Reviewer's report

Title: The socio-environmental determinants of railway suicide: a systematic review

Version: 3 Date: 7 October 2013

Reviewer: Garrett Glasgow

Reviewer's report:

I have now completed my review of "The socio-environmental determinants of railway suicide: a systematic review." This appears to be a complete review of the existing literature on suicide prevention on railways. As with other similar literatures (such as suicide prevention on bridges), there isn't much work to draw on, so I doubt this review is leaving out any significant work on the topic.

Minor Essential Revisions

1. While a review of this literature is useful, some critical analysis would also be helpful. For instance, some researchers have concluded that means restriction is most effective on methods of suicide that are readily available, such as household items (Hawton et al. 2001). What bearing does this have on the likely effect of means restriction on railways? Should researchers focus their attention on urban areas where rail lines are readily accessible to a large population, for instance?

2. Identifying and controlling for possible confounders is especially difficult in studies of suicides in public places. I feel that the apparent effectiveness of blue lights in reducing suicides at Japanese rail stations is more likely due to some unmeasured confounders rather than the blue lights themselves, especially since no causal mechanism for how blue lights might work has been identified. It is likely impossible to rule out all confounders in studies of a small number of rail stations that have tried preventive measures. A better approach might be to follow up on those studies that have researched the relationship between access to rail lines and overall suicide rates. Evidence that increased access to rail lines leads to more suicides would be evidence that means restriction on rail lines might save lives (see Glasgow 2001 for a similar approach). Advancing this argument would be helpful.

3. Overall, I think this manuscript could be a more useful guidepost for future research by casting a more critical eye on existing research and suggesting some clear paths forward.

4. The fact that relatively few people who attempt suicides on rail lines go on to attempt suicide again is ambiguous. Many of these individuals could be "parasuicides," who attempt suicide in a public place to attract help rather than out of a true desire to die. This also applies to other studies that have made
similar observations (Seiden 1978). A note of skepticism here would be appropriate.

5. A sentence on page 9 states "the longer the passenger kilometer" -- is this meant to say "the more passenger kilometers"?

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests