

Reviewer's report

Title: The impact of transportation infrastructure on bicycling injuries and crashes: a review of the literature

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Reviewer: Anne Lusk

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“The Impact of Transportation Infrastructure on Bicycling Injuries and Crashes: A Review of the Literature”

Comments by Anne Lusk

August 16, 2009

A. Major Compulsory Revisions

None

B. Minor Essential Revisions

This article is highly contributory and will provide significant guidance to individuals building or improving bicycle facilities. The below suggestions are offered solely to improve the article, provide clarity for the reader, and increase bicycle safety through an improvement and expansion of bicycle facilities. It is imperative that the terminology in Table 1 be used consistently in the text. Also, the descriptors in Table 1 could be further refined to avoid confusion.

1. Though the authors have definitions of the infrastructure types in Table 1, the facility term (type) in the text does not always align with the terms and descriptions in Table 1. Many individuals, including newspaper reporters and highway engineers, confuse the terminology. Also, if a reader is unclear about a facility type, they may assume that installing one type of facility will improve safety.

For example, on page 2 in the last paragraph under Results, the authors suggest that “multi-lane roundabouts can significantly increase risk to bicyclists unless a ‘separated bike path’ is included in the design.” The term “separated bike path” is not in Table 1. Instead, Table I includes a “bicycle track/separated bicycle lane” and an “off-road path.” If an engineer builds a separated bike path on a roundabout, there will be significant conflicts because a separated bike path is a shared-use facility. Elderly pedestrians, baby carriage pushers, and dog walkers will experience conflicts with fast moving bicyclists, as recently experienced in Ottawa on the 180 kilometer pathway system.

As written in the comments sent earlier to the authors (second paragraph under Major Compulsory Revisions), the facilities studied in Europe on roundabouts are bicycle-exclusive cycle tracks because the European practice is to separate

bicyclists from pedestrians. These are intersection treatments which also include cross street markings to get the bicyclists to the cycle tracks on the roundabouts.

Because “Separated” is often confused with “Off-road”, “lanes” are mixed with “paths” in the text, and lanes and paths are very different for safety and the users, the following definitions are offered for consideration:

2. Table 1 Terminology and Descriptions:

Cycle track – Type of lane, exclusively for bicycle use, next to a major street or roundabout but separated by a curb or other physical barrier with a parallel provision for pedestrians and other users.

Off-road bike path – Paved or unpaved path or trail, which may include sections of parallel paths with one path for exclusive use by bicyclists and the parallel path for exclusive use by other path users. An off-road bike path is, in most cases, a shared-use path in which bicyclists share the path with other non-motorized users including pedestrians, joggers, and in-line skaters.

3. The bottom of Page 2 replace “multi-lane roundabouts can significantly increase risk to bicyclists unless a ‘separated bike path’” (not in Table 1) with “cycle track” because this is on a roundabout for which journal articles were found.

4. Page 14, middle paragraph, replace “on-road bike lanes” (not in Table 1) with “marked bicycle lanes” (which is in Table 1). In the same sentence replace “risk at roundabouts with ‘separated bike paths’” (not in Table 1) with “cycle tracks.” Third sentence, replace “that roundabouts with ‘separate cycle paths’” (not in Table 1) with “cycle tracks” and “effect than those with ‘on-road cycle lanes’” (not in Table 1) with “marked bicycle lanes.”

5. Page 15, last paragraph, replace “marked cycle lanes” with “marked bicycle lanes,” replace “bicycle routes” with “on-road bike routes,” keep “off-road bike paths” if this is added to Table 1 (now they are called off-road path). Eliminate “mixed-use paths” because they are not in Table 1. Mixed-use would be considered “off-road bike path” following the definition.

6. Page 16, middle paragraph, keep “off road bike paths” if this is the term added to Table 1 (now off-road path). Two studies....change “off-road path” to “off-road bike path.”

7. Page 18 top paragraph, thank you very much for adding text about the lack of injury or crash studies which investigated cycle “tracks.” This should be clarified to indicate that you did not find peer-reviewed articles about cycle tracks on straightaways. You “did” find articles about cycle tracks on roundabouts in the studies conducted in Europe.

8. Page 18, middle paragraph, “clearly-marked, separate bike facilities, (i.e., bike lanes and bike paths (not in Table 1), change to (i.e., cycle tracks at roundabouts and off-road bike paths) or (i.e., marked bicycle lane, cycle tracks at roundabouts, and off-road bike paths). Second sentence, change “On-road bike

lanes and bike routes” to “Marked bicycle lanes and on-road bike routes.”

9. On page 22, thank you for writing that “men and women and people of different age groups may choose to cycle on different facility types.”

10. Under Conclusions page 23, Change “The evidence suggests that purpose-built bicycle-only facilities, (e.g., bike lanes and paved off-road paths)” to (e.g., marked bicycle lanes and bicycle-only off-road bike paths). Change “than other types of intersection unless separated bicycle paths” (not in Table 1) to “unless cycle tracks” are provided.

C. Discretionary Revisions

None

Level of interest: An article of outstanding merit and interest in its field

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.