducted in 2010 and the balance in 2007. Route 627 no longer operates. It was replaced by new routes 625 and 626 in late 2010 following a review of bus services in Bayside/ Kingston and Boroondara/ Glen Eira/ Stonnington completed for the Victorian government by Booz and Co in August 2010.

Directness

The attractiveness of public transport services relative to other transport modes is significantly influenced by the directness of available services. For individual services this may be expressed as the directness ratio of the service. This is a measure of how much a route deviates from the most direct path between the start and end points of the route. As shown in Table 5 below the average directness for the Chadstone services is 1.43, which compares poorly with the Melbourne-wide average of 1.30.

Table 5: Directness of route bus services at Chadstone

ROUTE	Directness ratio
612	1.89
623	1.14
624	1.90
625	1.62
626	1.23
742	1.24

767	1.14
800	1.03
802	1.35
804	1.44
822	1.36
862	1.44
900	1.14
903	2.19
Average	1.43

Source: PTUA research

Weekend services

Weekend bus services to Chadstone are poor. Frequency of service is less than on weekdays, including on the SmartBus services, and service span is also less than on weekdays. The 900 SmartBus, between Caulfield railway station and Stud Park via Chadstone, for instance, has a 15 minute frequency on most days and 30 minute frequencies on Saturdays and Sundays. The 903 SmartBus has an erratic schedule on weekdays, averaging about 15 minutes for much of the day, with more frequent services during peak periods. Frequencies are also variable on Saturdays with headways as great as 30 minutes. Generally speaking Sunday services are about half an hour apart.

This is particularly significant because Saturdays and Sundays, when bus services are poorest, are Chadstone's two highest trading days. It is also likely that people will be much more likely to make a permanent shift in preferred transport mode to a high volume destination when they can rely on that mode seven days a week, and not only on weekdays.

Public transport service coverage

For public transport services to be effective they must be provided within a reasonable distance of where people would wish to catch them. Whilst in the Chadstone area it may not be as significant an issue as poor service frequency, it is nevertheless important.

Table 6 below provides an indication of the service coverage for public transport services in municipalities principally in the primary and secondary catchment areas for Chadstone Shopping Centre. For these purposes, service coverage at any location is defined as being within 400 metres or approximately five minutes' walk from a bus or tram service and within 800 metres of a train station.

Table 6: Public transport service coverage, Chadstone Shopping Centre

Municipality	Service coverage (%)
Stonnington	99.7
Glen Eira	98.2
Boroondara	95.8
Bayside	95.9
Kingston	91.5
Monash	84.1

Source: Reviews of bus services in Bayside/ Kingston and Boroondara/ Glen Eira/ Stonnington completed for the Victorian government (Booz and Co in August 2010) and in Manningham/ Monash/ Whitehorse (Booz and Co in April 2010).

On the face of it the service coverage is quite good in Chadstone's primary catchment and much of its secondary catchment areas. Although, significant gaps in coverage were identified in bus service reviews completed for the Department of Transport in 2010 it appears relatively few of them have been acted on.

BUS ACCESS AT CHADSTONE AND THE PROPOSED CENTRALISED BUS TERMINAL

The PTUA is especially concerned about bus access at Chadstone Shopping Centre itself. As noted previously it may take up to 8 minutes for buses to clear Chadstone which is significantly greater than for comparable shopping centres in Melbourne. It has been said that on balance the travelling time for bus services will be reduced under the proposal for the centralised bus terminal.

We would like to stress several key criteria for the terminal to operate most effectively:

- that it be of sufficient capacity to cater for long-term growth;
- that bus priority be accorded to services to and from the terminal;

- that there be a binding commitment on the proponent that the terminal be built and commissioned early in construction;

- that there be no competition with other transport modes for the use of the terminal space;
- that wayfinding support for the terminal be provided both within the Chadstone Shopping Centre and from key locations external to the centre; and
- that facilities be provided to provide for people to connect with bus services at the terminal at all hours when they are operational whether the shopping centre is open for trading or not.

Amongst other things, like train stations, this should include bicycle storage facilities located in close proximity to the terminal to encourage those that are within cycling distance of the terminal to connect with bus services at Chadstone.

In relation to the issue of the terminal's capacity, Table 7, below, shows aggregate bus arrivals at Chadstone during the morning peak between 7.30 am and 8.30 am. It is evident that service frequencies on many these routes is very low, and that the proposed new bus interchange will be required to cater for a much larger number of bus movements at peak hours and also at other times of the day than is currently the situation.

Table 7: Bus arrivals, Chadstone Shopping Centre weekdays 7.30 am to 8.30 am

ROUTE	Direction A	Direction B
612	5	3
623	3	2
624	3	4
625	2	2
626	2	2
742	1	1
767	4	3
800	4	3
802	1	1
804	2	2

822	2	2
862	2	1
900	5	5
903	7	5
Totals	43	36

Source: Metropolitan bus timetables, Public Transport Victoria website

Another related issue of significant concern relates to the on-going ability of roads authorities and Public Transport Victoria to supervise bus access and guarantee the suitability of the fixed infrastructure at Chadstone. PTUA has concerns with issues such as the installation of unsuitable speed humps and the design of the road network within Chadstone which has generated conflict between buses and other transport modes. It appears to PTUA that the relative responsibilities of these agencies have been unclear and their authority insufficient.

The fact that the property is privately owned is a significant complicating factor. It is our view that public authorities should have clear authority to supervise and manage the precinct to ensure the installation and on-going safe and efficient operation of a state-of-the-art public transport facility.

TRAINS AND TRAMS FOR CHADSTONE

Without access to a heavy rail extension, major expansion of Chadstone Shopping Centre would be very difficult to justify.

The provision of a suitably designed rail link would be the most effective means of reversing the car dependent character of Chadstone. The extension of the Alamein line to Oakleigh on the Dandenong line via East Malvern railway station on the Glen Waverley line and Chadstone Shopping Centre would provide speedy public transport access for many Chadstone customers and employees who currently drive.

More significantly this four kilometre link would provide an orbital heavy rail capacity for the south-eastern and eastern middle suburbs which currently does not exist and which would provide rail access for many people who currently travel to other highly patronised destinations, such as Holmesglen TAFE and Monash University.

We have also witnessed significant expansions in capacity on major east-west arterial roads in the area in recent years, including the Monash Freeway, which have had the desired, but likely to be transitory, impact on road traffic congestion. The extension of the Alamein line would serve to provide for significant mode shift in a general north-south direction, including Warrigal Road, Burke Road and Glenferrie Road. With effective connections to the Glen Waverley line and Dandenong line it would also assist radial connections as well.

In this context, the scale of Chadstone's operations both current and prospective is a key element that makes the provision of an orbital heavy rail service in this part of Melbourne so important and a highly effective investment in sustainable transport infrastructure.

A three kilometre extension of the number 3 tram from its current terminus at the intersection of Waverley Road to Chadstone via the East Malvern railway station should also be given priority. This service extension would provide a relatively high capacity option for visitors and Chadstone employees in the primary and secondary catchment area to the west of Chadstone.

DEMAND MANAGEMENT: PRICING OF CAR PARKING AT CHADSTONE

In our February 2012 submission on this application to Stonnington City Council the PTUA recommended that the pricing of car parking be considered at Chadstone as a demand management tool that could potentially limit car trips. Currently generous time limitations on parking are advertised but no pricing discipline. We understand that these time limitations are not able to be enforced by the proprietors of Chadstone; that this would require reference to the Stonnington City Council, but this has not been done.

The Malvern East Group in its submission to the Council[(11)] also suggested that car parking might be charged for each visit, following an initial free period, as applies at Victoria Gardens in Richmond. This fee structure also applies at Doncaster Shopping Town.

We take the opportunity to say a little more about the issue of pricing parking. It would be fair to say that much of the debate about the provision of car parking in major developments revolves around the provision of minimum amounts of car parking, typically free of charge.

We note that the Victorian government's Car Parking Advisory Committee is currently reviewing the parking provisions in the Victorian Planning Provisions, including those related to car parking rates in business zones and Activity Centre Zones as proposed in the draft clause 52.06. The purpose of the proposed Clause 52.06 includes the promotion of sustainable transport alternatives to the motor car, the promotion of the efficient use of car parking spaces through the consolidation of car parking facilities, and to ensure that car parking does not adversely affect the amenity of the locality.

The traditional debate which has been centred on minimum provisions may be misplaced because it has not taken account of the costs imposed on non-car users, users of alternative forms of transport and the broader environment.[(12)] The costs are now well in evidence in the form of saturation of the road network in and around Chadstone.

Chadstone is the major car trip generator in the area, and growing. On the north-south axis Chadstone is by far the largest single destination on Warrigal Road between Surrey Hills in the north and Parkdale in the south that is not served by tram or train services. Similarly on the Princes Highway axis there is little to compare with Chadstone beside Monash University

and Dandenong in the south-east and the Chapel Street Principal Activity Centre precinct to the west.

The result of this is that significant costs of operating the business are visited upon non-users of Chadstone, in the form of traffic congestion on the arterial and local road network in particular, as well as noise and air pollution and associated degradation of the local residential environment.

This congestion also causes difficulties for users of sustainable forms of transport. As indicated earlier route bus services, currently the only form of public transport to Chadstone, are increasingly caught on these congested roads and the on-time running of these services is often heavily compromised as a result. As noted in the GTA report (GTA Consultants, Chadstone Activities Area Stonnington Planning Scheme Amendment Transport Impact Assessment (19 December 2011), p. 30) although pedestrian access to Chadstone is provided at nine locations the major arterial roads are also a significant barrier to safe access for pedestrians and cyclists.

Policy objectives

What would be the policy objectives of charging for parking at Chadstone if it were to be introduced? It should be to contain road usage to such a level that it does not impose unreasonable costs on non-users of Chadstone and on the general environment. It should have the effect of transferring trips to more sustainable transport forms. In practical terms, to be most effective it is likely the charging structure would need to be time sensitive to place an effective cap on car usage at different times of the day and week.

It appears that the Stonnington City Council does have power to impose charges on car users through the imposition of a differential rating structure on car parks.

The Victorian government has the power to impose a congestion charge at Chadstone , as applies in the Melbourne CBD and some surrounding areas. This congestion charge was introduced in January 2006 and it has been found that the levy, which principally targets commuters, has contributed to a reduction in road congestion in the area and greater public transport use. In particular, it was found that a significant portion of the levy is being recovered from long-term parking users which has provided these users with the incentive to transfer to other forms of transport.[13]

Success of the Melbourne congestion levy

The success of the policy is also measurable from the fact that the number of car spaces per worker in the Melbourne CBD has declined significantly in recent years and is now at 13.8 spaces per 100 workers, the second lowest of the Australian capital city central business districts. It has also been found that since 2005 being close to public transport has been the most important driver in attracting and retaining staff by tenants when choosing an office location and this has steadily increased in importance during the period.[14]

However, a more recent study [15] concluded the Melbourne CBD levy would be more effective if consumers were to incur the full amount of the levy. The authors underlined the importance of passing on the full cost of the levy to the motorist, for positive travel supply and demand responses to be maximised.

Consumer behaviour is likely to be "sticky" in the absence of effective pricing as a demand management tool. A recent survey by the Boroondara City Council concerning travel patterns at the admittedly much smaller Balwyn Activity Centre indicated that all of those who owned a car made their visits to the centre in their car.[16]

In fact few of the car drivers said they would use healthier or more sustainable transport modes, with nearly half saying nothing would encourage them to do so. In a finding relevant for the proposed commercial office and hotel expansion at Chadstone it was found that 83% of employees at the centre went to work by car although only 14% of these advised they had no other transport option.

Business costs associated with expanded car use

There is also significant direct business costs associated with the expansion of car parking. Based upon Rawlinsons 2011 survey data of construction costs we estimate that the 1350 extra car parks proposed at Chadstone may require a capital outlay of about $35 million. This is for multi-storey car parking which includes low speed lifts, fire sprinklers and mechanical ventilators. It would also involve about 38,000 square metres of floor space that could be applied to superior purposes in the event that the centre had improved public transport and active transport access. It is interesting to note in this regard that the planned increase in parking space significantly exceeds the net increase of 27,000 square metres of shop space envisaged in the indicative development plan.

The space inefficiencies associated with expanded capacity for car use does introduce very significant opportunity costs. It has been stated in this way: "A typical parking space can often be more than 120 square feet - about the size of a standard work cubicle. Bringing a car to work essentially doubles the amount of space that someone needs on the job."[17]

The alternative use of this space for non-car purposes would also make the centre more permeable for non-car users, including public transport users, pedestrians and cyclists. It would make Chadstone a little more like a principal activity centre should be in reflecting at least some of the principles of transit oriented design.

In this respect it is also important to take into account the relative public space required for different modes of transport.

Table 8: Space required by travel mode

Mode	Average speed	Standing area	Moving area	Travel area	Parking area	Total area

	Km/Hr	Sq. metres	Sq. metres	Sq. metre-Minutes/km	Sq. metre-Minutes/km	Sq. metre-Minutes/km
Walking	5	1	3	24	-	24
Bicycling	15	2	9	24	64	88
Bus transit	25	2	2	3	-	3
Solo driving-Urban arterial	30	10	30	40	160	200
Solo driving-Suburban highway	100	20	300	120	96	216

Source: Transport Land Requirements Spreadsheet (www.vtpi.org/Transport_Land.xls) based on Eric Bruun and Vukan Vuchic (1995), "The Time-Area Concept: Development, Meaning and Applications," Transportation Research Record 1499, TRB (www.trb.org), 95-104

One way of highlighting the issue is to consider the time-area requirements for different modes for a 20 minute commute and a day's parking. As shown in Table 8, above, for a 20-minute commute with 8 hours of vehicle parking (where required) it has been shown that driving requires far more space than other modes. Generally speaking it can be shown that space requirements increase with vehicle size and speed. The study quoted here show, in the absence of heavy rail and trams which are actually much more space efficient, bus transit is the most space efficient mode of transport.

As shown in Table 9, below, another way of looking at the issue is the carrying capability of different modes of transport on an hourly basis. In this analysis it is submitted that a train line has fifty times the carrying capacity of one road lane and 20 times the capacity of a freeway lane.

Table 9: People carried per hour by travel mode

Travel mode	**People carried per hour**
One road lane	1,000
One freeway lane	2,500
One bus lane	8,000
LRT line	10-20,000
Train line	50,000

Source: Presentation by Professor Peter Newman, *Future Cities: What can Eastern Melbourne do?* Eastern Transport Coalition Summit, Doncaster, 4 July 2008

Global warming

PTUA submits that the Panel should consider this application in the context of the global warming crisis. A French study has concluded that large superstores built with ready access to motorways generate four times the carbon dioxide emissions as shopping at a local supermarket.(18)

These stores are typically established on the "agglomeration fringe" of cities to take advantage of ready motor vehicle access, much in the same way as Chadstone was when launched in 1960. Chadstone is seeking to maintain this model in the vastly less propitious circumstances of today.

Chadstone's footprint and expansion strategy

As shown in Table 1, a majority of Chadstone's visitors in 2003 were from the primary catchment area (i.e. from within three kilometres of the centre). This proportion (of a significantly larger aggregate number of visitors) had reduced by 12% of all visitors by 2010.

It is the visitors from the primary area that are most amenable to improved conditions for active transport. Beyond that, in the secondary and tertiary areas there needs to be a significant increase in the numbers of visitors travelling by public transport.

Key elements of the expansion strategy suggest that without transformational conditions being attached to the development approval this will be impossible to achieve as a large proportion of the business growth is likely to be based on longer distance travellers to the centre.

The first of these elements relate to the office development. A significant number of office workers are likely to travel longer distances to work and under current conditions the great majority of them can be expected to drive to work. As indicated in the Balwyn activity centre study, referred to earlier, the great majority of office workers at that centre travelled to work by car.

An even more instructive case is that of the establishment of a large office complex at Tooronga Village in the then-City of Camberwell during the late 1980's which relocated the Coles Myer headquarters from the Melbourne CBD to the suburbs. The then-Public Transport Corporation undertook pre and post relocation surveys of employees and found that after relocation public transport usage to work declined from 30% of the total to 10%. Car usage grew from 34% to 76% with 8% of employees having bought an extra car and 2% relocating residence. (19) A potentially more successful corporate relocation may have been that of Shell which several years ago relocated from the Melbourne CBD to Hawthorn to a location within easier walking distance of train and tram services.

The second influence is that of the proposed hotel. If current arrangements persist it can be expected that many hotel guests and most of the staff will travel to and from Chadstone by

car. Equally for the hotel convention facilities where most users are likely to travel significant distances many people will have little option other than to travel by car.

Thirdly, as a significant proportion of the retail expansion is to be comprised of exclusively branded stores and products it could be expected that most of the clientele will travel significant distances to Chadstone. It will particularly include international and interstate visitors which Chadstone lists as a key part of its target market.

CONCLUSIONS AND RECOMMENDATIONS

As a Principal Activity Centre, the Chadstone Shopping Centre places a particularly heavy footprint on the urban landscape in south-east Melbourne. As what is effectively a "one company town," Chadstone enjoys special privileges which, if governments had their time again, they would now emphatically deny to Chadstone.

Chadstone first opened in 1960 with a business strategy based upon cheap travel by car: what was then characterised as the drive-in shopping model. The world has changed significantly since then, and against the background of the rapidly worsening global warming crisis the best cities now eschew dominance by space and energy inefficient motor car transport. Regrettably, successive expansions of Chadstone have continued with the same outdated model, and in doing so have moved significant costs onto the community at large and to the external environment.

Most recently, in 2003, certain improvements were outlined in an integrated transport plan which, if they had been implemented, would have made a worthwhile difference. The fact that so little was done to introduce sustainable transport at Chadstone was a clear demonstration of the weakness of a planning approach based wholly on expressions of good intentions.

What is actually required is a framework that will provide for positive changes in behaviour, and most specifically a guaranteed major increase in the mode share for public transport and active transport.

We submit to the Panel that an effective integrated transport plan for Chadstone will need to address supply side issues and demand issues for transport at Chadstone.

Given the scale of the task involved, Chadstone's further expansion should not proceed without a connection to the heavy rail system by extending the Alamein line to Oakleigh via East Malvern and Chadstone.

Major bus routes to Chadstone should operate every 10 minutes, seven days a week. Other routes should be upgraded to operate every 20 minutes. These services would also be complemented by extending the number 3 tram from its present terminus in East Malvern to Chadstone.

If the development is to be approved it should also be on the condition that parking charges are levied at the centre in a manner that effects a significant mode shift in favour of travel by public transport and active transport to Chadstone.

The revenue derived from parking charges should be assigned to Public Transport Victoria, VicRoads and the Stonnington City Council to contribute to the funding of public transport services and infrastructure, including for the establishment of bus lanes and other bus priority measures in the area, as well as to contribute to a fund to extend the Alamein rail line.

These proposals should be incorporated into a new integrated transport strategy to be undertaken by the Victorian government in association with the Stonington City Council and with full involvement of the owners of Chadstone Shopping Centre.

Footnotes

1. Graeme Davison, *Car Wars* (Allen & Unwin 2004), p. 106

2. Peter McNabb and Associates Pty Ltd University of Melbourne Research Team in association with Roy Morgan Research and Arup Transport Planning, Activity Centres Review: A study of policy and centres of activity in metropolitan Melbourne and Geelong, Final Report (June 2001), p. 32

3. Public Transport Users Association, Objection to amendment to planning scheme and granting of planning permit, Amendment C32, Application 0873/02, January 2003

4. Booz, Allen, Hamilton. Final Report: Chadstone Place Development Integrated Transport Plan for Gandel Retail Management (August 2003)

5. Gandel Retail Management Exit Survey, March 2003, quoted in Booz, Allen, Hamilton p. 14

6. City of Melbourne, Transport Strategy (Draft), 6 March 2012, p. 16

7. For example, see Sarah Alison Briggs, "Why do some employers not follow through with the green transport plan process?" (October 2005). A research project conducted for the then Victorian Department of Infrastructure.

8. Mr Tim De Young, GTA Consultants, Expert witness statement for Colonial First State Global Asset Management and Gandel Group, Stonnington Planning Scheme Amendment C 154, p. 8.

9. GTA Consultants, Chadstone Activities Area Stonnington Planning Scheme Amendment Transport Impact Assessment (19 December 2011), p 42.

10.GTA Consultants, Chadstone Activities Area Stonnington Planning Scheme Amendment Transport Impact Assessment (19 December 2011), p. 42.

11. Malvern East Group, Chadstone Shopping Centre Amendment C154, February 22, 2012, p. 3.

12. See for example *Transportation Cost and Benefit Analysis Techniques Estimates and Implications* (Second Edition), Parking Costs, Victoria Transport Policy Institute, 22 February 2012, at http://www.vtpi.org/tca/ and Donald C. Shoup, "The high cost of free parking," Journal of Planning, Education and Research, vol. 17, pp. 3-20 (1997).

13. Department of Treasury and Finance, *Review of the Effectiveness of the Congestion Levy* (May 2010).

14. Nerida Conisbee, *Australian CBD Car Parking - The Next Decade* (Colliers International White Paper 2012), p. 4.

15. Paul Hamer, Graeme Currie, William Young, "Parking Price Policies- A review of the Melbourne congestion levy" (Australasian Transport Research Forum 2011 Proceedings 28-30 September 2011)

16. See Boroondara City Council Urban Planning Special Committee, Monday, 30 April 2012, Agenda Paper UPC7, Balwyn Access Plan and Parking Precinct Plan.

17. Edward Glaeser, *Triumph of the City* (Macmillan 2011) p. 178

18. Jean-Marie Beauvais, *Setting up superstores and climate change* (Beauvais Consultants 2008) at http://www.vtpi.org/superstores.pdf

19. Public Transport Corporation survey quoted in Nigel Flannigan, "Reality checks on activity centres," *Planning News*, February 2004.