Safer Africa Good Practice Factsheet: Pedestrians

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Good Practice Factsheet 2018

Pedestrians

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Background

despite having the lowest level of motorization in the world, the African region has the highest estimated road traffic fatality rate of 26.6 per 100,000 population.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Estimated fatality rate/100,000 population</th>
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<tbody>
<tr>
<td>1</td>
<td>African Region (26.6)</td>
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<tr>
<td>2</td>
<td>Eastern Mediterranean Region (19.9)</td>
</tr>
<tr>
<td>3</td>
<td>Western Pacific Region (17.3)</td>
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<tr>
<td>4</td>
<td>South East Asia Region (17)</td>
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<tr>
<td>5</td>
<td>Region of Americas (15.9)</td>
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<tr>
<td>6</td>
<td>European Region (9.3)</td>
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<table>
<thead>
<tr>
<th>Rank</th>
<th>Number of vehicles per 1000 persons</th>
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<tbody>
<tr>
<td>1</td>
<td>European region (510.3)</td>
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<tr>
<td>2</td>
<td>Region of Americas (502.8)</td>
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<tr>
<td>3</td>
<td>Western Pacific Region (250.5)</td>
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<tr>
<td>4</td>
<td>South East Asia Region (168.9)</td>
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<tr>
<td>5</td>
<td>Eastern Mediterranean Region (126.0)</td>
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<tr>
<td>6</td>
<td>European Region (46.6)</td>
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</table>

Half of all road traffic deaths in the African region occur among vulnerable road users (pedestrians, cyclists and motorcyclists).

*The African region has the highest proportion of deaths among pedestrians at 39%, when the average around the world is around 22%.*

*The proportion of deaths for pedestrians is similar for both low-income and middle-income counties in the African region, at 39% and 40% respectively.*

This indicates an urgent need for policymakers to ensure the prioritisation of interventions specifically targeted at improving the safety of these vulnerable road users.

While a number of countries in the region have adopted policies to encourage walking and cycling, there is concern that if these are not accompanied by additional safety measures – notably speed reduction, they will not achieve the desired effects, and may indeed make roads more dangerous for vulnerable road users.
Pedestrian exposure to traffic

Mixed use traffic environment (vehicles, vulnerable road users) is dangerous for pedestrians and the cause of many accidents. When roadway design caters for the needs of motorised traffic only and neglects the needs of pedestrians, the likelihood that pedestrians will be killed or injured when walking alongside or crossing a road increases.

Potential Interventions

- Engineering measures to reduce pedestrian exposure to traffic involve separation of pedestrians and vehicles and reducing traffic volumes.

- The construction of sidewalks and dedicated footpaths allow pedestrians to walk freely without being exposed to traffic. The absence of sidewalks forces pedestrians to walk along the roadway in many cases. Sidewalks and footpaths should be part of every new roadway by design, added on existing streets and designed following guidelines with regards to width, depth, surface type and placement. Special attention should be given to their maintenance and ensure they are separated from other vehicles with a kerb, buffer zone or both.

- Marked crossings indicate the preferred locations where pedestrians can cross a street. They indicate pedestrian right-of-way and notify motorists to be extra-careful. To be fully effective, crossings should be installed with additional enhancements, such as signalling and night-time lighting. Compliance to markings can be improved by awareness campaigns and enforcement.

- Raised medians and pedestrian refuge islands allow pedestrians to cross wide streets without being exposed to traffic for long periods of time.

- Overpasses and underpasses allow uninterrupted traffic flow and effective vehicle/pedestrian separation. They are most effective in areas with high pedestrian volumes and when designed to be user-friendly and accessible. The use of overpasses/underpasses depends on their cleanliness, proper maintenance and lighting and sense of security they provide to users.

Impact evidence

The redesign of a major existing road in Abu Dhabi in UAE. By retrofitting sidewalks and improving pedestrian facilities has improved conditions for walking and reduced vehicle speeds by 4-10 km/h.

A combination of road safety interventions (vehicle/pedestrian separation, speed management and education campaign) in the R300 dual carriageway near Cape Town in South Africa led to a great reduction in pedestrian fatalities and serious injuries. Reducing lane width to reduce vehicle speed, building a wide sidewalk and overpasses and an effective education campaign reduced the number of fatalities by 82% (8 fatalities down from 67) and serious injuries by 54% (25 down from 81).
Pedestrian Visibility

A high percentage of collisions between vehicles and pedestrians occur when visibility is low and lighting conditions on the road poor. A number of interventions, both engineering and education-related can improve the visibility of pedestrians in night-time and low-light conditions such as dusk and dawn.

**Potential Interventions**

- Installing traffic signals, especially in crossings, to alert drivers of pedestrians crossing the road
- Improving illumination conditions, by installing lights, to improve pedestrian visibility
- Removing physical objects that affect visibility on the road, such as trees and billboards.
- Raising awareness about the importance of being visible at night, by promoting the use of reflectors and wearing bright-coloured clothes at night.

**Impact Evidence**

The Sign of Light (CSDD) educational campaign in Latvia was implemented to inform pedestrians about the dangers of walking along roads without reflectors during darkness and twilight. After the campaign, use of reflectors increased from 4% to 20% in 2005.

The campaign to increase visibility of school children in Ghana and Tanzania, by promoting the use of special school bags fitted with reflectors, as well as other visibility enhancements. Those simple measures have been shown to improve pedestrian visibility dramatically.

Safer vehicles

Improvements in vehicle safety technology helps drivers to prevent crashes from occurring and contributes to lowering the severity of injuries to car passengers and vulnerable road users.

**Potential Interventions**

- Future developments in vehicle safety technology and ADAS systems such as Autonomous Emergency Braking (AEB), pedestrian/cyclist detection and Collision Avoidance Systems will reduce the probability of collision with vulnerable road users.
- Harmonise regulations for vehicle safety across different countries, as manufacturers take advantage of absence of regulations to remove technological safety features used as standard in other countries.
- Introduction of NCAP (New Car Assessment Programme) and the GTR9 safety standard regarding pedestrian protection by the UN. NCAP is directed at vehicles, but affects all types of accidents and concerns a wide range of road user classes (e.g., car drivers, passengers, motorcyclists, pedestrians, novice and older drivers).

**Impact Evidence**

It is estimated that each point in NCAP score relates to a relative reduction in probability of 2.5% for fatalities, and 1% for serious injuries.

ASEAN NCAP estimates that good performance in NCAP pedestrian protection tests could save 8% of all pedestrian fatalities and 2% of severe injuries. Besides that, the benefits are estimated to exceed costs by at least 7 to 1 ratio.

The European Transport Safety Council (ETSC) estimates that approximately 20% of pedestrian casualties could be reduced on urban roads using Intelligent Speed Assist (ISA).
Education and public campaigns

Education and public campaigns aim to raise awareness about road safety and improve road user behaviour. Changing behaviour is a long-term effort and the effects of awareness campaigns are maximised when used in combination with other types of intervention.

Potential Interventions

- School-based education, aiming to teach children about road safety and the effects of reckless behaviour on the road. Teaching children how to behave as pedestrians and how to distinguish between safe and unsafe conditions.

- Raising awareness with public through mass media campaigns. Informing the public about legislation, pedestrian safety, the risks, the effects of collisions and solutions to common problems.

Impact Evidence

The “walking school bus”, a group of children walking to/from school all together, has been implemented in many countries and is an effective way of maintaining child safety. There are challenges involved, though it is a good way to keep children safe from vehicles and provide some walking exercise.

Generally, training/education is associated with a significant improvement in pedestrian safety behaviour immediately following the campaign and several months after that. In Zambia in 2015, the introduction of a road safety campaign aimed at children and the reduced speed limits near schools led to a decrease of 70% in child fatalities and injuries.

In South Africa, a strong educational and awareness campaign combined with other pedestrian-focused safety measures, has led to a 29% reduction in road fatalities.

Speed management

Vehicle speed is one of the key risk factors for pedestrian accidents. It affects not only the number of fatalities but also the severity of injuries for vulnerable road users. Speed management aims to balance safety with efficient traffic speed in the road network.

Potential Interventions

- Introducing low speed zones in residential areas, near schools, hospitals and in shopping areas. In many European countries, 30 km/h zones are common in those areas, while in home zones the maximum speed is even lower: 10-15 km/h. In order for the speed limits to be respected, besides putting appropriate signs, low speeds must be maintained by physical measures such as speed bumps and also, enforcement.

- Reducing speed limits and decreasing road and lane width induces lower vehicle speeds and increases the safety effect for all road users. Traffic calming measures, such as speed humps, raised intersections, chicanes, roundabouts and mini-circles aim to reduce speed wherever necessary (in both road sections and intersections).

Impact Evidence

Various traffic-calming measures (speed humps, raised crosswalks, speed cushions, roundabouts, pedestrian refuge islands etc.) in Zhaitang Town, China had an impact on three aspects of road safety: road fatalities and injuries were reduced (0 fatalities down from 2 and 1 injury down from 6), average vehicle speed was reduced by 9% and the overall sense of security was improved, with crossing use increasing and 65% of people interviewed stating their feeling of safety increased.
Legislation and enforcement

Traffic laws affecting pedestrians mainly regulate driver and pedestrian behaviour at crossings, intersections and other locations where the 2 road user groups interact with each other. While comprehensive legislation is required to maintain transport safety, it is not sufficient on its own. For road users to comply with legislation, efficient law enforcement and penalties for offenders are required.

**Potential Interventions**

- Speed limits on roads should be enforced by the police. Legislation, physical measures and awareness campaigns are ineffective when drivers are not motivated to maintain the speed limits by speed cameras, visible law enforcement and severe fines.

- Drink/Drug driving also affects pedestrian safety indirectly. Similarly to speeding, setting low BAC limits and enforcing them with random checks and fines is required.

- Random checks and fines are also required to enforce right of way and red-light compliance.

**Impact Evidence**

Mexico lowered its BAC limit from 0.15 to 0.05 and introduced tougher penalties for breaking the law and managed to reduce the monthly percentage of deaths and crash rates associated with alcohol. After the law was amended, collisions were reduced by 9.9% and alcohol-related deaths by 5.7%.

Interventions aimed to reduce speeding, such as fixed speed cameras but also manual methods such as police checkpoints were evaluated in various studies. A meta-analysis of 45 evaluation studies on speed undertaken as part of the PEPPER project, found that the overall effect of speed enforcement was a reduction by 18% of accidents. Looking at permanent speed cameras only, it was a significant reduction of 34%, with the reduction being 11% for manual speed enforcement methods.

In Brazil, the introduction of speed cameras led to the reduction of crash fatalities by 8.6% during the first year. For the second and third years, the reduction was 17.6% and 25.7% respectively.

Similarly, fixed speed cameras in the UK led to a decrease of vehicles over the speed limit by 70% and a reduction of 42% in KSI casualties at those sites.

Increasing penalties for speeding can be an effective way to reduce the number of speeding drivers and therefore speed-related crashes. In Australia, the Western Australia State Government introduced a trial period in which driver demerit points for offences relating to speeding, among other driving offences, were doubled during specific holiday periods. Total speed-related crashes went down by 40% during double demerit periods, fatal crashes were reduced by 52% and injury crashes by 43%.

The VADS (Volontaires Adjoints De Sécurité - Deputy Security Volunteers) programme developed by Burkina Faso, aiming to enhance road safety measures and improve enforcement. VADS was tasked with regulating road traffic at intersections, support security policy and assist police in various activities such as securing areas, drafting accident reports, performing roadside checks etc. Establishing VADS helped in a total drop in the number of accidents by 11.18% and 15.64% in the number of victims (2016 compared to 2015).
Post-crash response

Post-crash care refers to actions aimed to reduce the impact of injuries and the number of road casualties. While it can not influence the number of accidents happening in the first place, proper response after a crash can lead to fewer total fatalities and a reduced number of serious injuries.

**Potential Interventions**

- First response systems, ensuring emergency aid and providing swift transportation to hospitals or other facilities. Emergency aid and quick transportation to hospitals is in many cases the difference between an injury and a casualty.
- Hospital-based care, where the application of screening, resuscitation and injury treatment takes place. Both first response and hospital-based care require an investment in both human resources and infrastructure (facilities, equipment and supplies).
- Rehabilitation services, to minimise the consequences of any disabilities and physical or mental effects of accidents.

**Impact Evidence**

Trauma mortality patterns in 3 different counties (USA – high income, Mexico – middle income, Ghana -low income) showed that the differences in mortality in the three cases can be attributed primarily to differences in the percent of prehospital deaths.

Improvements in the trauma system have been documented to result in 15–20% reduction in mortality rates.

Most of the road traffic deaths in Sub-Saharan Africa occur in the pre-hospital phase and that more than half of the African countries do not possess formal pre-hospital care system.

In industrialised countries, improvements in post-crash care show benefits in the long-term as well. In Sweden, it is estimated that the reduction in road accident fatality rate is 20% for victims that were not instantly killed.

The establishment of an emergency first aid responder system in various countries of Africa, where lay-persons are trained in emergency first-aid skills and provide support to accident victims. Support of this type helps stabilise accidents victims until the arrival of an ambulance and minimum care is provided before the accident victim is hospitalised.
1. Road Safety in the African Region (WHO, 2015)
   https://afro.who.int/sites/default/files/2017-06/Road_Safety_AFRO_for_web_0.pdf

   https://www.who.int/roadsafety/projects/manuals/pedestrian/en/

3. Analysis of good practices in Europe and Africa (SaferAfrica project - Deliverable 7.1, 2018)

   Consideration Pedestrian Protection Assessment in ASEAN NCAP : Future Consideration’, (October).

Pedestrians
Mopeds & motorcycles
Safer road infrastructure for all road users
Interurban through roads
Public transport
Safety campaigns
Driver training and licensing
Strengthened partnership and collaboration for road safety