

2025-01-27

Project: 220328:400 Millennium Boulevard

Jenny Renaud, CET, CRS
Manager, Transportation Engineering
Integrated Planning & Public Works
City of Waterloo
Waterloo Service Centre
265 Lexington Court
Waterloo ON N2J 4R3

Dear Ms. Renaud:

RE: CITY OF WATERLOO STAFF COMMENTS (TRANSPORTATION IMPACT ASSESSMENT), 400 MILLENNIUM BOULEVARD, WATERLOO

Further to our meeting held on 2024-11-18, we have prepared a conceptual traffic calming plan that aims to reduce the desirability of Park Road as a route to/from the proposed development site.

The attached figures detail our findings:

- ▶ **Figure 1** displays the location of the subject lands relative to the main arterial road (University Avenue), the primary collector road for the Carriage Crossing area (Millennium Boulevard) and the private access to the municipal recreation facilities located at the RIM Park complex.
- ▶ **Figure 2** shows the competing routes that have caused the City concern regarding possible increased traffic on Park Road. The figure shows that the approximate travel time on the two routes between the westerly intersection of the site and Millennium Boulevard and the intersection of University Avenue and Park Road are similar. The TIS prepared in support of the application forecast that about 10% of the site-generated traffic might find the Park Road route a preferable choice. This would result in 28-40 vehicles per hour during the peak hours, or less than one vehicle per minute. City staff found this level of traffic to be unacceptable and relied on the notion that Park Road was deemed a “private road”. The City preferred methods that would result in the elimination of north-south through movements at the intersection of Park Road and Millennium Boulevard.

Following comments issued on 2024-11-06, a meeting was held with City staff to

explore alternatives to the notion of the partial intersection closure. The City agreed to consider traffic calming on Park Road, subject to finding an acceptable plan that would reduce the attractiveness of the Park Road route, through traffic calming features.

- ▶ **Figure 3** illustrates the required spacing of traffic calming features to maintain a specified 85th percentile speed. The curve is based on data collected post implementation. To maintain an 85th percentile speed of about 30 km/h, traffic calming devices should be placed about 60 m apart.
- ▶ **Figure 4** displays the approximate location for traffic calming features based on the 60-metre separation guideline.
- ▶ **Figure 5** illustrates a traffic calming plan for Park Road. Starting at the north end, an entrance feature is recommended to support the notion of Park Road being the private entrance to RIM Park. In its current form, it appears to be a traditional intersection which can contribute to the notion of it as a “through route”. Adding visual cues that support its perception as a driveway are important in that regard. Additional landscaping supporting the entrance feature could be considered. Importantly, some consideration ought to be given to the current at-grade crossing of Millennium Boulevard to support pedestrian movements between the development on the north side and the fieldhouse and playing fields on the south side. Using the traffic forecasts contained the TIS¹ and the requirements of the Ontario Traffic Manual² a Level 2, Type C Crossing may be justified. For the balance of Park Road, speed humps are recommended along with enhancements to the existing pedestrian crossing that links the fieldhouse and playing fields providing a pedestrian refuge island.
- ▶ **Figure 6** displays the existing entrance features on Park Road, from the University Avenue entrance. It would be expected the feature recommended for the Millennium Boulevard and Park Road entrance would be similar to that at Park Road and Park Road.
- ▶ **Figure 7** displays the recommended features for a Level 2 Type C PXO.
- ▶ **Figure 8** illustrates the design details for the recommended speed humps contained in the Canadian Guide to Traffic Calming, Second Edition.
- ▶ **Figure 9** illustrates the design details for the recommended pedestrian refuge island contained in the Canadian Guide to Traffic Calming, Second Edition.

¹ Paradigm Transportation Solutions Limited, 400 Millennium Boulevard, Waterloo, Transportation Impact Study, Cambridge, October 2023.

²Ministry of Transportation of Ontario, *Ontario Traffic Manual: Book 15 – Pedestrian Crossing Treatments*, Queens Printer for Ontario: Toronto, June 2016.

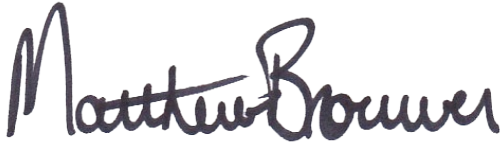


We trust this provides the City with sufficient information to provide final acceptance of the Transportation Impact Assessment.

We remain available to discuss the matter at your convenience.

Yours truly,

PARADIGM TRANSPORTATION SOLUTIONS LIMITED



Matt Brouwer

P.Eng.

Senior Project Manager, Associate



Jim Mallett

M.A.Sc., P.Eng., PTOE

President and Chief Executive Officer, Principal

c: Trevor Hawkins, MHBC
Peter Armbruster, Activa



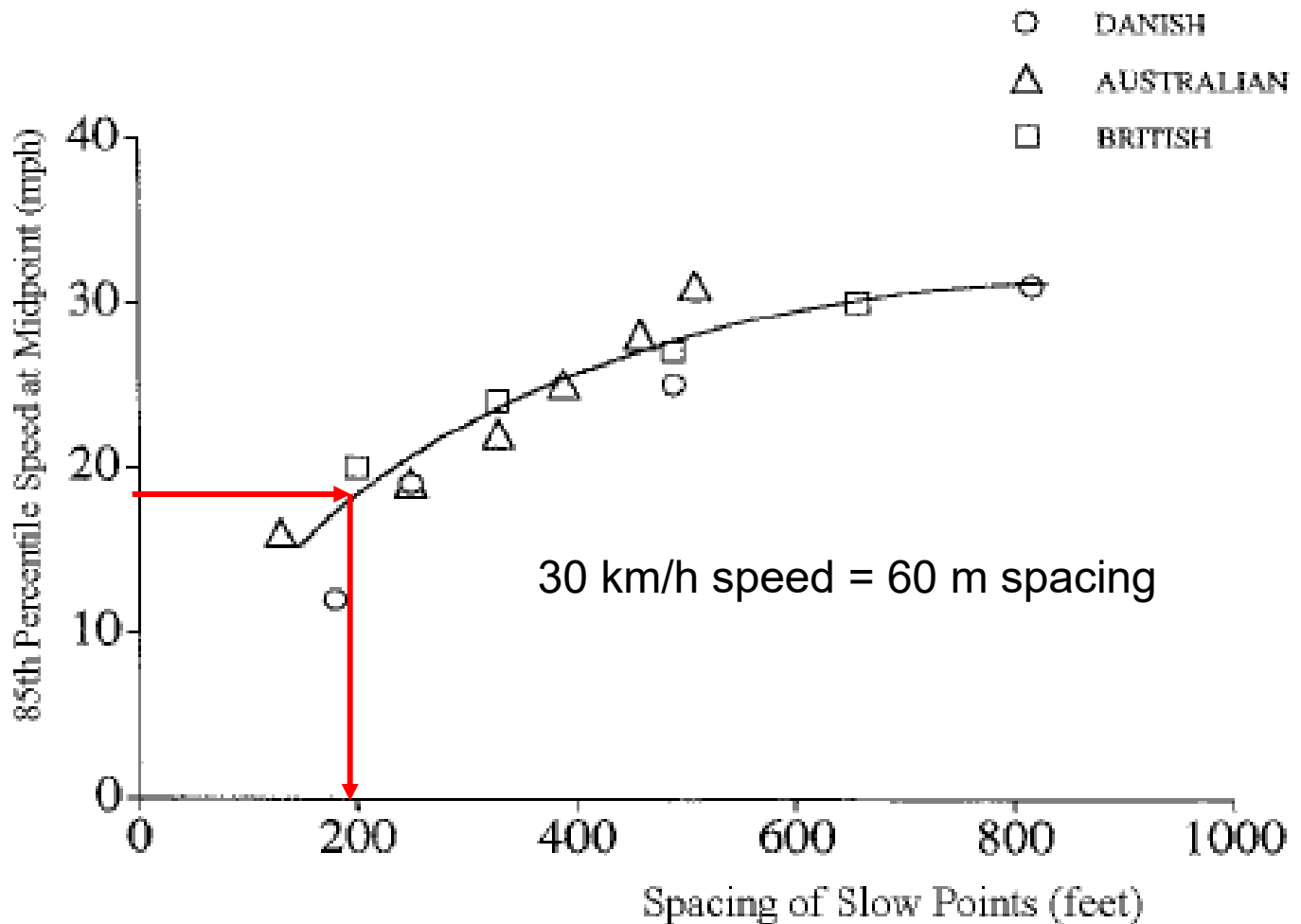


400 Millennium Boulevard
220328

Site Location

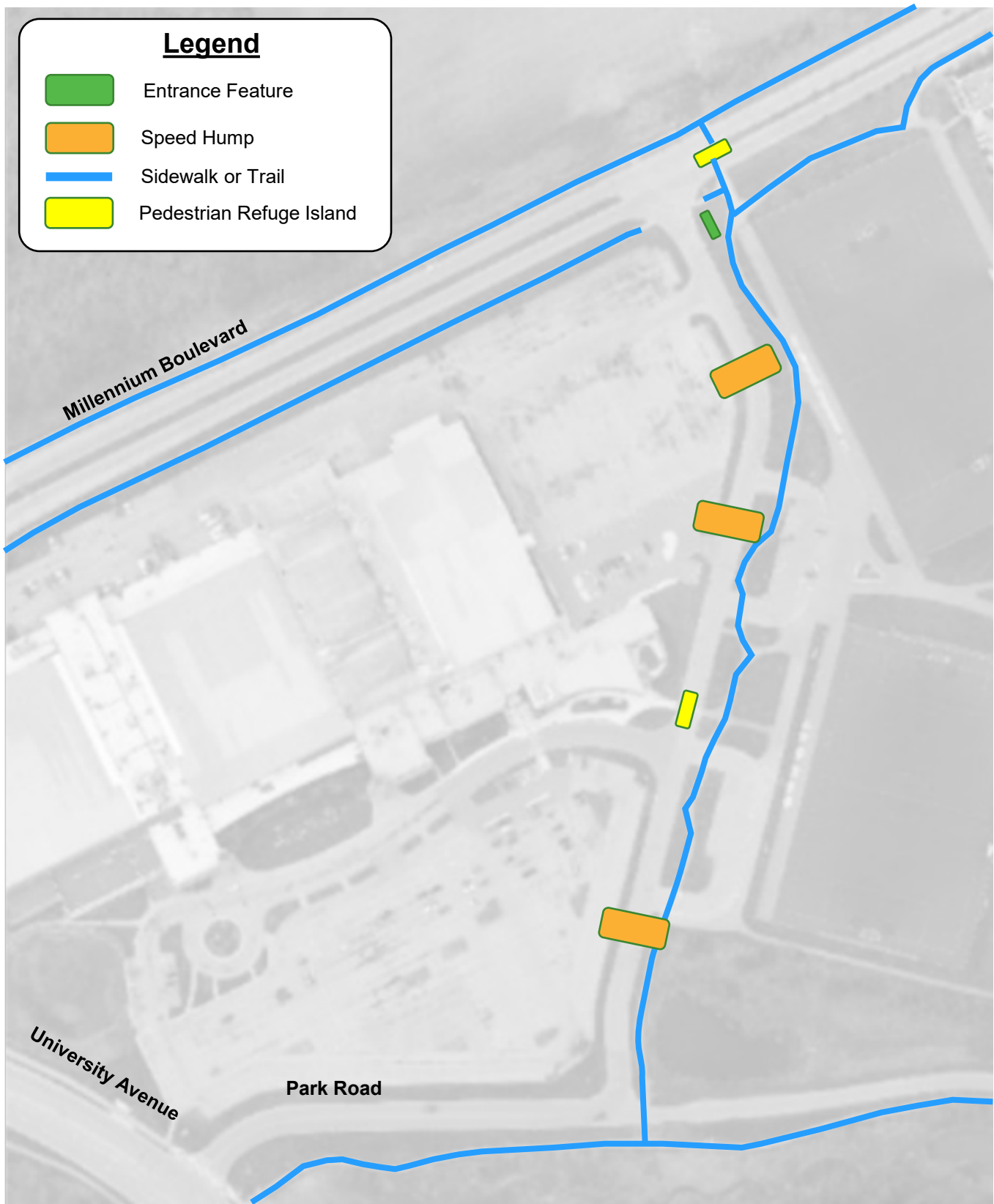
Figure 1





Source: Ewing, R. in *Best Development Practices*, American Planning Association and Urban Land Institute, 1996 p.64.



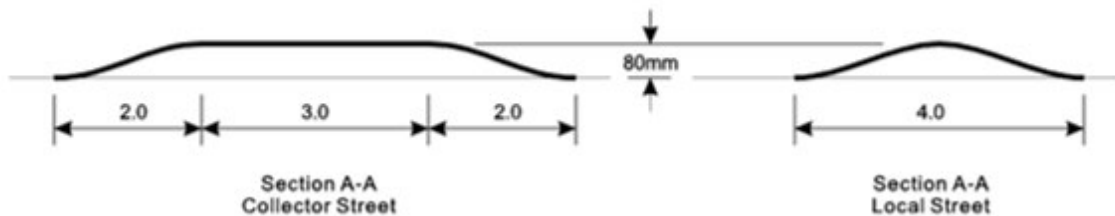
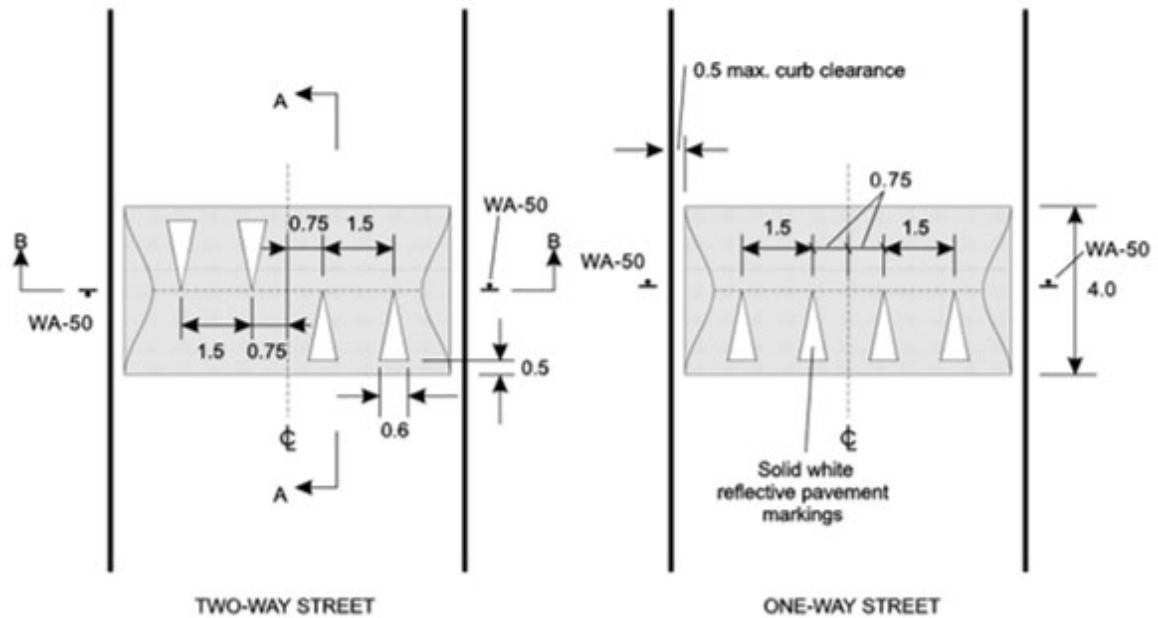




University Avenue
and Park Road



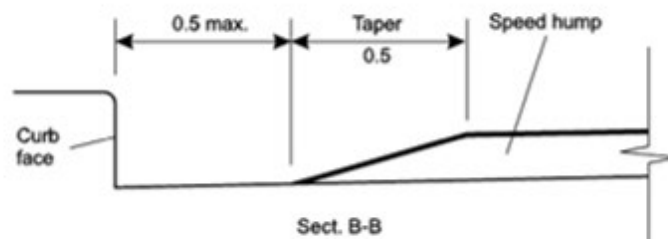
Park Road and
Park Road



Sinusoidal Speed Hump Development

Distance (m)	0.000	0.125	0.250	0.375	0.500	0.625	0.750	0.875	1.000	1.125	1.250	1.375	1.500	1.625	1.750	1.875	2.000
Finished Height (mm)	0	1	3	7	12	18	25	32	40	48	55	62	68	73	77	79	80

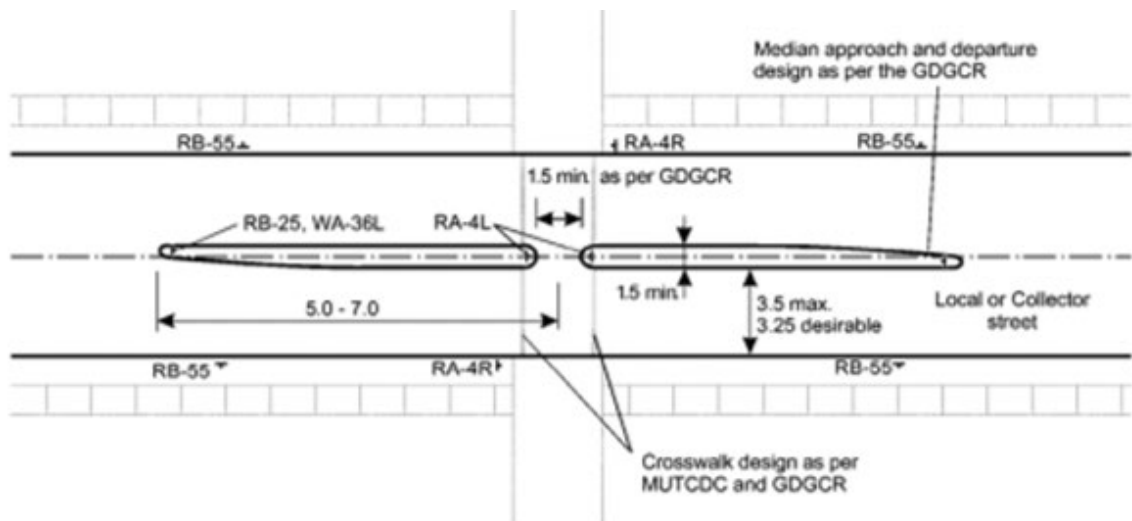
Sign Descriptions:
WA-50 Speed Hump



All dimensions are in metres unless otherwise noted.

NOT TO SCALE

Source: Transportation Association of Canada, Canadian Guide for Traffic Calming – Second Edition, 2018



MID-BLOCK CROSSWALK

All dimensions are in metres unless otherwise noted.

NOT TO SCALE

Source: Transportation Association of Canada, *Canadian Guide for Traffic Calming – Second Edition*, 2018

Source: *Canadian Guide for Traffic Calming – Second Edition*, 2018



Pedestrian Refuge Island Detail

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Figure 9