



HAL
open science

Education and communication issues for pedestrians. Results from the OECD group

Marie-Axelle Granié

► **To cite this version:**

Marie-Axelle Granié. Education and communication issues for pedestrians. Results from the OECD group. 11th International Walk21 Conference : Getting communities back on their feet & 23rd ICTCT International Workshop of the International Co-operation on Theories and Concepts in Traffic safety, Nov 2010, The Hague, Netherlands. 11p. hal-00614960

HAL Id: hal-00614960

<https://hal.science/hal-00614960>

Submitted on 17 Aug 2011

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Education and communication issues for pedestrians. Results from the OECD group (No. 209)

Marie-Axelle Granié
French National Institute for Transport and Safety Research
Department of Accident Mechanisms
Chemin de la Croix Blanche
F-13300 Salon de Provence
France
Marie-axelle.granie@inrets.fr

Abstract

In communities across the world, there is a growing need and responsibility to provide options that give people the opportunity to walk; to walk more often, to walk to more places, and to feel safe and happy while doing so. The Organization for Economic Cooperation and Development has created a working group on "pedestrian safety, urban space and health (PUSH)" in 2008. This group has worked on means that could be used by national governments to improve pedestrians' safety and well-being in urban space. Communication on walking and education for walking are then needed to increase number of people who safe walk in urban space.

Aim of this paper is to expose strategies and content of communication and education on walking.

Targets and contents for communication and education have been defined and best practices in OECD countries have been collected (professional, road users, pedestrians – especially younger and older ones –).

The main results proved in the paper refer to the figures of several topics and targets for communication and education and to the solutions implemented to improve pedestrian communication and education in several OECD Countries.

11th International Walk21 Conference : Getting communities back on their feet
& 23rd ICTCT International Workshop of the International Co-operation on
Theories and Concepts in Traffic safety, November 16-19 2010, The Hague,
Netherlands.

Marie-Axelle Granié

Psychologist researcher in the Accidents Mechanisms of INRETS, she works on pedestrian since 2000, in particular on pedestrian's competencies development and gender differences in road risks, with French Ministries of Education and Transport. She is co-organiser of the INRETS Interdisciplinary Platform on pedestrian (COPIE) and of its two international conferences.

Education and communication issues for pedestrians. Results from the OECD group (No. 209)

Marie-Axelle Granié
French National Institute for Transport and Safety Research
Department of Accident Mechanisms

In communities across the world, there is a growing need and responsibility to provide options that give people the opportunity to walk; to walk more often, to walk to more places, and to feel safe and happy while doing so. The Organization for Economic Cooperation and Development has created a working group on “pedestrian safety, urban space and health (PUSH)” in 2008. Its report is intended for governments. This group has worked on means that could be used by national governments to improve pedestrians’ safety and well-being in urban space by several topics:

- Institutional framework
- Urban planning
- Mobility policies
- Traffic management
- Urban space
- Legal framework
- Security issues
- Health policy
- Education and communication

Communication on walking and education for walking are needed to increase number of people who safe walk in urban space. Aim of this paper is to expose strategies and content of communication and education on walking. Targets and contents for communication and education have been defined and best practices in OECD countries have been collected (professional, road users, pedestrians – especially younger and older ones –).

Communicating on walking

Chapter on communication in the OECD PUSH report provides an overview of the types of information and the modes of communication that will prove most useful to encourage more people walking more often.

As a framework within which these individual communication initiatives play out, however, it will be important to draw upon the Pedestrian Charter and the Walk 21 mind-map to help establish the broad-based action plans.

Formal communication and information

Many examples of communications approaches are illustrated and the need to promote the numerous benefits of walking highlighted. The benefits of walking - whether for utilitarian or recreational purposes - can be expressed in terms of improved environmental and personal health, reduced traffic congestion, enhanced quality of life, with economic rewards as well.

Many communication tools may be used in order to promote walking as a way of life, to enhance the value of walking as a transport mode for daily trips (employees, scholars), utilitarian trips (shopping) and leisure trips (culture, sports) and to encourage inhabitants to discover their town through walks. Journalists also represent an important target audience for these communication tools as they have an important role in contributing to the diffusion of messages on walking.

Communicate the opportunity to walk

There is the opportunity to communicate the walking time and distance between neighbourhoods and between key activity hubs for pedestrians. For example, some cities (Genève, Liège, Tempe) have constructed city maps with walking times and distances marked between principal locations within the city centre (COOPARCH -R.U. & CITEC Ingénieurs Conseils, 2004). Geneva map show distances and walking times (based on a mean walking speed of 5 km/h) between key locations in the city displayed schematically. The map is in a very practical pocket format, is easily navigated and provides an incentive to walk within the city centre with all parts reachable in 30 minutes.

Walking maps can be developed around a broad range of themes and topics, capitalising on the community interest in the environment, arts, education, tourism and activity topics for children and families. For example, maps can be produced that promote cultural heritage walks – taking in fine examples of architecture, cultural and historic sites, parks and museums.

Urban signs for pedestrian

The nature of being a pedestrian, in contrast to a motorist or bicyclist, means that the pedestrians can approach the sign more closely, and take as much time as they want to read it. Therefore a pedestrian sign can contain a lot more detail than is possible with a sign directed at motorists or bicyclists, if the agency wishes. Pedestrian signs and maps may serve an educational purpose as well as provide directions (AIG London, 2006, Farrell, 2007).

Since pedestrian trips are usually short and local, a standardized pedestrian way-finding system similar to the interstate highway system or state routes has not been developed. Instead, pedestrian signs tend to be highly customized to reflect local conditions such as architectural styles, the kind of information to be conveyed, and the audience.

Pedestrian way-finding signs are usually one of two types: directional or maps. Directional signs are usually simple signs with an arrow indicating direction, a destination name, and sometimes distance to the destination. Maps usually show the pedestrian their current location, and the surrounding streets and destinations. Signs can be used also to indicate off-street routes, links with public transport or tourist areas.

Mobilise all the actors to promote and demonstrate walking

Key actors who have an influential role in promoting walking include:

- family doctor, on health benefits of walking
- school teachers, for promoting safe routes to school and teaching road safety skills

- retailers who can develop events and promotional offers to encourage increased pedestrian activity in the area
- businesses that could encourage walking by work-based mobility plans or through events like “walk to work days”.

Central administrations and the public sector can play a key role in visibly reinforcing the need to undertake physically active activities such as walking for professional reasons. Educational institutions can play a role as well by establishing transport plans for schools that encourage walking.

For example, in Norway, the Working Environment Act directs Norwegian employers to encourage employees to be more physically active. One incentive offered by companies is to include workouts or other physical activities during working hours (a Gallup poll among a representative sample shows that 13% of workers in Norway have a contractual right to do this). Some of these workers have an individual agreement, based on mutual trust between the employer and the employee, to include walking time to and from work as contributing to the requirement to be more physically active.

Promoting walking: create a pedestrian identity

Blogs and website displays at key activity hubs can help inform walkers of issues of interest allow them to contribute to the forum of ideas and help to establish an identity for pedestrians, in a similar vein as is happening for cyclists in a number of cities in France.

Promoting walk friendly cities

Further tools for promoting walking that are gaining ground include measures that assess the walkability of routes (Pedestrian and Bicycle Information Center (PBIC), 2007)¹ and the walkability of cities. While of interest to individual citizens, their value may well lie ultimately in the leverage they can gain within key decision-making bodies to institute changes favourable to pedestrian mobility.

But communicating on walking is not sufficient if no tools are given to pedestrians for walking more and more safely in the cities.

Educating for walking

Educational, awareness and behavior change programs are vital to the success of improving pedestrian safe mobility, particularly to increase the adoption of safe walking practices.

Professionals

Professionals such as politicians, elected members and decision-makers should receive continuous training about how pedestrians can benefit from urban and road installations and 30km/h speed zones. They should also be informed about ways to reintegrate pedestrians into the cities. The

¹ <http://drusilla.hsrb.unc.edu/cms/downloads/walkabilitychecklist.pdf>

government of Quebec has recently developed a manual with the aim of improving road safety by reducing vehicle traffic, reducing air pollution and increasing children's walking activities. The manual is for local stakeholders who are interested in developing safe routes to school (Transport Québec, 2009).

Elderly pedestrians

Elderly pedestrians are the most vulnerable age group for being involved in an accident due to their on-road exposure. Interventions that promote physical activity, that aim to balance training and exercise are effective in lowering the risk of falls and fall-related injuries in selected groups of older people. Older pedestrians can be educated about the role of physical wellbeing and mobility in pedestrian safety, and the benefits of walking for general health. Informative campaigns are successful in teaching adults but are not necessarily useful for transferring knowledge into practice. Therefore, practical training interventions could address aspects of pedestrian behaviour and should be designed with the intent to modify behaviour in the road environment with lasting effects (Dunbar et al., 2004).

Drivers

Driver speed is a significant contributor to pedestrian injuries. Therefore, drivers should be educated about reducing their speed in high pedestrian areas. Reducing speed at pedestrian crossings should be encouraged and promoted. Drivers can also be educated about the give way rules, as many drivers are unaware of their responsibility to give way to pedestrians at certain junctions. The presence of appropriate signs can also improve driver compliance. In regards to child pedestrians, drivers could be informed about the limitations of children's behaviour in traffic. The road safety education concerning the children is not a new issue. But some changes, in the last 20 years, give new objectives for this education.

Educating children

New challenge for children pedestrian mobility

Pedestrian mobility among children decreased in a lot of countries since 20 years. Children now are autonomous as pedestrian from the first year of secondary school (between 11 and 12 years old), instead of 7-8 years old in the 70's. Children are now more likely to travel as car passengers than as pedestrians (Hillman et al., 1990, Hillman et al., 1997).

Therefore, children's experiences of traffic are often limited, because of a lack of exposure as a pedestrian. They have not developed sufficient skills to cross the road safely, before they begin to walk alone. These elements could explain a new peak in pedestrian's accidentology is observable in developed countries since the last 20 years, when the children become autonomous in their walking: that is at the beginning of the secondary school, on a longer travel, the children do not know at all (Demetre, 1997).

The new preoccupation for sustainable development and health problems like obesity brings also countries to promote non pollutant and active means of traveling. Walking should therefore be promoted, as early as in childhood, but children must be educated for safe use of walking.

Raising children pedestrian mobility

Many countries developed interventions which want to improve traffic safety by changing mobility patterns and reducing the use of motor vehicles. Three examples of this kind could be cited.

Walking buses develop all around the world. In 2009, 39 countries are involved in the international "walking to school" day. Walking bus increases the number of children who go to school by foot. It consists in determined route to school, with time schedule meeting points where child is taken in charge by other adults for walking to school.

Children should reinvestigate the city for walking, playing and sojourning. Lack of walking mobility plays role on children's' socialization, autonomy and space reading and understanding. The international project named "La città dei bambini" was given a political motivation: taking the children as parameters and guarantors of the needs of all citizens. Children from 6 to 11 years-old are then asked to walk to school without adult. Considering the fears of the families, favorable environmental and social conditions have to be rebuilt. Till now, experiences of "We go to school alone" are active in 21 cities in Italy, Spain and Argentina.

As pedestrian could also be a user for collective transport, education programs have been developed in France by the National Society of Railway (SNCF), in coordination with French Ministry of Education. SNCF reps go into schools to talk about dangerous games played on its property, abuse of on-board alarm systems, respect for material goods, citizenship and social respect, safety and prevention.

What is made for children pedestrian education?

In OECD countries, pedestrian education programs vary from countries where quite nothing is organized to countries where very organized programs exist, with very formal contents. In the majority of countries, one dominant, broadly anchored semi-public or public body – Ministry of Education or Ministry of Transport – is active in development of programs, actions and Medias. In other countries a broader mix of public and private bodies is in charge of these tasks. In addition, the main institutions delivering pedestrian's education – in particular schools, but also police – are paid from public budgets.

What skills are involved?

Basically, programs for pedestrian's education should be based of knowledge coming from research in developmental and educational psychology. Pedestrians require a range of fundamental skills in order to interact safely with traffic. Research shows that the following are the most critical psychological processes involved in pedestrian's behavior (Thomson et al., 1996).

The detection of traffic involves basic processes as selective attention; visual search; resistance to distractibility; co-ordination of visual and auditory information

Visual timing judgments require the pedestrian to determine a vehicle's direction and rate of movement so that accurate time-to-contact judgments can be made.

These judgments must be made in relation to vehicles, approaching from two or more directions. This requires the ability to divide attention; to hold information in memory; and to co-ordinate and integrate this information.

What competencies should be trained?

On the basis of the psychological processes involved previous research, four core pedestrian skills should be included in training program. These skills are generic and training program can be built by integrating them in sequential and progressive modules (Tolmie et al., 2001). These were:

- First, children must be able to perceive the dangers posed by topological features of the traffic environment (for example, intersections, or parked vehicles) (Ampofo Boateng and Thomson, 1991). This is the first skill that must be learned and the easier to learn to young children.
- Roadside search strategies are built on this first skill. Children must develop attention to the more dynamic features of the environment, especially vehicle movements (Whitebread and Neilson, 2000).
- Visual timing and gap selection further develop this second one. Children must relate information about vehicle movements to their own potential actions, in judging whether gaps between vehicles are large enough to cross safely (te Velde et al., 2005).
- Perception of other road users' intentions develops children's sensitivity to cues, signaling the intentions of other road users, and how this should inform and influence their own intended actions (Foot et al., 2006).

Some recommendations have also been made on the general form of these training.

How children should be trained?

Usually, the first road safety education actions children are actively involved in are pedestrian actions. Evaluation of pedestrian education actions show that practical training, consisting of a sequence of modules over a long period, are the more profitable (Thomson, 2006).

Furthermore, two forms of interaction seem to be central for learning (Tolmie et al., 2005):

- adult guidance which improves procedural skills, that is ways of doing things; and
- peer collaboration, especially discussion, which improves conceptual skills, that is why a particular procedure was necessary and how it should be adapted to different circumstances.

Actions should enable children to develop skills and strategies through discovery and experience. Children should act, test and train themselves, and these are far more effective than mere knowledge transfer (Thomson et al., 1996).

It is important that pedestrian actions use realistic scenarios to place the action in context. Ideally, a realistic setting, such as the roadside, should be chosen for the interventions. A protected area is required for actions which seek to mix several modes of traffic. Training based on simulations offers a way round these difficulties, and seems to have the potential to improve learning on comparable levels than real roadside training (Tolmie et al., 2001).

Moreover, children can develop skills earlier than previously assumed. Behavioral approaches are particularly effective for teaching skills to children from age 4, as they don't require verbal skills (Tolmie et al., 2001).

Some examples of children training

Data for this section is mainly based on ROSE 25 final report on European good practices in road safety education for young people (Weber, 2005). Pedestrian's education for preschoolers consists first in understanding the road. They must learn the rules for keeping safe near traffic and need to understand why they need to follow these rules. They have to learn that they must only cross roads when holding an adult's hand.

Older children aged 8 to 11 are increasingly exposed as pedestrians on their own but are easily distracted and have not developed sufficient skills. A number of actions are focused on teaching awareness of risk, planning safe routes and decision-making. Another way is to motivate them to observe, to investigate and to learn. Children could detect and map potentially dangerous spots on their routes to school or to leisure time activities.

From the age of 12, pedestrian actions tend to focus upon issues of responsibility, risk and peers pressure. Teenagers need for example to act responsibly when escorting younger children to school. As for walking buses, this kind of project minimizes road traffic in the surroundings of the school.

Among students, program must be tailored to be related to specific needs and interests of student population. This helps to engage students in understanding why pedestrian safety is important and how it affects them directly. They must teach what they can do, both personally and as part of the community, to improve pedestrian safety and increase walking on campus and beyond.

Educating the educators

Integration of road safety education in teachers' educational career is important pre-conditions to promote it. Nevertheless, this initial education of teachers is weak in most countries (Weber, 2005). Teachers have rather the possibility to attend road safety education additional courses after becoming teachers. In several countries, police force plays an important role in safety education, but only few countries include this in police officers' education. It is rather offer in police officer training. In brief, education and training offered for road safety education staff is voluntarily, undertaken upon request and, most frequently, is offered just once, and only for those who have a special interest in road safety education.

It is important to involve parents in actions, or to keep them informed: what is taught in school and how they can reinforce the messages? This helps to increase their awareness of child's abilities. They are important role models for children: children observe their parents' behavior and learn through it (Granié, 2004). Therefore, a number of actions aim to make parents, and teachers, aware of their own pedestrian behavior. From the very beginning when their child starts to walk on the road, parents should receive information and practical advice how to train their child. Furthermore, parents could be involved as trainers of school children (Thomson et al., 1998). This has several benefits. Training can then occur in small groups with a high adult-child ratio and this ensures that the action is child centered. This combines an effective training method with cost effectiveness. Nevertheless, parents require training to ensure pedestrian's education. After training, parents are as effective as expert trainers. The benefit is also to increase parents' awareness and knowledge of road safety, and involves them directly in addressing the problem of high child pedestrian injuries.

Why should children be educated to pedestrian mobility?

As a conclusion, children have to be educated for becoming safe and active pedestrians. This education should take into account all the knowledge brought by research. Parents should be involved in this education, to become support and good role model, because they are the major

educator of the children. Teachers should be educated to be pedestrian's educators, because being pedestrians themselves is not sufficient, as being a driver is not sufficient to be driving instructor.

Educating children to be pedestrian is important for several reasons. Obviously, it is important for their safety as pedestrian. Moreover, what they learn as pedestrian could be also useful in their future other means of traveling. Be able to read and understand traffic scene, to judge gaps between vehicles, to understand differences between see and be seen, to interpret others users' behaviors are important skills, in all the modes of traveling. Walk safely is also important for children's health, because all active modes of transport are preferable for health, instead of being passive in a motor vehicle. Walking in the cities is important for children's development too. It permits to the children to build a representation of their environment, to feel they belong to a neighborhood, a town, a country. Walking permits to the children to travel around the town, to meet people and cultures. And these are important things for their social development.

Improve walking and safety walking among children is a good way to give back the town to the citizens, to give back life in the cities and to give back sustainability to the cities as environments of life.

References

- AIG LONDON 2006. Legible London, a wayfinding study. London: AIG London.
- AMPOFO BOATENG, K. & THOMSON, J. A. 1991. Children's Perception of Safety and Danger on the Road. *British Journal Of Psychology*, 82, 487-505.
- COOPARCH -R.U. & CITEC INGÉNIEURS CONSEILS 2004. Plan piéton de Liège, document 4. Liège: COOPARCH -R.U. & CITEC Ingénieurs Conseils.
- DEMETRE, J. D. 1997. Applying developmental psychology to children's road safety: problems and prospects. *Journal of Applied Developmental Psychology*, 18, 263-270.
- DUNBAR, G., HOLLAND, C. A. & MAYLOR, E. A. 2004. Older pedestrians: a critical review of the literature. Road Safety Research Report n°37. Londres: Department for Transport.
- FARRELL, M. 2007. Best Practices in Bicycle and Pedestrian Wayfinding in the Washington Region. DRAFT May 15. Washington: COG/TPB.
- FOOT, H. C., THOMSON, J. A., TOLMIE, A. K., WHELAN, K., MORRISON, S. & SARVARY, P. 2006. Children's understanding of drivers' intentions. *British Journal of Developmental Psychology*, 24, 681-700.
- GRANIÉ, M.-A. 2004. La construction des règles comportementales sur le port de la ceinture chez l'enfant: analyse du contenu d'entretiens auprès d'enfants de 5 et 8 ans. *Recherche - Transports - Sécurité*, 83, 99-114.
- HILLMAN, M., ADAMS, J. & WHITELEGG, J. 1990. *One false move... A study of children's independent mobility*, London, Policy Studies Institute.
- HILLMAN, M., ADAMS, J. & WHITELEGG, J. 1997. *One False Move... A Study of children's independant mobility*, Dordrecht, Kluwer Academic Publishers.
- PEDESTRIAN AND BICYCLE INFORMATION CENTER (PBIC) 2007. Walkability checklist. Chapel Hill, NC: PBIC.
- TE VELDE, A. F., VAN DER KAMP, J., BARELA, J. A. & SAVELSBERGH, G. J. P. 2005. Visual timing and adaptative behavior in a road-crossing simulation study. *Accident Analysis & Prevention*, 37, 399-406.
- THOMSON, J. A. 2006. Issues in safety education interventions. *Injury Prevention*, 12, 138-139.
- THOMSON, J. A., AMPOFO-BOATENG, K., LEE, D. N., GRIEVE, R., PITCAIRN, T. K. & DEMETRE, J. D. 1998. The effectiveness of parents in promoting the development of road crossing skills in young children. *British Journal of Educational Psychology*, 68 (Pt 4), 475-491.
- THOMSON, J. A., TOLMIE, A. K., FOOT, H. C. & MC LAREN, B. 1996. Child Development and the Aims of Road Safety Education: A Review and Analysis. *Road Safety Research Report No1*. London: H.M.S.O.

- TOLMIE, A. K., THOMSON, J. A., FOOT, H. C., WHELAN, K., MORRISON, S. & MC LAREN, B. 2005. The effects of adult guidance and peer discussion on the development of children's representations: evidence from the training of pedestrian skills. *British Journal of Psychology*, 181-204.
- TOLMIE, A. K., THOMSON, J. A., FOOT, H. C., WHELAN, K., SARVARY, P. & MORRISON, S. 2001. Development and evaluation of a computer-based pedestrian training resource for children aged 5 to 11 years. London: Road safety division DETR.
- TRANSPORT QUÉBEC 2009. *Redécouvrir le chemin vers l'école*, Québec, Canada, Transport Québec.
- WEBER, K. (ed.) 2005. *ROSE 25: Inventory and compiling of a european good practice guide on road safety education targeted at young people. Final Report for European DG TREN*, Wien: Austrian Board of Safety and Prevention.
- WHITEBREAD, D. & NEILSON, K. 2000. The contribution of visual search strategies to the development of pedestrian skills by 4-11 year-old children. *British Journal of Educational Psychology*, 70, 539-557.