Brisbane Central Business District Bicycle User Group
CBD BUG
GPO Box 2104, Brisbane 4001
convenors@cbdbug.org.au
www.cbdbug.org.au

The Right Honourable, Cr Graham Quirk
Lord Mayor of Brisbane
GPO Box 1434
Brisbane Qld 4001
Via email to: lordmayor@brisbane.qld.gov.au

Dear Lord Mayor

This letter concerns the cycling environment on the planned Kingsford Smith Drive upgrade stage 2 and 3.

The Brisbane Central Business District Bicycle User Group (CBD BUG) views this project as a golden opportunity to provide safe and convenient cycling infrastructure of the type that was promised during the 2016 Brisbane City Council election campaign. Infrastructure that people will use for transport, not just to drive to and ride on.

The section of this project along the waterfront between Cameron Rocks Reserve and Bretts Wharf will deliver an off-road segregated path for pedestrians and cyclists, and this will be a welcome addition to Brisbane's cycling infrastructure network. However, the current reference design will do little to encourage new people to cycle in the section between Theodore Street and Racecourse Road, approximately half the overall length of this project, in being limited to delivering on-road cycle lanes. These will place people riding bicycles unnecessarily close to, and in potential conflict with large volumes of 70 km/h traffic, which has a very high proportion of heavy vehicles. A collision between motor vehicle and a bicycle at 70km/h will inevitably prove fatal.

The current reference design will deter all but "strong and fearless" bicycle riders from using the Theodore Street and Racecourse Road section, and will be dangerous to all. There is ample space and opportunity to build a world class facility that can be used safely, by people aged 8 through to 80. The current reference design will not encourage the "interested but concerned" people to hop on a bicycle and give it a go.

The reference design goes against current Department of Transport and Main Roads Guidelines (Appendix A), against Queensland Coroner Recommendations, against international best practice, and against the Northshore Hamilton Urban Development Area (UDA) Development Scheme (1). It is also inconsistent with the Safe System approach.

In addition to the technical guidance available, the project should also take guidance from the Coroner's findings in the Inquest into the death of Rebekka Tine Lousdal Meyer (2). Point 156 is

somewhat critical of Council's current over-reliance on on-road bicycle lanes, and recommendation 8 is unambiguous, "It is recommended that Brisbane City Council engage with bicycle representative groups to investigate, plan and develop more dedicated exclusive bikeways in Brisbane. Resources and planning should be prioritised to extend Council's excellent existing dedicated bicycle only bikeways that provide physically exclusive bicycle paths."

Although the reference design was likely completed before this coroner report was released, to not follow the most recent safety advice available when constructing major infrastructure like this, which will be in place for the foreseeable future, would be negligent. The Safe System approach is to separate vulnerable road users from heavy vehicle traffic, and heavy vehicles.

Specific Design Comments

The CBD BUG is pleased with the reference design's separated pedestrian and cycle paths along the riverwalk section of the upgrade, and acknowledges the project's obligation to provide a smooth and continuous connection to the existing road design to the east. However, we are deeply concerned with safety aspects of the design around the busy section between Remora Road and Riverview Terrace. As the on-road environment between Riverview Terrace and Remora Road is and will continue to be extremely hostile to cyclists, and there are no property accesses along the southern kerb in this section, a bi-directional off-road bikeway should be provided here.

This section is considered to be the most critical due to high volumes of cyclists predicted following the completion of this project and linking up with the Gateway Upgrade North Cycle Way. This section will provide the crucial link between the Hamilton Northshore UDA and the riverwalk section. The following points are of most concern.

1. The non-provision of a safe, direct and convenient connection from the UDA to the riverwalk section.
2. The excessive and unnecessary use of channelised left turn lanes, even on minor roads.
3. The dangerous and unnecessary conflict between people on bicycles and buses around major bus stops.
4. The dangerous and unnecessary conflict between people on bicycles and motorists around the on-street parking near Racecourse road
5. The lack of a safe and convenient crossing from the separated cycle track along the river to the eastbound cycle lane to the east.
6. The lack of a safe and comfortable connection to Moreton Bay Cycle path and the Gateway Bridge.

An annotated map of the project is also attached, which shows many of these points.

1. The non-provision of a safe, direct and convenient connection from the UDA to the riverwalk section.

Although the UDA Development Scheme aims to encourage cycling, there is no safe, direct and convenient connection to the riverwalk section of this project. In a traffic impact assessments by TTM (3) Macarthur Ave is shown as sign posted at 60kph and all internal roads show kerbside parking, however these design elements are not amenable to safe cycling. People riding bicycles from the UDA, towards the city will try to avoid the UDA's internal road network.

It is anticipated that people riding bicycles to and from buildings near the river will want to use the proposed internal riverwalk to access riverwalk section of this project. The design around the Bretts Wharf ferry terminal, however, directs cyclists away from the river. The design around this area should be mindful of people riding bicycles wanting to access the proposed internal riverwalk, as well as those proceeding along Kingsford Smith Drive.

For buildings to the north of the UDA, however, accessing the river will be indirect, and they will find it difficult to access through the high density retail and dining environments proposed. These people should be given a safe and direct cycle track along the southern side of Kingsford Smith Drive.

This path should be physically separated from the road, it should pass behind parked cars and bus stops, and be clearly separated from the footpath. It should take into account the safety considerations listed above. Please refer to TN-128 for detailed advice on this design.

2. The excessive and unnecessary use of channelised left turn lanes

Channelised left turn treatments (slip lanes) are dangerous, and their use should be discouraged on urban roads, as explained in Appendix B. This danger is exacerbated for cyclists, who are often at the receiving end of so-called ‘Sorry Mate, I didn’t See You’ (failure to yield) accidents.

There does not appear to be any justification for using a channelised left-turn treatment at either Harbor Road or Hercules Street intersections. Publicly available traffic impact assessments by TTM (3) and Parsens Brinkerhof (4) show left turn volumes into Harbour Road and Hercules Street intersections as only 10 to 20 vehicles per hour in the peak periods, even in 2031. With such low volumes expected, a high volume treatment such as a channelised left-turn is an unnecessary additional expense, and an unnecessary compromise on safety. It should also be noted that Harbour road is not listed as a key connection in the Development Scheme (1) (figure 1)

Given the safety concerns around these treatments, BCC should also reconsider the application of channelised left turn treatments on all legs of the the Nudgee Road/Remora Road intersection. At the very least, the left turns should be controlled by traffic lights, to prevent motorists pulling out on cyclists and other motorists alike.

3. The dangerous and unnecessary conflict between people on bicycles and buses around major bus stops

Bicycle bypasses behind bus stops are recommended by both TN-128 (5) and international best practice (6). They were experimental in 1953, are now standard in the Netherlands (6), and used internationally in jurisdictions generally considered to be more similar to our own, such as the UK, (7), the United States (8) and Melbourne (9). They are also currently used in Brisbane on Coronation Drive at the Regatta, and (although poorly designed) on Wynnum Road near Norman Avenue. They are even proposed on this project, at Day St, and at Crescent road.

The CBD bug requests that similar treatments be extended to all bus stops in the project, where they intersect with bicycle infrastructure. Specifically, at the Remora Road and College Street bus stops. To the east of Remora Road, a bi-directional separated cycle track should be used, passing behind the bus stop and waiting area. To the west of Remora Road, the unidirectional cycle tracks should pass behind all bus stops; this treatment is compatible with both on-road cycle lanes (current design), or with kerb-protected cycle tracks (preferred).

Some road designers express concern for the safety of pedestrians around such infrastructure. Pedestrian and cyclist conflicts have been extensively studied, and shown to be vastly outweighed by danger posed by conflicts between motor vehicles and bicycle riders, as explained in appendix A.3.

4. The dangerous and unnecessary conflict between people on bicycles and motorists around the on-street parking near Racecourse road

Sandwiching bike lanes between car parking and general traffic lanes is both dangerous and unpleasant, leading to so-called 'dooring' accidents, as well as introducing conflicts every time a motor vehicle enters or leaves a parking space. This danger will be exacerbated due to the parking bays near Racecourse Road and Bretts Wharf ferry terminal being designed for frequent, short term use.

Placing bicycle lanes between parking spaces and the curb is much safer, much more comfortable, and complies with current design guidance and international best practice. This approach is required by technical guidance in TN-128 (5) section 4.8.10, "The design of bicycle lanes in conjunction with roadside parking should take into account the issues detailed in the Transport and Main Roads Selection and Design of Cycle Tracks."

The CBD Bug requests that a bi-directional cycle track be used between Remora Road and Bretts Wharf ferry terminal, and that it pass behind any on-street parking or drop off bays.

5. The lack of a safe and convenient crossing from the separated cycle track along the river to the eastbound cycle lane to the east.

A safe, convenient, and direct crossing of Kingsford Smith Drive road does not exist. A crossing is necessary in order to continue travelling along Kingsford Smith Drive to the east. The designs show that the crossing at Riverview Terrace will be removed, and that all remaining crossings will require pedestrians and cyclists to wait through two traffic light phases. Although specific timings are yet to be provided by the project team, this looks like taking between 3 and 5 minutes to cross the road. This would be longer than it will take to drive the entire length of this project.

With no safe and convenient crossing point provided anywhere in this area, cyclists will continue riding along the southern footpath, until the most convenient crossing opportunity presents itself. For strong and fearless cyclists, this may be to queue in front of right turn phase on either Harbour Road, Hercules Street, or Nudgee Road. The majority of cyclists, however, will either wait through the two-phase crossing, cross wherever a gap in traffic presents itself, or simply continue along the footpath and ignore the on-road facilities entirely. Have the intersection modelling and safety audits taken into account such risky behaviour, encouraged by this lack of provision?

It is noted that the use of two-phase pedestrian (and cyclist) crossings throughout this project appears to be an attempt to maximise the motor vehicle throughput of the intersections, to the detriment of all other modes. The speed and the scale of the re-designed Kingsford Smith Drive will already create a large and unpleasant barrier for both pedestrians and cyclists wanting to cross the road, and the use of two-phase crossings, even near the commercial area and ferry terminal at Racecourse Road, shows complete people walking, people accessing bus stops, people accessing the ferry, people riding bicycles, and business owners alike.

The CBD Bug requests that safe and comfortable crossing of Kingsford Smith Drive be provided, which allow people riding bicycles and people walking separate space, and which do not force users to wait for inordinate amounts of time. These will be especially critical at Racecourse Road, for people accessing the retail and dining areas there; and at Nudgee Road, for people either travelling north towards Nundah and the future Gateway North cycling facilities, and for people continuing east along Kingsford Smith Drive.

6. The lack of a safe and comfortable connection to Moreton Bay Cycle path and the Gateway Bridge.

It is noted that there is no safe off-road path connecting this point to Moreton Bay Cycle Path at the Gateway Motorway and many people already ride on the footpath in this area. Other cyclists ride through the industrial road network, including Curtin Avenue, however this is a diversion of over 2 km, compared to Kingsford Smith Drive, involves mixing with heavy vehicle traffic, and will likely experience a general grown in traffic as the UDA is developed. The riverwalk and connection to the Gateway Bridge proposed in the UDA shows no sign of ever being constructed, and will amount to an even greater detour.

For this reason it is desirable that the separated cycle track be continued to the eastern edge of the project. At a minimum, the southern footpath be continued as a wide shared pedestrian/cycle path. Council should begin planning a future upgrade of the footpath to the east of this project to the same standard, in order to connect with these vital links. Council should also work with Brisbane Airport to complete the Moreton Bay Cycle Path.

Closing Comments

The CBD BUG understands that a design change of this nature would require a deviation from the already negotiated contract with Lend Lease, however the costs would be minimal compared to the cost of retro-fitting safe infrastructure at a later date.

It is noted that the principal cycle network shows Remora Road and the riverfront path as a future principal cycle network. However, there is no current, nor planned safe, direct and comfortable route through this area (as recommended by TN-128). Therefore, the CBD BUG strongly recommends that this part of Kingsford Smith Drive be part of the principal cycle network, and this part of the project be built to an appropriate standard to allow safe use by everyone, aged 8 to 80.

Yours faithfully

Andrew O’Brien
Brisbane CBD BUG Representative
KSD Upgrade Project Community Reference Group
12 May 2016

Cc: Kingsford Smith Drive Project Team
Brisbane North BUG
Airport BUG

Appendix A. Relevant Technical Guidance

A.1 Relevant guidelines

The primary form of guidance to be used for the Selection and Design of Cycle Tracks is the Queensland Transport and Main Roads Technical note of the same name (TN-128). This technical note is explicitly required by the Queensland Road planning and design manual - 2nd edition. In Volume 3: Guide to Road Design. Part 3: Geometric Design (10) section 4.8.5 states. “Separated bicycle lanes should be designed in accordance with the Transport and Main Roads “Selection and Design of Cycle Tracks.”

A.2 Selecting between bicycle lanes and cycle track.

AP-G88-14 Cycling_Aspects of Austroads Guides (11) (Figure 2.2), and TN-128 (5) section 2.1 are very clear. Table 1 shows that for Arterial roads with vehicle operating speeds of more than 50 km/h, separated cycle tracks are appropriate, and “Bicycle lanes not preferred due to high speed difference.” (emphasis from original document).

A.3 Parking and Bus-stop bypasses

Bicycle bypasses behind bus stops are recommended by both TN-128 (5) and international best practice (6). ‘Queensland Road planning and design manual - 2nd edition Volume 3: Guide to Road Design. Part 3: Geometric Design (10) section 4.8.10 states, “The design of bicycle lanes in conjunction with roadside parking should take into account the issues detailed in the Transport and Main Roads Selection and Design of Cycle Tracks.” Although not explicitly stated, the CBD BUG’s position is that the design of bicycle lanes in conjunction with bus stops should also take into account the issues detailed in this document, similarly to that of parking.

Cylist and pedestrian conflicts were studied in detail by TRL in 2014 (12) Despite recording some initial apprehension by study participants, pedestrian/cyclist crossings did not have any observed negatives (table 10.1).

A 2011 study (13) studied the risk cyclists pose to pedestrians in detail. “This comparison indicates that the risk of a pedestrian being struck down by a bicyclist and killed is currently less than the risk of being struck by lightning (0.1 chances of fatality per million person years), 23 times less likely than tripping on a footpath or roadway (1.15 chances of fatality per million person years), 200 times less likely being involved in an airline crash (10 chances of fatality per million person years), and 700 times less likely than being struck and killed by a motor vehicle (35 chances of fatality per million person years).” Despite the prevalence of shared paths. Data from 2001 to 2005 showed 33 hospitalisations of pedestrians (serious and non-serious) due to cyclist in NSW;

Appendix B. Channelised Left Turns

Channelised left turns allow for undesirable vehicle turn paths and high vehicle speeds as show in TN-128 figure 65. Channelised left turns are also prone to failure to give way accidents, of which cyclists are frequently on the receiving end.

Available guidance, both domestic and international, recommends that channelised left (or right) turns only be used where turning volumes are high, and anticipated pedestrian volumes are low. Austroads Guide to Road Design Part 4A section 8.3.3 shows Urban Auxiliary Left-turn Treatment (AUL) on the Major Road as being an acceptable alternative. TN-128 figure 65 clearly shows how to combine this with separated cycle tracks.

In jurisdictions such as the Netherlands, channelised turns are not used at all, as they are inherently less safe. CROW: Design Manual for Bicycle Traffic states, "It is beneficial to safety if the number of sub-conflicts is minimised and the cyclist is maximally within the motorists's field of vision." "The designer's task is to minimise the number of sub-conflicts. .... cyclists must be in the motorists' field of vision so that the latter can react to their presence in good time." Channelised turns go against these principles.

The design practice approaching the cross road at about 70 degrees is aimed at reducing the likelihood of a failure to yield accident, although, as noted in the Austroads Road Safety Engineering Toolkit (14), the effectiveness of this treatment is “Unconfirmed by reliable research.” It is listed only as a retro-fit measure for low-angle slip lanes. As such, this treatment should still be treated with caution.

References.

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