

Appendix E – KYTC Common Geometric Practice Guidelines

COMMON GEOMETRIC PRACTICES RURAL COLLECTOR ROADS

		TRAFFIC VOLUME									
		TERRIAN	UNDER 400 A.D.T.			400-2000 A.D.T.			OVER 2000 A.D.T.		
MINIMUM DESIGN SPEED (M.P.H.) ⑦	LEVEL		40			50			60		
	ROLLING		30			40			50		
	MOUNTAIN		20			30			40		
PAVEMENT WIDTH (FEET) ① ⑧	DESIGN SPEED		UNDER 400 A.D.T.			400-1500 A.D.T.		1500-2000 A.D.T.		OVER 2000 A.D.T.	
	20 MPH		20 ⑨			20		22		24	
	25 MPH										
	30 MPH										
	35 MPH										
	40 MPH		20			22		24			
	45 MPH										
	50 MPH		22			22		24			
55 MPH											
60 MPH		22			22		24				
60 MPH											
MINIMUM GRADED SHOULDER WIDTH (FEET) ⑥	ALL SPEEDS		2			5 ⑩		6		8	
MIN. CLEAR ROADWAY WIDTH OF NEW AND RECONSTRUCTED BRIDGES	ALL SPEEDS		APPROACH ROADWAY WIDTH								
MINIMUM RADIUS (FEET)	DESIGN SPEED		eMAX. 4%			eMAX. 6%			eMAX. 8%		
	20 MPH		125			115			105		
	25 MPH		205			185			170		
	30 MPH		300			275			250		
	35 MPH		420			380			350		
	40 MPH		565			510			465		
	45 MPH		730			660			600		
	50 MPH		930			835			760		
	55 MPH		1190			1065			965		
60 MPH		1505			1340			1205			
NORMAL PAVEMENT CROSS SLOPES ④	RATE OF CROSS SLOPE = 2%										
NORMAL SHOULDER CROSS SLOPES	EARTH = 8%					PAVED = 4%					
MAXIMUM GRADE (PERCENT) ⑤	M.P.H.	20	25	30	35	40	45	50	55	60	
	LEVEL	7			8			6		5	
	ROLLING	10			9			7		6	
MINIMUM STOPPING SIGHT DISTANCE ②	MOUNTAIN	12	11	10			9		8		
	(FEET)	115	155	200	250	305	360	425	495	570	
MINIMUM PASSING SIGHT DISTANCE ③	(FEET)	710	900	1090	1280	1470	1625	1835	1985	2135	

- ① WIDEN PAVEMENT ON CURVES IN ACCORDANCE WITH APPROVED DESIGN STANDARDS. REFER TO CURRENT STANDARD DRAWING FOR ADDITIONAL DETAIL.
- ② MINIMUM STOPPING SIGHT DISTANCE BASED ON HEIGHT OF EYE OF 3.5 FT AND HEIGHT OF OBJECT OF 2.0FT. CONSIDER BOTH HORIZONTAL AND VERTICAL ALIGNMENTS.
- ③ MINIMUM PASSING SIGHT DISTANCES BASED ON HEIGHT OF EYE 3.5 FT AND HEIGHT OF OBJECT OF 3.5 FT. CONSIDER BOTH HORIZONTAL AND VERTICAL ALIGNMENTS.
- ④ NORMAL PAVEMENT CROSS SLOPES ON BRIDGES IS 2%.
- ⑤ MAY USE ONE PERCENT STEEPER MAXIMUM GRADES ON SHORT LENGTHS (LESS THAN 500 FT) AND ON ONE-WAY DOWN GRADES.
- ⑥ WIDEN 3 FT FOR GUARDRAIL.
- ⑦ DOCUMENT AND RETAIN JUSTIFICATION FOR A DESIGN SPEED LESS THAN THE REGULATORY OR POSTED SPEED IN THE PROJECT FILES.
- ⑧ ON ROADWAYS TO BE RECONSTRUCTED, A 22 FT TRAVELLED WAY MAY BE RETAINED WHERE THE SAFETY RECORDS AND ALIGNMENT ARE SATISFACTORY.
- ⑨ 18 FT MINIMUM WIDTH MAY BE USED FOR ROADWAYS WITH DESIGN VOLUMES UNDER 250 A.D.T.
- ⑩ SHOULDER WIDTH MAY BE REDUCED FOR DESIGN SPEEDS GREATER THAN 30 MPH PROVIDED A MINIMUM ROADWAY WIDTH OF 30 FT IS MAINTAINED.