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The Newsletter of the Road Traffic Injuries Research Network (RTIRN)

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April-June, 2010

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Message from the RTIRN Vice Chair

Walking should not be a death sentence – the challenges of pedestrians on the world's roads



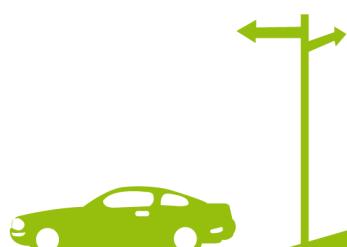
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Welcome to our April-June Newsletter with a focus on pedestrians. Walking is something we all do – with the exception of those too young or too old to walk, or those living with motion disabilities. The last few decades have noted increasing vulnerability among pedestrians – and other vulnerable road users - and in many low income countries more than a third of those who are killed in road traffic crashes are pedestrians. The Global Status Report on Road Safety (2009) emphasized the importance of pedestrian deaths and injuries, and in their first Global Ministerial Conference on Road Safety (Moscow, 19-20 November 2009) ministers responsible for

transport noted that one of the reasons for the high rates of deaths and injuries was “poorly designed or insufficiently maintained road infrastructure, in particular infrastructure which fails to protect pedestrians”. The emphasis on *infrastructure that fails to protect pedestrians* represents a departure from old and sometimes entrenched thinking which placed undue responsibility for pedestrians’ safety on the pedestrians themselves, thus leading to interventions that heavily relied on educational interventions.

At RTIRN we have concerned ourselves with research that aims to increase the understanding of risk factors for pedestrians in various settings, and how effective interventions can be implemented to increase their safety on the world’s roads. While in high income countries the elderly and low income groups tend to suffer disproportionately, in low and middle income countries the risk is more widespread in terms of age, with young male pedestrians being the group most at risk. As countries discuss the proposals for the ‘Decade of Action for Road Safety’, pedestrian safety – specifically, and as part of the overall safety of vulnerable road users - should be high on the agenda of low and middle income countries. Many of these countries continue to experience brisk socio-economic changes, including rapid urbanization, motorization, and fast population growth. For their predominantly young populations, walking to school or work should not constitute a death sentence.

Olive C. Kobusingye, M.D., M.Med., MPH
Vice Chair, RTIRN



Message from the RTIRN Secretariat



Dear Partners,

From February 1st to February 4th, we had the incredible opportunity of visiting our friends and last Secretariat Staff in Karachi, Pakistan. We are proud to announce that we have already received the baton from our colleagues at the Aga Khan University. It was a great opportunity to see the incredible work they have been doing for the RTIRN and to learn what would be the best way to continue these amazing efforts. We do not want to miss this chance to thank Junaid, Shafaq, Nukhba, Sajid, and many others, for the great learning experience. We are thankful for all their help, support, counseling, and advisory that they have given us during this transition time. It was also enriching to meet Umer, another colleague recipient of the Grant for Junior Researchers that the RTIRN awarded in 2008. Although transition is under way and some of the new initiatives would need more time to be crystallized we are working hard and excited towards their consecution in the near future.

We hope this issue would contribute in the prevention of pedestrian road traffic injuries agenda.

Ricardo Pérez-Núñez
RTIRN Secretary 2010-2011

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Contributions

★ Motives of use and not use of pedestrian bridges in Mexico City: the pedestrian's perspective



Elisa Del Carmen Hidalgo Solórzano
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In Mexico there is a main concern about the use of pedestrian bridges, so in order to get more data about this issue, we have to analyze the motives of use and not use of the pedestrian bridges. One of the methods was a cross-sectional survey conducted among pedestrians representative sample users and non-users of pedestrian bridges. Linear regression was used for analyzing the motives and logistic regression for identifying the factors that influence the use and not use. As a result of this analysis we got that: From 2533 pedestrians that were included in the study, the prevalence of not use was 50, 5 % in those bridges that had possibility of step for below.



The principal reason to use pedestrian bridges was safety, and the principal motive of not use, was the insecurity alluding for lack of lighting, conditions and dispersion of the bridges. Significant differences were found among reasons of use and not use of pedestrian bridges according sex and age groups ($p<0.05$) the age groups of 19 to 36 years and 46 and more were associated with not use of bridges, adjusted for education and physical characteristics of the pedestrian bridges of ORa.1.7 (CI95 %: 1.06-2.86) and ORa.1.9 (CI95 %: 1.14-3.33) respectively.



The results of this study allow us to identify important aspects to consider from the perspective of the pedestrians, before constructing new pedestrian bridges, as well as those that must be improved to increase use in high risk areas of pedestrian injuries.

Authors: Elisa Hidalgo, Julio Campuzano, Jorge Rodriguez, Martha Hijar

Key words: Pedestrian bridges, overpasses, pedestrian, injuries, Mexico

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★ Evaluating sidewalks from the perspective of pedestrians in Dhaka City of Bangladesh



Md. Neazm Uddin Biswas

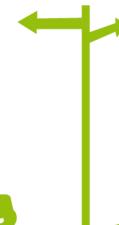
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Dhaka, the capital of Bangladesh is located at the central part of the country and has over 10 million inhabitants. The urbanites do 60% of their daily trips walking. We used six broad criteria to assess the subjective evaluation of the sidewalks in Dhaka city: safety, security, convenience and comfort, continuity, system coherence and attractiveness. We defined these criteria based on some sub-criteria and only for Dhaka city. Pedestrians had a bad impression of what they felt do not help them walk smoothly in the city. The security problem is a major threat for pedestrians because there are a lot of illegal drug sellers sitting on the walkway early in the morning and in the evening time. Besides, some hijackers snatch bags and necessary goods such as cellular telephones from the walkers very often.

However, convenience and comfort is another important criterion people described as the second important issue in Dhaka City. It has been observed that the walkers have a lot of problems while using the sidewalks (Khan, Ohmori, et. al. 2003). Illegal occupancy on sidewalks, lack of public toilets, absence of drinking fountains, placement of illegal billboard on the sidewalks limit pedestrians from a proper walkway environment. Sometimes the monsoon rainfall floods roads due to poor drainage system in the city. During that time walkers suffer a lot because they are not able to use the sidewalks. Besides, there are lots of potholes on the sidewalks which offer dangerous situation during the rainy season as walkers can not see the potholes through the water.





Inundated sidewalk during rain

The average of sidewalks' height was observed in 5 different blocks going from 1 foot to 2 feet. This height actually segregates the sidewalks from the carriage way for walkers' safety. But the discontinuation of the walkway surfaces or the alignments offers many problems for the elderly as they need to climb on and get off from the sidewalks at a 15 feet interval most of the time. Apart from this, attractiveness of the sidewalks is not enough to get people to use sidewalks.

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★ Preliminary results of the project "Safe Environments: Prevention of pedestrian injuries in Cuernavaca, Mexico"



Jorge Martín Rodríguez

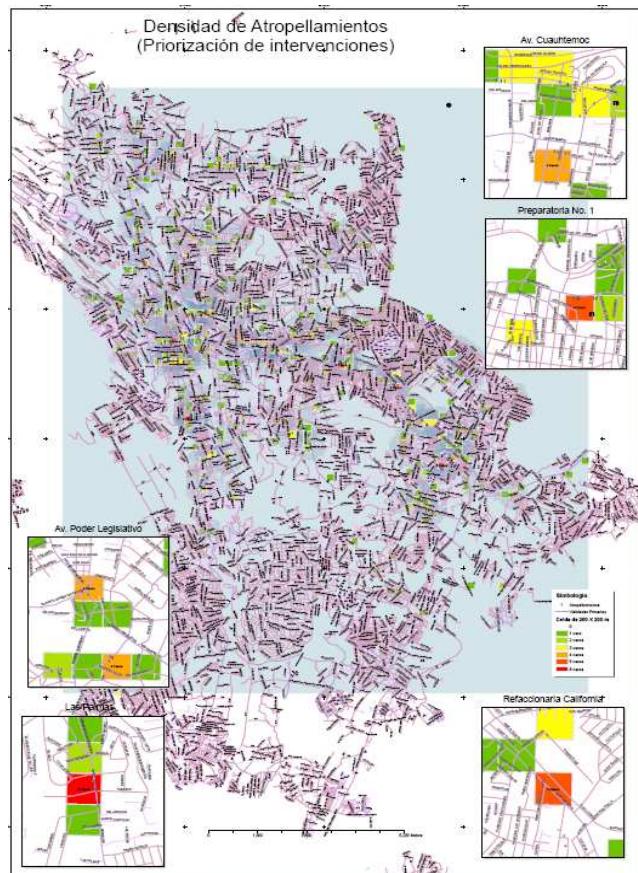
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This project is co-financed by the Road Traffic Injuries Research Network, characterized all fatal and non-fatal pedestrian injuries that took place in Cuernavaca during 2008/2009. The geographical distribution of the injuries was obtained using secondary data from prehospital registries and death certificates, maps were generated in order to observe the extent of the problem in two levels: county and roads.

In the last level of analysis (roads) it was decided to make tracings of 200 by 200 to detect specific points where the number of injuries was higher. Based on this information black spots were identified and some of them were selected to perform a road safety audit to characterize each spot considering environmental and traffic factors (identification of traffic lights, pedestrian bridges, traffic signs, pedestrian and vehicle flow, conditions of the road, among others).

Identified problems include: deficit of vertical and horizontal signalization; absence of speed limits law enforcement (even in presence of police officers and signals); pedestrian lights lasted less than 20 seconds (not enough time for the correct flow of pedestrians, especially for elderly). This scenario



was even worse at night: poor visibility because of the lack of light in the street; pedestrian do not cross the street on the corners and drivers speed up. Even though there were pedestrian bridges in some spots; they weren't used because of similar reasons found in other investigations (laziness, insecurity, rush, insalubrities).

Resulting from these diagnostic, future interventions would be implemented to promote safety in vulnerable road traffic user: pedestrians.

* The Characteristics of Pedestrian Accidents on Trunk Roads in Ashanti Region of Ghana



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The National Road Safety Commission targets improvements in pedestrians and bus occupants' safety to achieve the objective of a single digit fatality rate by 2015; pedestrians alone account for almost 43% of all road traffic fatalities.

Pedestrian accidents study on four highways from 2005 through 2007 revealed that persons between 16 - 45 years constitute 52% of total casualties with children below 16 years accounting for 32%. Three out of every five casualty was a male and road crossing happens to be the most risky pedestrian action. One in every five pedestrians involved in an accident got killed with light vehicles (cars, pick-ups, etc) accounting for more than 79% of vehicles involved in pedestrian accidents. Meanwhile, pedestrian accidents occur mostly at locations away from junctions (84%).



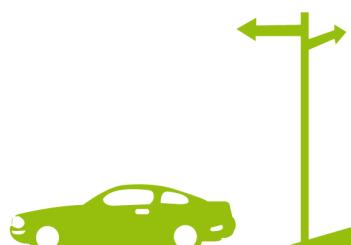
Pedestrian crosswalk lacked complementing restraining measures to enhance safety

Intense roadside activities pose serious risks to pedestrians



Roadside trading are common features on highways within and at the outskirts of most settlements in Ghana. Inadequate facilities and lack of traffic calming measures have been identified to increase the risk of pedestrians who cross the road to meet important socio-economic needs.

The Ghana Highway Authority has been engaged in engineering countermeasures to reduce speeds and vehicle-pedestrian conflicts through installation of traffic calming measures and pedestrian crossing tables on some highways to enhance pedestrian safety.



★ The Burden of Pedestrian Injuries: Bengaluru (India)



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Recent reports indicate that pedestrians in South India particularly in Bangalore face a daunting task in using roads and footpaths with a pedestrian safety index of merely 0.63.

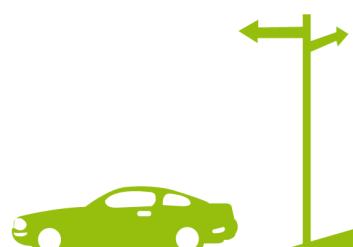
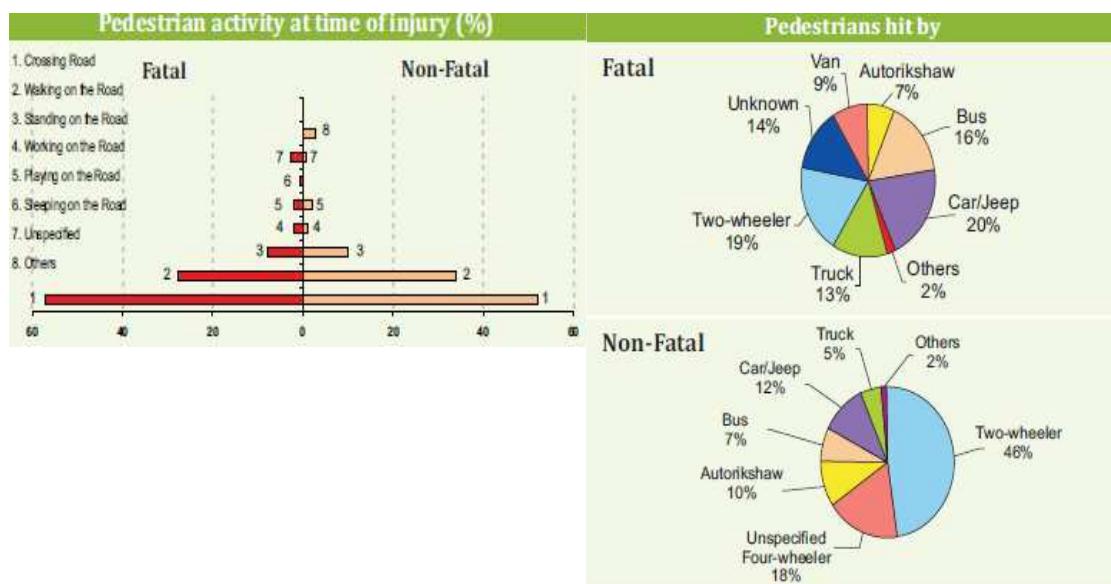
On an average, 550 pedestrians are killed and more than 10,000 injured and hospitalized every year, in a ratio of 1: 20. 51% of killed and 58% of injured were young men in the age group of 16 to 45 years. Women were involved more in extremes of age groups. 17% of pedestrian deaths and 10% of non fatal injuries were among elderly. Males were frequently injured or died as pedestrians in road crashes in a ratio of 3:1.



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Nonetheless, pedestrian safety should be an integral component of a larger city road safety programme, policy and with an action plan. Implementing pedestrian safety programmes will require a skillful mix of road engineering and enforcement measures along with education for people to accept changes. Developing and implementing these measures should be based on good quality data so that interventions can be monitored and evaluated.

The percentage of fatal and non fatal injuries by various modes of transportation is as follows:



★ Pedestrians Safety in Iran



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Pedestrian's fatalities in Iran reach to one forth of total traffic deaths in which the share for urban areas vs roads and highways stands for 60 to 40 percent. Female presence within killed pedestrians is about 9 percent higher than country average (18%) and 70 percent of those pedestrians who lost their lives suffer from low education or are not educated at all. Also about 55 percent of deaths among pedestrians occur in people aged above 50 and 10 percent usually happen towards kids below 7. Additionally more than half of pedestrians decease has been caused by head injuries.

For such burden of pedestrian casualties, a new road safety action plan is being prepared in order to apply to road and highway networks nationwide. That is a five-year plan which set a 20 percent reduction in the number of killed pedestrians for the first year. In this regard many engineering measures proven by Researches or those measures with potential for safety improvement have been considered and more focus was put onto the public awareness within priority locations. There would be also an annual evaluation of the results compared to the baseline (2009) by which the plan and activities may change in progress.

★ Pedestrians Safety in Nepal



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It is a fact that the road-users are from most productive segment of the population in any country. Low and middle income countries exhibit increasing fatalities on the roads which is probably attributed to rapid urbanization and increasing use of motorised vehicles. The system of mixed-traffic on the roads in these countries is itself an increased exposure to road traffic injuries, which also induces inappropriate use of the roads. Pedestrians are at the highest risk of being injured or killed by a motorised vehicle because there is limited and poor engineering of pavements in these countries. Similar to other South-Asian countries, pedestrians have nowhere to walk as the pavements are occupied by petty traders during the peak times; especially during afternoon and evenings along the junctions in towns.



During my recent visit to Nepal, I had been to major western towns of Narayangarh, Hetauda, Dhangadhi and Mahendranagar. Everywhere I saw same situation of the pavements, all occupied by those other than pedestrians. In Kathmandu, the cyclists and motorcyclist also were using pavement to over-take other vehicles. In Narayangarh and Mahendranagar it was occupied with commercial construction materials. In Hetauda and Dhangadhi there were limited pavements on either side of the roads. There is an urgent need of reinforced awareness campaign on proper use of roads.



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★ Road traffic injury in children in rural Bangladesh: Urgent call for Action



Dr. Md. Kamran ul Baset

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In Bangladesh the road traffic system is made up of both motorized and non-motorized vehicles and both types of vehicles use the same highways and major roads. In rural areas the majority of the vehicles are non-motorized but some motorized vehicles are also used as the means of transportation of both people and goods. The majority of these motorized vehicles are usually locally designed by unqualified technicians with no approval by the concerned authorities.



According to the 2006 official statistics of Bangladesh 3,160 road traffic deaths have been reported, however, the annual estimated RTI deaths from Bangladesh Health and Injury Survey (BHIS), 2005 was found to be over 13,000. The study revealed that road traffic injury is the sixth leading cause of mortality (6/100 000 child-year) and the eighth leading cause of morbidity (194.4/100 000 children-year) in children aged 1-17 years. The study also showed that the rate of road traffic injury morbidities is more than double in rural areas than in urban areas (118.2 vs 255.2 per 100 000 children-year) and most of the childhood RTIs were pedestrian injuries. According to the Bangladesh Road Transport Authority the deaths by road user category 54% were pedestrian.



Road traffic injuries on rural roads in Bangladesh is attributed to the deficiencies/inadequacies in the standard geometric features such as narrow carriageway, poor alignment and bed surface conditions etc. of roads, ignorance of drivers and other road users about the rules of road use. All these factors together contribute to the tragic road traffic injury incidences especially among children in rural Bangladesh. Now a day childhood RTI is a major public health problem in Bangladesh. An appropriate prevention programme is urgently required to prevent fatal and nonfatal RTIs for child pedestrian in rural areas.



SAFE KIDS Philippines



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With corporate sponsor FedEx Express, has been conducting its Walk This Way child pedestrian safety program in 5 cities in the Philippines since 2004 reaching over 600,000 schoolchildren. This is a classroom based education program making use of environmental assessments (walkability checks), didactic and games-based educational interventions (with pre & post-testing), infrastructure installation and partnerships with local community volunteers.



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Some basic epidemiologic data on child pedestrians and their injuries in the Philippines:

1. 53% of children consulting at an emergency room for an injury are injured as pedestrians.
2. Only 25% of children under the age of 10 walk to school accompanied by an adult.
3. The lowest levels of baseline knowledge were in proper crossing behavior (25%) and street sign identification (14%).
4. Based on immediate post test answers, on the average, there was a doubling in the knowledge levels regarding safe pedestrian practices.
5. Delayed post-testing, done after 1 year, showed sustained retention with 3% more correct responses than immediate post-test results.
6. 28 to 42% of schoolchildren have already been struck while walking to and from school.
7. Bicycles (46%) and motorcycles (14%) were the most common offending vehicles striking child pedestrians.



INTRAS' contribution on "Pedestrians" – SPAIN



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When cars collide with pedestrians, there is high potential for serious injury. In 2008, 93,161 road traffic injuries with victims were reported in Spain. The number of casualties was 134,047, among those 3,100 were fatalities and 16,488 were seriously injured.



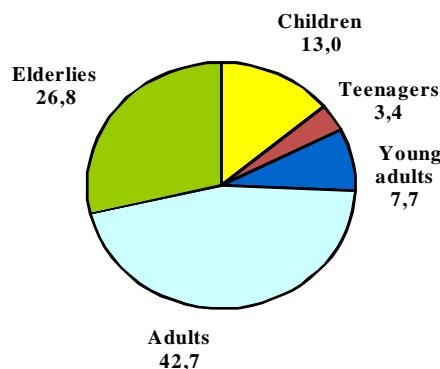
Regarding the pedestrian community, the DGT (General Traffic Directorate) has estimated that 502 were killed and 10,644 were injured which represents 8.3% of the total number of victims. Comparing to 2007, this rate is 2.48% lower. The decrease is even more significant when comparing 2008 with 2000 (-17.43%).

On average, it is as if:

- 29 pedestrians suffered road traffic injuries every day.
- 10 pedestrians were killed as result of a road traffic collision every week.

Generally, in Spain, pedestrian rates are quite higher in urban areas (specially, the ones related to injuries). However, it is obvious that the proportion of deaths in roadways is much higher than in urban areas due to the accident severity.

A research carried out in our Institute in 2006 provided some interesting results that are represented in the graph below (*proportion of the pedestrian casualties by group of age*):



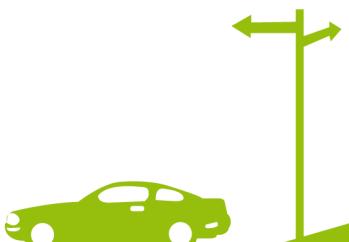
Nevertheless, in more than 50% of these casualties the pedestrian was the one who caused the accident, due to negligent road behavior (for example, in 49% of the road traffic injuries involving elderly pedestrian the old person did not cross safely).

According to the initiatives based on this topic, the DGT drawn up the "Strategic Plan 2005-2008", where among other priorities, it launched a "Training and Education Road Safety Programme" focused on changing the pedestrian behavior to finally get a safely road environment. Moreover, the RACC organization (an Automobile Club of Catalonia) has carried out a study in 2008 based on the pedestrian crossings. The report link is attached, even if it is in Spanish:

http://www.racc.es/pub/ficheros/adjuntos/adjuntos_dp_estudio_peatones_jza_87fc0da3.pdf

To have more information, you can also get in touch with a member of the DGT, since they are the main road safety organization in Spain.

Nevertheless, we would be pleased to contribute or to send you more data concerning this or other topics.



★ Studding pedestrian comportment to evaluate risk behavior in Bogota



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One important component in the traffic problem is safety. So we are developing video processing tools to extract information of traffic vehicles, and we are also incorporating tools to capture other variables to follow pedestrians. In our study, we have included variables such as pedestrian velocity, acceleration and position; we also collect the velocity, acceleration and position for each vehicle that goes through the scene.



Putting together all the information of vehicles and pedestrians allows us to evaluate how close they may be, and accordingly with their velocity and acceleration we are able to evaluate the objective risk that each person takes when crossing the street. We have already tested our video processing tools for extracting information. In 2009, in the research: **Studying pedestrian behavior in Bogotá: A pilot study of methods**, using surveys, we confronted the information extracted from the video with the pedestrian perception of risk.

We welcome our new partners to the RTIRN

Edmundo Rosales, **Peru**

Shankarashis Mukherjee, **India**

Vishwanath Iyer, **India**

John Paul Fletcher, **UK**

Raj Ponnaluri, **India**

Victor Hugo Robles Calvillo, **Mexico**

Jose Ignacio Nazif, **Chile**

Roqiya Bano Javed, **Pakistan**

Casimir Migan, **Benin**

Mohammad Reza Ahadi, **Iran**

Jose Osma Rueda, **Colombia**

Samath Dharmaratne, **Sri Lanka**

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Reports and publications

Publications

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WHO South-East Asia Region

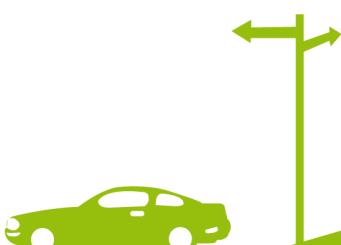
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WHO Western Pacific

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WHO European Region

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News and events

Save the dates!!

Junio 6-9, 2010 - Baltimore, MD, EU

The 18th Annual Summer Institute: Principles and Practice of Injury Prevention
www.jhsph.edu/injurycenter/training/Summer_Institute

Junio 16, 2010 - Cuernavaca, Morelos, México

RTIRN Workshop on "Pedestrian Injuries Research in low-and middle-income countries"
www.rtirn.net

Septiembre 21-24, 2010 - Londres, Inglaterra

10TH World Conference on Injury Prevention and Safety Promotion
www.safety2010.org.uk

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Make the RTIRN newsletter your own!!

- Have news of road traffic injuries research in your region?
- Intervention projects?
- Upcoming events or new publications?

Share it with us at the following address: administrator@rtirn.net

Have you registered for the New RTIRN Online Forum?

The new forum enables RTIRN Partners to communicate more effectively, participate in online discussions and stay updated with current Network activities.

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To become a RTIRN partner

To become a partner of network, please visit our website at www.rtirn.net

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