SECTION «B»

V - CALMING STREETS.
**Children's Right to Safety**

Previously, injuries have been regarded as random, unavoidable "accidents." However, in the last few decades, a better understanding has changed these attitudes and injuries - both unintentional and intentional - are now regarded as largely preventable. 80% of injuries are classified as unintentional injuries.

Many children die yearly due to unintentional injuries and YASA strongly believe this could be prevented. The prevention of such tragedies comes through educating the children on safe behavior and habits that will help protect their lives.

All children have the right to live in safety, hence by providing a safe environment for them where ever they are. In this edition we will highlight children's right to safety while on the roads.

By Mona Kevit Ali

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V - CALMING STREETS.

PROPOSALS FOR PEDESTRIAN SAFETY AND ATTRACTIVE STREETS IN URBAN AREAS.

Prepared by Mona Akl –President YASA Lebanon
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Discussions focusing on large or small projects to make city streets more traffic-safe and eco-friendly, while at the same time pleasant and attractive, are underway in many cities. In many municipalities there are also underlying social and economic reasons. The purpose of this study is to describe a planning process for remodeling the mixed-traffic street of cities by implementing physical traffic measures in the front environment. The process should promote planning that:

- Satisfies current demands for traffic safety, security, low noise levels and good air quality.
- Reasonably satisfies the needs of different road users for accessibility and level of service.
- Highlights the desire to preserve and recreate historical street environments or those valuable to the cityscape, as well as to beautify city streets and give them identity and character.
- Promotes information, participation and active contribution amongst all those involved.
- Ensures that the quality demands specified above are met by solutions that are cost effective, sustainable in the long term and entail economical use of resources.

This report provides the work with a focus based on the question “How do we want these streets to function and look?”

A PROCESS BASED ON GOALS

A remodeling project is often brought to the fore by a problem that attracts attention because it is easy to observe and describe. For instance, there could be a number of RTI in a street, poor level of service for bus traffic or an unpleasant and unsightly shopping street in the centre of town.
If planning is then limited to measures to remove just the problem that is the focus of attention, complications almost always arise: a measure to improve level of service turns out to affect traffic safety and the environment improvement results in unforeseen changes in the behavior of road users or a traffic safety measure comes into conflict with accessibility. In many cases, it therefore becomes necessary to restart planning process with a broader focus.

Instead of just looking for the answer to the question: “How can we solve this acute problem?” the focus of the work should be checked during all phases of the planning process by asking the question: “How do we – taking into account all demands – want this street to function and look?” Plans are then simulated towards a goal-oriented method of working, where no apparently acute demands are allowed to dominate before all demands have been tested and weighed up against each other. The process below for remodeling the streets of urban areas is proposed with these starting points in mind.

Examples of general measures that reduce the total number of conflict situations in urban areas

- Prevent or alter small-scale location (kiosks, bus stops, playgrounds, etc.) that increases the number of conflicts.
- Improve bus traffic so that more people will choose to travel by bus than by car.

Examples of specific measures that reduce the risk of accidents involving personal injury

- Divide up the street into the separate lanes according to traffic category.
- Reduce and divide up the width of the carriageway where pedestrians and cyclists need to cross the street.
- Separate the directional flow of traffic with a central reservation on stretches where head-on collisions between vehicles could occur at such high speeds that they could cause serious personal injury.
- Divide up and control opposing streams of traffic at intersections by building traffic islands.
- Build bridges or tunnels for intersecting motor traffic and between motor traffic, pedestrian and cycle traffic (in the few places in a mixed-traffic network) where is possible.
- Reduce the risk of single accidents involving pedestrians or cyclists by limiting the slope of the road surface, choosing suitable surface material and introducing effective routines for skid-prevention and surface maintenance.

**Examples of measures that reduce the risk of serious injury**

- Limit the actual speed of vehicles by physical means to a maximum of:
  - 30kph where pedestrians and cyclists could be hit by motorists.
  - 50kph where motorists could hit other motor vehicles from the side or crash side-on with fixed obstacles such as walls, bridge supports, etc.
  - 70kph where motorists could crash head-on, but not side-on, with other motorists or with fixed obstacles.
- Remove or screen off hard objects near to carriageways and cycle paths in positions where they could cause serious injury in the event of an accident.
- Remove or screen off and mark obstacles on pavements so that they do not pose a risk for pedestrians and in particular for persons with impaired orientation ability.

**Level of service and accessibility**

The city’s street network should be designed, dimensioned and regulated so that pedestrians, cyclists, bus passengers and motorists are given the possibility of relatively easy access to the city’s range of facilities and activities. The needs and ability to cope with the traffic environment of children, the elderly and disabled should be the yardstick. In cases where the demands for level of service for all categories of pedestrians as well as for cyclists, buses and emergency vehicles should be given priority, ahead of those of motorists.

**Examples of general overall measures that increase level of service in urban areas**

- Divide up and structure the traffic network so that a large proportion of the traffic activity involving cars, buses and emergency vehicles is concentrated on thoroughfares, approaches and main streets. The demands of motor-vehicle traffic for a reasonable speed and the need for pedestrians and cyclists to cross carriageways with only slight delays can then be met with modest investment of resources
on these types of streets, which constitute a small proportion of the entire street network.

- Divide up and structure the traffic network so that local networks can be created within clearly-defined areas where there is little traffic concentration involving cars, buses and emergency vehicles and where there is only a short distance to the nearest main street or thoroughfare. The demands of speed for motor traffic within the local network will then be limited, while the demand of pedestrians and cyclists to cross and to travel along the streets can be met simply without major quality conflicts.

EASE OF ORIENTATION AND CLARITY

The design should simplify orientation for road users. In particular, the needs of the visually impaired should be taken into account and given priority. Network design and detail design of each individual street should give clear and unambiguous information to road users about the street’s traffic functions and about the desirable behavior of different categories of road users.

Examples of general means and measures for ease of orientation

- Make routes and common destinations (bus stops) characteristic and recognizable by type-specific design, choice of materials, lighting, vegetation and street equipments so that they can be identified easily.
- Simplify orientation for the partially-sighted by means of guide strips and tactile or audio information at crucial junctions along all important routes.
- Use the possibilities to aid orientation for the partially-sighted by creating recognizable light, sound or smell effects, such as streets light configurations, fountains and choice of plants of trees in cultivated areas along the streets.

AESTHETICS AND STREET DESIGN

Street spaces should be designed so that pedestrians, cyclists and motorists can travel through and stop over in an environment that is harmonious. Particular care should be given to configuration of the important stretches and places where the social life of the city can be stimulated and many of the inhabitants can stroll and meet. The design should back up other quality demands, such as security, clarity, ease of orientation, etc.
I- RECOMMENDATIONS FOR PEDESTRIAN SAFETY

When walking on the street always remember to:

- Use the sidewalk or the extreme border of the road
- Use pedestrian bridges or underpasses
- Walk opposite to the car flow direction
- Abide by the pedestrian signs (used in Beirut now)
- Cross roads carefully, only when the road is clear, but keep looking in both directions and listening for traffic while crossing
- Be very careful if drunk and be attentive towards your friends especially at night
- Don’t listen to the Walkman, it decreases your ability to sense or hear cars
- Pedestrians have the right-of-way at all the intersections and marked crosswalks
- At night, walk in lit areas or carry a lamp with you.

When driving always remember to:

- Slow down and drive carefully in known pedestrian areas
- In case of pedestrian passage, give priority to pedestrians
- Watch out for cars giving way for pedestrians. Don’t overtake them
- Be extra careful while driving near schools
- Not to stop on the pavement
- Drivers must always remember that roads are for cars and pedestrians alike, and should respect the right of safe passing of pedestrians.

Municipalities have also major roles for the following issues:

- The study and preservation of streets and places in order to be safe for pedestrians
- Taking care of city and town entrances so they would caution drivers that they have entered a populated area and drive slower and more careful
- Installing pavements on all the streets in their town or city
- Making pavement accessible for differently able citizens
- Prevent putting advertisements and merchandise on the pavements
- Installation of lights so that drivers and pedestrians become respectively more visible
- Installation of bridges on wide roads where speeding cars prevent pedestrians from crossing
• The study and implementation of a public transport strategy aiming at lowering circulation on inner roads so that car parking problems – due to insufficiency of parking space – decrease
• Cooperation with road police and interior security forces in the aim of strictly implementing the law.

**II- CHILD SAFETY**

Any child less than 4 years old should be seated in a special seat inside vehicles. Children between 4 and 8 years old should be seated on a special booster seat that elevates the child so that he would be properly fastened by the seat belt. An important step that should be taken is the exemption of child seats and all safety and pollution control equipment in the car from customs or taxes. The price of such equipment is being greatly increased by the high custom fees applied in Lebanon.

When children are properly restrained in a child safety seat, booster seat or safety belt, as appropriate for their age, their chance of being killed or seriously injured when in a car crash is greatly reduced. Strong safety belt and child occupant restraint laws--with no “gaps” that leave some children uncovered--are the most effective way to increase child passenger restraint use and reduce traffic deaths and injuries to children. A properly fitted child restraint system can reduce the potential for fatal injuries by up to 75%; serious injuries by 67%. Although about 80% of all parents in the European Unions do secure their children in child seats, mistakes are being made. Several European surveys have shown that between 50 and 70% of child seats are fitted incorrectly. Also, a significant number of seats are too small for the child in question, thus increasing the risk of injuries caused by road traffic crashes.

European motoring organizations advise parents to install child seats in the back seat wherever possible. In particular, a rearward facing child seat should never be put on the front seat of a car fitted with a passenger side airbag and ideally should be put in the back seat. In the event of an accident the airbag would deploy hitting the back of the child seat with such force that the child would sustain serious or even fatal injuries.

Child seats come in a wide variety of types - baby seats, child seats, booster seats and booster cushions and it is essential that your child is secured in the correct restraint.
III- CHILDREN’S DIFFICULTIES IN TRAFFIC

The following text will serve as a brief summary into the contents of the educational materials for children in primary and intermediate school.

Basically, children and traffic do not match each other. Traffic is mostly planned by and for adults. The difficulties are bigger for the young/small child than for the older/bigger child, but there are some common characteristics in the problems children meet.

A number of factors as follows, could serve as guideline for teachers to become more conscious about children’s situation in the traffic. This material could be produced as transparencies accompanied by a brochure or booklet.

Children are small

This means that they are difficult for other road users to see, and it may be difficult for the children to look over cars, etc. As we cannot do anything about this fact but wait for them to grow up, the responsibility for small children should be up to the adults. Car drivers should learn to watch out for children, parents should train and advice their children where and how to cross streets, where it is safe to walk and play, etc.

Children lack experience

Children must be helped to get some experience. Therefore teachers and parents should focus on giving children age-relevant experiences with real traffic, talk about what they see, talk about other road users they see in traffic, etc.

Children think and understand things that are concrete

It is easiest for children to understand things that are concrete and tangible, whereas abstract matters and explanations could be more difficult to understand. Explanations given to smaller children need to be given in a form that is relevant and close to them. This should be reflected in the material produced for kindergarten and primary school.
Children’s perspective is egocentric

According to psychological experiences children until the age of 12 years have difficulties taking other perspectives than their own. They think, for instance, that when they can see a driver in a car that he also can see them. They have some difficulties in taking the perspective of others, and they cannot imagine things in traffic if they cannot combine it with physical experience, actually being on the site and see the things in the physical surroundings. The relevant conclusion of this statement is that you have to bring the children out in traffic and make observations and practice with them on site.

Children’s attention often goes in many different directions – what they focus on is not always what they should focus on

They are easily distracted by interesting things on the other side of the road, for instance. Or by something they have in their hands, etc. They should be taught that when they are in traffic they should as far as possible focus on the traffic. And they should be helped to find safe routes and safe places to cross. Children in cars should learn proper behavior when coming in and out of a car, considering their own and others safety.

Children are spontaneous – especially when they are in groups

Spontaneity is considered to be a good characteristic. However, in traffic it can be fatal. Children should be advised and trained how to behave and what to look out for when they are in groups. Responsible adults should decide how to handle groups of children. Should they be accompanied or should they be advised to walk only in smaller groups? The children must learn that they are responsible for their own behavior, alone or in a group. They should not rely on their friend’s behavior.

Children have difficulties to estimate distance to and speed of vehicles

They should therefore be trained in estimating when it is safe or not to cross a road and if there is an oncoming vehicle, or how far away they should be from different kinds of vehicles. They should be given good examples and experience concrete situations with different kinds of roads, vehicles, etc.
Children take a long time before they make a decision

This should not be forced. It is better to take good time. However, it must be remembered that traffic in one direction can change while the child is looking in the other direction. They should therefore be advised to take their time, but also be taught to choose alternative routes if some are with too heavy traffic.

Children’s use of the language is different from adults

Educational materials should to a high degree use and focus on the children’s cognitive world of language. Very often adults believe that children will understand orders from adults but orders are often misunderstood by the children or they may not pay attention to what the adult is saying.

Children assume that adults keep the rules in traffic

It is a pedagogical dilemma that adults do not stick to rules but still want the children to do so. At the same time we must teach children to see the risks from other road users. It is not enough to teach rules, especially since far from everyone in Lebanon follows the rules. Hence, the children should learn to “read” the traffic and to be foreseeing.

Children have difficulties with left and right

They may have the perception that the two sides are different, but they are often not skilled in using the right words for them. Educational material should not presume that the children understand the words properly. Therefore they should be advised always to look in both directions.

IV-INJURIES AND BICYCLING

Bicycling is a popular recreational activity and a sound alternative mode of transportation that can reduce traffic congestion and air pollution and entrance physical fitness. Bicycles can also offer a degree of autonomy to going people without access to cars.

As in several countries, bicycle use has seen a significant increase in great Beirut area and specifically in Central Beirut and in many other
cities and villages.

In Lebanon, according to SRF estimation, there are more than half million bicyclists who ride millions of hours per year. Increasing trends in Lebanon are similar to trends developed countries such as Canada, United States and EU countries.

National survey was organized yet in Lebanon, but SRF and YASA Lebanon estimations for Beirut area showed that approximately 70% of young Lebanese in Beirut aged 13 or under use a bicycle. SRF observed that over one – fifth of Beirut population enjoy cycling at least once a month during the summer season.

Although bicycling offer numerous benefits, it does have a negative component as well, that of death and injury related to bicycle use. The public health significance of injuries caused by bicycle use, especially head injuries has been measured in many parts of the world.

In Canada, the annual mortality rate in 1992 for bicycle-related injuries in children was 0.6 per 100,000 (beaulne, 1997). From 1994-1997, almost 10,000 Canadian children were hospitalized because of bicycle-related injuries; 35% of these admissions were because of injuries to the head.

Head injuries cause respectively 55% of deaths and 35% of hospital admissions for bicycle trauma (1993-1995) (Masson, 1998). Minor injuries associated with bicycle use are more frequent than hospitalizations (SSAQ, 1998; Beaulne, 1997), but are not always inconsequential. The social costs associated with head injuries resulting from bicycle injuries are high and add to the extent of the problem.

The circumstances surrounding fatal injuries in young cyclists are clearly different that those that are less serious. The majority of the deaths are the result of a collision with a motor vehicle and they occur most frequently among male cyclists. Non-fatal injuries requiring hospitalization occur in the majority of cases outside of public roadways. That is with no link to a motor vehicle (Masson, 1998; Hamel, 2001).

Generally speaking the risk factors associated with bicycle accidents or injuries can be divided into three categories: environmental factors (physical and social), factors linked to the individual (cyclists) or factors linked to the agent, i.e. the bicycle itself.
**Environment:** the design of intersections has also identified as one of the most problematic elements for cyclist safety, increasing the probability of conflict between cyclists and car drivers (Leden, 1992; Garner, 1994). Other factors linked to the road safety code such as exceeding the maximum speed posted and the consumption of alcohol in excess of the amount allowed for drivers of vehicles can increase the probability of accidents among cyclists (Spence, 1993; Rowe, 1995).

**Individual:** the age and sex of children are factors that influence the probability that bicycle injuries will occur. As mentioned above, boys are over-represented in terms of morbidity and mortality linked to bicycle accidents. Differences in cycling habits and cycling behaviors between sexes can explain this fact. Also, child development makes younger children more prone to fall off a bicycle and lose control of a bicycle or makes them more prone to adopt unsafe behavior (i.e. running a red light or stop sign, entering the roadway between two cars without first looking) (Brown, 1997; Linn, 1998).

**Bicycle:** Factors linked to the bicycle itself rarely contribute to deaths of cyclists and are a triggering factor for the accident in approximately 2.4% of cases of injury in children (Brown, 1997). Defects in the bicycle most often have to do with brake failure, loss of wheels and problems with the chains.

**V-MEASURES FOR PREVENTION OF BICYCLE INJURIES**

In the injury-prevention and safety-promotion arena, the literature highlights several measures against bicycle injuries, which concern risk factors (environment, agent and individual. Passive measures attempt to control the conditions and try to reduce the hazards to which bicyclists are exposed. They are often regarded as abatement strategies capable of leading to considerable risk reduction without putting excessive demands on individual compliance and conscious participation. Road design (lane widths, roadway surfaces, and traffic signs) and cycling accommodation (cycle lane, separate lying cycle track, adjoining cycle track, and cycle track) are considered to be effective manners of preventing the occurrence of injury (crashes). However, active measures are demanding – they can be imposed or encouraged, and their adoption may require a considerable amount of community
work. This kind of measure requires influencing behavior through increased knowledge, skill, and awareness. Bicycle-helmet wearing can be regarded as an active, individual form of protection and it has a strong potential for reducing the risk of bicycle-related head injuries.

Enforcement and education are two strategies used in the attempt to increase and sustain bicycle helmet use. Enforcement is implemented in the form of helmet legislation – and usually follows an educational campaign, as was the case for instance in New Zealand and Australia. Many governments in the world have adopted mandatory bicycle helmet wearing or are in the process of doing so.

The point has been made that the legislation is the most cost effective method to increase bicycle helmet use (Hatziandreu, 1995). A recent Canadian study of the impact of mandatory bicycle-helmet wearing shows that the reduction in the rate of bicycle-related head injuries over a 4-year period was 45% in provinces with the legislation as compared to 27% in provinces without such legislation (Macpherson, 2002).

Otherwise, educational campaigns on bicycle helmet effectiveness in preventing head injury are a popular type of intervention, that can be community-based, school-based, physician-based, or some combination. There are also a number of educational programs with documented success in increasing the voluntary use of bicycle helmets.
YASA Group for Public Safety

With the cooperation of the Scientific Research Foundation.

MEMORIAL
Tribute to Mohsen

In memory of all those who lost their lives due to various untimely injuries that surround all human beings, whether it was domestic, road, school, or others. YASA presents this public safety newspaper. We dedicate this edition to the memory of Mohsen Daher who passed away on January 31, 2001, in a tragic car crash. YASA extends its gratitude to Daher's family and friends who joined YASA since his death and helped us promote safety and injury prevention.

By Ziad M. Alk

EDITORIAL
Safety, a low priority... Until when?

Public Safety is a very wide issue that reaches all the population which makes us at YASA work harder to increase the awareness of the public towards the importance of their safety as well as the various factors that might threaten their safety. Moreover within YASA's work, we also lobby for better law enforcement as well as lobby for the eradication of corruption that might threaten the lives of the people. YASA has worked hard to improve the driving standards as well as the driver license in Lebanon and has identified many threats to the public safety issue. YASA calls on the public to unite in their efforts and think for how long would they be able to continue in this unsafe environment that is threatening all of us.

By Mona Khoul Alk

YASA Agenda
Every Thursday on Tele Lumière & Nour, at 6:00 p.m. (Beirut Time).
Every Friday on MBS radio at 9:00 a.m. (Beirut Time).
Every first Sunday of the month RFL radio at 9:00 p.m. (Beirut Time).
Every Wednesday on Ah TV station at 9:30 a.m. and the news at 4:30 p.m.

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