

18 January 2019

Complaint to Engineering New Zealand regarding conduct of member

1. I am writing to register a formal complaint in regards to the conduct of [REDACTED] in accordance with Rule 10 of the Engineering New Zealand Rules and clause 3 of the Engineering New Zealand Disciplinary Regulations. [REDACTED] is a member of Engineering New Zealand (Registrant Number [REDACTED]).

Pedestrian Crossing Selection Tool

2. [REDACTED] is an author responsible for the development of the Australasian Pedestrian Crossing Facility Selection Web Tool (Version 2, distributed in April 2018 by NZTA) (the "Tool"), available online¹. The user guide is **attached** (updated to Version 2.1 in December 2018).
3. The Tool is used to assess proposed pedestrian crossing facilities. An explicit part of the methodology the Tool employs is to trade off pedestrian safety (analysed as 'predicted casualties') against minor inconvenience for motorists in the form of travel delays. Because minor inconveniences are weighted heavily under this trade-off, it is typical for proposed new pedestrian crossings to generate a very poor Benefit Cost Ratio under the Tool's methodology.
4. As a result, new pedestrian crossings are less likely to be approved for implementation and the predicted safety improvements for pedestrians are forgone. Furthermore, the Tool typically results in giving preference to those treatments which are less inconvenient for motorists; such facilities generally being less safe, convenient or pleasant for pedestrians.
5. I set out an illustrative example of this trade-off on the final page of this letter. The example shows that a *de minimus* delay for motorists of 2-3 seconds is sufficient to render a proposed crossing non-viable financially under the parameters of the Tool's Benefit Cost Ratio (BCR).

Basis of complaint

6. I am concerned that the Tool's trade-off between pedestrian safety and motorist inconvenience is materially inconsistent with Engineering New Zealand's Code of Ethical Conduct (the "Code of Conduct"). In particular, Obligation 1 of the Code of Conduct requires all members of Engineering New Zealand to "take reasonable steps to safeguard

¹ <http://www.austroads.com.au/road-operations/network-operations/pedestrian-facility-selection-tool>

the health and safety of people.” In my view, the Tool’s heavy weighting of motorist inconvenience relative to pedestrian safety is fundamentally flawed when understood in light of Obligation 1.

7. In particular, the nature of the trade-off is not reasonable because:
 - a. there is no ethical basis that can justify trading off predicted reductions of death and injury to one group of stakeholders (in this case, pedestrians) against an inherently minor inconvenience for another (in this case, motorists); and
 - b. the financial values ascribed to the predicted travel time delays for motorists are themselves unreasonable because:
 - i. they are minor (a matter of seconds) and therefore essentially valueless; and
 - ii. they are overstated because they are based on an assumption that all motorists time would otherwise be productively engaged.
8. ████████ has failed to take reasonable steps to safeguard the health and safety of people in this development and publication of the Tool. ██████ has instead compromised the health and safety of a group of affected people in the form of predicted safety improvements in a desire to give preference the comparatively minor interests of affected motorists.

Raising our concerns with ████████

9. I appreciate that with any trade-off there is a role for judgement. There could be factors I have overlooked, making the Tool’s trade-off more reasonable once understood in its full context. On that basis, I put my concerns directly with ████████ and sought his response.
10. ████████ has been unable or unwilling to offer a reasonable justification for the judgement implicit in the trade-off he had designed. Rather than providing a reasonableness justification that could form the basis for further dialogue and discussion, ████████ raised two tangential points:
 - a. ████████ pointed to the definition of “adverse consequences”, and its use of the term “significant harm”. ████████ suggested that “significant harm” could only mean “at least” death. It is, of course, patently unlikely that a term such as “significant harm” would be used if “death” was the intended meaning. More fundamentally, none of these terms have any direct bearing on the meaning or application of Obligation 1.
 - b. ████████ indicated his view that the Code of Conduct “does not anticipate a world without risk”. For what it’s worth, we agree with this non-sequiter and wonder why ████████ considered it needed to be restated. Manifestly, our concern to ensure that predictable injury and death is avoided is a concern about how risks are assessed, not whether they exist.

11. Neither of these points do anything to address the concerns we have raised with [REDACTED]. The inability to provide a reasonable justification for the trade-offs inherent in the use of the Tool further suggests that reasonable steps to safeguard the health and safety of people have not been taken, confirming the inconsistency with Obligation 1.
12. A subsequent update (Version 2.1) of the Tool was released in December 2018 however it fails to address the fundamental concerns of this complaint.

Next steps

13. I now ask that Engineering New Zealand makes a determination as to whether [REDACTED] has adhered to its Code of Conduct, in particular, Obligation 1 which requires all members of Engineering New Zealand to “take reasonable steps to safeguard the health and safety of people.”
14. I understand that Engineering New Zealand will take time to consider this complaint, and may wish to speak to us and [REDACTED] as part of the process for determining the appropriate response. Please feel free to contact me at any stage.
15. This is an issue of fundamental importance, bearing directly on the health and safety of affected persons. I trust that Engineering New Zealand will afford it the priority it deserves.

Prepared by:

Bevan Woodward, Transport Planner

bevan@betterworldnz.com

Mobile: 021 122 6040

Extracts of example output from the Australasian Pedestrian Crossing Facility Selection Web Tool.

The tool is designed to assess pedestrian crossing facilities and provides a Benefit Cost Ratio (BCR) which explicitly trades off pedestrian deaths and injury against minor travel time inconvenience for motorists (in this example, 2 to 3 seconds each). The resulting BCR's of -7.2 and -5.8 are extremely poor and are likely to mean no pedestrian crossing will approved:

Facility assessment

	Suitable for site?	Pedestrian delay	Vehicle delay ?	Predicted crash rate ?
No facility *	N/a	23 sec	0 sec	0.20 /year
Platform	Yes	23 sec	2 sec	0.16 /year
Zebra with platform	Yes	2 sec	3 sec	0.16 /year

	Perceived delay ?	Perceived safety ?	Pedestrian LOS ?	Pedestrian delay saving ?	Safety saving ?	Total benefits ?	BCR ?
No facility *	C	E	D				
Platform	C	D	D	\$ 0	\$ 207,000	-\$ 250,000	-7.2
Zebra with platform	B	B	B	\$ 31,000	\$ 207,000	-\$ 301,000	-5.8