

18 October 2017

The Hon Melinda Pavey MP  
Minister for Roads, Maritime and Freight  
52 Martin Place  
SYDNEY NSW 2000

**By Email:** [melinda.pavey@parliament.nsw.gov.au](mailto:melinda.pavey@parliament.nsw.gov.au)

Dear Minister

### **Road Shoulder at Faulconbridge**

The BMCSF is an association formed to advocate for improved infrastructure and safer cycling in the Blue Mountains and its immediate surrounds. It is supported by Bicycle NSW, Penrith Cycling Club, Western Sydney Mountain Bike Club, Springwood Cycling Club and individual subscribers.

We are seeking a meeting to discuss how the State Government may provide a fit for purpose solution to enable cyclists to ride safely on the Great Western Highway (GWH). The section of the GWH between Todarello's fruit house and the Metro Petroleum, Faulconbridge, has minimal or no road shoulders and cyclists are forced to travel in the same lane as motor vehicles in a high volume (>27,000 vehicles/day) and high-speed (80kph) traffic environment. This has resulted in cyclists being injured. Unless the road is made safer for cyclists a fatality or further serious injury is likely to occur.

This section of the GWH:

- Is used by cyclists to pass from the lower Blue Mountains to the mid and upper Mountains.
- It cannot be avoided, as there is no alternative local road route between Faulconbridge Railway Station and Station Street Woodford.
- Has been consistently identified by cyclists as one of the most dangerous sections of shared highway in the Blue Mountains.

We are aware of several near misses and at least two accidents involving cyclists, one very serious. These incidents could have been avoided if there were, for example, adequate shoulders.

Further information is contained in the attached brief. We would appreciate if you could contact us to arrange a meeting.

Yours Faithfully

David Tritton  
**BMCSF** <http://www.bmcsf.org>

## Submission to the Minister for Roads and the Minister for Western Sydney

### Upgrade of Road Shoulders on the Great Western Highway at Faulconbridge to improve safety and amenity for cyclists and other road users

#### Issue:

The Great Western Highway (GWH), between Todarello's fruit house and the Metro Petroleum, Faulconbridge, has been consistently identified by cyclists as one of the most dangerous sections of shared highway in the Blue Mountains. With minimal or no road shoulders, cyclists are forced to travel in the same lane as motor vehicles in a high volume (15,500 vehicles/day) and high-speed (80kph) traffic environment. This has already resulted in cyclists being injured. Unless a fit for purpose solution is implemented a fatality or further serious injury is likely to occur. Widening the road shoulders is a quick, cost- effective option which utilises existing infrastructure and meets other Transport for NSW criteria for resourcing cycling projects.

#### Key Reasons

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The section of the Great Western Highway (GWH) between Todarello's fruit house and the Metro Petroleum Faulconbridge is one of the oldest sections of dual carriageway in the Blue Mountains. This section has been consistently identified by cyclists as one of the most dangerous section of highway because of the absence of road shoulders.

#### Danger to cyclists and other road users

The Great Western Highway (GWH) between Todarello's fruit house and the Metro Petroleum, Faulconbridge:

- Is an 80km speed zone, but many motor vehicles and trucks negotiate the steep grades at this location at speeds faster than 80km per hour.
- Cannot be avoided by cyclists, as there is no alternative local road route between Station Street, Woodford and Faulconbridge Railway Station.
- Carries a high volume of motor traffic travelling at speeds at or more than 80km per hour (according to RMS, > 27,000 motor vehicles per day in east and west directions in 2017 and approximately 12% of which are heavy vehicles).
- Contains a number of severe pinch points for cyclists caused by non-compliant road shoulder.
- Forces cyclists to share the traffic lanes with motor vehicles.
- Does not permit motor vehicles to pass safely with at least 1.5 metres clearance as required by NSW traffic law when the speed limit is more than 60km/h.
- Has a blind corner in the west-bound lane with a restrictive Armco fence obscuring cyclists from traffic approaching from the rear.
- In both cases (east and west), traffic cannot pass cyclists when the fast lanes are occupied and the traffic flows are medium to heavy.



- Contains steep drop-off of pavement edges presenting a stability hazard to cyclists.  
Deters all cyclists - a survey undertaken by Blue Mountains Cycling Safety Forum (BMCSF) suggests the lack of road shoulders at Faulconbridge is a deterrent to cyclists travelling between Faulconbridge and Woodford, particularly among women.

### Accidents and near misses...

The BMCSF knows of several near misses and at least two accidents involving cyclists, one very serious involving hospitalisation. These incidents could have been avoided if there were adequate shoulders. A number of witness testimonies have been published on the campaign website (for details see below).

According to Transport for NSW (TfNSW) (Cycling Safety Action Plan 2014-2016 pp.3-4), between 2008 and 2012, almost two thirds of cyclist' fatalities in NSW occurred in greater metropolitan areas (including greater Sydney). Almost half occurred on roads with speed limits of 60km per hour and two thirds of these were on motorways or highways. The absence of shoulders to provide 'a safety zone' for cyclists together with the traffic volumes and at Faulconbridge poses an unacceptable risk to safety.

### The existing road shoulders are non-compliant with the Australian guidelines for safer road design for high-speed roads

The existing road shoulders are not compliant with Australian guidelines for safer road design for high-speed roads. Both Austroads and RMS<sup>1</sup> recommend full separation of cyclists from other traffic for a high-speed road (i.e. >80km per hour) with the more than 5,000 vehicles per day.

Austroads assert that a road shoulder of 1.5 metres will have some safety benefit and is better than doing nothing on high-speed roads.

A minimum shoulder width of 1.5 metres has been shown to reduce the risk of collisions between cyclists and other vehicles.<sup>2</sup>

The NSW Government must find a fit for purpose solution to enable cyclists to ride safely between Faulconbridge and Woodford. Widening the shoulders at Faulconbridge is a comparatively quick, cost- effective option which utilises existing infrastructure and meets other Transport for NSW criteria for resourcing cycling projects. Most importantly it will protect vulnerable road users and is likely to increase the number of cycling trips.

The longer term the objective should also be to provide a separate cycling path to cater for variations in the cycling community. Commuting, and fast cyclists will tend to opt for the highway so a widened shoulder is the short term safety imperative and is guaranteed to be used.

### About the BMCSF

The BMCSF is an association formed to advocate for improved infrastructure and safer cycling in the Blue Mountains and its immediate surrounds. It is supported by Bicycle NSW, Penrith Cycling Club, Western Sydney Mountain Bike Club, Springwood Cycling Club and individual subscribers.

Further evidence in support of wider road shoulders is set out in the Attachment and the BMCSF website [www.bmcsf.org](http://www.bmcsf.org)

The Committee of the BMCSF

18 October 2017

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<sup>1</sup> RMS, *NSW Bicycle Guidelines*, 2005, p13

<sup>2</sup> Austroads, *Guide Road Design – Part 3*

## Blue Mountains Cycling Safety Forum

### Report on unsafe road conditions for cyclists and motorists on the Great Western Highway, Faulconbridge

15 October 2017

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#### Background

The section of the Great Western Highway (GWH) between Bellevue Street Faulconbridge and Weemala Avenue Linden is one of the oldest sections of dual carriageway in the Blue Mountains. It is an 80km speed zone, but many motor vehicles and trucks negotiate the steep grades at this location at speeds faster than 80km per hour.

The highway at this section contains a number of severe pinch points for cyclists with none or little road shoulder to separate cyclists from motor traffic. Under NSW traffic law, motorists must allow at least 1.5 metre clearance of cyclists when passing in a speed zone of 60km or more. The width of the road lanes has not been increased to compensate for the absence of shoulders. This means that motorists cannot provide a 1.5 metre clearance when passing cyclists, particularly if the fast lane is occupied.

There is no alternative local road network for on-road cycle traffic between Faulconbridge railway station and Station Street Woodford. The unsafe highway is the only choice for cyclists travelling to or from the lower to the mid or upper Blue Mountains.

#### The Road Environment

The west-bound section is approximately 300 metres of uphill westbound length of road from Metro Petroleum to the heavy vehicle checking area opposite Todarello's Fruit House. This section has narrow shoulders and poorly formed road edges.

- There is no formal exit de-acceleration or acceleration lane from the petrol station which means vehicles must use the road shoulder to ingress and egress the garage;
- From about 110 metres west of Metro Petroleum the shoulder narrows to less than 36 cm in width (see picture below).
- In addition to the very narrow shoulder, cyclists are hemmed in by an Armco (or guard rail) for about 65 metres through a blind corner (see picture in brief above).
- There are steep drop-offs on the edges of the pavement surface and these can present hazards to cyclists which may affect their stability.

The east-bound section is about 300 metres long. This section also has little or no shoulder.

- The section has an Armco rail and chevron markers to signal a right hand curve in the horizontal alignment of the road.
- This is a downhill section and many vehicles are travelling above the speed limit of 80km. Cyclists are trapped between the Armco rail and traffic lane.
- The narrow shoulder results in cyclists trying to ride on the white line lane edge or take their chances in the first three or four inches of the lane in fast moving traffic.



- Without a road shoulder, motor vehicles cannot correct steering if they understeer through the right hand bend and would hit the Armco rail or cyclists, if any were present at the time.
- About 100 metres west of Bellevue Street, the narrow eastbound lane shoulder disappears and cyclists are forced to ride in high-speed traffic lane for about 100 metres. If both lanes are occupied, traffic in the slow lane must brake and wait to pass a cyclist, however, the road conditions may not allow speeding drivers to brake in time to give the cyclist safe clearance. This has been the cause of crashes.
- Environmental factors may also increase the hazard. The rising sun is an impairment to east bound early morning drivers and could result in a failure to see a cyclist ahead sharing the traffic lane or riding on the lane's white line edge.

### The sections of road do not meet Australian Road Safety Standards

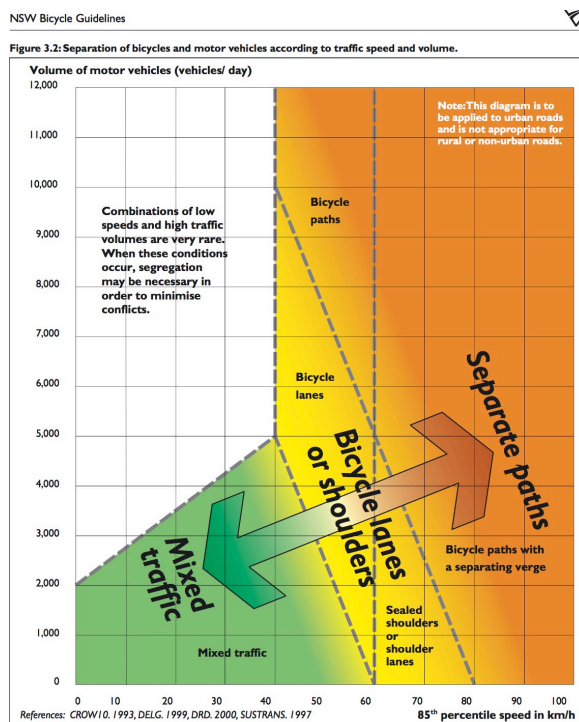
The existing road shoulders are non-compliant with the Australian guidelines (Austroads) for safer road design.<sup>3</sup>

- On high-speed roads (e.g. roads greater than 70km per hour) shoulders should be sealed and at least 2.0 m wide.
- Additional width should be provided where there are a large number of heavy vehicles and the shoulder is next to a safety barrier.

### Separation of Cyclists from Traffic

International best practice stresses the importance of separating cyclists from high-speed traffic.<sup>4</sup> On roads with high traffic volumes and speeds of 80km a separate bike path for cyclists is universally the recommended solution.

RMS recommend the separation of cyclists from motor traffic with separate bike paths (rather than requiring cyclists to use road shoulders) when traffic volumes exceed 5,000 per day and the regulated road speed is 80km or higher.<sup>5</sup> As already noted, RMS estimate that the number of vehicles using this section of the GWH at Faulconbridge each day is more than 15,000 in each direction.



Whilst this is the recommended standard, Austroads, nonetheless, assert a road shoulder of 1.5 metres will have some safety benefit and is better than doing nothing on high-speed roads.

<sup>3</sup> Austroads, Guide Road Design - Part 3

<sup>4</sup> Austroads, 2012, at p6.

<sup>5</sup> RMS, NSW Bicycle Guidelines, 2005, p13

## The sections of road are Unsafe and Pose a Risk to Cyclists

RMS has a permanent traffic counter on the GWH located 50m west of Bellevue Street. According to RMS,<sup>6</sup> 15,555 motor vehicles passed west of this point on the GWH and 15,520 passed east, each day, in 2016. The figure was even higher on weekends (i.e. West: 16,009 and East: 15,358). The RMS data for the same year indicates that there were 4,459 vehicles passing west and 3,059 vehicles passing East during the morning peak, between the hours of 6am - 10am. For the afternoon peak, between the hours of 3pm to 7pm, the vehicle count was 3,942 (west) and 5,045 (east). These early morning periods are popular

Austrroads claim that the risk of serious or fatal injury to cyclists increases on high-speed roads. As speeds pass 64km per hour, the probability of a fatal accident exceeds 1000%.<sup>7</sup> Austrroads also claim that providing space between cyclists and motor traffic can reduce the chance of crashes.<sup>8</sup>

The GWH is also a key freight route between Sydney and the central west of NSW.<sup>9</sup> According to RMS, heavy vehicles comprise 12% of the traffic on the highway.

The probability of a cyclist being fatally injured if a crash involves a heavy vehicle is higher than if a crash involves a light vehicle.<sup>10</sup> A minimum clearance of 1.5 metres has been shown to reduce the incidence of a crash and injury severity associated with collisions between cyclists and heavy vehicles.<sup>11</sup> RMS claim that the road freight task across NSW, including the GWH, is expected to double by 2030.<sup>12</sup> This will further increase the exposure of cyclists using this section of the highway at Faulconbridge to greater risk of serious injury or death. It is imperative that the construction of safe minimum shoulders is given priority.

On 29 March 2016, the Blue Mountains City Council (BMCC) commissioned a safety audit of the areas of the GWH discussed in this report, after the RMS refused to do one.<sup>13</sup> The audit report states:<sup>14</sup>

*One of the main findings, highlighted in the audit that follows, is that there are a number of severe cyclist pinch points...The existing non-compliant shoulder widths comprise the primary hazard in these instances and ought to be a high priority for further investigation.*

## Black Spot Application

The BMCC submitted an application for Black Spot funding in 2016 which focused on ingress and egress from the Metro Petroleum service station as its priority (especially measures to prevent vehicles stopping in the east bound fast traffic lane in preparation for making a right hand turn across solid double lines to access the garage on the other side of the road).

RMS did not support the application (purportedly on the basis that this amount exceeded the threshold for the Black Spot program). The BMCSF is not aware of any alternative proposal by RMS to upgrade this section of the GWH despite the compelling safety argument for urgent action.

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6 <http://www.rms.nsw.gov.au/about/corporate-publications/statistics/traffic-volumes/aadt-map/index.html/?z=14&q=Faulconbridge,%20New%20South%20Wales,%202776,%20Australia&id=99914>

7 Austrroads, 2012, Cycling on Higher Speed Roads, p3

8 Austrroads, 2012, opcit, p4

9 RMS, <http://www.rms.nsw.gov.au/projects/greater-sydney/great-western-highway/index.html>

10 Austrroads, 2012, opcit, p.20

11 Austrroads, Guide Road Design - Part 3

12 <http://www.rms.nsw.gov.au/projects/freight-regional/>

13 BMCC, Minutes of ordinary meeting, 02/02/15 and Item 15, minutes of the Council ordinary meeting, 23/08/16

14 BMCC, Great Western Highway – Linden to Faulconbridge Road Safety Audit, at p6, see Enclosure 1, Council ordinary meeting, 23 August 2012

### Volunteer cyclist count

A volunteer cyclist count over 3 weekends between 25 March and 9 April 2017 showed lack of safety is a deterrent to cyclists travelling between Faulconbridge and Linden.

Conservatively, it is estimated that there are around 70 cycling trips<sup>15</sup> on this section of highway on Saturdays and about 60 trips on Sundays:

- Very few cyclists counted were women (4%)
- The large majority appeared experienced (which in this case may also mean a preparedness to ride the section notwithstanding the risk)

#### *Inferences which can be drawn from the cycle count include:*

- More cyclists are likely to use the road if the section were safer.
- The fact that other cyclists maybe avoiding the section of road does not justify inaction by the road authority. The combination of high traffic volumes, high speed limit, unsafe riding conditions and a history of accidents (or near misses) involving cyclists means that the risk of harm occurring to current users is not just foreseeable but highly probable.
- Furthermore, cycling experience in highway conditions will not significantly off set the risk of harm or injury because the danger is inherent in the current road design.
- These conclusions are consistent with qualitative research. Respondents to a survey conducted by the BMCSF said that they avoid this section of the GWH because “it is just too dangerous..” and that they “...feel vulnerable and exposed”.
- These conclusions are also consistent with State-wide data. According to TfNSW, about 70 per cent of people in NSW either ride regularly or would like to ride more and say they would if bike riding was made safer for them (TfNSW, *Sydney's Cycling Future*, 2013).
- A study conducted by the University of NSW over four years showed that women made up only a quarter of people of who cycled up to five kilometres and a major deterrent was unsafe routes and the absence of dedicated cycle paths ('Sydney's Cycling gender divide: where are the women', *SMH* 27 May 2016).

### Crash Data does not tell the whole story

RMS claim the crash data does not support resourcing the safety problems on the GWH at Faulconbridge.<sup>16</sup>

Reliance on crash data alone is not an accurate measurement of risk. TfNSW acknowledges that there is known underreporting of serious injuries sustained by cyclists (Cycling Safety Action Plan 2014-2016 p4). Our qualitative research supports this. We know of several near misses and at least two accidents involving cyclists, one very serious. The latter involved hospitalisation. The others were not reported to police. These incidents could have been avoided if there were adequate shoulders to provide some separation between cyclists and motorists.

Furthermore, road safety performance should take into account the extent to which a poorly engineered (non-compliant) road influence perceptions of safety and vulnerability and thereby deter the use of bicycles. Such factors are a barrier to the RMS succeeding in achieving its KPI to increase the number of cycling trips per share of all transport trips.<sup>17</sup>

### Road design should cater for variation in the cycling community

The NSW Government, together with other members of the Australian Transport Council, committed in 2010 to a safe road system. This means roads are designed to reduce the

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<sup>15</sup> Cycling trips refers to an aggregate of counts for both east and west bound trips over the survey period for Saturday and Sunday respectively.

<sup>16</sup> Blue Mountains City Council Minutes of ordinary meeting, 02/02/15

<sup>17</sup> <http://www.rms.nsw.gov.au/roads/bicycles/benefits.html>

incidence and severity of crashes. International best practice for applying a safety systems approach to cycling, as a mode of transport requires road authorities to do the following:<sup>18</sup>

- Incorporate safety features into road design from the outset.
- Develop and enhance safer routes for vulnerable road users.
- Promote the use of active modes of transport and maintaining and enhancing the safety of these groups both through physical changes to the environment and behaviour change measures.
- Identify those roads with highest risk, particularly for walking and cycling and prioritising evidence based engineering measures to ameliorate those risks.

A safer road design should cater for a range of cycling abilities. According to Austroads:<sup>19</sup>

- A separate bike path is more suitable for cyclists who want to feel safe and be away from high-speed traffic, but who are less concerned about speed.
- A good quality sealed shoulder or bicycle lane (for roads that are not access controlled) is generally more suitable for people wanting to move fast (e.g. commuting or training).

A safer route between Faulconbridge and the mid-mountains is likely to encourage cyclists of varying abilities in greater overall numbers well as increase the frequency of trips and the participation of women in the activity.

Three possible ways (there may be others) to achieve a safer road design for the GWH at Faulconbridge include:

#### 1. Widening of the Road Shoulders

Building/ extending the shoulders to a safe standard would reduce the hazard for current cyclists. It utilises existing infrastructure and benefits motorists by providing a break down lane in the event of an emergency.

This proposed widening would bring this section up to the same standard as the rest of the GWH between Penrith and Katoomba.

#### 2. Separate Bike Path Behind the Armco Fencing

This is a variation of proposal 1. Under this option the shoulder is still widened except that where Armco rails are situated, the newly constructed bike shoulder would go behind the rails. This would benefit cyclists by providing full separation from the traffic for these short sections.

#### 3. Two-Way Shared Cycle Path

The longer- term objective should be to provide a separate bike path between Faulconbridge and Woodford – i.e. to fill the missing link in the local road network.

To be fit for purpose a separate two-way bike path should provide for a bridge and/ or underpass to facilitate crossings to the other side of the highway. This will ensure that the facility gets maximum use. Requiring cyclists to dismount and dash across the highway (albeit to an island in the centre of the dual carriage way) to continue riding on a pathway on the opposite side of the road must be avoided, as this will deter usage. Traffic lights are a better option for a crossing but this is still a suboptimal design because it stops cycling and motoring traffic flow.

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<sup>18</sup> Bristol City Council, A Safe Systems Approach to Road Safety in Bristol: 2015-2024

<sup>19</sup> Austroads, 2012, opcit, at p6.



Unless the separate cycle path is free from stoppages, commuting and fast cyclists will tend to opt for the highway so a widened shoulder is the short term safety imperative and is guaranteed to be used.

### Further Support for the Proposal to build road shoulders on the GWH

Transport for NSW has set out 10 principles to guide the delivery of cycling projects in the Sydney area.<sup>20</sup> The recommended option meets all these ten principles:

**i. Ensure cycling initiatives are evidence based**

Design Standards, testimonies of crash victims, safety research and community feedback all constitute the strong and compelling evidence underpinning the proposals to widen the road shoulders (and the longer term) build a separate cycle path.

**ii. Prioritise cost effective solutions and better use of existing infrastructure**

The proposal to widen the road shoulders uses existing infrastructure and represents good value for money when weighted against the improvement to safety and the removal of barriers to increased cycling trips.

**iii. Deliver in collaboration with partners**

The proposals are the result of collaboration between community groups and the BMCC.

**iv. Support a culture of cycling for transport**

In 2015 the BMCC set a target to increase cycling participation by doubling the number of bicycle trips made in the Blue Mountains, as a percentage of total trips, by 2020 and reducing the number of bicycle crashes and casualties.<sup>21</sup> RMS is also committed to increasing the growth in cycling as a share of for all transport trips in greater Sydney and regional NSW and improving safety<sup>22</sup>. Safety is a major barrier to more people cycling. By making the road safer, cyclists perceptions of their vulnerability will change and this may encourage more people to cycle between the lower and mid to upper mountains.

**v. Prioritised projects within ten kilometres of major catchment centres**

The road section the upgrade is just 6km from Springwood – a major Blue Mountains social and commercial hub.

**vi. Identify a hierarchy of safe bicycle routes to major centres and prioritise projects for action including regional bicycle corridors that connect to major destinations.**

The proposals remove a cycling blackspot from the only route between Faulconbridge and Woodford and is a regional corridor between Penrith and Katoomba.

**vii. Promote cycling as an easy and fun mode of transport and requires collaboration with stakeholders to encourage more people to ride.**

The proposals allows for both commuter cycling and cycling tourism.

**viii. Partner with councils to target missing links and problem intersections in local bicycle networks**

The proposals partners with council to remove a cycling blackspot on the GWH and thereby improve the only road link between Faulconbridge and Woodford.

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<sup>20</sup> References: *Cycling Sydney's Future*, December 2013 and *NSW Long Term Transport Master Plan 2012*; *Cycling Sydney's Future*, December 2013

<sup>21</sup> Blue Mountains City Council, *Blue Mountains Bike Plan 2020*, at p18

<sup>22</sup> <http://www.rms.nsw.gov.au/roads/bicycles/benefits.html>