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Improving the east-west bicycle commuter route and access to Bay Run at Timbrell Drive, Five Dock

Traffic arrangements at Timbrell Drive, Five Dock pose conflicts with potential dangers for all road users - see video of these at <https://youtu.be/GFOS1I8YxIU>

These result from the close proximity of: a T-intersection and a roundabout on a busy car commuter route; a pedestrian/cyclist refuge that is one of just six devices intended to assist access to the Bay Run on the western side of the Bay Run; and a busy bicycle commuter route.

There is an immediate need to improve safety for bicycle riders crossing Timbrell Drive at Henley Marine Drive and Arthur Street.

The location

Timbrell Drive, Five Dock intersects with Henley Marine Drive (east and west sections) at two adjoining locations, both intersections spanning just 70 m in total, at co-ordinates -33.868347, 151.141416.

See diagrams on the next page.

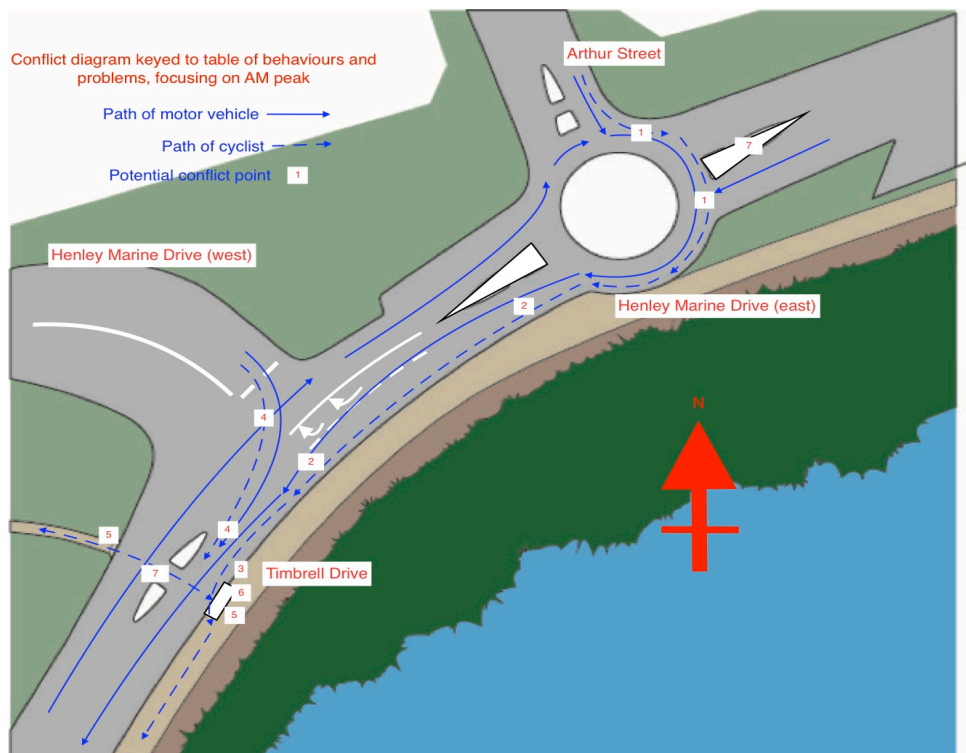
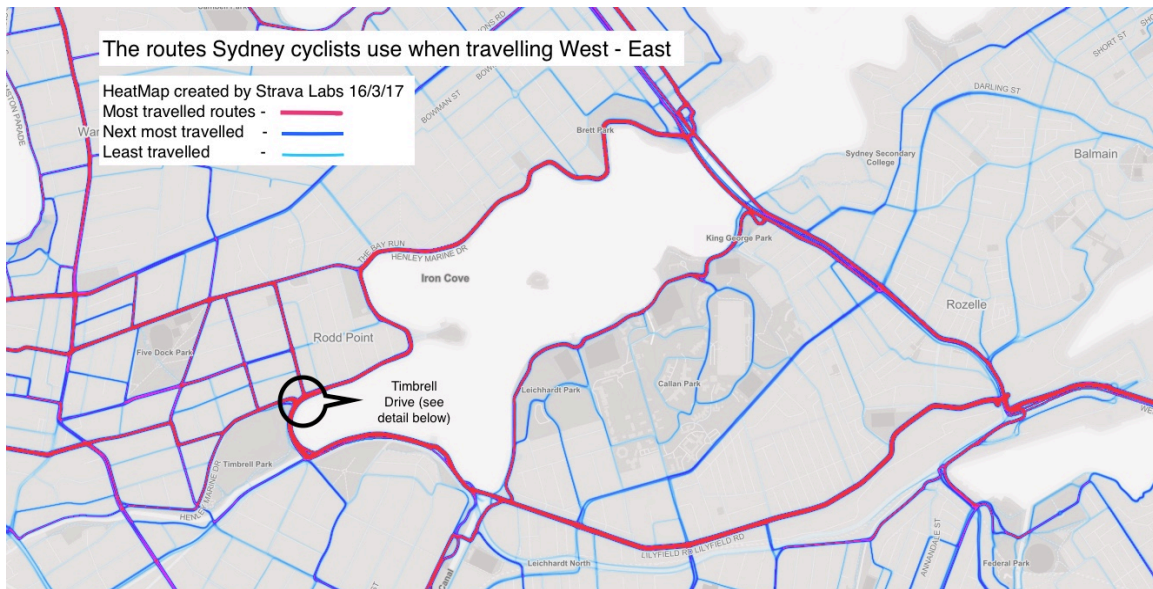
This is a busy and complex interchange with numerous entry, exit, crossing and turning movements of motor vehicles, pedestrians and cyclists. The intersections carry substantial motor vehicle traffic, especially in the AM (1162 vehicles an hour one way¹) and PM peak periods, feeding traffic on to and off the City West Link to/from the City.

The adjacent Bay Run is increasingly popular with pedestrians, runners and bike riders. The Bay Run cycle path also forms part of the East-West bicycling commuter route, which crosses Timbrell Drive, linking areas to the west with the city and other destinations. We have counted 112 cyclists an hour in the AM peak heading south on and adjacent to Timbrell Drive. Almost all join the Bay Run cycle path at this location.

The 2016 infrastructure upgrade of the Bay Run and Timbrell Drive at this location has not addressed the traffic conflicts identified in this report.

Potential vehicle, cyclist and pedestrian conflicts occur at multiple points in these intersections and seriously compromise safety and access for pedestrians and cyclists.

¹ For details of count see page 5.



Observed problems

BayBUG has carried out a series of observations of road user behaviour since October 2016, including counts of bicycle riders crossing Timbrell to/from the Bay Run cycle path.

An analysis of the safety and access concerns follows and is illustrated in the video on YouTube at <https://youtu.be/GFOS1I8YxIU>

SEE DIAGRAM ABOVE FOR LOCATION	OBSERVED BEHAVIOUR	SAFETY AND ACCESS PROBLEMS
1	Cyclists queue with other vehicles at Arthur Street and need to merge with vehicles in roundabout to turn right.	This is a challenging roundabout for cyclists entering from Arthur St especially in the AM peak due to the volume of traffic. Only confident cyclists were observed using it.
2	Motorists (heading to the City West link) accelerate out of the Timbrell Drive/Arthur St roundabout faster than cyclists. At times they attempt to overtake them (using the right hand turn lane to Henley Marine Drive (west)).	The speed mismatch between motor vehicles and cyclists potentially leads to cyclists being rear-ended or to motorists squeezing cyclists against the kerb as they approach the lane narrowing at the refuge.
3	Cyclists (heading south from the roundabout or from Henley Marine Drive (west)) slow as they leave the road using the kerb lip at the refuge and join the Bay Run cycle path. Motorists approach from behind, often accelerating.	Motorists are accelerating toward and through the lane narrowing at the refuge as cyclists are slowing, creating a potential rear-ending conflict.
4	<p>Motor vehicles and cyclists turn right onto Timbrell Drive from Henley Marine Drive (west) into traffic stream.</p> <p>Cyclists sometimes cross the Timbrell Drive north-bound lane and hold in the centre of the road waiting for a break so they can cross the south (City West Link) bound lane and enter the Bay Run cycle path.</p>	This T-intersection is increasingly dangerous as traffic volumes rise in the AM peak, with motorists and cyclists looking for a break in the south (City West Link) bound traffic stream. Vehicles making this turn frequently ignore the Stop sign.
5	<p>Pedestrians and cyclists using the refuge have insufficient protection from vehicles travelling in both directions on Timbrell Drive and from those turning right from Henley Marine Drive (west).</p> <p>Also, at peak commuter travel times, pedestrians and cyclists are required to wait for excessive periods for an opportunity to complete the crossing.</p>	<p>Motor vehicles travelling around 50 km/h at the refuge present an unacceptable conflict danger at this point.</p> <p>Excessive waiting periods may lead to increased risk taking by pedestrians and cyclists.</p>

6	In the AM peak commuter travel period, motor vehicles (heading south to City West Link) at times queue along Timbrell Drive and totally block pedestrian and cyclist access to the refuge and the Bay Run cycle path.	Pedestrians and cyclists are forced to find alternative access points across Timbrell Drive, increasing their exposure to conflicts with motor vehicles. Pedestrians and cyclists experience unacceptable and unnecessary delays.
7	The Timbrell pedestrian/cyclist refuge is the only device on the western side (3.3km) of Iron Cove intended to assist cyclist access across Timbrell Drive and Henley Marine Drive to the Bay Run cycle path and one of six that can assist pedestrian access. The only places where pedestrians have priority over vehicle traffic are at the junction to the City West Link and at the Drummoyne Swimming Centre.	Lack of assistance and the delays consequent on lack of priority lead to pedestrians and cyclists crossing at uncontrolled points, at increased risk of conflict with vehicles.
8	There is insufficient regulatory or advisory signage controlling/guiding the behaviour of road users	Motorists may not expect the presence of pedestrians and cyclists, adding to the potential dangers noted above.

Observations of road user behaviour

- The right turn from Henley Marine Drive (west) to Timbrell Drive is a hazardous one for motor vehicles and cyclists. The stop sign at this T-intersection is routinely ignored.
- Most cyclists in the AM entering the intersection from the west/north come from Arthur St, turn right through the roundabout, then left using the ramp at the refuge onto the Bay Run cycle path.
- Most cyclists in the PM crossing the intersection from the Bay Run cycle path use the refuge and then turn left into Henley Marine Drive (west).
- Cyclist use of the roads in the Timbrell Drive intersection is limited to riders who feel confident in traffic. The refuge is used by less confident and risk averse riders.

Bicycle volumes crossing Timbrell Drive at peak times

Multiple observations have been undertaken from late 2016 to early 2017 of traffic movements, including counts of bicycles crossing Timbrell Drive on the East-West Commuter Route.

AM PEAK

	WESTERN SUBURBS BOUND	EAST & SOUTH (CITY) BOUND
Average per hour	12.75	74.75

PM PEAK

Average per hour	55	12.75
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These values, averaged from multiple observations of cyclists crossing Timbrell Drive to/from Arthur St; Henley Marine Drive (west); and Timbrell Park, using the kerb lip at the refuge on/off the Bay Run cycle path, show that cyclist and pedestrian use of the Timbrell Drive crossings is heavily tidal.

South (City direction) bound bicycles on the Bay Run cycle path and Timbrell Drive in the AM peak (7 – 8 am 15 February 2017) have been observed to comprise 8.8% of all non pedestrian south bound traffic (1,162 motor vehicles and 112 bicycles).

Preferred solutions

The following treatments are illustrated in the video at YouTube at <https://youtu.be/GFOS18YxIU>

	TREATMENT	LOCATION	BENEFIT
1	Raised zebra and bicycle crossings, in parallel, with a 10 degree angled kerb lip entry from Timbrell Dr (Austroads compliant) to assist cycle access to Bay Run cycle path.	Replaces existing pedestrian/cyclist refuge	Provides safer access for pedestrians and cyclists to the Bay Run . Helps to slow motor vehicles through the intersections, reducing potential for conflicts. Will deter motorists from blocking pedestrian/cyclist crossing location.
2	New bicycle-only entry ramp to Bay Run cycle path with green pavement entrance treatment.	Through southern kerb on Arthur St roundabout	Separates bicycles from motor vehicle stream and avoids conflict point noted earlier
3	Upgrade of shared path in Timbrell Park	From Timbrell Drive to Henley Marine Drive (West)	Will make use of proposed pedestrian/cyclist priority crossing safer and more attractive
4	Advisory signs, bike logos, signage and green pavement paint	Throughout intersection at selected locations as required	Will channel bike traffic appropriately. Will alert motorists to the presence of pedestrians and cyclists.

Other benefits that will flow from making the crossing safer include:

- Improved function of these intersections for all road users
- Improved pedestrian access to the Bay Run
- More bicycle travel along the East-West bicycle commuter route.

Related plans

The Bay Run is currently being upgraded to separated pedestrian and cyclist paths between the Haberfield Rowing Club and Iron Cove Creek. This, together with the overall improvements in recent years to the Bay Run will continue to bring increasing numbers of users.

WestConnex stage 1 (opening early 2019) will deliver east-bound traffic onto the City West Link from a tunnel portal near Ramsay St Five Dock. This appears likely to increase congestion on Timbrell Drive, exacerbating safety and access concerns for pedestrians and bicycle riders.

No improvements to trunk/regional bicycle facilities are planned in the locality under discussion as part of the WestConnex M4.

Lilyfield Rd Cycleway, East West Cycle Commuter Route. Proposals are being finalised by the RMS for bi-directional bicycle lanes along Lilyfield Rd between the Hawthorne Canal and Victoria Rd at White Bay, Rozelle to improve the commuting route to the City.

The NSW Government policy 'Sydney's Cycling Future' (Dec 2013) recognises Lilyfield Rd as a key Sydney cycling route.

Urban Growth. The population in suburbs west of Iron Cove is growing significantly and is projected to grow substantially in coming years. Pressure on transport modes in Sydney's west/inner west will continue to increase. There is considerable potential for active transport, especially cycling, to meet some of this demand.

Other options considered to improve Timbrell Drive

	TREATMENT	LOCATION
5	Traffic signals including pedestrian/cyclist crossing	At Henley Marine Drive (west)/ Timbrell Drive intersection
6	Reduce speed limit from 50 to 30 or 40 km/hr	Timbrell Drive from Arthur St roundabout to existing south of existing refuge
7	New roundabout	Timbrell Drive/Henley Martine Drive (west) intersection
8	Left turn only	For traffic approaching Timbrell Drive from Henley Marine Drive (west)
9	Entry ramp for cyclists from road to Bay Run cycle path	East of Arthur St roundabout, through car parking
10	'Keep Clear' and/or cross hatching roadway markings	On road pavement at refuge

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