

S U B M I S S I O N

Review of bus services in the cities of Brimbank & Melton

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.

The cities of Brimbank and Melton are located between 10 and 25 kilometres west and north west of Melbourne. They can be divided into three broad zones; established residential, emerging residential and business/industrial.

Established residential areas such as Braybrook, Sunshine and St Albans include some of Melbourne's lowest income suburbs, high unemployment and large concentrations of recent migrants and refugees. In these areas public transport gets heavy use around the clock and current bus services are stretched due to overcrowding and lack of bus priority.

New and emerging residential include areas such as Caroline Springs, Sydenham, Derrimut and Melton have growing populations and are often remote from the rail network or high-frequency buses. Melton has Melbourne's cheapest homes and is very popular with first homebuyers (often young families). Bus routes have not always taken advantage of road extensions, so are less direct than they need be.

Business and industrial zones away from railway stations are generally poorly served. This is especially the case for light industrial areas where the nearest bus route is several kilometres away, but can also include proposed business parks such as Cairnlea. The majority of blue collar workers live locally and this submission proposes a new network that better links homes and jobs.

This submission is organised as follows:

Part 1: Review of each area's local network and rationale for revised routes.

Part 2: List of recommendations by route.

Part 3: Proposed network maps

Its major recommendations are as follows:

1. A network of direct and frequent routes serving major trip generators and transport corridors. With operating spans and service frequencies similar to trains, these primary routes shall bring high-quality service to most suburbs.

2. Upgraded local routes. Within ten minutes walk of most homes and businesses, these shall operate seven days per week until at least 9pm, in line with minimum standards. A 'headway hierarchy' will ensure consistent connections with every train or every second train at most stations seven days per week. The changes proposed here also provide for more direct network, taking advantage of new roads and trip generators to provide more useful routes.

3. New services for industrial areas. Many residents work locally in areas such as Laverton North, Altona North and Brooklyn. However these areas have little or no public transport and access to jobs, particularly for young apprentices, is limited. This submission proposes an expansion of the bus network to serve these new major employment areas.

Part 1: Review of each area's local network and rationale for revised routes

Braybrook

One of Melbourne's lowest income suburbs, Braybrook is nevertheless in transition with significant new housing in the formerly industrial area south of South Road and in the north near the Maribyrnong River. Most of the suburb is remote from its nearest railway station (Tottenham) and all bus routes that operate through the area are well used. Main issues identified are:

- (i) the need for a direct Highpoint connection from Southern Braybrook,
- (ii) a connection to Albion Station via existing routes,
- (iii) consistency for Route 410, with waiting gaps of up to 30 minutes, despite the 15 minute off-peak frequency offered and
- (iv) better weekend service/longer hours for services to Highpoint.

This submission provides for a new direct Highpoint connection to southern Braybrook by rerouting 408 from Churchill Avenue to South Road (and also Barkly St, Footscray West). Being a route to a major trip generator from an area of high public transport need and patronage this is sure to be a success.

Churchill Avenue will retain service by routing all Route 410 services via it, instead of one deviation per hour. The latter is due to a confusing arrangement where though 410 runs every 15 minutes off-peak it still has waiting times of up to 30 minutes as one trip per hour deviates via Churchill Avenue. Our solution is to run every trip via Churchill Avenue for consistency and drop interpeak frequency from 15 to 20 minutes to headway harmonise with trains.

Despite this shift, the northern part of Braybrook (current 410) will still retain high levels of service through Route 220 and the extended 461 (existing 215) to City, Footscray, Sunshine, Highpoint and Caroline Springs. In addition parts near Duke St will benefit from an extended 423 serving Highpoint, Ginifer Station and more.

Sunshine/Albion

A major suburban hub well served by existing routes, especially from the east. Has many shopping and community facilities. Generally a low income area, with a concentration of units along King Edward Avenue. Pedestrian access is divided by numerous busy road and rail lines.

Main bus issues are:

- (i) lack of a connection at Sunshine Station to the industrial areas of Brooklyn along Somerville Rd (Route 409 extension),
- (ii) low profile of 409 industrial area extension,
- (iii) legibility, especially the two variations of Route 410
- (iv) lack of pedestrian access between existing Route 215 (proposed 461) and Albion Station, and,
- (v) widespread late running on 200-series routes due to a lack of bus priority and overcrowding

Few route changes are proposed for central Sunshine. However we do propose a short extension of the '409ext' route to operate between Sunshine Station and Footscray. Its profile would be boosted by assigning its own route number (426), since it has nothing in common with Route 409, and has suffered by only scant references in the printed timetable and none at all on Metlink website maps.

Route 410 is tidied by running full-time along Churchill Avenue and remove the current 30 minute 'hole' on Western Hwy. Three buses per hour (currently four) is considered appropriate to connect reliably with trains.

Other recommendations make it possible to renumber all 219 trips as 216, simplify Route 408 by splitting at Sunshine Station and provide for interchange between Route 215 (proposed 461) at Albion Station (road works and/or route modification may be required).

Service levels of routes serving Sunshine tend to be higher to the east than they are to the west and north. To redress this we recommend an upgraded and extended Route 451 to provide a direct and frequent service to Deer Park, Kings Park and Sydenham via Forrest Rd, Station Rd and Kings Rd.

Sunshine West/Ardeer

Both areas are lower income parts of Sunshine. They have few jobs or services so residents must travel to at least Sunshine for almost all needs. Infrequent V/Line trains operate through Ardeer but bus connections are limited except for Forrest St. As a zone border the area suffers from inconsistent treatment of fare zones, with differences even between bus routes servicing the same stop. Key issues identified include:

- (i) Need to backtrack via Sunshine for many trips,
- (ii) lack of service to nearby industrial areas,
- (iii) lack of direct service to Highpoint Shopping Centre,
- (iv) lack of a feeder bus to Ardeer Station from the south, and
- (v) indirect and confusing routes that sometimes vary with the day of the week (eg 454 and 219 in Sunshine Park).

This submission recommends large changes for Sunshine West. Route 454 is straightened to operate only via Glengala and Fitzgerald Rd. Every second trip is extended via Fitzgerald Rd to Dohertys Rd, Grieve Pde and Maidstone Street to Westona Station to serve a large part of Laverton North and Altona North industrial areas that currently have no service.

The other big change is operating Route 408 from Highpoint to Ardeer via Sunshine West (instead of St Albans). This permits a new direct service from Highpoint via Wright Street to replace the confusing Route 219 west of Sunshine and parts of the straightened 454. Another bonus of the revised 408 is a direct connection to Ardeer Station from most parts of Sunshine West.

As well as the extended 454, Sunshine West is served by other industrial routes. These are the proposed 426 (409ext replacement) from Sunshine Station to Somerville Rd and Footscray and a new route 427 to operate via Boundary Rd to Deer Park Station.

Sunshine West is also on Route 451. This submission recommends this become a major (primary) route and be extended to Watergardens Station. Again this would dramatically improve access, providing direct services to a large slab of the western suburbs.

Sunshine North

Sunshine North is another dormitory area that is highly dependent on Sunshine and Highpoint for most needs. It does however have some large 'big box' stores and a campus of Victoria University. Parts of Sunshine North near Ballarat Road are well served by public transport. However the industrial area and new riverside residential area to the north have no service with parts up to 3 kilometres from the nearest

bus route. Hence the main issues are:

- (i) lack of coverage of many parts of Sunshine North, and
- (ii) pedestrian and bus connections to Albion Station.

The major recommendation here is an extended Route 423 from Ginifer Station to Highpoint Shopping Centre via Sunshine North. This direct east-west route would link Sunshine North with several major trip generators, including Brimbank Central Shopping Centre, Cairnlea Town Centre, Ginifer Station, Sunshine Hospital and Highpoint. This will place most of Sunshine North near a service, including the southern part of River Valley Bvd. Northern parts however are not conducive to an efficient bus service and will remain so unless a road and/or pedestrian bridge to Avondale Heights is provided.

The other change recommended for Sunshine North is the incorporation of the St Albans – Sunshine portion of Route 408 into an extended Route 421 from Sydenham. While this loses this route's direct connection to Highpoint, these are outweighed by other benefits including improved legibility, upgraded Highpoint services along Western Highway, and the extended 423.

Cairnlea/Ginifer

This southern part of St Albans comprises established housing around a railway station and a large hospital just to its east. Previously there were few shops, but a town and business centre at Cairnlea will now meet many needs. Main issues identified include:

- (i) generally poor service frequencies and operating hours,
- (ii) convoluted routes,
- (iii) limited services to Sunshine Hospital,
- (iv) a lack of coverage along the southern part of Cairnlea Drive,
- (v) an emerging need for a connection from the southern part of Deer Park (including the station),
and
- (vi) the desirability of a direct Highpoint connection west of Ginifer Station and a direct route serving all of Furlong Rd.

This submission identifies an west-east axis of major trip generators that justify connectivity with every train at Ginifer. These generators include: Brimbank Central Shopping Centre, Cairnlea Town Centre and Sunshine Hospital.

The suggestion here bring this about by extending or modifying four routes to provide a frequent combined service. These include 421 & 423 between Sunshine Hospital and Ginifer and 423 & 424 between Brimbank Central and Ginifer. In addition Cairnlea benefits from 422, which covers an unserved part of Cairnlea Dr and provides a useful north-south link serving Deer Park Station, VUT St Albans, St Albans Station and Sydenham. The most important route through the area, the extended and modified 423, also provides a direct link to Highpoint via Sunshine North.

Deer Park

Deer Park is largely developed suburb. A large shopping centre is located in its extreme north while a V/line railway station is located in its south. The station is away from most houses so buses are vital for local travel.

The main bus service issues are:

- (i) frequency and span of services,
- (ii) the lack of a direct service up Station Rd,
- (iii) desirability of a direct service linking Ginifer, Cairnlea and local streets, and
- (iv) limited pedestrian access to reach routes that could potentially be useful, eg along Western Hwy.

The key recommendation for Deer Park is the straightening and extension of Route 451 to Kings Park and Sydenham. We support it becoming a primary route between Sunshine and Watergardens Stations, offering direct and frequent service to Sunshine West, Brimbank Central Shopping Centre, Kings Park and Sydenham.

Route 423, which provides direct access to Cairnlea, Ginifer Station, Sunshine Hospital and Highpoint would operate by Billingham Rd, Tamar Drive and Neale Rd, to maintain service along local streets bypassed by the straightened 451. This direct access was not needed in the past as services were all in Sunshine, but the fast development of the area has made the local link more important.

A small pocket of Deer Park around Davitt Dr has no local buses and does not justify same. However it is near Western Highway and the proposed primary services to Caroline Springs, Sunshine and Highpoint. Unfortunately traffic on Western Highway currently blocks local use of these services and additional pedestrian lights at Davitt Dr are recommended to allow access.

Derrimut

This is a still developing residential suburb with limited jobs, shopping and services. Only recently (2007/8) has Derrimut received any form of public transport (Route 400).

Key transport issues include (i) limited destinations reachable by bus,
 (ii) poor connectivity with trains (bus every 30 minutes/train every 20 minutes),
 (iii) early finishing times of Route 400 (7pm) and
 (iv) poor links to surrounding industrial areas.

Immediate recommendations for Derrimut include adding evening trips on Route 400 to bring it to MOTC standard (at least the portion between Sunshine and Derrimut) and the proposed Route 427 to Sunshine to serve industrial areas along Boundary Rd.

Other improvements may have to wait until the road network is complete but additional destinations could be available by extending the revised Route 422 south from Deer Park Station.

Caroline Springs/Burnside

A primarily residential area that got developed during the 1990s/early 2000s. When finished the suburb will include two major fairly straight north-south streets ideal for major bus routes. The closest areas are about 1.5 kilometres north of a proposed V/Line railway station at Ravenhall.

Main service issues include:

- (i) Limited frequency of local bus services,
- (ii) limited evening services,
- (iii) need for multiple transfers for some trips and
- (iv) poor bus/train interchange at Albion Station (affects existing 215).

For Caroline Springs/Burnside we recommend two major route amalgamations, straightenings and service upgrades, as follows:

The route amalgamations are joining 460 with part of 216 (to be known as 460: Sydenham to Sunshine) and 461 and (ii) 215 (to be known as 461: Sydenham to Highpoint).

460 would run to Sunshine Station while 461 terminates at Highpoint Shopping Centre via Albion Station. The benefit of this is to improve connectivity within Caroline Springs by avoiding the need to transfer when travelling from the north to the south of the suburb. In addition, on-time running should be improved since the very long Route 216 is split at Sunshine and Caroline Springs local services are isolated from traffic delays affecting Melbourne CBD and Footscray. At the northern end Route 460 would be made to run more direct, with Hillside serviced by the proposed Route 462.

Route 461 is proposed to run via Westwood Drive to Burnside Shopping Centre and Highpoint. Until this is completed and suitable for buses, portions may need to run via Gourlay/Caroline Springs Roads. However even after the route runs via Westwood Drive it would still operate via Caroline Springs Town Centre to provide connectivity with local routes. The Hume Drive portion is recommended for deletion with service provided by a rerouted 425 to assist 461's directness. The remaining issue with Route 461 (and the existing 215) is the lack of an easy transfer at Albion Station. Currently the nearest stop is several hundred metres from the station and the pedestrian environment is hostile. Albion is an essential interchange point for this route and the necessary roadworks and/or rerouting to allow it to be served is recommended.

Both the extended 460 and 461 are recommended as primary routes due to their large catchments and the major trip generators served. As some areas are more than 400 metres from these routes, we recommend bicycle racks and short term 'kiss and ride' drop-off bays at the more important stops.

Hillside

Another comparatively new suburb.

Currently served by Routes 476 and 460.

As this submission recommends straightenings along Melton Hwy for both 460 and 476 a new local route (462) running between Sydenham and Hume Drive/Gourlay Drive is recommended. This service could originate at Sydenham and operate via the existing Route 460 to Banchory Avenue, then Grandview Dr and Route 476 to The Regency. From there it would serve the currently unserved Boronia Dr and terminate at the proposed Caroline Springs College and shopping centre.

St Albans/Kings Park

St Albans is an established suburb home to many schools and a medium-sized shopping strip. However as the surrounding suburbs grew it has however lost status to shopping centres at Keilor Downs, Brimbank Central, Watergardens and even Sunshine. St Albans has a high proportion of low income households compared to other suburbs. Formal educational attainment is low and employment tends to be in blue-collar and service industries, which are typically suburban rather than CBD-based.

Key issues are:

- (i) service span,
- (ii) frequency,

(iii)connectivity with trains

(iv)the need for a cross-suburban service to Keilor, Tullamarine and the Airport West area.

The main changes suggested is a new link to Deer Park via Cairnlea Drive and VUT (extended Route 422 in place of 423) and the extension of Route 421 to Sunshine to replace the modified Route 408. The straightened Route 424 operates via Ginifer instead of St Albans Station as its deleted parts are largely duplicated by Route 422 (Eg Gillespie Rd).

While this removes a direct Highpoint connection, we feel this is less important with the growth of Watergardens Shopping Centre, proposed improved transfer facilities at Ginifer and Albion Stations and higher frequency routes from there to Highpoint.

A new route (480) to Keilor, Airport West and Broadmeadows is proposed and discussed in greater detail in the submission for Brimbank, Hume and Moonee Valley.

Keilor, Keilor Downs/Keabla and Taylors Lakes

These are residential suburbs with large populations remote from railway stations. Keilor has a small shopping area but is heavily dependent on outside travel. Keilor Downs has a railway station and shopping centre but poor pedestrian access to same. Taylors Lakes has many schools but few shops so is again dependent on links to surrounding suburbs. The houses and roads were built well before the railway station (Keilor Plains opened in 2002) and local bus routes don't always take full advantage of the road network now available.

Main transport issues are:

- (i) Limited frequency and span of services
- (ii) Limited access to major employment areas such as Tullamarine and Airport West
- (iii)Isolation of some areas (eg Keilor) with a lack of routes in some directions (eg St Albans)

The key improvement proposed is a local route (480) linking Keilor with St Albans, Airport West, Tullamarine and Broadmeadows. This should more than double the number of jobs available within a single bus ride of Keilor.

Also proposed is a straightening of the 476 to speed travel times. While this involves removing service from Patterson Avenue, the overall benefit is positive due to the existing 476, new 480 and rerouted 483 (now via Keilor) all being nearby.

Little change is proposed for Keilor Downs but the area still benefits with new direct services to Sunshine and Sunshine Hospital via the extended Route 421.

Kings Park/Taylors Hill/Sydenham

Kings Park contains newer housing than St Albans and is entirely dependent on buses for its public transport. Key concerns identified include:

- (i) confusing single directional routes in parts,
- (ii) routes that appear to terminate in the middle of nowhere,
- (iii)lack of a fast and frequent service up the area's major road spine,
- (iv)operating hours, service frequencies and train connections and
- (v) no service along Watervale Bvd.

Kings Park will be one of the key beneficiaries of the proposed extended Route 451 operating between Sydenham and Sunshine. This route will provide fast and frequent service along a major corridor that currently has no service.

Changes for other routes include some minor reroutings to eliminate single directional running and extensions to trip generators. An example is Route 422 which is recommended for extension to Sydenham via the unserved Pecks Rd. Some existing 422 and 425 portions are filled by an extended 424 which also provides a new service from Brimbank Central Shopping Centre.

Attention has also been paid to the western part of Taylors Hill, which is some distance from existing services. To overcome this use is made of a rerouted 425 operating along Watervale Bvd. It can also replace the altered Route 460, maintaining a service along Hume Dr.

Burnside Heights/Burnside

Much of this area is some distance from existing and proposed bus routes along Taylors Rd. The disconnected road network is not conducive to fast and frequent service so none is recommended. Possible solutions include Route 425 pulling into Tenterfield Dr (possibly on demand) or a small Route 490-style demand responsive bus based at either Watergardens or Keilor Plains Station.

Similar issues apply to the more distant parts of Burnside Bvd. Possibly the only hope for a practical route is if a road bridge is built over Kororoit Creek to provide the possibility of a road link to Taylors Rd. Less remote parts of Burnside will benefit from the proposed upgraded and extended Route 461.

Melton

Melton contains a long-established (but declining) 'main street', a distant railway station served by country trains and a new and expanding shopping centre further along High Street. It is the centre of one of the state's fastest growing municipalities and is the cheapest place near Melbourne to buy or build a house. Melton contains a mix of low socio-economic groups, young families and first homebuyers.

Transport needs in Melton include:

- (i) more more direct local services,
- (ii) coverage of newer areas, particularly to the west
- (iii) upgraded service frequencies and operating hours,
- (iv) everyone to have direct access to Woodgrove Shopping Centre, the station and High Street without changing,
- (v) the poor legibility of 458 near the station.

In planning a network a conflict was found between directness and number of trip generators served. Hence the author is mindful that the routes proposed are not particularly direct. This could be remedied by having two routes per suburb, though this may be at the cost of service frequency on each route.

Currently most parts of Melton have access to all three of the major local trip generators listed above. The exception is the north eastern part of Melton/Kurrunjung which has no direct route to Woodgrove.

This submission recommends the transposal of Route 458 and 457 to give all areas direct access to Woodgrove. This is done by operating 458 via Coburns Rd and 457 via Station Rd to replace 458. To

achieve this 457 is reconfigured to run via High Street instead of Centenary Avenue, which remains served by 459. The transposal has other benefits as well in allowing 457 to extend westwards to new areas and 458's loop in South Melton to be tidied up.

The other change recommended for Melton is an extension to Route 456. It is recommended that this operate via Clarkes Rd to Melton Station, thus providing access to new housing areas currently without service. However this change is not recommended immediately as the Clarkes Rd overpass needs to be built first.

Part Two: Recommendations by route

The following are some suggested amended 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. Maps showing the major changes are provided in Appendix Two.

Route	Purpose	Status*	Recommendations
215	-	-	Abolish. Replaced by extended Route 461.
216	Redefined as City – Sunshine primary route.	P	<p>Terminate at Sunshine. Coverage to Albion, Caroline Springs and beyond is provided by extended Route 460.</p> <p>To handle high patronage, introduce bus priority and increase off-peak frequency to every 10 minutes during the busier times of the week.</p>
219	INCORPORATED IN 216	-	<p>Delete confusing Sunshine Park extensions and start route at Sunshine Station. Abolish 219 route number as all trips operate via Route 216.</p> <p>Coverage of Sunshine Park area is provided by proposed 903 SmartBus, proposed extended 408 and proposed 426.</p>
220	Defined as City – Sunshine primary route.	P	<p>No change to route.</p> <p>To handle high patronage, introduce bus priority and increase off-peak frequency to every 10 minutes during the busier times of the week.</p>
400	Defined as Laverton – Derrimut – Sunshine route	S	<p>No change to route.</p> <p>Upgrade at least Sunshine – Derrimut portion to MOTC service levels.</p>
408	Redefined as Highpoint – Sunshine – Sunshine West – Ardeer Station local route.	S	<p>Reroute to provide a direct Highpoint service from much of West Footscray and and fast-growing part of South Braybrook (South Road area).</p> <p>Operate via Highpoint, Rosamond St, Summerhill Rd, Barkly St, Ashley St, South Rd, Monash Rd, Sunshine Station, Hampshire St, Wright St, Link Rd, The Avenue, Fitzgerald St and Forrest St to Ardeer Station.</p> <p>Replaces deleted 219 in Sunshine Park area and parts of 454 in Sunshine West.</p> <p>408 Service is deleted from Churchill St, but all 410 services are moved to Churchill St to maintain service levels.</p> <p>Sunshine – St Albans portion of 408 is operated by extended 421.</p>
409*	-	-	Remove '409ext' Sunshine/Footscray industrial

Route	Purpose	Status*	Recommendations
(*) Not specified in review but has existing services in review area.			service and replace by proposed 426 between Sunshine and Footscray via Wright St, Market Rd, Somerville Rd and Geelong Rd.
410	Retain as local route Footscray to Sunshine.	S	<p>Simplify route by operating all trips via the 410occ pattern (ie via Churchill Avenue instead of Western Highway).</p> <p>Reduce interpeak frequency from 15 to 20 minutes to headway harmonise with trains.</p> <p>Note: Some school trips can remain via Duke St.</p>
418	Retain in current role	S	No change
419	Retain in current role	S	No change
421	Redefined as Sydenham to Sunshine via St Albans.	S	Extend to Sunshine Station via Sunshine North along existing Route 408 (this replaces 408 in area).
422	Redefined as Deer Park to Sydenham local route via Cairnlea, Ginifer and St Albans.	S	<p>Extend northern part of route to Sydenham via existing route until Braeswood Rd. Then run via Braeswood Rd, Taylors Rd, Tennyson Rd, Frost Dr, Coleridge Dr, Goldsmith Av, Yeats Dr, Copperfield Dr, Hume Dr, Overton Lea Bvd, Peck Rd to Sydenham.</p> <p>Extend south from St Albans to Deer Park Station via existing Route 423 to Ginifer Station, then Furlong Rd, Cairnlea Dr, Western Hwy, Station Rd to Deer Park Station.</p> <p>Provides new link from Deer Park Station to Cairnlea Business Park, Ginifer, VUT and St Albans.</p> <p>Provides frequent link between Ginifer and Cairnlea in conjunction with extended Route 424.</p> <p>Provides coverage of Pecks Rd.</p>
423	Redefine as Highpoint to Brimbank Central major route.	P	<p>Straighten route and extend to Highpoint via Sunshine North to provide coverage to unserved areas.</p> <p>Suggested route is Highpoint, Hampstead Rd, Western Hwy, Duke St, Berkshire Rd, Mcintyre Rd, Furlong Rd, Ginifer Station, Furlong Rd, Billingham Rd, Tamar Dr and Neale Rd to Brimbank Central.</p> <p>Delete Ginifer - St Albans Rd portion. This is now served by extended 422.</p>
424	Redefined as Sydenham to Ginifer local route via Brimbank Central.	S	<p>Straighten.</p> <p>Extend north to Sydenham via portions of 425 and 422. Runs via Oakwood Rd, Cromwell Rd, Cheleon Wy, Gillespie St, Kurung Dr, Taylors Rd, Copperfield</p>

Route	Purpose	Status*	Recommendations
			<p>Rd, Hume Dr and Overton Lea Bvd to Sydenham.</p> <p>Note: Gillespie Rd is served by 422 and Balnarring Dr via modified 425.</p> <p>Extend east from Brimbank Central SC to Ginifer Station and Sunshine Hospital via Cairnlea Dr and Furlong Rd to provide frequent service (in conjunction with 422 and 423) between Cairnlea, Ginifer Station and Sunshine Hospital.</p>
425	Defined as St Albans to Sydenham local route.	S	<p>Operates as per existing route from St Albans to Main Rd West and then operates via Balnarring and Kinterbury Dr to replace 424. Then runs via existing 425 via Chellon Way, Gillespie Rd and Braeswood Rd. Route operates via Taylors Rd to Watervale Bvd, Loddon Dr, Calder Park Dr and Hume Dr to Sydenham via existing Route 461.</p> <p>Object is to straighten route and serve western part of Taylors Hill.</p>
426	<p>RENUMBERED</p> <p>Defined as industrial area route between Sunshine Station and Footscray.</p> <p>(existing 409ext)</p>	T	<p>Remove '409ext' Sunshine/Footscray industrial service and replace by this route between Sunshine and Footscray via Wright St, Market Rd, Somerville Rd and Geelong Rd.</p> <p>Operates as peak service only and covers area of withdrawn 219 in Sunshine Park area.</p>
427	<p>PROPOSED ROUTE</p> <p>Defined as industrial area route between Sunshine Station and Deer Park Station.</p>	S	<p>Operates from Sunshine Station to Deer Park Station via Hampshire Rd, Wright St, Fairbairn Rd, Boundary Rd, Robinsons Rd to Deer Park Station via Foleys Rd (or Windsor Bvd).</p> <p>Introduces service to Boundary Rd industrial area.</p>
451	Redefined as primary route via Kings & Station Road between Watergardens and Sunshine.	P	<p>Straighten to run up Station St and extend to Sydenham Station via Kings Rd.</p> <p>Note: this corridor was previously earmarked for a major (SmartBus) route in the 2006 Meeting Our Transport Challenges plan.</p> <p>(Residential streets are served by extended 423).</p>
454	Retained as secondary route linking Sunshine West with Sunshine with industrial area extension via Fitzgerald Rd.	S	<p>Straighten to operate direct to Sunshine West via Glengala Drive in both directions.</p> <p>Extend route to Westona Station via Fitzgerald Rd, Dohertys Rd, Grieve Pde and Maidstone St (alternate trips).</p>
455	Defined as future Melton West route	S	New route to operate via Melton west
456	Defined as primary route between Sunshine and Melton (Westgrove SC).	S	<p>No change.</p> <p>Extend further to Melton Station via High St and</p>

Route	Purpose	Status*	Recommendations
			Clarkes Rd when Clarkes Rd flyover is completed – this also provides coverage of Brookfield.
457	Retain as local Melton route.	S	Transpose with 458 to operate via Station St. Remove service from Centenary Avenue – this is already served by 459. From Woodgrove Shopping Centre extend via High St, James Cook Dr, Westmelton Dr, Bulmans Rd, Arnolds Ck Bvd to Claret Ash Bvd.
458	Retain as local Melton route.	S	Transpose with 457 to operate via Coburns Rd instead of Station St. Purpose of this is to provide direct link to Woodgrove SC from Kurrung and prevent confusion caused by existing service operating past Melton Station twice.
459	Retain as local Melton route.	S	Extend to operate via Roslyn Park Drive to improve coverage.
460	Redefined as primary route linking Caroline Springs to Watergardens and Sunshine	P	Straighten route to operate direct via Melton Hwy to Gourlay Rd. Hillside portion served by new 462. Extend service to Sunshine along existing Route 216. Suggested 20 minute daytime frequency.
461	Redefined as primary route linking Caroline Springs to Watergardens and Albion/Highpoint	P	Straighten and operate via Westwood Drive when road is completed. Extend service to Highpoint along existing Route 215. Provide for easy interchange at Albion Station. Service removed from Hume Drive – serviced by modified 425. Suggested 20 minute daytime frequency.
462	PROPOSED ROUTE Defined as Sydenham to Taylors Hill (Hume Dr/ Gourlay Rd) local service.	S	Replaces portion of routes 460 and 476 through Hillside. Originate at Sydenham and operate via the existing Route 460 to Banchory Avenue, then Grandview Dr and Route 476 to The Regency. Bus then continues via Castwellan Bvd, Boronia Dr, Sugar Gum Dr, and Gourlay Rd to Hume Dr.
471	Retain as Sunshine to Williamstown service.	S	No change. Note: this route is duplicated by 903 SmartBus. Review services in light of 903 SmartBus.
476	Redefine as Sydenham to Melton service.	S	Straighten in Keilor by removing Patterson Avenue deviation. This area is close to the proposed new Route 480 to St Albans.

Route	Purpose	Status*	Recommendations
			Extend direct to Melton via Melton Highway. Hillside residential area is served by proposed 462.
PROPOSED 480	Defined as east west link from St Albans to Broadmeadows via Keilor, Tullamarine, Airport West and Gladstone Park.	S	<p>Fills a 'missing link' between St Albans and Broadmeadows and provide good local access to major job and shopping areas at Tullamarine, Airport West, Gladstone Park and Broadmeadows.</p> <p>Also provides Keilor with a direct St Albans rail connection (to eliminate backtracking via Sydenham) and serves unserved residential areas of Westmeadows, Gladstone Park (Carrick Dr) and Tullamarine (Dawson St).</p> <p>Route could operate via Westmeadows (similar to 477 but also serving Attwood), then Ardlie Street, Mickeham Road, Bamford Avenue, Hornsby Avenue, Hillcrest Drive, Western Avenue, Rylandes Drive, South Circular Road, Gladstone Park Shopping Centre, South Circular Road, Carrick Drive, Melrose Drive, Airport West Shoppingtown, Melrose Drive, Sharps Road, Broadmeadows Road, Dawson Street, Sharps Rd, Tullamarine Park Rd, Keilor Park Drive, Old Calder Highway, Green Gully Road and Arthur Street.</p>
483	Redefine as Moonee Ponds to Sunbury via Keilor.	S	<p>Operate along Old Calder Highway instead of Calder Freeway to serve Keilor.</p> <p>Retain some Calder Freeway services to serve Essendon schools if demand warrants.</p>

Other matters

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

- Need for all V/line trains to stop at Deer Park given increased bus services to it advocated in this submission.
- Bikes on buses for industrial routes
- Limited pedestrian access to bus stops. Main roads provide buses with direct routes that are easily understood by the passenger. However where bus stops are not at signalised intersections (or widely spaced traffic signals or roundabouts ensures an uninterrupted traffic stream) many bus stops become inaccessible except via long detours.

Good access is of particular importance near major trip generators such as universities and shopping centres. An important part of bus revitalisation requires making bus stops directly and safely accessible, either through providing extra pedestrian signals, zebra crossings or mid-road pedestrian refuges.

Conclusion

Described is an approach with suggested changes that would go a long way to improving public transport service quality and thus patronage in the cities of Brimbank and Melton. 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, such as freer trading hours, the growth of shopping centres and light industrial areas in outer areas.

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 (and 90 per cent of workplaces) are within fifteen minutes walk of a public transport service that operates at least every fifteen minutes seven days per week.

Some bus routes in the area, particularly between Sunshine and Footscray, already substantially offer this service. Train services do not. Bus services recommended

Given 20 minute off-peak running of trains in the study area, a fifteen minute target requires more than just bus reform. Accepting 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 Box Hill Station and Ringwood 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 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 50 minute services (which exists at the moment).

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.

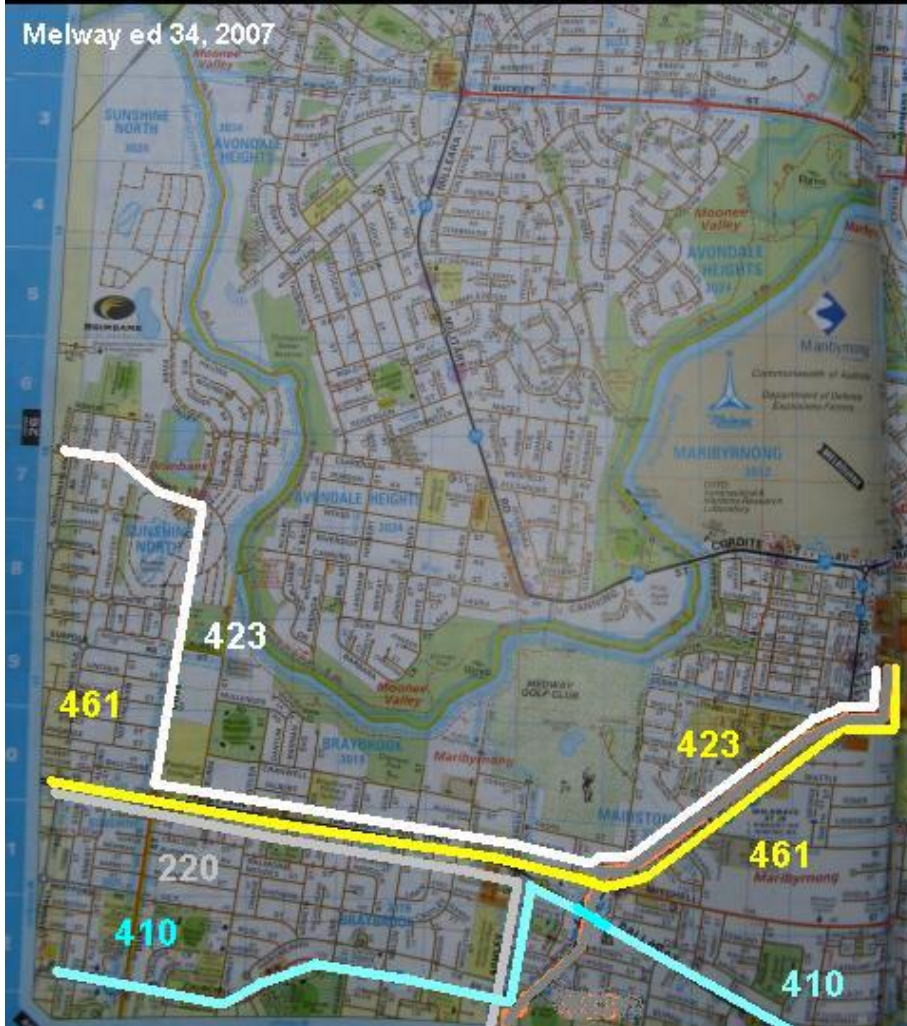
The role of various routes is shown in the table below:

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 Weekday: 15 or 20 min Weekend: 20 min Night: 30 min</p> <p>Services are train frequency at all times with similar operating hours.</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 (ie MOTC min standards).</p>	<p>Peak: 15 or 20 min Weekday: 20, 40 or 60 min Weekend: 20, 40 or 60 min Night: 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>May be peak-only or interpeak services.</p>	<p>Infrequent and/or limited hours.</p> <p>Between 2 and 10 services per day.</p> <p>Connections with selected trains only if relevant.</p>

Appendix Two: Maps of proposed changes

The following maps illustrate the proposed changes for most of the review area.

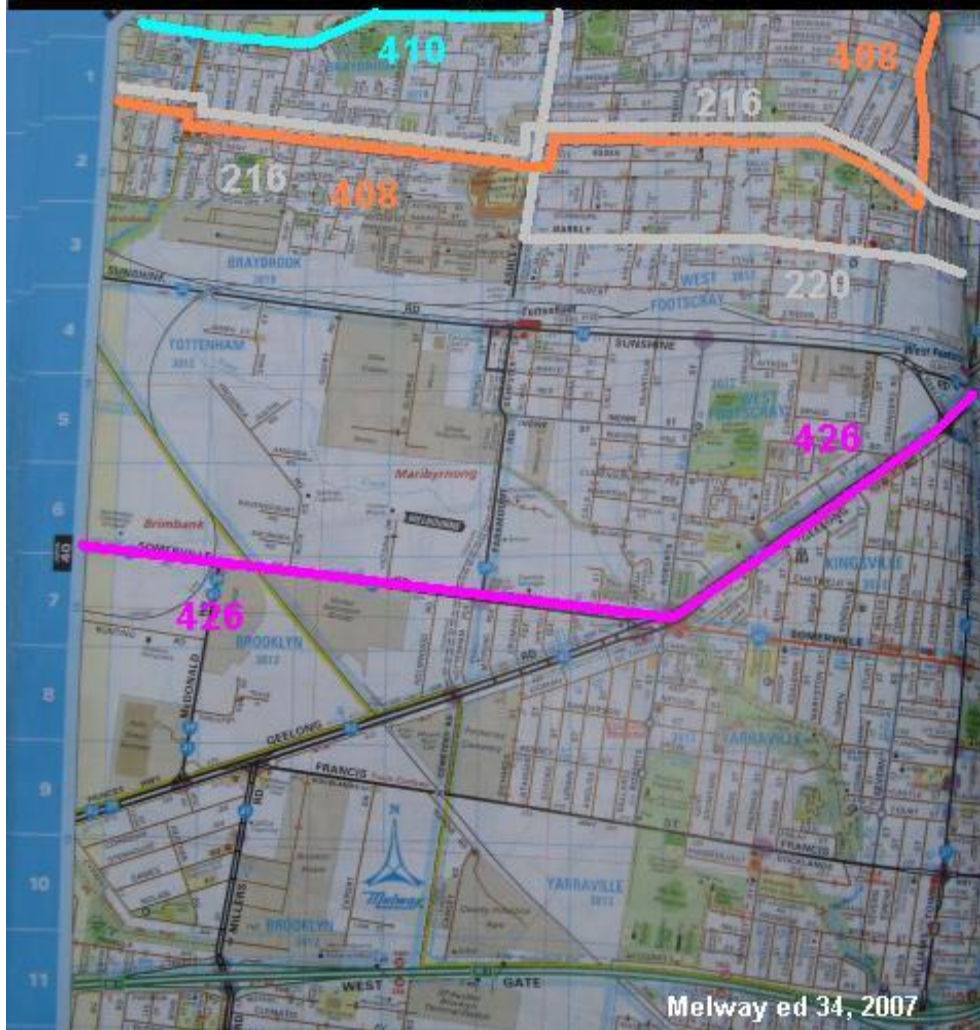
Proposed bus network: Braybrook (north)



Key changes

- Improved coverage: Route 423 extended to Highpoint via Sunshine Hospital and Sunshine North to cover large unserved area.
- Connectivity: Route 461 extended to Highpoint in place of Route 215.
- Major generator link: Route 408 shifted from Churchill Ave to South Rd to provide direct Highpoint connection for southern Braybrook.
- All Route 410 trips rerouted via Churchill Ave to replace rerouted 408 and simplify route (which currently operates this way every 4th bus).

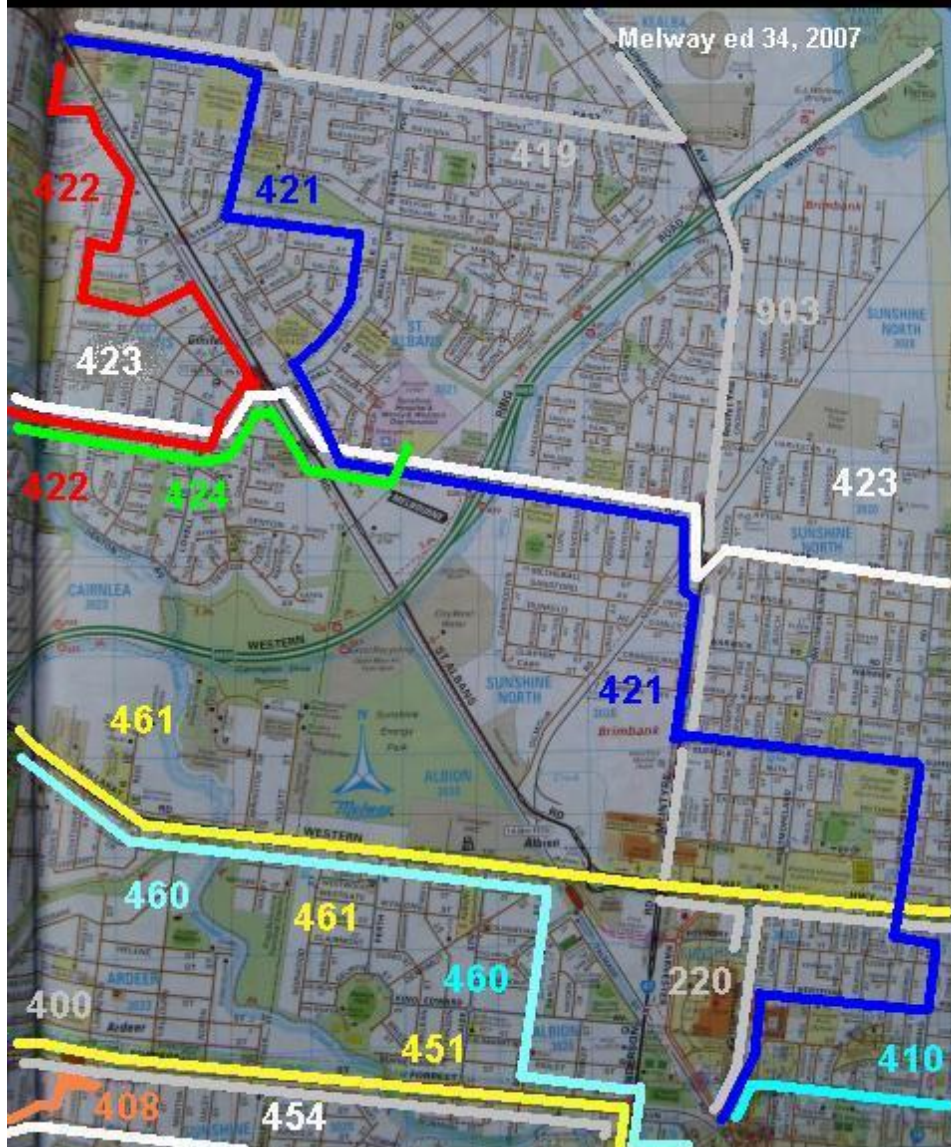
Proposed bus network: Braybrook (South)



Key changes

- 408 moved from Churchill Ave to Barkly St and South Rd to provide direct Highpoint connection for West Footscray and South Braybrook.
- 410 moved to operate along Churchill Ave for all services.
- 409 industrial service via Somerville Rd extended to Sunshine Station and renumbered 426.

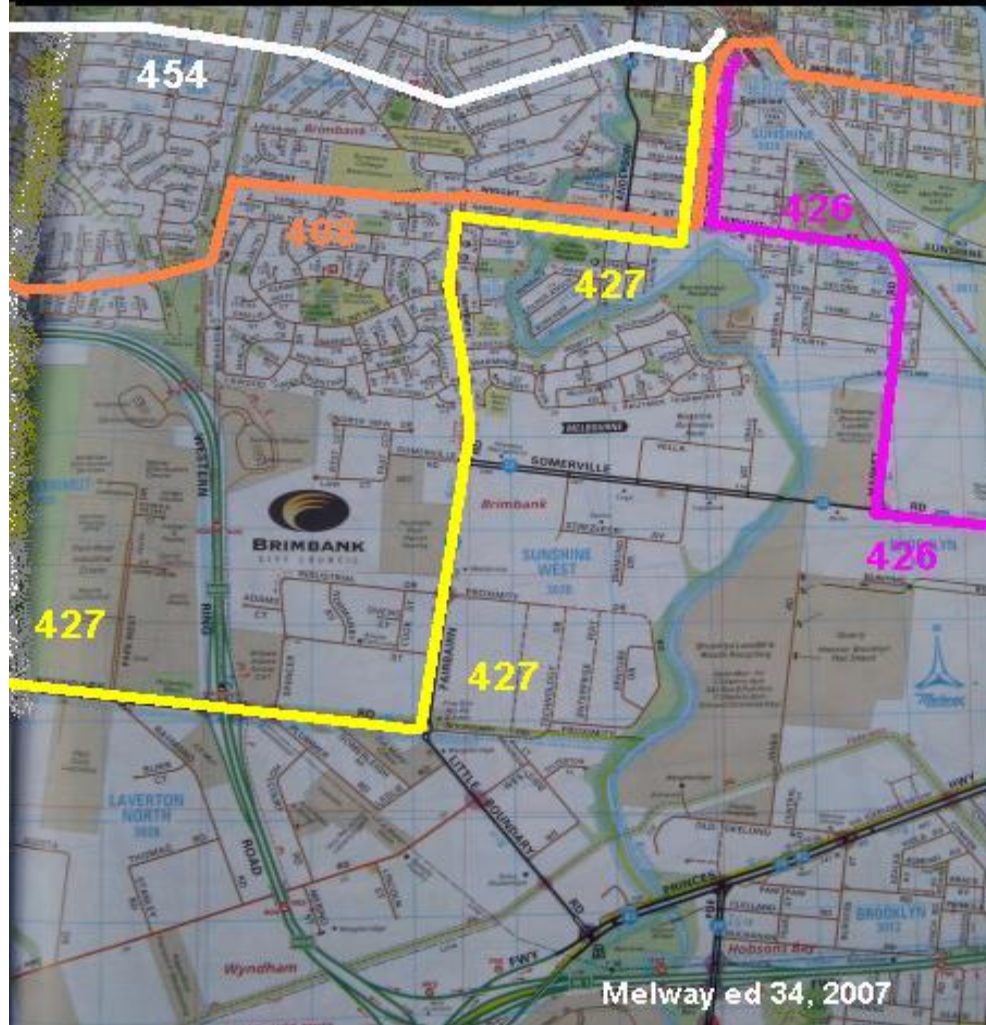
Proposed bus network: Ginifer / Sunshine North



Key changes

- Split and extended route: 408 split at Sunshine. 421 extended to Sunshine via 408 route.
- Direct Highpoint link: Made from altered Route 423 via Sunshine North. Existing 423 becomes part of 422 extended to Deer Park Station via Cairnlea.
- Sunshine Hospital: Frequent connections to surrounding area via 421, 423 & 424.
- Caroline Springs links: 216 and 215 replaced with extended 460 and 461 respectively.
- Rerouting: 410 moved to cover moved 408 via Devonshire Rd.

Proposed bus network: Sunshine



Key changes

- Route 408 extended from Highpoint/ Sunshine to Sunshine West and Ardeer Station (instead of St Albans) to cover Wright St and replace deleted 219.
- Route 454 made bidirectional and direct via Glengala Rd. Some services extend to Westona via Laverton North.
- Route 409 extended to Sunshine to replace deleted 219 and provide train connection. Renumbered to 426.
- New industrial route 427 to cover Boundary Rd.

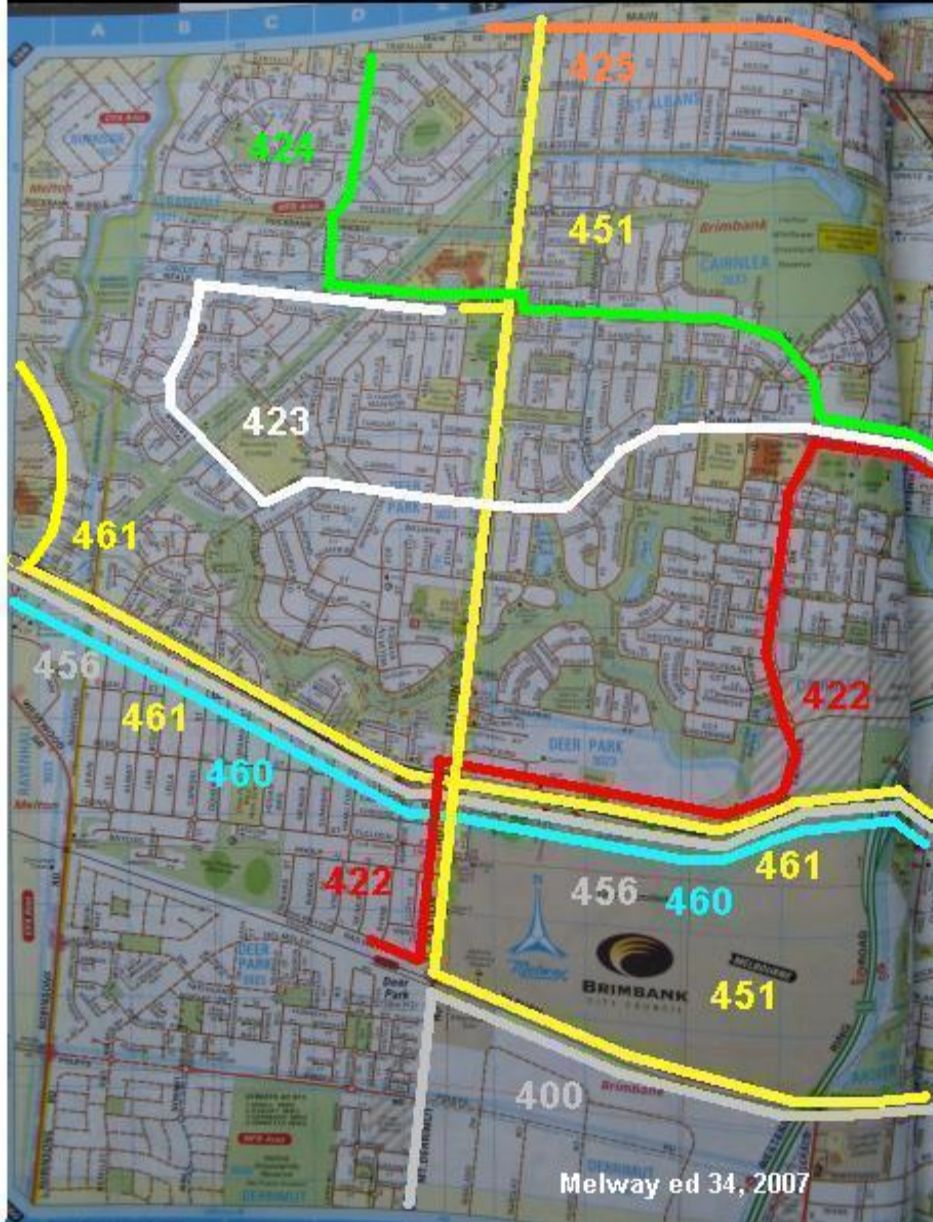
Local bus network: Laverton North



Key changes

- Train connection: Route 408 extended to Ardeer Station via Sunshine and Sunshine West.
- Industrial coverage: Route 454 straightened with some trips extended to Westona Station via Fitzgerald Rd, Dohertys Rd and Grieve Pde.
- Industrial coverage: New Route 427 via Boundary Rd between Sunshine and Deer Park Stations.
- Bicycle racks on industrial route buses to improve coverage.

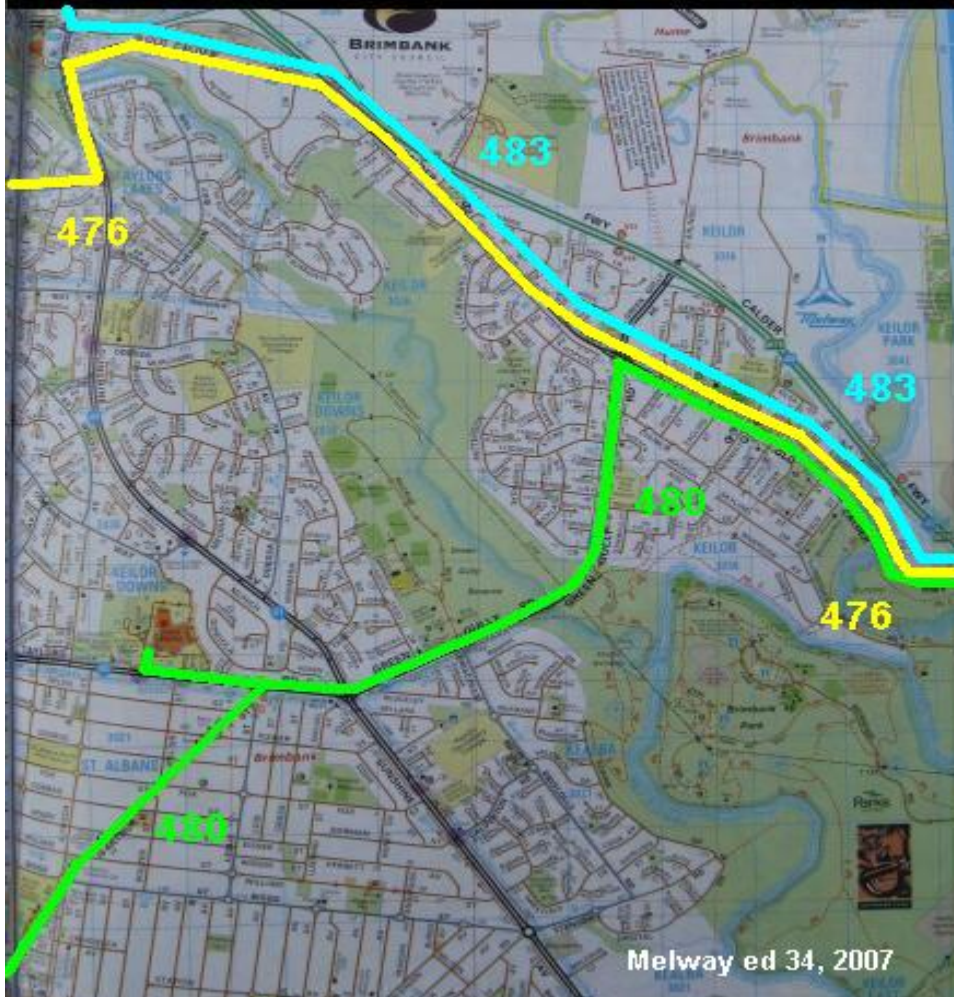
Proposed bus network: Deer Park



Key changes

- Coverage: 451 straightened and extended to Sydenham via Station Rd as new major route operating at train service frequency.
- 423 rerouted to serve Deer Park residential area (451 replacement). Also provides direct link to Highpoint via Sunshine North. Also straightened along Furlong Rd.
- Coverage: 424 extended to cove Cairnlea Drive.
- Coverage: 422 provides new link between Deer Park and St Albans via Cairnlea and replaces rerouted 423.
- 215 and 216 replaced by 461 and 460 operating between Highpoint/Sunshine and Sydenham via Caroline Springs.

Proposed bus network: Keilor area



Key changes

- More destinations: New link to St Albans via new route 480 along Green Gully Rd.

- Also rerouted 476 provides direct access to Airport West and Airport.

- Straightening: 476 made more direct via Old Calder Hwy (Patterson Av deviation removed)

- Coverage/Frequency: 483 rerouted to serve Keilor by operating via Old Calder Hwy.

- Selected services to Essendon schools may still operate current Calder Fwy route subject to demand.