SUMMARY

The transport planning template supports users, technicians and politicians with innovative best practice examples. It's based on 5 years research on more than 10 European projects [Kretz, 2009]. The template helps to analyse the best ageing adaptation for each transport system and it's a fast overview of innovative transport possibilities. It can be used as a simple pre-planning template on the latest standard with less cost.

Following this introduction, the first chapter explains the needs of this template. Based on that the use of the template with German best practice examples described to demonstrate what is possible and inspire new activities. In the third chapter a quality of living evaluation with barrier-free category analyse the best practice examples. An outline of the most relevant characteristics of living presents a comparison of worldwide city evaluations.

Key Words: Transport Planning, Best Practice; Innovations.

NEEDS OF A NEW TEMPLATE

In transport planning processes there are numerous and difficult challenges, which impair the efficiency of the process, the quality of the results of planning and the adaptation to changes [Blees, 2004].

The human world is ageing. 16.7% of the American population were aged 60 and over in 2005. This is projected to be 26.4% by 2050 [Employers' Forum on Disability. 2011]. Indian people aged 60 and over accounted for 7.9% of the population in 2005. This is expected to rise to 20.75 % by 2050 [Employers' Forum on Disability. 2011]. German people aged 60 and over accounted for 25.1% of the population in 2005. This is expected to rise to 35% by 2050 [Employers' Forum on Disability. 2011]. There are at least 650 million people with disabilities worldwide. Disability affects 15-20% of every country's population [Employers' Forum on Disability. 2011]. This changes the mobility needs. The transport planning system has to include new tools which support the adaptation to the ageing world.

On the other hand a challenge consists in the fact that the basic conditions and contents of transport planning change continuously. Exemplary is the shift in the roles of actors in Europe: investors, funding experts and private stakeholders to determine what is happening in the community transport development [Blees, 2004].
A further development is the rising complexity of transportation planning by the increase of regulations and latest standards. In recent decades, the design rules of construction were fully European standardized. The Eurocodes consist of 58 standards with over 5,000 pages [Breuth, 2011]. On 01.07.2012 these will be legally established in Germany [Breuth, 2011]. The transport planning and implementation hasn't been European standardized [Breuth, 2011]. In the Federal Republic of Germany, the guidelines are developed by the Research Association for Roads and Transportation and the Federal Ministry of Transport, Building and Urban Development launched with a circular [Mühr, 2011]. In the guidelines only a part of the accessibility aspects are treated. The standards of accessibility like DIN codes should be included in the planning and construction. Standards are binding only if they are covered by contracts between the parties or if the legislature prescribes mandatory compliance [Mühr, 2011]. For example, the DIN 18024 - Part 1: Barrier-free construction of streets, squares, paths, public transport and parks and playgrounds – was added in the county regulations of Baden-Württemberg (South Germany).

From these developments follow the changed demands to which the transport planning must react with new effective instruments.

**METHOD OF THE TEMPLATE**

This research work provides a summery of 11 decision trees in four steps. The latest pre-planning practice based on European projects:

Step 1 - Create initiatives and/or use it,
Step 2 - Select transport improvements,
Step 3 - Use the German best practice list,
Step 4 - Implement your selection.

1. **Create initiatives and/or use it**

The motivation and interest to improve adaptation to the ageing world must still come from the base, that is from users, technicians and politicians [Aragall, 2003]. In the following three best practice initiatives help to inspire new activities.

Best practice initiative 'European Year Active Ageing': To mark the 10th Anniversary of the United Nations Action Plan on Ageing and respond to the demographic challenges facing Europe, the EU declared 2012 as a European Year for Active Ageing and Solidarity between Generations (EY2012). The European Year seeks to raise awareness on the contribution of older people to society and the importance of solidarity between generations [AGE Plattform Europe, 2011]. It will also spread identify and disseminate good practice. But most of all it seeks to encourage all policymakers and stakeholders to set themselves goals and take action to meet them [AGE Plattform Europe, 2011]. EY2012 aims to improve the opportunities for older people to stay in the workforce and share their experience, to keep playing an active role in society and to live as healthy and fulfilling lives as possible.

Best practice initiative 'Age-friendly city': The World Health Organisation (WHO)
published a guide that aims at helping cities and municipalities, regional authorities, voluntary organisations, the private sector and citizens’ groups identify where and how they can better respond to the needs of their ageing populations. It includes a series of checklists aimed at providing a self-assessment method and a map to chart progress in the following areas: outdoor space and buildings, transportation, housing, social participation, respect and social inclusion, civic participation and employment, communication and information, community support and health services. Many cities and municipalities across the EU have already decided to join the WHO Age Friendly Cities Programme [AGE Plattform Europe, 2011].

Best practice initiative 'Funding': Local and regional actors can play a huge role in ensuring that the physical environment and transport services are accessible to older people [AGE Plattform Europe, 2011]. European research and regional development programmes support these efforts. The Seventh Framework Programme in the topic research co-funded the project Mediate - Methodology for describing the accessibility of transport in Europe. It has sought to develop tools to assist public authorities and transport operators in achieving more accessible public transport. It brought together a range of experts on the topic: research institutes, local government, transport operators, end users, networking organisations and consultants. The project has delivered a set of common European indicators on accessibility of urban public transport, a self-assessment tool for local and regional transport systems and a good practice guide to accessibility [AGE Plattform Europe, 2011]. A Accessible Public Transport in Europe website (www.aptie.eu) provides an one-stop shop for information on this topic.

2. Select transport improvements

The study “Green Transport + Ageing Society: A handbook for everyone” based on European projects clearly elaborates that the protection of crossways and planning of short distances are the best transport improvement of elderly people [Kretz, 2009].

Table 1 supports users, technicians and politicians to choose the best adapting transport for elderly people that means 100% mobility without help. Installation of ramps are recommended for pedestrian, air plane, 2-wheel vehicle, tram and subway, train, bus and ferry services. A price reduction is uncertain for the use of aircraft, car and ferry. Technical simplifications in the air plane and on the ferry isn’t interesting for older people. Personal user information and assistance are welcome in air plane, tram and subway, train, bus and ferry.
3. Use the German best practice list

The following innovative and best practise examples demonstrate what is possible. These are the German comfort products in the topic mobility.

3.1 German best practice for pedestrian ramps:

**ALTEC – ALUMINIUM RAMPS (Type AOL-R)**

**Best practice:**
This ramp is made to bridge over stairs or high steps.

**Innovation:**
The surface is fabricated from extruded aluminium profiles which are perforated and embossed to give a perfect anti-slip surface and allow rain and snow to disperse very easily [ALTEC GmbH, 2011].

**Target group:**
Cities, medical supply companies and private people.

Figure 1: ALTEC - Aluminium ramp for pedestrians [ALTEC GmbH, 2011]
3.2 German best practice for bikes:

**PFIFF – TRICYCLES**

*Best practice and innovation:*
Tricycles for handicapped and elderly people have a huge responsibility in every day life, for example as a training device for durability or balance, for the improvement of ones personal mobility or for stimulating ones senses [PFIFF Vertriebs GmbH, 2011].

*Target group:* Private people, medical supply and bike companies.

Figure 2: PFIFF - Tricycles [PFIFF Vertiebs GmbH, 2011]

3.3. German best practice for public transport, rail systems and crossings:

**veloSTRAIL – /**

the system eliminates the flange groove.

*Best practice and innovation:*
- extremely safe crossing for wheelchair users, cyclists, inline-skaters, baby carriages and trolley bags,
- totaly even surface,
- closes the flange groove.

*Target group:*
Cities, Rail- and Tramway operators.

Figure 3: veloSTRAIL - the system eliminating flange grooves [STRAIL, 2012]

Figure 4: veloSTRAIL - profile [STRAIL, 2012]
3.4 German best practice for cars:

**Valeo - COMFORT & DRIVING ASSISTANCE SYSTEMS**

**Best practice and innovation:** These systems improve safety and driving comfort by offering easy access and enhanced 360° visibility around the vehicle, while creating an ergonomic, intuitive relationship with one’s environment. It comprises four product groups: Driving Assistance, Interior Controls, Interior Electronics, and Access Mechanisms [Valeo Management Services, 2008].

**Target group:** Auto manufacturers and sale services.

Figure 5: Valeo – Comfort and driving assistance systems for cars with 360° visibility [Valeo Management Services, 2008]

4. Implement your selection

Use the German best practice list create tenders on the latest standard. The evaluation of tenders is based on standardized assessment procedures such as cost-effectiveness analysis, cost-benefit analysis and environmental impact assessments [Lohse, 1997]. The placement of an order and implementation must be performed in accordance with national, European and international guidelines [Lohse, 1997].

**RESULTS - EVALUATION OF BEST PRACTICE**

The term quality of living is used to evaluate the general well-being of individuals and societies [Gregory, 2009]. Quality of living should not be confused with the concept of standard of living, which is based primarily on income. Instead, standard indicators of the quality of living include not only wealth and employment, but also the built environment, physical and mental health, education, recreation and leisure time, and social belonging [Gregory, 2009].

A quality of living evaluation with barrier-free category is given in the table 2:

- Ramp for pedestrians,
- stairs climbing machines,
- barrier-free crossing point for pedestrians and cyclists,
- orientation system for pedestrians and cyclists

are alternative guidance with positive effect of the lack of access and the quality of living.

- Bus, train, car driver information system and
- simple ticketing machines

are demand management optimisation with positive effect of the living and the environment.
Driving assistance systems for cars, comfort car products like rotary seats and Tricycles are adapted transport products for elderly people. They can use the car or bike longer and need not the public transport e.g., with long walking distances to stations.

**Table 2: Quality of living evaluation with barrier-free category (GHG = greenhouse gas) [Kretz, 2009]**

**DISCUSSION - COMPARISON OF QUALITY OF LIVING EVALUATIONS**

There is no uniform standard or a guideline on how the quality of living is calculated. In the most indexes there are no barrier-free category included.

In the Mercer’s 2011 report the European cities dominate worldwide Quality of Living ranking, with cities in Australia, New Zealand and Canada also ranked highly. Singapore is the first Asian city in the Top 25, at 25. Vienna is No. 1 in the Quality of Living ranking [Mercer, 2011]. The total index is based on the following categories: Consumer goods, Economic environment, Housing, Medical and health considerations, Natural environment, Political and social environment, Public services and transport, Recreation, Schools and education and Socio-cultural environment [Mercer, 2011].

The Global Cities Index provides a comprehensive ranking of the leading global
cities from around the world [A.T. Kearney, 2012]. The Index shows how these cities are integrated with the rest of the world as leaders in globalization. The study was developed by A.T. Kearney, the Chicago Council on Global Affairs and Foreign Policy magazine. The Global Cities Index is designed to track the way cities maneuver as their populations grow and the world continues to shrink [A.T. Kearney, 2012]. The quality of living or barrier-free access was not included. For 2010, the Index ranked 65 cities from around the world. New York tops the list of global cities. Other leaders include Tokyo, Paris, Hong Kong, Chicago, Los Angeles and Singapore [A.T. Kearney, 2012].

CONCLUSION - THE FUTURE TRANSPORT PLANNING

Human mobility is a guarantor of freedom and self determination. Independence, mobility, flexibility, and individuality is in our all interest. Especially in the age to move independently and safely in everyday life means self-determination and to age with dignity. The needs of the human world has changed. The adaptation of the mobility is possible. The solutions and grants are available.

REFERENCES


STRAIL level crossing systems / STRAILastic track damping systems - KRAIBURG Elastik GmbH. 2012. veloSTRAIL - the system eliminating flange grooves. [Internet]. Available from: http://www.strail.de/index.php?id=197&L=1, 06.03.12.