

## Speed detection device in preventing road traffic accidents: A realistic approach in India!

Dear Editor,

Globally, about 1.25 million people die because of road traffic crashes every year. Although low- and middle-income countries have only half of the total vehicles, they contribute nearly 90% of all crashes in the world.<sup>[1]</sup> In India, according to the Ministry of Road Transport and Highways (MoRTH), there was an increase in the total number of accidents, persons injured, severity of injuries, and deaths in 2015 as compared to 2014. In 2015, there were nearly 5 lakh accidents, 5 lakh injuries, and 1.5 lakh deaths in India. In 2015, Indian cities with more than 1 million populations together accounted for 22.1% of total accidents in India. The road accident-related deaths among the cities were reported to be 14.9/100 accidents and varied from 2.6 (Mumbai) to 66 (Amritsar).

Vehicular speed is an important component in all phases of injury prevention as proposed in Haddon Matrix. Vehicular speed is the most important risk factor for road traffic accidents, injuries, severity, and deaths.<sup>[1,2]</sup> At any point in time, half of the drivers in urban areas are above the speed limits. Controlling the speed, when mobility is essential, is highly important.<sup>[3]</sup> A mean reduction in vehicular speed by 10% can result in nearly 37% reduction in road traffic accidents and injuries.<sup>[4]</sup> Results of a systematic review showed the greatest impact of reducing speed on road traffic accidents, injuries, and deaths when speed limits are combined with other traffic engineering measures such as humps and environmental measures such as speed cameras and speed detectors.<sup>[4]</sup> About 90% of pedestrian injuries can be avoided if vehicles are driven at 30 km/h compared to 50% when driven at 45 km/h, especially where vulnerable road users are common.<sup>[5]</sup>

Evidence from other countries has demonstrated the impact of speed detector in reducing the road traffic crashes and injuries.<sup>[6-8]</sup> Automated Speed Enforcement Program in France, started in 2003, demonstrated a significant reduction in road traffic crashes and injuries as high as 19.7%.<sup>[6]</sup> In the USA, cities with red-light camera enforcement have significantly lower road traffic crashes and injuries compared to other cities.<sup>[8]</sup> A systematic review of studies has reported consistency in reduction of road traffic injuries and death due to speed camera intervention; however, heterogeneity among studies could not draw a conclusion on magnitude of reduction.<sup>[9]</sup>

According to the Global Status Report on Road Safety 2015, India recorded the highest number of deaths (1.4 lakh) among all countries. MoRTH, Government of India, reported that unlawful speeding accounted for nearly 48% of all accidents and 44% of all deaths in 2015. In India, traffic police personnel have been the backbone of implementation and monitoring of speed limits in a township/city area. Inadequacy in numbers of traffic personnel, adverse weather condition, etc., are some of the reasons for lacunae in implementation of strict speed limits and repeated violation of speed limit leading to more crashes and injuries. Installation of proven speed detection devices such as Radar and speed detection cameras systems can fill the gap mentioned above.<sup>[10]</sup> Radar speed guns, speed cameras, and digital still cameras have been already in use in a few Indian cities. Chandigarh and New Delhi have already implemented the service of speed detection device such as digital still cameras (Chandigarh), speed cameras (New Delhi), and Radar gun (New Delhi) in traffic control, especially in accident-prone areas. Although impact of these speed detection devices has not been evaluated, the results can be appreciated from decrease in number of persons killed per lakh population [Figure 1] and numbers of person killed per 10,000 vehicles [Figure 2]. Trivandrum, Kochi, Hyderabad, and Bhubaneswar have implemented recently or are in the process of implementation.

Although some experts fear that road traffic accidents and injuries will increase as people will slow down at the point of installation and again speed after some 200 meters, stretching the speed cameras to vulnerable roads and not just limiting to traffic junctions will provide solution to the above problem.

India is a signatory to “Brasilia Declaration on Road Safety, 2015” and committed toward achieving the goal to halve the road traffic deaths by 2020. Considering the significant share of deaths due to road traffic accidents by million plus cities (fifty altogether), the speed detection device seems to be one among the realistic approaches in achieving the goal of “Brasilia Declaration on Road

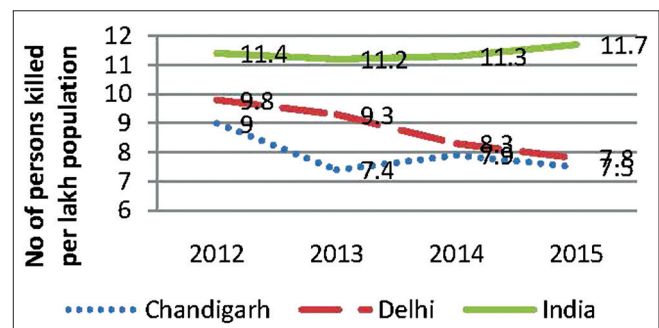
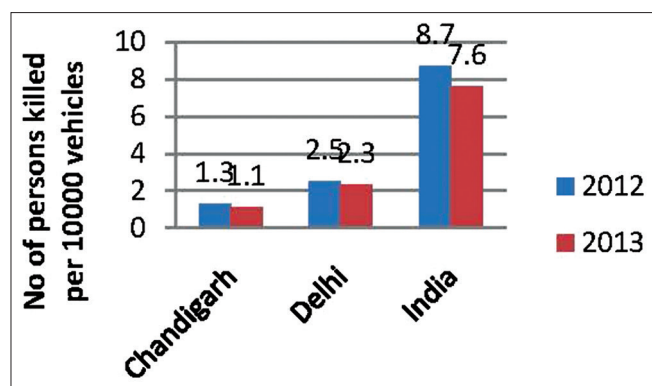


Figure 1: Change in total number of persons killed per lakh population, 2012–2015 (Data source: Transport Research Wing, Ministry of Road Transport and Highways, Government of India)



**Figure 2:** Change in total numbers of person killed per 10,000 vehicles, 2012–2013 (Data source: Transport Research Wing, Ministry of Road Transport and Highways, Government of India)

Safety, 2015.” However, impact evaluation needs to be carried out using the methods of economic evaluation on role of speed detection device in preventing road traffic crashes and injuries.

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### Conflicts of interest

There are no conflicts of interest.

**Bijaya Nanda Naik<sup>1</sup>, Mahendra M. Reddy<sup>1</sup>, Srikanta Kanungo<sup>1</sup>, Sitanshu Sekhar Kar<sup>1</sup>**

<sup>1</sup>Department of Preventive and Social Medicine, Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry, India

**Address for correspondence:** Dr. Sitanshu Sekhar Kar,  
Department of Preventive and Social Medicine,  
Jawaharlal Institute of Postgraduate  
Medical Education and Research,  
Puducherry, India.  
E-mail: drsitanshukar@gmail.com

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