

# Assessing Pedestrians' Needs The European COST 358 PQN project

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## Summary

The Pedestrians' Quality Needs (PQN) project has been established to identify what people need for their safe and agreeable mobility and sojourn in public space and to show the added value of a systems approach compared with sectoral approaches.

The idea to start the project received much support in both the scientific and policy development communities. Important opportunities are developments with regard to systems approach, new spatial concepts, health awareness and ICT developments. The project context further comprises that there are several pedestrian problems on strategic, tactical and operational levels as well as some trends that will probably endanger the position and well being of the pedestrian.

Pedestrians have many different needs. Basic needs like health and mobility can be seen as preconditions. Reliability and convenience are dissatisfiers and comfort and attractiveness are the satisfies, the icing on the cake. The pedestrians' needs will be analysed and substantiated using a conceptual framework that is based on a systems approach. The issues will be studied from a number of perspectives: functional needs, perceived needs and durability and future progress.

Needs will have to be translated into system requirements. Attention will be given to all elements in the system and their interrelations. Thus requirements will be determined for physical facilities, the social environment, the transportation system and with regard to supporting the pedestrians' ability to cope independently. Here the Design for All principle (Universal Design) will be leading. It is to be expected that policy implementation can best be streamlined according to a cascade in focus of attention: first preconditions, then latent (accident) causes and lastly behavioural measures.

It is assumed that every adequate policy starts with knowledge. The second precondition is the (political) willingness to change the situation. If there is willingness, then it becomes important that one is able to do something: time, money, manpower, skills, tools, authority etc. Lastly, measures have to be implemented. The project results are to cover all these aspects.

With regard to the study some practical considerations apply. The first research task is to gather available information, knowledge and expertise. For this Country Reports are the instrument. Based on the outcome of the Country Reports four working groups will deal with the specific research questions, deduced from the conceptual framework. There are working groups on Functional Needs, on Perceived Needs, Durability and Future Prospects and on Coherence and Integration. A Senior Management Group, made up of the chair, vice chair and the working group leaders, is established to co-ordinate the action on a day-to-day basis. Twice a year the PQN Management Committee meets to discuss progress and decide on strategic project matters.

The project is 'work in progress'. In the paper current (September 2007) results are listed. Preliminary conclusions are:

- A new comprehensive approach is taking form
- Research is supported by policy makers on international level
- There is great need for empirical data, but they are hardly available
- For the time being expert assessment is the only real option.

## 1. Introduction

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 and sojourn 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).

## 2. Context - opportunities

In 2000 the Dutch Pedestrians Association merged with two other road safety organisations. As it happens in many mergers, some of the staff saw opportunities to improve their situation elsewhere. The two key researchers transferred to the Dutch Transport ministry's AVV Transport Research Centre (now called DVS Centre for Transport and Navigation). There it was judged that the knowledge on pedestrian issues and policy making should be recorded properly, advanced with systems theory and kept for future generations of policy makers.

In 2004 the International Co-operation on Theories and Concepts in Traffic Safety (ICTCT) decided to study pedestrian issues; in 2005 a joint project scheme was drafted and received enthusiastically. It proved that a large number of researchers were interested in joining up. The initiators also assessed that communication would be a key success factor. Therefore they got in touch with the WALK21 network organisers, to form a comprehensive and effective alliance for debate, dissemination and communication on the research results.

Because of the large number of interested, it became apparent that some organisational and budgetary framework was needed. The most suitable framework seemed to be the EC COST framework, where participants would be funded for their travel and meeting costs, but no commissioning relation (and subsequent time consuming administrative ties) applies and the participating countries would have to take care of their own financing. A project proposal was drafted, which again was received well. Within a month of the Call for participation some 25 institutions in 16 countries indicated to sign the Memory of Understanding, that would be the foundation for the COST 358 project. At the moment (September 2007) the count is 44 research organisations in 20 countries.

Meanwhile the global policy development organisation OECD<sup>1</sup> and the ITF<sup>2</sup> and their supportive body (JRTC<sup>3</sup>) decided that state of the art policy making regarding pedestrians should be studied and communicated. The proposed COST project could be a good source for this action.

Apart from these organisational frameworks there are also a number of other favourable developments for improving the pedestrians' situation:

- **Proactive systems approach:** in transport policy development it became apparent and fashionable to think in system terms. It became clear that most traffic and transport problems cannot be solved by one dimensional traffic engineering measures, that accidents are not caused by just one factor, but a series of critical coincidences, that many factors are involved and that there are limits to the effectiveness of a reactive approach ('there is a problem and we will solve it'). Sustainable Road Safety in the Netherlands and Vision Zero in Sweden are the first nation wide implemented proactive approaches that focus on prevention: here there is a proactive focus on potential system defects, that need to be treated so that malfunctions of the system (incidents

<sup>1</sup> Organisation for Economic Co-operation and Development

<sup>2</sup> International Transport Forum, successor to European Committee of Ministers of Transport ECMT

<sup>3</sup> Joint Transport Research Centre

and accidents) are prevented or at least mitigated to such an extent that severe injury and fatal accidents are no longer a great risk.

- **New spatial concepts:** in urban development new spatial concepts have been introduced: traffic calming has been implemented in many countries. In the Netherlands the Sustainable Safety vision included a strict simple road classification into on the one hand sojourn areas, where car traffic is 'guest' and walking have primacy, and on the other hand traffic areas, the so called distributor and flow roads, where motorised traffic has primacy. The emerging popularity of the Shared Space concept is related to this type of road classification. Shared Space also originates from the Netherlands, but has become popular abroad.
- **Health awareness:** in the health community obesity is seen as a major problem, that needs to be tackled soon. Much awareness communication is directed at getting this message across to the general public. The message often is: 30 minutes of exercise can help prevent health risks; walking is a simple and very feasible form of exercise that everyone can and should take up. Furthermore, in many European countries Nordic Walking has become a very popular form of exercise amongst middle aged and older people, particularly women.
- **ICT developments:** Information and Communication Technology has discovered the pedestrian. In the 90-s simple detection and switching devices for forcing green for pedestrians at traffic lights, as aids for the handicapped, were introduced. These devices were not a great success, but they were the first signs of the new ways. Lately GPS navigation devices for pedestrians has been introduced at fair prices. Now the mobile phone is at the heart of many new ICT applications, which will become very useful for supporting tactical level tasks of pedestrians.

### 3. Context – obvious problems

With regard to walking there are a number of obvious problems that make walking less agreeable or risky. In this paper it is not possible to give an exhaustive list of the problems (potential) pedestrians are faced with, but in general the amount and quality are negatively influenced by determinants on three decision levels (Michon, 1979):

1. **the strategic level:** pedestrian mobility options are influenced by both objective and subjective factors. Some objective factors are distances above walking distance (in itself a subjective measure), serious gaps in routes to (essential) destinations and competition by (apparently) affordable means of transportation (bicycle, moped, public transport, the private car). Examples are: growing distances to essential destinations; contiguous public transport not available. Safety perception and the perception of the strain of walking are important subjective factors. There can also be social and health obstacles to walking. Child protection can take a form that they are not allowed to travel and play independently. Car-dependency and subsequent policy thinking helps neglecting pedestrian facilities and helps to create a class of people that lack mobility.
2. **the tactical level:** when walking, people are confronted with barriers and obstacles, forcing them to detour and change the intentions regarding their operational behaviour. Gaps in the pedestrian network, forcing a pedestrian to cross a (busy) street, make use of the carriageway or to take a detour are quite common and make the pedestrians' life difficult. Common examples are also obstructed sidewalks near construction sites, obstacles on the pavement and the barrier effects of rail and waterways. Heavy and fast traffic are other menaces that they have to cope with. If one comes across these hindrances often, it will affect one's perception of the attractiveness of walking and thus one's strategic choices to walk or not to walk.
3. **the operational level:** most pedestrians problems become manifest on the operational level. It may get difficult or even impossible to walk. Examples are: frightening people or animals blocking one's way, too much traffic that make it difficult or impossible to cross a street, steep slopes, litter, dog dirt, concrete obstacles etc) and there may be severe safety risks. Travel safety is threatened by traffic accidents, single injury accidents (falls mostly), perceived risk and security risks.

### 4. Context – trends

With regard to pedestrian needs in literature a number of major trends are spotted:

- **Ageing of the population:** in most European countries the population is ageing. Both the absolute and relative numbers will rise. In forecasting studies it was found that for all groups, *except for 65+* the number of seriously injured and killed in traffic will decline (Janssen c.s., 2006).

- **Health trends:** following USA trends, obesity is a growing problem. Additional health obstacles to walking will be age related health disorders like dementia, coronary diseases, osteoporosis, arthritis and loss of sight. The number of people with limited mobility will rise from 6.1% in 2005 to 9.4% in 2030 (Dutch figures; Methorst, 2007).
- **Growth of car use and heavy vehicle traffic:** car dependency will grow, because more people will have a driving license and more people will be able to own and use a car. This will have an erosive effect of the distribution of facilities (shops, services, medical facilities, sport facilities). Since the majority of people will live in suburbia, walking, the bicycle and public transport will lose share in travel decisions. Walking to and from other modes (multi-modal walking) will become more important than door-to-door walking (mono-modal walking). The number and share of heavy goods vehicles and delivery vans will rise substantially. This is a growing risk factor for pedestrians: more accidents and more seriously injured (Methorst, 2007)
- Growing insight in transport and urban planning it has become apparent that **there is an end to the effectiveness and efficiency of a reactive problem solving sector approach** and that more proactive and comprehensive approaches are needed. Low hanging fruit has been picked. Also, sector approaches often have undesirable and unexpected side effects that in turn need to be tackled. Systems approach offers a promising alternative, that is expected to become the norm in policy making (OECD, 2007).
- **Spatial, traffic and travel problems become increasingly international.** Particularly in small countries the degrees of freedom regarding policy development and regulation decline. Requirements regarding vehicles are no longer defined on a national but on a European or even global scale. The same goes for the distribution of commercial establishments, that are increasingly dominated by multinationals. Traffic rules can not be issued on a national scale without testing for international consequences. In some cases national authorities are no longer entitled to issue rules as they gave away this power to higher orders (European Commission, United Nations etc.).

## 5. Aim of the project

The main aim 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 at least 25 countries within the COST, ICTCT and WALK21 frameworks.

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.

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.

Main objectives for the project are:

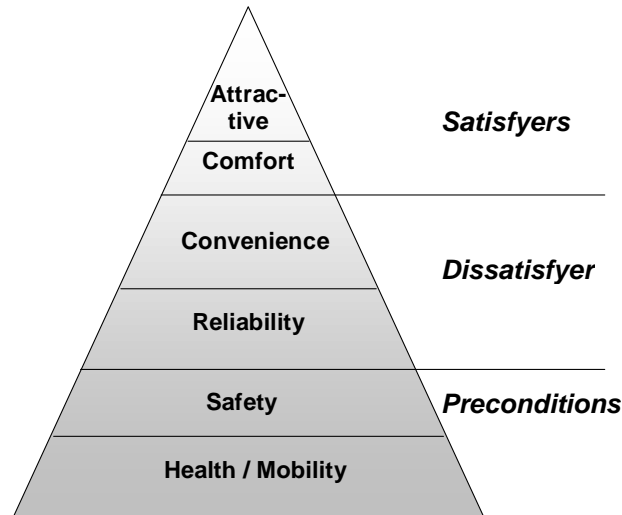
- to identify what people need for safe and agreeable mobility
- to relate needs to structural and functional interventions and policy making
- to show the added value of a proactive approach compared to reactive, sectoral approaches.

## 6. Definition of needs

Quality needs are by nature subjective, context sensitive and relative. They will vary from person to person, from situation to situation, from country to country etc. They will also depend on culture, values and norms, specifically the current perceived level of service and safety. Thus needs tend to

refer to a higher level of service than is currently realised. It is to be expected that particularly the elderly of the future will not be content with the current level of service.

Not all needs will be equally important. A useful classification of needs with regard to importance for desires of travellers is provided by the NS Commercie (part of the Dutch national railway company) (Van Hagen, 2006). The classification is based on Maslov, but has a more limited scope. For the purposes of this paper the NS classification is readjusted (see figure 1).



**Figure 1 Pyramid of needs of pedestrians in public space**

With regard to the relative importance of needs Maslov (Maslov, 1943) introduced a theory on the Hierarchy in needs. Although this model was not based on empirical evidence, it has plausibility and is frequently used to classify and prioritize needs and requirements. The idea is that there is some hierarchy in needs and that people pay most attention to needs they have not yet passably fulfilled. For instance, someone who has already eaten, will not feel rewarded when food is offered to him. In figure 1 a dedicated classification with regard to needs of elderly in transport is depicted.

The most basic need of pedestrians will be that they feel healthy enough, that is physically competent and able, to travel and sojourn in public space. If this need is to some reasonable extent fulfilled, the individuals' strivings will focus on achieving the next level of needs: safety. If safety does not meet their standards, that might be a reason to decide not to travel or to travel with an alternative mode that is perceived reasonably safe. These two needs can be seen as basic preconditions for travelling and sojourning.

When the preconditions are perceived to be acceptable, one will decide to walk or travel otherwise. Then reliability of the travel conditions and convenience will become relevant needs. People see these needs as fundamental and will be dissatisfied if these needs are not met. They will hold the provider responsible. With regard to the road infrastructure this will be the governmental road authority. Icing on the cake are the satisfiers: comfort, attractiveness. If comfort and/or attractiveness are above expectations, the road and public space user will be pleased and possibly grateful to the provider.

## 7. Methodology

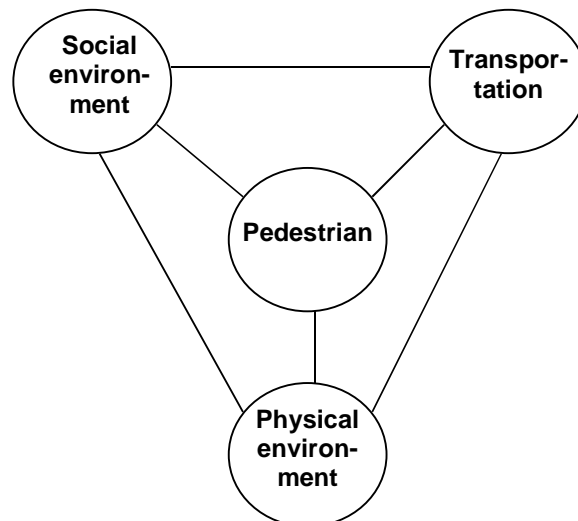
### 7.1. Systems approach

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.

Traffic can be conceived as a system. People travel from A to B, on foot or by means of a vehicle. They travel on roads, which in turn are part of the spatial environment. The road network and the (immediate) environment is usually referred to with the concept *infrastructure*. When several road users make use of the road network, there have to be rules to ensure that this proceeds smoothly and safely. This means that the traffic has to be organised. The system components are thus:

- **Road user**  
In order to use the road in a certain role, one must have the knowledge needed for that role, insight, skills and attitudes
- **Transportation system**  
The vehicle must be able to move and be steered or operated, that is to say, move in all directions and slow down and speed up. The vehicle must also offer protection to the occupants and minimize injury to other road users in the event of accidents.
- **Physical environment**  
The roads (infrastructure en public space) must be designed and constructed in such a way that people can reach their destination easily and safely, regardless of the role (pedestrian, cyclist, moped rider, car driver, public transport user etc.) in which they do that.
- **Social environment**  
The traffic needs to be organised. There is a difference between (1) the official rules (the traffic regulations) and the monitoring of compliance with these (enforcement) and (2) the implicit informal code about how one should behave in traffic, or how it should be arranged and organised. In the latter case, this is the context, culture, norms and values that exist.



**Figure 2 The transport system - centred on the pedestrian**

The level of performance of the transport system and road safety thus depend on the sum of the qualities of the components: person, vehicle, environment and organisation / social context. The 'Pizza model' (see figure 3) shows that there are different levels in the interaction of the components and the possibilities of influence (interventions). In the model, these levels can be seen as 'layers'.

The axis reflects whether the influences are internal or external to the system and whether affected by human behaviour or by technology. The top half of the model relates to the qualities of the mobile part of the system and the lower half to more 'static' environmental qualities that 'pressure' mankind to travel. In the left half are the qualities of persons, both personal and social and in the right half the qualities of the 'hardware', the vehicle and the roads.

The Pizza-model was developed as a means for policy development. Its aim was to form a source of inspiration for devising comprehensive transport and road safety interventions.

Traditionally the road safety policy was mainly aimed at the core of the pizza, or the concrete measures that can be realised on the relatively short term and that produce relatively fast results. The middle level concerns mainly measures that are more far-reaching, take substantially more

preparation, in the order or magnitude of 3 to 5 years, and usually do not result in demonstrable effects in the short term. In the outermost layer, processes take place gradually but very slowly. It can sometimes take thirty years for a change to have noticeable effects

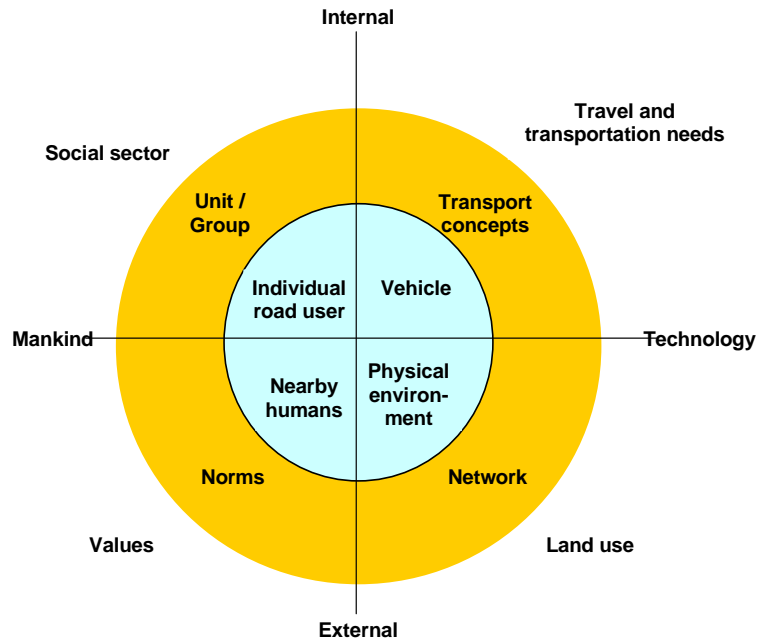


Figure 3 The Pizza-model

The scientific programme for the Pedestrian Quality Needs (PQN) Action is based on a comprehensive conceptual model, deduced from the Pizza-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.

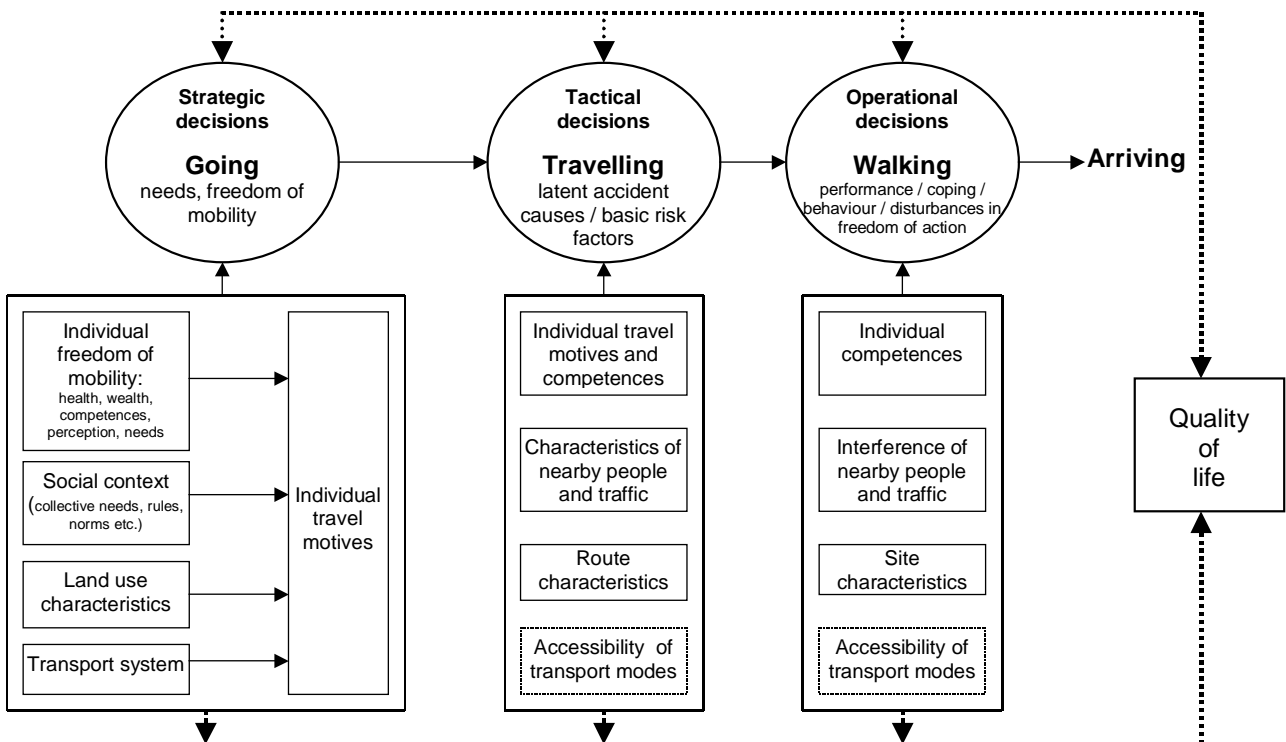


Figure 4 PQN Conceptual Model

## 7.2. Perspectives

The general approach of the study is defined by 3 perspectives or valuations<sup>4</sup> 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)

Quality needs can be identified at several abstraction levels<sup>5</sup>. 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.

## 7.3. Towards concrete requirements

The classified *individual* needs have to be translated into needs on a collective level and subsequently into concrete requirements regarding the infrastructure, public space, transportation, legislation, education, enforcement, health care etc. ('the system').

With regard to the translation of summed individual needs into collective needs Design for All (D4A, also known as Universal Design) can be possibly be a practical and effective principle. D4A implies that the design of the system enables almost all individuals to travel without difficulty, even the ones that are physically less competent or the ones that have to use special facilities to move. A basic idea here is that safety is not about averages, but about the exceptions: the ones that make mistakes or for a moment do not comply with the 'normal' physical and/or mental abilities should be the measure of things, since their risk is greatest. The idea of D4A is that the number of people that can function without unacceptable risk is as large as possible (see figure 5).

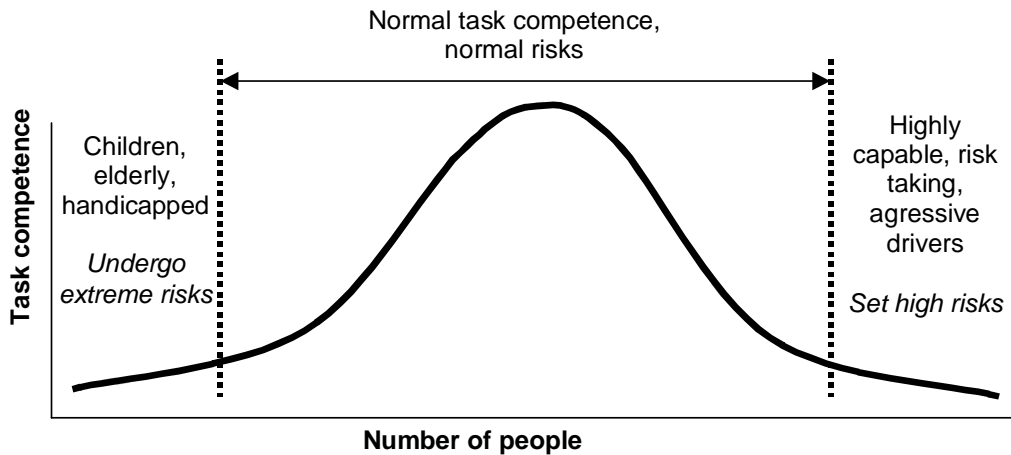
In practise it will not be feasible to take care that all persons with handicaps are facilitated. It makes sense not to try to adapt the system to difficult needs of extremely small groups, but help them with specific services. For example, the group of completely blind persons is quite small. It will not be feasible to comply with their needs everywhere. The blind will be better served at lower societal costs by special measures (like personal guidance support).

Based on a comprehensive image of the needs of all kinds of pedestrians concrete system requirements can be deduced. When making the lists it will make sense to take into account the

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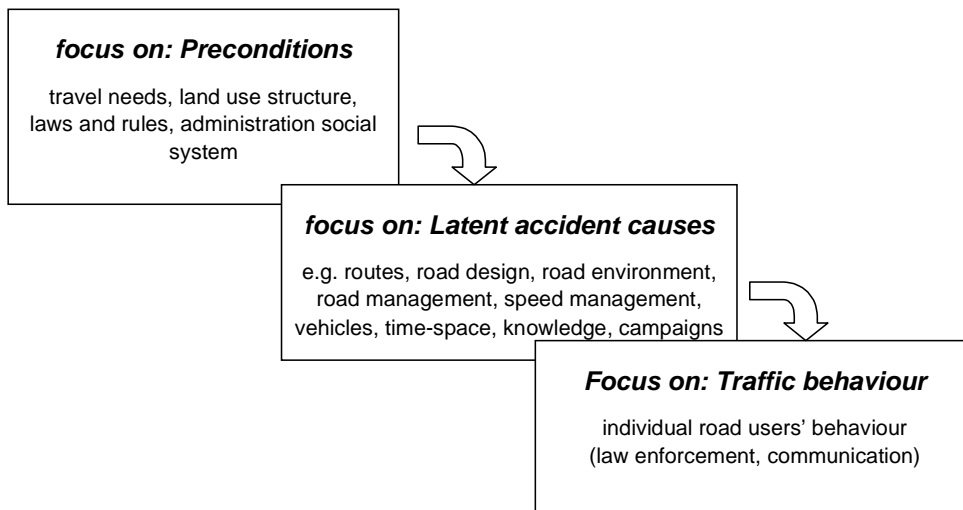
<sup>4</sup> based on the RARO publication on Spatial Quality (Dutch Advisory Council on Land Use Planning RARO [Raad van advies voor de ruimtelijke ordening]) '*Naar ruimtelijke kwaliteit*', SDU uitgeverij, Den Haag 1990.

<sup>5</sup> See: 'Dealing with dangers', J.A. Michon, Groningen 1979 and 'Vulnerable Road Users', Methorst, Rotterdam 2003 regarding the Pizza-model.



**Figure 5 Distribution of task competences and risks (assumption)**

impact of measures. It is clear that the preconditions, as delineated in the outer layers of the pizza, set the context for performance in the future mobility and safety situations. For instance: risky crossing situations do not arise when there is no need to cross the street. If one needs to cross a street, crossing facilities can mitigate the risk but not entirely prevent accidents. Thus it seems sensible to focus policy making primarily on optimizing preconditions, secondly on latent accident causes and lastly, if nothing else is feasible, on behaviour improvement. This idea is pictured in Figure 6 – the Cascade in focus of attention.



**Figure 6 Cascade in focus of attention**

The most important preconditions for adequate policy measures is knowledge. Without knowledge and insight, no-one will see what the problem is and what is needed to tackle it. The second precondition is the (political) willingness to change the situation. If there is willingness, then it becomes important that one is able to do something: time, money, manpower, skills, tools, authority etc. Lastly, measures have to be implemented adequately.

Critical preconditions in this respect are acceptance of the need to change from<sup>6</sup>:

- community leaders and elected representatives who make decisions and set strategy
- government agencies who implement the strategies and facilitate achievement of the expected performance
- corporate participants in the road transport system who deliver safe services and products
- professional bodies that help developing adequate approaches
- user groups and lobbies that help building awareness.

<sup>6</sup> This list is derived from a draft OECD report on Achieving Ambitious Roads Safety Targets.

Other important preconditions are:

- representative and valid statistics on road use
- monitoring of road use and safety of facilities (user surveys, safety audits, monitoring user profiles of roads, areas etc)
- user oriented design tools (citizen participation; 'design reference road user' like a 'design reference vehicle')
- enforcement of traffic rules and misuse at critical situations, location, moments
- maintenance schedules and inspection/monitoring systems
- education system for practitioners (permanent education)
- research into options for improving efficiency of maintenance of walking and cycling facilities ('maintenance lean pedestrian and bicycle infrastructure').

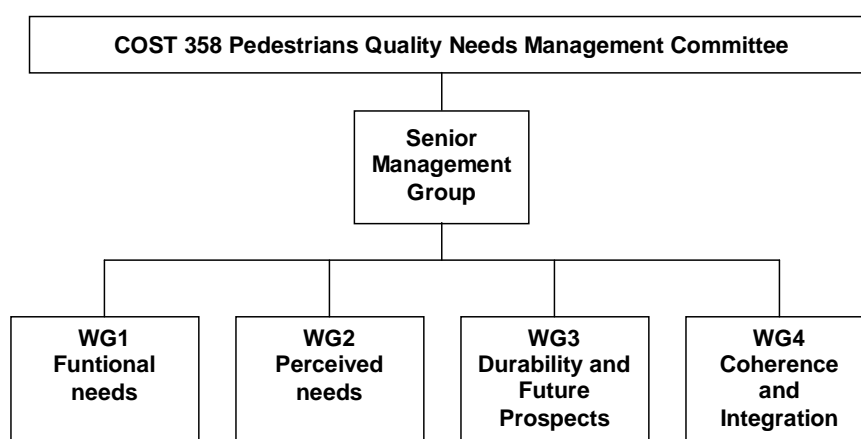
#### 7.4. Practical consideration regarding the PQN study organisation.

PQN is a multi-disciplinary study, exploring the needs of pedestrians and developing models in context, based on evidence, and with measurable outputs. The project started 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 3 explore the successive orders of pedestrian needs and a 4<sup>th</sup> one safeguards the coherence and the integration of the results:

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

Based on the conceptual model key research questions for the working groups have been identified. The key questions led to specific research sub-questions. To answer these questions both qualitative and quantitative methods will be used. Qualitative methods are used to understand what needs are relevant. 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.



**Figure 7 Management structure of Cost 358 PQN**

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. If no empirical information is available the work has to fall back on expert opinions and assessments.

Thus methods to be used are:

1. Quick Scan
2. literature research
3. Re-use of empirical data
4. Expert Opinions (Delphi-method).

Within the working groups participants have been assigned initiating and co-ordinating tasks with regard to the gathering of available information. Other participants and possibly outside sources are to be asked what they know about the subject, what research is done and what the outcome is. The co-ordinators are called to make a short research plan, discuss that plan with the Working Group leader, so that fine-tuning of the overall research program can be done. Furthermore they are asked to report on progress at the Working Group Meetings, deliver input for debate and write papers or a chapter for the final product of the project, a handbook on pedestrians' quality needs.

## 8. Current results

2007 is the first year of the Action and is mainly devoted to defining the research and setting up the organisation for doing the research. Since the Kick-off in November 2006 the following results have been accomplished:

- A Work Plan for the Action (including time setup of organisation and planning of research activities) is produced and agreed on at the PQN Kick-off. This includes agreement in general on the detailed research questions; for the time being the work plan is seen as a growing document, that needs to be updated and completed.
- Concepts to be used in the project have been defined and worded in a Glossary; in addition to this an abbreviations list has been produced;
- A first step in all good science projects it to assess what publications, information and ideas already exist. In PQN this preparatory work is done in quick scan Country Reports; a common template for this purpose has been developed and distributed.
- Currently 19 out of the 20 countries have prepared or are preparing first draft Country Reports, in which recent publications, current projects on pedestrian issues, and a description of the general atmosphere received special attention;
- A first overview of publications and research projects has been produced; a draft report on the General Atmosphere in participating countries will be available before October 2007;
- A questionnaire on data availability in the participating countries has been developed and circulated. Although not all countries sent in some response yet, it proved that the situation regarding statistical information is heterogeneous, but actually quite bad. In most countries there are virtually no data on mobility, the quantity, and the quality of facilities and of problems encountered; most countries have some data on road traffic accidents, in which only accidents with moving vehicles are reported; rudimentary data regarding single pedestrian accidents are not generally available. Thus the research has to rely on expert opinions and occasional empirical studies.
- PQN participants published relevant papers: on the History of pedestrian policies, Future pedestrians' needs, the PQN project, personalised warning systems for safety improvement of vulnerable road users, the legal order with respect to pedestrians in the Czech Republic, and Shared Space.
- A dedicated website has been designed and is in the air: [www.walkeurope.org](http://www.walkeurope.org). The website serves as communication platform for both the general public and the participants. For the latter a shielded section has been set up.
- A Short Term Scientific Mission involving a young scientist from Portugal has been accomplished. The young scientist carried out field observations of the organisation of vehicle traffic and the habits of pedestrians in the historical quarters of Barcelona, and has reported on this to his Spanish supervisor at Barcelona University.
- The planned Working Groups have been formed. At the October 2007 meeting of the Management Committee and the Working Groups the participants will report on their plans and first findings;

- In some countries steps have been taken to start new PhD projects relating to the PQN project (United Kingdom, Sweden, Poland)
- In several countries National committees of support are being formed. In The Netherlands, Spain, Switzerland these committees are active.

## 9. Main conclusions

### **A new comprehensive approach is taking form**

Up till now policy development was more directed at mitigating problems and promotion of walking than providing an adequate structure. Previous studies delivered basic knowledge. Time is now ripe for a more fundamental system approach, which already proved its potentials in other fields. What stands out is that in such a short period so many countries and researchers joined the PQN action. Within the circle of the PQN project participants the belief in the new approach has taken root. Concrete successes are:

- the work that is already done on the Country Reports on the current state of affairs
- the degree to which the aim of comprehensiveness in coverage of the issue appears to be covered; tasks with regard to co-ordination of research and assessment of the current situation and the state of the art have been divided and agreed on.
- a number of research activities are being prepared, planned and implemented. It is too early to expect results in terms of research conclusions and recommendations, however.

### **Research is supported by policy makers on international level**

There appears to be a rise in the interest in the pedestrian issue. Local, national and international authorities have placed the issue on the agenda. National and international authorities support studies that can help adequate policy development. Some follow-up studies are already planned.

### **There is great need for empirical data, but they are hardly available**

In the PQN project a large number of research questions have been deduced from a comprehensive conceptual framework. To answer these questions empirical data are needed. The Data Availability Questionnaire confirmed that the situation regarding statistical information is actually quite bad. Without structural improvements of the evidence situation the credibility of assessments and policy proposals is questionable.

### **For the time being expert assessment is the only real option**

The aim of comprehensiveness and the sheer complexity of the PQN project's ideas have drawbacks. Gaps in the coverage of the issue can be expected to appear, because of lack of expertise, knowledge, information on some vital issues and particularly the lack of empirical evidence. An important factor is also that the participants have limited time to do dedicated empirical research, as planned in the Work Plan. For the time being systematic and massive expert assessment is the only real option. Validation of these assessments will have to be carried out in a later stage. It is expected that system approach based expert assessments can be leverage for raising money for a next step in research and policy development.

## **References:**

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

Hagen, M. van (2006), *Wensen van reizigers: piramide van Maslov*, In: Een gouden markt – waarom marketing van openbaar vervoer moet & loont, KPVV Rotterdam 2006

Janssen, L.H.J.M., Okker, V.R. & Schuur, J. (2006), *Welvaart en leefomgeving, een scenariostudie voor Nederland 2040, Achtergronddocument*, Centraal Planbureau, Milieu- en Natuurplanbureau en Ruimtelijk Planbureau, Den Haag 2006

Koornstra, M.J., Mathijssen, M.P.M., Mulder, J.A.G., Roszbach, R. & Wegman, F.C.M. (1992), "Naar een duurzaam veilig wegverkeer", SWOV, Leidschendam 1992.

Maslov, A.H. (1943), *A theory of human motivation*, Psychological Review 50, pp 370-396.

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.

Methorst, R. & M. van Raamsdonk (2003), *Ontwikkelingen in de verkeersveiligheid tussen 2010 en 2020*, Adviesdienst Verkeer en Vervoer, Rotterdam 2003.

Methorst, R., M. van Essen & W. Ormel (2007), *Letselongevallen van voetgangers en fietsers*, Adviesdienst Verkeer en Vervoer, Rotterdam 2007 (to be published).

Methorst, R. (2007) Transport system requirements in 2040 for the elderly, In: Proceedings 4th International Transport Conference Wuppertal, March 2007

Mooij, R. de, & Tang, P. (2003), "Four futures of Europe", Centraal Planbureau, Den Haag, 2003 ([http://www.cpb.nl/eng/news/2003\\_37.html](http://www.cpb.nl/eng/news/2003_37.html))

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

Rooij, R. & M. Tacken (2001), *Beperkte Mobiliteitsbehoefte?- Verkenning naar de vervoersbehoefte van mensen met beperkingen en handicaps*, TU Delft - Faculteit bouwkunde, Delft 2001

Rumar; Prof. Kare (2002); Road transport - past, present and future road safety work in ECMT, CEMT/CM(2002)14, CEMT, Paris 2003.

OECD (2001), *Ageing and Transport – mobility needs and safety issues*, OECD, Paris, 2001.

OECD (2007), *Achieving ambitious road safety targets*, Paris 2007 (in preparation).

Socialdata (2005), "Monitoring verplaatsingsgedrag mensen met een beperkte mobiliteit 2004 – Eindrapportage", Heerlen 2005.