

SUBMISSION

Review of bus services in Wyndham & Hobsons Bay

seven day service

modern operating hours

direct & legible routes

high frequency

harmonised headways

serves major trip generators

better connections

area & corridor planning

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Introduction

The recently-announced area reviews of metropolitan bus services are welcome. They potentially present a 'once in a generation' opportunity to make public transport a mode of choice for the sixty per cent of Melburnians beyond walking distance of fixed rail services.

Wyndham is a fast-growing municipality on Melbourne's western outskirts and a designated growth area. Older homes are clustered around Werribee Station with Hoppers Crossing starting to be developed from the 1970s. Newer estates are some distance north of the railway line, with the frontier extending northwards from Heaths, to Hogans and now Sayers Rd. Wyndham Vale has expanded north of Manor Lakes Bvd and Point Cook has grown south of Dunnings Rd. All these areas rely on buses for both local and rail feeder travel.

Hobsons Bay is mostly established housing and has had less population growth than Wyndham. Perhaps its most significant employment base is the Laverton North industrial area which until recently had no public transport. Parts of the area are becoming more residential, with proposed major developments such as Williams Landing at Laverton.

A summary of the approach taken appears in Appendix One. Appendices Two and Three provide background information about the area.

Local transport issues

The following local transport issues have been identified and drive the recommendations of this paper.

Route coverage

The following areas are considered under served by the existing network. They contain trip generators, employment or housing beyond 400m from an existing route.

- Wyndham Vale - north of Manor Rd
- Sanctuary Lakes
- Point Cook – Boardwalk south of Dunnings Rd
- Tarneit – north of Sayers Rd
- Truganina
- Laverton North and Altona North industrial areas

Though some services exist, the Wyndham Youth Centre and Leisure Centre also have limited access. In addition, strategic corridors such as the entire length of Derrimut Road, Old Geelong Road and Hoppers Crossing Station - Werribee Plaza either require new, upgraded or more legible routes.

Network design

- Because many major trip generators are located away from railway stations, there is a need for buses to provide the 'last kilometre' of travel. These need to be well connected and meet every train. Major trip generators and existing services are listed in Appendix Three.
- Network design is uneven, with some local linkages under-developed. Examples of local linkages with no or infrequent direct service include (i) northern part of Laverton with Central Square Shopping Centre (Altona Meadows), (ii) Altona Gate SC to Altona (weekends), (iii) Westona Station to Altona North Industrial Area, (iv) Laverton to Laverton North Industrial Area, (v) Truganina to any railway station.
- Consistent service patterns. Some bus routes (eg 441 and 443) have unidirectional loop running where directions change with the time of day. This confuse passengers and makes the network less versatile. At other times similar routes might have slightly different service patterns (eg 411 & 412). The need for each should be critically appraised with a view to simplification.
- Circular routes. Some larger circular routes, with clockwise and anticlockwise services departing from different bays at the one interchange can be confusing (440) or take passengers the 'long way' (444 to Werribee Plaza). This submission recommends changes to lessen potential confusion.
- The lack of significant bus services in Werribee CBD. Routes that exist are infrequent and operate in varying directions (441 & 443). While a dedicated CBD route generally attracts little patronage (eg former 666 in Ringwood CBD) it could be added to a route of greater regional importance. Synnot Street is suggested for such a service, which is recommended elsewhere in this submission.
- Relationship between service levels and a route's importance. Currently there is little correlation between a route's service level and its role in the transport network – almost all services are every 40 minutes. This paper identifies corridors where a more frequent (20 minute) service is justified and advocates co-scheduling of two related routes to provide a more frequent combined service.
- A purpose for each route. Routes appear to have grown organically and their rationale for existence may have been lost or obscured by later alterations. At other times different ends of

routes may have different purposes (eg 440 is a fast trunk route from Hoppers Crossing and a local Wyndham Vale route from Werribee). A major part of a review should be to assign a purpose for each route so that the merit of proposed changes can be tested against the route's purpose. Suggested purposes for each route are tabulated elsewhere in this submission.

Operating hours, frequency and co-ordination

- Only two routes operate even to 'minimum standards' levels and none operate beyond minimum standards. Some areas are remote from rail services, and it is suggested that some of these (eg via Altona Meadows and along Derrimut Rd) include services after 9pm.
- In contrast to other review areas, service co-ordination with trains, especially at Werribee and Hoppers Crossing stations is good. This should be preserved with any route revisions.

Major corridors

The standard daytime service frequency on most local routes in Wyndham and Hobsons Bay is 40 minutes. This is considered barely acceptable for residential areas (30 minutes is preferred) but has the over-riding advantage of it being harmonised with trains (every 20 minutes).

However the study area has several potential high demand corridors that would benefit from a more frequent service, meeting every train (ie 20 minute frequency 7 days a week). These are as follows:

- Altona/Altona Meadows.** Footscray – Altona Gate – Altona – Laverton (existing routes 411/412)
- Pt Cook/Old Geelong Rd/Werribee Plaza.** Werribee Plaza – Hoppers Crossing Station – Old Geelong Rd Bulky Goods Retail Area – Point Cook – Aircraft Station (413/416)
- Princes Hwy.** Werribee Station - Werribee CBD – Princes Hwy – Civic Centre – Princes Hwy – Mercy Hospital – Hoppers Crossing Station (proposed replacement of existing 440)
- Derrimut Rd.** Werribee Station – Railway Av – Derrimut Rd – Werribee Plaza – Derrimut Rd
- Morris Rd.** Hoppers Crossing – Morris Rd – Wyndham Village Shopping Centre (recommended as an extension of c. above from Werribee)

a and b are existing routes. On weekdays the suggested frequency is already provided on weekdays. Only minor route changes, longer hours and weekend frequency improvements would be required to provide an even 20 minute headway and 'every train' connection.

c. is an enhancement of an existing service, with the increased frequency (20 instead of 40 minutes) making short local trips such as between the hospital and council and Hoppers Crossing or Werribee more practical. The use of this route to form a CBD local service further increases its appeal.

d serves Derrimut Rd. Derrimut Rd has become the spine of Werribee and Hoppers Crossing but lacks either a railway station or continuous bus service. Apart from Werribee Plaza, Derrimut Rd also has the Youth Centre, Leisure Centre, Hogans Corner plus two proposed shopping centres at Sayers Rd and Leakes Rd. This service would also provide a fast commuter link to Werribee Station and Werribee CBD. It may also form the basis of a possible orbital route to Caroline Springs when development warrants.

e. serves Morris Rd, providing a direct link to Hoppers Crossing Station. It should reduce travel times for those in the fast growing areas north of Sayers Rd. Its utility for many local trips (eg hospital, civic centre, Werribee CBD) would be enhanced if connected with the c. above at Hoppers Crossing Station.

Co-scheduling two related local routes (every 40 min) is suggested for other areas where people are concentrated and the more frequent combined service is justified (eg Wyndham Vale & Point Cook).

Service co-ordination: The Werribee model

It's not necessary to travel to overseas or interstate to find good train/bus co-ordination as there are some examples closer to home.

In Melbourne, Werribee/Hoppers Crossing is an effective model of a properly headway harmonised and co-ordinated intermodal network*.

Buses connect with every second train at either Werribee and Hoppers Crossing interchange. Buses arrive, exchange passengers with the train and then leave. Since this is rare in Melbourne, this needs to be explained so that the meticulous scheduling of the current Werribee/Hoppers Crossing bus network is preserved.

The first requirement is that services are headway harmonised, ie if trains are every 20 minutes, buses are either every 20 or 40 minutes. 60 minute buses can qualify but they do not reliably connect if some routes run every 40 minutes. Also two co-scheduled 60 minutes services would provide a combined 30 minute service – undesirable where trains run every 20 minutes. Hence 20 or 40 minute frequencies are the only harmonised choices except at night where 30 and 60 minute frequencies are preferable.

The second requirement is the actual times of buses compared with trains. Headway harmonisation is of little use if the bus leaves a minute before the train arrives.

Thirdly consideration needs to be given whether the same bus can be used for connections in multiple directions. This is easier at intermediate stations where up and down trains cross and termini where the bus and train can exchange passengers.

Fourthly, where buses serve two or more railway stations, trip lengths may need to be adjusted to provide good connections at both stations.

Inspection of timetables indicates that great care has been given to planning trip lengths. For example, short routes, eg 441 and 443, are timed to return to the terminus within 20 minutes of departure. This allows a potential service frequency of 20 minutes (meeting every train), though 40 minutes (every second train) is chosen to allow the bus to run another route (also co-ordinated with alternate trains).

Longer routes (eg 436, 437) serving both Hoppers Crossing and Werribee have run times of a little under 40 minutes. In conjunction with the standard 40 minute frequency this allows good fleet utilisation. It might not be an accident but it also happens that train/bus connections at both Werribee and Hoppers Crossing are consistently good – a rare achievement where routes serve two or more stations.

While the focus here has been on bus-train transfers, a timed transfer network as currently exists is also helpful for bus-bus transfers. While connection times may not be as consistently good between all routes at other interchange points (eg Werribee Plaza), headway harmonisation ensures that there are sufficient good and consistently occurring connections to for it also to form a useful interchange point.

For it to do good rather than harm, it is essential that this review acknowledge the successes of the 'Werribee model', recommend its retention in this area and its adoption elsewhere.

(*) Comments above mostly apply to Monday to Saturday daytime services. Sunday and evening services (where operated) are typically hourly and, despite headway harmonisation, good connections are less assured.

Route legibility

The submission supports the following changes to improve legibility of the network.

- 411/412 - Combine services to form a single route with all services via Millers Rd. Mills St served by local services. Also remove variations in Altona Meadows area.
- 413/416 – Combine to provide a frequent service between Point Cook and Werribee Plaza.
- 415 – Provide for bidirectional running along Central Av and remove loop around Laverton.
- 436/437/445 Straightening in the Shaws/Tarneit Rd area a new Rosella St service and a route saving.
- 438 – straighten in Wyndham Vale area and extend.
- 440 – replace with two straight routes between Werribee & Hoppers Crossing on either side of the railway line. One via Werribee Plaza, one via Princes Hwy.
- 441 – remove reversal
- 442 – Operate as a bidirectional route
- 443 – remove 3:20pm reversal (as done from Feb 18, 2008)
- Consider making routes 441 & 443 linear instead of circular, with services in each direction. Then combine and through-route via Werribee CBD and Werribee Station.
- 446/447/448/449 – suggested new direct routes to increase travel speeds
- Other steps to improve service legibility along the five major corridors (see above) plus the critical Werribee Plaza to Hoppers Crossing Station link (which already enjoys an intensive service but poor legibility)

Operating days legibility

Another cause of illegibility are days of operation and the timetables used, especially on public holidays.

Melbourne's 300+ bus routes have dozens of different public holiday service arrangements. Most are historic; few today have any sound service or patronage rationale. For instance there are routes that run on Christmas Day but not Good Friday, while others operate on Good Friday but not Christmas Day. One route operates Christmas and Boxing Days but not other public holidays. Finally some operate on Sundays but not public holidays while one or two run on public holidays but not Sundays.

Where services run on public holidays, either Saturday, Sunday or a special holiday-only schedule may be used. Timetables on some routes can vary during December/January, even for off-peak and weekend services. Not even premium SmartBus routes are exempt from the confusion; some run Saturday timetables on public holidays while others operate Sunday times.

Although it doesn't assure complete standardisation (eg MOTC Sunbury routes operate to Sunday timetables on all public holidays and there is some uncertainty with MOTC route 460) MOTC 'minimum standards' upgrades in the past year have helped greatly.

The next step, recommended here, is to standardise public holiday service arrangements for the remaining 200+ non-MOTC routes, even if other aspects of their timetable (eg days and hours of operation) are unchanged for now. As an example no route without Sunday service would operate public holidays, while all routes with Sunday service would run on public holidays. There would be no special public holiday timetables; either a Saturday or Sunday timetable would be used as per the MOTC standard.

Route 437 is the route in this study area that most needs standardisation. Because it's a non-MOTC route (unlike the adjacent 436) it runs to a Sunday timetable on some public holidays and not at all on others. A metro-wide public holiday standard as suggested above is taken for granted in other cities and would provide certainty for passengers. The cost would be small, and even if a handful of MOTC upgrades needed to be sacrificed to standardise all 300+ routes the vastly improved legibility would be worth it.

Case Study: Access to bus stops

For people to use a bus service they must be able to reach the stops. And since most people are going to be making round trips and most routes are bidirectional, this means access is needed to stops on both sides of the road.

High traffic volumes on major roads severely reduce pedestrian access across roads. This is particularly serious where roads have roundabouts at frequent intervals rather than traffic lights. Traffic lights allow breaks in traffic whereas roundabouts admit a continual stream, barring pedestrian access.

Vicroads fully acknowledges the lack of pedestrian access across major roads served by roundabouts. In their *Older Drivers Handbook* they advise pedestrians to “Cross at intersections with lights and pedestrian crossings. Avoid crossing at roundabouts”¹. However those following Vicroads' advice would find themselves left at home if they live in areas where 2 to 3 kilometre stretches of major road are controlled exclusively by roundabouts and whole suburbs such as Wyndham Vale lack even a single signalised intersection.

Traffic isn't the only barrier facing passengers. Sometimes we even chain stops off from those they are meant to serve. The picture is of Heaths Road (near Pineview Court) served by a major bus route (440) with stops on both sides. The difficulties many passengers would have in negotiating the unbroken chain are obvious and should need no elaboration.



While outside the terms of this review, this submission recommends that all bus stops are safely and quickly accessible by foot at all times, including peak periods. This should be understood as support for improved pedestrian access across major roads rather than a diversion of bus routes along less direct but quieter streets (which is inefficient and leads to poor network legibility).

Recommended measures include the replacement of roundabouts with traffic lights, pedestrian refuges, zebra crossings and paths, to be considered on a case-by-case basis. In the case of the chain, its removal plus a simple concrete pad joining the stops is suggested. Providing basic access to stops is so important that the author considers it more important than other amenities such as shelters or seats.

1. The Victorian Older Driver's Handbook 5th edition, page 81.

Other matters

Although this review concerns bus routes and services, several external matters impinge on bus service delivery and potential patronage. These include:

- Pedestrian access to bus stops. Due to road planning that favoured roundabouts over traffic lights, major roads have become a continual stream of cars, reducing access to many bus stops. There have even been cases of road medians that have been chained off, again preventing direct access to stops (see example). Attention needs to be given to making every single bus stop quickly and safely accessible on foot at any time of day. A program to eliminate or modify roundabouts to improve pedestrian access to bus stops in both new and established areas is recommended. Use could be made of traffic islands, zebra crossings at roundabout entrances or lights with an emphasis on low cost and fast installation as hundreds of sites could be involved. The importance of this only increases if the review recommends more direct bus routes along major roads.
- Safety, amenity and efficiency. Especially in Wyndham, the most suitable roads for direct bus routes can be unsafe, inaccessible and uninviting because of the trend to build these as controlled access highways faced only by walls. Local street layouts in post-1960s estates do not always allow efficient transit routing or pedestrian access. Redevelopment of older areas and the revision of urban design rules to prevent this occurring in new estates is recommended.
- Pedestrian and bus amenity around Hoppers Crossing Interchange. Currently this can only be considered very poor despite the station being there for 20 years. There remains no footpath between the bus interchange and the Target centre; instead passengers must cut across parking lots. A wheelchair or elderly user (in particular) would have difficulties making the trip.
- A need to consolidate Werribee Plaza stops to form one interchange. Currently bus stops at Werribee Plaza Interchange are grouped into two clusters, separated by about 200 metres. This reduces the ability to transfer easily between services and provide passenger information. Modification to provide for a more compact interchange, while still permitting future growth, is recommended.
- Both Geelong and Werribee are principal activity centres and 'Transit Cities'. Although Werribee is as close to Geelong as Melbourne CBD, connectivity between the two is poor as only every second Geelong train stops at Werribee. Stopping every V/Line train at Werribee would immediately double frequency to hourly. Except possibly for some peak services this is strongly advocated, with the additional bonus of removing backtracking for residents of Hoppers Crossing, Laverton and Altona.
- Provision for Point Cook Station in planning. Existing routes that may be moved to serve this station (instead of Aircraft) are 413 and 416. It could also serve the suggested routes 448 (direct service to Sayers Rd/Truganinia) and 449 (major Werribee – Point Cook link). If earlier starting is desired, the Sayers Rd route could start at either Hoppers Crossing or Laverton instead.

Specific recommendations

The following are some suggested amended and altered routes. The main thrust has been to provide more direct and frequent services between major centres, extend service to currently under-served areas and rationalise routes where these are considered too close.

Route	Purpose/Role	Recommendations
232	Unchanged: City feeder service & coverage of Altona North Industrial area.	Review need for the Route 232 Toyota extension given the suggested Route 412 and 414 services.
400	Unchanged: Cross-suburban link between Laverton and Sunshine.	<p>Examine savings and connections possible if service is reduced to 40 minutes (to connect with every second train at Laverton and Sunshine).</p> <p>If possible co-schedule with proposed Route 412 to provided combined 20 minute service along Bladin St from Laverton Station.</p>
411	Redefined: Major route linking Footscray – Altona Gate – Altona – Altona Meadows and Laverton.	<p>Simplify route in Altona Meadows/Laverton area: All services via Victoria St and Merton St then to Laverton Station.</p> <p>Remove eastbound via Queen St deviation – this is served by 415.</p> <p>Operate service at train frequency 7 days a week.</p> <p>Add some services later than MOTC minimum standards (eg hourly until midnight to serve the large area remote from rail).</p>
412	<p>ABOLISHED in current form.</p> <p>PROPOSED 412: Defined as local route between Westona and Laverton.</p>	<p>Existing route abolished and incorporated into 411.</p> <p>Suggested new route 412: Westona Station, Maidstone St, Kororoit Ck Rd, Grieve Pde, Cherry La, Fitzgerald St, Old Geelong Rd, Bladin St, Laverton Station.</p> <p>Off-peak and weekend services would extend to Central Square SC to provide a key local link for a low socio-economic area.</p> <p>On reaching Westona Station some trips could extend to Grieve Pde to replace the deleted 415 deviation.</p> <p>Suggest 20 min peak/40 minute off-peak frequency.</p> <p>If possible co-schedule with Route 400 to provided combined 20 minute service along Bladin St from Laverton Station.</p>
413	Unchanged: Defined as Point Cook local route between Aircraft Station and Werribee Plaza, providing train connections at Aircraft and Hoppers Crossing.	Similar to existing route but run via Lennon Blvd (instead of La Rochelle, Somersby & Shaftsbury) to improve coverage.

Route	Purpose/Role	Recommendations
		<p>Delete Lincolnheath Bvd deviation (covered by proposed 417).</p> <p>Route via Old Geelong Rd and terminate at Werribee Plaza.</p> <p>Co-schedule with 416 to provide 20 min combined service between Aircraft Stn and Werribee Plaza.</p> <p>Operate every 40 minutes seven days per week, every 60 minutes night to minimum standards.</p> <p><u>Operate via Palmers Rd and straighten route when Pt Cook Station opens.</u></p>
414	Redefined as local route between Footscray to Westona serving Altona North Industrial Area.	<p>Run service to Westona Station instead of Laverton to link Altona with Altona North Industrial area.</p> <p>Suggested route: Princes Hwy - Grieve Pde – Kororoit Ck Rd – Maidstone St – Westona Station.</p> <p>(coverage of Cherry Lane and Laverton is maintained through the proposed route 412 so no areas are left without service)</p> <p>Operate every 40 minutes seven days per week, every 60 minutes night to minimum standards.</p>
415	Defined as local route between Williamstown and Laverton Station with a greater local travel role in Altona Meadows.	<p>Make route more direct and legible by:</p> <ul style="list-style-type: none"> * Remove Grieve Pde Altona extension (served by proposed 412) * Running direct via Queen St by removing Alma Av and Merton St deviation. * Remove unidirectional route around Aircraft/Laverton to provide bidirectional travel along Queen Street/Central Av corridor. <p>Revised route from Laverton becomes Laverton Station – Railway Av – Aviation Rd – Point Cook Rd – Central Av – Queen St then as per existing route</p> <p>Note: Merton St north of Queen St retains coverage from the improved 411.</p> <p>Operate every 40 minutes seven days per week, every 60 minutes night to MOTC minimum standards.</p>
416	Defined as Point Cook local route between Aircraft Station and Werribee Plaza, providing train connections at Aircraft and Hoppers Crossing.	Extend to Werribee Plaza to provide strong local link with Old Geelong Rd.

Route	Purpose/Role	Recommendations
		<p>Reroute through Point Cook area as follows: Aircraft Station, as per current route to Foxwood Dr, Dunnings Rd, Boardwalk Bvd, Old Geelong Rd, Hoppers Crossing Station, Werribee Plaza.</p> <p>Co-schedule with 413 to provide 20 min combined service between Aircraft Stn and Werribee Plaza.</p> <p>Operate every 40 minutes seven days per week, every 60 minutes night to MOTC minimum standards.</p> <p><u>Operate via Palmers Rd and straighten route when Pt Cook Station opens.</u></p>
417	PROPOSED. Defined as new local service between Aircraft Station, Sanctuary Lakes, Hoppers Crossing Station and Werribee Plaza.	<p>Operates from Aircraft Station, Point Cook Rd, Seabrook Bvd, Point Cook Rd, Sanctuary Lakes Bvd, Point Cook Rd, Lincolnheath Bvd, Bouganvillia Dr, Sneydes Rd, Hoppers Lane, Mercy Hospital, Hoppers Crossing Station, Werribee Plaza*.</p> <p><u>Retain service from Aircraft Station but run direct via Point Cook Rd when Pt Cook Station opens to maintain coverage.</u></p> <p>Consider demand responsive stops along Sanctuary Lakes Bvd (North & South), subject to sufficient train connection time in timetable.</p> <p>(*) Purpose of Werribee Plaza extension being to maintain a direct link between Werribee Plaza and the Werribee Mercy Hospital (current 440) and a new link from VUT to Werribee Plaza.</p>
436	Unchanged: Defined as local service between Werribee and Hoppers Crossing via Werribee Plaza.	<p>Incorporates parts of Routes 437 and 445 to run as follows:</p> <p>Werribee Station – Railway Av – Tarneit Rd – Paramatta Rd – Derwent Rd – Latham St – Danube Dr – Thames Bvd - as per existing 445 to Werribee Plaza – Derrimut Rd – Willmott Dr – Woodville Park Dr – Heaths Rd – Morris Rd – Hoppers Crossing Station.</p> <p>Note: Sycamore and Evrah Dr portion is replaced by modified 442. Duplication along Derrimut & Morris Rds is reduced but coverage of Woodville Park is improved.</p> <p>Object is to improve legibility in the Tarneit Rd area, release resources for improved services and reduce duplication with proposed major routes.</p>

Route	Purpose/Role	Recommendations
437	Unchanged: Defined as local service between Werribee and Hoppers Crossing via Werribee Plaza.	<p>Modified to run as follows: Werribee Station – Market St – Shaws Rd – Kookaburra Av – Rosella Av – Werribee Plaza – Werribee Plaza – then as per existing 437 to Hoppers Crossing.</p> <p>Object is to provide a single route for Shaws Rd, improve legibility and reduce duplication with the proposed Derrimut Rd route.</p> <p>Increase services to MOTC minimum standards.</p>
438	Unchanged: Local route for Wyndham Vale	<p>Seek to make route more direct in Wyndham Vale area.</p> <p>Increase services to MOTC minimum standards.</p> <p>Consider co-scheduling with modified 440 to provide combined 20 minute service between Werribee Station and Wyndham Vale.</p>
439	Local route: Werribee Mansion/Zoo and Werribee South	<p>Introduce a Sunday service similar to the Saturday timetable.</p> <p>Introduce a uniform service pattern eg to serve Werribee Mansion/Zoo before Werribee South.</p> <p>Consider additional services every 80 minutes to Werribee Mansion especially on weekends. Co-schedule these with current services to provide a combined service every 40 minutes to Werribee Mansion/Zoo.</p>
440	Redefined as local route: Werribee – Wyndham Vale – Werribee Plaza - Hoppers Crossing.	<p>Split this circular route into a northern and southern portion to reduce confusion.</p> <p>Retain Werribee – Werribee Plaza – Hoppers Crossing portion as Route 440.</p> <p>Operate services on the southern portion (Werribee – Princes Hwy – Hoppers Crossing) as part of proposed Route 446.</p> <p>Examine scope for straightening route in Wyndham Vale and co-scheduling with 438 to provide a combined 20 minute service to Wyndham Vale.</p>
441	Unchanged: defined as local route for Westleigh Gardens	<p>Through-route services with 443 to provide more legible link through Werribee CBD.</p> <p>Consider removing loop and introducing bidirectional running.</p>
442	Unchanged role but reconfigured: defined as local service between Hoppers Crossing and Werribee Plaza.	<p>Reroute to increase coverage.</p> <p>Suggested route: Hoppers Crossing Station – Heaths Rd – Mossfiel Dr – Pannam Dr – Hogans Rd – Morris Rd - Evrah Dr – Sycamore St – Derrimut Rd – Virgilia Dr then as per existing route to Werribee Plaza.</p>

Route	Purpose/Role	Recommendations
		<p>Rationale: provide bidirectional running on 442 and release resources for more direct routes. Replaces 436 and 444 in area.</p> <p>Risk is that some local journey times will increase (notably to Werribee Plaza).</p>
443	Unchanged: defined as local route for south of Synnot St	<p>Through-route services with 441 to provide more legible link through Werribee CBD.</p> <p>Consider removing loop and introducing bidirectional running.</p>
444	<p>ABOLISHED in current form.</p> <p>Redefined as Werribee Plaza local route.</p>	<p>Existing route partially replaced by other modified or proposed routes (eg 446 and 448) that provide faster and more direct services to railway stations.</p> <p>Suggested route revised to focus on providing a link to Werribee Plaza as follows:</p> <p>Werribee Plaza – Heaths Rd – Mossfield Dr – Pannam Dr – Morris Rd – Wyndham Village SC – Rose Grange Bvd – Baden Powell Dr – Derrimut Rd – Sayers Rd – Tarneit Rd – Heaths Rd – Werribee Plaza.</p>
445	ABOLISHED in current form.	<p>Route coverage provided by altered 436 and a faster link through the proposed 448.</p> <p>Route number reserved for later use (possibly Werribee – Hoppers Crossing via Hogans Rd).</p>
446	<p>PROPOSED. Defined as Primary Route providing fast service along Princes Hwy and Morris Rd serving several major trip generators.</p> <p>Also provides Werribee town service with an anticlockwise loop around the CBD via Synnot St.</p>	<p>Runs Werribee Station – Cottrell St – Werribee St – Synnot St – Princes Hwy – Werribee Mercy Hospital – Hoppers Crossing Station – Morris Rd – Wyndham Village SC</p> <p>Services at train frequency 7 days per week with better than MOTC hours.</p>
447	PROPOSED: Defined as Primary Route providing fast service along busy Derrimut Rd corridor.	<p>Runs Werribee Station – Railway Av – Derrimut Rd – Werribee Plaza – Derrimut Rd – Hogans Corner SC – Derrimut Rd – Leakes Rd.</p> <p>Services at train frequency 7 days per week with better than MOTC hours.</p>
448	PROPOSED: Defined as Werribee – Tarneit Rd – Sayers Rd – Point Cook Station link.	<p>Suggested route: Werribee Station – Railway Av – Tarneit Rd – Sayers Rd – Wyndham Village SC – Sayers Rd – Palmers Rd – Point Cook Station</p> <p>(Note: Until Point Cook Station is constructed, operate service to either Laverton or Hoppers</p>

Route	Purpose/Role	Recommendations
		<p>Crossing Station)</p> <p>May also divert via Baden Powell Dr (via existing 444) due to greater development there compared to Sayers Rd.</p> <p>Services initially operate to MOTC hours connecting with every second train with a view to an upgrade to primary status as area develops.</p>
449	PROPOSED: Defined as the major bus route into Point Cook and a direct link to Werribee CBD.	<p>Suggested route: Point Cook Station - Palmers Rd – Dunnings Rd – Point Cook Town Centre – Boardwalk Bvd – Sneydes Rd – Princes Hwy – Werribee Station</p> <p>Introduce service after Point Cook Station and Boardwalk Bvd are completed.</p> <p>Services initially operate to MOTC hours connecting with every second train with a view to a later upgrade to primary status as area develops.</p>
454	EXTENDED. An existing route extended into review area. Redefined as direct Sunshine to Laverton service.	<p>Runs Laverton Station – Bladin St – Fitzgerald Rd – Glengala Rd – Sunshine Station</p> <p>Increases coverage of Laverton North Industrial Area (Fitzgerald Rd) and provides a fast Laverton to Sunshine link.</p> <p>Suggested 40 minute frequency between Sunshine and Laverton, with short-workings providing a 20 minute frequency in Sunshine West. Glengala Rd services could alternate between Laverton and The Avenue (Sunshine West).</p>

Conclusion

Described is an approach with suggested changes that would go a long way to improving public transport service quality and thus patronage in Hobsons Bay and Wyndham. It advocates an integrated network of frequent routes between major trip generators and timetables that mesh with trains. Special attention has been paid in responding to modern travel patterns, serving local corridors and providing direct feeder services.

Appendix One: A general approach to bus route planning

This submission supports a key performance indicator for public transport service provision along the lines of the following:

- 80 percent of residents are within fifteen minutes walk of a public transport service that operates at least every fifteen minutes seven days per week.

Given widespread 20 minute running of trains in the study area, a fifteen minute target requires more than just bus reform. However achieving a looser twenty minute frequency target is much easier and could be an aim of this review.

As well as good frequency and operating hours, bus routes must be direct and serve major trip generators. This is both for the benefit of passengers (in reduced travel time) and the Department (in operating economies). From our current network (which includes many circuitous routes) it may be possible to extract an 'efficiency dividend' which can be used to provide more frequent services for more hours of the day over more days of the week.

Other planning principles include the desirability of providing access to nearby railway stations and regional shopping centres. Ideally routes should have trip generators at either end so that it can attract patronage in both directions. For example, a local route might operate between Werribee Station and either Werribee Plaza or Hoppers Crossing Station.

Except to augment capacity on major corridors or provide short-distance travel in suburban activity centres, route duplications should generally be kept to a minimum. However where they exist there are major opportunities to exploit overlaps to provide a more frequent combined service.

An example would be staggering the timing of two 40 minute routes to provide an even 20 minute service over the combined section. If the combined section is near a railway station, this would result in buses meeting every train, thus strengthening their 'rail feeder' function. If connections are poor, this can be overcome by bringing all services forward or back by ten minutes or so.

Headway harmonisation has similar benefits. If all buses in the area are either every 20 or 40 minutes this provides consistent connections that are not possible with a mix of 25, 40 and 60 minute services (which exists at the moment). Any excessive dwell time could be modified by shortening or lengthening the bus route. As noted elsewhere, this practice appears to have been followed in Wyndham and Hobsons Bay.

Harmonised headways are no cure; unless all services are frequent some connections may be poor. However this would be a lower risk for connections with major routes (due to their frequency) and at least it would be consistent. In addition there is the possibility of remedy if the connection is deemed important enough. Opportunities for bus to bus connections potentially exist at any point where two routes intersect, but are greatest at railway stations and near major shopping centres.

The following steps are advocated:

1. Identify key regional trip generators, interchanges and corridors
2. Identify the community's transport needs and undeveloped patronage opportunities.
3. Assess the strengths and weaknesses of the current network in relation to needs.
4. Design a network of 'primary' routes between major nodes, providing fast and frequent links from early morning to late at night.
5. Design a local network of well-connected 'secondary' routes catering for trips outside the primary network
6. Examine means to provide superior service. Possibilities include co-scheduling overlapping routes (ie timing two less frequent routes to provide a more frequent combined service), introducing a harmonised headway hierarchy, designing and exploiting connection opportunities, making routes more direct and extending service to a nearby interchange.

The role of various routes is shown in the table below:

Route type	Role	Days & Span	Frequency
Primary	<p>Links key railway stations, major activity centres, regional shopping centres and large education campuses.</p> <p>Also a feeder for major suburban areas remote from railway stations.</p> <p>Fast and direct along main roads.</p>	<p>Early morning until midnight seven days per week.</p> <p>NightRider services may overlap some primary routes, providing later services.</p>	<p>Peak: 10 or 15 min Day: 15 or 20 min Night: 20 or 30 min</p> <p>Services are train frequency or better at all times.</p>
Secondary	<p>Links residential suburbs to local railway stations and shopping areas.</p> <p>As direct as possible between and within suburbs.</p>	<p>Early morning until 9pm seven days per week.</p>	<p>Peak: 20 min Day: 20 (or 40) min Night: 30 or 60 min</p> <p>Consistent connections with every train or every second train.</p> <p>Headway harmonised.</p>
Tertiary	<p>Serve localities or destinations that are poorly served by primary and secondary routes.</p> <p>Circular, loop and/or unidirectional routes allowed.</p>	<p>Five or six days per week.</p> <p>Normally between morning and afternoon peak periods only</p>	<p>Every 40, 60 or 120 minutes.</p> <p>Between 2 and 10 services per day.</p> <p>Connections with selected trains only.</p>

Appendix Two: Historical, social and transport overview of Hobsons Bay and Wyndham

Hobsons Bay is a largely established suburban area west of Melbourne. It comprises rail-served suburbs on the Werribee and Williamstown lines plus the bus-served Altona North. The social mix of the area has changed greatly as Williamstown, and to a lesser extent Altona, became more desirable places to live and industry moved to outer suburbs. Laverton has the area's lowest incomes, while Williamstown has the highest. The bulk of housing in the municipality was built between the 1800s and the 1970s, with Altona Meadows being the most recently developed.

Hobsons Bay has fewer large shopping areas than other parts of Melbourne. Most important are the stand-alone Altona North (Altona Gate) and Altona Meadows (Central Square) centres, both of which are remote from rail. Other facilities of note include Williamstown (adjacent to the rail network) and Altona (on the rail network).

Hobsons Bay has few substantial health or tertiary education facilities and people travel to either Footscray or Melbourne CBD for these needs. Similarly many commute outside the municipality for work, mostly via the Westgate Bridge or the rail network. Industrial Laverton North, which has only recently had bus services introduced, is emerging as the region's major employment area.

Williamstown has three stations, all of which are adjacent to but not in the main shopping strip. Laverton has two stations. Altona has a 'main street' near the station, while Westona is opposite a 'drive-in' shopping square providing basic needs. The Laverton shopping strip is almost abandoned (replaced by Central Square 2 kilometres away) while the one at Aircraft Station is constrained by rail and road in the area. Buses pass by railway stations but intermodal interchange is less important than in Wyndham, which, Altona Meadows excepted, has more areas remote from rail. Streets in Hobsons Bay are mostly in a pedestrian-friendly grid layout, with this even being adopted in Altona Meadows.

Wyndham is one of Melbourne's major growth areas, with Werribee CBD earmarked as a principal activity centre. Other activity centres include Werribee Plaza and the Hoppers Crossing Station area. Werribee was settled in the 1800s, with it being a convenient halfway point on the railway to Geelong.

Because of its country town heritage, Wyndham is more self-contained than most other municipalities with a traditional 'main street' at central Werribee. Except possibly for work and higher education few residents need to travel more than 3 or 4 kilometres for most services. This contrasts it with Hobsons Bay (where there is more dependence on Footscray and the CBD) but means that the local travel role of public transport is relatively more important in Wyndham.

Central Werribee is a pedestrian oriented precinct immediately south of its railway station. Cars predominate in the newer suburbs, especially Wyndham Vale, Point Cook and Tarneit where public transport was late in coming and suburbs were not designed for it anyway. Wyndham is popular with young families who find that it has some of Melbourne's most affordable housing. Lower income areas are in the 'ex-housing commission' parts of Werribee (served by routes 436 & 437) and parts of Wyndham Vale (438 & 440). Newer parts of Hoppers Crossing and Point Cook have higher average incomes but high susceptibility to mortgage stress and fuel price increases.

Public transport in Wyndham is based around railway stations and bus interchanges at Werribee and Hoppers Crossing. Carefully-planned service frequencies and bus timetables minimise transfer times for most trips (see 'The Werribee Model', elsewhere). Most bus routes also run to Werribee Plaza, which has two bus interchanges separated by about 200 metres. The majority of bus service finish by 8pm with no Sunday service, though two upgraded 'minimum standards' routes now run at least hourly until 9pm daily.

Appendix Three: Key trip generators in and near Hobsons Bay/Wyndham

The following are key trip generators and transport nodes within and adjoining the review area.

	Train	Min hours bus (9pm finish Mon - Sun)	Limited bus (<9pm finish)
Altona Activity Centre	✓		✓
Altona North - Altona Gate SC			✓
Altona Meadows - Central Square SC			✓
Hoppers Crossing Activity Centre	✓	✓	✓
Hoppers Crossing – Derrimut Rd corridor			Serve parts only.
Hoppers Crossing - Old Geelong Rd (retail/industrial)			✓
Hoppers Crossing – Werribee Plaza		✓	✓
Hoppers Crossing – Wyndham Leisure & Youth Centre			✓
Laverton North Industrial Area			✓
Point Cook - Town Centre			✓
Tarneit – Wyndham Village SC			✓
Werribee – Principal Activity Centre	✓	✓	✓
Werribee - Civic Centre		✓	✓
Werribee - Mercy Hospital	< 1km	✓	✓
Werribee - Open Range Zoo/Mansion			✓
Werribee – VUT		✓	
Williamstown Activity Centre	< 1km	✓	✓
Wyndham Vale – Manor Lakes SC			✓

This submission supports seven day service and increased frequency to improve links between these key trip generators.