

Preventing child road casualties - Making the road environment safer for children

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SAFE
KIDS
WORLDWIDE

Scope of presentation

1. Extent of the child road safety problem

2. Challenges children are facing in the road environment

3. Measures to make the road environment more child friendly

1. Extent of the child road safety problem

Introduction

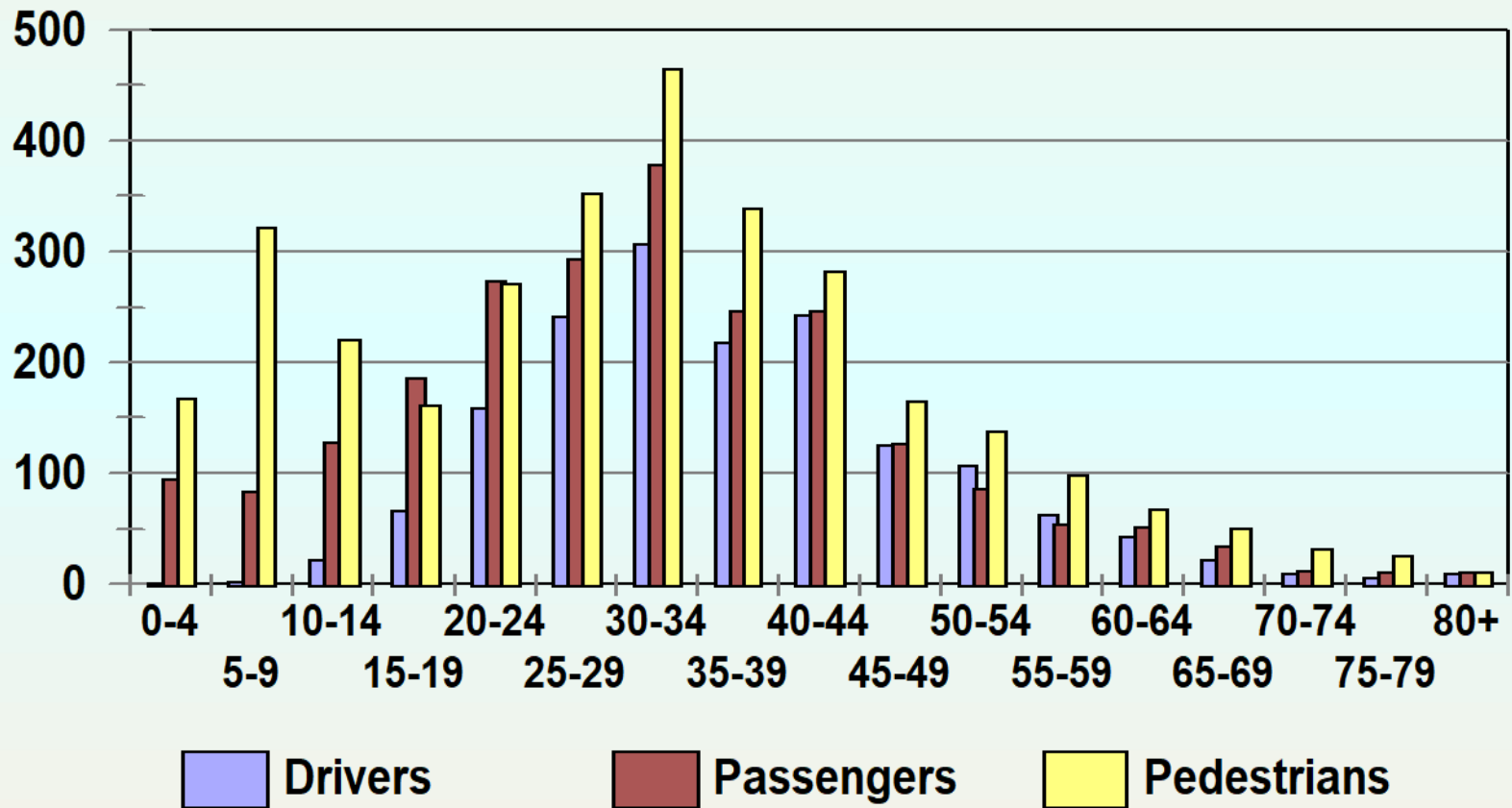
National Household Travel Survey, 2003 (DoT)

- 90,6 percent of the 7,5 million learners in ***rural areas*** walked to schools and educational centres.

National Household Travel Survey, 2013 (StatsSA)

- No major change in NMT travel statistics between 2003 and 2013.
- *Around 63% of all learners in **urban and rural areas** walked the entire distance to educational institutions while those attending tertiary institutions tended to use taxis more than any other mode of transport.*
- *The percentage of learners walking all the way to school varies from 43% in Gauteng to 79% in Limpopo,*
- *The more rural a province the greater the likelihood of learners walking all the way.*

Fatalities per Age Group



Source: RTMC

Vulnerability of children in the road environment

- Road crashes remain the *leading cause of accidental death for children* and they can cause *life-changing injuries* including loss of limbs, spinal injuries and head injuries.
- *Boys are almost twice as likely as girls to be involved in road traffic crashes.* This difference starts at a young age and grows with age until adulthood
- Road traffic injury is *strongly associated with poverty* in all countries, irrespective of income level.
- Children *under the age of 11 years (about Grade 5)* are less able to make safe decisions on the road.
- In many low-income and middle-income countries, children are at increased risk because the road is a *shared space for playing, working, walking, cycling and driving.*

Source : UNICEF WHO World Report on Child Injury Prevention.

2. Challenges children are facing in the road environment

Challenges children are facing in the road environment

- Child road safety a *major challenge in both urban and rural areas.*
- Large number of learners are *walking or cycling to school over long distances* – sometimes more than 5 km in rural areas.
- *Road environment not always child friendly* especially when going to school:
 - Children have to *cross busy roads* without supervision by parents, wardens or traffic officers.
 - General *lack of infrastructure such as walkways* and road crossings leading to schools.
 - *Lack of or dysfunctional road lighting*, especially during winter.
 - Rural children has to *walk along high speed roads* and road shoulders not always suitable.
- *Children are vulnerable road users*, a fact directly related to their still developing cognitive and perceptual abilities.
- Those under 10 years of age are considered to have *difficulty judging distance and speed of road vehicles*. They should therefore not be allowed to ride a bicycle on a public road.

Road safety challenges children are facing at schools

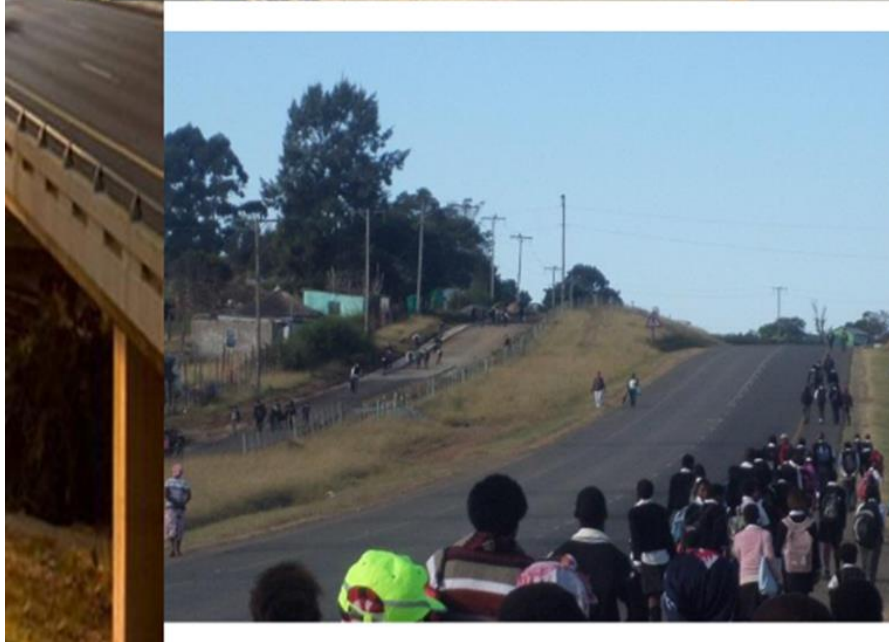
Road traffic safety problems in school precincts culminate from three primary reasons, namely:

- *Modal mix.* School traffic is characterised by a *high concentration mix of most road user modes*, i.e. pedestrians, cyclists, cars, minibuses and buses. This high concentration modal-mix results in many traffic conflicts.
- *Inexperienced road users.* School children, being young and inexperienced, are *ill equipped to deal with the complex traffic movements and high concentrations of vehicles* during peak periods at schools.
- *High intensity traffic peaks.* Practically all inter-modal interaction in the vicinity of schools *takes place within a relatively short peak period*.

Road safety challenges facing learners going to school



Safety Considerations – Typical Safety Issues

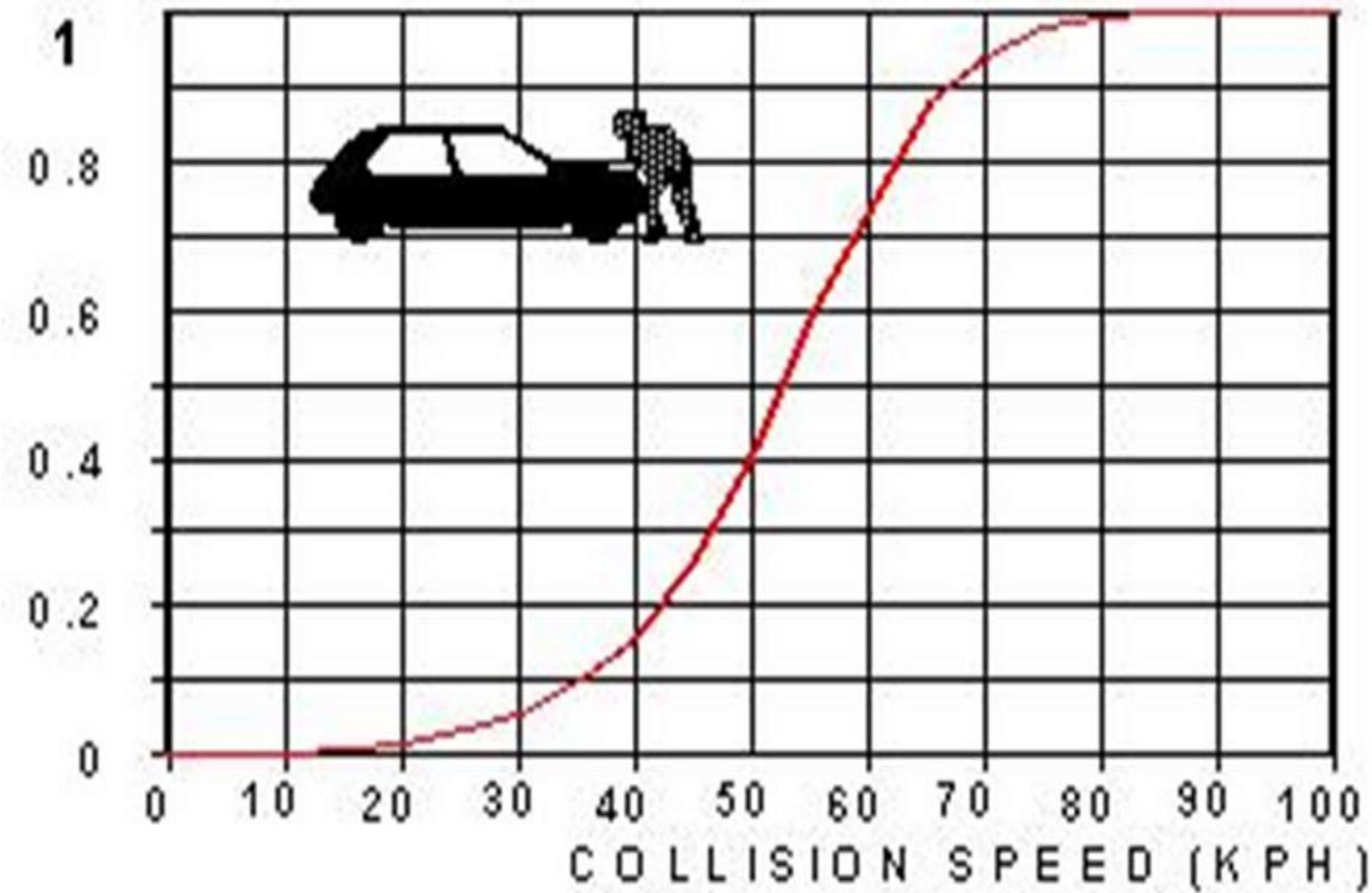


Challenges children are facing in the road environment

Physical constraints of children include:

- Lack *visual acuity and peripheral vision* to judge speeds of oncoming traffic and safe gaps in traffic stream.
- Less able to *determine direction of sound*.
- Shorter than adults with a *typical eye height of 1m* – often obscured by road furniture or parked vehicles.
- *Movements less predictable* than adults – tend to dart into traffic and dash across street.
- *Shorter attention spans* and may grow impatient at crossings.
- Children have *less experience as pedestrians* and may not always be aware of dangerous situations.
- Children have never driven a car and therefore *lack the understanding of what the driver's intentions might be* at a junction or crossing point.

PROBABILITY OF DEATH



Typical road safety challenges facing children in informal settlements and townships

- Narrow roads with informal housing up to the edge of the road.
- Lack of infrastructure such as paved sidewalks.
- Home owners often place boulders on road corners to protect their homes from stray vehicles.
- Parking on the narrow road shoulders allow limited space for walking and obstruct view of drivers and learners.
- Walking in the roadway is often the only option.
- Drivers speeding not regarding children.
- Lack of space to play on properties.
- No public spaces where children can play.
- Lack of or dysfunctional street lights and children not visible during darkness.
- Sidewalks obstructed by road furniture, e.g light poles and signs.
- Crime and drug peddlers.



Road safety challenges facing children at home



The street often become the playing area



3. Making the road environment more child friendly

- a) In residential areas**
- b) Along rural roads**

Measures to make the road environment more children friendly

In residential areas

- Making the school environment safer
- Safer routes to school
- Provide safe playing areas in residential areas
- Upgrading of informal settlements must consider child safety

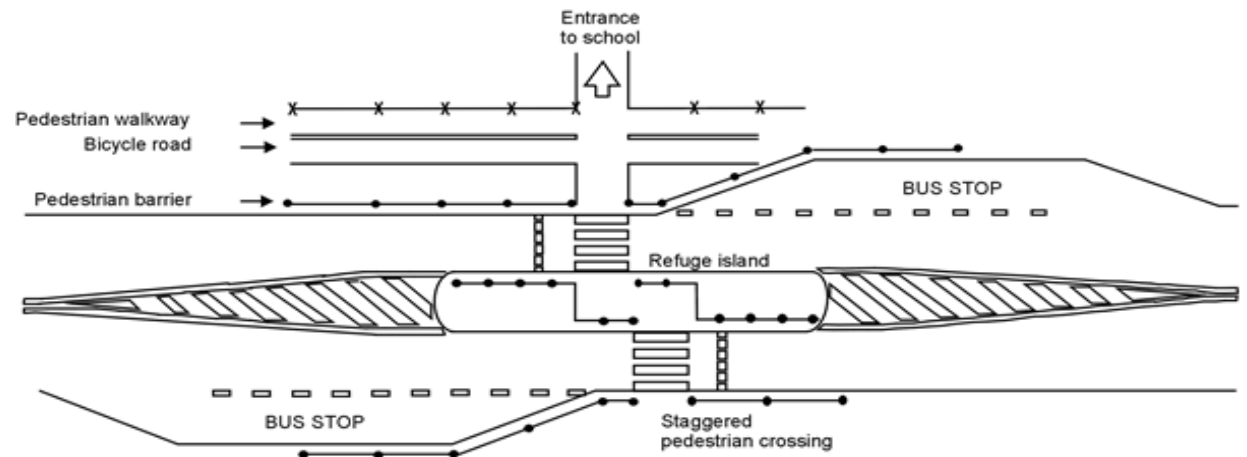
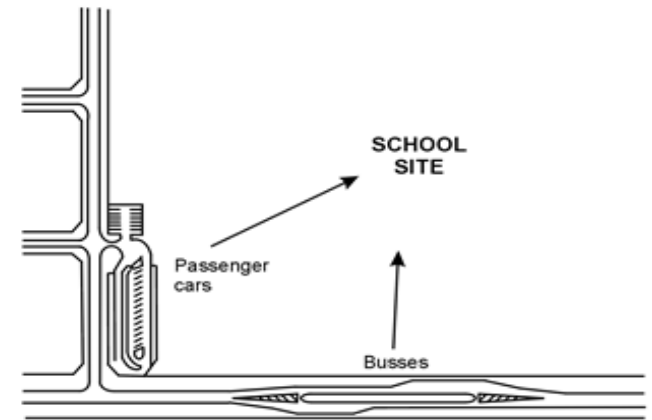
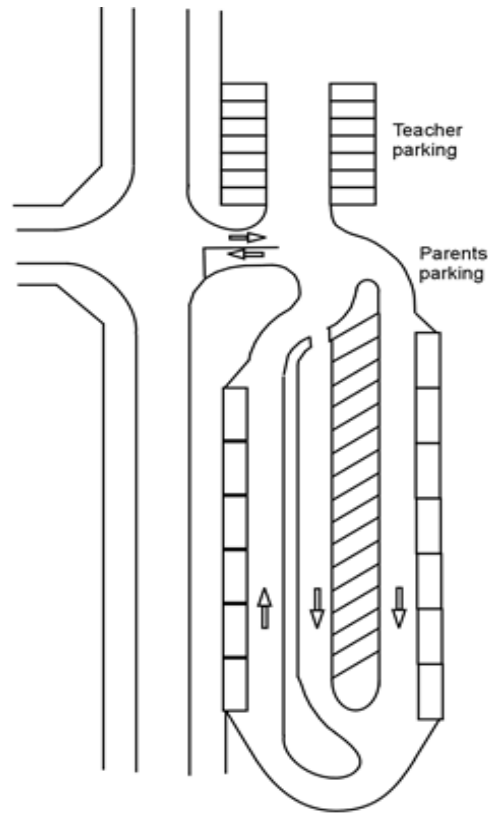
Along rural roads

- Improve road safety at school entrances
- Provide walkways for children along roads at least near schools (first km)

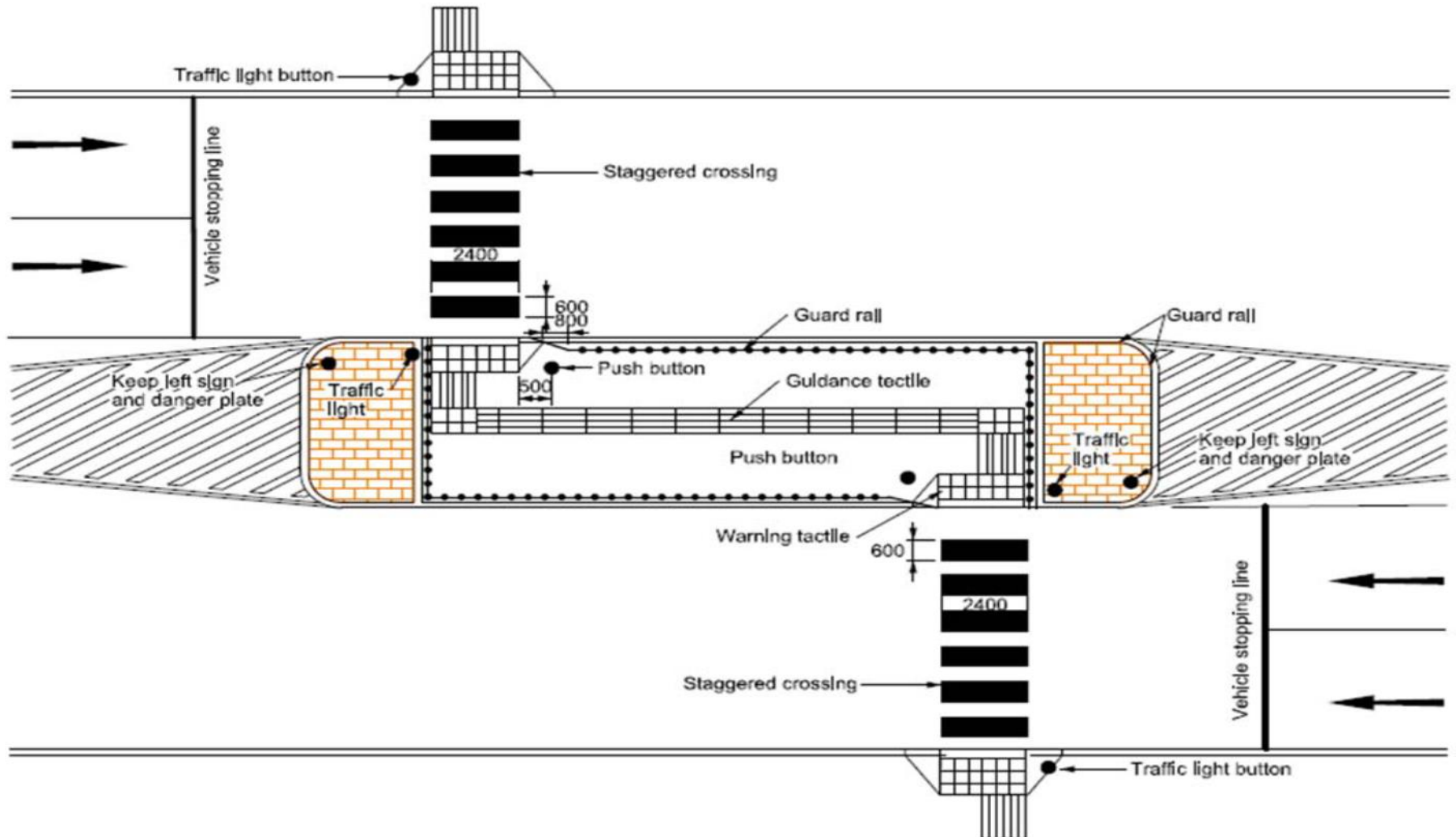
Making the school environment safer

- All school site zones should have a *30 km/h speed limit*.
- *Traffic calming devices* (e.g. raised pedestrian crossings, refuge islands, sidewalk extensions at intersections) are utilised to reduce vehicle speeds in the vicinity of the schools.
- The *area around school entrances* must be designed in such a manner to safeguard learners because of the modal mix experienced at schools. It is important to cater for the different travel modes as some learners will arrive by public transport (buses and mini-buses), others by car and majority on foot or by bicycle.
- Strategically located, well-delineated *crossing opportunities* are provided, including midblock crossings and crossings at controlled junctions.
- Pedestrians are *clearly directed to specific crossing points* and pedestrian accesses by directional *signs and fencing*.
- *Sight distance obstructions* are removed so that there is clear visibility of pedestrians throughout the area.

Traffic management at schools



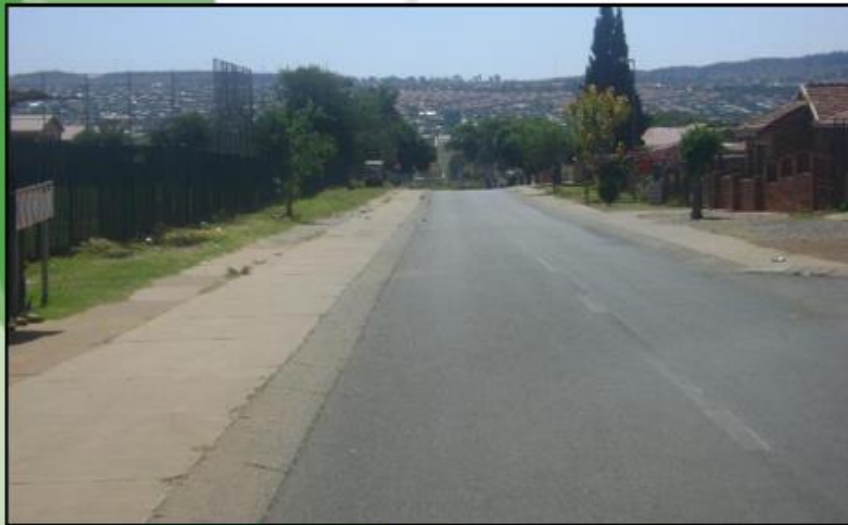
Pedestrian crossings at schools along arterials



DESCRIPTION AND LOCATION OF SCHOOL SITES (2)



Maboea Street – Direction North – Before



Maboea Street – Direction North – After



Making the school environment safer - a holistic approach

Best practice example - FIA Foundation/iRAP/ChildSafe pilot study

- *Road safety assessments* – to evaluate the pre-project safety of the local road network and provide a star rating to show relative *road risks for different classes of road users*; to provide a *comprehensive menu of costed countermeasures* and estimated injury reductions; to advocate to policymakers for *sustained investment* in child road safety.
- *Small scale infrastructure improvements* –the project consortium will implement some low-cost road design and traffic calming improvements to protect children on their route to and from school. All improvements will be carried out in partnership with relevant local authorities;
- *Teacher/community training and child education* – research and develop attractive and effective road safety training materials for in-school training for teachers and classes for children;
- *Monitoring & Evaluation* – all components of the project will be rigorously evaluated.

Making residential areas safer for children

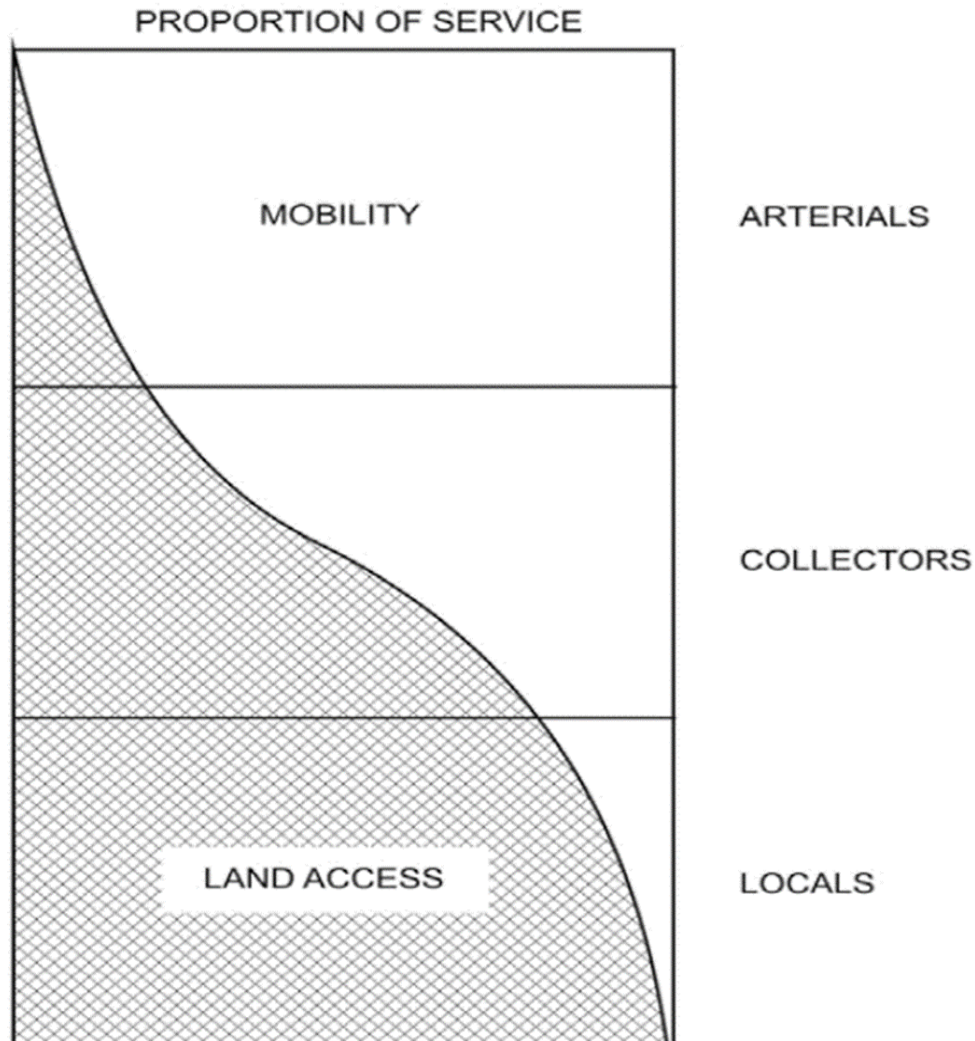
- The *lack of pedestrian facilities in informal settlements* and in many townships is often a cause for many road safety problems.
- The most *important facilities required in such areas (also during upgrading to formal housing)*, include the following:
 - *Public open spaces and play areas* to get children away from streets
 - *An internal network of pedestrian sidewalks and walkways* based on pedestrian desire lines and major land uses generating pedestrian traffic in the area such as schools, sports fields, commercial centres.
 - *Pedestrian crossings* are required at locations where the internal network of pedestrian walkways crosses major roads.
 - Other important facilities required in such areas include:
 - *Land uses such as schools and other pedestrian generators should be located away from major roads*, or in such a way that major roads do not need to be crossed. If this is not possible, provision should be made for grade separation and the canalisation of pedestrians to these crossing points.
 - *Roads should be designed in such a way that speed would be limited*. Where this is not possible, traffic calming measures should be included in the upgrading of settlements to safeguard children and adult pedestrians.

Provide safe play areas in residential areas



Upgrading of informal settlements must provide for child safety

RELATIONSHIP OF FUNCTIONALLY CLASSIFIED SYSTEMS IN SERVING TRAFFIC MOBILITY AND LAND ACCESS



Road classification

Class 1: Freeways

Class 2: Arterials

Class 3: Distributors

Class 4: Collectors

Class 5: Residential

Class 6: NMT routes

UPGRADING OF INFORMAL SETTLEMENTS MUST PROVIDE FOR CHILD SAFETY

Class 4: Collectors



Class 5: Residential streets



Measures to make the road environment more children friendly

Along rural roads

- Improve road safety at school entrances
- Provide designated parking areas for public transport at schools
- Provide walkways for children along rural roads at schools

Best practice example: Cape Winelands District Municipality



Rural roads – Improve road safety at schools

(Source: Cape Winelands District Municipality)



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