

Texas Department of Transportation
TECHNICAL PROVISIONS

STATE HIGHWAY 71 TOLL LANES

Attachment 11-1
Roadway Design Criteria
Execution Version

Table 1

	SH 71 General Purpose Lanes west of Spirit of Tx Blvd. and between Pres. Blvd and FM 973	SH 71 General Purpose Lanes Between Spirit of Tx Blvd and Pres. Blvd.	SH 71 General Purpose Lanes west of FM 973 to east of FM 973	SH 71 Toll Lanes from Terry Lane to east SH 130	Ramps	SH 71 Toll Lanes east Terminus Transition	SH 71 General Purpose Lanes east Terminus Transition	Cross Streets
Functional Classification	Principal Arterial/Suburban	Urban Principal Arterial/Freeway	Urban Minor Arterial	Urban Principal Arterial/Freeway	-	Principal Arterial/ Urban Freeway	Urban Minor Arterial	¹
Approximate station limits (alignment SH71)	11024+23 to 11059+99 ¹⁰ and 11077+86 to 11124+24	11059+99 to 11077+86	11124+24 to 11180+90	11124+24 to 11216+89	-	11216+89 to 11220+10 (11219+75 ¹⁰)	11211+00 to 11232+52	-
Design Speed ²	60 mph ³	60 mph ³	50 mph	60 mph	50 mph ⁴	60 mph	50 mph	¹
Superelevation	e(max)= 6%	e(max)= 6%	e(max)= 6%	e(max)= 6%	e(max)= 6%	e(max)= 6%	e(max)= 6%	N/A
Maximum Curvature (Min Radius) w/o Superelevation	8,500 ft	8,500 ft	6,030 ft	8,500 ft	6,030 ft	8,500 ft	6,030 ft	4,010-6,030 ft
Lane Widths	12 ft	12 ft	12 ft, 14 ft ⁵	12 ft	14 ft	12 ft	12 ft	12 ft
Inside Shoulder Widths	10 ft ^{9,11}	10 ft	N/A	10 ft ¹³	4 ft	12 ft ¹⁴	4 ft	-
Outside Shoulder Widths	10ft ¹²	10 ft	N/A	10 ft	8 ft	10 ft	10 ft	-
Pavement Cross Slope	Match exist. ^{6,7}	Match exist. ⁷	0.025 ft/ft	0.025 ft/ft	0.025 ft/ft	0.025 ft/ft	0.025 ft/ft	0.02 ft/ft
Side Slopes								
Within Clear Zone	4:1	4:1	4:1	4:1	4:1	4:1	4:1	4:1
Outside of Clear Zone	4:1 usual 3:1 max	4:1 usual 3:1 max	4:1 usual 3:1 max	4:1 usual 3:1 max	4:1 usual 3:1 max	4:1 usual 3:1 max	4:1 usual 3:1 max	4:1 usual 3:1 max
Gore Width - Entrance	-	-	-	-	6 ft min	-	-	-
Gore Width - Exit	-	-	-	-	6 ft min	-	-	-
Clear Zone Width	30 ft ⁸	30 ft	30 ft ⁸	30 ft	16 ft	30 ft	30 ft	3 ft
Corner Radii	40 ft min	N/A	40 ft min	N/A	-	N/A	N/A	-
Preferred Corner Geometry	Curve w/taper	N/A	Curve w/ taper	N/A	-	N/A	N/A	-

Notes:

1. See Table 2 for details
2. For additional design speed limit details see Attachment 11-2
3. Vertical alignment design speed of 50 mph is acceptable from station 11051+00 to 11083+00
4. Vertical alignment design speed of 45 mph is acceptable for WB Presidential entrance ramp
5. Outside lane
6. 2.5% slope to the outside east of Presidential Boulevard

7. Transition is required to match an existing crowned bridge section
8. Insofar as existing available border width permits.
9. 4' shoulder west of Spirit of Texas Blvd.
10. Westbound
11. 4 ft east of Presidential Blvd.
12. 4 ft west of Thornberry Road
13. 12 ft on SH 130 overpass structure
14. Varies from 12 ft to 4 ft as shown on Schematic Design

Table 2

Intersecting Street	Functional Classification	Design Speed (MPH)	Configuration (Over/Under)	Design Vehicle	U-Turn	Sidewalk Minimum Width	Curb	Through Lanes	Shoulders	Turn Lanes	Median
Spirit of Texas Blvd. ¹	-	-	-	WB-67	-	-	Y	-	-	-	-
U-Turn at Presidential Blvd. ²	Urban – Low Speed	15	Under	WB-50	Y-20'	Y-6'	Y	-	-	-	-
FM 973	Suburban Major Arterial	50 ³	Under	WB-62	Y-20'	Y-6'	Y	2 (12')	10'	Y	24' ⁴

Note:

1. Connecting roadway from NB Spirit of Texas Blvd. to EB SH 71 as indicated in Schematic Design
2. SH 71 Westbound to SH 71 Eastbound U-Turn.
3. 15 on U-Turns
4. And as shown on Schematic Design