

Skidding of Vehicle on a Level Road.

When a vehicle turns on a circular path it requires centripetal force.

If friction provides this centripetal force then vehicle can move in circular path safely if

Friction force \geq required centripetal force

$$\mu mg \geq \frac{mv^2}{r}$$

$$\therefore v_{safe} \leq \sqrt{\mu rg}$$

This is the maximum speed by which vehicle can turn in a circular path of radius r , where coefficient of friction between the road and tyre is μ .

