

# **PLANNER'S STREET SMART (PSS) IN MALAYSIA**

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## **ABSTRACT**

This paper focuses on the idea of creating programmes for developing safe-walking routes to school especially for primary schoolchildren. In the process of the research, Inputs were gathered from students, parents, teachers, and the police to determine the preferred walking routes to school. Inputs from these parties are also beneficial in identifying hazards and obstacles along the routes. Following the determination of routes and identification of hazards and obstacles, local authorities, working collaboratively with affected parties and technical departments and agencies, can seek solutions to ensure safety along those routes. Solutions can be of short-, medium-, and long-terms. Proposed solutions might include extending the duration of pedestrian crossing signals, improving signages, improving visibility along routes, and traffic calming. A 10-step process in developing safe walking routes to school will be laid-out in this paper. The proposed process is synthesised from successfully implemented project abroad.

## **KEY WORDS**

SAFE ROUTES / WALKING / PEDESTRIAN PLANNING / LOCATING SCHOOL / SCHOOL

## **1. INTRODUCTION**

Every Monday morning, Ms Siti and her son set out from their house on their daily walk to Sekolah Rendah Agama Kg. Datuk Keramat (Kg. Datuk Keramat Primary School), in the Federal Territory of Kuala Lumpur. At about the same time Ms Azna, Ms Safiza, Ms Lela and hundreds of other parents who stay in Kuala Lumpur, walk with their children to their neighborhood schools. At the same time they also walk with thousands of other vehicles along the street. They start to encounter 10 vehicles just after her son began to put on his shoes. Then 10 to 50 vehicles more will go by while they are walking along local and collector roads. Next, hundreds and more will face them at collector cum highway based capacity roads. They may walk at different streets to different schools but they share the same concern: crossing the street safely. What can they do to ensure their safety? What can transport planners do? What is the role of traffic engineer? How about planners? Are there any avenues that they can work together to solve the problem? Who should make the decisions? A conglomerate of questions can arise as a result of these situations everyday.

## **2. PLANNER'S STREET SMART : A GLIMPSE'S CONCEPT**

Some of the questions posed above, can be solved through Transportation Planning Approach (TPA). By integrating land use planning and transportation network as well as linkages, pedestrian-vehicle conflict can be reduced during morning peak hours. Good school locations and segregating work trip's vehicles are among some of the effective measures. Other measures can also include safety policy formulation, social consideration of planning and planning of community area. Thus, community involvement is an important element that needs to be considered.

Besides that, Traffic Engineering Approach (TEA) such as traffic calming, travel demand modelling, model split, trip assignment, road aligning, etc are other effective measures. All these measures can be effective in changing driver's behavior on the roads to ensure the safety of pedestrians. However, the issue is how to integrate both TPA and TEA approaches, and in what form they can work together.

PSS is proposed as a tool to provide a platform for TPA and TEA to work and deliberate ideas together. PSS allows planners, traffic engineers and community (pedestrian or end users) to sit together and find the best solutions to improve safety in the community/neighbourhood areas. Few daily/seasonal programmes such as Friday-Noon Gathering Parking Plan, Night Market Traffic Control (weekly programme), Citra Warna Transport Management (for tourism promotion), Independence Day Celebration Traffic Control, Festive Season Highway Management, Safe Routes To School Programme, Safe Routes From School Programme, etc, are among plans or programmes that deserves careful consideration. The idea is, while we are implementing these programmes, the safety of community needs to be maintained and traffic flows are not disrupted. The SAFE ROUTES TO SCHOOL programme is chosen for being further explained.

## **3. SAFE ROUTES TO SCHOOL(SRTS) : AN APPRAISAL**

Under gazetted guidelines and various practices, we try to build and operate safe routes and streets. However, why accidents still occur on roads that are considered to be safe? Some studies conclude that potential travel impacts are much greater if pedestrian improvements are part of smart growth that increase accessibility (Comsis, 1993; Apogee, 1994 in VTPI, 2003), for example, by locating schools within residential neighbourhoods. Accordingly, in Malaysia, human factor has been identified as the main cause of accidents. It was confirmed from Enforcement Operation # 5, in year 2000, 99 cases out of 199 deaths of total accidents (which is  $\pm 50\%$ ) were due to speeding and pedestrian's attitude (Royal Police Dept., 2000: also refer to Table 1.0). In addition, from year 1993 to 1999, out of 390 828 cases, 44,272 of them are involved pedestrians (refer to table 2.0).

Accordingly, blame-the-victim approach still cannot reduce the number of accidents. Instead of blaming the victim, planners and traffic engineers should look into safe infrastructures and on the road safety programmes. However, public with higher awareness have diverted the approach into blame-the-professional approach. The transport planners can use various transportation management devices such as evaluating non-motorized travel conditions to address any barriers or problems in encouraging parents to reduce automobile trips to school. Besides some other reasons, a proper transport planning around school programs can be cheaper than increasing parking capacity, dealing with local traffic congestion and providing school bus services (VTPI, 2003).

Table 1 - Factors of Fatal Accident of Enforcement Operation # 5, 2000

<b>NO.</b>	<b>FACTOR</b>	<b>DEATH</b>
1	Pedestrian's attitude	17
2	Speeding	81
3	Over taking	21
4	Turning at junction	24
5	Less concentration	24
6	Reverse direction	16
7	Under drug/alcohol influences	0
8	Others	16
<b>Total</b>		<b>199</b>

Source : Royal Police Department, 2000

Table 2 - Injury and Death Toll by Users (type of transport), 1993 – 1999

<b>NO.</b>	<b>TYPE OF VEHICLES</b>	<b>INJURY</b>	<b>DEATH</b>	<b>TOTAL</b>
1	Motorcycle	241 485	23 082	264 567
2	Car	41 550	5 638	47 188
3	Pedestrians	39 715	4 557	44 272
4	Bicycle	17 628	2 127	19 755
5	Lorry	7 319	1 325	8 644
6	Bus	5 442	505	5 947
7	Others	8 015	2 440	10 455
<b>Total</b>		<b>361 154</b>	<b>39 674</b>	<b>400 828</b>

Source : Royal Police Department, 2000

Hilman (1993); Adams and Hillman (1995); EC (2002) (in VTPI 2003) stated that, walking and bicycling to school are also opportunities for children to explore their community, develop social skills, and experience increasing independence and responsibility as they become older. So, the idea of SRTS is how to integrate traffic engineering aspects and social planning aspects when it includes traffic safety, speeding, etc. Again, the fulfilment of community needs and requirements with ideas from professionals can make the programme to be successfully implemented. That is how the SRTS is justified.

#### **4. SAFE ROUTES TO SCHOOL : A CONCEPT**

SRTS is designed to ensure the safety of primary school children. This will involve students, parents, teachers and the police in determining preferred walking routes to school. They will identify which routes that are hazardous and also the obstacles along them. Following that determination of hazards and obstacles, local authorities, working collaboratively with planners and traffic engineers, will devise solutions to ensure safety along these routes.

#### 4.1 Education vs SRTS

In Malaysia, Petronas Dagangan Berhad (Petronas Trading Ltd; *PDB*) is the pioneer private company introducing PETRONAS Street Smart programme since June 2001. This 'fun learning' programme provides an opportunity for children and their parents to learn about road safety through mobile exhibition and many interactive games that simulate real situations on the road. Their aims are to educate children to be responsible and caring road users. The PETRONAS Street Smart mobile exhibition team will travel to meet the public around Peninsular Malaysia. At the exhibition, a simulated road system and traffic situation will be set up to give the children the chance to experience being on road and identify problems associated with driving.

At the same time, PDB is also collaborating with the media to produce interactive activities to enable children throughout Malaysia to participate in the programme. Apart of this partnership are special workshops organised to assist teachers to incorporate aspects on road safety into lessons in the classroom.

However, the question is how many times do we expect our children to participate in this programme? What is the output and how to ensure the knowledge apply in their daily life? Back to the concept of human error, accident still occurs. This so called transport management programmes around school are usually initiated by school authorities, parent organizations, or students, often as a response to traffic and parking problems (VTPI, 2003).

#### 4.2 Traffic engineering vs SRTS

In contrast, traffic calming planning and engineering has been proven in decades to reduce both the number and severity of pedestrian (children) crashes. Traffic calmed streets are able to slow down the speed of vehicles and allow greater time to react to unexpected situation. According to Wallwork (1993) (in Institute of Transport Engineers, *ITE*, 1993), through and serious traffic calming measures can effectively reduce child pedestrian accidents. This is true because children are much lesser careful than adults and far more vulnerable to injuries from speeding vehicles.

#### 4.3 Transportation planning and SRTS

Calvin, 1993 (in *ITE*, 1993), said that, from the three major elements in transportation system (man, machine, highway), it is the driver who almost always contributes one or more causes of the accident chain. However, residents and community still assumed that their street must be:

- a. safe for their children as well as themselves;
- b. a place where people have freedom of movement;
- c. a quiet place devoid of through traffic; and
- d. a place where vehicles travel slowly, sharing the space with pedestrians and cyclists while their children are walking to school.

Some reasons of accident have little to do with traffic calming. For instance, some children have been hit while walking on the road because there are no sidewalks. Other examples, involve walking on sidewalks that are built without a curb that can act as a barrier to split vehicles, or crossing the road to get to the other sidewalk. Children still depend on their

parents to cross or walk safely along roads. Children who walk and play on streets without sidewalks are not aware of the dangers involved in sharing the street with vehicles.

## **5. COMMUNITY INVOLVEMENT AND SAFE ROUTES TO SCHOOL(SRTS)**

In Copenhagen, Denmark the SRTS programmes, the improvements of traffic calming projects, produced an outstanding 85% reduction in child-pedestrian-motor vehicle crashes (Transportation Alternatives, 2002). Similarly in New York City, local parents and school principals have been very active in lobbying for school safety improvements. Japan's community street planning, under 3<sup>rd</sup> Safety Improvements 5 years Plan, 1981 has formed traffic environment through which pedestrians can pass and cross the streets safely and comfortably. In all the programmes, engineering approach such as installing crosswalks; school zone signs; narrowing road at intersections; placing a four way stop sign; fixing bollards; widen sidewalks and vehicles guidance have been installed in areas which have hazards and obstacles on children (Tsukio, 1984). Before that, the crashed data was mapped with statistics from the observations and experiences of parents. Apparently, this degree of community involvement has improved in development planning but still lacking (Transportation Alternatives, 2002). Transportation planning (community planning) and traffic calming (traffic engineering) can be effectively combined to create safety for our children to walk to school.

## **6. SAFE ROUTES TO SCHOOL(SRTS) : PROGRAMMES AND METHODOLOGY**

The SRTS programme was first developed in Copenhagen, Denmark in the early 80's and culturally accepted in the United States. SRTS has been so popular that schools and parents are really willing to participate. In Bronx, they set up tables outside central church and delivered surveys to entire residential buildings. Ultimately, parents collected over 200 surveys listing traffic dangers to their children. The SRTS programme can be conducted by a public interest group, Department of Transportation, planning group or school system. What is important is that, a project coordinator has the backing of a powerful institution that allows him or her to bring together interested parties and work with them to produce a sense of belonging in the SRTS. This will ensure the community to be aggressively pursue their own SRTS campaign(Transportation Alternatives, 2002). 10 steps (Transportation Alternatives, 2002 with some amendments) to SRTS are listed below;

### **1. Identify Prospective Schools**

Schools will be identified through observations and discussions with local schools authority, local authorities, district police department and community board, i.e. Village Development and Security Committee (JKKK). The purpose is to easily obtain the list where the local community will propose the problematic school.

### **2. Select Schools**

After the list is reviewed, the schools that have a high rate of accidents will be short listed.

### **3. Initial Contact with Schools**

The coordinator will meet the principal, or any school representatives i.e Teachers and Parents Club (PIBG), explain the project and seek their help in organizing more meetings with parents. Perhaps, meeting notices can be sent home with children or mailed to parents.

#### **4. School Outreach**

At the meeting with parents, which will be held during weekend, the project coordinator explains about the program. Parents will be asked for their help in identifying problem spots while they are walking with their children to the school completing survey forms.

#### **5. Distribute Surveys / Parents Identify Walking Routes**

The coordinator will distribute survey forms to parents. The surveys include a map of the area around the school, on which the parents are asked to draw a line showing their usual walking route and indicating hazards on that route.

#### **6. Surveys Collated / Routes Matched With Crashes**

The pedestrian desired paths, the walking routes from the surveys are drawn on a master map to determine the most popular routes.

#### **7. Site Tour**

At this point, the schools and parents are involved in the project. Now it is time to bring in the DOT for a tour of all the school sites.

#### **8. Proposal**

At the conclusion of the site tour, the project coordinator collects briefing books and solution sketches in a master proposal. This proposal goes to the chief DOT planner for comments.

#### **9. Installation**

DOT begins installation of recommended traffic calming devices, such as speed humps and elevated crosswalks.

#### **10. Follow up**

Three to six months after the installation of the traffic calming devices the project coordinator will return to the schools and follow up with principals and parents. After a year, before and after crash histories will be compared and further modifications made if needed.

### **8. CONCLUSION**

The results of this study can be applied to areas, such as around the primary school, that have no traffic control and transportation management system. Thus, the area may also include schools- that are located near to collector road or main street. Hence, some planning aspects from this study such as planning of pedestrian walkway and location of school could be easily utilised for future transportation planning and land use distribution.

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