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TRAFFIC BEHAVIOUR OF SCHOOL CHILDREN IN CAIRO: IMPLICATIONS FOR ROAD SAFETY

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1. INTRODUCTION

Pedestrian environment in many of the urban areas in developing countries is known to be relatively unsafe, and uncomfortable. Several factors contribute to this situation, some are related to the unsatisfactory design and layout of streets, sidewalks and road furniture. Other problems are related to the poor condition of vehicles that travel on the streets. Most importantly, there is a general trend among pedestrians and drivers of non-compliance with traffic rules and regulations. The situation is further aggravated by a deficiency in traffic rules and regulations and a lack of serious enforcement.

Road safety records in developing countries demonstrate that traffic accidents is one of the major causes for casualties. In general, pedestrians are considered to be vulnerable users of the road system specially in urban areas. Furthermore, there are certain types of pedestrians that are highly vulnerable to road accidents. These include: children, the elderly, and mobility handicapped people. The records show that accidents involving school children contribute the highest percentage of the total accidents in developing countries. According to Downing et al. 1993 [3], 24% of fatal accidents in Egypt in 1985-86 involved children under the age of 15 years.

"*It is known that many factors can contribute to child road accidents - such as poor knowledge about the safe ways to use roads, poor road user behaviour, inadequate parental supervision, inadequate training and lack of safe crossing facilities... appropriate ways of advising and educating children in developing countries need to be developed, and this would be aided considerably by more detailed information on children's existing knowledge and behaviour.*", Downing and Sayer 1982 [2].

This research attempts to measure the traffic experience, perception, attitude as well as stated traffic behaviour of school children in Cairo. In doing so, a structured questionnaire was designed to be completed by school children in Cairo. In addition monitoring and observations of the traffic behaviour of school children in front of their schools were also conducted. The research also aims to perceive and identify the constraints hindering the mobility of school children and the traffic hazards they encounter. The paper concludes with a package of policies and remedial measures that are meant to enhance the traffic behaviour of school children in Cairo as well as to improve their pedestrian environment.

2. DESIGN OF THE QUESTIONNAIRE

Traffic behaviour is a consequence of several factors including traffic experience, traffic cognitive skills and abilities, traffic perceptual skills, traffic attitude and traffic knowledge, see Figure 1. The paper seeks to provide measures of some of the factors affecting traffic behaviour of school children in Cairo, namely traffic experience, traffic perception/attitude and traffic knowledge.

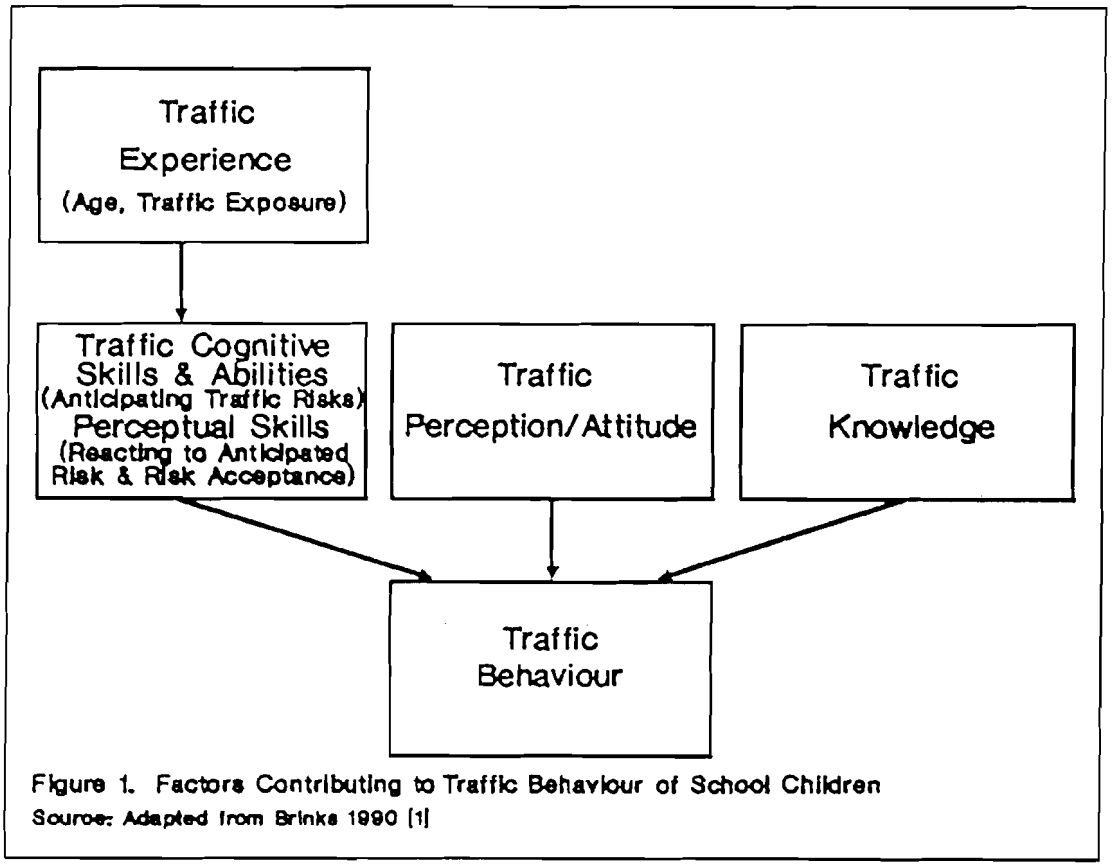

Figure 1. Factors Contributing to Traffic Behaviour of School Children
Source: Adapted from Brinks 1990 [1]

Several techniques can be employed to measure the traffic behaviour of school children as well as to measure the factors affecting this behaviour. Some of these measures include: attitudinal surveys involving open-ended interviews and/or structured questionnaires, pictorial and slide questions as well as video based questions, laboratory tests with a model, observation of simulated conditions on a test track, and observations of real road situations.

In this research, a structured questionnaire was developed to be completed by school children in Cairo. In addition monitoring and observations of the traffic behaviour of school children in front of their schools were also conducted. The purpose of the questionnaire is to provide measures of the traffic experience, perception, attitude as well as stated crossing behaviour of school children in Cairo, (see Appendix for questionnaire details).

The questionnaire was designed to allow children to mark their response in a simple multiple choice manner. The questionnaire went through several piloting stages, where it was discussed with headmasters/headmistresses, teachers, and most importantly tested on a pilot sample of school children. This helped in refining and improving the questionnaire. Certain criteria were taken into account in developing the questionnaire such as being simple, discernible, and attractive.

3. SAMPLE SELECTION AND SURVEY DETAILS

In attempting to achieve the objectives of the research, a stratified random sample of school children was chosen. The targeted sample was chosen to represent different parameters such as affluence and physical planning of districts where schools are located, level of education, schooling system, gender and age of school children.

The first step in the sampling was to identify two districts in Cairo where a number of schools in these areas would be selected for conducting the survey. The two selected districts are Heliopolis and Helwan. The first represents a typical highly affluent well planned residential district. On the other hand, Helwan is one of the most densely populated districts in Cairo. It is considered to be a relatively poor blue-collar area with a large number of factories.

The second step in the sampling procedure involved identifying a number of primary and preparatory schools representing different schooling systems (public, private) in each of the two districts. In doing so, attempts were made to select schools that are geographically distributed to represent different neighbourhoods in each of these districts. In Heliopolis, 9 schools were selected, while in Helwan 11 schools were chosen.

Within each school a third sampling process took place in terms of deciding the number of school children at each grade with which surveys were conducted. A random selection of children at these grades was conducted. In order to determine the sample size necessary to make inferences about the traffic behaviour, and all other related factors, of school children in Cairo, the authors assumed that this behaviour can take the binomial probability. According to this probability, traffic behaviour would be considered in terms of safe/unsafe behaviour. According to McClave and Benson 1988 [7], the following equation can be applied to determine the sample size necessary to make inferences about a binomial probability:

$$n = \frac{4(Z_{\alpha/2})^2(pq)}{W^2}$$

$$n = [4(1.645)^2\,(0.6)(0.4)]/(0.05)^2 = 1040$$

where:

n: sample size required

$Z_{\alpha/2}$: Z value taken here corresponding to a 90% confidence interval

p,q: represent an a priori estimate of the proportion of school children having unsafe and safe traffic behaviour respectively. Based on pilot observations the authors have assumed these to be 60% and 40% respectively.

W: width of the confidence interval

Questionnaire forms were completed by 1615 school children (868 boys and 747 girls) in the presence of the investigators and the school teachers. In some cases, children were left to complete the questionnaire on their own and whenever a child would encounter any difficulty in responding to one of the questions, he/she would be assisted. In other instances, the authors went through explaining question by question with the children, allowing the children time to answer each of the questions. A stratified random sample rate of 1% was achieved, see Table 1.

Table 1. Selected Sample of School Children in Cairo

	Heliopolis District							
	Primary Stage				Preparatory Stage			
	Public		Private		Public		Private	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Population	8000	3600	9518	3982	14000	5000	9300	6100
Sample Size	74	83	49	34	111	96	50	63
	Helwan District							
	Primary Stage				Preparatory Stage			
	Public		Private		Public		Private	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Population	34194	29129	4508	3997	16442	12918	1302	1202
Sample Size	333	300	54	30	184	129	13	12
Sample Rate	Approximately 1%							

4. TRAFFIC EXPERIENCE

An attempt is made to produce some indicators of the traffic experience of school children. As shown in Figure 1, traffic experience is considered to be a function of age as well as of traffic exposure. The older a child is the more likely that he/she has longer experience with traffic. The average age of the sample of children completing the questionnaire was 10 years with a standard deviation of 2 years and a minimum of 6 years and a maximum of 16 years.

4.1 Traffic Exposure

One can look at traffic exposure of school children in two contrasting ways. The first is that the more a child is exposed to deal with traffic, the more traffic experience he/she will gain. This will lead to improving children's cognitive traffic skills and abilities (i.e. anticipation of traffic risks) as well as improving their perceptual skills (i.e. reacting to anticipated risk and risk acceptance). On the other hand, one can say that the more a child is exposed to traffic situations, the more likely that he/she is at risk of becoming involved in a traffic accident.

In an attempt to establish measures for traffic exposure of school children a set of inter-related questions were included in the designed questionnaire. The first question was concerned with determining whether the children perceived their school to be far or near their homes, see Figure 2. The figure shows that 59% of the surveyed children perceived their schools to be far from their homes.

The questionnaire went on to determine how do children arrive to and leave school, see Figure 3. As shown , 65% of the surveyed children come to school on their own and 67% leave school on their own. It could be concluded that most of the surveyed children live far from school and that they come to and leave school on their own. Coming to and leaving school on their own involves a considerable part of children being exposed to traffic. The average age at which children started to come to and leave school on their own was 7 years at a standard deviation of 1 year and a minimum of 4 years and a maximum of 13 years.

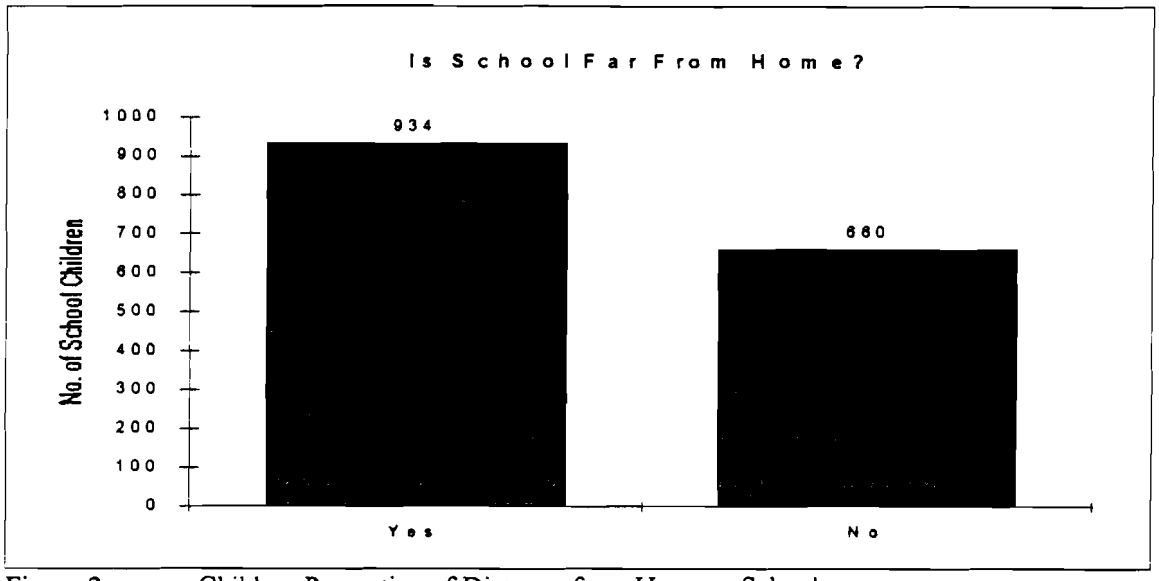

Figure 2. Children Perception of Distance from Home to School

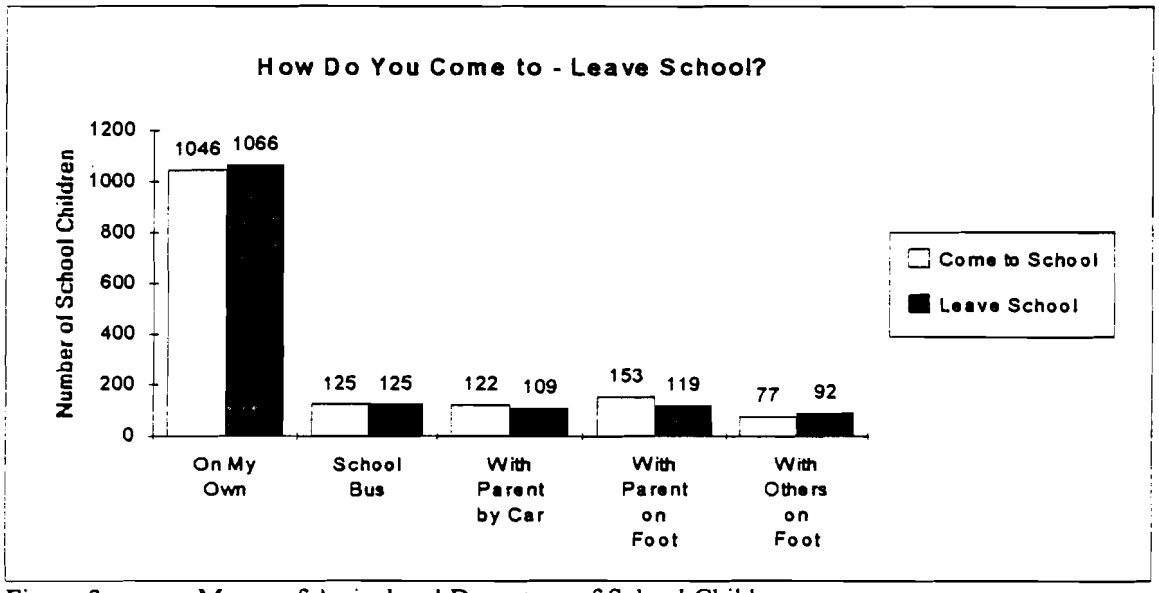

Figure 3. Means of Arrival and Departure of School Children

Discussions with school officials as well as pilot observations revealed that many children arrive early to school. This could be mainly attributed to parents having to travel early to their work and hence preparing their children to go to school at an early time. Figure 4 demonstrates that 49% of the surveyed children come early to school and 12% leave school late. Children arriving early at school and staying inside would not be exposed to traffic. However, it was noted that 76% of surveyed children have a tendency to stand with their friends in front of their schools if they arrive early or leave late from school, see Figure 5. On the other hand, Figure 6 shows that, in case children arriving early or leaving late from school, 36% of the surveyed children feel that they would stay inside their schools because they would not be permitted to stay outside in accordance to their schools' regulations.

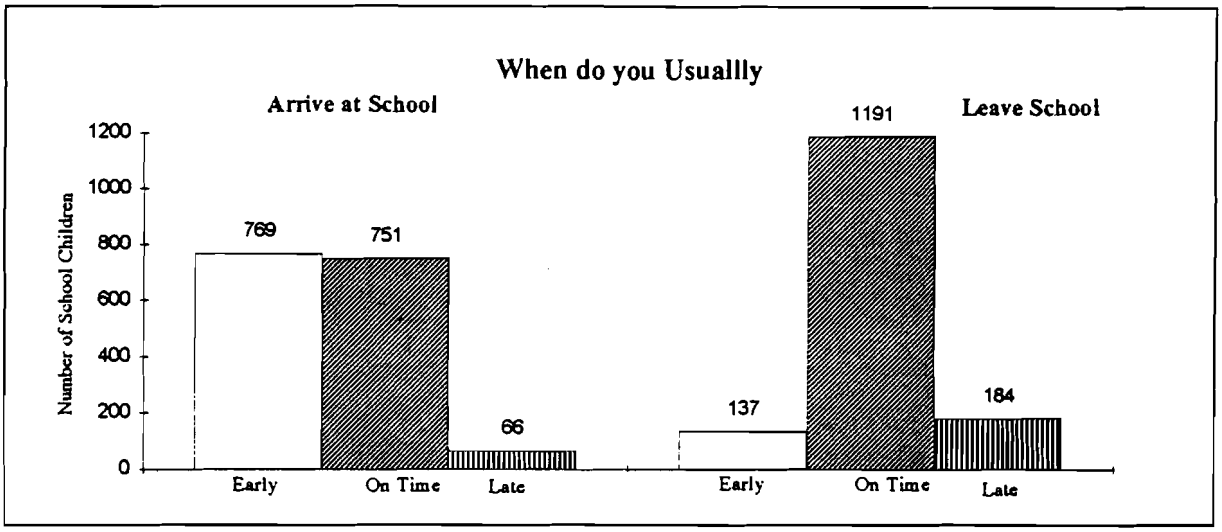

Figure 4. Time of Arrival and Departure of School Children

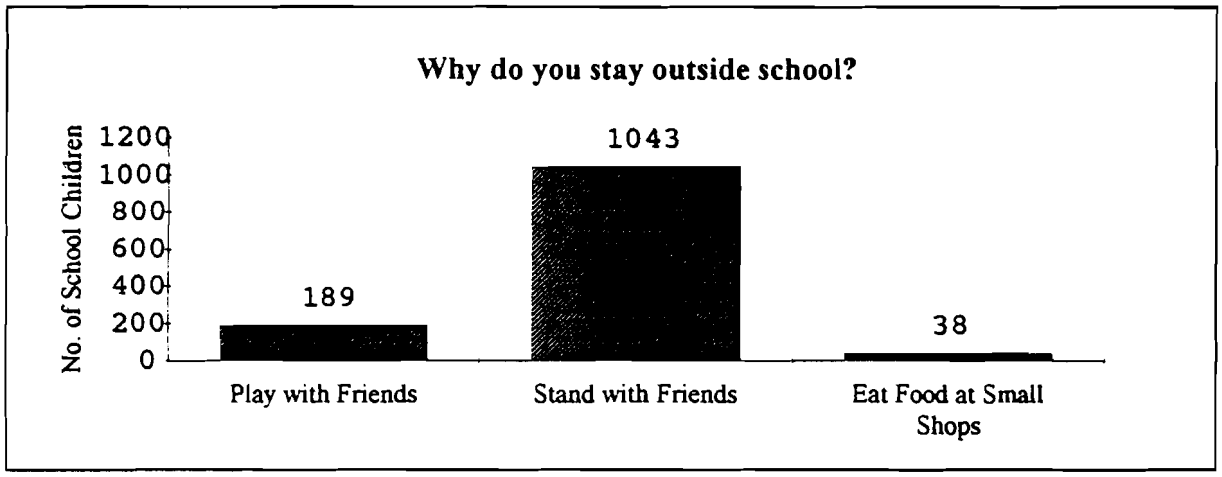

Figure 5. Reasons for Children Staying Outside School

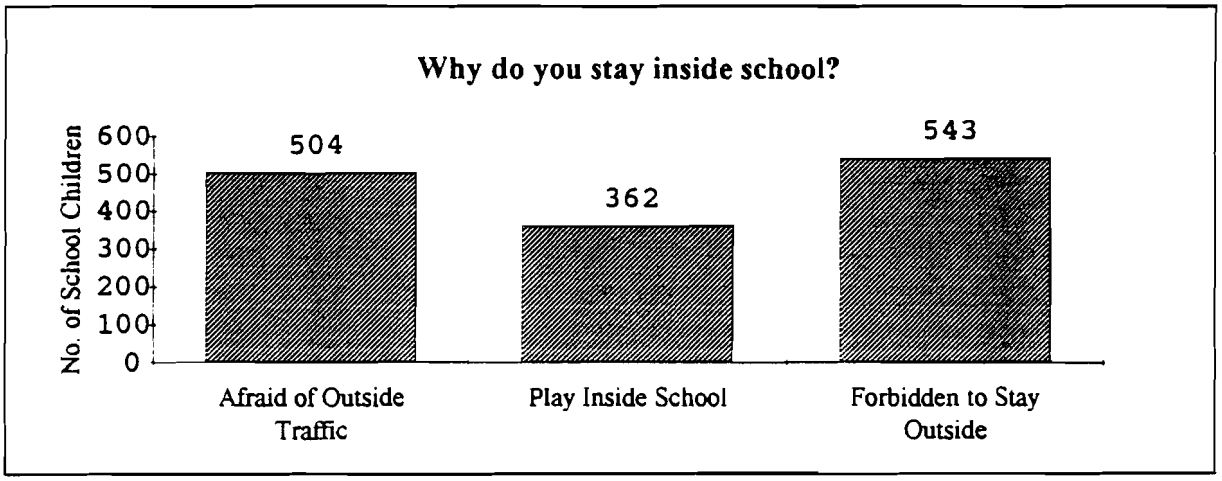

Figure 6. Reasons for Children Staying Inside School

5. TRAFFIC PERCEPTION/ATTITUDE

A feeling of independence amongst the children is indicated where 75% of the surveyed children stated that they like to come to and leave school on their own, see Figure 7. This probably includes children who already come to and leave school on their own, in addition to some other children who feel that they would like to undergo this experience. However, children were not shy to spell out their feeling of fear of traffic on their way to school as well as in front of their schools, see Figure 7. The figure shows that 55% of the surveyed children stated that they are afraid of traffic on their way to school and that 66% stated their fear of traffic in front of their schools. Regarding the reasons behind their fear from traffic, being involved in a traffic accident was cited by 323 children; 236 children stated their fear of cars traveling at high speeds. This demonstrates the probable existence of potential problems in the locations of schools in Cairo and the traffic hazards present in front of these schools.

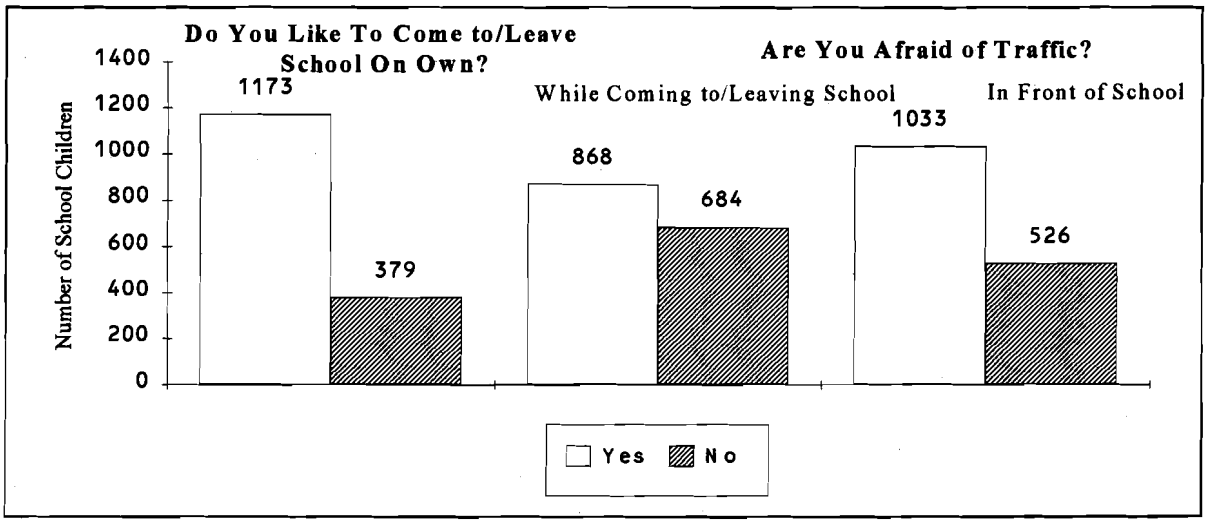

Figure 7. Perception of Traffic By School Children

Despite their feeling of fear from traffic, the general feeling of independence was further emphasised when 73% of the surveyed children stated that they feel they can deal with traffic movement on their own, see Figure 8. The figure also shows that 62% of the surveyed children perceived crossing streets to be easy.

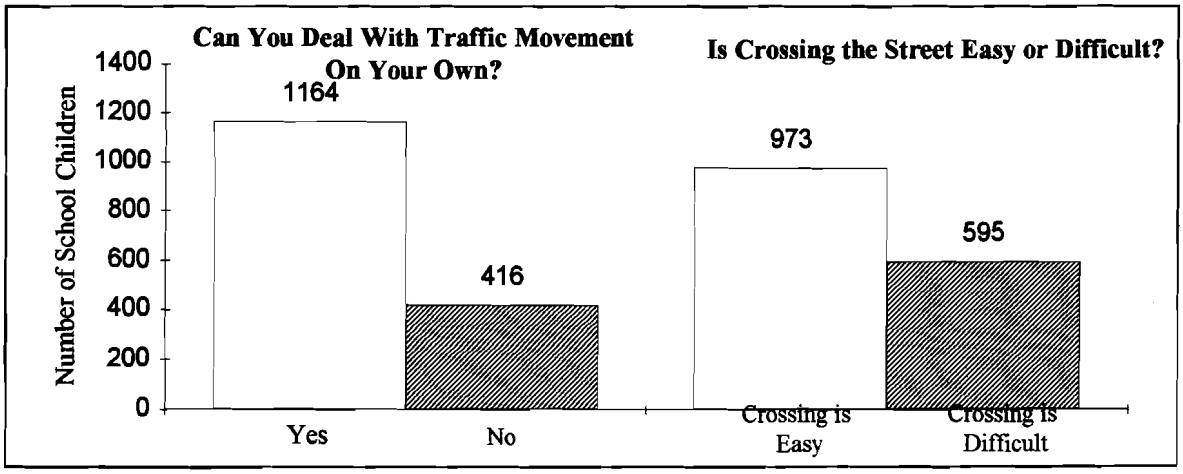

Figure 8. Perception of Crossing by School Children

In response to whether they would look for specific places to cross from, 68% of the children stated they would do that, see Figure 9. In response to whether they would hold hands when crossing streets with other adults, 69% of the children said they would do that, see Figure 9. This demonstrates a positive traffic attitude of school children.

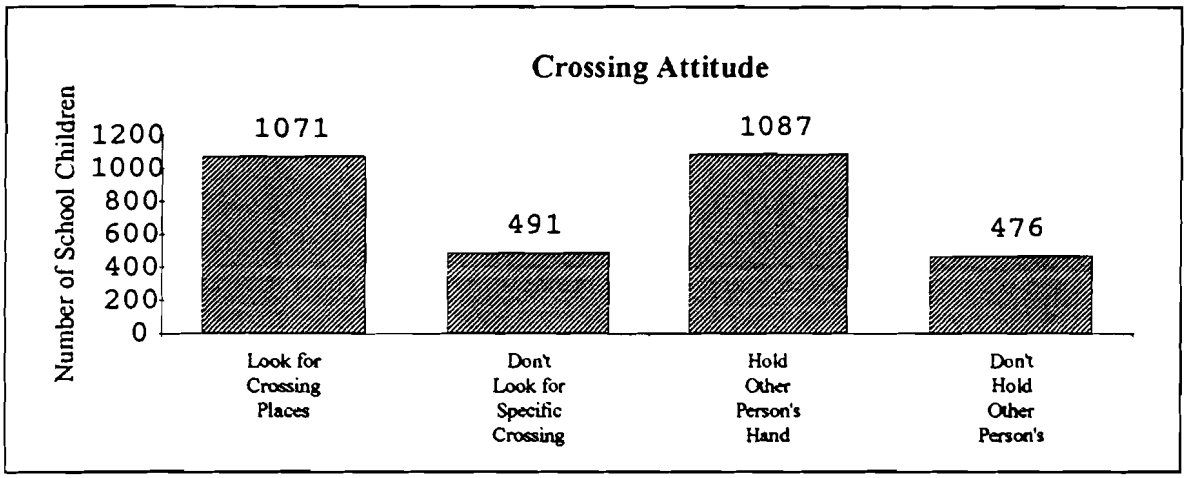

Figure 9. Crossing Attitude of School Children

6. STATED CROSSING BEHAVIOUR (CROSSING KNOWLEDGE)

"Making safe crossing decisions in the presence of oncoming traffic is a very complex task that requires the integration of different types of information and skills" Schagen 1988 [12]. Regarding the frequency of children crossing streets on their own, 52% of the surveyed children stated that they always cross streets on their own, 30% sometimes cross streets on their own, while 18% stated that they do not cross streets on their own, see Figure 10.

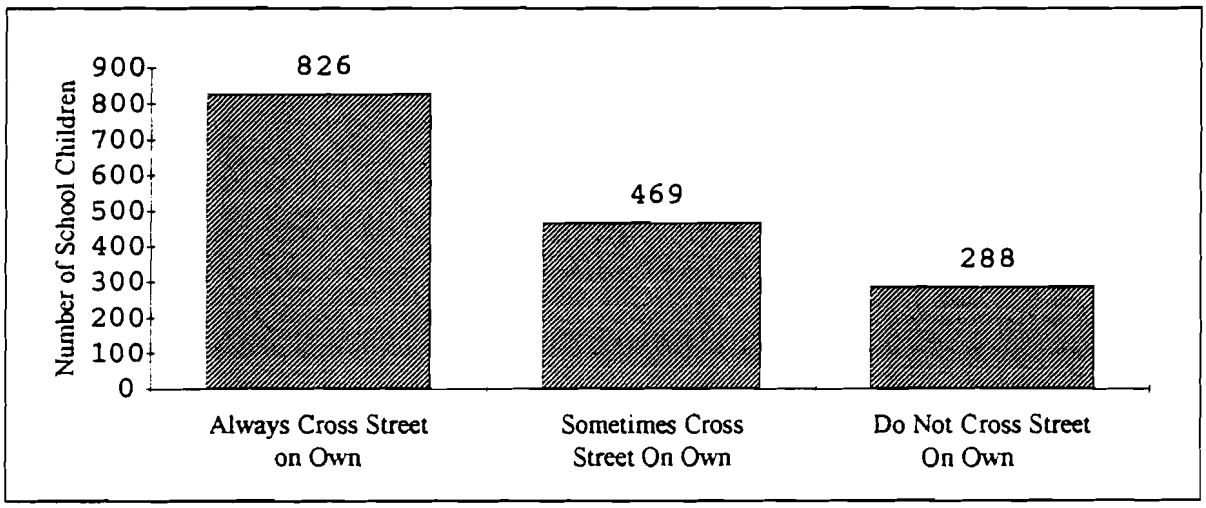

Figure 10. Frequency of School Children Crossing Streets on their Own

Children were asked on what they normally do when they cross the streets. The stated crossing behaviour was assumed to be synonymous of the children's crossing knowledge.
A set of choices were given which include:

- Look to cross
- Make sure traffic is far enough
- Continue to look while crossing
- Cross in a group with other children
- Run

Children were allowed to mark more than one choice. Responses were categorised into four categories:

- Dangerous (unsafe) crossing behaviour
- Imperfect (unsafe) crossing behaviour
- Incomplete (unsafe) crossing behaviour
- Perfect (safe) crossing behaviour

Those children who chose running (3%) were categorised in the dangerous (unsafe) crossing behaviour. Those children who made only one choice of the other stated choices (68%) were categorised in the imperfect (unsafe) crossing behaviour. Those children who chose to look to cross and to make sure traffic is far (11%) were categorised in the incomplete (unsafe) crossing behaviour. Lastly, those children who chose to look to cross, to make sure traffic is far enough and to continue to look while crossing (9%) were categorised in the perfect (safe) crossing behaviour. Figure 11 demonstrates that the majority of the surveyed children lay in the category of imperfect crossing. This leads us to suggest that there is a big deficiency in the traffic knowledge of school children in Cairo. Preusser and Lund 1988 [9] state that the primary cause for young children accidents is that they do not stop at kerbs and look for cars before crossing the road.

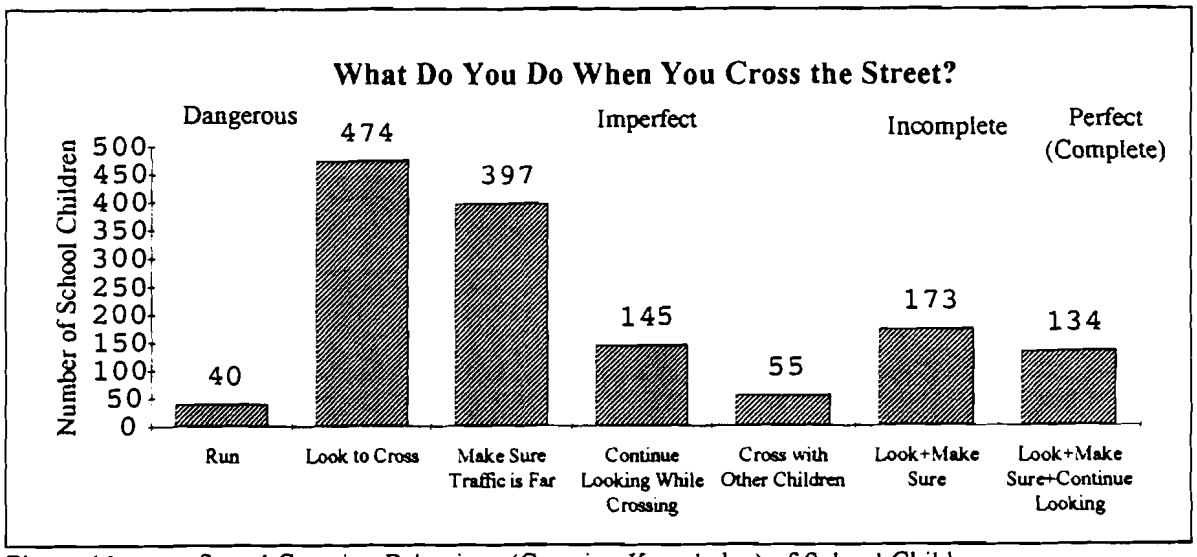

Figure 11. Stated Crossing Behaviour (Crossing Knowledge) of School Children

The questionnaire was concluded by a question through which an attempt was made to infer the involvement of different parties towards the teaching of school children on how to deal with traffic. Parties listed include: parents, school, club, television, other. Children were allowed to mark more than one choice. Figure 12 demonstrates that 30% of the children stated the involvement of their schools, 21% stated the involvement of their parents, and 15% stated the involvement of their schools and parents.

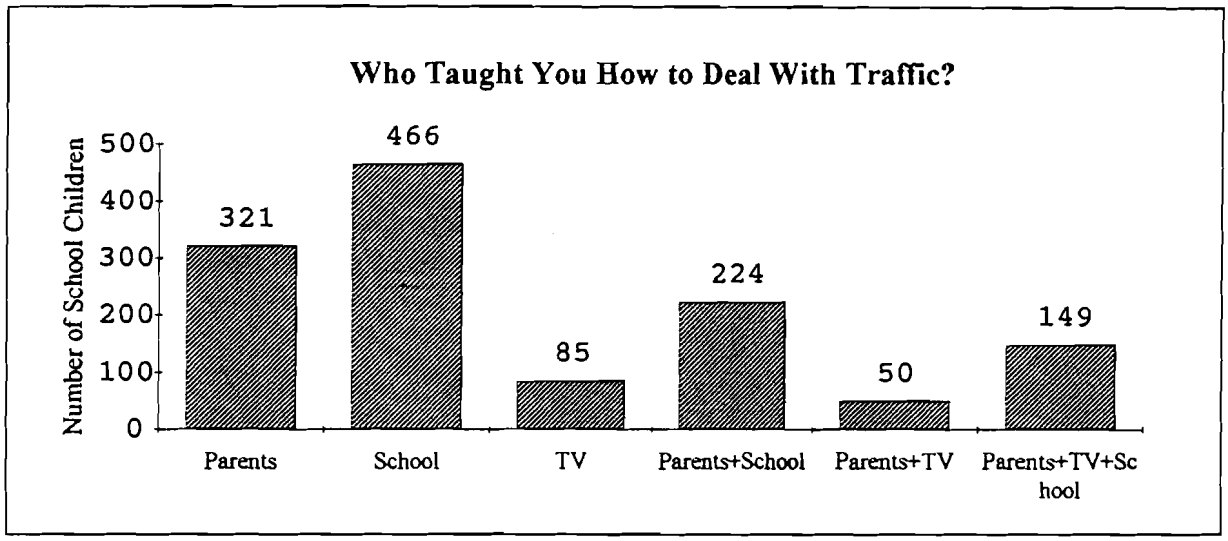

Figure 12. Parties Involved in School Children Traffic Education

7. POLICIES AND MEASURES FOR IMPROVING ROAD SAFETY FOR SCHOOL CHILDREN IN CAIRO

Based on background gained from the survey, interviews conducted with school headmasters/headmistresses and teachers, as well as reviewed literature, a set of policies and measures are suggested. These policies aim to enhance the traffic behaviour (traffic experience, traffic cognitive skills and abilities, traffic perceptual skills, traffic attitude and traffic knowledge) of school children in Cairo. Points raised during meetings with headmasters/headmistresses and teachers included: perception of the problem of traffic safety for school children specially in front of the schools, extent of safety education at school (material, number of hours), school measures to reduce potential traffic hazards in front of their schools, .. etc.

7.1 Government Policies and Measures

* In most schools, children receive a very limited traffic education. This might come in an indirect form as part of the curriculum of some subjects and sometimes through the morning school broadcast. Road safety should be a separate subject at all schools. Road safety teaching should cover topics such as: where to play safely, how to cross roads, understanding traffic signs and signals, getting to school safely, identifying local dangerous spots, seeing and being seen by traffic, judging distances and speeds, etc.

* A strong government commitment towards road safety education and training at schools is needed. The ministry of education should focus its efforts towards designing attractive educational and training materials. This includes: posters, leaflets, booklets, brochures, slides, films, videos, stories, road safety quizzes, etc., "*It is doubtless true that designing effective road safety training or publicity materials for children is in a sense an art, yet it is also an area where specialized experience and research can make considerable contribution*", Sheppard 1981 [15]. Over the past years, a range of project materials for teaching road safety education has been developed and produced, see Jolly 1977 [6], Schools Council 1977 [13] and 1983 [14], Ingram and Ingram 1983a [4] and b [5]. In the OECD 1986 [8] report, an extensive evaluation of road safety education was carried out.

* Road safety training should be compulsory in schools. "*Traffic safety education should offer sufficient opportunity to practice the acquired knowledge in order to speed up cognitive processing and form favourable attitudes. While practising, however, there has to be some form of feedback with respect to what has been done wrong and why it was wrong*", Brinks 1990 [1]. According to Russam 1975 [11] "*It is increasingly being argued that what is needed is a new professional teaching effort to ensure that lessons in traffic safety should be a normal regular part of a child's education for citizenship of the modern world*".
* Traffic gardens that simulate the real street conditions should be developed. Children can be trained, through role play exercises, on how to deal with traffic situations. In addition, children should be taken to suitable real road sites to learn and experience road safety.
* Promoting and raising the society awareness of the potential traffic hazards and problems encountered by school children. This can be achieved through mass media campaigns aimed at promoting drivers' safety consciousness and parental responsibilities. Drivers should be extra-cautious and aware when driving near schools and parents should educate, train and prepare their children from an early age on how to deal with different traffic situations.
* Integrating and coordinating the roles that should be played by the different parties responsible for educating children on traffic safety. These parties include: ministry of education (schools), parents, police officers, traffic safety experts, ministry of information (mass media including television, radio, newspapers). This can be achieved through establishing a National Safety Institute responsible for conducting studies on how to improve safety in our society including road safety. These studies should be translated into a set of policies and implementable solutions.

7.2 Schools' Measures

* Schools should attempt to choose their entrances to be at lightly trafficked side-streets as well as stagger and select off-peak traffic hours for the start and the end of the school day.
* Schools should keep their gates opened from early morning before the starting school hours and until late evening after the end time of the school day. This is meant to give those children arriving early and leaving late from school the chance to stay inside school rather than hang around in front of their schools and be exposed to potential traffic hazards. Children should be prohibited to stay outside their schools.
* Schools with school bus fleets should separate children using the school buses and those children picked up by their parents. This would relieve congestion and reduce hazardous situations at start and end times of school days.
* If space allows, schools are advised to allocate parking spaces for school children parents who come to pick up their children.
* On dropping children from school buses, bus drivers should ensure dropping children on the right side. In case this is difficult, the bus teacher should escort the child while crossing the street .
* Most of the schools in Cairo have a limited playground space. This hinders the running and playing of school children inside their schools. Children thus tend to play in front of schools. It was also observed that children tend to leave their schools in running groups, unaware of the traffic in front of their schools. Entrances to schools should be located on side streets. Warning signs and speed humps should be placed in front of schools.
* Many headmasters/headmistresses and teachers mentioned a hostile tendency in the behaviour of some of the children, specially boys. They attribute this to several factors, but mainly due to the violent nature of movies displayed in television and cinema. This affects the traffic behaviour of school children in terms of children pushing each other sometimes in front of approaching vehicles or parked cars, and children being intentionally reckless towards approaching cars. Television programmes should be screened for unsafe behaviour.

7.3 Role of Traffic Police and Traffic Safety Experts

* Strong and adequate enforcement of traffic laws in front of school entrances. This should include prohibition of parking in front of schools' entrances and crossing points as this creates a hazardous situation both for school children attempting to cross streets behind parked vehicles, as well as for car drivers not seeing children while attempting to cross from behind parked cars. In addition, drivers should be enforced to ensure abidance to speed limits, and heavy vehicles access should be strictly controlled, ..etc.
* Crossing police patrols to be located at busy crossing points to assist children to cross these roads while coming to and leaving their schools.
* Inclusion of instructions on how to drive in front of schools in traffic education booklets accompanied by more stringent driving tests.
* A common phenomenon in front of the schools in Cairo is to see petty sellers standing in front of schools and small stalls occupying the schools' sidewalks and obstructing the footways. In addition to the obvious health hazards, this creates a hazardous traffic situation as children tend to gather around these people in an incautious disorganized manner that might expose them to the danger of approaching traffic. Petty sellers and hawkers should be thus prohibited from standing in front of schools.
* Frequent programmes of road safety talks to be given by traffic police and traffic safety experts at schools.
* Involvement of traffic safety experts in developing educational and training materials as well as in giving talks and lectures. This is meant to instigate a feeling of awareness of the society towards the importance of providing a safe pedestrian environment for all and specially for our children. According to Spear and Singh 1989 [16], tutors in the United Kingdom colleges and departments of education stated that the main aims for road safety taught at schools should be to keep children safe and alive, increase their awareness of the dangers of roads and traffic, teach them the basic rules of road safety and that attention should be devoted to behaviour not just knowledge.

7.4 Engineering Related Measures

* Traffic calming measures including speed control humps, rumble areas, rumble strips and jiggle bars and school warning signs should be installed, and continuously maintained, in front of all school entrances.
* Street closure or limiting access in front of schools should be considered. "*Street closures of various types can be effective in reducing accidents.. creating a safer environment for pedestrians, especially children*" , see Ross et al. 1991 [10].
* All physical measures that can improve the pedestrian environment for school children should be pursued. These include improved footways (wide and even), improved crossing facilities (staggered pelican crossings, median barriers, refuges, guardrails/fences), ..etc. According to Russam 1975 [11] "*segregation of vehicular and pedestrian traffic, better planning of residential areas where accidents to young children are common and improvements to vehicle design all make a contribution.. perhaps the ultimate solution to the problem of reducing road accidents to children and indeed to all road users lies in the provision of new transport facilities and better layout of our towns and cities. It is however a sobering fact that this problem will be with us for many years to come and the need to help children in existing urban areas will still require considerable research in the design and use of countermeasures*".
* Land-use and transport planners should be heavily involved in determining the location and distribution of schools among new residential areas. This should be carefully planned and coordinated to avoid all the current problems that exist in Cairo as a result of uncoordinated planning. Newly developed cities around Cairo provide a potential for choosing safe locations for schools, and building new schools with substantial spaces allocated for play grounds.

8. SUMMARY AND CONCLUSION

This research attempted to measure the traffic experience, perception, attitude as well as stated traffic behaviour of school children in Cairo. In doing so, a structured questionnaire was designed to be completed by school children in Cairo.

In attempting to achieve the objectives of the study, a stratified random sample of school children was selected. The sample was chosen so as to represent different parameters such as affluence and physical planning of districts where schools are located, level of education, schooling system, gender and age of school children. Questionnaire forms were completed by 1615 school children at a sampling rate of 1%.

The following presents a point summary of the analysis results of the survey conducted:

* The majority of the surveyed children perceived their schools to be far from their homes.
* Most of the surveyed children come to and leave school on their own.
* The age at which children started to come to and leave school on their own is as low as 4 years at an average age of 7 years.
* Surveyed children have a tendency to stand with their friends in front of their schools if they arrive early or leave late from school.
* A feeling of independence amongst the children is indicated where 75% of the surveyed children stated that they like to come to and leave school on their own.
* The majority of the surveyed children stated that they are afraid of traffic on their way to school as well as in front of their schools.
* Regarding the reasons behind their fear from traffic, being involved in a traffic accident was cited by 323 children; 236 children stated their fear of cars traveling at high speeds. This demonstrates the probable existence of potential problems in the locations of schools in Cairo and the traffic hazards present in front of these schools.
* Despite their feeling of fear from traffic, the general feeling of independence was further emphasised when 73% of the surveyed children stated that they feel they can deal with traffic movement on their own.
* 68% of the children would look for crossing places, while 69% of the children would tend to hold hands when crossing streets with them. This demonstrates a positive traffic attitude of school children.
* Most of the surveyed children stated that they always or sometimes cross streets on their own. Only a few stated that they do not cross streets on their own.
* The vast majority of school children surveyed are categorised as having imperfect and dangerous crossing behaviour. Only a small percentage (9%) were categorised as having a good safe street crossing behaviour. This indicates a big deficiency in the traffic knowledge of school children in Cairo.
* Regarding the involvement of different parties towards the teaching of school children on how to deal with traffic, parents and schools were cited as the major parties involved.

The paper concludes with a set of suggested policies and remedial measures that are meant to enhance the traffic behaviour of school children in Cairo as well as to improve their pedestrian environment. These are discussed under the headings: government policies and measures, schools' measures, role of traffic police and traffic safety experts, and engineering related measures.

Future research would attempt to establish whether traffic behaviour, and other contributing factors, of school children in Cairo are affected by:

- Affluence and physical planning of districts where schools are located.
- Levels of education.
- Systems of education.
- Gender of school children.

A traffic inventory describing the environment in front of schools' main entrances should be developed. Future research should attempt to identify and define the adequate desired traffic behaviour for school children in Cairo and hence the adequate desired levels of each of the factors contributing to traffic behaviour. The expected gap between the actual levels of traffic behaviour and the factors affecting it and the desired levels can then be identified both in a quantitative and qualitative terms. School children should be monitored in real world situations in front of their schools. This can be achieved by personal documented observation and/or monitoring using video cameras. These observations together with the interpretation of the video films recordings can be analysed for the purpose of inferring the pattern of actual traffic behaviour of school children as well as the difficulties that limit their mobility and the traffic hazards that they encounter.

It is crucial to value traffic accidents so as to economically evaluate the worthiness of remedial measures for improving traffic safety. In valuating school children traffic accidents, several quantitative as well as qualitative factors ought to be considered. Basically the notion of "Children being the Future of Tomorrow" has to be emphasised.

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APPENDIX

QUESTIONNAIRE FORM

* Child
  Boy
  Girl
*Age of child

School Journey

1. Is school far from home?
   Yes
   No

2. How do you come to / leave school?

	Coming to school	Leaving school
On my own**		
School bus		
With my parent in the car		
With my parent on foot		
With other person on foot		
Other, please mention		

** Age first permitted to come to / leave school on your own?

In Front of School

3. When do you usually arrive at / leave school?

	Arrive at school	Leave school
Early		
On time		
Late		

4. When you stay outside school, why do you stay outside school?
   Play with friends
   Stand with friends
   Eat at small shops

5. When you stay inside school, why do you stay inside school?
   Afraid of cars outside school
   Play with friends inside school
   School does not permit staying outside

General

6. Do you like coming to / leaving school on your own?
   Yes
   No

7. Are you afraid of the movement of cars while coming to / leaving school?
   Yes Why?
   No Why?

8. Are you afraid of the movement of cars in front of school?
   Yes Why?
   No Why?

9. Do you feel that you can deal with the movement of cars on your own?
   Yes
   No

Crossing streets

10. Is crossing the street:
   Easy
   Difficult

11. Do you choose certain places to cross streets?
   Yes
   No

12. When you cross the street with another person do you hold his/her hands?
   Yes
   No

13. Do you cross streets on your own?
   Always
   Sometimes
   No

14. What do you do when you cross the street? (More than one choice can be marked)
   Look to cross
   Make sure traffic is far enough
   Continue to look while crossing
   Cross in a group with other children
   Run

15. Who taught you to deal with cars in the streets? (More than one choice can be marked)
   Parents
   School
   Club
   Television
   Other