7.2 PAVEMENT MARKINGS

This chapter provides a concise summary of the various pavement markings presented in these guidelines.

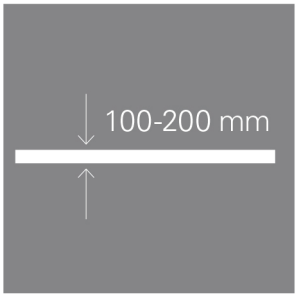
Please refer to the corresponding Regional standards, OTM books and TAC guidelines for detailed guidance on the use of these signs.

7.2.1 Longitudinal & Transverse Pavement Markings

SOLID WHITE LINE

100 mm solid white line

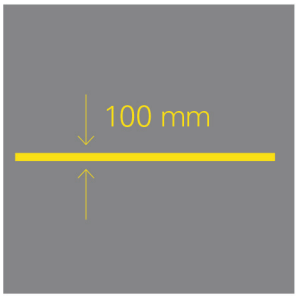
200 mm solid white lane



APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Unsignalized Intersections (Chapter 5.2.2) Transit Integration (Chapter 6.1) Driveways (Chapter 6.2)
USAGE & LOCATION CRITERIA	• In the context of pedestrian and cycling facilities, generally used as an edge line for a uni-directional facility (i.e. bike lanes or buffered bike lanes) or • May also be used to indicate a hazard on one side of a facility (i.e. multi-use path) • Use of the wider 200mm line should be considered for the outer edge of any on-road cycling facilities (i.e. bike lanes, buffered bike lanes, paved shoulders)
FURTHER GUIDANCE	OTM Book 18, OTM Book 11

SOLID YELLOW DIVIDING LINE

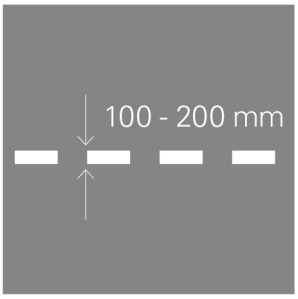
100 mm solid yellow line



APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Unsignalized Intersections (Chapter 5.2.2) Transit Integration (Chapter 6.1) Driveways (Chapter 6.2)
USAGE & LOCATION CRITERIA	• Applied to multi-use paths to indicate no passing zones
FURTHER GUIDANCE	OTM Book 18, OTM Book 11

DASHED WHITE DIVIDING LINE/GUIDING LINE

100 mm 1 m x 1 m dashed white line

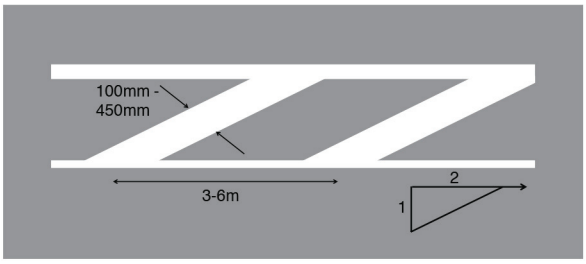


APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Unsignalized Intersections (Chapter 5.2.2) Transit Integration (Chapter 6.1) Driveways (Chapter 6.2)
USAGE & LOCATION CRITERIA	• Applied to multi-use paths to indicate no passing zones
FURTHER GUIDANCE	OTM Book 18, OTM Book 11

BUFFER HATCHING

100 mm solid white line on either side or 200 mm solid white line on outer edge

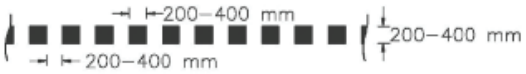
100 mm – 450 mm diagonal lines at 30 degrees



APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Unsignalized Intersections (Chapter 5.2.2) Transit Integration (Chapter 6.1) Driveways (Chapter 6.2)
USAGE & LOCATION CRITERIA	• In the context of pedestrian and cycling facilities, a dashed white line is generally used to indicate an on-road cycling facility that can be crossed (for example, where a driver is expected to pull into the bike lane to make a right turn at a driveway or intersection approach) • Spacing of hatching can be 3m MIN, 6m MAX; Consider 3m in urban areas, 6m in rural areas
FURTHER GUIDANCE	OTM Book 18, OTM Book 11

ELEPHANT'S FEET FOR CROSSRIDES

Two sets of 200-400 mm broken white 200-400 mm line, 200-400 mm skip



Source: OTM Book 18, p. 120

APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Unsignalized Intersections (Chapter 5.2.2) Driveways (Chapter 6.2)
USAGE & LOCATION CRITERIA	• Typically used where an in-boulevard facility crosses a roadway or driveway • 400mm width is typical for Regional roads • Place crossride through the entire width of the driveway or intersection
FURTHER GUIDANCE	OTM Book 18

LADDER CROSSWALK MARKING

0.6 m x 2.5 m (MIN) bars, spaced at 0.6 m, with 0.2 m transverse lines

Source: OTM Book 15, p. 50

APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Unsignalized Intersections (Chapter 5.2.2) Facility Transitions (Chapter 5.2.3) Rural Intersections (Chapter 5.3) Driveways (Chapter 6.2)
USAGE & LOCATION CRITERIA	• Used to delineate the pedestrian path through an intersection/crossing • Offset crosswalk marking (except for transverse lines) 0.6m from curb ramp to reduce slip hazards • Crosswalk typically placed 1.0m in advance of the vehicular stop bar
FURTHER GUIDANCE	OTM Book 15, York Region Standard Drawing DS-119 for signalized intersections

7.2.2 Symbol Pavement Markings

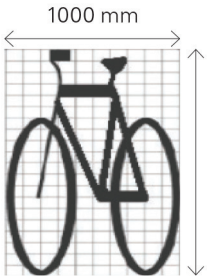
PEDESTRIAN SYMBOL

Pedestrian Symbol

APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Unsignalized Intersections (Chapter 5.2.2) Driveways (Chapter 6.2)
USAGE & LOCATION CRITERIA	• Applied to indicate or clarify the pedestrian path of travel (typically along a multi-use path, or where pedestrian and cyclists paths diverge/merge • Optional treatment (depending on context)
FURTHER GUIDANCE	OTM Book 18, OTM Book 11

BIKE SYMBOL

Bike symbol

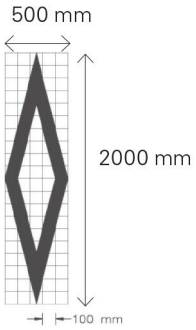


Source: OTM Book 18, p. 65

APPLICATIONS	Bike lanes, Buffered Bike Lanes, Separated Bike Lanes, Multi-use Paths, Cycle Tracks Signalized Intersections (Chapter 5.2.1) Unsignalized Intersections (Chapter 5.2.2) Midblock Crossings (Chapter 5.6) Roundabouts (Chapter 5.8) Transit Integration (Chapter 6.1) Driveways (Chapter 6.2)
USAGE & LOCATION CRITERIA	• Used to designate space for cyclist or shared use (when combined with pedestrian symbol) • When combined with Diamond Symbol and signage, indicates space that is formally designated for use by cyclists only
FURTHER GUIDANCE	OTM Book 18, OTM Book 11

DIAMOND SYMBOL

Diamond symbol with stroke width of 75 mm

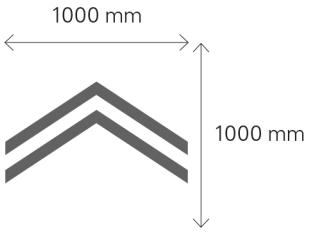


Source: TAC Bikeway Traffic Control Guidelines For Canada, 2nd Edition, p, 58

APPLICATIONS	Bike lanes, Buffered Bike Lanes, Separated Bike Lanes Signalized Intersections (Chapter 5.2.1)
USAGE & LOCATION CRITERIA	• Used to indicate a lane is reserved (for cyclists) • Combined with bicycle symbol • Combined with signage indicating the lane is reserved for use by bicycles (TAC RB-90, RB-91, RB-92)
FURTHER GUIDANCE	OTM Book 18, OTM Book 11

CHEVRON

Double arrow marking with stroke width of 100 mm, spaced at 100 mm

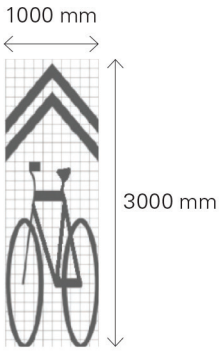


Source: OTM Book 18, p. 47

APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Unsignalized Intersections (Chapter 5.2.2) Retrofit Dedicated Bikeway through Bus Bay (Chapter 6.1)
USAGE & LOCATION CRITERIA	• Chevron spacing to confirm to specific recommendations in guideline (typically 3.5m in urban areas; 8-10m in rural areas) • Placement should try to avoid vehicular turning paths in order to reduce maintenance costs
FURTHER GUIDANCE	OTM Book 18

SHARROW

Consists of bicycle symbol and chevrons



Source: OTM Book 18, p. 47

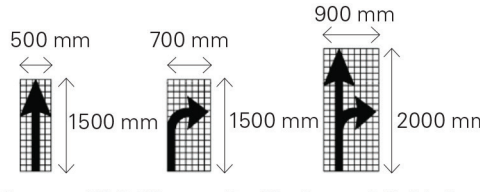
APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Rural Intersections (Chapter 5.3) Unsignalized Intersections (Chapter 5.2.2) Retrofit Dedicated Bikeway through Bus Bay (Chapter 6.1)
USAGE & LOCATION CRITERIA	• Sharrow spacing to confirm to specific recommendations in guideline (typically 3.5m in urban areas; 8-10m in rural areas) • Placement should try to avoid vehicular turning paths in order to reduce maintenance costs • Sharrows should not be applied in combination with dashed guide lines through conflict zones (per OTM Book 18, p. 140)
FURTHER GUIDANCE	OTM Book 18

REDUCED SIZE PEDESTRIAN & CYCLIST DIRECTIONAL ARROWS

Through arrow

Right turn arrow

Through – right arrow

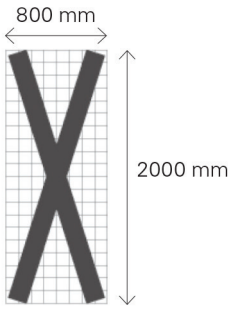


Source: TAC Bikeway Traffic Control Guidelines For Canada, 2nd Edition, p, 60

APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Facility Transitions (Chapter 5.2.3) Unsignalized Intersections (Chapter 5.2.2) Midblock Crossings (Chapter 5.6) Roundabouts (Chapter 5.8) Transit Integration (Chapter 6.1) Driveways (Chapter 6.2)
USAGE & LOCATION CRITERIA	• In the context of pedestrian and cycling facilities, generally used to indicate directions of travel specific to multi-use path or cycle tracks users; Where motorists are required to see and interpret the arrow, a full-sized elongated motorist directional arrow should be used instead • Often combined with the bicycle or pedestrian symbol
FURTHER GUIDANCE	OTM Book 18, TAC Bikeway Traffic Control Guidelines For Canada

RAILWAY CROSSING SYMBOL

150 mm wide elongated 'X' symbol



Source: TAC Bikeway Traffic Control Guidelines for Canada, 2nd Edition, p, 59

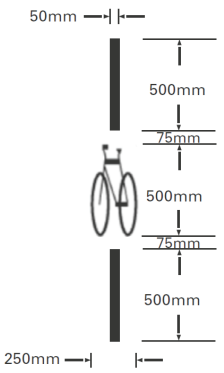
APPLICATIONS	Railway Crossings (Chapter 5.5)
USAGE & LOCATION CRITERIA	• Used to alert cyclists of an approaching at-grade rail crossing • Offset from rail crossing to correspond with placement of 'X' symbol for vehicles
FURTHER GUIDANCE	OTM Book 18, TAC Bikeway Traffic Control Guidelines for Canada

BICYCLE DETECTION MARKING SYMBOL

Through arrow

Right turn arrow

Through – right arrow

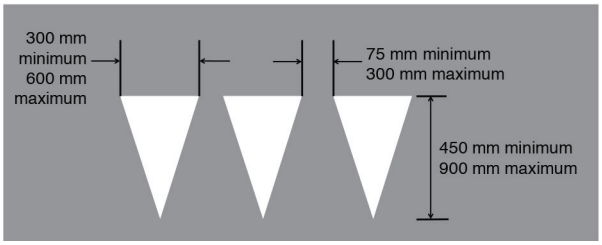


Source: Adapted from TAC Bikeway Traffic Control Guidelines For Canada, 2nd Edition, p, 61

APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Signal Operations (Chapter 8.0)
USAGE & LOCATION CRITERIA	• Used to identify where a cyclist should wait at a signalized intersection to ensure actuation of the signal • Can be supplemented with the TAC ID-24 'Bicycle Signal Loop Detector Stencil' Sign (refer to Section 7.1)
FURTHER GUIDANCE	OTM Book 18, TAC Bikeway Traffic Control Guidelines For Canada

YIELD MARKING

300 X 450 mm triangle markings



Source: OTM Book 15 (June 2016), p. 48

APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Facility Transitions (Chapter 5.2.3) Midblock Crossings (Chapter 5.6) Roundabouts (Chapter 5.8) Transit Integration (Chapter 6.1)
USAGE & LOCATION CRITERIA	• Marking used to indicate the point at which a vehicle/cyclist must yield to pedestrians • In many of the boulevard applications shown in the guidelines, combined with TAC RB-73 signage to indicate that cyclists must yield to pedestrians • Required at all PXO applications (refer to Book 15)
FURTHER GUIDANCE	OTM Book 15

GREEN CONFLICT ZONE MARKING

Green pavement marking applied for cycling applications to alert drivers/cyclists of potential conflicts or

May also be applied to increase awareness of cyclist turning movements

Source: York Region

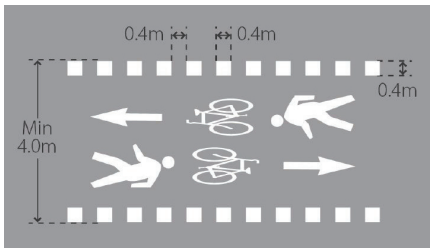
APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Unsignalized Intersections (Chapter 5.2.2) Transit Integration (Chapter 6.1) Driveway crossings (Chapter 6.2)
USAGE & LOCATION CRITERIA	• Conflict zone marking generally applied through the conflict zone area • Width of conflict zone marking should correspond with the width of the approaching cycling facility (generally minimum 2.0m) • The use of preformed thermoplastic for green applications is preferred in York Region, and has been applied on Highway 7, Ninth Line and across interchange conflict zones. MMA is also used in some applications, and is found to be less expensive to install, however there are concerns with skid resistance over the longer term.
FURTHER GUIDANCE	OTM Book 18, Green Skid/Slip Resistant Preformed Thermoplastic Pavement Markings OPSS 710

7.2.3 Intersection & Crossing Markings (Combination of Longitudinal & Symbols)

MIXED PEDESTRIAN AND CYCLIST CROSSRIDE

Two sets of elephant's feet
(400 mm broken white 0.4 m line, 0.4 m skip)

White pedestrian, bicycle and arrow symbols



Source: OTM Book 18, p. 160

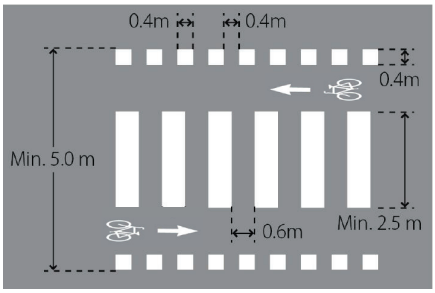
APPLICATIONS	Unsignalized Intersections (Chapter 5.2.2) Driveway crossings (Chapter 6.2)
USAGE & LOCATION CRITERIA	• Applied to unsignalized crossings only • Place crossride through the entire width of the driveway or intersection at a minimum of 4m spacing between the broken lines or matching the path width (whichever is greater) • Width of crossride can be reduced to 3.0m in constrained areas (where width of path is less than 3.0 m) • Place the pedestrian, bicycle and arrow symbols within the crossing so that at least one symbol is aligned with each lane of the driveway or intersection
FURTHER GUIDANCE	OTM Book 18

COMBINED PEDESTRIAN AND CYCLIST CROSSRIDE

Two sets of elephant's feet
(400 mm broken white 0.4 m line, 0.4 m skip)

Crosswalk ladder markings

Optional bicycle symbols and arrows applied between the crosswalk and the crossride markings (recommended for Regional roads)



Source: OTM Book 18, p. 123

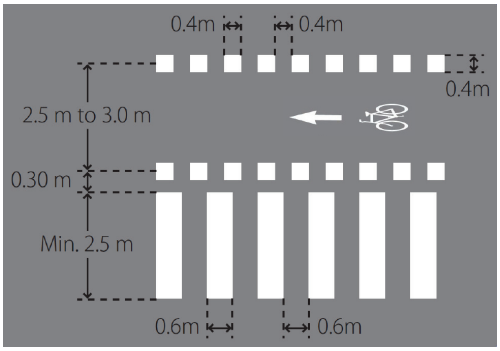
APPLICATIONS	Signalized Intersections (Chapter 5.2.1) Facility Transitions (Chapter Midblock Crossings (Chapter 5.6) Roundabouts (Chapter 5.8)
USAGE & LOCATION CRITERIA	• Place crossride through the entire width of the intersection/crossing at a minimum of 5m spacing between the broken lines or matching the path width (whichever is greater) • Where used, place the bicycle and arrow symbols within the crossing so that at least one symbol is aligned with each lane of the crossing
FURTHER GUIDANCE	OTM Book 18

SEPARATED CROSSRIDE

Two sets of elephant's feet
(400 mm broken white 0.4 m line, 0.4 m skip)

Crosswalk ladder markings spaced at 0.3 m from cyclist crossing

Optional bicycle symbols and arrows applied within the elephant's feet



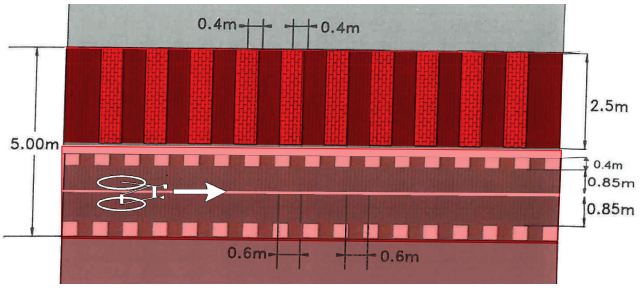
APPLICATIONS	Signalized Intersections (Chapter 5.2.1)
USAGE & LOCATION CRITERIA	• Preferred to a Combined Crossride where separated pedestrian and cycling facilities are provided • Where used, place the bicycle and arrow symbols within the crossing so that at least one symbol is aligned with each lane of the crossing
FURTHER GUIDANCE	OTM Book 18

MODIFIED CROSSRIDE

Two sets of elephant's feet
(400 mm broken white 0.4 m line, 0.4 m skip)

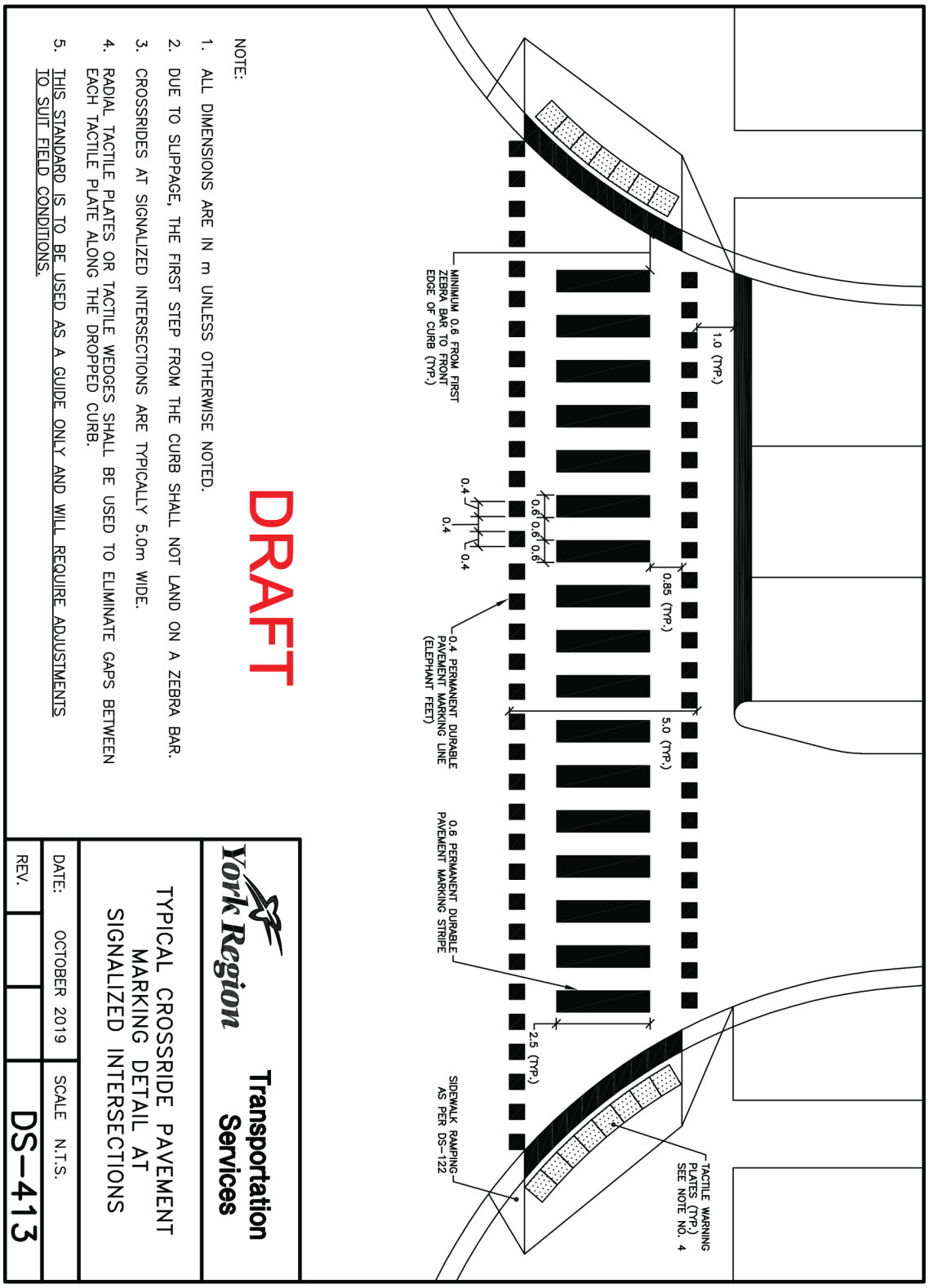
Crosswalk ladder markings

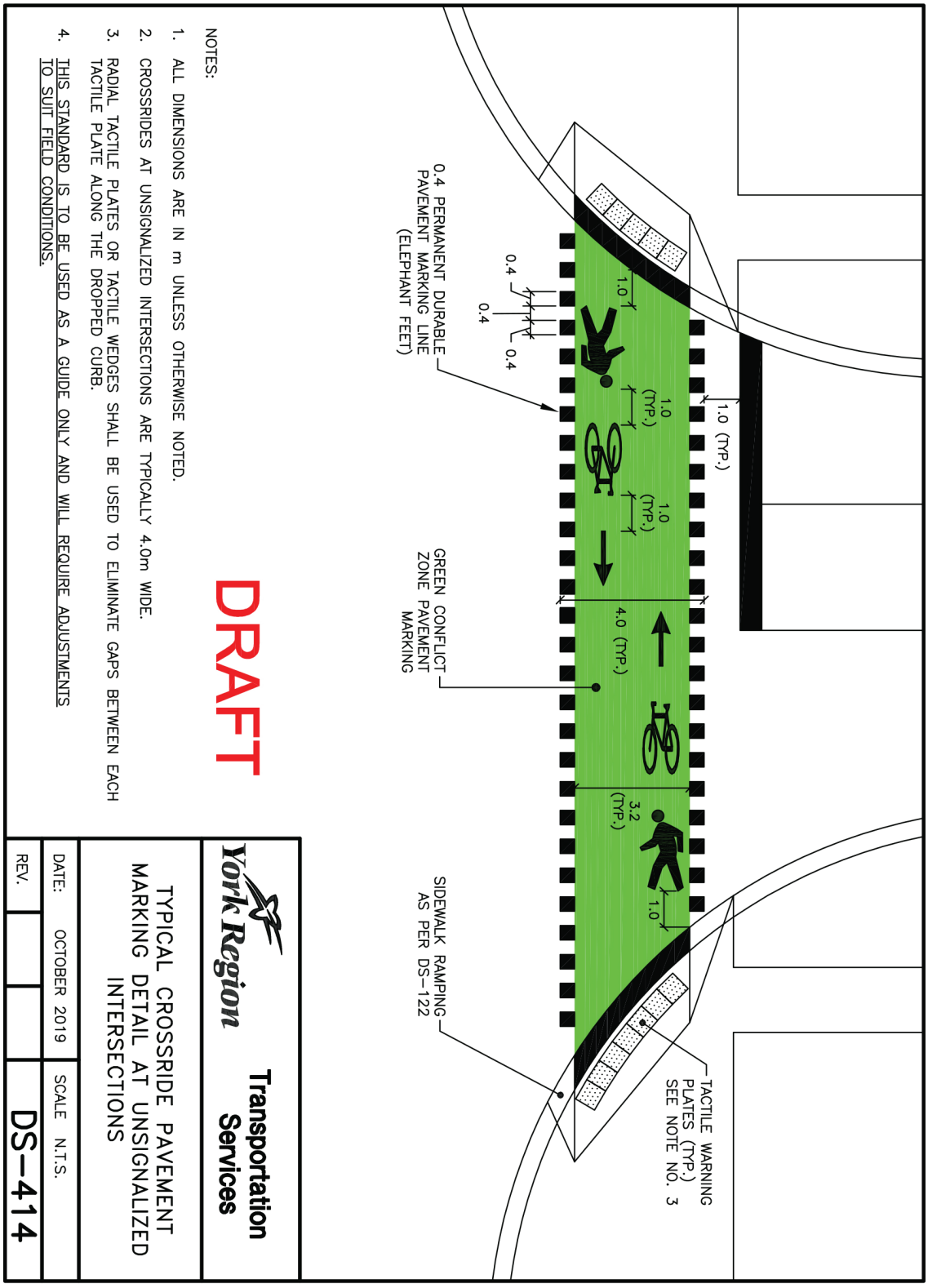
Bicycle symbol and arrows applied within the elephant's feet



APPLICATIONS	YRT Viva Corridors
USAGE & LOCATION CRITERIA	• Applied along YRT Viva Corridors
FURTHER GUIDANCE	YRT VIVA Standards & Specifications

7.2.4 York Region Design Standards Crossride DS-400 Series for Intersections & Driveways





DRAFT

NOTES:

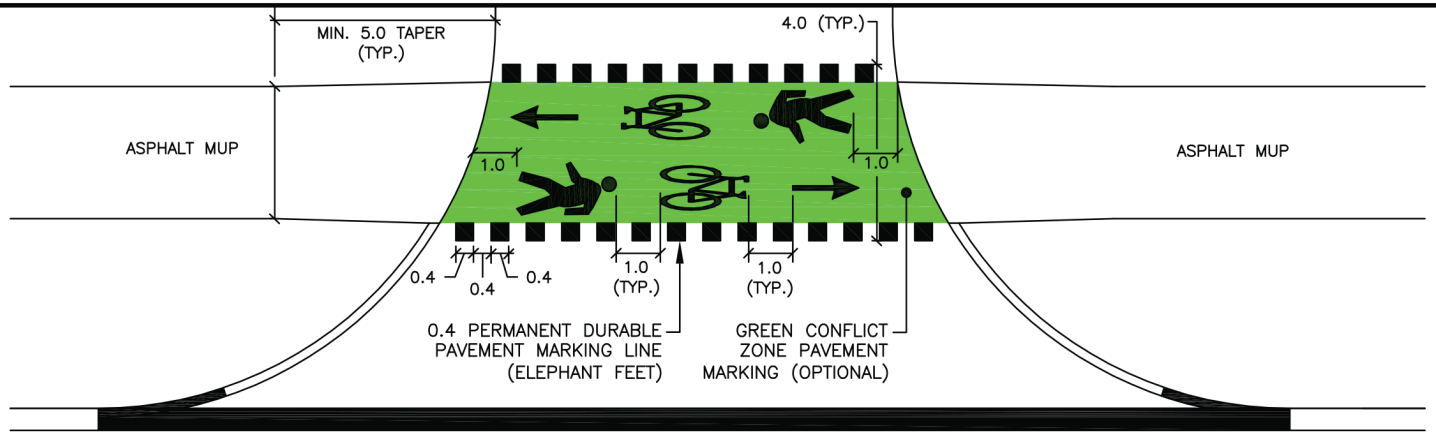
1. ALL DIMENSIONS ARE IN m UNLESS OTHERWISE NOTED.
2. CROSSRIDES AT UNSIGNALIZED INTERSECTIONS ARE TYPICALLY 4.0m WIDE.
3. RADIAL TACTILE PLATES OR TACTILE WEDGES SHALL BE USED TO ELIMINATE GAPS BETWEEN EACH TACTILE PLATE ALONG THE DROPPED CURB.
4. THIS STANDARD IS TO BE USED AS A GUIDE ONLY AND WILL REQUIRE ADJUSTMENTS TO SUIT FIELD CONDITIONS.

York Region **Transportation Services**

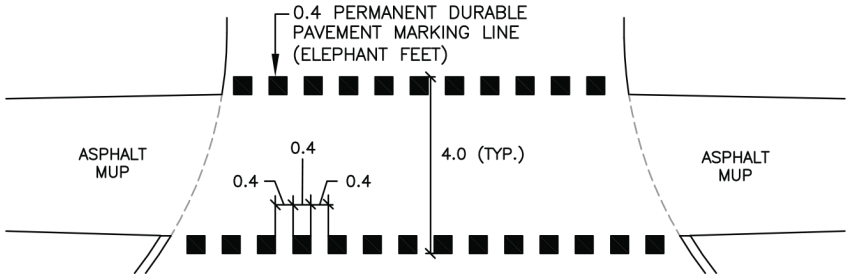
TYPICAL CROSSRIDE PAVEMENT MARKING DETAIL AT UNSIGNALIZED INTERSECTIONS

DATE:	OCTOBER 2019	SCALE	N.T.S.
REV.			

DS-414



COMMERCIAL/INDUSTRIAL DRIVEWAY (HIGH VOLUME)



MULTI–FAMILY RESIDENTIAL OR COMMERCIAL/INDUSTRIAL DRIVEWAY (LOW VOLUME)

DRAFT

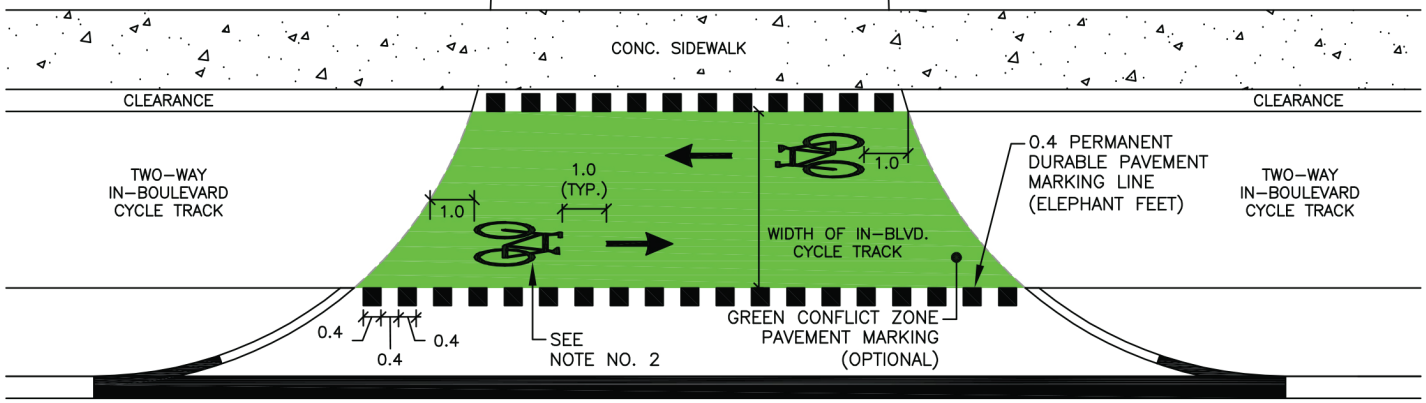
NOTES:

1. ALL DIMENSIONS ARE IN m UNLESS OTHERWISE NOTED.
2. CROSSRIDES AT DRIVEWAY ENTRANCE WITH MULTI–USE PATH CROSSING ARE TYPICALLY 4.0m WIDE.
3. FOR SINGLE FAMILY DRIVEWAY, FACILITIES SHOULD BE CARRIED THROUGH THE DRIVEWAY WITH NO PAVEMENT MARKINGS.
4. THIS STANDARD IS TO BE USED AS A GUIDE ONLY AND WILL REQUIRE ADJUSTMENTS TO SUIT FIELD CONDITIONS.

York Region — Transportation Services

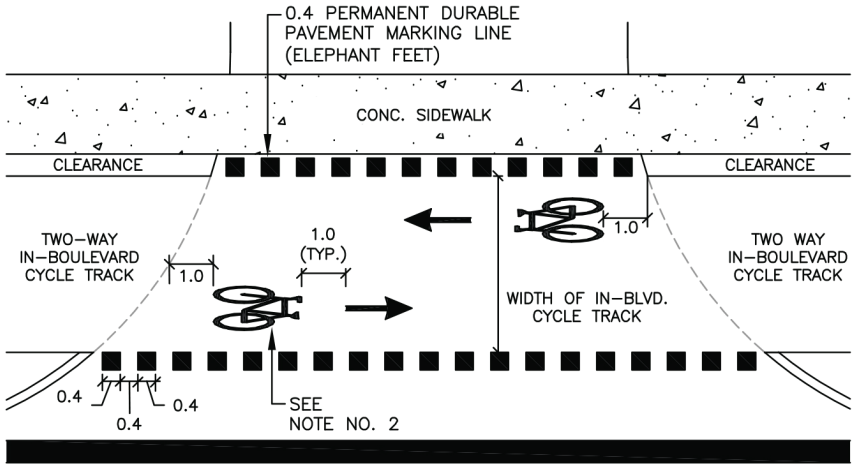
TYPICAL CROSSRIDE PAVEMENT MARKING DETAIL AT DRIVEWAY WITH MULTI–USE PATH CROSSING

DATE: OCTOBER 2019	SCALE N.T.S.
REV.	DS–415



COMMERCIAL/INDUSTRIAL DRIVEWAY (HIGH VOLUME)

DRAFT



MULTI–FAMILY RESIDENTIAL OR COMMERCIAL/INDUSTRIAL DRIVEWAY (LOW VOLUME)

NOTES:

1. ALL DIMENSIONS ARE IN m UNLESS OTHERWISE NOTED.
2. FOR ONE–WAY IN–BOULEVARD CYCLE TRACK, ONLY ONE BICYCLE SYMBOL AND ONE DIRECTION ARROW ARE REQUIRED.
3. FOR SINGLE FAMILY DRIVEWAY, FACILITIES SHOULD BE CARRIED THROUGH THE DRIVEWAY WITH NO PAVEMENT MARKINGS.
4. THIS STANDARD IS TO BE USED AS A GUIDE ONLY AND WILL REQUIRE ADJUSTMENTS TO SUIT FIELD CONDITIONS.

York Region — Transportation Services

TYPICAL CROSSRIDE PAVEMENT MARKING DETAIL AT DRIVEWAY WITH IN–BOULEVARD CYCLE TRACK CROSSING

DATE: OCTOBER 2019	SCALE N.T.S.
REV.	DS–416