

West Footscray Village
Proposals– Bicycle
Infrastructure

BikeWest Submission

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About the Authors

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In 2018 Dr Symons undertook a 6 month sabbatical based at the International Institute of Industrial Ecological Economics (IIIEE) at Lund University, Sweden. While based there, Dr Symons visited and consulted with cycling researchers and practitioners in London, Bristol, Edinburgh, Amsterdam, Lund, Gothenburg, Stockholm, Reykjavik, Copenhagen and Seville. He is currently developing a research project with the National Association of City Transport Officials (NACTO) assessing the economic benefits of safer infrastructure for vulnerable road users in Addis Ababa, Ethiopia.

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Elena has served on the board of Cohousing Australia since 2013 and as Chair (2016) and now Co-Chair (2019-). Elena is passionate about the environmental, social, and economic potential of cohousing and seeks to support its feasibility in the Australian multi-residential housing context. Elena's research is into participatory processes and community capacity building to achieve broader regenerative outcomes particularly in reducing environmental impact, building community resilience, and fostering greater agency in civic governance.

As a regenerative development practitioner with a focus on urban systems and placemaking she contributes to numerous forums and advisory committees. These include commons governance, climate emergency response and active transport infrastructure. Elena has also worked as a post-graduate tutor at the University of Melbourne and Deakin University in Regenerating Sustainability, Urban Sustainability and Climate Change, Building Sustainability, and Integral Design Theory; Sustainable Futures.

Executive Summary

BikeWest have studied the suggestions West Footscray Village regarding bicycle infrastructure provision and lane marking alterations as proposed by Maribyrnong College. While BikeWest endorses some of the concepts, overall we do not support one particular proposal and propose an alternative.

BikeWest believes the West Footscray Village should not be considered in isolation but rather as part of a broader integrated network in the entire local government area. The key element to this is the strategic importance of Barkly St as a bicycle route. Barkly St is **THE KEY** east west route through the Footscray area and inner west. Given its strategic importance, this affects what proposals are suitable for the West Footscray Village.

The importance of Barkly St as Priority Infrastructure is shown by analysis commissioned by the RACV. While the Barkly St route was ranked as 14th in the analysis, BikeWest has studied the methodology and found with small changes in catchment and length of the route analysed, Barkly St would rank in the top 5 bicycle infrastructure projects in Melbourne. Given infrastructure Australia have given priority status to the top 10 ranked bicycle projects as ranked by RACV, a small change in the ranking methodology would have led to Barkly St being endorsed by Infrastructure Australia.

The success of bicycle infrastructure is partially attributable to a consistent approach which increases recognition and predictability for all road users. BikeWest recommends a consistent application of a protected bidirectional bike lane consistent with the recently installed bike lanes over the Hopetoun Bridge which abruptly stop at Joseph Rd. This form of infrastructure benefits from the reduced amount of road space required due to overtaking space being available in the opposite direction bike lane which not possible with unidirectional lanes. This enables protected bike infrastructure to be installed on streets that could no accommodate unidirectional lanes and still conform to VicRoads standards. It also minimises loss of parking and hence acceptance from some members of the community. VicRoads standards also allow for narrower lanes when required as shown on the Beaconsfield Parade bidirectional lane which narrows to 1.8m with 0.6m buffer near Kerford Rd in Middle Park.

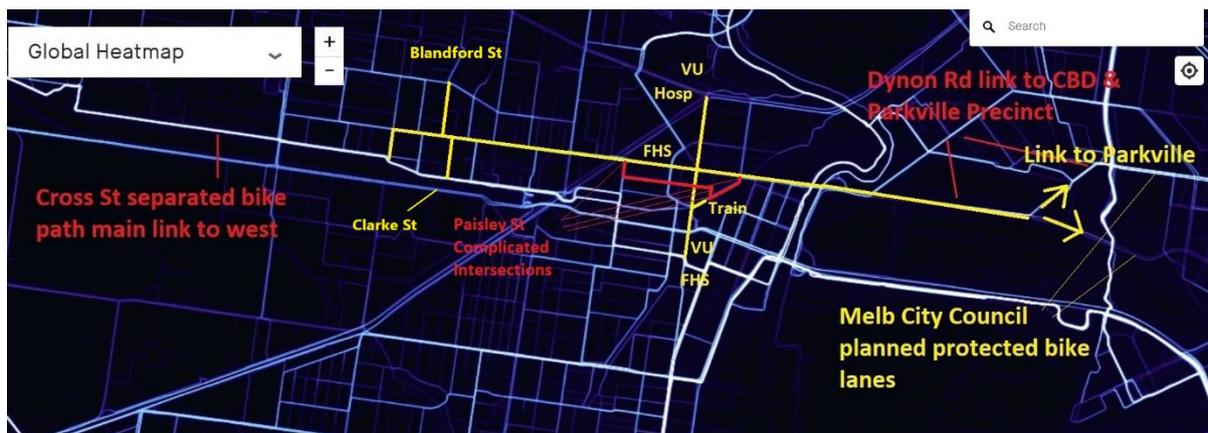
BikeWest proposes that a continuous protected bidirectional lane should be installed from Hopkins St along the northern side. This would connect with the existing protected bidirectional lane on Dynon Rd and go through to Elphinstone St West Footscray. From this point west on Barkly St, parking should be removed and the existing bike lanes properly delineated with armadillos or wave delineators as opposed to not fit for purpose plastic bollards. The bidirectional lane should connect with the laneway opposite Elphinstone St with a formalised crossing on Barkly St that then joins the Rupert St bike path. The laneway should be resurfaced, painted green and have high levels of lighting to increase passive safety.

The bidirectional bike lane can be achieved through the reallocation of existing space provided for bicycle lanes and would require only 10 car parks to be removed in Footscray (between Leeds St and Droop St) and 46 car parks in the West Footscray Village. This would leave approximately 90% of existing car parks in the West Footscray area (100m catchment). BikeWest does not support the closure of Barkly St to through traffic as studies of over 200 road closures throughout the world show these are only successful in very specific circumstances such as very high existing pedestrian traffic and very little through traffic (eg Pop Up Park Yarraville). These criteria are not met in Barkly St West Footscray.

BikeWest does support the Clarke St pop up park and also recommends that Clarke St be a main connecting route to the south of Barkly St as opposed to Warleigh Rd. Clarke St benefits from very little through traffic and its narrow width which allows a conversion to a VicRoads Bicycle St. An existing pedestrian crossing on Barkly St at Clarke St would enable cyclists to safely access the bidirectional bike path on the northern side of Barkly St. A high quality crossing would need to be installed at the intersection of Clarke St and Cross St. Warleigh Rd is not suitable due to its high traffic volumes and the unique nature of the tree locations and kerb standouts which precludes any protected bicycle infrastructure. The connection to the north should be along Blandford St either as a bicycle street with 30kmh limit or bidirectional bike lane. This would allow safe access to Footscray West Primary School, Martin Reserve and through Withers Lane to Shorten Reserve and Barrett Reserve, key recreational precincts where active transport should be encouraged.

Other links associated with Barkly St Footscray include the Paisley St Bypass which BikeWest does not support. The Paisley St Bypass has numerous intractable shortcomings so funding and emphasis should be diverted towards Barkly St through Footscray.

Together with Nicholson St as the key north south link through Footscray, the key east west link of Barkly St would provide the key bicycle infrastructure network spine for access to the city to the east, VU Footscray Park campus and the new hospital to the north, VU Nicholson campus, Footscray High School Pilgrim and Footscray City Primary School to the south, Footscray High School Barkly, the West Footscray village and Sunshine to the west.



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Introduction

Maribyrnong Council have undertaken studies into redeveloping the West Footscray Village. BikeWest have studied the various proposals for the West Footscray Village regarding bicycle infrastructure provision and lane marking alterations. While BikeWest endorses some of the concepts, overall we do not support one particular proposal.

With respect to bicycle infrastructure provision, BikeWest believes the West Footscray Village should not be considered in isolation but rather as part of a broader integrated network in the entire local government area. The key elements to this are the strategic importance of Barkly St as a bicycle route as well as consistent bicycle infrastructure. From Elphinstone St eastwards Barkly St is **THE KEY** east west route through the Footscray area. Given its strategic importance, this affects what proposals are suitable for the West Footscray Village.

Barkly St Key Route: Priority Infrastructure

Barkly St is a key east-west route through the City of Maribyrnong that connecting to Braybrook and Sunshine to the west via Cross/Rupert St and Dynon Rd and access to the CBD/Parkville precinct to the east.

RACV Analysis, Infrastructure Australia Priority

The Barkly St/Dynon Rd route was one of the routes examined in the study commissioned by RACV¹ where it was ranked in the top 14 of potential bicycle infrastructure projects in terms of importance. This route would have ranked higher if it were not for the anomalies of the scoring system used to rank the potential projects.

The scoring system included safety, latent and existing demand, technical feasibility and public transport crowding benefits.

The scoring system calculated how many people lived within 100m (arbitrarily designated by the study's author) of the route as well as student places within 100m. As this route crosses the river and passes mostly through industrial zones very few people live within 100m of it consequently it was scored lowly. In addition, the Nicholson St and Footscray Park Campuses of VU were not included as they are more than 100m from Barkly St despite them being obvious candidates for its usage. The modelled route also stopped at Droop St which is illogical given the connections to Footscray High School only 400m to the west. This arbitrary cut off biases against this route.

The Safety scoring system also biases against the Barkly St/Dynon Rd route as the Dynon Rd separated path is very safe and consequently very few crashes occur there. Counterintuitively, this counts against the route as the scoring system infers little is needed in terms of safety. This does not take into account the huge variability in safety across the length of the route, especially Hopkins St between Moore St and Whitehall St which is a major route for B double trucks to access the Port of Melbourne and is not only very unsafe but extremely intimidating for any person considering cycling. It is extremely unlikely parents would allow their children to cycle on this section at the moment.

If these three elements of the scoring system were re-weighted then BikeWest calculates that the Barkly St/Dynon Rd route would be in the top 5 of potential key routes in Melbourne. Given Infrastructure Australia has recently published a report suggesting the key bicycle routes in Melbourne are an infrastructure priority (this includes the Footscray Rd/Hyde St Route which was

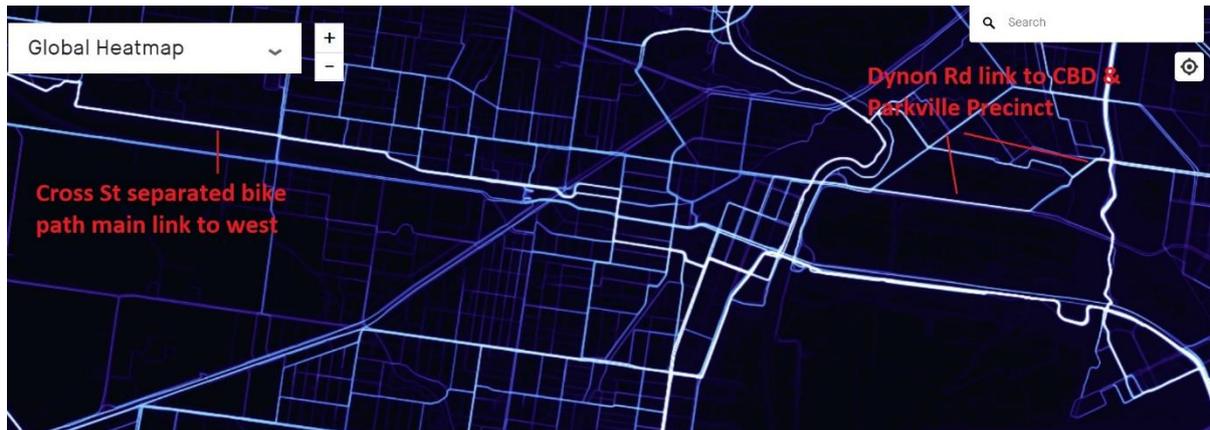
¹ CDM Research 2019 Strategic Cycling Corridors Review Priorities for Metropolitan Melbourne Prepared for RACV, January

ranked 3 places above the Barkly St/Dynon Rd) then the importance of this route is understood and therefore be part of Infrastructure Australia’s priorities.

The recently completed protected bidirectional bike path on Hopetoun Bridge which abruptly stop at Joseph Rd give is the basis for the extension of this route.

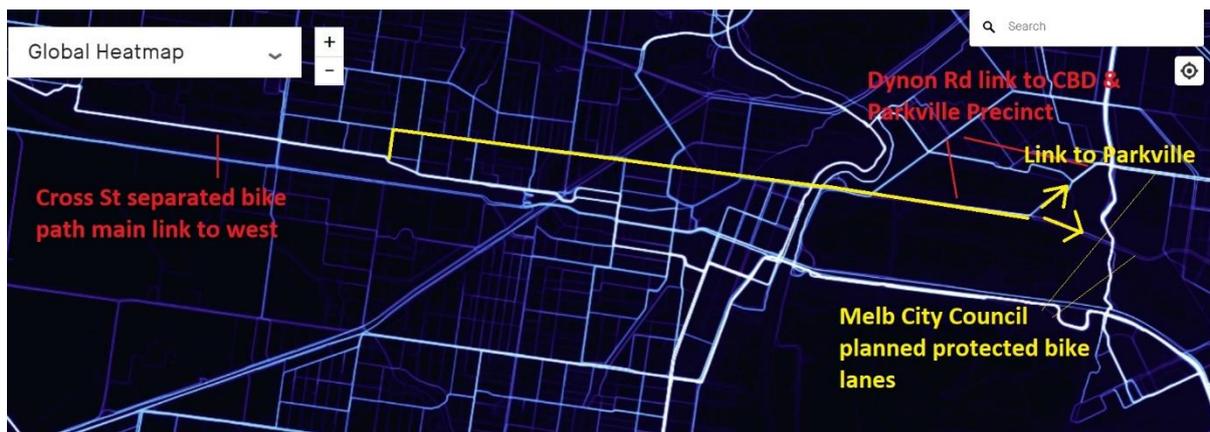
In the absence of data, the Strava Global Heat Map gives a good indication of the importance of the route and the connections to the east and the west (Figure 1)

Figure 1: Strava Global Heat Map Footscray area



Currently the major route to the east is the Footscray Rd bicycle path. To the east of the river, due to the dangerous infrastructure, high traffic flows and speeds, cyclists are forced to take a circuitous route through Parker St, Hyde St, Bristow St and Pilgrim St if they are to travel further to the west. Together with Somerville Rd, these are presently the major western routes. However, as highlighted in Figure 2, the most direct and obvious route to Footscray and the west is Hopkins St/Barkly St, especially so since the completion of the bidirectional path over Hopetoun Bridge to Joseph Rd.

Figure 2: Proposed Hopkins St/Barkly St Bike Path



Consistent and Recognisable Bicycle Infrastructure

A recognisable road hierarchy is very important to the success of bicycle infrastructure. Consistent design solutions make potential conflict situations more predictable, intuitive and comprehensible for all road users and thus decrease the probability of collisions. Consistency in design for each road category within the road hierarchy enhances clear priority at intersections, predictability, coherence, safety and comfort for all road users.

This is particularly the case for people on bicycles, especially inexperienced cyclists as consistent design increases certainty about expected road and path usage and reduces cyclist stress. Consistent design benefits drivers of motor vehicles also as increased predictability of bicycle flows through consistent design infrastructure reduces driver stress about the possibility of collision.

Alternatively, inconsistent, changing infrastructure is confusing for all cyclists, especially new cyclists. This will act as another barrier to those who might otherwise have left the car at home chose to use their bicycle.

Bidirectional Paths

Bidirectional bike paths have been successfully implemented all over the world (especially Seville Spain with a coherent network of 80km all interconnected) and Australia, including Sydney (Figure 3) and Melbourne (Figure 4).

Figure 3: Bidirectional Bike Path, Sydney



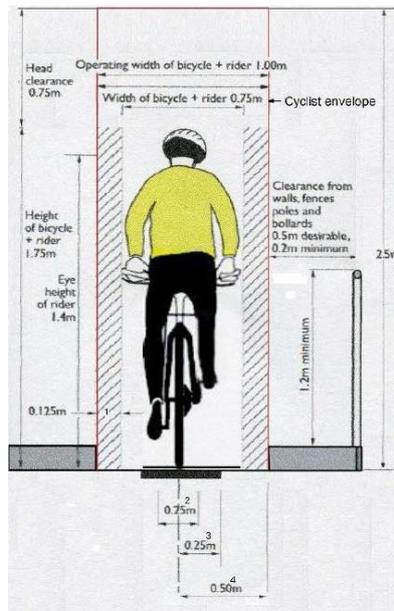
Figure 4: Bidirectional Bike Path Beaconsfield Parade Middle Park



A significant advantage of bidirectional paths have over unidirectional paths is the reduced space required for installation according to VicRoads guidelines. Protected unidirectional bike paths have arguably excessive standards set by VicRoads where paths are set at 1.5m wide with a 0.5m buffer to either parked cars on moving traffic. Conversely bidirectional paths may be 2.5m wide with a 0.5m buffer, however, this figure is only guidance as VicRoads standards allow for narrower bidirectional

lanes if the circumstance requires it. This is the case with the bidirectional path along Beaconsfield Parade in Middle Park. The path varies in width between 2.5m with a 0.5m buffer near Pier Rd, to 1.8m wide with a 0.6m buffer (total 2.4m) near the intersection of Kerford Rd. The saved space as compared to 2 unidirectional bike lanes is due to the need to accommodate overtaking space. The cyclist's envelope is approximately 1m wide, therefore with bidirectional paths cyclists may move into the opposite lane when clear to overtake another cyclist (Figure 5). Consequently a bidirectional lane needs only be slightly wider than a unidirectional lane.

Figure 5: Cycling Envelope²



BikeWest Proposal

The existing infrastructure along Dynon Rd and across Hopetoun Bridge is a protected bidirectional lane which abruptly stops at Joseph Rd essentially rendering the path useless as a connection to Footscray and further west. The advantage of continuing this bidirectional path up Hopkins St and Barkly St are manifold as it provides the most obvious and direct route to the west and is a bidirectional bike lane.

As the Strava Global Heat Map (Figure 1) indicates and borne out from anecdotal evidence, the Cross/Rupert St Bike Path is the key link to Braybrook and Sunshine. Current usage indicates this is connected to Footscray by the Buckingham/Pickett and Raleigh and Errol/Raleigh. This section is discussed later.

BikeWest recognises the strategic importance of Hopkins St/ Barkly St and it should be the key east-west link from the Maribyrnong River to the west in conjunction with the Cross/Rupert St bike path and Footscray Rd/Napier St that connects via Victoria St and Errol/Buckingham Sts. Together with a north south link along Nicholson St, this route provides excellent access to Victoria University campuses at Footscray Park and Nicholson, Footscray High School campuses on Barkly and Pilgrim St as well as the new Footscray Hospital to be built on Ballarat Rd.

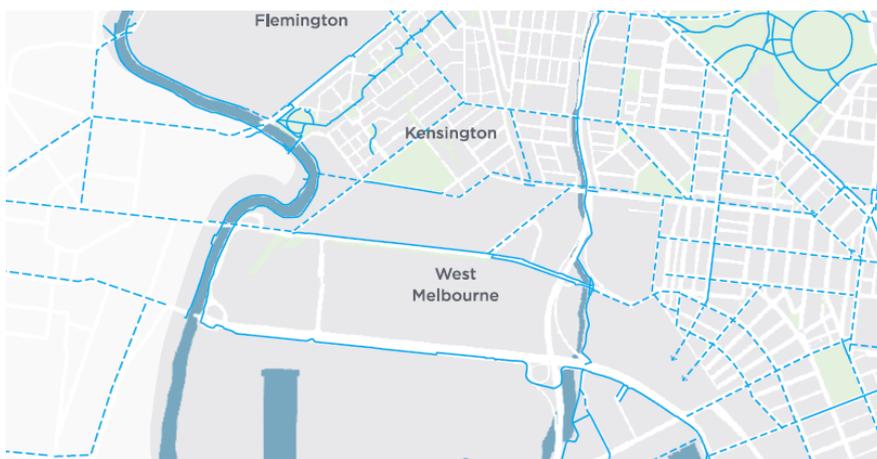
² Austroads 2017 Cycling Aspects of Austroads Guides p24

Figure 6: BikeWest Proposed Route



According to the City of Melbourne Transport Strategy 2030³, the eastern end of the Dynon Rd will have protected bike lanes connecting to Parkville and the CBD (Figure 7).

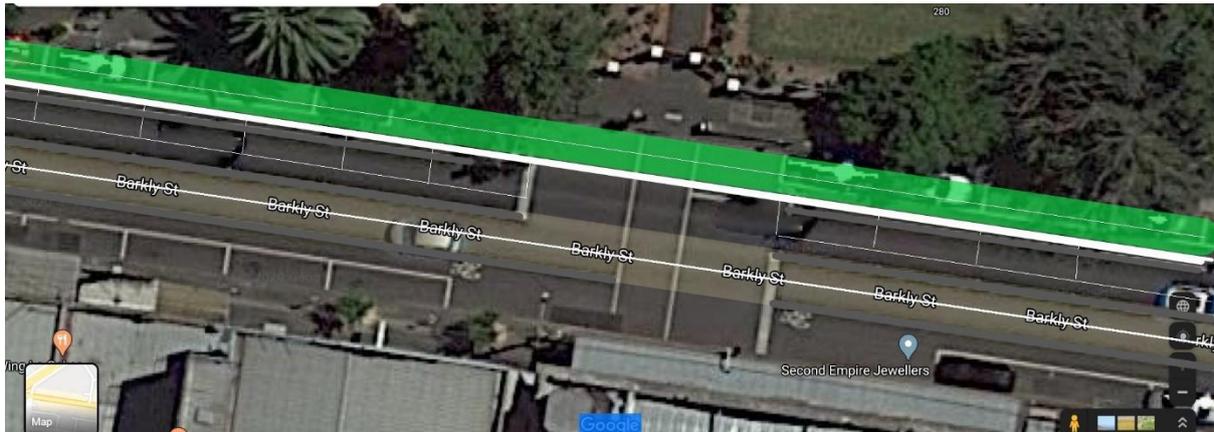
Figure 7: City of Melbourne Proposed Protected Bike Lanes



Detail of a proposed bidirectional bike lane on Barkly St outside Footscray High School is shown in Figure 8.

³ City of Melbourne Transport Strategy 2030: A Connected City

Figure 8: Detail of Bidirectional Bike Lane

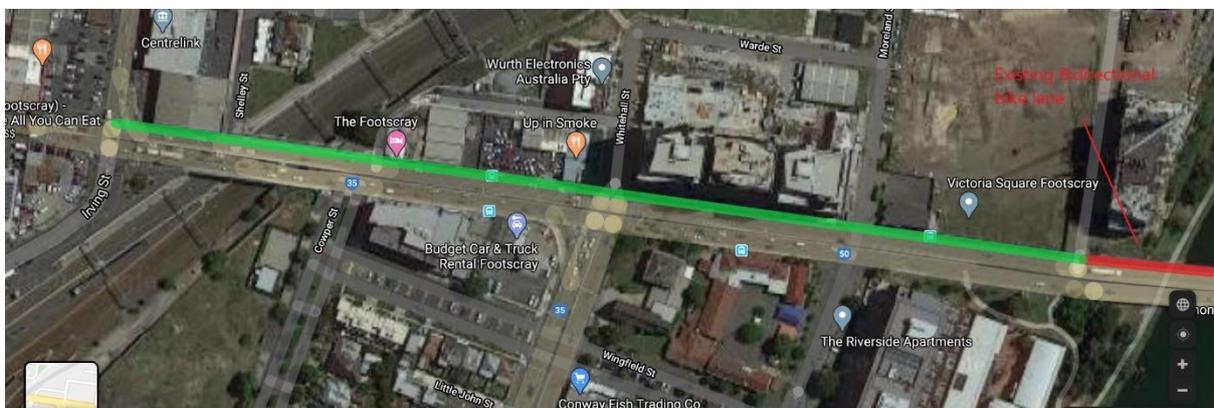


Hopkins St-Barkly St

The bidirectional bike path on Dynon Rd/Hopkins St/Hopetoun Bridge that currently ends at Joseph Rd should be continued along Hopkins St through Footscray CBD and Barkly St and continue west of Geelong Rd, through the West Footscray Village to the laneway opposite Elphinstone St that connects to Rupert St.

Due to underutilised space and unneeded median strips there is sufficient space on Hopkins St to reallocate space to create a 2.5m bidirectional path with 0.5m buffer between Joseph Rd and Moore St as it is 18m wide nearly the entire length of this section (Figure 9). BikeWest understands this part of Hopkins St is owned by VicRoads however, west of Moore St Hopkins St becomes a council owned road.

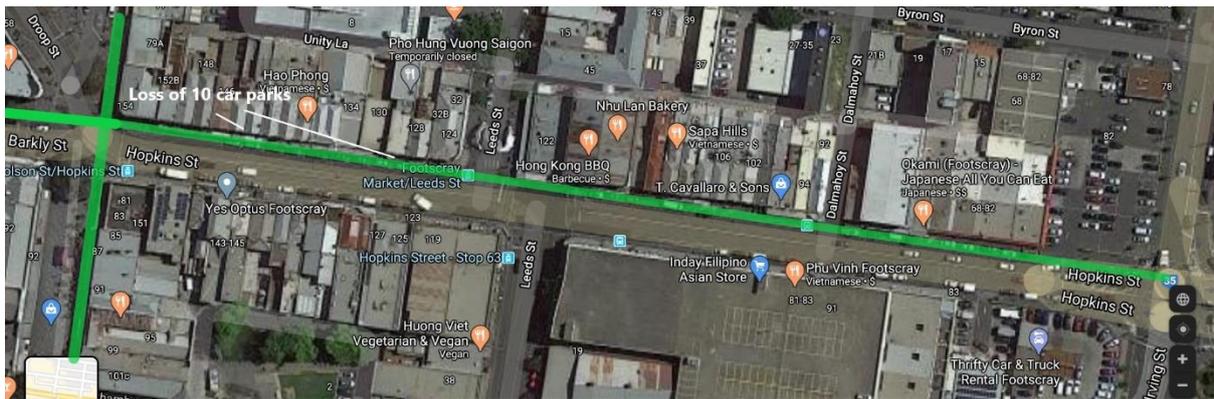
Figure 9: Hopkins St Joseph Rd to Moore St



Hopkins St is between 13.5m and 14m wide between Moore St and Leeds St kerb to kerb. Travel lanes for routes with buses require 3.2m in each direction, and 2.1m for parking leaving between 2.9m and 3.4m for a bidirectional bike lane with buffer on the northern side of Hopkins St with the removal of some kerb standouts.

Due to the tram lines on Hopkins St between Leeds St and Droop St, 10 car parking places on the northern side of Hopkins St would need to be removed. These are essentially the only car parks that would definitely require removal in the Footscray CBD (Figure 10).

Figure 10: Hopkins St, Moore St to Nicholson St



West of Droop St Barkly St has 1.5m wide bike lanes on both the northern and southern sides. This space can be rearranged with no loss of car parking to create a 2.5m bidirectional bike lane with 0.5m buffer on the northern side with no loss of parking. This is particularly critical as such this protected bike infrastructure passes by the front door of the Barkly St campus of Footscray High School (Figure 11 and Figure 12).

Figure 11: Barkly St, Droop St to Barkly Place

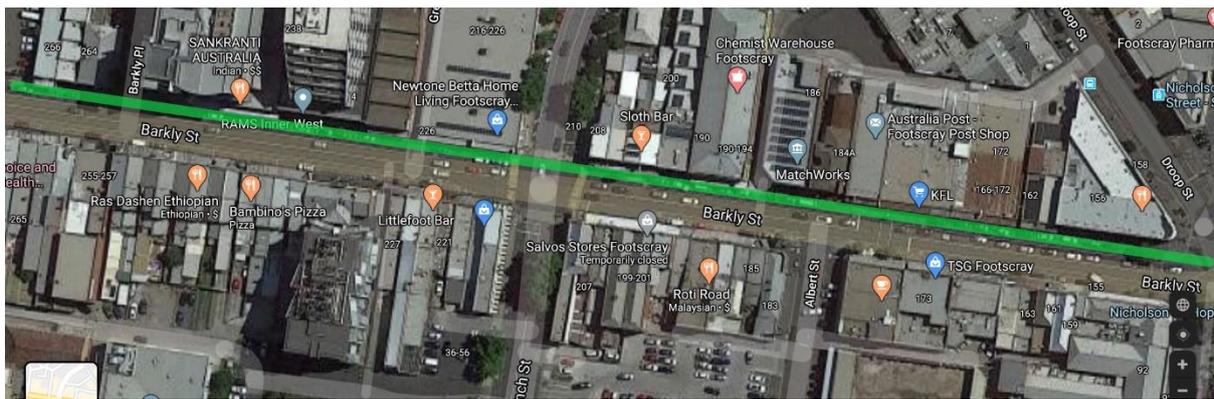
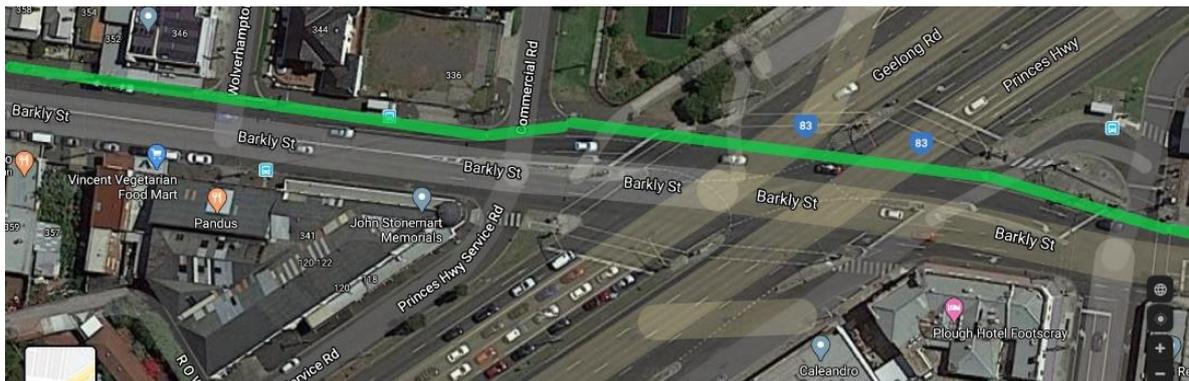


Figure 12: Barkly St, Barkly Place to Victoria St



The complicated intersection at Victoria St, Geelong Rd and Barkly St could accommodate the bidirectional bike lane through the reallocation of one of the eastbound travel lanes. This lane is essentially superfluous as it disappears 10m east of Victoria St (Figure 13). Signalling at this intersection would need to be reprogrammed to allow for protected bicycle movement as illustrated on <http://www.protectedintersection.com/>.

Figure 13: Barkly St Bidirectional Bike Path, Geelong Rd intersection



The western side of this intersection has a superfluous median strip. Removing this median strip would allow the inclusion of the bidirectional bike lane without impacting travel lanes, further west of this point to Gordon St, Barkly St is 14m wide allowing space for parking and travel lanes in addition to the bidirectional lane. One of the west travel lanes at the intersection of Gordon St would need to be removed if the right hand turn slip lane is kept.

Between Summerhill Rd and Gordon St, Barkly St is varies between 13m and 20m kerb to kerb allowing sufficient space for a 2.4m wide bidirectional lane (including buffer, as per Beaconsfield Parade) at the narrowest point at the intersection with Summerhill Rd while keeping parking, or a wider bike lane with loss of approximately 5 car parking places (Figure 14, Figure 15,

Figure 16 and Figure 17).

Figure 14: Barkly St Creswick St to Gordon St



Figure 15: Barkly St, Gordon St to Swans T



Figure 16: Barkly St Swan St to Leander St



Figure 17: Barkly St Leander St to Summerhill Rd.



West of Summerhill Rd to Elphinstone St, Barkly St narrows to 11m. This would require the removal of car parking on the northern side of Barkly St to install the bidirectional bike lane and the removal of some kerb standouts. It would also involve the removal or relocation of 5 relatively small trees (Figure 18 and

Figure 19).

Figure 18: Barkly St, Summerhill Rd to Warleigh Rd

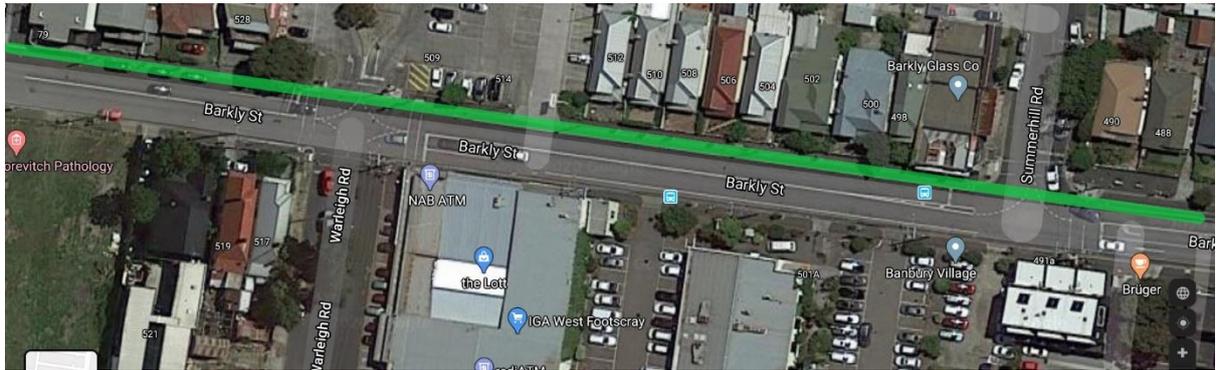


Figure 19: Barkly St, Warleigh Rd to Russell St



The bidirectional bike lane should end at the intersection with Elphinstone St. This intersection, (including Elphinstone St) should have a pedestrian/bicycle signalised intersection enabling safe crossing to the laneway (Figure 20 and Figure 21). With an appropriate upgrade, the laneway would provide a high quality connection to the Cross/Rupert St bike path and hence to Sunshine.

Figure 20: Barkly St, Russell St to Elphinstone St

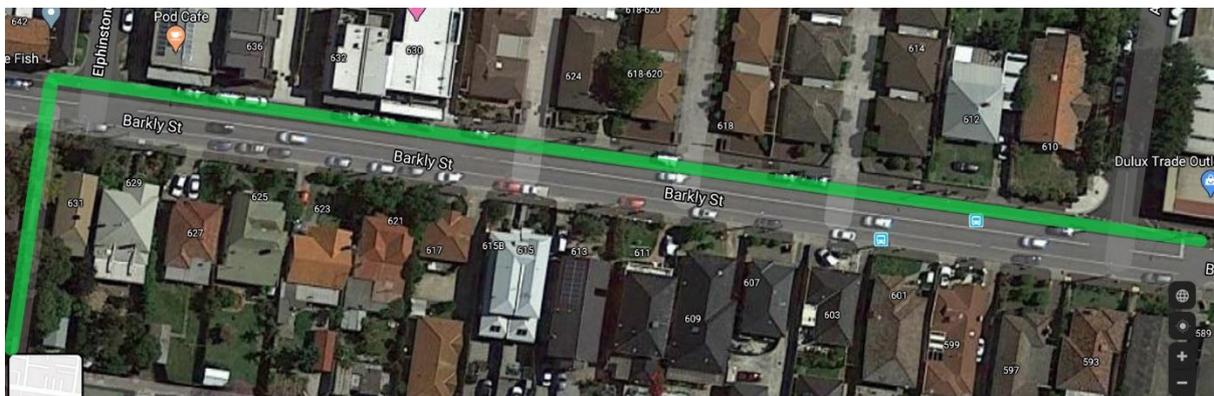


Figure 21: Elphinstone Intersection



Barkly St West Stage 1

West of Elphinstone St are existing painted bike lanes approximately 1.2m in width, with travel lanes approximately 3.3m in width. However, these bike lanes are unsatisfactory for two main reasons. The first is they are essentially non-functional as 1 hour parking is allowed in the bike lanes. As a consequence these bike lanes are never free of parked cars and are bicycle lanes in name only. The second reason these are unsatisfactory is that painted bicycle lanes offer no protection to cyclists.

Recent research from around the world⁴ and Australia⁵ has shown that more than a strip of paint is required to protect people on bicycles. This is consistent with the Safe System approach where vehicles with inconsistent masses and speeds must be separated. The unfortunate combination of inconsistent bike lanes where people on bikes are forced to randomly enter and leave vehicular travel lanes, painted lanes offering no protection and a 50km/h speed limit contributed to the death of a cyclist on Barkly St in 2016 in broad daylight⁶.

Consequently BikeWest recommends the 1hr parking should be removed to maintain the integrity of the bike lanes and keep them clear at all times and the bike lanes should be separated by armadillos (Figure 22) or wave delineators (Figure 23) to prevent cars from entering the bike lane. These should stop and start at driveways and bus stops.

Figure 22: Bike Lane Armadillos



Figure 23: Wave delineators



The current practice in Maribyrnong of using flexible plastic bollards which have proven to not be sufficient for the task and should not be used. Evidence from the Maribyrnong LGA has shown these do not prevent cars from entering bike lanes with drivers frequently driving over them requiring regular replacement (

⁴ Marshall, W.E. and Ferenchak, N.N., 2019. Why cities with high bicycling rates are safer for all road users. *Journal of Transport & Health*, 13, p.100539.

⁵ Ben Beck, Derek Chong, Jake Olivier, Monica Perkins, Anthony Tsay, Adam Rushford, Lingxiao Li, Peter Cameron, Richard Fry, Marilyn Johnson. How much space do drivers provide when passing cyclists? *Understanding the impact of motor vehicle and infrastructure characteristics on passing distance. Accident Analysis & Prevention*, 2019; DOI: 10.1016/j.aap.2019.03.007

⁶ <https://www.abc.net.au/news/2016-06-24/man-charged-after-cyclist-killed-in-west-footscray/7540142>

Figure 24). The deformable nature of the plastic bollard which does not damage the car is a design feature of the bollard and provides no disincentive for drivers to enter bike lanes.

Figure 24: Ineffective Plastic Bollards



Barkly St West Car Parking

Analysis by BikeWest indicates that over 95% of properties have access to off street parking, consequently residents will not be inconvenienced by removal of parking. In addition, on street parking would still be available in the side streets of Neil St, Berthandra St, Palmerston St, Hartley Ave, Rondell Ave and First St.

Barkly St West Stage 3

After successful removal of parking on Barkly St West, a bidirectional bike lane should be continued west of Elphinstone St should be installed at a later date.

Car Parking in the West Footscray Village

Car park provision is an important consideration in urban villages and often a source of controversy if they are removed to install bicycle infrastructure. BikeWest has undertaken a car park audit of the West Footscray Village. The audit included the number of car parks on either side of Barkly St and within 100m north and south of Barkly St and 100m to the west of Elphinstone St which represents an approximately 1 min walk. This distance is very conservative as it is between 12.5% and 25% of the recommended walkable catchment as defined by the Victorian Planning Authority⁷.

The results of the audit are shown in Table 1. The proposed bidirectional lane would involve removing 46 car parks out of a total of 449 car parks. This would leave nearly 90% of the original car parks and still leave 403 places.

⁷ https://www.planning.vic.gov.au/_data/assets/pdf_file/0031/428908/Creating-a-more-liveable-Melbourne.pdf

Table 1: West Footscray Village Car Parks

Street	100 m west of Elphinstone	Elph to Argyle	Argyle to Blandford	Blandford to Buxton	Buxton to Market	Market to Summerhill	Warleigh to Clarke	Clarke to Russell	Russell to Lane	Shop Car parks	100m from Barkly	Total
Barkly North side	9	17	14	2	9	4				122		177
Barkly North side (with Bidirectional Bike Lane)	9									122		131
Barkly South Side	9						17	26	22			65
Warleigh Rd										37	24	61
Market St											25	25
Buxton St											20	20
Clarke St											19	19
Blandford St											21	21
Russell St											22	22
Argyle St											17	17
Elphinstone St											22	22
							Total					449
							Total with Bidirectional bike lane					403
							% of original car parks with bidirectional bike lane					89.8%

Barkly St Closure to Vehicular Traffic

BikeWest does not support this proposal as despite some notable successes such as the Broadway pedestrian plazas in Manhattan, New York. In general, pedestrianized zones, in which all traffic is removed from shopping streets, have not been successful, leading to the conclusion that only particular areas – such as in university towns, which already have sufficient population density or pedestrian traffic – can successfully pursue this option. According to Speck⁸, of the approximately 200 pedestrian malls studied from the 1970s onwards, approximately only 30 remained as of 2012. The exceptions, including the Third Street Promenade in Santa Monica, California and 16th Street in Denver, Colorado, are indicators that conversion of shopping streets to pedestrian malls can be successful, although certain pre-existing conditions must be met. Local examples of successful road closures include Ballarat St Yarraville. This is another example of high levels of pedestrian traffic and very little through traffic.

North South Connections from Barkly St West Footscray

Laneway opposite Elphinstone St

As discussed above, this laneway should be the main connecting route south to Rupert St and hence westwards to Braybrook and Sunshine. However, due to the lack of passive surveillance on this route it should be very well lit, have a high quality surface and potentially security cameras along its length. The intersections with Clive St should be raised and also have green paint and potential road humps either side to slow traffic. The intersection with Rupert St should be raised and painted green, or include road humps with an associated pedestrian zebra crossing in addition to the green paint (Figure 25).

Figure 25: Laneway opposite Elphinstone St



Clarke St

Conversely the proposal for a pop up pedestrian zone in the northern end of Clarke St is endorsed by BikeWest as it not a major thoroughfare and its characteristics more closely resemble the Pop Up Park in Ballarat St Yarraville.

In addition, BikeWest proposes that Clarke St should be a main connecting route from Cross St to Barkly St instead of Warleigh Rd. While Warleigh Rd is acceptable for low quality painted bicycle lanes due to its width, the combination of grass verge standouts and tree alignment it is not possible to install protected bicycle lanes, either unidirectional or bidirectional. Painted bicycle lanes on the moving vehicle side of parked cars will not attract more than a small percentage of cyclists, this is

⁸ Speck, Jeff (2012). *Walkable City: How Downtown Can Save America, One Step at a Time*. New York: North Point Press. ISBN 978-0-86547-772-8

especially the case for females and children⁹. Painted bike lanes are not suitable for primary school aged children especially, and given such a person is the symbolic rider for the Maribyrnong Bicycle Strategy this is inappropriate as a significant link. When combined with the width of lanes in Warleigh Rd (over 3m) that encourage higher speeds, this rules out Warleigh Rd as a high quality bicycle route.

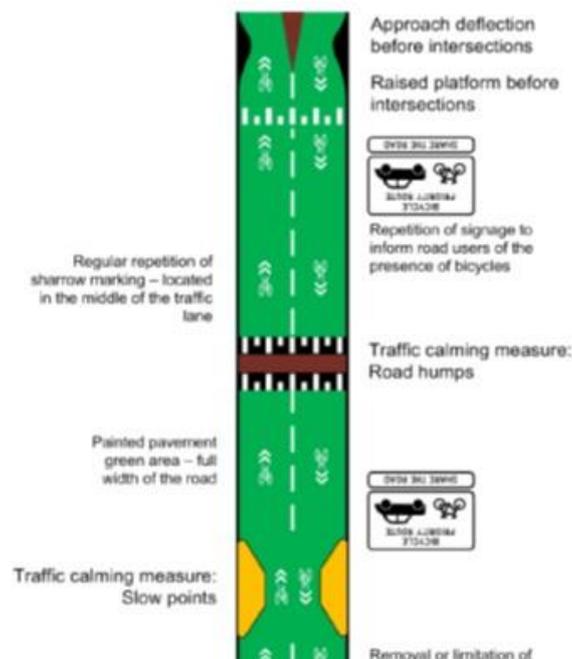
Pleasingly Clarke St provides an excellent alternative. Clarke St is narrow which encourages slower driving and has much lower vehicular traffic volumes than Warleigh Rd. Clarke St also has the proposed pop up park at the Barkly St end acting as an anchor for active transport (Figure 26).

Figure 26: Clarke St Bicycle St



BikeWest recommends that Clarke St should be redesigned as a Bicycle Street as per VicRoads specifications. This involves approximately 300m of green painted road surface, 4 or 5 roads humps with cut throughs for bicycles, slow points and a 30km/h speed limit (Figure 27).

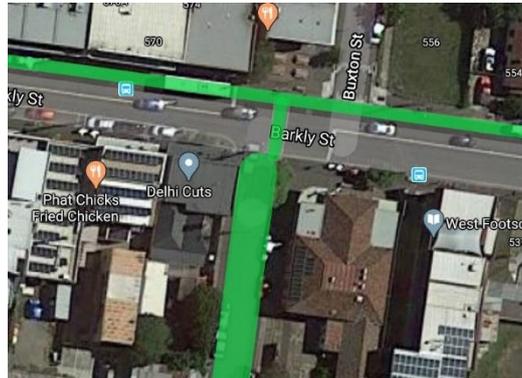
Figure 27: VicRoads Bicycle Street



⁹ Dill, J. and McNeil, N., 2016. Revisiting the four types of cyclists: Findings from a national survey. Transportation research record, 2587(1), pp.90-99.

A bicycle street is suitable in this case as Clarke St is a narrow street (approx. 7.5m), has very low traffic volumes and is relatively short at 300m. This is cost effective and does not reduce car parking for residents while providing a safe space for people on bicycles. However, this will require high quality protected intersections at both Barkly St and Cross St (Figure 28). The intersection with Barkly St benefits from a pre-existing pedestrian crossing which could be augmented with bicycle section to connect to the bidirectional bike path on the northern side of Barkly St.

Figure 28: Clarke St Barkly St intersection



The southern intersection with Cross St would require a raised intersection and preferably green paint to connect easily to the Cross St bike path.

Blandford St

Blandford St should be the main connection to the north of Barkly St in West Footscray. There are numerous reasons for this:

- Relatively wide street (11m) to accommodate a protected bidirectional bike path
- Connects to the back of Footscray West Primary School,
- Connects to Martin Reserve
- Connects to Shorten Reserve and on to Barrett Reserve, a key recreational precinct where active transport should be actively encouraged
- Connects to Church St for links further north. Church St is 14m wide and can easily accommodate protected bicycle infrastructure
- Connects to RecWest and Barrett Reserve via Withers Lane and Shorten Reserve car park where car parks may be replaced with angled car parks to allow room for a bike path on the southern boundary of the car park. This will involve the loss of a small number of car parks.

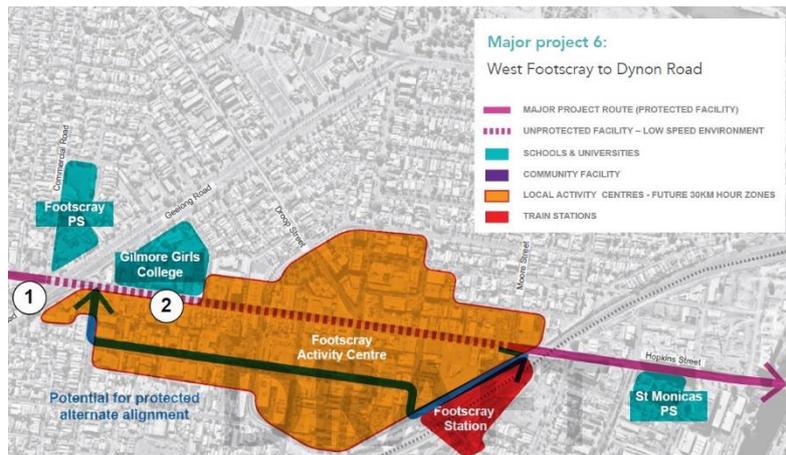
A bidirectional bike path on the western side of Blandford St would be preferred but an interim measure could involve making Blandford St and bicycle street like Clarke St.

Paisley St Bypass

As Barkly St/Hopkins St has very high strategic importance, BikeWest feels the need to reiterate concerns regarding the proposed Paisley St Bypass as suggested in the Maribyrnong Bike Strategy (

Figure 29).

Figure 29: Paisley St Bypass



BikeWest feels the utility of this proposal does not sufficiently justify its expense and should not go ahead for several reasons. Instead the funding for this should be diverted to Hopkins St/Barkly St.

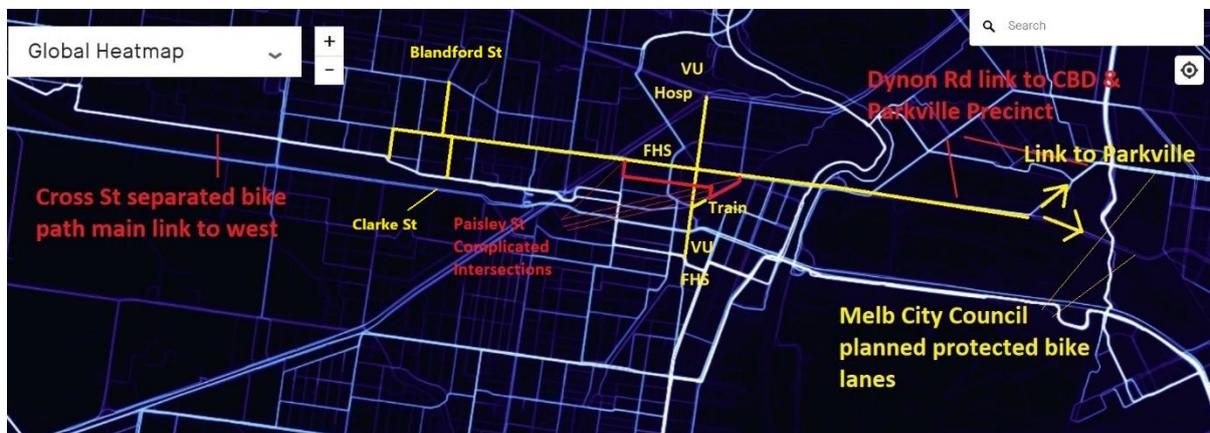
This route provides an unnecessary detour through several complicated intersections with high degree of conflict. These intersections include:

- Leeds St and Paisley St
- Leeds St and Irving St
- Irving St and Hopkins St
- Victoria St and Barkly St

In particular, this route leads to intractable conflict with buses, pedestrians and delivery trucks to Footscray Market on Irving St adjacent to Footscray Train station.

It would involve additional time and distance for those travelling east-west with no obvious benefits. This will lead to the Paisley St bypass being massively underutilised and makes little logical sense given space exists for bidirectional path on Barkly St (Figure 30). As recognised by researchers and practitioners, cycling routes should be direct in both time and space. In addition to the inevitable conflicts with pedestrians and vehicular traffic, this route increases the distance by 30% and BikeWest has measured this route and found it increases the journey time by between 3-5 minutes through Footscray. Such a delay will put the majority of people off using this route.

Figure 30: Key Bicycle Routes through Footscray



Despite these many issues with this proposal, the main problem is the backlash it would provoke from local traders when installing a protected bidirectional path along Hopkins St/Barkly St as they will argue given a bicycle route exists just to the south on Paisley St, despite its many failings, that no additional bicycle infrastructure is required on Barkly St. Given the historical reluctance of local traders towards bicycle infrastructure, the Paisley St bypass would be an own goal from a cycling perspective.

Footscray Rd –Cross St Connection

The absence of safe north south crossings across the railway line indicate the importance of Nicholson St, however, Nicholson St does not link to Raleigh St/Errol St (westbound) and Buckingham St/Pickett St (eastbound). Consequently, a different route should be examined.

Railway Crossing

There are 5 possible alternatives to for cycling infrastructure to cross the railway line between Tottenham and Footscray.

Ashley St

In the long term, the Ashley St underpass should be widened to 4 lanes and dedicated protected bike infrastructure. However, this is several kilometres west and there are no connections to the east from the south of the railway line. Consequently Ashley St is not a viable alternative for a north south connection as people travelling west from the Footscray area have no safe access to the Cross/Rupert St bike path.

Nicholson St

This is the main north south link through Footscray but does not connect directly to Errol St/Buckingham and hence is not an appropriate link to Cross St.

Albert St

Albert St has existing bike lanes, however, it does not connect to Pickett St and would constrained funds would be wasted on duplication

West Footscray Train Station

While it is possible for people on bicycles to cross the railway line at West Footscray station, it is a convoluted and congested option. During peak times, pedestrian congestion nearly precludes this option altogether. Hence this railway crossing will never be high capacity unless a dedicated cycling bridge is installed.

Victoria St

As the Strava Global Heatmap indicates, this is the current preferred route taken by cyclists to the east of Cross St. The critical issue is the width of Victoria St at the railway underpass. Currently the distance kerb to kerb is 8.4m. There are 30cm kerb set backs on either side of the road. One of these could potentially be utilised to create additional space for a bidirectional bike path on the western side. This part of Victoria St is not a bus route and hence vehicular travel lanes could be 2.8m wide (total 5.6m) leaves 2.4m (bidirectional bike lane 1m,1m 0.4m) or 2.7m if the kerb is moved back.

Conclusion

The Barkly St bidirectional bike lane is the key east west bicycle route through Footscray and the inner west. For the route to be successful it should be a continuous protected bidirectional lane from the Hopetoun Bridge through to Elphinstone St West Footscray. This will act as a key spine for cycling infrastructure and would provide access to numerous important institutions including two

campuses of Victoria University, two campuses of Footscray High School and the new Footscray Hospital. Overall, reallocation of existing road space would be the main requirement with some loss of car parking in West Footscray and minimal amounts in Footscray. This project should be a focus with