

**TABLE 1**

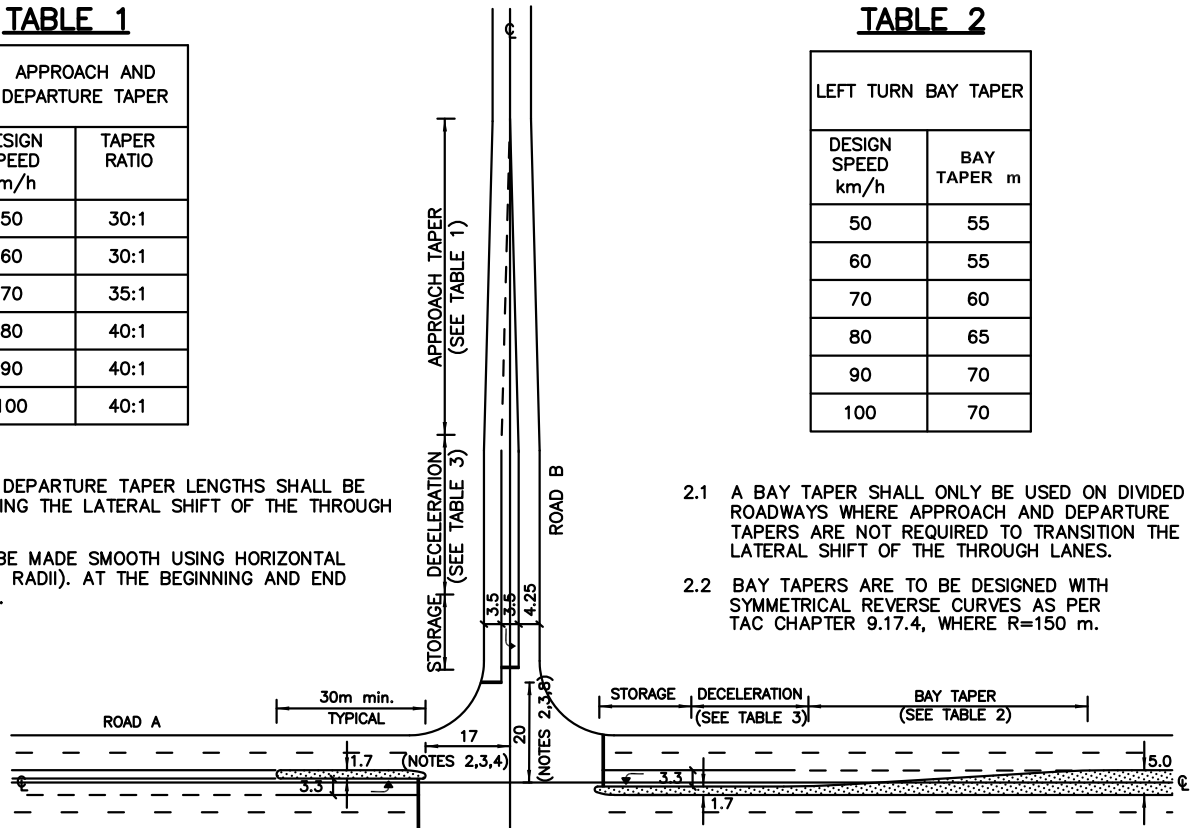
APPROACH AND DEPARTURE TAPER	
DESIGN SPEED km/h	TAPER RATIO
50	30:1
60	30:1
70	35:1
80	40:1
90	40:1
100	40:1

**TABLE 2**

LEFT TURN BAY TAPER	
DESIGN SPEED km/h	BAY TAPER m
50	55
60	55
70	60
80	65
90	70
100	70

- 1.1 APPROACH AND DEPARTURE TAPER LENGTHS SHALL BE CALCULATED USING THE LATERAL SHIFT OF THE THROUGH LANE.
- 1.2 TAPERS SHALL BE MADE SMOOTH USING HORIZONTAL CURVES (300 m RADII). AT THE BEGINNING AND END OF TRANSITIONS.

- 2.1 A BAY TAPER SHALL ONLY BE USED ON DIVIDED ROADWAYS WHERE APPROACH AND DEPARTURE TAPERS ARE NOT REQUIRED TO TRANSITION THE LATERAL SHIFT OF THE THROUGH LANES.
- 2.2 BAY TAPERS ARE TO BE DESIGNED WITH SYMMETRICAL REVERSE CURVES AS PER TAC CHAPTER 9.17.4, WHERE R=150 m.



**TABLE 3**

LEFT TURN DECELERATION LENGTH	
DESIGN SPEED km/h	DECELERATION LENGTH (m)
50	28
60	43
70	62
80	84
90	106
100	135

**TABLE 4**

DESIGN GRADE FACTORS (DECELERATION LENGTH)	
DOWN GRADE(-%)	GRADE FACTOR
6 - 5	1.4
5 - 4	1.3
4 - 3	1.2
3 - 2	1.1
UP GRADE(+%)	GRADE FACTOR
2 - 3	1.0
3 - 4	0.9
4 - 5	0.9
5 - 6	0.8

- 3.1 MINIMUM STORAGE LENGTH SHALL BE 15 m. ADDITIONAL STORAGE LENGTH MAY BE REQUIRED BASED ON TRAFFIC VOLUMES OR SITE SPECIFIC REQUIREMENTS.
- 3.2 EFFECT OF GRADE: FOR GRADES GREATER THAN 2%, DECELERATION LENGTH DECREASES FOR POSITIVE GRADES AND INCREASES FOR NEGATIVE GRADES. THE FACTORS SHOWN IN TABLE 4 SHOULD BE APPLIED TO DECELERATION LENGTH REQUIREMENTS FOR GRADES IN EXCESS OF 2%.

**NOTES (CONTINUED):**

- 4. SETBACK DISTANCES SHOULD BE 17 METRES WHERE CROSS SECTIONS OF THE INTERSECTING ROADWAY ARE LESS THAN 5 LANES AND 20 METRES WHERE CROSS SECTIONS ARE GREATER THAN OR EQUAL TO FIVE LANES.(EX. ROAD A MEDIAN SETBACK IS 17m AS ROAD B IS LESS THAN 5 LANES).
- 5. WHEN THE TURN IS INTO A MULTI-LANE ROAD, TRUCKS MAY USE THE TWO OUTSIDE LANES FOR THE TURN.
- 6. ROAD AUTHORITY APPROVAL IS REQUIRED WHERE THE REQUIREMENTS OF THIS STANDARD CANNOT BE ACHIEVED.
- 7. APPROPRIATE TURNING VEHICLE TEMPLATES TO BE USED TO VERIFY TURNS.
- 8. CENTRE MEDIAN ISLANDS ARE REQUIRED ON OPPOSING APPROACHES WHERE TWO OR MORE THROUGH LANES WILL EXIST IN ANY SINGLE DIRECTION.

**NOTES:**

- 1. LEFT TURN LANE WIDTH, 3.5m WITHOUT MEDIAN OR 3.3m WITH MEDIAN.
- 2. SETBACK DISTANCE MEASURED TO MEDIAN OR STOPBAR IF NO MEDIAN.
- 3. SETBACK DISTANCES MAY BE LESS FOR NARROW OR SKEWED INTERSECTIONS OR WHERE PEDESTRIAN REFUGE ISLANDS ARE REQUIRED. LEFT TURN STOPBAR TO BE SETBACK MINIMUM 3.0m BEHIND THROUGH LANE STOPBAR WHEN ADJACENT TO A SINGLE LANE ENTRY.

ALL DIMENSIONS IN METRES EXCEPT WHERE NOTED.



WORKS DEPARTMENT

**LEFT TURN LANE  
DESIGN GUIDELINE – TYPICAL**

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