

SUBMISSION

Review of bus services in Bayside & Kingston

seven day service

modern operating hours

direct & legible routes

high frequency

harmonised headways

serves major trip generators

better connections

area & corridor planning

Peter Parker* | **February 2009**

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.

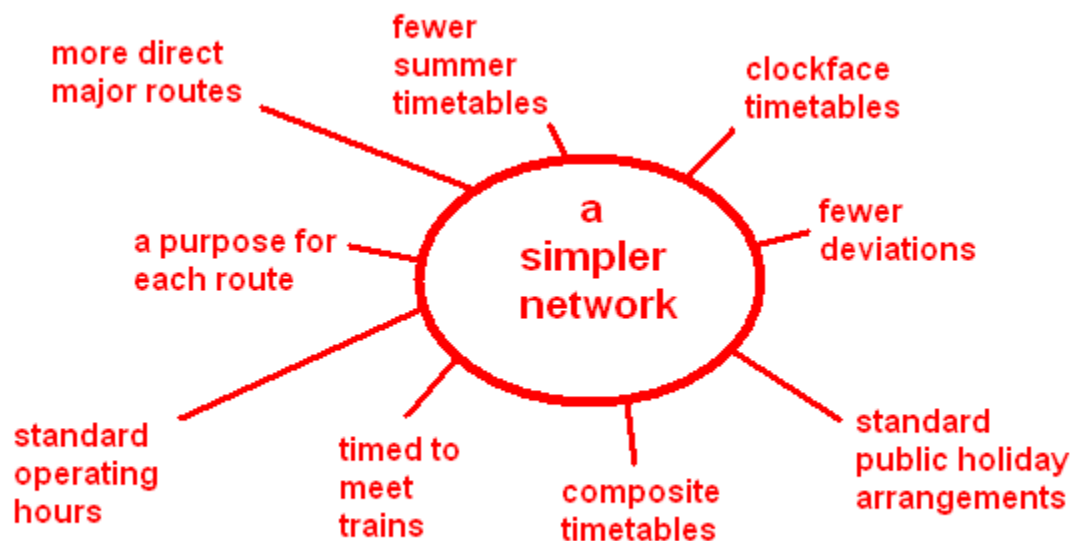
In this submission, which covers Bayside and Kingston, I advocate a network of major, local and special routes.

Each would have a defined purpose and status.

Fewer variations in service levels and holiday arrangements would exist. Those that remain would depend on the routes purpose and status; for example direct routes along main roads would run more frequently and over longer hours than local routes that do not serve major trip generators.

Connections and frequencies would improve though headway harmonisation with trains and co-scheduling related routes along corridors to provide a frequent combined service.

This submission encourages routes that are simpler and more direct, though sometimes this has conflicted with an aim to keep the number of new routes created down. In some cases routes have been shortened to make it easier to schedule for train connections.



Major network issues

The following major issues affecting the bus network in Kingston and Bayside have been identified.

Bayside

- Illegible services between Sandringham, Beaumaris and Southland due to confusing routes (600/922/923). Reversion to a single route, as used to operate successfully, is suggested.
- Parts of the most frequent and longest spanning routes parallel or duplicate the railway lines (216/219, 220, 600/922/923) while east-west routes have poor service spans and frequencies. The opposite is recommended to reduce duplication and provide a genuine network.
- The desirability of a redesign of east-west routes in the Sandringham area, including a direct Southland route via Bay Rd (extended 812 suggested), better spacing such as Route 708 via Wells/Fewster instead of Ludstone St and extension of 824 to Hampton (instead of 811/812).
- Some routes stop short of major hubs (605, 627, 630) or go near but not visit them (eg 600/922/923 do not call at Elsternwick).
- Poor links to jobs in Port Melbourne area (an extended 606 as a replacement of 600/922/923 in the St Kilda – Elsternwick area is suggested)
- Poor legibility of routes around Brighton. 811/812 deletion and standardisation of others is favoured.

Kingston

- Illegible services between Cheltenham and Southland due to confusing routes and multiple stop locations inaccessible from each other. (this weakens the service and makes the high combined frequency ineffective)
- Proliferation of route numbers for same/similar routes (eg 216/219, 811/812, 827/828, 888/889). As online timetables are mostly single route this undersells the actual service frequency.
- Lack of a strong Nepean Hwy/Southland route between Elsternwick, Moorabbin and Southland. (a modified 823 is suggested to provide this service)

Poor coverage of inland industrial and residential areas in a wide band from Moorabbin, Mordialloc, Aspendale Gardens, Waterways and Chelsea Heights
- Lack of a strong north-south Mordialloc to Clayton north-south route (a modified 705 is suggested)
- Lack of service around the Moorabbin Industrial Area (compounded by 821 not serving a railway station on the Frankston line) and Mordialloc East/Braeside towards the Dandenong area.
- Lack of a direct service between parts of Chelsea Heights and Aspendale Gardens and Chelsea Station.
- A more direct service between Chelsea and Dandenong, probably via Thames Promenade
- Lack of a direct connection to Carrum Downs from Kingston. Extending 832 and/or 833 to Seaford or Carrum Station would reduce backtracking for Carrum Downs residents catching city trains.

Recommendations by route

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	Status	Recommendations
216 219	Redefine as City – Elsternwick route	P	Truncate both services at Elsternwick Railway Station. Amalgamate to operate under same route number.
220 (adjacent to review area)	Redefine as City – Elsternwick route	S	Truncate to terminate at Elsternwick. Area covered by 627, extended 605 and modified 823.
600 922 923	Redefine as Sandringham – Beaumaris – Cheltenham – Southland link	P	Combine into a single route (600) for improved legibility between Sandringham and Southland. Delete St Kilda – Sandringham portion – this is served by other routes eg expanded 606 and new 603. Headway harmonise with trains and adopt MOTC public holiday standard. 922 is replaced by modified 822 in Beaumaris/Cheltenham area.
PROPOSED 603	Defined as local route between Elsternwick and Sandringham via St Kilda Street and New Street.	S	Operates from Elsternwick Station to Sandringham via Glenhuntly Rd, St Kilda Street, Bay Street, New Street, Church Street. Note: This service replaces the deleted 600/922/923 in the Brighton area, and provides a direct link to Elsternwick. Co-ordinate with trains at Elsternwick. Operate services to MOTC standards.
PROPOSED 604	Defined as major route between Elsternwick and Sandringham via Hampton Street.	S	Operates from Elsternwick Station to Sandringham via Rusden Street, New Street, Bay Street, North Brighton Station, Bay Street, Hampton Street and Beach Road. Note: This service replaces the deleted 216/219 in Brighton area and provides a strong route via Hampton Rd currently missing. Co-ordinate with trains at Elsternwick. Operate services to MOTC standards.
605 (adjacent to	Redefine as local City – Gardenvale service with a connection to Brighton.	S	Extend to Middle Brighton Station via North Road, Nepean Highway, Bay Street, North Brighton Station, St

Route	Purpose	Status	Recommendations
review area)			<p>Andrews Street and Church St.</p> <p>Note: this provides a 'same stop transfer' to Route 823 (Southland) from stops on Nepean Hwy.</p> <p>Review CBD loop.</p> <p>Upgrade service to MOTC standards.</p>
606 (adjacent to review area)	Redefine as Port Melbourne – St Kilda – Elwood – Elsternwick local route	S	<p>Extend service to Elsternwick via Elwood Village to replace existing 600/922/923.</p> <p>Increase frequency and expand operating hours to MOTC standards.</p>
627	Redefined as 627 Elsternwick – Oakleigh - Chadstone local route and 626 North Brighton – McKinnon - Carnegie - Chadstone local route	S	<p>Extend route to Middle Brighton Station (instead of McKinnon/Thomas St)</p> <p>Split into two route numbers at Chadstone to eliminate route confusion and operate as follows:</p> <p>627: Elsternwick – Ormond - Oakleigh – Chadstone</p> <p>626: North Brighton – Mckinnon – Carnegie - Chadstone</p> <p>Upgrade to MOTC service levels.</p>
630	<p>Primary North Road route linking Sandringham and Frankston lines with Monash Uni.</p> <p>Huntingdale – Monash Uni link (with 900)</p>	P	<p>Extend western terminus to Elsternwick Station via Cochrane Street to provide direct Monash University connection from Elsternwick & Sandringham line.</p>
631	Defined as Waverley Gardens – Monash – Clayton – Southland local route.	S	<p>Reroute in Clayton area via full length of Springs Rd (instead of Clarinda Rd) to improve coverage and service Clarinda Shopping Centre.</p> <p>Operate to Southland direct via Bernard St for improved directness (Argus St is served by new route 707).</p> <p>Note: The Clarinda Rd portion is served by the rerouted 821. All of Bunney Road is near either 631, 821 or 824.</p>
700	Warrigal Rd SmartBus and part of proposed 903 orbital.	P	<p>To be replaced by 903.</p> <p>Chelsea extension to be provided via proposed 706.</p>
703	Defined as major links along Centre Road and Blackburn Road via Bentleigh and Monash University	P	<p>Operate evening and Sunday services to Brighton to provide consistent operation of full route (currently route starts/finishes at Bentleigh at these times).</p>

Route	Purpose	Status	Recommendations
			Increase frequency and spans to match SmartBus standards.
704	Redefine to provide this route with a useful destination (Clayton - Keysborough suggested)	S	Refer to Greater Dandenong submission. This suggests swapping 704 and 824; 704 is extended to operate as Clayton – Keysborough local route while 824 extends to Waverley Gardens Shopping Centre via Police Rd from Clayton.
705	Redefine as Mordialloc – Clayton north-south local route via Boundary Rd	S	Strong north-south route between Mordialloc and Clayton. Improves coverage of industrial areas and provides new beach route for Clayton and easier route to Monash Uni Clayton for Mordialloc. Note: Fairbank Rd service to Springvale is provided by revised Route 811. Refer to Greater Dandenong submission for more details (available on request).
PROPOSED 706	Defined as local route between Mentone and Chelsea.	T	Operates from Mentone to Chelsea via Parkdale and Mordialloc via Station Street. Function is (i) to replace 700ext that is planned for deletion when 903 SmartBus commences and (ii) to compensate for the diversion of 708 in the Parkdale area.
PROPOSED 707	Defined as industrial area route for Moorabbin running between Moorabbin, Moorabbin East, Southland and Highett	T	Route links Moorabbin and Highett Stations with currently poorly served parts of Moorabbin Industrial area. Operates via Chapel Rd, Wickham Rd, Levanswell Rd, Cochranes Rd, Kingston Centre, full length of Argus St to Southland, then Graham Rd to Highett Station. Replaces 811/812 along Chapel Rd, 631 via Argus St and 827/828 along Graham Rd. Service may run only 5 days per week.
708	Define as local route	S	Improve spacing relative to other routes by operating via Willis and Fewster instead of Ludstone St in Hampton. Improve coverage in Parkdale area by operating via Warren Rd instead of Chandler and Victoria St. This would also serve Parkdale Secondary College, the Leisure Centre and the Youth Centre.
PROPOSED	Defined as industrial route between Mordialloc and	T	Operates from Mordialloc Station via White St, Malcolm Rd, Woodlands Dr,

Route	Purpose	Status	Recommendations
709	Keysborough, serving Braeside, Haileybury College and Five Ways Industrial Park		Lower Dandenong Rd, Fiveways Bvd and Haileybury College. Operates peak periods, weekdays only.
PROPOSED 710	Defined as local route for Waterways, Edithvale, Chelsea, Carrum and Patterson Lakes.	S	Provides new link between Waterways and Mordialloc. Replaces deleted 888 through Edithvale after 902 SmartBus starts. Replaces rerouted 857 through Patterson Lakes (857 is made to run direct via Thames Prom to replace deleted 889).
767	Define as local route	S	No change
780	Define as local route	S	Small route change in Carrum area to permit greater directness on current 857 (proposed 710)
811	Redefined as Clayton – Springvale Noble Park – Dandenong local route	S	Operates from Clayton Station – Clayton Rd – Fairbank Rd – Windsor Av – Springvale – Noble Park then as per existing route to Dandenong.
812	Redefined as primary route between Dandenong and Southland.	P	Operate as one route number to reduce confusion. No longer runs to Brighton as this function is performed by other routes. Scope to run to Sandringham as direct Southland – Bay St – Sandringham service (to replace rerouted 822). If 812 is instead run to Mordialloc (as recommended by Booz in the Greater Dandenong report), another route will need to be used to provide this Southland-Sandringham direct service.
821	Redefine as Moorabbin area industrial route operating between Brighton, Moorabbin and Clayton.	S	Suggested route is Middle Brighton Station, Dendy St, Moorabbin Station, Nepean Hwy, Wickham Rd, Keys Rd, Warrigal Rd, Old Dandenong Rd, Clarinda Rd, Centre Rd, Clayton Rd, Clayton Station. Use route to replace various parts and deviations of regular routes (eg 767 & 811/2) in Moorabbin industrial area, straightened 823 in Brighton area and straightened 631 in Clayton area. Note: Current route substantially duplicates 631 and 705 (which is recommended for improvement) and this change would redress this.
822	Redefine as local Chadstone – Southland – Beaumaris local	S	Terminate at Beaumaris (instead of Sandringham) to compensate for the

Route	Purpose	Status	Recommendations
	route		deletion of 922 in Weatherall and Reserve Roads. Note that this allows use of the stops closest to Cheltenham Station for trips to Southland (ie same as 600 stops) so helps to rationalise stops in area.
823	Redefine as Nepean Hwy route between Elsternwick – Moorabbin – Southland – Mordialloc	P	Commence route at Elsternwick Station instead of North Brighton Station and operate direct via Nepean Highway to Southland, Mentone Station and Mordialloc.
824	Redefined as major east-west route.	P	Extend from Moorabbin to Hampton via South Rd to replace 811/812 (which is used to provide direct Bay Rd route to Sandringham).
825	Define as Moorabbin – Southland local route	S	Truncated to run Moorabbin to Mentone only for improved legibility. Mentone – Southland portion served by extended Route 823 and existing 708.
827	Redefine as major Hampton to Dandenong route	P	Operate from Hampton via Highett Rd only to Highett (Fewster Rd covered by altered 708).
828	Redefine as local Dandenong to Narre Warren/Pakenham route.	S	Abolish in review area and operate all services as Route 827. Use 828 for Dandenong – Fountain Gate portion only.
857	Defined as Chelsea – Dandenong local route	S	Increase operating hours and service frequency (currently up to 90 min weekdays) to minimum standards. Improve directness by running to Dandenong via Thames Promenade instead of via Bonbeach residential streets. This compensates for the deletion of 889 and Bonbeach and Patterson Lakes remains served through new 710.
888	Defined as primary Nunawading – Springvale – Chelsea route via Springvale Rd.	P	Replaced by 902 orbital. Refer to 710 above for local replacement.
889	Redefined as local Chelsea – Edithvale route.	S	Replaced by 902 orbital. Refer to routes 710 and 857 above for local replacements.

(*) Status key: P = primary, S = secondary, T = tertiary. Where routes are in a group the overall service status recommended generally relates the the entire group rather than each constituent route.

Conclusion

Described is an approach with suggested changes that would go a long way to improving public transport service quality and thus patronage in Kingston and Bayside. 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.

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 Dandenong, Endeavour Hills and continue to Fountain Gate.

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 30 minute routes to provide an even 15 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 15, 30 or 60 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.

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 Bayside and Kingston

Bayside is a suburban residential strip between 8 and 20 kilometres south of Melbourne. Most parts are served by the Sandringham railway line, which was one of the first to be built in Melbourne and saw train every few minutes throughout the day. Bayside residential areas are highly sought after with its suburbs having amongst the highest incomes and average house prices in Melbourne. Key centres are Brighton (split between two stations), along Hampton Road and Sandringham.

Street public transport was provided by horse trams (from Sandringham to Cheltenham via Beaumaris) in the 1800s and later electric trams from Sandringham, operated by Victorian Railways. In the 1950s this was replaced by a Railways Bus (the original Route 901, then Route 600). This was co-ordinated with the train and later extended to Southland. Services were very popular, with two buses sometimes needed for each train during peak times. Later (circa 2000) 600 was retained as the most important route out of a combination of 600/922/923 which replaced some 800-series routes in the area. However splitting weakened 600's visibility as a high-frequency service and its status has declined.

Public transport in the area is better north of Brighton than south of it. And 200-series ex-Met north-south bus routes (that largely duplicate the railway) provide a higher level of service than east-west services (700 and 800 series) that have always been privately run.

Kingston includes suburbs inland from Bayside towards Clayton as well as a coastal strip extending over 30 kilometres south of Melbourne. It is principally served by the Frankston line, though some inland areas are nearer the Dandenong line. Early settlement was to Mordialloc, with train services extended to Frankston as commuter and holiday traffic grew.

Its key shopping centre is Southland, which though adjacent to the railway line and a major bus interchange has no station. Other important shopping hubs include Mentone, Mordialloc, Chelsea and Patterson Lakes, with smaller centres at all other stations.

Housing is primarily postwar detached, with older styles (eg Californian bungalow) nearer stations. The 1960s and 1970s saw significant unit development near some stations such as Mentone and Chelsea, with many more recent townhouse developments on the bay side of Nepean Highway. Until the 1980s most housing was near stations, but since then newer areas such as Patterson Lakes, Aspendale Gardens, Waterways and Chelsea Heights are further away and depend on buses.

Kingston is served by SmartBus route 700 (soon 903), 703 and extensions of the 888/889 Springvale Rd SmartBus. Industrial areas of Moorabbin, Heatherton and Mordialloc also have limited bus services and are often dependent on deviations to regular routes. In residential areas, however, service is generally at least hourly 7 days per week due to 'minimum service' upgrades from late 2006.

Appendix Three: Key trip generators in and near Bayside/Kingston

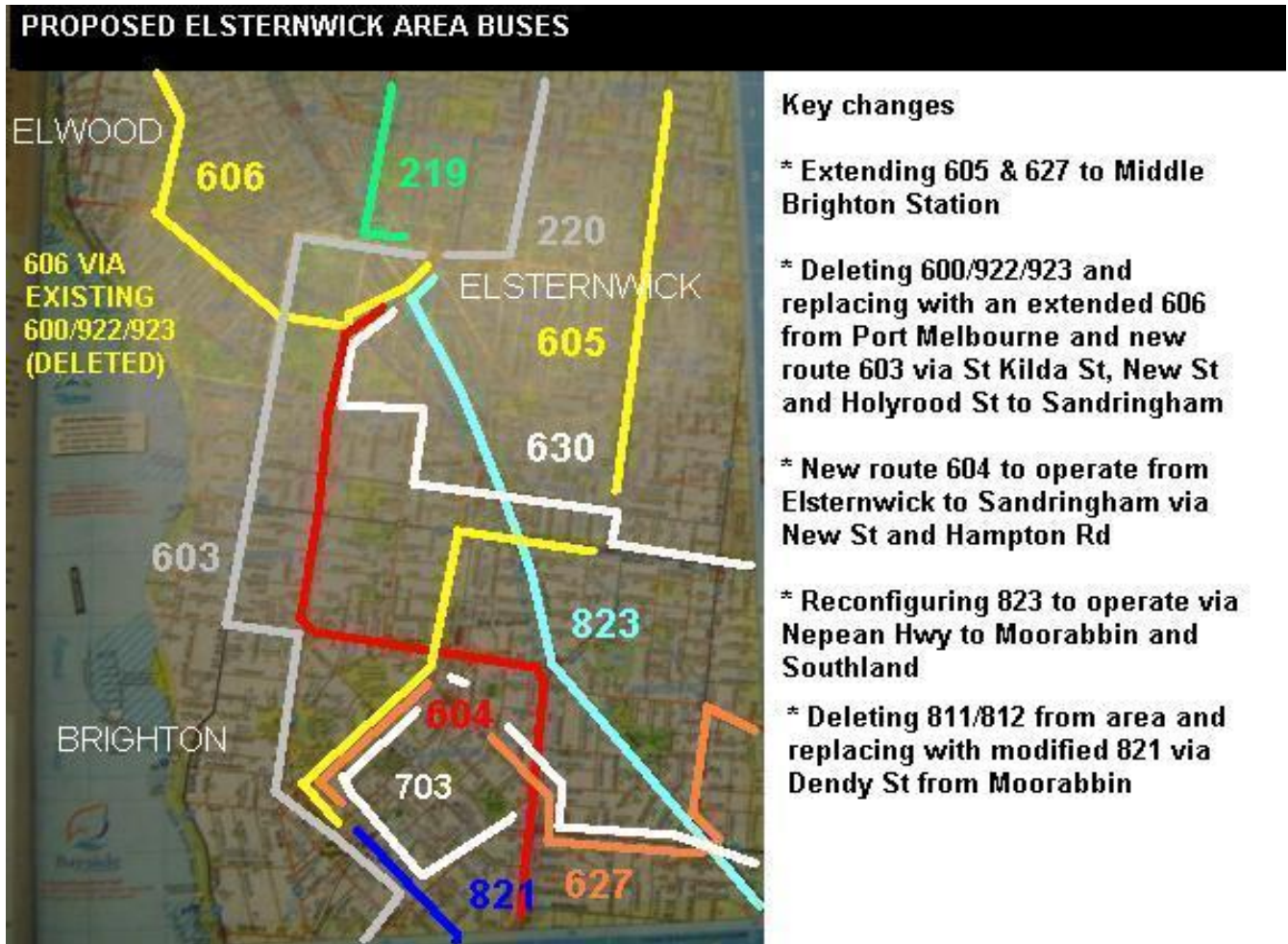
The following table shows current transport provision to key trip generators and transport nodes within and adjoining the review area.

	Train	SmartBus	Min hours bus (9pm finish Mon - Sun)	Limited bus (<9pm finish)
Chelsea Shopping Centre	< 1km	✓		✓
Cheltenham/Moorabbin industrial area (incl DFO)			✓	
Clayton Shopping Centre	✓	✓	✓	✓
Clayton/Springvale industrial area	< 1km			✓
Haileybury College		✓		✓
Hampton Road Shopping Centre	✓			✓
Holmesglen TAFE Moorabbin			✓	
Kingston Hospital		✓		✓
Mentone Shopping Centre	✓	✓	✓	✓
Middle Brighton Shopping Centre	< 1km	✓		✓
Monash Uni Clayton		✓	✓	✓
Monash Medical Centre		✓	✓	✓
Mordialloc Shopping Centre	✓	✓	✓	✓
Patterson Lakes Shopping Centre			✓	✓
Southland SC			✓	✓
Springvale Station	✓	✓	✓	✓

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

Appendix Four: Maps

The following maps show suggested route changes



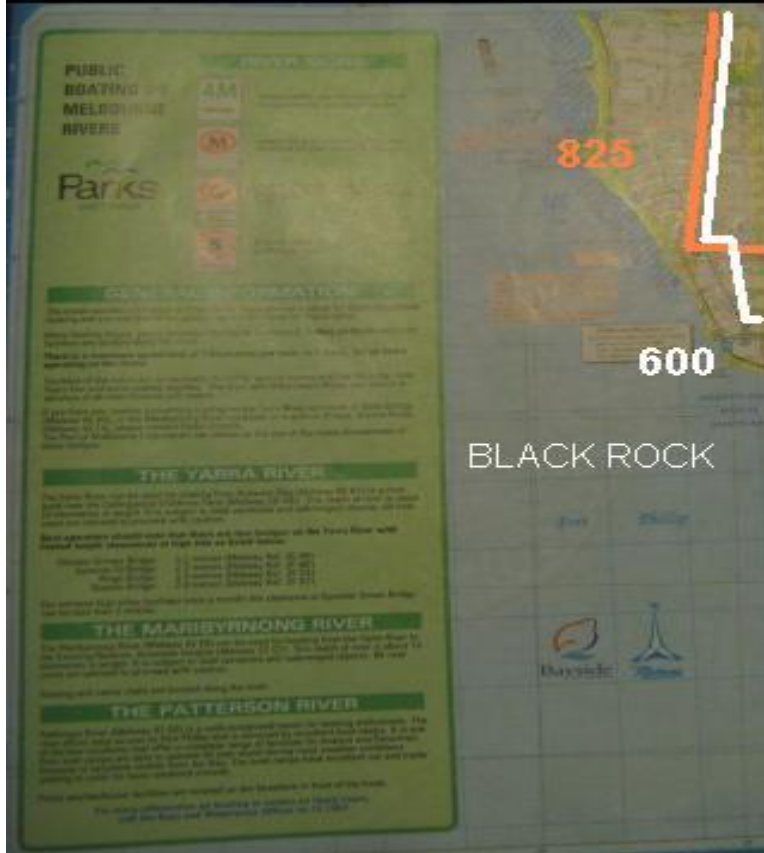
Sandringham local bus network



Key changes

- * 603 (New St) and 604 (Hampton Rd) replace 600/922/923 from Brighton area
- * 824 extended west to Hampton via South Rd
- * 812 extended west along Bay St
- * 708 moved from Ludstone to Willis/Fewster St
- * 827 via Bridge St and Highett Rd
- * 600/922/923 replaced with 600 only
- * Removing 811/812 from Brighton area and replacing it with modified 821 via Dendy St (also compensates for removal of 823 in area)

Black Rock local bus network



Key changes

* Route 600/922/923 simplified to become Route 600 between Sandringham and Southland only.

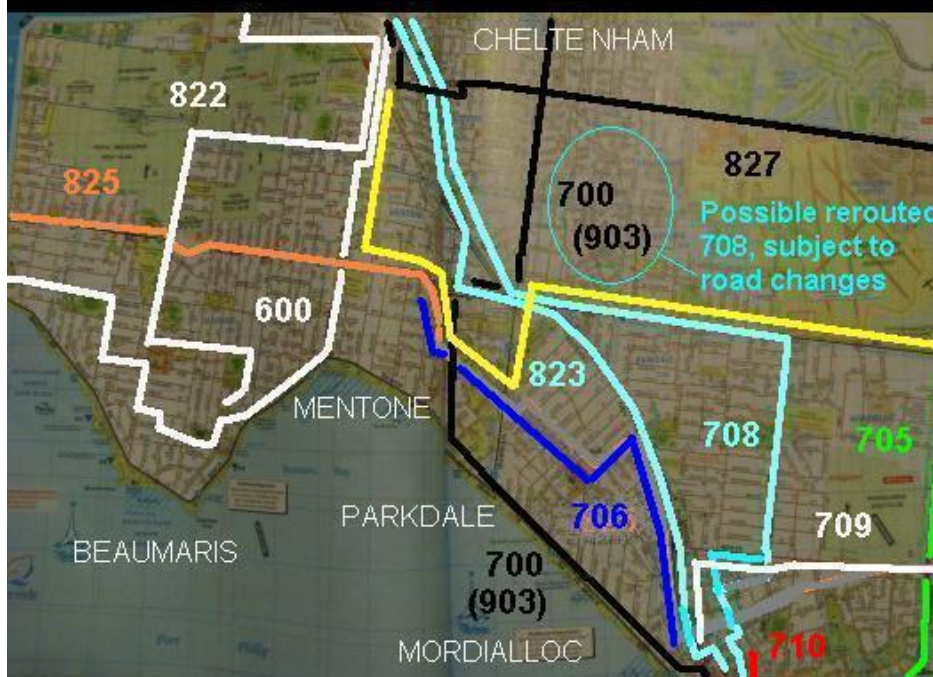
Moorabbin local bus network



Key changes

- * 823 becomes direct Nepean Hwy Elsternwick - Mordialloc route via Moorabbin and Southland
- * 824 extended in place of 811/812 along South Rd west of Moorabbin
- * 821 modified as Moorabbin industrial area route between Brighton and Clayton. Also allows 631 to be straightened.
- * 707 new Moorabbin industrial route. Replaces 811/812 and other deviations in area.

Mentone local bus network



Key changes

- * Route 822 terminates at Beaumaris (instead of Sandringham) to replace deleted 922 and unify stops at Cheltenham Station (for Southland connection).
- * Route 708 diverted to run via Warren Rd Parkdale to improve coverage.
- * New Route 823 to Mordialloc via Mentone - also serves Parkdale Plaza, which currently has no service.
- * 825 truncated at Mentone - 708 & 823 provide Southland service.
- * 600/922/923 combined into a modified Route 600.
- * New 709 route from Mordialloc to Keysborough (Springvale Rd/ Cheltenham Rd) via White St and Woodlands Dr to serve industry.
- * New 706 replaces 708 at Parkdale Station and extends south.

Aspendale local bus network



Key changes

- * Route 706 to replace Route 700ext (after 903 SmartBus commences)
- * New Route 710 to link Waterways to Mordialloc for the first time and to replace deleted 888 in Edithvale area (after 902 SmartBus commences)

Chelsea local bus network



Key changes

- * New route 710 to provide Mordialloc and Chelsea connections for Waterways and Aspendale Gardens and to replace deleted 888 in Edithvale area once SmartBus 902 starts.
- * Route 706 to replace Route 700 extension once 903 SmartBus starts.
- * Route 857 made more direct (via Thames Prom) and to replace deleted Thames Prom 889 service.

Carrum local bus network



Key changes

- * Route 857 made more direct by operating via Wells Rd instead of Fowler St (this also restores the Thames Prom connection) currently performed by 889. Minimum Standards upgrade suggested.
- * New route 710 replaces 857 in Patterson Lakes and provides direct connections to more local destinations (eg Mordialloc). Upgrade to minimum standards recommended.
- * 780 modified to permit straightening of 710 (current 857) in Carrum.