Table 10-4. Speed Change Lane Adjustment Factors as a Function of Grade

Metric						
Design Speed of Highway (km/h)	Deceleration Lanes					
	Ratio of Length on Grade to Length on Level for Design Speed of Turning Curve (km/h)[a]					
All Speeds	3 to 4% upgrade			3 to 4% downgrade		
	0.9			1.2		
All Speeds	5 to 6% upgrade			5 to 6% downgrade		
	0.8			1.35		
Design Speed of Highway (km/h)	Acceleration Lanes					
	Ratio of Length on Grade to Length of Level for Design Speed of Turning Curve (km/h)[a]					
	40	50	60	70	80	All Speeds
	3 to 4% Upgrade					3 to 4% Downgrade
60	1.3	1.4	1.4	—	—	0.7
70	1.3	1.4	1.4	1.5	—	0.65
80	1.4	1.5	1.5	1.5	1.6	0.65
90	1.4	1.5	1.5	1.5	1.6	0.6
100	1.5	1.6	1.7	1.7	1.8	0.6
110	1.5	1.6	1.7	1.7	1.8	0.6
120	1.5	1.6	1.7	1.7	1.8	0.6
	5 to 6% Upgrade					5 to 6% Downgrade
60	1.5	1.5	—	—	—	0.6
70	1.5	1.6	1.7	—	—	0.6
80	1.5	1.7	1.9	1.8	—	0.55
90	1.6	1.8	2.0	2.1	2.2	0.55
100	1.7	1.9	2.2	2.4	2.5	0.5
110	2.0	2.2	2.6	2.8	3.0	0.5
120	2.3	2.5	3.0	3.2	3.5	0.5

[a] Ratio from this table multiplied by the length in Table 10-3 or Table 10-5 gives length of speed change lane on grade.