

Physics Notes

Car Braking Distances



The following table comes from data originally published in *Popular Science* and *AutoWeek* magazines¹. Stopping distances are for new cars (1991-1995). The values of stopping distances (from 60 mi/h = 97 km/h = 27 m/s) for 55 vehicles ranged from 114 ft (35 m) to 179 ft (55 m) with an average of 140 ft (43 m).

Vehicle	Stopping Distance from 60 mi/hr (97 km/h)		Deceleration	
	feet	meters	ft/s ²	m/s ²
BMW M3	120	37	32.3	9.8
Toyota Celica GT	128	39	30.2	9.2
Lincoln Continental	131	40	29.6	9.0
Nissan Maxima	142	43	27.3	8.3
Chevrolet Blazer	158	48	24.5	7.5
Dodge Colt GL	167	51	23.2	7.1

Vehicle lengths ranged from 13.4 ft (4.1 m) to 20.3 ft (6.2 m) with an average of 15.7 ft (4.8 m).

The following data were taken from the *Indiana Drivers Manual*, Bureau of Motor Vehicles (no publication date found).

Vehicle	Average Stopping Distance at 55 mph (includes reaction time)
Passenger car	190 ft.
Tractor-trailer (loaded) with cool brakes	256 ft.
Tractor-trailer (loaded) with hot brakes	430 ft.
Tractor-trailer (empty)	249 ft.
Tractor only (bobtail)	243 ft.

¹Source: R.C.Nicklin, Kinematics of Tailgating, in *The Physics Teacher*, Vol.35, Feb. 1997, p. 78



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