Appendix D – KYTC's Common Geometric Practices for Urban Arterials

COMMON GEOMETRIC PRACTICES
URBAN ROADWAYS (OTHER THAN FREEWAYS) (13)

		URBAN LOCAL STREETS	URBAN COLLECTOR STREETS	URBAN ARTERIAL STREETS
DESIGN SPEED (14)		20 M.P.H. - 30 M.P.H.	MIN. 30 M.P.H.	30 M.P.H. - 60 M.P.H.
NUMBER OF LANES		MINIMUM 2	MINIMUM 2 (4)	MINIMUM 2 (4)
LANE WIDTH	RESIDENTIAL	MIN, 10' (1)	MIN, 10' (2)	12' FREE FLOW CONDITION (2)
	COMMERCIAL	MIN. 11'	MIN. 11'	11' MIN. INTERRUPTED FLOW CONDITION
	INDUSTRIAL	MIN. 12' (3)	MIN. 12' (3)	
SIDEWALK	RESIDENTIAL COMMERCIAL	MINIMUM 4' DESIRABLE 8' (16)		
MINIMUM CLEAR ROADWAY WIDTH OF NEW AND RECONSTRUCTED BRIDGES (11)		MINIMUM CURB TO CURB WIDTH		
BERM AREA (5)		10' TYPICAL		
MINIMUM RADIUS (FEET)		(6)		

MAXIMUM GRADE (PERCENT) (12)

- R) - MAX. 15%
- C) - MAX. 8%
- I) - MAX. 8%

M.P.H.	30	35	40	45	50
LEVEL	9			8	7
ROLLING	11	10		9	8
MOUNTAIN	12			11	10

(9)

M.P.H.	30	35	40	45	50	55	60
LEVEL	8	7		6		5	
ROLLING	9	8		7		6	
MOUNTAIN	11	10		9		8	

NORMAL PAVEMENT CROSS SLOPE (8)	RATE OF CROSS SLOPE = 2%
NORMAL SHOULDER CROSS SLOPE	EARTH - 8% / PAVED - 4%
SUPERELEVATION	(10) 4% MAX. / 4% MAX. / 4% - 6% MAX.

MINIMUM STOPPING SIGHT DISTANCE (FEET) (7)

M.P.H.	20	25	30	35	40	45	50	55	60
MIN.	115	155	200	250	305	360	425	495	570

- R) = RESIDENTIAL - C) = COMMERCIAL - I) = INDUSTRIAL

(1) TURNING LANES : 9' MINIMUM – 12' DESIRABLE; PARKING LANES : RESIDENTIAL – 7' MINIMUM – 10' DESIRABLE; COMMERCIAL & INDUSTRIAL – 9' MINIMUM – 12' DESIRABLE.

(2) TURNING LANES : 10' MINIMUM – 12' DESIRABLE; PARKING LANES : 9' MINIMUM – 12' DESIRABLE.

(3) VERTICAL CURBS WITH HEIGHTS OF 6" OR GREATER ADJACENT TO TRAVELED WAY SHOULD BE OFFSET A MINIMUM OF 1 FOOT. WHEN A CURB AND GUTTER SECTION IS PROVIDED, THE GUTTER PAN WIDTH, NORMALLY 2 FEET, SHOULD BE USED AS THE OFFSET DISTANCE.

(4) THE NUMBER OF LANES TO BE PROVIDED ON STREETS WITH A CURRENT ADT OF 2000 OR GREATER SHOULD BE DETERMINED BY A HIGHWAY CAPACITY ANALYSIS OF THE DESIGN TRAFFIC VOLUMES. SUCH ANALYSIS SHOULD BE MADE FOR FUTURE DESIGN TRAFFIC. (DESIRABLE)

(5) THE BERM AREA IS TYPICALLY FROM FACE OF CURB TO 2 FEET BEHIND BACK OF SIDEWALK.

(6) REFER TO CHAPTER 3 OF AASHTO'S "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" CURRENT EDITION.

(7) MINIMUM STOPPING SIGHT DISTANCES ARE BASED ON HEIGHT OF EYE 3.5 FT. & HEIGHT OF OBJECT OF 2.0 FT. BOTH HORIZONTAL & VERTICAL ALIGNMENTS CONSIDERED.

(8) NORMAL PAVEMENT CROSS SLOPES ON BRIDGES SHALL BE 2 PERCENT.

(9) ARTERIALS WITH LARGE NUMBERS OF TRUCKS AND OPERATING NEAR CAPACITY SHOULD CONSIDER GRADES FLATTER THAN THOSE IN RURAL SECTIONS TO AVOID UNDESIRABLE REDUCTIONS IN SPEEDS.

(10) SUPERELEVATION MAY NOT BE REQUIRED ON LOCAL STREETS IN RESIDENTIAL AND COMMERCIAL AREAS.

(11) THE BRIDGE WIDTH FOR URBAN ROADWAYS WITH SHOULDERS AND NO CURBS SHOULD NOT BE LESS THAN WIDTHS SHOWN FOR RURAL ROADS APPROVED ROADWAY WIDTHS.

(12) MAXIMUM GRADES OF SHORT LENGTHS (LESS THAN 500') AND ON ONE-WAY DOWN GRADES MAY BE ONE PERCENT STEEPER.

(13) FOR GUIDANCE ON FREEWAYS, REFER TO AASHTO, "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS."

(14) INTERMEDIATE DESIGN SPEEDS (5 M.P.H. INCREMENTS) MAY BE APPROPRIATE WHERE TERRAIN AND OTHER ENVIRONMENTAL CONDITIONS DICTATE.

(15) REFER TO AASHTO'S "GUIDE FOR THE DEVELOPMENT OF BICYCLY FACILITIES", CURRENT EDITION, WHEN COMBINING A PEDESTRIAN SIDEWALK WITH A BICYCLE PATH.