

COST 358 - Pedestrians' Quality Needs

Ralf Risser¹ & Rob Methorst²

¹FACTUM OHG
Danhausergasse 6/4
1040 Vienna, Austria
Phone: (+43 1) 504 15 46
Fax: (+43 1) 504 15 48
E-mail: ralf.risser@factum.at

²AVV Transport Research Centre
Ministry of Transport, Public Works and Water Management
PO Box 1031
3000 BA Rotterdam, the Netherlands
Phone: + 31 10 282 5737
Fax.: +31 282 5646
E-mail: rob.methorst@rws.nl

Abstract

In research, policy making and implementation concerning the safe mobility and quality of life of pedestrians is a rather neglected issue. Former research projects started to deal with the issue and made it possible to get some grip on the topic. The difficulties due to a long neglect, however, are so substantial that a new COST Action (COST is an intergovernmental European framework for international co-operation between nationally funded research activities) is needed to build on the available knowledge and further to develop the insights gained in earlier projects in order to make a difference in towns and villages in Europe, and elsewhere. The main objective of the Action is to provide an essential contribution to systems knowledge of pedestrians' quality needs, thus stimulating structural and functional interventions, policy making and regulation to support the walking conditions across the EU and other involved countries.

In transport and traffic safety sciences a comprehensive, integrated systems approach is now the State-of-the-Art. This new COST Action will follow that path to determine pedestrians' quality needs with regard to the physical and social environments, the transport system, and policy making and implementation for a safe and healthy mobility of pedestrians. Therefore, this PQN-study will be conducted from 3 perspectives: functionality, perception, durability and future prospects. Special attention will be given to the coherence and integration of these perspectives. The focus will be on pedestrians' quality needs with regard to the strategic, tactical and operational levels of travel and sojourn decisions of pedestrians, particularly in city outskirts.

Introduction and background

Walking is such a basic way of travelling that one tends to forget its importance. Only when one becomes (temporary) handicapped, one rediscovers how crucial it is to be able to walk and that quality is not as good as one would expect it to be. Walking can be seen as the lubricating oil for the transport system – without it the system cannot function. Although there is agreement on the importance of walking for the functioning of the transport system, research on walking and pedestrians' quality needs has proved to be commercially unattractive. Providing for pedestrians is universally perceived to be a public task, thus needing governmental attention and funding.

The pedestrians' quality needs (PQN) Project has been established to identify what people need for their safe and agreeable mobility in public space and to show the added value of a systems approach compared with sectoral approaches. PQN will be informed by and build upon the research published by previous studies (including WALCYNG, ADONIS, PROMPT, Vulnerable Road Users and HOTEL).

Main objective

The main objective of the Cost Action 358 is to provide an essential contribution to systems knowledge of pedestrians' quality needs (PQN) and how those needs relate to structural and functional interventions, policy making and regulation to support walking conditions across the EU and other involved countries. The project is expected to network 25 countries and is being supported by the COST office of the European Commission.

The study focuses on the current European situation and aims at providing useful information for policy development in European countries and to a lesser extent, North America, Australia and Japan. Conclusions may not be valid for other continents. Conditions for pedestrians vary widely from country to country. There are differences in climate, in spatial conditions, quantity and composition of traffic, legal position, culture regarding walking and presence in public space etc. This asks for different solutions for different countries.

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Three perspectives

The general approach of the study is defined by 3 perspectives or valuations¹ that together sketch a comprehensive picture of pedestrians' quality needs:

- *Functional perspective* (usage value, what is being offered = intrinsic quality supply)
- *Perception perspective* (what is being requested = subjective quality demand, attitudes towards and of pedestrians)
- *Durability and future prospects* (referring to a dynamic perspective)

¹ based on the RARO publication on Spatial Quality (Dutch Advisory Council on Land Use Planning RARO [Raad van advies voor de ruimtelijke ordening]) 'Naar ruimtelijke kwaliteit', SDU uitgeverij, Den Haag 1990.

Quality needs can be identified at several abstraction levels². The most concrete level is the *operational* level. On this level the pedestrian performs the physical task of walking or standing up and reacts directly to impulses, i.e. from other road users, and qualities on the spot.

The second level is the so called *tactical* level. On this level the pedestrian decides on the direction he takes, whether or not to cross, where to cross, walking speed and so on. For the physical environment this corresponds with connectivity; for the social context the level corresponds with norms of fellow road and public space users; for the transport system it corresponds with the abstraction level of transport concepts.

The highest level is the *strategic* level. Here the pedestrian decides whether or not he will travel (motive), where to (destination) and which modes will be used. For the physical context this level corresponds with Land Use and urban planning, including 'green' and 'blue' zones; the social context on this abstraction level implies social values and organisational preconditions like research, government and policy implementation coordination; the transport system on this abstraction level is typified by facilities for accommodating travel and transportation needs, including information needs. Special attention will be given to the coherence and integration of these perspectives. The focus will be on pedestrians' quality needs with regard to the strategic, tactical and operational levels of travel and sojourn decisions of pedestrians, particularly in city outskirts.

Motivation and objectives

Although there are many good examples of pedestrian friendly streets or areas, the general situation and context is far from ideal and not automatically getting better. A more fundamental approach which also takes social and political trends into account is needed. With regard to such a systems perspective of the quality needs of pedestrians there are gaps in current knowledge. As indicated before, the main objective of the PQN-Action is to provide an essential contribution to systems knowledge of pedestrians' quality needs and the requirements derived from those needs, thus stimulating structural and functional interventions, policy making and regulation to support the walking conditions across the EU and other involved countries.

Research aims

The aims of the PQN research can be summarised as follows:

1. *Improve understanding*

to improve the understanding of pedestrians' quality needs with regard to public space, the transport system and the social, legal and political context and their interrelations, thus developing an essential tool for the stakeholders (such as decision makers, politicians, planners and executive offers as well as NGO's) that can implement better conditions for walking and pedestrians' quality of life;

2. *Advance effectiveness and efficiency*

Describe the State-of-the-Art, identify an agreed set of requirements and develop a new paradigm (a coherent system of theories and models regarding adequate pedestrian facilities and qualities) that can be used by stakeholders for analysing and improving 'reality';

3. *Provide knowledge base*

Provide an accessible knowledge base and easy to use auditing scheme that enables

² See: 'Dealing with dangers', J.A. Michon, Groningen 1979 and 'Vulnerable Road Users', Methorst, Rotterdam 2003 regarding the Pizza-model.

authorities and possibly interest groups to tackle, prevent and prioritise current and future problems regarding pedestrian mobility and presence in public space

4. *Stimulate innovation*

To stimulate partners to innovate tools and disseminate knowledge that helps shedding new light on the issue and stimulates a new élan in providing for safe mobility of the pedestrian

5. *Provide recommendations for further research*

As consequence of these research aims, overall research questions can be defined, as below:

- What are the (limitations in) travel and traffic task competencies of pedestrians?
- What facilities and qualities do pedestrians need for their safe and agreeable mobility and staying in public space, now and in the foreseeable future?

Consequently to these main topics, sub-questions for PQN research can be deduced, e.g. to ask for the role of walking within our society and which changes have occurred over time so far, respectively, which changes have to be expected in future. It will be important to analyse the tasks for pedestrians to perform and to define, which (implicit) requirements have to be met regarding these tasks for pedestrians. And, last but not least, what facilities are needed to perform these tasks adequately and pleasantly? To what extent are the (implicit) requirements and provided facilities at odds? How can that be solved?

The scientific programme for the Pedestrian Quality Needs (PQN) Action is based on a comprehensive conceptual model, describing the general factors that influence the actual decisions by (potential) pedestrians, be it for a door-to-door trip, a trip to other modes or just staying in public space. This deductive 'back to basics' approach implies a study of the needs, tasks, competencies, requirements of pedestrians, contexts and their performances in the various situations of the participating countries. Past research resulted in substantial knowledge on the requirements for promoting walking in city centres. This study will expand that knowledge to everyday walking, in particular in the outskirts of towns and villages, where in fact most of the walking is done.

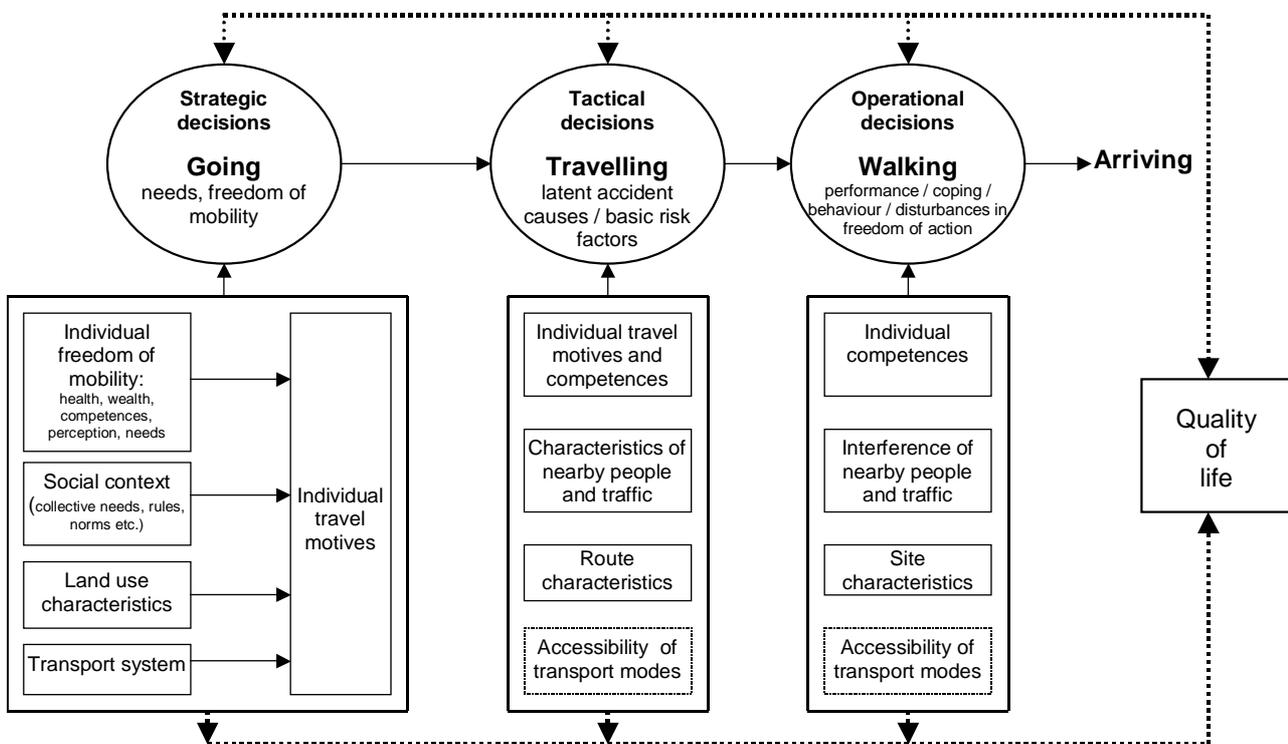


Figure 1: PQN Conceptual Model

Organisation

PQN will be a multi-disciplinary study, exploring the needs of pedestrians and developing models in context, based on evidence, and with measurable outputs. The project starts with an inventory of available statistics, national and international research and development publications with regard to pedestrians and documented policy statements of stakeholders on the various political and institutional levels. The outcome will be input to four work groups, of which three explore the successive levels of pedestrian needs and a fourth safeguards the coherence and the integration of the results.

The Action work will be divided into four Working Groups, as shown below:

- WG1 Functional perspective
- WG2 Perception perspective
- WG3 Durability and future prospects
- WG4 Coherence and integration

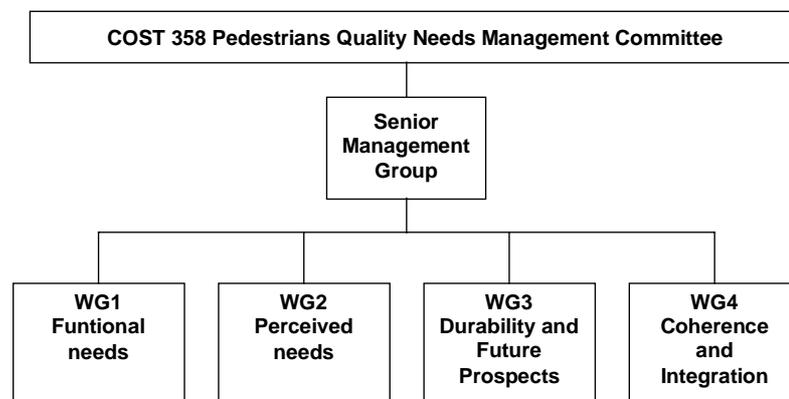


Figure 2: Management structure of Cost 358 PQN

Human Factors perspective

- Which human factors influence the safety and freedom of walking?
- What is known about the needs and expectations of pedestrians?
- To what extent do pedestrians experience inter- and intrapersonal conflicts in relation to their presence and moving in public space?
- What is known about the effects of communication on the perception of qualities and shortcomings of facilities for pedestrians (in the broadest sense, including ITS applications)?
- Comprehensive: includes perception of physical and social environments, transport system and communication aspects
- Which interventions are needed and possible to improve the pedestrians' quality of life?

Perceived needs

A special work group will focus on the 'emotional' perspective and include the perception of walking and how attitudes, expectations and motivations influence behaviour of other road users, planners, policy makers and politicians, and of walkers themselves. Perceptions of physical and social environments, the transport system and their interrelations will be identified, because when talking about needs we refer to needs as they are perceived by stakeholders. For that purpose, at least two approaches resp. methods to analyse needs are useful:

- To ask/analyse what needs there are that should or could be fulfilled in the future in order to make walking attractive, and
- to find out what needs are neglected at the moment, making walking a difficult issue.

Qualitative methods are used to understand what needs are relevant connection with both of these approaches. When one has understood what needs are or may be relevant, quantitative methods should be applied in order to find out, how those needs are distributed in the population, which allows to attribute weight to them as a starting point for planning and implementing policy steps.

In the frame of PQN the primary task is not to apply these methods actively, although, of course, it is appreciated if partners receive national financing for carrying out such work. However, the primary task in PQN, in connection with user needs, is to check and screen what studies have been carried out in one's country during the last years that were dealing with pedestrian needs. And in connection with this, what methods have been used in order to receive certain data should be reported, as well.

Dissemination aims

The dissemination of the result of the project aims at:

- Providing practitioners with reports and other traceable information on pedestrians' needs
- Improving know-how in the scientific community
- Influencing policy making on the national level
- Improved awareness of Pedestrian Quality Needs on the local level
- Improved statistics on walking
- (start of) public discussion on the issue
- expertise transfer to local authorities and NGO's (local conferences and courses).

Information from the project will be interpreted and published in a variety of formats targeted towards different audiences to have maximum influence on increasing the effectiveness of national and local policies. PQN will set up an accessible online area (www.walkeurope.org) to help manage, share and promote information between partners to stimulate debate and develop translatable best practise. Four individual work group reports will be published and a periodical e-news letter will promote the progress of the project. Conferences and courses may be organised nationally and internationally to disseminate the findings of the project. At the conclusion of PQN a special conference will be organised by ICTCT and WALK21 as part of the annual WALK21 International Conference Series.

PQN will specifically publish

- A conceptual framework and action plan for the life of the project
- An analysis of the effectiveness of relevant social, legal and political statistics, research and policy in participating countries
- A handbook on the needs of pedestrians
- An easy to use auditing tool for measuring the quality in relation to pedestrians' needs
- A consistent qualitative and quantitative methodology for recording pedestrian activity
- Guidance on national and local procedures for monitoring the effectiveness of pedestrian investment
- A system model, responsive to the needs of pedestrians, to steer effective investment which supports and encourages the quality of walking
- Recommendations for future research.

References

PQN project description

PQN Conceptual model (Methorst, Simonova, Sauter, Vermeulen)

RARO publication on Spatial Quality (Dutch Advisory Council on Land Use Planning RARO [Raad van advies voor de ruimtelijke ordening]) 'Naar ruimtelijke kwaliteit', SDU uitgeverij, Den Haag 1990.

Methorst, R. (2003) Vulnerable road users - report on the knowledge base for an effective policy to promote the safe mobility of vulnerable road users, AVV Transport Research Centre, Rotterdam 2003.

Risser, R. & Ausserer, K. (2003), HOTEL - State of the Art, HOTEL Deliverable 1, Vienna 2003.

Rumar; Prof. Kare (2002); Road transport - past, present and future road safety work in ECMT, CEMT/CM(2002)14, CEMT, Paris 2002.

Michon, J.A. (1979) Dealing with dangers, Groningen 1979.

Elvik, R. (2005), Has progress in improving road safety come to a stop? - a discussion of some factors influencing long term trends in road safety, TOI report 792/2005, Oslo 2005