

Maine Department of Transportation

Highway Program

Design Guidance

Title: Off-Tracking

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Discipline: General Engineering

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Background:

AASHTO defines off-tracking as the characteristic, common to all vehicles, although much more pronounced with larger design vehicles, in which the rear wheels do not precisely follow the same path as the front wheels when the vehicle traverses a horizontal curve or makes a turn. On some curves, off-tracking results in the rear wheels tracking beyond the limits of the travelway width and on to the shoulder.

Guidance:

The Department accounts for off-tracking by providing additional width of full-depth pavement on the inside of horizontal curves rather than widening the travel lanes. This should be considered on all projects where the pavement structure in the shoulder is being replaced or rehabilitated.

Table 1 was developed based on methodology presented in Chapter 3 of the AASHTO publication *A Policy on Geometric Design of Highways and Streets* (the Green Book) and reflects the amount of full-depth widening required for the Department's design vehicle, a WB-67.

Centerline Curve Radius	Travelway Width		
	10 ft.	11 ft.	12 ft.
2000	0	0	0
1800	0	0	0
1600	1	0	0
1400	1	0	0
1200	1	0	0
1000	1	1	0
900	1	1	0
800	1	1	0
700	2	1	1
600	2	1	1
500	2	2	1
400	3	3	2
300	4	4	3
200	6	6	5

Table 1 – Additional Width of Full-Depth Pavement

To determine the amount of additional full-depth pavement, straight-line interpolate as needed and round up to the nearest whole foot. If the remaining shoulder width without full-depth pavement is less than 4 feet, provide full-depth pavement for the full extent of the shoulder. If the amount of additional width of full-depth pavement required is greater than the proposed shoulder width, widen the shoulder so the proper amount of full-depth pavement can be achieved.