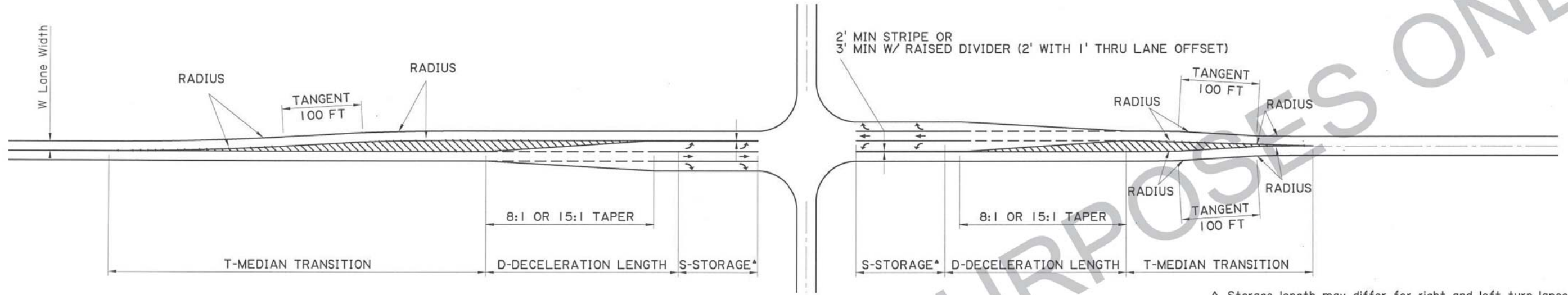


Typical Turn Lane Design *

No Superelevation Required



△ Storage length may differ for right and left turn lanes
TBD by Traffic analysis or per DTOE recommendation.
See Note 3

Asymmetrical Widening

Symmetrical Widening

1. LEFT TURN LANE TRANSITION WIDENING SHOULD BE ACCOMPLISHED USING REVERSE CURVES. A STRAIGHT LINE TAPER CAN BE USED, BUT WILL OFTEN RESULT IN LONGER TRANSITION LENGTHS AT HIGHER SPEEDS. THE FORMULAS USED TO DEVELOP THE TAPER TRANSITION LENGTHS ARE LOCATED IN THE CURRENT LADOT ROAD DESIGN MANUAL

2. TURN LANE TAPER LENGTH
TYPICAL LENGTH IS 8:1 FOR LOW SPEED URBAN AREAS (<45 MPH) AND 15:1 IN HIGH SPEED URBAN (>45 MPH) AND RURAL AREAS

3. STORAGE LENGTH
STORAGE LENGTH SHOULD BE DETERMINED BY A TRAFFIC STUDY. THE FOLLOWING STORAGE LENGTHS WILL BE REQUIRED AS A MINIMUM. THE SELECTED STORAGE LENGTH(S) SHALL BE REVIEWED AND APPROVED BY THE DISTRICT TRAFFIC OPERATIONS ENGINEER (DTOE) AND AT THEIR DISCRETION, MAY REQUIRE TURN LANE STORAGE LENGTHS THAT EXCEED THE MINIMUMS LISTED BELOW:

50 FT (TO ACCOMMODATE TWO PASSENGER CARS ON URBAN AND SUBURBAN STREETS WITH SPEEDS LESS THAN 45 MPH)

100 FT STORAGE IS REQUIRED FOR HIGH-SPEED AND RURAL LOCATIONS (>45 MPH)

4. POSITIVE OFFSET LEFT TURN LANES ARE RECOMMENDED AND SHOULD BE CONSIDERED TO IMPROVE VISIBILITY OF OPPOSING TRAFFIC, DECREASE POSSIBILITY OF CONFLICT BETWEEN OPPOSING LEFT MOVEMENTS WITHIN THE INTERSECTION, AND SERVE MORE LEFT TURN MOVEMENTS AT A GIVEN TIME. PARALLEL AND TAPERED OFFSET LEFT TURN LANES SHOULD BE SEPERATED FROM THE ADJACENT THRU LANES BY PAINTED OR RAISED CHANNELIZATION.

5. A MINIMUM CLEAR DISTANCE OF 10 FT BETWEEN SIMULTANEOUS OPPOSING LEFT TURN MOVEMENTS FOR PASSENGER VEHICLES WITHIN THE INTERSECTION SHOULD BE PROVIDED

6. GRADES IN EXCESS OF 3% SHOULD BE AVOIDED IN THE VICINITY OF INTERSECTIONS. GRADES WHERE PEDESTRIANS CROSS SHALL BE LIMITED TO 2% MAX

* TURN LANES ON CURVED ALIGNMENTS SHOULD BE DESIGNED ON A CASE BY CASE BASIS

Turn Lane Geometry				
Posted Speed	Reverse Curve Radius	Deceleration Length	Approximate Transition Length for Symmetrical Shift	Approximate Transition Length for Asymmetrical Shift
30	1500	150	230	300
35	2000	205	260	350
40	2550	265	285	390
45	3150	335	315	430
50	3800	415	345	475
55	4600	505	375	520
60	5400	600	405	560
65	5900	700	420	585
70	6800	815	450	625
75	7600	935	475	660
80	8450	1060	500	695

Turn Lane Geometry Table Notes:

- CURVE RADII AND TRANSITION LENGTHS REPRESENT GUIDANCE FOR 14' ASYMMETRICAL AND 7' SYMMETRICAL
- THE RADII SHOWN ABOVE ARE TO BE USED TO DEVELOP THE REVERSE CURVES FOR WIDENING. THE TRANSITION LENGTHS WILL VARY DEPENDING ON THE TOTAL WIDTH OF WIDENING

DESIGNED	J. HARRISON	DISTRICT	XX
CHECKED	J. COLVIN	DISTRICT	XX
DETAILED	J. HARRISON	FEDERAL PROJECT	HXXXXXX
CHECKED	J. COLVIN	STATE PROJECT	H.XXXXXX
DATE	XX/XX/20XX		
SHEET			

TYPICAL TURN LANE DESIGN GUIDE

DOTD
DOTD TRAFFIC ENGINEERING