**Introduction** There is 65 deaths per day from road traffic injuries (RTIs) in Iran. Despite some interventions having been implemented, the impacts of these interventions on mortality and morbidity rates have not been evaluated.

**Objective** To ascertain the pattern of RTIs in Iran for the years 2004–2007 and to compare the epidemiological trends of RTIs, before and 2 years after four road safety programs were put into place.

**Methods** A 4-year database from two sources, the traffic police and medico-legal data were employed. The four interventions concurrently/simultaneously put into place in 2005 were as follows: enforcement of laws on the mandatory fastening of seat belts, enforcement of the laws on use of motorcycle helmets, enforcement of general traffic laws and mass media educational campaigns on national radio and television.

**Results** There was a significant decrease in RTIs-related death and morbidity rates in Iran, after the intervention programs (p<0.001). The death rate decreased from 38.2 per 100 000 in 2004 to 31.8 in 2007 (OR 0.83, 95% CI 0.82 to 0.85). The death rate per 10 000 vehicles also showed a significant decline from 24.2 to 13.4 (OR 0.56, 95% CI 0.55 to 0.57). Similar reductions were seen among non-fatal RTIs.

**Conclusion** These findings demonstrate the role of traffic police interventions, initiated simultaneously on a national level, in RTI prevention. They do highlight the importance of the contribution made by law enforcement and mass education campaigns.