5.6 MIDBLOCK CROSSINGS

Midblock crossings allow pedestrians and cyclists to cross Regional roads at locations other than signalized intersections to access destinations, or make connections to facilities or paths. Pedestrians and cyclists are more sensitive to out-of-the-way travel than motorists. If midblock crossings are not formally designed were needed, they may choose to cross at random or informal locations. Such behaviour may compromise safety of everyone at the crossing. Thus, accommodating pedestrians and cyclists where there is demand with well-designed crossings is preferable to overlooking their needs and assuming they will divert to an out-of-the-way signalized intersection.

In the context of Regional roads, mid-block crossings may be considered under the following conditions:

- In cases where a major attraction (such as major transit hub, commercial development or community/recreational facility) create high midblock demand at roadway level
- In cases where a major trail, or other pedestrian or cycling facility crosses a Regional road midblock and grade separated options (i.e. tunnel, overpass) are not feasible due to cost or design constraints

Mid-block crossings are recommended to be located 200 m from signalized intersections. This distance is a guideline based on the length required to develop left-turn lanes at adjacent intersections, and is usually considered sufficient to allow motorists to recognize and react to each signal (but this distance does not consider optimal coordination). Consider the out-of-the-way travel for pedestrians when adhering to this minimum. For example, a typical pedestrian trip that is 1.5 km long "as the crow flies" that must divert 200 m to cross at a signal will result in an increase in the distance walked by 400 m or around 30%. Thus a stretch of Regional road with signals spaced as little as 400 m may be a good candidate for a mid-block crossing if there are major destinations located mid-block.

A signalized midblock trail crossing

Photo Source: IBI Group

The recommended designs of mid-block crossings of Regional roads are based on the Ontario Traffic Manual Book 15: Pedestrian Crossing Treatments. This guidelines aligns with the Ontario Highway Traffic Act with respect to the rights and responsibilities of drivers and pedestrians at such crossings.

Generally, the type of pedestrian crossings applicable to Regional roads based on this guideline include:

- Intersection and Mid-block traffic control signals (MPS) applicable to all Regional roads regardless of the number of lanes or posted speed. The warrant for traffic control signals for mid-block crossings is based on York Region's Pedestrian Crossing Warrant Criteria (Edocs No. 1818446). The warrant criteria takes into account a minimum pedestrian demand and pedestrian crossing opportunities for 2 or 4 hour periods. Refer to the approved York Region Policy for the full warrant.
- Pedestrian cross-overs (PXO) could apply to Regional roads 2 to 4 lanes wide with posted speeds of 60 km/h or less. The warrant for pedestrian cross-overs for mid-block pedestrian crossings could be based on Ontario Traffic Manual Book 15: Pedestrian Crossing Treatments, consisting of a minimum pedestrian volume and a vehicular volume; or pedestrian system connectivity or desire lines. Refer to OTM Book 15 for the full warrant. **At this time, the Region is not pursuing the application of PXOs, however the guidance included in this chapter may guide the Region in implementation, should they be pursued in the future.**

On Regional roads that are 2 to 4 lanes wide with posted speed limits of 60 km/h or less, if the warrant for a mid-block traffic control signal is not met, then the warrant for a pedestrian cross-over is considered. On Regional roads that are 6 lanes wide, or with speeds over 60 km/h, only mid-block traffic control signals are applicable.

Median refuge islands can be incorporated into the design of mid-block crossings to provide a refuge for pedestrians and cyclists on wide streets. They also allow only one direction of traffic to be interrupted at a time with the delay shortened to the time it takes to cross the width of the traffic lanes in that direction only.

The mid-block crossing designs presented in this guideline are based primarily on the OTM Book 15: Pedestrian Crossing Treatments with additional signage and pavement markings incorporated from the OTM Book 18 Cycling Facilities. This recognizes that were there is a need for pedestrians to cross Regional roads, there is also likely a need for cyclists in the same location.

Mid-block Pedestrian Signal (MPS)

A midblock pedestrian signal can be applied on any Regional Road where warrants are met (refer to York Region's Pedestrian Crossing Warrant Criteria).

Minimum

1. AODA – compliant curb ramps and tactile plates per York Region Standard DS-100 series drawings
2. Pedestrian Control Indications with AODA compliant Pedestrian Signal Pushbuttons and 'Pedestrian Pushbutton Symbol' signage with directional arrow (Ra-12-OTM)
3. Advanced Stop Bar at crosswalk with mandatory 'Stop Here on Red Signal' signage (Rb-78 – OTM)
4. Crossing should be designed as Combined Pedestrian and Cyclist Crossride or a Separate Pedestrian and Cyclist Crossride (refer to Section 7 for pavement marking details)
5. Approach Markings (Stop Line, No-Passing zone, and Turn Lanes markings, as required by OTM Book 15)
6. Required illumination of pedestrian crosswalk and waiting area to be provided (refer to OTM Book 15
7. For layouts of traffic signals, location of pedestrian heads and poles, and relevant dimensions, refer to OTM Book 12
8. See Exhibit 5-48 to Exhibit 5-49 for crossing connections based on the type of approaching pedestrian and cycling facilities

Preferred

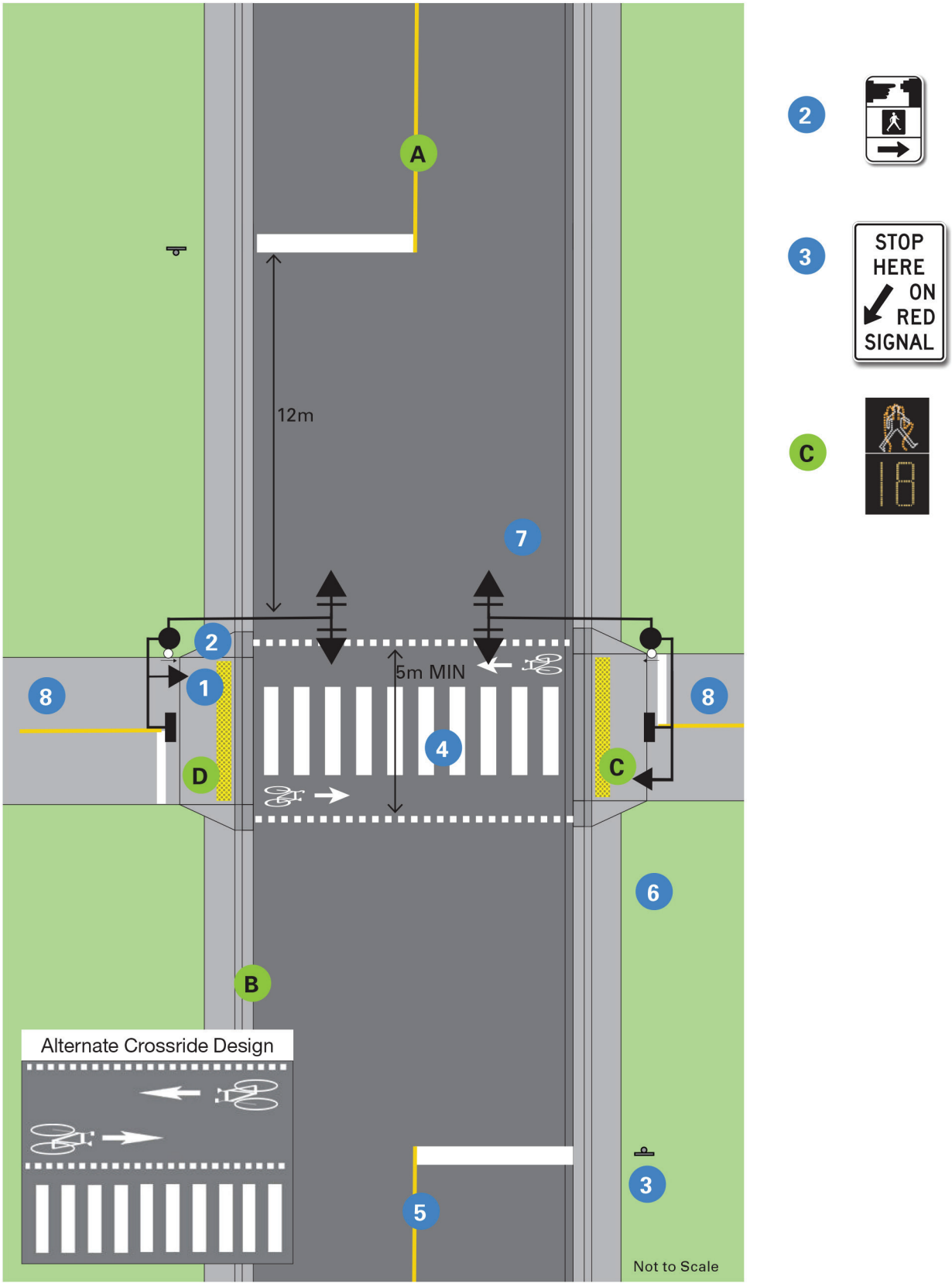
A. Consider adding a median refuge island, particularly for 4 and 6-lane wide Regional roads

B. Stopping prohibition for a minimum of 30 m on each approach to the crossing, and 15 m following the crossing, and parking and other sight obstructions prohibition within at least 30 m of crossings

C. Pedestrian countdown signals and bicycle signals

D. Optional stop bar for cyclist and yellow dividing line

Exhibit 5-42. Midblock Pedestrian Signal



Pedestrian Cross-over (PXO) without Median

This PXO could be applied to Regional roads with 2 to 4 lanes wide with posted speeds of 60 km/h or less, if the warrant for Mid-block Pedestrian Signal is not met. See Ontario Traffic Manual Book 15 - Pedestrian Crossing Treatments for warrants for the PXO. **Note that York Region currently is not pursuing PXOs on Regional roads.**

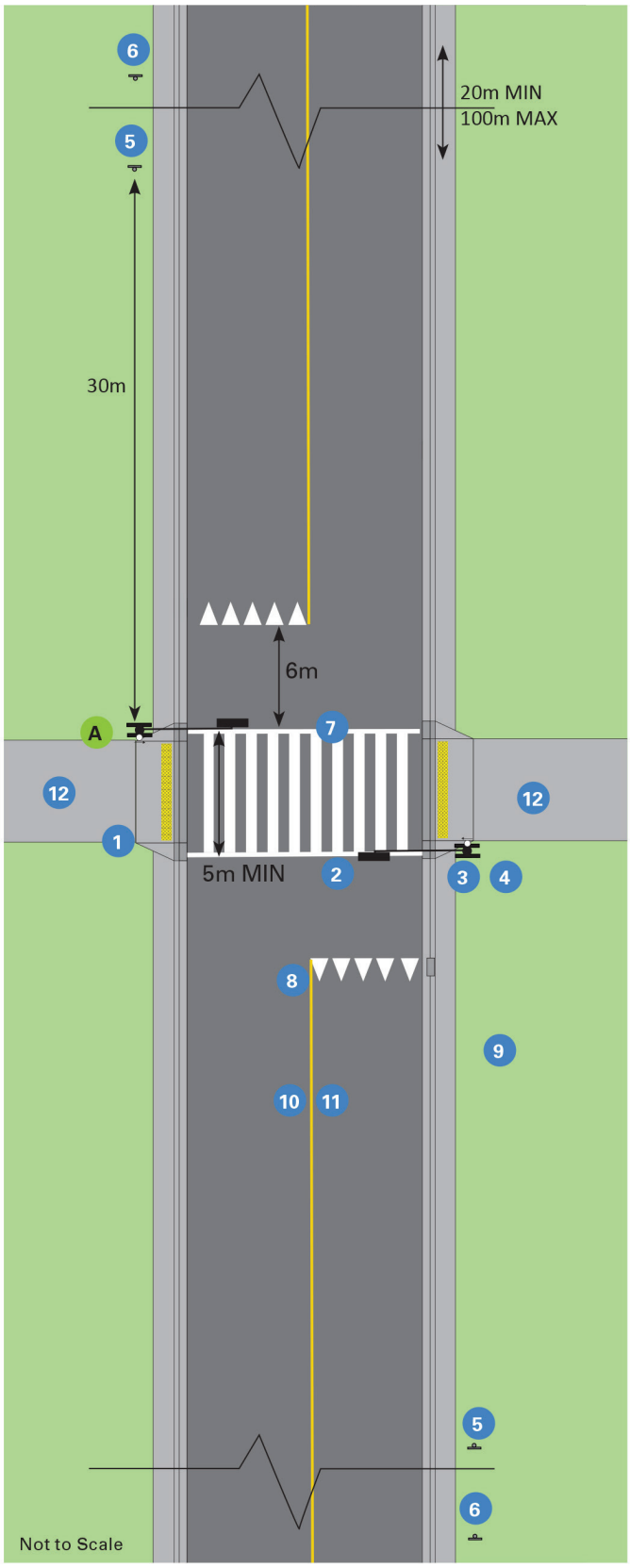
Minimum

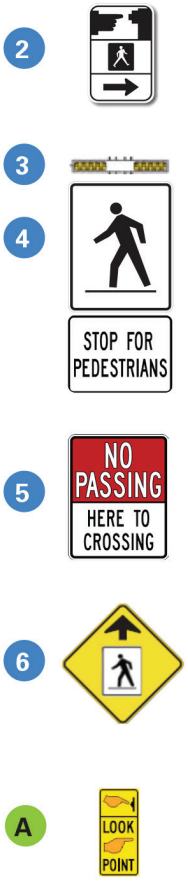
1. AODA – compliant curb ramps and tactile plates per York Region Standard DS-100 series drawings
2. One over-head mounted pedestrian crossover signage showing a symbol of a person crossing on a road to the right (Ra-5R-OTM), for each direction of travel
3. Pedestrian actuated Double-sided Rectangle Rapid Flashing Beacon with Tell Tale and Pedestrian Pushbutton for pedestrians mounted above each set of side-mounted pedestrian crossover signs
4. Side-mounted 'Pedestrian Crossover' signage (Ra-5R and Ra-5L – OTM), together with a 'Stop for Pedestrians' tab (Ra-4t-OTM), on both sides of the road mounted back to back
5. 'No Passing Here to Crossing' signage (Ra-10-OTM), installed 30 m upstream of the crossride
6. Advanced 'Pedestrian Crossover Ahead' signage (Wc-27R/Wc-27L - OTM) installed 50.0 m upstream of the crossride
7. Crossing should be marked with a ladder crosswalk. Providing a wider crossing could accommodate a future crossride if changes to the HTA allow cyclists to ride through crossovers in the future
8. Yield to Pedestrians pavement markings located 6.0 m from crossride
9. Stopping prohibition for a minimum of 15 to 30 m on each approach to the crossing, and 10 to 15 m following the crossing
10. Passing restrictions for motor vehicles on single lane approaches should be implemented along 2-lane Regional roads approaching the PXO. For multi-lane Regional roads, lane changes should be prohibited using solid white lines.
11. Required illumination of pedestrian crossride and waiting areas to be provided (refer to Book 15)
12. See Exhibit 5-48 to Exhibit 5-49 for crossing connections based on the type of approaching pedestrian and cycling facilities

Preferred

A. 'Pedestrian Pushbutton' signage (Ra-11-OTM)

Exhibit 5-43. Pedestrian Cross-over (PXO) without Median





Pedestrian Cross-over (PXO) with Median

This PXO could be applied to Regional roads with 2 to 4 lanes wide with posted speeds of 60 km/h or less, if the warrant for Mid-block Pedestrian Signal is not met. See Ontario Traffic Manual Book 15 - Pedestrian Crossing Treatments for warrants for the PXO. **Note that York Region currently is not pursuing PXOs on Regional roads.**

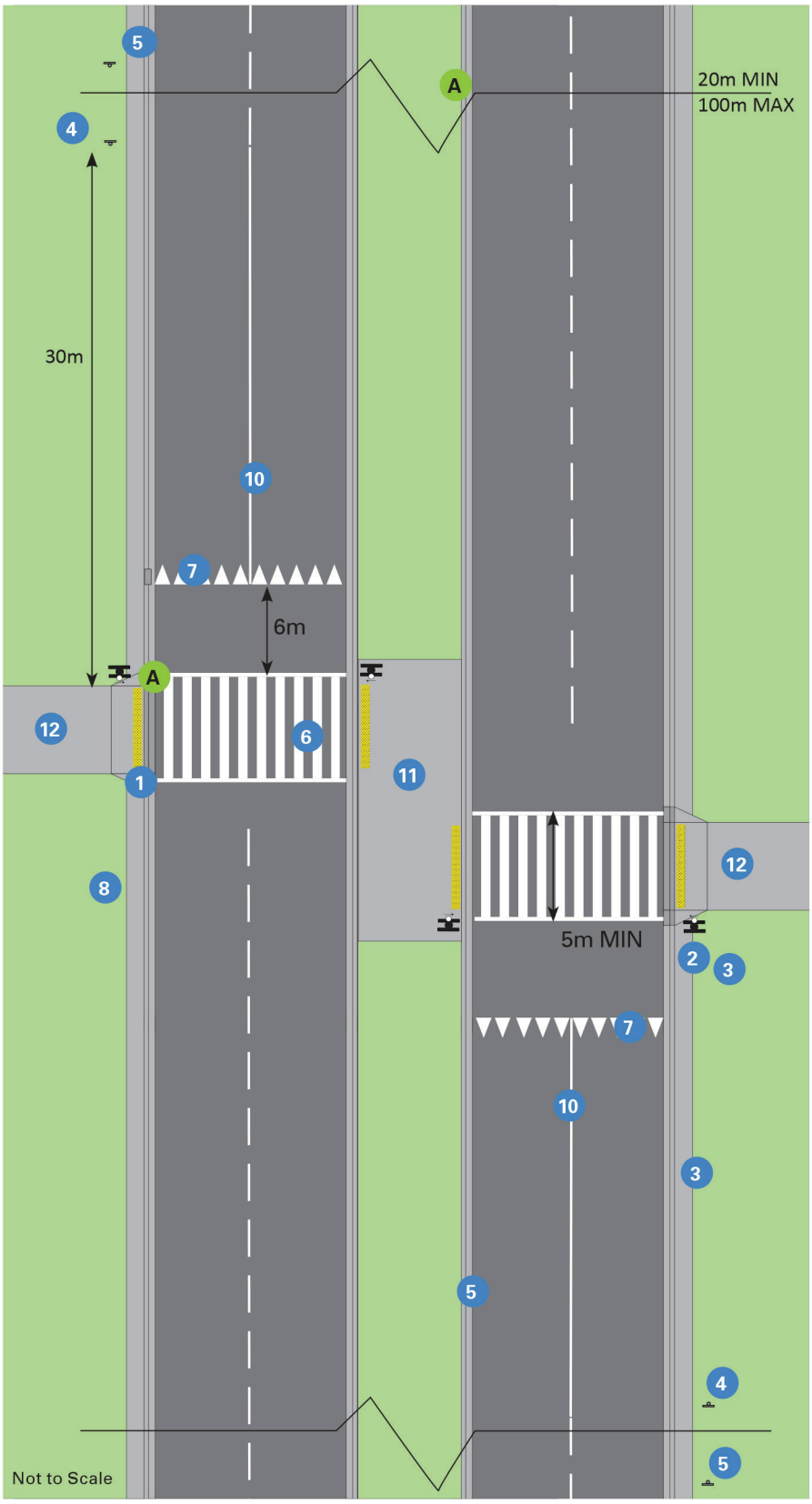
Minimum

1. AODA – compliant curb ramps and tactile plates per York Region Standard DS-100 series drawings
2. Pedestrian actuated Double-sided Rectangle Rapid Flashing Beacon with Tell Tale and Pedestrian Pushbutton for pedestrians mounted above each set of side-mounted pedestrian crossover signs
3. Side-mounted pedestrian crossover signage Ra-5R and Ra-5L on the right side and on the median, together with their Stop for Pedestrians tab signage Ra-4t on the right side of the road only
4. 'No Passing Here to Crossing' signage (Ra-10-OTM), installed 30m upstream of the crossride
5. Advanced 'Pedestrian Crossover Ahead' signage (Wc-27R/Wc-27L – OTM) installed 50m upstream of the crossride
6. Crossing should be marked with a ladder crosswalk. Providing a wider crossing could accommodate a future crossride if changes to the HTA allow cyclists to ride through crossovers in the future
7. Yield to Pedestrians pavement markings at 6.0 m from crossride
8. Required illumination of pedestrian crossrides and waiting areas to be provided
9. Stopping prohibition for a minimum of 15 to 30 m on each approach to the crossing, and 10 to 15 m following the crossing
10. Passing restriction for motor vehicles should be implemented approaching the PXO
11. See median refuge design details (refer to Exhibit 5-46)
12. See Exhibit 5-48 to Exhibit 5-49 crossing connections based on the type of approaching pedestrian and cycling facilities

Preferred

A. 'Pedestrian Pushbutton' signage (Ra-11-OTM)

Exhibit 5-44. Pedestrian Cross-over (PXO) with Median



Median Refuge

Median refuges should preferably incorporate an offset to encourage pedestrians and cyclists to orient themselves towards approaching vehicular lanes.

Minimum

1. Tactile walking surface indicator as per York Region Standard DS-100 series drawings
2. For raised concrete median island (B):
   - Pavement markings on approaches to obstructions
     - 'Keep Right' signage (Rb-25, Rb-125 - OTM)
     - 'Object Marker' signage (Wa-33L - OTM
3. Barrier curb to guide pedestrians and cyclist in lieu of railings which can be hazards in vehicle collisions

Preferred

A. Typical raised landscaped median 4 to 5 m wide, or raised concrete median island 3 to 5 m wide and minimum 5 m long. A sample detail is shown in Exhibit 5-47

Exhibit 5-45. Use of detectable curbs to guide pedestrians through median refuge island

Photo Source: IBI Group

Exhibit 5-46. Raised Median Detail

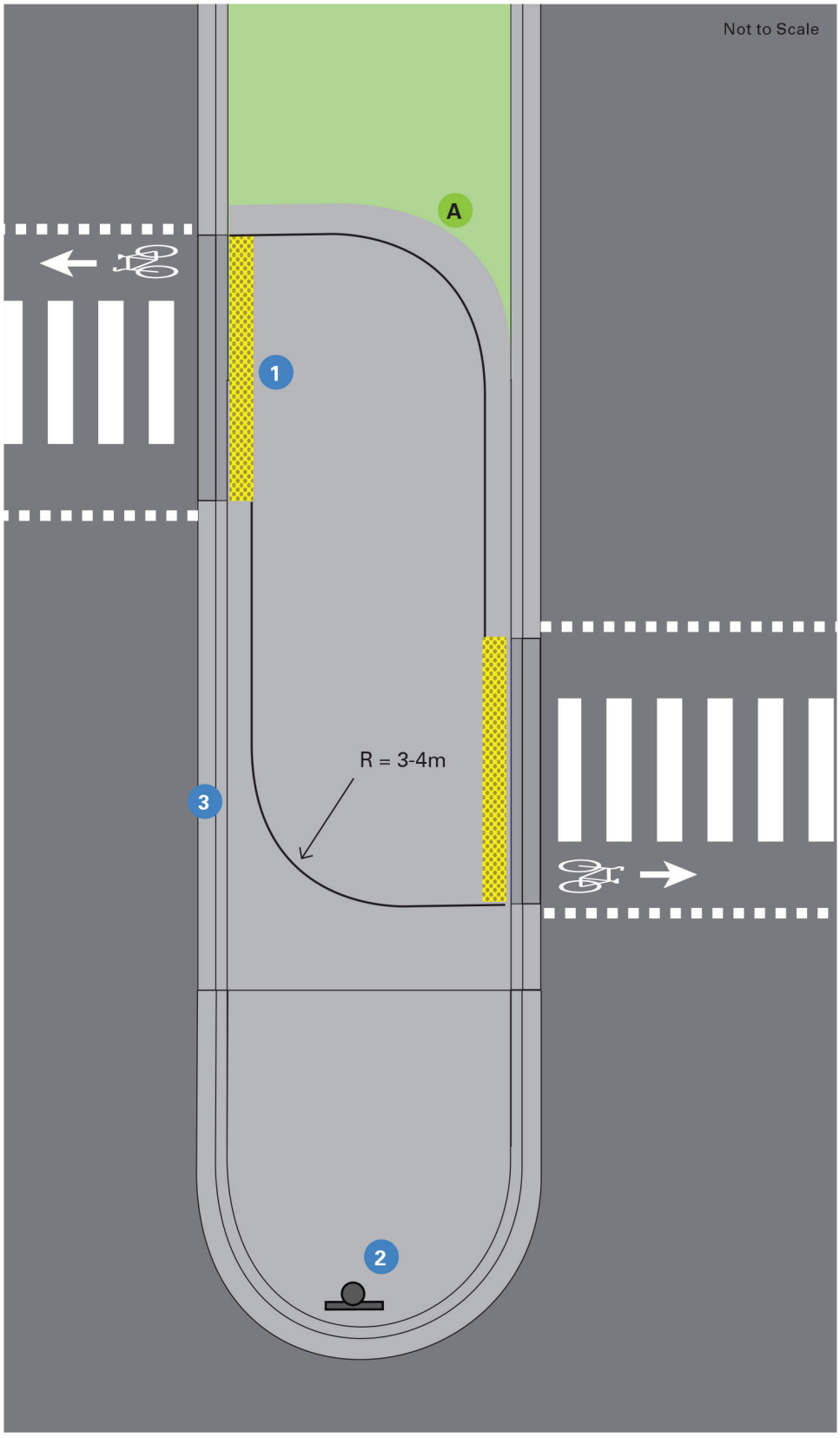
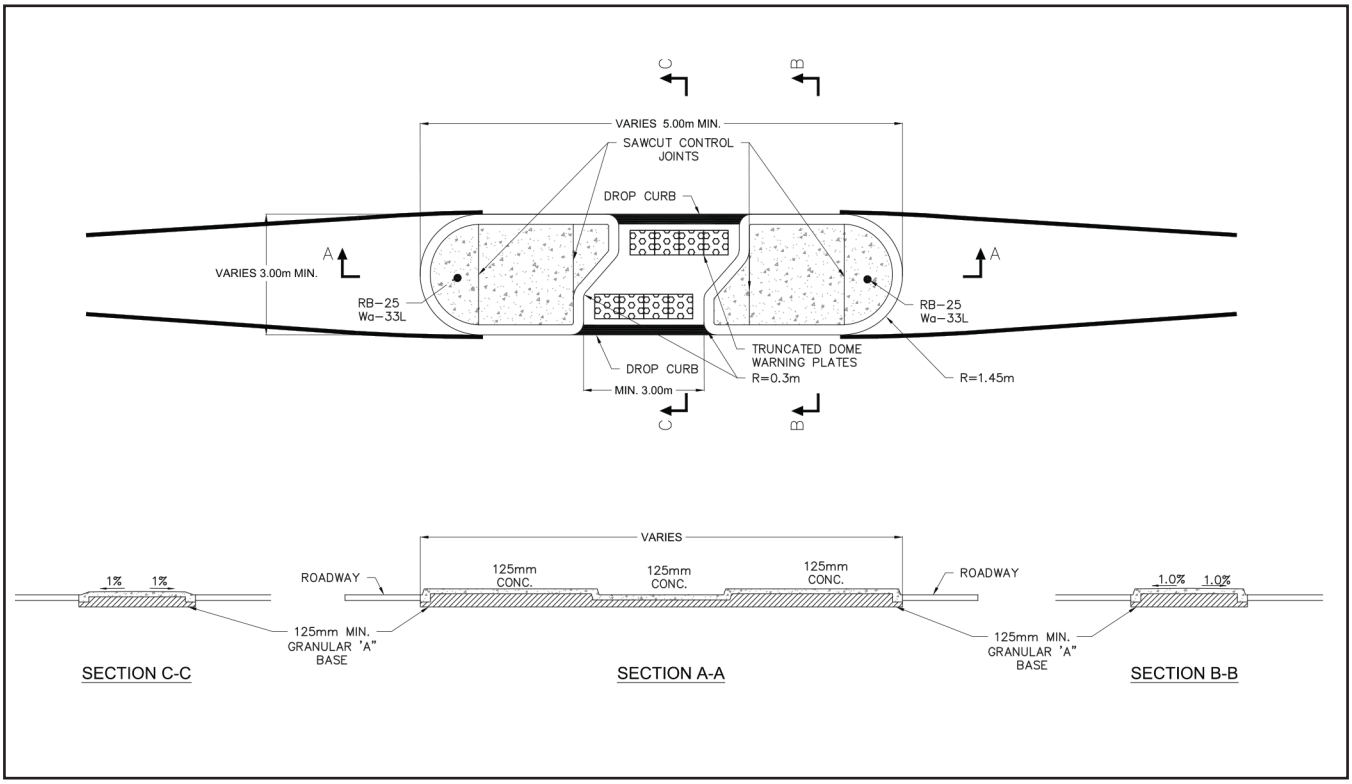


Exhibit 5-47. Sample Detail for Median Refuge Island



Connection to Crossings

These exhibits illustrate the approach to midblock crossings for the following facilities:

- In-boulevard Cycle Track (Exhibit 5-48)
- Multi-use Path (Exhibit 5-49)
- Raised Cycle Track (Exhibit 5-50)

Minimum

1. A yellow dividing line used on approach to reduce conflicts at crossing
2. To improve cyclists' comfort but slow them approaching the crossing, the intersection of the mid-block crossing connection to the cycling facility should accommodate a turning radius of 5 m
3. Yield to Pedestrian pavement markings (refer to Section 7 for details). Cyclists must yield to pedestrians when facilities are separate (pedestrian clearway with in-boulevard cycle track, or with raised cycle track)
4. For cycle track, bike and diamond pavement marking following crossing
5. 3:1 lateral taper applied where facility widens approach the crossing to facilitate right and left turns

Preferred

A. Width of connection to crossing to match width of adjacent facilities (width of multi-use path, or width of pedestrian clearway plus cycle track) but not to exceed 5.0 m

B. Optional stop bar and yellow dividing line on connection

Exhibit 5-48. Pedestrian Clearway and In-boulevard Cycle Track Connection to Midblock

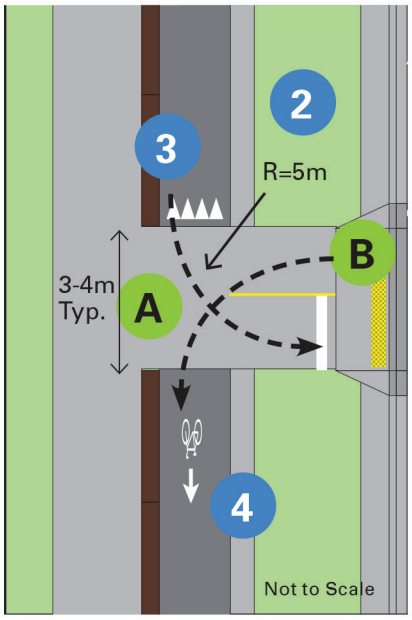


Exhibit 5-49. Multi-use Path Connection to Midblock Crossing

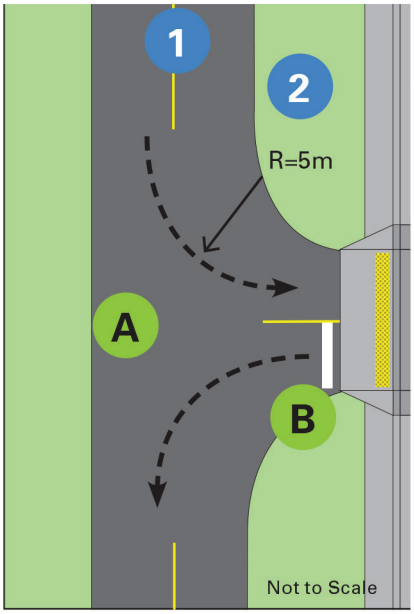


Exhibit 5-50. Pedestrian Clearway and Raised Cycle Track Connection to Midblock Crossing