

Nelson,

Please see the revised Traffic Analysis Report and the Sensitivity Analysis Memo for Howden Boulevard attached, for City staff's review. Based on the sensitivity analysis, approximately 31% of the eastbound through traffic at Dixie/Howden would need to be diverted in the AM peak period for the intersection to operate at a v/c ratio of under 0.9. Additionally, minor traffic redistribution (less than 10%) would need to be diverted at Dixie/Howden, Williams Parkway/Howden, and Vodden/Howden in the PM peak period for those intersections to operate at a v/c ratio of under 0.9. **We remain of the opinion that the implementation of an in-boulevard multi-use path along Howden Boulevard, between Williams Parkway and Hanover Road, is the preferred AT facility solution.**

### Left-Turn Design Treatments

Our team has looked into different left-turn treatment options along the on-road portions of the east-west cycling corridor. This follows the stakeholder workshop, where some stakeholders identified a preference for conventional bike boxes along the east-west cycling corridor as a means of carrying out left-turn movements at signalized and stop controlled intersections. Based on the guidance contained in the draft OTM Book 18, we are of the opinion that conventional left-turn bike boxes are not an appropriate design treatment for the majority of intersections along the east-west cycling corridor. While bike boxes increases the visibility of people cycling making left-turns, it is not recommended based on current design guidance and the conditions found along Vodden Street, Howden Boulevard, and Hanover Road. As per the text contained in the draft OTM Book 18 update, conventional bike boxes should only be considered if all of the following criteria are met:

- Traffic volumes on the approaching road is 2,500 ADT or less;
- Posted speed limit on the approaching road is 40km/h or less; and
- Departure lane configuration consists of either
  - One through lane and one turn lane (2 lanes total) or
  - One shared through/turn lane (1 lane total)

Based on these considerations, we are proposing to explore the feasibility of the following left-turn treatments at the following intersection locations:

Conventional Bike Box	Two-Stage Left-Turn Queue Box
<ul style="list-style-type: none"><li>• Howden/Central Park</li><li>• Hanover/Central Park</li></ul>	<ul style="list-style-type: none"><li>• Vodden/Centre</li><li>• Vodden/Rutherford</li></ul>

Conventional bike boxes are proposed at Howden/Central Park and Hanover/Central Park, maintaining design consistency with the bike boxes that currently exist along Central Park Drive. With regard to two-stage left-turn queue boxes, Strava heatmapping identifies Centre Street as a heavily utilized cycling corridor, making it a suitable candidate for the provision of a formal left-turn design treatment at Vodden Street. Two-stage queue boxes are also being considered at Vodden/Rutherford, as Rutherford Road has existing designated bike lanes which will intersect with the proposed separated bike lanes along Vodden Street. The design of the left-turn design treatments will be informed by a swept path analysis to determine the exact placement and sizing of the proposed treatments. As reconstruction of the roadway and intersections is not part of the scope of this assignment, the recommended design will leave out left-turn treatments "if" they cannot be accommodated within the existing roadway space, and instead we would then recommend these be considered when intersection improvements are planned by the City in the future.

Please let us know whether you have any questions regarding the updated traffic analysis, the sensitivity analysis, or our design approach for the left-turn treatments along the corridor.

*Sincerely*

*Dave*

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