

29 April 2019

Ms Kath Mardon
Community Engagement Officer
c/- kmardon@charlessturt.sa.gov.au
cc: Sara Morrison
Transport Engineer
c/- smorrison@charlessturt.sa.gov.au

Dear Ms Mardon,

Concept design: Military Road and Main Street Precinct, Henley Beach

The Bicycle Institute of South Australia has been representing the interests of commuter and utility cyclists since 1974 and is the state's peak organization for these cyclists. Given the significant proportion of the population who say that they would cycle if conditions were safe enough, in a sense we represent not only existing bike riders but also South Australia's "proto-cyclists".

Military Road is highly used by bike riders, as is the nearby Coast Park to the popular Henley Square. Firstly, we congratulate the City of Charles Sturt for wishing to improve the area. However, we must also note that our reading of the plans has identified a number of areas of concern. We are taking the trouble of documenting and submitting these in the form of this correspondence as we do not feel that the survey form allows us to adequately communicate what can be very technical and specific.

Military Road

The concept design for Military Road clearly aims to slow traffic to create a less car-oriented environment between North Street and South Street. We would normally embrace such a philosophy, which encourages through traffic to use arterial roads. However, Military Road's existing arrangement of shared parking/ bike lanes on each side and a wide traffic lane in each direction currently provides for those comfortable with on-road cycling who do not wish to mix with pedestrians or destination traffic, or seeking a short/direct travel route. These would include commuters, experienced recreational and touring cyclists, and sports or training cyclists. For such cyclists, Military Road arguably has a regional rather than a local role, with few to no comparable alternatives available.

We are concerned that the proposed design does not adequately address the network scale role of Military Road for these types of bike riders. In particular, bicycle facilities are an aid to highlighting the legitimate use by cyclists of road space. Given that motorist behavior is a major factor in ensuring cyclist safety, the removal of existing facilities undermines cyclist safety by erasing their visible entitlement to road space. The lack of even sharrow road markings replacing the existing facilities raises strong concerns about whether bike riders have been considered in the overall design.

We seek modification to the proposed design to improve its safety and functionality for bike riders, as per the following comments.

- In the absence of on-road facilities, riders may feel pressured to ride in the (unsafe) dooring zone of parked cars. Sharrows should be provided to counteract this pressure.
- Given lack of adequate width for safe passing, cyclist bypasses or other short sections of dedicated space should be provided in at least one or two locations to function as a de facto slow vehicle turnout point, enabling riders to allow faster vehicles to pass them safely.
- While kerb protuberances make it easier for people to cross Military Road, these also create squeeze points for riders. This is especially the case if riders feel pressured into using the parking lane due a lack of on-road space.
- Significant lengths of Military Road passing through raised intersections form squeeze points at which riders may feel pressured by following vehicles – particularly at South Street. A minimum workaround is to enable riders to bypass the roadway at these intersections via shared paths.
- Design guidance for LATM treatments (including raised intersections) notes that riders should be provided with bypasses where possible. Unless carefully designed, raised intersections can create inconvenience and hazards. Ramp design should ensure smooth transitions rather than sharp transitions that can jolt panniers or require a higher level of control. Bicycle travel speeds and accelerating/ decelerating profiles are different to those of motor vehicles, which can lead to awkward opening and closing gaps forming between cars and bicycles in a traffic stream. There is no evidence that such considerations have been taken into account in the design of the raised intersections. In particular, opposite Kent Street there is no on-street parking because of the presence of driveways. Yet the kerb is indented. This area could instead be designed to provide a cyclist bypass of the raised intersection and an opportunity for cars to pass. The absence of car parking on the western side between Main Street and York Street offers a similar opportunity to bypass the raised intersection at York Street. Neither of these have been capitalized upon.
- A 2.5m wide shared-use path is proposed for most of the eastern side. Apart from not running the entire length of Military Road and thus not being a continuous bicycle facility, this is an “informal” shared path (i.e. a wide footpath) and is located hard up against the property boundary. Given that a major crash type for cyclists in the metropolitan area is cars entering/ leaving driveways failing to yield to cyclists, and that this location for the path would not maintain sight distances to pedestrians for exiting vehicles that accord with the Australian Standards, we have strong doubts as to the safety of this design if it were used by cyclists.
- A 2.5m wide shared-use path is proposed on the western side between Kent Street and Main Street. Again, this does not form a continuous cycling facility. Being located on the kerb side also means that it is within in the door zone for parked cars as there is no buffer for door opening. It is likely that residents would place bins in the path on rubbish day, further eroding its utility.
- Driveways are constructed of the same material as footpaths. While visually pleasing, this creates a conflicting message about car/ footpath user priority. Detailing should ensure that the footpath is a continuous, visibly distinct environment, reinforcing that drivers must yield to pedestrians and cyclists. This is particularly the case given the frequency of the crash type mentioned above. The philosophy should also extend to the Foodland service area, where the footpath interruptions shown are ambiguous. Under the Australian Road Rules these are driveways where drivers must yield to pedestrians, not public carriageways where pedestrians must yield to vehicles.
- At North Street, the footpath and road are at the same level. We suggest extending the raised intersection to the start of parking. Parking tapers at intersections seem to be at around 30° rather than the standard 45°. We suggest a consistent 45°.
- At South Street, the footpath at the south-east corner is very constrained. We query whether the Military Road alignment could be altered slightly to increase this.

- A continuous footpath treatment should be provided at Sea Avenue, complying with the 2017 *Guide to Road Design Part 6A* and NSW RMS technical guidance¹.

As a detail, the raised pavements shown for side streets require “inverted piano key” markings on the ramps and advisory 20kmh signage to comply with DPTI’s *Manual of Legal Responsibilities and Technical Requirements for Traffic Control Devices, Part 2: Code of Technical Requirements*. While a matter for detailed design, the omission may inadvertently misrepresent the design to the community. The car parking space immediately north of Durham Street on the east side of Military Road is ambiguously detailed in regard to levels.

Main Street

The design proposal for Main Street is to remove the existing bicycle lanes. However, the nominal 2.5m “shared paths” proposed are entirely inadequate for cyclist use. As shown, they will feature car doors opening into them. The 2.5m is a nominal width; the “buffer” of 0.5m being included in this width means that the actual width is closer to 2.0m, which is a highly constrained path width only suitable in locations with both low cyclist and pedestrian numbers. Further, being immediately adjacent to parking and with the footpath on the other side of a 1.5m planted area means that car users will tend to use the shared path. As for Military Road, adjoining landowners would also place bins on it on rubbish day.

In other words, for bike riders the design proposes providing no cycle facilities and two inadequate footpaths to replace the existing bicycle lanes. This is clearly unacceptable.

Given issues with cyclist use of footpaths and shared use paths in high pedestrian areas, the Bicycle Institute has worked with Adelaide City Council to develop cycle facilities grade separated from footpaths in Frome Street. Despite the pre-construction political issues, these facilities are now very popular with all road users and function well. We would refer your designers to the several different profiles developed that could (easily) fit within your design width and overcome the known issues. Access from East Terrace should then be provided. Particular points we would raise in relation to this are:

- 2.3m for each parking lane plus 3.6m on the traffic lane is generous for cars. (The plans are misleading on this point, with car sizes over-estimated; as shown, the parking lane appears about 2m and the traffic lane 2.5m.) A 2.2m parking lane on the left-hand side with 3.1m traffic lane, as for in Military Road, would be as easy to park in, with any increase in the parking lane width directly affecting ease of parking. While extra width to the right-hand parking lane for this less common manoeuvre is supportable, it is not required by any standards or guidelines and the combination of 2.3m parking/ 3.6m traffic lane represents a large allocation of road width for this low-speed environment.
- 1.5m for landscaping between the footpath and “shared use” path is similarly generous. It would instead be desirable to provide a narrow landscaping area between the cycle path and footpath in addition to a landscaped verge between parking and the cycle path (with trees located so as not to coincide with car doors). An advantage of placing trees adjacent to the car parking is the ability to direct stormwater from the carriageway to the tree area, reducing pollution from runoff.
- If a kerb profile is used that overcomes the problem of pedal strike, a 2.0m separated path width would accommodate cyclist overtaking and hence provide significant cyclist capacity at little additional width over the desirable minimum. This would help ensure the design is future-proofed.
- A continuous footpath treatment should be provided at Sussex Street. When provided with a bike path, their presence increases injuries by 81% – compared to an increase in injuries of 343% if these

¹ See www.rms.nsw.gov.au/trafficinformation/downloads/td13_05.pdf

are not provided² (increases in both cases are due to increased bike rider numbers as a result of the facility) – and roughly halves pedestrian crashes. We believe there could be innovative ways to address drainage issues that may arise and would be happy to discuss this with you if required.

It would appear that the design proposes outdoor dining up to the frontage of the Ramsgate Hotel. This would compromise an easily navigable Continuous Accessible Path of Travel (CAPT) through the space and we do not support outdoor dining at this location. We also suggest a section of contrasting tactile paver behind the bicycle parking (i.e. extent of bikes, not rails) on the northern side to maintain this CAPT. We further request that at least one of the two main outdoor dining areas be made narrower in a north-south direction. A couple walking with bikes is equivalent to three or four people walking abreast and a more generous pathway would reduce pedestrian congestion/ conflict issues at popular times.

Given the large amounts of paving and concrete proposed, we would also like to suggest that the City of Charles Sturt consider:

- Use of low-carbon concrete
- Use of Timbercrete pavers. Timbercrete is claimed to have a thermal performance that will reduce urban heat island effects, being up to 20°C cooler on a 40°C day, on which basis it would create a more pleasant environment for pedestrians and cyclists. We understand that the Timbercrete company is in discussion with a manufacturer to produce this product locally. It is also carbon negative (i.e. it sequesters carbon) and has lower embodied energy than brick or concrete.

Finally, please (please) make sure paving is non-slip in wet conditions as well as dry (e.g. not a honed paver) and that plants selected for landscaping are not spiky and will not grow to overhang into the walking or cycling areas.

We trust that you will take our comments on board and look forward to a good result. Should you wish to discuss any of these further, please feel free to contact me.

Yours sincerely,



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² Rasmussen and Rosenkilde (2007); https://viastrada.nz/sites/default/files/velocity2007_Rasmussen.pdf.