

Appendix A: Brake Stop Results for Popular Cars

Average Brake Stop Results from 100km/hr (62 mph)

(From: The National Highway Transportation Safety Administration “Consumer Braking Information” web site: <http://www.nhtsa.dot.gov/cars/testing/brakes/>)

Vehicle	Dry surface stopping distance (ft)	Dry surface deceleration rate (ft/s ²)	Wet surface stopping distance (ft)	Wet surface deceleration rate (ft/s ²)
Pontiac Grand Am SE	147.9	26.2	190.1	20.4
Ford Expedition	170.4	22.7	198.9	19.5
Toyota Camry	159.7	24.2	175.7	22.0
Chevy Malibu LS	141.3	27.4	150.3	25.8
Dodge Caravan SE	159.8	24.2	166.3	23.3
Chevrolet Astro	170.2	22.7	174.9	22.1
Dodge Ram 1500 4x4	199.2	19.4	209.6	18.5

Road friction measurements were measured to be 0.90 for dry pavement and 0.85 for wet pavement. Water depth was generally below 3mm (1/8 inch). Some hydroplaning was experienced when there was standing water only 1/4 inch deep that had collected in minor depressions on the test course.

Activity Suggestions:

1. Redo the investigations in this unit using the above values for wet and dry surface deceleration.
2. Determine the deceleration rate for the car in which the student typically drives. Use the web or past issues of car magazines to find stopping distances or deceleration rates.
3. Calculate the coefficient of friction using these data.