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The Right Honourable Cr Adrian Schrinner
Lord Mayor of Brisbane
GPO Box 2287
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Via email to: lord.mayor@brisbane.qld.gov.au

Dear Lord Mayor

Please accept this as the Brisbane Central Business District Bicycle User Group (CBD BUG) submission regarding the proposed development at the Eagle St Pier under application number A006210576 which is an amendment to A005477682. In line with the CBD BUG's standard practice this submission will only outline concerns with the proposal and how it impacts on cycling.

The importance of ensuring this development makes appropriate provision for people riding bicycles cannot be understated, due to the lack of direct and/or safe alternatives within the Brisbane CBD. This development provides a unique opportunity to address the shortcomings in the CBD network.

Existing Conditions

Riverwalk

1a. Existing Layout
The existing Riverwalk forms a vital active transport function for people traveling to/from/through Riverside to/from/through the Brisbane City Gardens. It is the only CBD corridor where there is no risk of conflict with motor vehicles. Currently, the Riverwalk through the Eagle Street Pier splits into an upper and a lower path (Figure 1). The upper path is predominately used by people wishing to linger and stroll. The lower path is predominately used by people to travel through the precinct whether they be on foot or bicycle. While the lower path is a substandard width, the separation of functions removes much conflict which would exist if the two paths had been built as one. Currently, the upper path is a minimum width of 3m and the lower path a minimum width of 2.5m providing a combined width of 5.5m for the Riverwalk.

1b. Existing Patronage
According to the traffic report, 1,400 people cycle and 7,600 walk along the Riverwalk through the Eagle St Pier in a 24hr period. Unfortunately, the report does not provide an hour by hour breakdown of the volumes. This is highly disappointing considering the report states that there is a "Well defined morning and afternoon commuter peak periods". This omission does not allow for an evidence based assessment of the proposal. This is critical when independent investigation cannot be conducted due the residual effects of COVID-19 on transport behaviours by the public. The traffic report indicates that 95% of cycle movements travel through the site confirming the existing Riverwalk's vital function as part of the active transport network.

Development Proposal

2a. Government/Council Cycling Plans

The traffic engineering report cites the Brisbane City Council City Plan 2014 but does not reference the Queensland Government "Principle Cycle Network Plan" for SEQ. Under the "Principle Cycle Network Plan" the corridor is ranked as "Route Priority A". This ranking in combination with BCC listing it as a "Primary Cycling corridor" highlights the development should be of the highest standard to cater for high volumes of both people on foot and bicycle.

2b. Failure to comply with Austroads

As no new traffic engineering report has been submitted as part of this application it is assumed that the previous report is being used in this application. It is highly disappointing that the traffic engineering report fails to reference AustRoads "GUIDE TO ROAD DESIGN – Part 6A: Pedestrian and Cycle Paths". This nationwide guideline, provides clear instructions on how to choose and design pedestrian and cycle corridors, and appears to have not been observed

2b.1. Austroads has a simple flow chart on selection of a walking/cycling corridor (Figure 2). This flow chart clearly indicates that the selection of a shared corridor is unsuitable and that people using different active travel modes should be safely accommodated by separated paths. We have noted that the deck width has now been increased allowing for segregation of user groups to be incorporated into the design should Brisbane City Council make it part of their approval.

2b.2. Austroads states appropriate lines of sight should be maintained (Figure 3) yet there are two sets of stairs leading down onto the Riverwalk that may result in conflict due to the peculiar angle of approach.

2b.3. Austroads clearly states that curves in a cycling corridor should be avoided (Figure 3). Considering the Riverwalk sits above a straight section of the Brisbane River there is no reason to impose bends. While CBD BUG views the form of the Riverwalk as important, its function as a safe active travel corridor must be the first priority. We do note that the radii of the bends have been improved upon the previous application.

2b.4. Austroads states that in general the operating speed of a person on a bicycle is 20kmph to 30kmph (Figure 3). Further to this, it recommends that paths are designed to a minimum travel speed of 30kmph. According to Austroads the minimum radii of any bend that has been added for aesthetic reasons should be between 10m and 25m respectively (Figure 4). The application does not dimension radii. This does not allow assessment with Austroads . We note the Urban Report in the previous application used the words "safe speed" in an attempt to absolve the project proponent from complying with Austroads.

2c. Failure to comply with TMR Guidelines

The Department of Transport and Main Roads provides a number of publications regarding the optimal design of pedestrian and cycling facilities. As part of this submission we will reference "Supplement to AustRoads Guide to Road Design – Part 6A: Pedestrian and Cycle Paths" and TN133 – "Guidance on the Widths of shared paths and separated bicycle paths". Both documents reference traffic volumes on a per hour basis, which due to this strategic omission in traffic reports requires assumptions to be made based on educated assumptions from the CBD BUG's own experience and the traffic report.

2c.1. TMR supplement to Part 6a Figure 6 and Figure 7 both show that even at current volumes a separated path is recommended

2c.2. TMR TN133 which continues to be referenced by TMR supplement to Part 6a clearly states that when dealing with a corridor's capacity "if there is sufficient space for a 4.0m shared path, then a segregated 1.5m footpath and a 2.5m bicycle path may be a better outcome in terms of throughput capacity" (Figure 5).

2d. “Generous” 6m Riverwalk
The amendment continues to propose a 6m width and although it describes it as “generous”, even with the current volumes, it will result in a continuation of conflict between various active travel mode user groups.

2d.1. As stated above, the existing Riverwalk at the Eagle St pier divides into a lower and upper path. Using both paths as a singular number the existing Riverwalk through Eagle St pier is a minimum width of 5.5m whereas the proposal “unobstructed width” is for 6m. This means at most there is a 0.5m increase in corridor width if not a reduction when looking at sections where the paths are wider.

2d.2. The Southbank Promenade is 6m wide. Since opening in the early 1990s it has been the subject of numerous media articles highlighting conflicts between user groups. Much of this conflict is due to the shared nature of the 6m path where people are told to keep left. This is counter to human nature when traveling along a visual drawcard. Compounding the conflict is the large volume of people using the corridor, and their conflicting uses (recreation and transport). The volumes may be similar to Eagle St Pier once it is redeveloped.

2d.3. The Howard Smith Wharves development opened in November 2018 with a 6m shared corridor for active transport. Like the Eagle St Pier redevelopment, a shared path was proposed. This 6m shared use corridor has been subject to media articles commenting on its poor design. The 6m width has not been sufficient to prevent conflict that social media has been highlighting (Figure 8)

2e. Stone Paving
It is concerning that the “stone paving” is listed as the intended Riverwalk path surface. However, when looking at the landscape report it states that it will be laid in compliance with AS1428.1, this is positive but stone can be a slip hazard when wet.

2f. Catering for Active Transport Growth and Kangaroo Point Ped/Cycle Bridge
The proposal’s reconstructed Riverwalk does not cater for future growth nor current usage as outlined by Austroads and TMR. The most notable omission is in the fact that the proposal does not provide latent capacity for patronage that will come from the Kangaroo Point Bridge that is set to open in 2024. This bridge alone will add hundreds, if not thousands, of additional movements to the Riverwalk - but how these numbers will be catered for is not evident.

Closing

3a. Summary

It is the CBD BUG's opinion that the Riverwalk as proposed by this development falls a long way short of providing a world class facility that is free from conflict, caters for everyone and is designed to meet the needs of active transport growth. The CBD BUG attended consultation meetings held by Dexus on how the site would be redeveloped and had high hopes that the lessons of the past would be learnt from. It is disappointing to see that the Architect has ignored the lessons of the past, and Austroads and TMR guidelines, and has chosen to repeat the substandard facilities of the past application. This assessment has not factored in the 2032 Olympic Games where any failures in design will be most evident!

3b. Solution

Every concern raised in this proposal could be easily resolved by a path that complies with Austroads Guidelines & TMR Guidelines**.** Such an example already exists in Vancouver Canada (Figure 10).

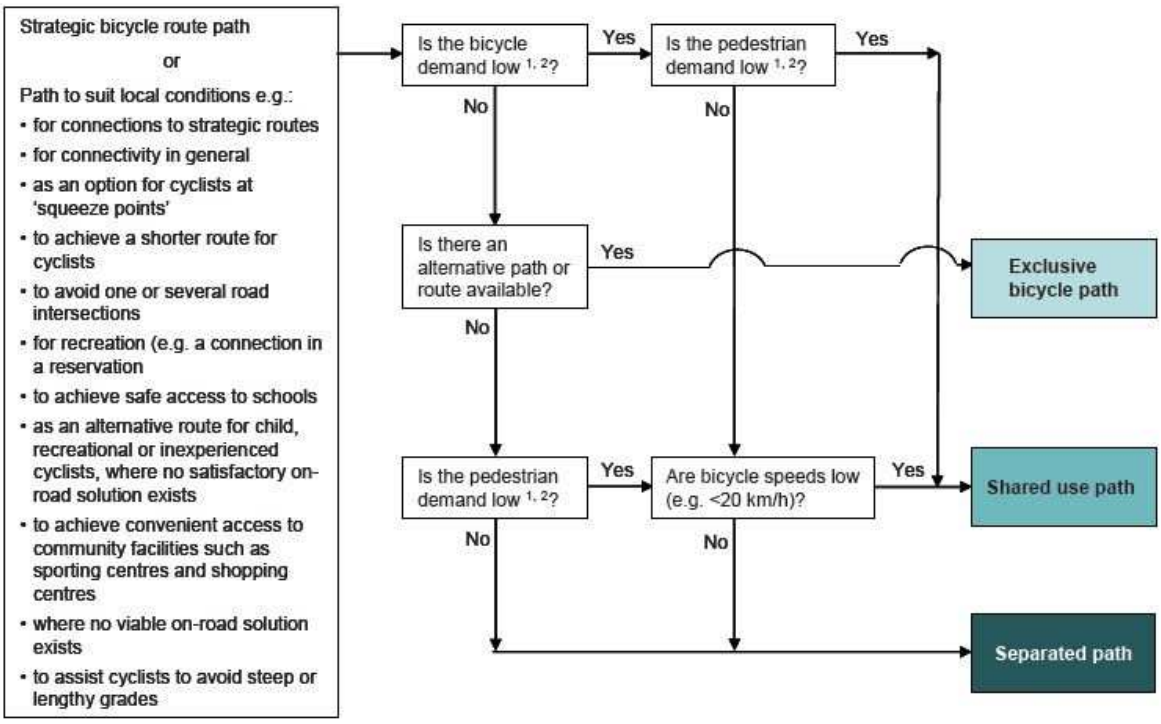
The CBD BUG calls on Brisbane City Council to require the development applicant to amend their proposal so the new Riverwalk is of a world class standard that:
a. caters for all user groups
b. complies with Austroads Guidelines, TMR guidelines and
c. caters for future Active Transport patronage growth.

Yours sincerely

Donald Campbell
Co-convenor
Brisbane CBD BUG
14 March 2023

Cc: Space for Cycling Brisbane
Bicycle Queensland
Cr Ryan Murphy Chair of Public and Active Transport Committee
Cr Vicki Howard Central Ward

Figure 1 – Eagle St – Existing Conditions



Notes:

1. The level of demand can be assessed generally on the basis of the peak periods of a typical day as follows:

a. Low demand: Infrequent use of path (say less than 10 users per hour)

b. High demand: Regular use in b.oth directions of travel (say more than 50 users per hour).

2. These path volumes are suggested in order to limit the incidence of conflict between users, and are significantly lower than the capacity of the principal path types.

Source: Austroads (1999)

Figure 2.1: Guide to the choice of path treatment for cyclists

Figure 2 - AUSTROADS

Speed maintenance

For bicycles to be most effective as a means of transport cyclists must be able to maintain speed without having to slow or stop often. Whilst many cyclists typically travel at speeds between 20 km/h and 30 km/h, a significant number of cyclists can travel at speeds in excess of 35 to 40 km/h on the flat and may reach speeds in excess of 50 km/h on down hill gradients. Once slowed or stopped it takes considerable time and effort to regain the desired operating speed.

Bicycle routes, especially off-road, should be designed for continuous riding, minimising the need to slow or stop for any reason including steep gradients, rough surfaces, sharp corners, obscured sight lines, intersections, or to give way to other people because the width available is too narrow.

Sight lines

It is important that appropriate sight lines are provided between a cyclist's eye height and pedestrians to assist in minimising conflict, and between a cyclist's eye height and the path surface so that cyclists can stop in the event that a hazard exists on the path (e.g. mud deposited during inundation, potholes due to washouts, broken glass, and fallen tree limbs).

Designers should therefore resist the temptation to provide curves that are smaller than necessary (e.g. to create an artificially winding path for aesthetics or urban design reasons). It is much better for the safety of path users if larger curves with greater sight distance are provided. Sight distance for cyclists is covered in Section 7.8.

Figure 3 - AUSTROADS

Table 7.1: Minimum radii of horizontal curves without superelevation

Design speed (km/h)	Minimum radius (metres)
20	10
30	25
40	50
50	94

Note: Based on zero superelevation and friction factors of 0.31, 0.28, 0.25 and 0.21 for speeds of 20, 30, 40 and 50 km/h respectively.

Figure 4 - AUSTROADS

Intermediate path widths, such as 2.5 m* or 3.5 m, allow greater clearances between path users and a slightly higher level of service (LOS), but do not add enough operating width to reduce the number of delayed passings. Providing additional width at less than one metre increments will improve cyclist and pedestrian level of service, but not throughput capacity.

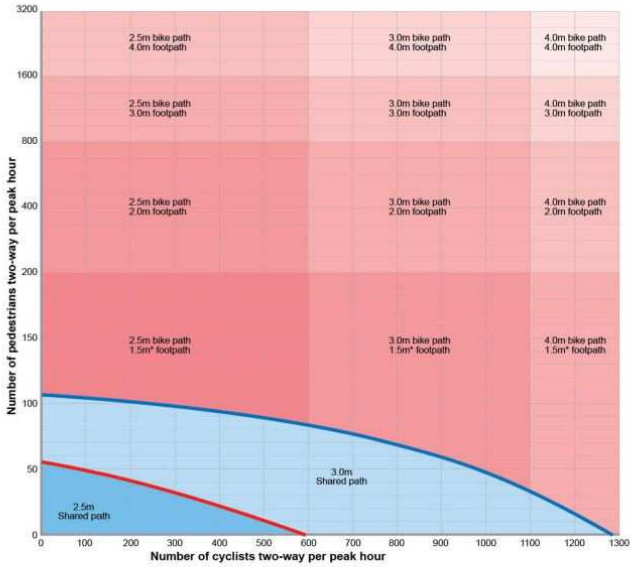
As an example: If there is sufficient space for a 4.0 m shared path, then a segregated 1.5 m footpath and a 2.5 m bicycle path may be a better outcome in terms of throughput capacity, than a completely 'shared space'.

Refer to the department's *Road Planning and Design Manual* Volume 3, Part 6A for the impact on path capacity of path width and shared use with pedestrians.

With these calculations in mind, as an example: the presence of 200 pedestrians on a 3 metre path reduces its capacity to less than a third. Note that by increasing a 2.5 m path to 3.0 m (20% increase), the path capacity is may be doubled depending on path traffic. The presence of pedestrians reduces the carrying capacity of the path for cyclists.

Figure 5 - TMR

Figure 6A-2 Path capacity and recommended widths, directional split 75/25



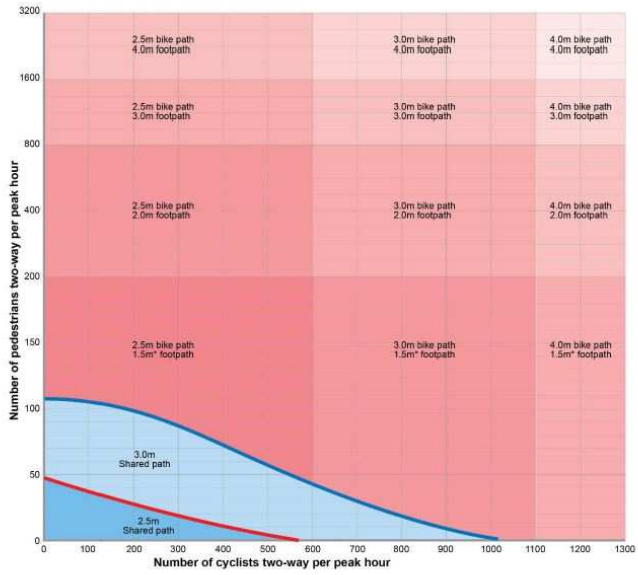
Notes: This figure is not to be used for pedestrian only paths

1.5 m footpath width is the low use minimum only and is not appropriate at higher pedestrian volumes

A 75/25 directional split is typical for most commuter paths which are subject to high peak direction volumes.

Figure 6 - TMR

Figure 6A-3 Path capacity and recommended widths, directional split 50/50



Notes: This figure is not to be used for pedestrian only paths

1.5 m footpath width is the low use minimum only and is not appropriate at higher pedestrian volumes

A 50/50 directional split is typical for most recreational paths which are subject to high use in both directions.

Figure 7 - TMR

Figure 8 – Social media comments regarding the Howard Smith Wharfs development

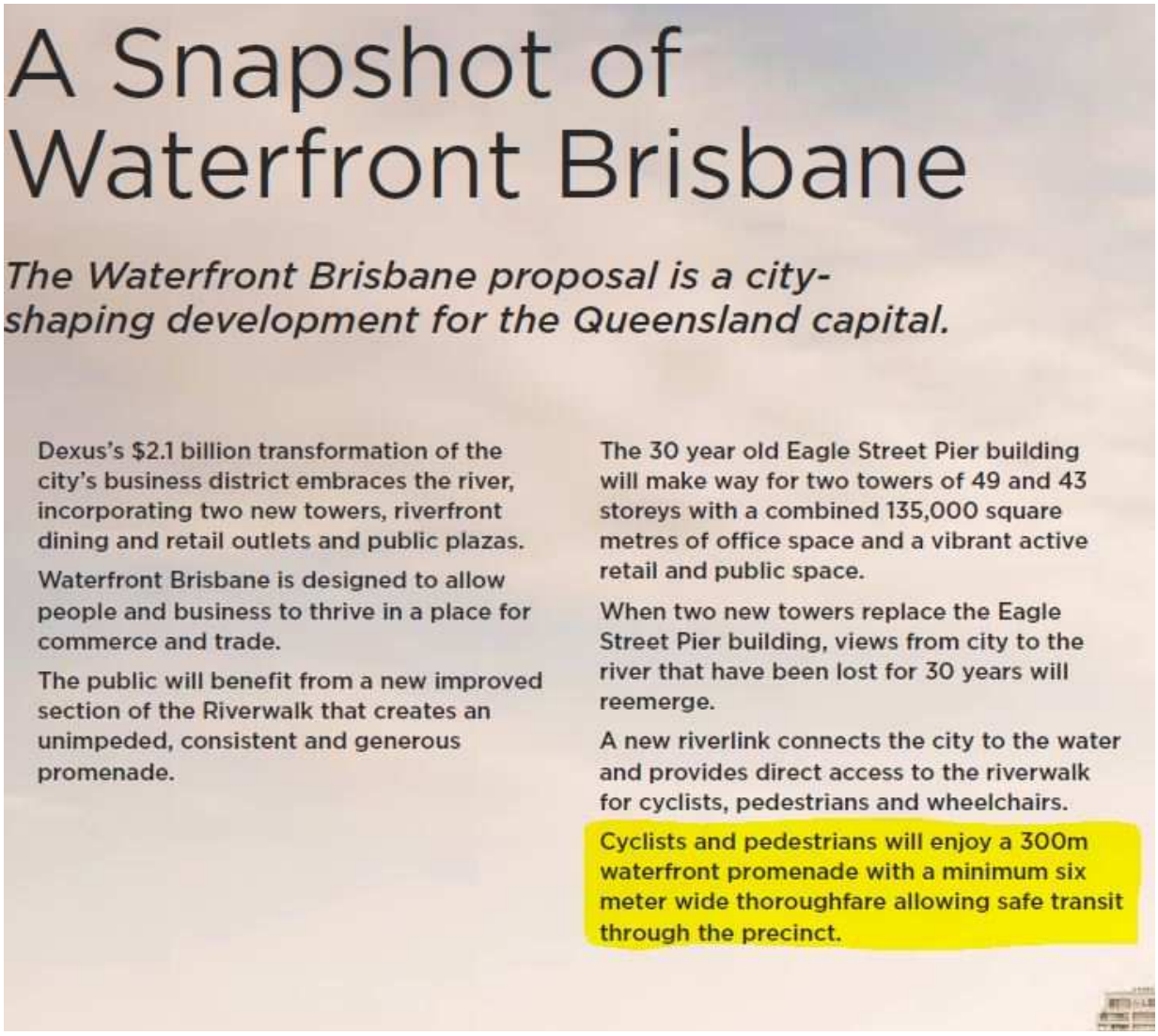


Figure 9

Figure 10 - Vancouver