Work package 4: Action plan: Guidelines and recommendations for research topics and future transport strategy

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1. Aim of the TRACY project

1.1 Project overview

Transport needs for an ageing society (TRACY) is a two year research project funded under the EU FP7 programme. The project has three main aims:

- To provide a systematic review of policies and programmes that address the mobility related needs of older people in the 27 EU states, associated countries and in Japan, Australia, New Zealand and the USA (Work Package 2, output D2.2).
- To analyse the extent to which this ‘state of the art’ is fit for purpose in addressing transport needs in an ageing society (Work Package 3, output D3.2).
- To identify policy and research gaps and contribute towards a strategy capable of tackling these needs (Work Package 4).

This report forms the second and last deliverable of Work Package (WP) 4, which is entitled “Action plan: Guidelines and recommendations for research topics and future transport strategy”. The report brings together the main findings of the project (achieved during the previous WPs 2 and 3). This provides the framework for the deduction of requirements and recommendations for future action as well as suggestions for potential research topics, addressed to the level of the EU and to the national level of the member states.

The report contains seven main chapters. The brief project overview follows a presentation of the interlinked project phases and the applied methods. To conclude the introduction chapter we will provide some background information about the ageing society.

This is followed by Chapter 2 which contains the results of our review of topics and issues regarding older people and transport as they are currently discussed in academic literature, providing a basis and context for the following considerations. This policy review was accompanied and underpinned by interviews with representatives of national transport authorities and organisations for older people from 17 European countries, Japan, Norway and Switzerland.

In Chapter 3 we will then set out the result of approaching transport needs of the ageing society by introducing quality features which TRACY defined as necessary to meet the needs of older people. Thus these qualities are regarded as essential for the creation and securing of an age friendly transport and mobility system.

Chapter 4 is dedicated to the review of the policies identified in WP2 and it sets out how the before mentioned qualities required to meet the needs of older people are recognised within the identified national government policy. Afterwards Chapter 5 sketches “The bigger picture” by presenting an overview of types and variations as well as an evaluation of the current policy and research practice. This assessment is carried out within the framework of the mentioned quality features of an age friendly transport and mobility system.

In order to validate the findings from the previous sections, focus group workshops with representatives of transport authorities, transport providers and organisations for older people were carried out in Norway and Spain. These served especially in order to “road-test” and fine-tune our preliminary conclusions and recommendations which were discussed to gain the participants’ perspectives and new input to the project. All these implications lead to the Chapter 6, in which the recommended actions with focus on transport needs for older people in future policymaking are presented. These should aid the EU and the member states to prepare for the upcoming challenges which go along with the demographic change in the field of transport and mobility. Moreover, research topics are outlined: Targeted research is intended to allow for a better understanding of challenges and needs, it should be designed with the aim of an optimal communication of research results.

A conclusion (Chapter 7) brings the report to a close.
1.2 Project phases and workflow

The TRACY project has a complex structure, with many linkages between the work-packages and the chapters within them. The main project stages are presented in Figure 1. It shows the flows between the WPs, and how the data collection (WP2, as described in the Chapters 2-5 and the Appendices of D2.2) is linked to the analysis undertaken (WP3, as reported in D3.2, Chapters 2-5).

Ultimately the work from WP2 and WP3 flows into the action plan as the findings are turned into recommendations for future policymaking and research.

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**Figure 1: Overview of inter-linkages between project stages**

<table>
<thead>
<tr>
<th>WP2</th>
<th>Data collection</th>
<th>WP3</th>
<th>Data analysis</th>
<th>WP4</th>
<th>Action plan</th>
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<tbody>
<tr>
<td><strong>Ch. 2:</strong> Demographics of the ageing society</td>
<td><strong>Ch. 3:</strong> What is known about the transport needs of the ageing society?</td>
<td><strong>Ch. 4:</strong> EU wide policies</td>
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<td><strong>Action plan: Guidelines and recommendations for research topics and future transport strategy</strong></td>
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<td><strong>Method</strong></td>
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<td>Desk review of population and transport statistics</td>
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<td>Desk review of EU policies</td>
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<td></td>
<td>Review of transport data</td>
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<td>Results organised by mode</td>
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<td><strong>WP2</strong></td>
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<td></td>
<td>Overview of the transport policies mentioning ageing at EU level</td>
<td><strong>Ch. 4:</strong> Results of the policy review</td>
<td><strong>Ch. 5:</strong> Current policy, practice and research – the bigger picture</td>
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<td></td>
<td>Summary of results from individual country policy reviews</td>
<td><strong>To what extent are the properties and characteristics currently being met?</strong></td>
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<td>Overview of demographics</td>
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<td>Administration and political structure</td>
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<td>Individual policy summary tables</td>
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<td>Desk review of country administrative structure</td>
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<td>Desk review of policies relating to transport and mobility of older people</td>
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<td>Governments understanding of the issues</td>
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<td>Interviews with policy makers in 20 countries</td>
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<td>What does this mean for the transport and mobility system as a whole?</td>
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A detailed description of the methodology applied can be found in D3.2, Chapter 1.2. Also the full details of the findings of each stage can be found in the accompanying reports available from the TRACY website. Where relevant these reports are referred to in the text by their number (e.g. D2.2 and/or WP2).

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1 www.tracy-project.eu and cf. the references at the end of this report: TRACY – Transport needs for an ageing society (2012a, b and 2013a, b)
1.3 Background

1.3.1 The ageing society

Evidence suggests that society is ageing. This means that the average age of the population in many EU-countries is rising due to a combination of increased life expectancy and declining birth rates. The change in age distribution is shown in the diagram below (s. Fig. 2).

**Figure 2: EU27 Population Pyramid: 2011-2060**

![EU27 Population Pyramid: 2011-2060](image)

This ageing process places a number of challenges on society in terms of economic issues and social issues. In particular as the old age dependency ratio (acc. to EUROSTAT defined as ratio between the (projected) total number of elderly persons aged 65 and over and the (projected) number of persons of working age from 15 to 64) increases, there may be a shortfall in taxation income to pay for essential services, alongside an increased demand for services such as healthcare.

**Figure 3: Old age dependency ratio: 2030 projections**

![Old age dependency ratio: 2030 projections](image)
As Figure 3 shows, by 2030 the ratio in some countries will be as low as 2 or even fewer of economically active people for each economically inactive person.

Furthermore social issues such as loneliness may increase as older people may increasingly live alone due to the death of a partner or companion. Living alone can be a marker of vulnerability, especially in cases of illness or disability, and it is associated with a greater risk of social isolation and poverty\(^2\) (s. also profiles of older people developed by GOAL project).

1.3.2 The policy context

Policy makers have been aware of the burgeoning issues associated with the ageing society for some time now, and have been taking action to deal with them. However this has been complicated by the current economic climate. Governments face having to deal with the issues placed upon them by an ageing society within increased financial constraints (as highlighted in the document “Dealing with the impact of an ageing population in the EU” (2009 Ageing Report)).

In light of these challenges, the EU has been promoting active and healthy ageing through initiatives such as the EuroHealthNets “Healthy Ageing” website, the aim of which is to “optimise the opportunities for physical, social and mental health to enable older people to take an active part in society without discrimination and to enjoy independence and good quality of life”\(^3\) and the European Year for Active Ageing and Solidarity between Generations (2012). Figure 4 shows the principles agreed as a result of the latter.

**Figure 4: Guiding principles for active ageing and solidarity between generations\(^4\)**

These principles underpin the activities of governments in relation to ageing and as such they underpin our recommendations.

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\(^2\) For more details about “Demographics of the ageing society” confer to D2.2, Chapter 2.

\(^3\) EuroHealthNet 2013

\(^4\) Council of the European Union 2012
1.3.3 The role of transport in an ageing society

The ageing process may place challenges also on the transport systems. As the population of elderly is growing, there will be an increasing number of people with some mobility problems. So while there may be new challenges for the society and for transport providers, in general transport has a dual role in helping governments to meet the needs of the ageing society:

- Firstly transport has a significant role to play in helping older people staying independently mobile for longer and thus contributing to their quality of life.
- Secondly transport can lead to health benefits for older people (through improved quality of life and the potential for active travel). In turn, this can lead to cross sector benefits (such as cost savings in the health and social care sector).

As such, transport has an important role to play in helping governments to sustain their ageing populations.

1.4 GOAL project

While TRACY analysed current policymaking in order to identify research gaps and possible action, GOAL (Growing Older, Staying Mobile) as sister project has been working for the last 2 years in a different way to produce an action plan\(^5\) for innovative solutions to fulfil the transport needs within an ageing society.

GOAL described the physical and mental characteristics of older people and used these to develop profiles (s. Chapter 3.2) that represent the range of characteristics to be formed in the population now and in the future. These profiles were used to explore in a structured way the needs of older people while driving, using public transport, walking and cycling and the relevant information needed before and during travel.

The GOAL action plan focused on the development of innovative solutions for transport needs of older people in the near future. The action plan was based on a thorough review of existing knowledge, its coherent understanding and interpretation, future scenario assessment taking into account societal, technological and other developments, stakeholder consultation, and the identification of research needs.

The TRACY project drew on the profiles developed by GOAL to develop the list of qualities that the transport system should have to meet the transport needs of an ageing society (s. Chapter 3 and D3.2 for more detail).

\(^{5}\) Cf. GOAL - Growing Older, staying mobile: Transport needs for an ageing society 2012, 2013
2. What is known about older peoples' mobility?

2.1 Introduction

The issue of an ageing society is increasingly prominent in the academic literature and in this literature review we point out how it is being considered in transport and related fields. This is to deliver some basis and context for the considerations we point out in the following.

A structured literature search was undertaken of the academic literature available in English, German, Spanish and Norwegian. This focused on literature published in the last 10 years in order to avoid replication of other studies and to ensure the latest findings were considered.

In terms of the findings, the review highlights the importance of considering the whole door-to-door-journey (travel chain) from the home to the destination, as any obstacle can make an older person unlikely or unable to complete a journey. Considering the travel chain may go some way towards helping older people use transport to enhance their mobility, and to make the process of driving cessation more palatable and practical.

These findings have been explored further during WP3 in relation to the policies to promote mobility for older people that exist both at the EU level and within individual member states. In Chapters 4 and 5 we turn to the results and findings of assessing the policies that we identified in this area.

The full literature review is contained in the detailed report D2.2, Chapter 3, its findings can be summarised under the following headings.

2.2 The relationship between transport and mobility

- Transport is a key component in the maintenance of mobility in later life.
- A loss of mobility potentially has many negative consequences for an individual.

There is some debate surrounding the difference between mobility and transport. We refer to mobility as “the ability to move oneself (either independently or by using assistive devices or transportation) within environments that expand from ones home to the neighbourhood and the regions beyond” (Webber, Porter & Menec, 2010, p.444). This mobility is closely connected to transport, but mobility is only one aspect of wellbeing and health for older people.

Banister and Bowling (2004) note that transport is important particularly in terms of facilitating access to local services and facilities. In this context, our review discusses transport patterns and needs by mode – car, public transport walking and cycling, and reducing the need to travel – since this is often the way policies are orientated.

Within each of these sections factors such as personal preference, behavioural patterns, policy approaches and links to other sectors are considered as appropriate.

2.3 Transport and ageing – what needs to be considered?

- Older people tend to travel less distance but make more trips than their younger counterparts.
- Older people as a group are not homogeneous (s. Chapter 3), and as such transport policies need to take the needs of different groups of older people into account.
- Where older people live affects the transport options available to them.
- The perceptions of older people in terms of transport availability and suitability may differ from the perceptions of policy makers.

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6 The sources of the literature review are documented at the end of this report.
This section illustrates that establishing the transport needs and behaviours of older people is a complex process. It is important to consider what older people say they need alongside what transport planners and policy makers think they need. Generally speaking, older people prefer private transport to other modes, but lifestyle factors such as location are also significant when developing policy solutions. Policy approaches that fail to take all of these elements into account have a diminished chance of being successful.

2.4 Driving and travelling by car

- Older people are more likely to be involved in a collision in a complex traffic scenario.
- Older people are more likely to be injured in a collision.
- Giving up driving can lead to isolation.
- Ageing leads to performance limitations such as reduced vision and a longer response time which can influence fitness to drive.
- There is little concrete evidence that age based licensing procedures reduce accidents.
- There is potential for older driver education programmes to impact upon safety.
- Many older drivers self-regulate in order to continue driving safely.
- Older drivers tend to over-rate their driving ability.
- Technology and road design have the potential to make driving safer for older drivers.
- Driving cessation is not something older people plan for.

The literature covers a wide range of potential changes to driving ability and performance which may occur with age.

It is highly important that the changes to a driver’s ability with age are adequately understood (recognising the gains and losses of ageing, and barriers and disruptive influences that may impact upon this) so interventions can cater correctly for these changes.

While the literature highlights more problems than solutions, some of these difficulties could be reduced by challenging the perceptions of older drivers and of their friends and family in relation to maintaining mobility. Having said this, there appears to be a role for educational programmes that can help older people remain independently and safely mobile for as long as possible.

2.5 Travelling by public transport

- Patterns of public transport use vary across the differing cohorts of older people.
- Older people can be disinclined to use public transport due to accessibility, affordability, and understanding.
- Public transport may not be serving the needs of older people as well as it could.
- There is a large amount of guidance available on making public transport accessible.
- Concessionary fares have a largely positive impact for older people.
- Negative perceptions and lack of awareness of innovative public transport modes impact upon usage levels.
- Adequate information about public transport which is aimed at older people should be provided.

From a usability perspective, a combination of person-centred, environmental and occupation-related factors – including bus/train design, service provision and performance,
information and the attitudes of staff and the community – impact on older people’s ability to catch buses and trains.

For these reasons, e.g. approaches as occupational therapy are suggested as something that could play a key role in improving the usability of public transport. Overall while there is some research about the utility of public transport for older people, it largely seems to suggest that public transport is lacking overall in terms of its ability to serve the needs of the ageing society, especially for those people who have been former drivers. Nevertheless big steps have been taken in recent years in terms of the options available to make public transport a more suitable mode; it remains to be seen how far these will be adopted.

2.6 Walking and cycling

- “Walking is the first thing an infant wants to do and the last thing an old person wants to give up” (Rawas 2007, p. 20).
- Walking is the first and last element of every travel chain.
- Walking may be preferable to some older people who are unfamiliar with public transport.
- Walking and cycling both have fitness benefits, but elderly cyclists are more likely to have an accident.
- Different factors influence the decision to walk for transport and the decision to walk for exercise.
- Neighbourhood walkability increases the likelihood of older people walking.
- Safety of older walkers needs to be considered, especially in relation to crossing the road.
- Older cyclists are not well documented in the literature.

In summary, walking and cycling offer the opportunity for older people to remain mobile and experience health benefits.

Projects to improve infrastructure for walking and cycling are likely to benefit older people, and combined with promotional activities could help to encourage older people to consider these modes both for transport and for exercise.

2.7 The role of reducing the need for transport

While our focus is on the various transport modes that an older person could use to help maintain the personal mobility, there is also the potential for Information and Communications Technologies (ICTs) to provide an alternative or complementary virtual opportunities to access goods, services and social interaction.

At the same time and to be regarded as complementary to “good transport planning”, there is also a role for “good” development planning in terms of designing and maintaining pedestrian friendly settlements that have local services and facilities.
3. Quality features of an age friendly transport and mobility system

3.1 Introduction
In WP3 the scene was set in terms of what affects how older people want, and need to use mobility and transport systems\(^7\). These are obviously essential issues to consider in all phases of policymaking for transport and mobility services in an ageing society and at all levels. In the following sections those findings regarding needs and potential barriers for older people in the transport environment are summarised.

3.2 Approaching the transport needs of older people
In general and as a first step, it was identified that people have various layers of needs. There are needs that they need to survive (for example food, water, shelter etc.) and those that they need to thrive (for example social interaction, education etc.). However while literature identifies that these needs are common to all people, the extent to which they have an impact varies depending on a number of factors, one of which could be age. The transport and mobility system should help people to meet these needs. While the basic needs could be deemed the most important, meeting the lifestyle needs of older people will have wider benefits for society in terms of social inclusion and health.

The next step was to look at different profiles of older people with their corresponding properties. The Tracy partner project GOAL-Growing Older, staying mobile developed five profiles of people over the age of 50 based on a comprehensive review of literature, analysis of a range of relevant surveys, input from international experts etc. This was undertaken to identify the characteristics that older people might exhibit in terms of living conditions and social networks, mental problems, residential area and mobility behaviour, access to technology and information. It showed that not only will older people exhibit differences in terms of which needs they struggle to meet according to their personal circumstances, but they are also likely to be experiencing decline in terms of their physical, sensory and cognitive abilities and changes in terms of their living arrangements.

Some of the similarities and differences that the transport and mobility system will need to cater for while it helps older people to meet their wider needs are described below:

- Some older people will have an active social life (potentially including voluntary work), while others will become increasingly isolated due to the changes associated with age.
- Older people are likely to be experiencing some level of cognitive decline.
- The residential area in which an older person lives can impact upon their opportunities and activities.
- Access to friends and family forms an important part of social activities and may also fulfil a supportive function for an older person.
- Access to technology varies, but younger “old” people are more likely to use it than “older” old people.
- Older people are dynamic, and are likely to move between profiles as they age.
- The loss of a spouse may lead to a transition between profiles and often a loss of confidence and independence.
- Older people become more dependent on public transport as they transition between profiles.

Drawing on the points made before it is necessary to acknowledge that these issues will not be universal, and will be experienced more by some older people than by others. That said, given the changes that people experience as they age, it is likely that many older people will experience some of these issues as they grow older. Therefore a transport and mobility

\(^7\) Cf. D3.2, Chapter 2 for full details.
system that caters for these issues will help older people to continue to meet their needs for as long as possible.

### 3.3 Transport and mobility system qualities

The findings described above were discussed in a TRACY partner workshop and in combination with our literature review the following **quality features of an age friendly transport and mobility system** (s. Tab. 1) have been identified as those that benefit older people and cater for the different barriers, opportunities and travel patterns which they might exhibit. These quality features will also be referred to as “system qualities”.

<table>
<thead>
<tr>
<th>System quality</th>
<th>Explanation</th>
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<tbody>
<tr>
<td>Affordable</td>
<td>Use (of the transport and mobility system) should be possible within the financial means of older people.</td>
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<tr>
<td>Available</td>
<td>The mobility and transport system should exist in a way that makes it available to older people.</td>
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<tr>
<td>Barrier free</td>
<td>Facilities that can be used by disabled persons without any specific difficulty and without assistance from third persons⁸. It should be possible to use (the transport and mobility system) taking into account the physical, sensory and cognitive impairments more likely to be experienced by older people.</td>
</tr>
<tr>
<td>Comfortable</td>
<td>The transport and mobility system should be designed or adapted to ensure that older people can use it without experiencing undue discomfort, pain, stress or anxiety.</td>
</tr>
<tr>
<td>Comprehensible</td>
<td>Information about the transport and mobility system should be communicated in a number of ways that make it easy for older people to understand about transport and mobility services.</td>
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<tr>
<td>Efficient</td>
<td>It should be possible to travel to the required destination within a reasonable and suitable amount of time.</td>
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<td>Friendly</td>
<td>The transport and mobility system should be approachable for older people. Where applicable staff who are involved should be</td>
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⁸ cf. the German Federal Law for Equality of Disabled People §4.
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<tr>
<th>System quality</th>
<th>Explanation</th>
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<tr>
<td><strong>Reliable</strong></td>
<td>The transport and mobility system should be delivered and should perform as it could reasonably be expected to allowing for an element of unpredictability caused by unforeseen events, for example, by extreme weather.</td>
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<tr>
<td><strong>Safe</strong></td>
<td>The transport and mobility system should not be dangerous for older people, with their specific needs, to use. They should not feel unsafe while using it.</td>
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<tr>
<td><strong>Secure</strong></td>
<td>The transport and mobility system should be dependable and should not present unnecessary risks to older people. They should feel confident that they are not at risk when using it.</td>
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<tr>
<td><strong>Transparent</strong></td>
<td>Older people should be aware of the existence of the transport and mobility options available to them, and understand how to use them.</td>
</tr>
<tr>
<td><em><strong>Complementary</strong></em></td>
<td>The transport and mobility system should be supported by policies that work alongside it to further promote accessibility for older people.</td>
</tr>
</tbody>
</table>

The definitions in this table are the final ones, they have refined and adapted from the initial definitions throughout the analysis undertaken in WP3. In this process the former system quality “accessible” (cf. D3.2) was renamed “complementary” in order to better encompass the contents of policies relating to this issue.

The system quality “usable” was removed from the list as it is covered by other qualities, furthermore this specific one represents rather a consequence and result of the consideration of all the other system qualities for the transport and mobility system as a whole, than a single feature which can be treated separately and as a single element.

**3.4 Summary**

This section has presented an overview about our findings based on the analysis of information from a number of sources to produce a list of certain qualities that the transport system should have in order to help as many older people as possible fulfil their needs. The quality features presented here served as methodological framework for the analysis of the national transport policies identified. The results of the policy assessment are compiled in the following Chapter 4.
4. State of the art - Current policymaking

4.1 Introduction

This chapter provides analysis of the policies identified across the countries within the review during WP2, and looks at the extent to which they meet the needs of older people and governments. It does this by evaluating each policy against the system qualities introduced in the previous Chapter 3. It looks at the distribution of the policies across the countries, the modes of transport that they address, the types of policies that exist and the overall distribution of the policies across the system qualities.

Subsequently this chapter looks at each of the system qualities which are deemed to be important factors in helping the transport system meet the needs of the ageing society in turn. This ensures that findings will reflect the types of policies that countries should consider within their own unique contexts. Finally, everything will be drawn together in a summary.

4.2 Overview of results

174 policies were identified in total (s. D2.2 Appendices for a full overview and Chapter 5.2 of this report for an overview about types and variations of transport policies identified at the national level of the countries studied). The highest number of policies was found in Switzerland (12) and the least policies in Italy and Cyprus (1). However, the number of policies that each country has is not necessarily linked to efficacy because:

- The scope of the content within an individual policy is widely variable.
- Both specific and general policies exist.
- The process of policymaking within each country varies.
- Public administration is different in each of the countries included in the review.
- The methodology of the project may have inadvertently excluded some policies.

This means that the crude numbers cannot be linked to whether or not a country is performing well.

The policies were categorised according to whether they related specifically to older people, or whether they were more general with some mention on older people. 61% of the policies were specifically aimed at older people. This seems to indicate to some extent that governments have recognised the heterogeneous nature of older people and are considering their future transport and mobility needs.

The policies were also categorised by mode to identify whether there were any patterns in terms of what modes of transport policies are developed in relation to. Some of the policies related to more than one category (s. Fig. 5) hence the percentages adding up to more than 100.

The private car and public transport were the modes most frequently included. However walking and cycling were also prevalent in the results. It is interesting to note that 13% of the policies covered all modes (excluding virtual\(^9\)), but that virtual mobility was infrequently included. Furthermore, those policies that related to virtual mobility tended to be research based, rather than action or strategy policies:

---

\(^9\) Which while not a mode of transport, reduces the need for older people to travel and so can still play an important role in the policy mix.
One of the things that emerged from the review was that there are different types of policies in this sector and these seem to fall into three categories. While these are not mutually exclusive, they were used to categorise the policies on the basis the predominant type of each one for the purpose of analysis. The types are:

- Those that deal with strategy – for example by setting out a high level national plan for road safety, or a plan for the care of older people.
- Those that deal with action – for example concessionary fares policies, or relating to driver licencing.
- Those that deal with research – for example a review of the data pertaining to the ageing society within a geographic area, or a review of the role of cycling and older people. These policies usually include some recommendations for action.

It was identified that 58% of the policies related to action, 34% to strategy and 8% to research. In terms of some of the characteristics of each of these groups, policies in the action category were most likely to be mode specific, and in particular relating to the car (45%) or public transport (56%). The most common types of action focussed policies were those related to concessionary fares and driver licensing.

Policies classified as strategic were the least likely to be specific to older people, while research policies were the most likely to be related to older people. Strategic policies were most common in road safety and barrier freedom, or to a lesser extent relating to planning and ageing generally. Policies classified as research did not exhibit any obvious patterns in terms of the types of policies included.

Key types of issues that policies currently deal with include:

- **Road safety:** Seemingly a common issue across the policies, with the vulnerable nature of older road users frequently being mentioned.
- **Cost:** Many of the countries had policies relating to reducing travel cost for older people, most frequently through reduced or free travel on bus and rail services.
- **Barrier freedom:** There were a number of policies that pertained to making public transport and the built environment as accessible as possible for (older) people with a disability. These tended however to relate to physical accessibility rather than information.
4.3 The extent to which system qualities are currently being fulfilled

This section looks at the extent to which current policies are meeting the system qualities (the method used for the scoring process is described in D3.2, Ch. 1.2.4 in detail). The results give an initial indication that perhaps those system qualities that are the most tangible and easier to link to statistical evidence and monitor are the ones that are currently most common within the policies. For example, safety, affordability and barrier freedom have the highest number of policies that scored 5 and thus have a very strong focus on one of these qualities (s. Tab. 2).

Table 2: Distribution of scores

<table>
<thead>
<tr>
<th>Level of impact Category</th>
<th>Score 1 (none)</th>
<th>Score 2 (Slight)</th>
<th>Score 3 (Medium)</th>
<th>Score 4 (Strong)</th>
<th>Score 5 (Very strong)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordable</td>
<td>118</td>
<td>9</td>
<td>14</td>
<td>11</td>
<td>22</td>
<td>174</td>
</tr>
<tr>
<td>Available</td>
<td>99</td>
<td>36</td>
<td>28</td>
<td>10</td>
<td>1</td>
<td>174</td>
</tr>
<tr>
<td>Barrier-free</td>
<td>104</td>
<td>17</td>
<td>18</td>
<td>18</td>
<td>17</td>
<td>174</td>
</tr>
<tr>
<td>Comfortable</td>
<td>94</td>
<td>66</td>
<td>12</td>
<td>2</td>
<td>0</td>
<td>174</td>
</tr>
<tr>
<td>Comprehensible</td>
<td>119</td>
<td>27</td>
<td>19</td>
<td>6</td>
<td>3</td>
<td>174</td>
</tr>
<tr>
<td>Efficient</td>
<td>165</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>174</td>
</tr>
<tr>
<td>Friendly</td>
<td>140</td>
<td>20</td>
<td>13</td>
<td>1</td>
<td>0</td>
<td>174</td>
</tr>
<tr>
<td>Reliable</td>
<td>170</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>174</td>
</tr>
<tr>
<td>Safe</td>
<td>56</td>
<td>38</td>
<td>24</td>
<td>26</td>
<td>30</td>
<td>174</td>
</tr>
<tr>
<td>Secure</td>
<td>64</td>
<td>68</td>
<td>34</td>
<td>7</td>
<td>1</td>
<td>174</td>
</tr>
<tr>
<td>Transparent</td>
<td>131</td>
<td>13</td>
<td>18</td>
<td>10</td>
<td>2</td>
<td>174</td>
</tr>
<tr>
<td>Complementary</td>
<td>138</td>
<td>16</td>
<td>11</td>
<td>6</td>
<td>3</td>
<td>174</td>
</tr>
</tbody>
</table>

In order to generate a deeper understanding of the links between each system quality and the policies identified, the system qualities were then looked at in turn. For each system quality it was looked at:

The policies found
- High scoring policies within each category

Attributes and patterns
- The overall distribution of scores
- The types of policies (action/strategy/research)
- The modes of transport covered
- Links to other system qualities

Wider relationships
- Geographical patterns
- Links to sustainability
- Cross sector linkages
Implications for older people and governments

- Advantages and disadvantages of this type of policy
- Overall conclusions

4.4 Gender issues

As was also found in the literature review in WP2 (D2.2), there are clearly gender issues associated with transport for older people.

There is a gender issue if a policy has different impacts on men and women. This may happen because:

- The distribution of male and female users is varying between the different transport modes. Improvements in transport modes where the majority of users are men will benefit men more than women, and woman will benefit most where they are the majority.
- Woman and men may have different views on types of barriers.
- Woman and men make different modal choices (Sirén et al. 2001).

Car driving is dominated by men

- More men than women have a drivers’ license, and men drive more than women. The differences are higher among the old population. These differences may be reduced when new generations grow older, but will not disappear. Men also are the majority among the group of younger drivers, where they also drive more.
- Actions to keep up driving may improve mobility for more men than women, although keeping up men’s driving may have positive effects on their spouses’ mobility as well.
- The reasons to give up driving are different. Most women give up driving because they feel unsecure by driving, or feel they are no longer fit for driving. Men are more likely to keep up driving “until the doctor tells them to give up” (Hjorthol et al. 2011).

Old woman use public transport more than old men, and men and women look differently at barriers

- In local public transport there is a majority of women among older passengers (cf. Alm, C. & Lindberg, E. 2003)
- There are three main groups of barriers for old people: Safety, comfort and information/price. Safety is regarded more important by women than by men (cf. Hjorthol et al. 2011).

There are similar mechanisms related to walking and cycling

Women travel more as pedestrians than men, and men use the bicycle a little more (Sirén et al. 2001). These numbers may vary around Europe, and the possible gender effects may be identified through local travel surveys.

Our analysis in WP3 has shown, however, that overwhelmingly policies addressing the transport needs of older people do not have an explicit gender dimension. Thus the review did not look at gender in detail, because during the initial analysis there were not any policies identified, with the exception of one policy concerning concessionary fares, where gender differences are identified, or where differing genders are treated separately. This is interesting as our review of the needs of older people found that they are heterogeneous as a group (s. above).
4.5 Effectiveness of policies

Finally, judging the effectiveness of various policies was extremely difficult because most of the policies had not been evaluated, or evidence from evaluations was not available. This was something that was confirmed within most of the interviews. Therefore within the analysis chapter it has not been possible to accurately assess the effectiveness of the policies, and any assessment of likely effectiveness is based on the likely impact of the policies rather than actual evaluative evidence.

4.6 Summary

A summary of the results for each system quality is shown in Table 3 and some commentary is provided below.

- There is a varying distribution of very strongly focussed, medium focussed and low focused policies in each system quality. Affordability, barrier freedom and safety all had a large number of very focussed policies, while the remainder of the system qualities had between 0 and 3 policies that were very focussed.
- The system qualities that had a high number of very strongly focussed policies also tended to have a high number of focussed policies (score 4). Some system qualities (efficient and reliable) have no policies with a very strong focus or medium focus on the respective system quality. This indicates that some system qualities are not currently at the forefront of national government policy (for a variety of reasons).
- The majority of policies identified were “action” policies, with some strategy policies and very few research policies. This shows that polices were more likely to be orientated towards delivering changes to help older people, as opposed to high level strategies. System qualities with a high number of strategies included road safety and barrier freedom.
- Very few research documents were identified. This may be because research had been undertaken to support the policy development, but it was not identified as a separate policy within this review.
- 60% of all policies identified focussed on older people. This split was also reflected in the high scoring policies for many of the system qualities. In particular availability and affordability had the most high scoring policies that focussed on older people. This indicates that older people are considered as a group on their own with particular needs, but also as part of the wider population.
- The very strongly focussed or focussed policies for each system quality were most likely to be linked to the car, followed by public transport. Some of the very strongly focussed or focussed policies were linked to walking or cycling, while very strongly focussed or focussed policies exploring virtual mobility were very rare.
- In terms of geographical patterns, very strongly focussed or focussed policies were more likely to come from westerly or centrally located countries, Scandinavia and the none-EU countries. Eastern Europe, Southern Europe, and the Baltic countries had fewer policies with a strong focus.
- In general the policies were not focussed on either rural or urban areas, although there are a few examples of policies that are intended specifically for these geographical types. This shows that countries are considering the needs of all older people regardless of where they live. However without taking particular needs associated with rural or urban geography into account the relative impact on different areas might be overlooked.
- Many policies are likely to have a wider impact on social or economic sustainability; however these are not particularly strong or direct. In general policies that help older people travel could contribute to social sustainability by helping people remain mobile and thus contributing to improved quality of life.
However there is a cost associated with implementing these policies and in some cases on-going maintenance (although this may be offset by increased economic activity by older people in local areas). There are weak links with environmental sustainability in some areas, although only where older people may be encouraged to walk, cycle or use public transport rather than driving.

- Many policy areas will have benefits for the health and social care sector through helping people to remain mobile, active and independent. They may also have wider benefits for other users of transport services who are able to benefit from any improvements made.

The results from each system quality-analysis generated a number of wider findings that relate to older people and governments more generally. There was a general pattern of many of the system qualities not appearing to be comprehensively considered at the national level (although they may be adequately dealt with at the local level, an area not investigated in this study). Furthermore the ease with which policies tackling each system quality could be implemented was variable. For example:

- Some system qualities were more tangible and measurable.
- Some policies would also be much cheaper to implement than others.
- Some of the system qualities currently refer mainly to one mode of transport, and other modes of transport would benefit from being considered in the same way so that they are also adapted to meet the needs of older people.
  For example availability can relate to the existence of walking and cycling infrastructure as well as public transport services.
- Many of the system qualities would be best tackled at the local level. However national government can have a valuable role both in providing research about the needs of older people, and providing guidance to local governments how needs can best be tackled.
- More knowledge is needed in many areas to deepen understanding of the issues and aid policy development.

This chapter has provided a comprehensive overview of how the system qualities required to meet the needs of older people are recognised within national government policy. The next chapter will draw together these findings with those from WP2 (D2.2) to complete the picture and provide an overview of the current state of the art in this field in Europe.
Table 3: Summary of findings

<table>
<thead>
<tr>
<th>System quality&lt;sup&gt;10&lt;/sup&gt;</th>
<th>Types of policy</th>
<th>Modes</th>
<th>Geographical patterns&lt;sup&gt;11&lt;/sup&gt;</th>
<th>Sustainability</th>
<th>Cross sector links</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordable</td>
<td>Mainly action</td>
<td>Mainly public transport</td>
<td>None</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;: Social 2&lt;sup&gt;nd&lt;/sup&gt;: Economic 3&lt;sup&gt;rd&lt;/sup&gt;: Environmental</td>
<td>Weak links to healthcare and social care</td>
</tr>
<tr>
<td>Available</td>
<td>Strategy then action</td>
<td>Mainly public transport, then walking, cycling and the car</td>
<td>Some outside the EU the rest mainly in the westerly countries</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;: Economic 2&lt;sup&gt;nd&lt;/sup&gt;: Social 3&lt;sup&gt;rd&lt;/sup&gt;: Environmental</td>
<td>Health Social care</td>
</tr>
<tr>
<td>Barrier-free</td>
<td>Mainly strategic, less action and barely research</td>
<td>Mainly public transport; car, walking and cycling considered less but to a similar extent</td>
<td>None, single countries with up to 5 focused policies</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;: Social 2&lt;sup&gt;nd&lt;/sup&gt;: Economic 3&lt;sup&gt;rd&lt;/sup&gt;: Environmental</td>
<td>Social and health Indirect links to economy</td>
</tr>
<tr>
<td>Comfortable</td>
<td>Mainly action</td>
<td>Mainly public transport; car, walking</td>
<td>Central or westerly located countries, Scandinavia</td>
<td>None.</td>
<td>Social</td>
</tr>
<tr>
<td>Comprehensible</td>
<td>Mainly strategic, less action and barely research</td>
<td>Rather equal distribution, some bias</td>
<td>Scandinavia (Sweden), central or westerly located countries</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;: Social and Economic 2&lt;sup&gt;nd&lt;/sup&gt;: Environmental</td>
<td>Health Social</td>
</tr>
<tr>
<td>Efficient</td>
<td>Strategy then action</td>
<td>Walking, cycling and public transport</td>
<td>None</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;: Social 2&lt;sup&gt;nd&lt;/sup&gt;: Environmental 3&lt;sup&gt;rd&lt;/sup&gt;: Economic</td>
<td>None identified.</td>
</tr>
<tr>
<td>Friendly</td>
<td>Action</td>
<td>Mainly public transport, less car</td>
<td>None</td>
<td>Social</td>
<td>Weak links to social sector</td>
</tr>
<tr>
<td>Reliable</td>
<td>Not identified</td>
<td>Not identified</td>
<td>None</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;: Economic</td>
<td>Health Social</td>
</tr>
<tr>
<td>Safe</td>
<td>Action, then strategy</td>
<td>Car, walking and cycling</td>
<td>Widespread throughout the countries studied</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;: Social 2&lt;sup&gt;nd&lt;/sup&gt;: Economic</td>
<td>Health</td>
</tr>
<tr>
<td>Secure</td>
<td>Action</td>
<td>Car</td>
<td>Outside the EU or in westerly countries</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;: Social</td>
<td>None identified</td>
</tr>
<tr>
<td>Transparent</td>
<td>Action, some strategic</td>
<td>Car, public transport, less walking and cycling</td>
<td>No pattern, rather concentration on single countries</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;: Social and Economic 2&lt;sup&gt;nd&lt;/sup&gt;: Environmental</td>
<td>Mainly social</td>
</tr>
<tr>
<td>Complementary</td>
<td>Action and strategy</td>
<td>None</td>
<td>None</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;: Social 2&lt;sup&gt;nd&lt;/sup&gt;: Economic 3&lt;sup&gt;rd&lt;/sup&gt;: Environmental</td>
<td>Health Social care</td>
</tr>
</tbody>
</table>

<sup>10</sup> Where no policies scoring highly were identified, policies scoring lower were included in the analysis so that the system quality could be explored. See individual system quality summaries in D3.2 for details of where this took place.

<sup>11</sup> See sub-sections of D3.2, Chapter 4 for listings of countries where policies were found.
5. Current policy, practice and research: The bigger picture

5.1 Introduction
This chapter forms the link between the previous one about the results of the policy review and the next chapter, containing the TRACY recommendations for future action and research: It aims at outlining the assessment of the current situation, *the state of the art*, as it was identified in our research in terms of governments providing for the transport needs in an ageing society.

It starts with an overview about main types of policy which were found in relation to the different transport modes. Furthermore it provides some discussion of the findings of the previous chapters in light of each other, and the contents of D2.2.

The whole chapter forms the basis

- for how the TRACY project findings could lead to actions for the EU and for the national governments and
- to identify research gaps to be filled in order to generate a better understanding of and catering for transport needs in an ageing society.

5.2 Transport policies at the national level – types and variations
The following tables provide a mode-wise (all modes, car, public transport, walking, cycling, and virtual solutions) overview about the types of policy identified during the review of national level programmes and approaches.

The overview provides a short explanation about the contents of each policy type, it describes variations between them and it also considers how currently implemented policies refer to the qualities of an age-friendly transport system.

Moreover it is displayed how current policies consider further relevant aspects such as sustainability issues and health benefits. For example a certain policy might impact the development of the modal split in a transport system. If this develops towards an ecologically more sustainable proportion, such policies have a positive influence in addition to effects on mobility. Similarly, policies to ease walking or cycling for more people may have induce positive health effects.
### Table 4: Types and variations of national transport policies: All modes

<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
</tr>
</thead>
</table>
| Strategies for the ageing society | These policies look at issues such as changes associated with an ageing society in relation to transport (e.g. travel patterns) and issues connected to ageing and use of the built environment. | - Legislation and guidelines for new procurements, public buildings and facilities (e.g. transport systems, outdoor areas) and means of information and communication to be designed for all  
  - Statutory requirements for implementation or deadlines for enacting such requirements  
  - Research into the needs and demands of older people and suggested actions |
| Strategic approaches to enhance road safety | Generally polices in this group aim to reduce accidents, injuries and deaths (of older people) linked to all modes of transport. They usually comprise theoretical and practical training, sensitisation and awareness raising on behalf of older people about age-related changes of individual capabilities and for safe behaviour as drivers. | - Analysis of serious traffic accidents caused by drivers over 65 years, definition of older people as risk group in traffic  
  - Identification of the need for education to ensure safer traffic  
  - Demands of a higher information standard for traffic participants  
  - Identification of the need to develop a transport system which tolerates mistakes, but does not tolerate violation of rules  
  - Public information campaigns to raise awareness among elderly to increase awareness of age-related changes and their impact on participation in transport |

#### Qualities of the transport system
- Affordable
- Available
- Comfortable
- Comprehensible
- Efficient
- Friendly
- Reliable
- Safe
- Secure
- Transparent
- Complementary measures

#### Other considerations
- Social sustainability
- Environmental sustainability
- Economic sustainability
- Health Benefits

#### Policy examples and reference
- Policy for elderly people ‘ΕΜΠΟΔΙΖΟΜΕΝΑ ΑΤΟΜΑ’ OR ‘ΑμεΑ ΑΤΟΜΑ ΜΕ ΑΝΑΠΗΡΙΑ’, Cyprus, D2.2/Appendix B6
- National Programme of Preparation for Ageing for 2008 – 2012, Czech Republic, D2.2/Appendix B7
- Norway accessible by 2025 - cross sector policy, Norway, D2.2/Appendix B23
- National Programme for the Improvement of Road Safety in the Republic of Bulgaria, 2010-2013 Bulgaria, D2.2/Appendix B5
- Strategic Infrastructure Program, Italy, D2.2/Appendix B15
## All modes

<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic participants.</td>
<td>- Investigation of options for additional educational programmes for drivers over a particular age and the modifications in their driving style caused by the changed possibilities</td>
<td></td>
</tr>
<tr>
<td>Design for all/barrier freedom in urban planning and the transport sector</td>
<td>This type of policy relates to the promotion of barrier free transport environments and travel chains.</td>
<td>- Pedestrian mobility and requirements of a barrier free pedestrian environment in combination with public transport, e.g. guidelines for design of traffic lights with tactile signal criteria, pedestrian paths, crossings, to be applied as planning tool for traffic system planning. - Allocation of separate resources for improvements of existing transport environments not necessarily demanded, but recommendation to make improvements alongside small road safety measures or road maintenance procedures. - Appointing of a contact person responsible for coordinating and promoting accessibility-related matters in defined areas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Qualities of the transport system</th>
<th>Other considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordable</td>
<td>Available</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

**Policy examples and reference**

- Accessible pedestrian environment, Finland, D2.2/Appendix B10
- National Plan for the Promotion of Accessibility, Portugal, D2.2/Appendix B25
- Universal accessibility in municipalities: a comprehensive policy guide for development and management, Spain, D2.2/Appendix B30
Table 5: Types and variations of national transport policies: Car

<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
</tr>
</thead>
</table>
| Driver licensing        | Policies in this category generally related to the mandatory renewal of a drivers licence once a certain age was reached. The criteria varied between countries. | • Start age and frequency of renewal obligation varies.  
• Medical examination mostly obligatory, depending on the state: may encompass the visual ability, hearing ability, cardiovascular diseases and diseases of the nervous system, psychological disorders, alcoholism, drug use, and general health  
• May include testing on traffic laws and road signs |
| Driver training         | Policies in this category related to additional training offered to older drivers to ensure they are aware of changes they may experience as they age that could affect their driving and to keep them up-to-date with the road rules. | • Training sessions offered by NGOs for elderly on voluntary basis  
• Refreshment courses during mandatory driver licence renewal as supportive measure: practical driving and/or theory (e.g. relevant legislation) offered |
| Information             | These policies relate to the                                               |                                                                                              |

<table>
<thead>
<tr>
<th>Qualities of the transport system</th>
<th>Other considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordable</td>
<td>Available</td>
</tr>
<tr>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Policy examples and reference
- Driving licence for elderly, Czech Republic, D2.2/Appendix B7
- Medical certification to drive, Hungary, D2.2/ Appendix B14
- Driver licensing, Luxembourg, D2.2/Appendix B19
- Driving licence policy, Norway, D2.2/Appendix B23
- Driver Licensing, Republic of Ireland, D2.2/Appendix B26

Policy examples and reference
- Driving licence policy, Estonia, D2.2/Appendix B9
- Federal project “Staying mobile, but safe! A program for traffic participants 50plus”, Germany, D2.2/Appendix B12
- Stay Safe Mobile (Blijf veilig mobile), Netherlands, D2.2/Appendix B21
### Car

<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
<th>Qualities of the transport system</th>
<th>Other considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitisation and awareness raising for older people to ensure their continued safe behaviour as car users. Resources are available in a number of forms.</td>
<td>DVDs etc. concerning legal aspects, necessary driving skills, influence of medication, prolonging a driving career, renewing the driving license, life beyond driving, maintaining mobility using by alternatives as public transport, walking, cycling and mobility scooter</td>
<td>Affordable</td>
<td>Available</td>
<td>Barrier free</td>
</tr>
<tr>
<td>Provision of resources and contacts</td>
<td>Recommendations to participate in “stay safe workshop” to update driving skills</td>
<td>Social sustainability</td>
<td>Environmental sustainability</td>
<td>Economic sustainability</td>
</tr>
</tbody>
</table>

#### Policy examples and reference
- Keep Moving, New Zealand, D2.2/Appendix B22
- Careful!Considerate!Correct!, United Kingdom, D2.2/Appendix B34

<table>
<thead>
<tr>
<th>Design of transport infrastruct./road design</th>
<th>These policies relate to recognising the needs of older drivers when designing roads and associated infrastructure. Some countries have undertaken research into the needs of older drivers in this regard.</th>
<th>Health Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitisation and awareness raising for older people to ensure their continued safe behaviour as car users. Resources are available in a number of forms.</td>
<td>DVDs etc. concerning legal aspects, necessary driving skills, influence of medication, prolonging a driving career, renewing the driving license, life beyond driving, maintaining mobility using by alternatives as public transport, walking, cycling and mobility scooter</td>
<td>Affordable</td>
</tr>
<tr>
<td>Provision of resources and contacts</td>
<td>Recommendations to participate in “stay safe workshop” to update driving skills</td>
<td>Social sustainability</td>
</tr>
</tbody>
</table>

#### Policy examples and reference
- Seniors Proof Road Design, Netherlands, D2.2/Appendix B21
- Road design for elderly (Study), Sweden, D2.2/Appendix B31
- “Action program for more safety in road traffic” (Via sicura) - Set of measures affecting the elderly, Switzerland, D2.2/Appendix B32
### Public Transport

#### Table 6: Types and variations of national transport policies: Public transport

<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
<th>Qualities of the transport system</th>
<th>Other considerations</th>
</tr>
</thead>
</table>
| Reduced travel costs/                | These policies allow older people to travel for free, or at a reduced fare on public transport services | • May encompass railway bus, metro and tram services (sometimes ferries and air transport)  
• Criteria to benefit from the service: Certain age (from 60/65/67/70/80 years; partly gender-differentiated, e.g. women over 60 and men over 65), employment status (part-time work) or retirement, recipients of veteran’s pension. Income only taken into account in exceptional cases  
• Specified validity varies by time of day and mode of transport. Some offer unlimited trips, others limit the number of trips. Some schemes offer different levels of reduction depending on the time of day.  
• Sometimes official ID-doc. sufficient to prove age, sometimes extra ticket/card must be purchased once to benefit from the price reductions on future trips  
• Some allow accompanying assistant to travel for free | x | x x x x x |
|                                       |                                                                              |                                                                            |                                   | x x x x x x x |
| Barrier free                         | This group of policies                                                      | • Binding obligations incl. deadlines or                                    |                                   | x x x x x x x |
# Public Transport

<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
<th>Policy examples and reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>design of public transport services</td>
<td>Includes those that relate to promotion, guidelines and technical standards for public transport facilities (including vehicles, information systems, ticket machines etc.) These are mostly aimed at the local levels, transport companies etc.).</td>
<td>Recommendations</td>
<td>- Guideline to barrier-free design of public transport, Austria, Appendix B3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Accessibility of information systems and public transport ticketing, France, D2.2/Appendix B11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Accessibility of urban and long distance buses, France, D2.2/Appendix B11</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>- Technical Standard for Japanese Railway Law, Japan, D2.2/Appendix B16</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>- Access to public transport, Latvia, D2.2/Appendix B17</td>
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<td></td>
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<td></td>
<td>- Transport access, Lithuania, D2.2/Appendix B18</td>
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<td></td>
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<td></td>
<td>- Action Plan for People with Reduced Mobility, Luxembourg, D2.2/Appendix B19</td>
</tr>
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<td></td>
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<td></td>
<td>- Nota Mobiliteit, Netherlands, D2.2/Appendix B21</td>
</tr>
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<td></td>
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<td>- National Plan for the Promotion of Accessibility, Portugal, D2.2/Appendix B25</td>
</tr>
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<td></td>
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<td></td>
<td>- Transport Access for All, Republic of Ireland, D2.2/Appendix B26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Barrier freedom in public transport (acc.to the Swiss Federal Act on Equality for People with Disabilities from 1.1.2004; Directive), Switzerland, D2.2/Appendix B32</td>
</tr>
</tbody>
</table>
## Public Transport

<table>
<thead>
<tr>
<th>Qualities of the transport system</th>
<th>Other considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordable</td>
<td>Social sustainability</td>
</tr>
<tr>
<td>Barrier free</td>
<td>Environmental</td>
</tr>
<tr>
<td>Comfortable</td>
<td>Sustainability</td>
</tr>
<tr>
<td>Comprehensible</td>
<td>Economic sustainability</td>
</tr>
<tr>
<td>Efficient</td>
<td>Health Benefits</td>
</tr>
<tr>
<td>Friendly</td>
<td></td>
</tr>
<tr>
<td>Reliable</td>
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<td>Safe</td>
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<tr>
<td>Secure</td>
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<tr>
<td>Transparent</td>
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<tr>
<td>Complementary measures</td>
<td></td>
</tr>
</tbody>
</table>

### Variations

<table>
<thead>
<tr>
<th>Vehicles and modifying existing ones</th>
<th>Auditing of progress (planned or realised)</th>
<th>Sometimes cities are given priority for this kind of policy</th>
</tr>
</thead>
</table>

### Description

- Guidance to operators and taxi drivers to raise awareness and help them improve the quality of services they offer to their customers, in particular with limited mobility
- “Mobility service” contactable per phone or email, Usually giving information on issues such as information about barrier-freedom of trains and stations (number of wheelchair spaces, barrier free toilets, audio and visual customer information), trip planning, minimum transfer time and carriage of orthopaedic devices; on demand-organisation of assistance to get on and off the train
- Staff trained in needs of older people/with reduced mobility, to assist boarding, changing or alighting from trains, provide them with refreshments from the board restaurant etc., in order to allow passengers travelling without need for a personal assistant

### Policies and examples

- Assisting services, Finland, D2.2/Appendix B10
- Good practice guide on accessible taxis, France, D2.2/Appendix B11
- “55plus” - Services and offers for the elderly train users provided by the German Railways, Germany, D2.2/Appendix B12
- “Services for the local transport planning with special consideration of the needs of the elderly traffic participants” (research project), Germany, D2.2/Appendix B12
- “Public transport: Planning for elderly persons – A guideline for the practice”, Germany, D2.2/Appendix B12
- Action Plan for People with Reduced Mobility, Luxembourg, D2.2/Appendix B19
- Transport Sector Action Plan on Age Friendly Transport Services, Republic of Ireland, D2.2/Appendix B26
- “Passengers with a handicap” – services offered by SBB - The Swiss Railway, Switzerland, D2.2/Appendix B32
## Public Transport

<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
</tr>
</thead>
</table>
|                | - Contact person in each company for PRM, staff training and awareness raising (e.g. disability awareness training)  
- Improved communication to users about accessibility of public transport  
- Development of guidance: enhanced focus on older people in internal and external communication, dialogue with older people, planning of connections and stops/flexible route services, hints for realisation of rather abstract aims and qualities of public services into concrete standards, monitoring customer satisfaction through  
- Identification of opportunities and challenges faced by seniors and operators related to utilisation and provision of public transport services  
- Travel training using older adults as trainers to show potentials of public transport to maintain mobility  
- Developing incentives and disincentives |

### Qualities of the transport system
- Affordable  
- Available  
- Barrier free  
- Comfortable  
- Comprehensible  
- Efficient  
- Friendly  
- Reliable  
- Safe  
- Secure  
- Transparent  
- Complementary measures

### Other considerations
- Social sustainability  
- Environmental Sustainability  
- Economic sustainability  
- User  
- Govt  
- Health Benefits

- Resource Guide for Local Authorities: Transport Solutions for Older People, UK, D2.2/Appendix B34  
- Attracting Senior drivers to public transportation, USA, D2.2/Appendix B34
Public Transport

<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
</tr>
</thead>
</table>
| (Assisted) Transport services | These policies relate to provision of services to transport certain target groups to necessary medical treatment, daily activities etc. (mainly for frail older people).                                                                                                                                                                                                                      | • Compensation of deficits of regional transport and provision of flexible and user-orientated alternatives  
• Option to use transport service of the health insurance provider to necessary medical treatments and examinations, family doctor decides on application for using the service, costs shared between insurance programmes and insured person  
• Assistance for persons living in sparsely populated settlements far remote from densely populated locations  
• Involvement of voluntary drivers, offering assisted transport service for persons who cannot autonomously use car or public transport; company to the doctor, hospital, therapy or treatment at a health resort/cure; door to door-service with kilometre based compensation to cover the voluntary driver’s costs  
• Assessment of a person’s eligibility for transportation service e.g. in combination with whether one is eligible for daytime activities or treatment  
• Obligation for all county councils to organise a special transport service for older and |  

<table>
<thead>
<tr>
<th></th>
<th>Affordable</th>
<th>Available</th>
<th>Barrier free</th>
<th>Comfortable</th>
<th>Comprehensible</th>
<th>Efficient</th>
<th>Friendly</th>
<th>Reliable</th>
<th>Safe</th>
<th>Secure</th>
<th>Transparent</th>
<th>Complementary measures</th>
<th>Social sustainability</th>
<th>Environmental sustainability</th>
<th>User</th>
<th>Economic sustainability</th>
<th>Health Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
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<td>x</td>
</tr>
</tbody>
</table>

**Policy examples and reference**
- Public Transport by Micro Systems in local traffic areas, Austria, D2.2/Appendix B3  
- Healthcare transport, Austria, D2.2/Appendix B3  
- Special Transport services (STS), Denmark, D2.2/Appendix B8  
- Village caretaker programme, Hungary, D2.2/Appendix B14  
- Care Package, Netherlands, D2.2/Appendix B21  
- Public Taxi Transport (TT scheme), Norway, D2.2/Appendix B23  
- Rural Transport Programme (RTP), Republic of Ireland, D2.2/Appendix B26  
- “Carissimo - Field trips for disabled and aged persons” by the Swiss Red Cross / “mobility sponsorships”: subsidy by private persons, Switzerland, D2.2/Appendix B32  
- Assisted transport service for aged, sick or disabled people offered by the Swiss Red Cross, Switzerland, D2.2/Appendix B32
## Public Transport

<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Disability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>disabled people</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transportation needs identification through consultation of local community and with local bases agencies and organisations, service improvements predominantly by flexible and demand responsive services</td>
</tr>
</tbody>
</table>

### Qualities of the transport system

- Affordable
- Available
- Barrier free
- Comfortable
- Comprehensible
- Efficient
- Friendly
- Reliable
- Safe
- Secure
- Transparent
- Complementary measures

### Other considerations

- Social sustainability
- Environmental sustainability
- Economic sustainability
- User
- Govt
- Health Benefits
### Table 7: Types and variations of national transport policies: Walking

<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
<th>Qualities of the transport system</th>
<th>Other considerations</th>
</tr>
</thead>
</table>
| Pedestrian safety              | These policies relate to the consideration of older people in general road safety strategies as vulnerable group of pedestrians with high risk for severe injury.                                           | • Sensitisation of transport authorities and planners to consider capability changes and needs of older people as pedestrians  
  • Identification of walking patterns of older people (trips, modal split of diff, age groups, average travel distances etc.)  
  • Attempts to identify main reasons for older pedestrian accidents (weather-related, steps, speed) | ![Affordable](resources/affordable.png) ![Available](resources/available.png) ![Comfortable](resources/comfortable.png) ![Efficient](resources/efficient.png) ![Reliable](resources/reliable.png) ![Secure](resources/secure.png) ![Transparent](resources/transparent.png) ![Complementary measures](resources/complementary-measures.png) ![Social sustainability](resources/social-sustainability.png) ![Environmental sustainability](resources/environmental-sustainability.png) ![Economic sustainability](resources/economic-sustainability.png) ![Health Benefits](resources/health-benefits.png) | 
| Guidance for urban/spatial planning in an ageing society | Policies in this category include those that provide guidance and tools relating to the process of planning and creating urban environments, sometimes with a focus on a barrier free walking environment. | • Measures and requirements encompass: design of crossings, intersections, pedestrian paths and pavements  
  • Requirements of a footpath network  
  • Design of entrance areas at stations as interface to the public transport, seating areas, consideration of public toilets  
  • Reduction of speed of other traffic participants, traffic lights with tactile signal criteria sufficient length of green phases, significance of lighting  
  • Promotion of easy movement and orientation as pedestrian to avoid conflicts with other | ![Affordable](resources/affordable.png) ![Available](resources/available.png) ![Comfortable](resources/comfortable.png) ![Efficient](resources/efficient.png) ![Reliable](resources/reliable.png) ![Secure](resources/secure.png) ![Transparent](resources/transparent.png) ![Complementary measures](resources/complementary-measures.png) ![Social sustainability](resources/social-sustainability.png) ![Environmental sustainability](resources/environmental-sustainability.png) ![Economic sustainability](resources/economic-sustainability.png) ![Health Benefits](resources/health-benefits.png) | 

#### Policy examples and reference

- Pedestrian in the higher age groups as a guide for planners and decision makers, Austria, D2.2/Appendix B3
- Mobility of the elderly - analysis of household travel surveys, France, D2.2/Appendix B11
- Walking and cycling for elderly (study), Norway, D2.2/Appendix B23
- Campaign of Prevention and Road Safety for senior pedestrians, Portugal, D2.2/Appendix B25

- Pedestrian in the higher age groups as a guide for planners and decision makers, Austria, D2.2/Appendix B3
- Accessible pedestrian environment, Finland, D2.2/Appendix B10
- Resource Guide for Local Authorities: Transport Solutions for Older People, United Kingdom, D2.2/Appendix B34
## Walking

<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
</tr>
</thead>
</table>
|               | transport modes | • Service related measures like winter maintenance  
|               |               | • Recommendation to carry out improvements to the pedestrian environment alongside other necessary works to reduce costs |
| Training and information | Policies in this category relate to activities such as theoretical and practical training, sensitisation and awareness raising aimed at enabling older people to behave safely when walking. | • Publication of brochures, leaflets etc. to sensitise and raise awareness of risks and safe pedestrian behaviour  
|               |               | • Promotion of the health benefits of walking to older people  
|               |               | • Passive safety measures for pedestrians (visibility in the dark)  
|               |               | • Good planning of individual routes / personal mobility patterns |

<table>
<thead>
<tr>
<th>Qualities of the transport system</th>
<th>Other considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordable</td>
<td>Social sustainability</td>
</tr>
<tr>
<td>Available</td>
<td>Economic sustainability</td>
</tr>
<tr>
<td>Barrier free</td>
<td>Health Benefits</td>
</tr>
<tr>
<td>Comfortable</td>
<td>Govt.</td>
</tr>
<tr>
<td>Comprehensible</td>
<td>User</td>
</tr>
<tr>
<td>Efficient</td>
<td>Environmental sustainability</td>
</tr>
<tr>
<td>Friendly</td>
<td>Economic sustainability</td>
</tr>
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<td>Reliable</td>
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<tr>
<td>Safe</td>
<td>Sustainability</td>
</tr>
<tr>
<td>Secure</td>
<td></td>
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<tr>
<td>Transparent</td>
<td></td>
</tr>
<tr>
<td>Complementary measures</td>
<td></td>
</tr>
</tbody>
</table>

**Policy examples and reference**

- Federal project „Staying mobile, but safe! A program for traffic participants 50plus“, Germany, D2.2/Appendix B21
- Road safety leaflet, Luxembourg, D2.2/Appendix B19
- Keep Moving, New Zealand, D2.2/Appendix B22
### Table 8: Types and variations of national transport policies: Cycling

<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
</tr>
</thead>
</table>
| Road safety for cyclists | These policies relate to the consideration of older people in general road safety strategies as a vulnerable group of citizens with high risk of severe injury. | • Statistical data about older cyclists involved in road accidents  
• Training for older cyclists to improve their cycling abilities (e.g. in-cooperation with cycling associations)  
• Encouraging the voluntary wearing of cycle helmets by awareness raising (in all age groups) |
| Training and information | These policies involve theoretical and practical training, preventive advice, relevant legislation, sensitisation and awareness raising for older people to encourage their | • Recommendation to focus on protection, information, education (OECD principle “elderly are not risky, they are at risk”)  
• Initiatives to help elderly increase awareness of their role and position in traffic  
• Publication of brochures, leaflets etc. to sensitise and raise awareness on behalf of older people for a safe behaviour as cyclists |

<table>
<thead>
<tr>
<th>Qualities of the transport system</th>
<th>Other considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordable</td>
<td>Available</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

**Policy examples (with refs to location in WP2 report Aps):**
- Austrian programme of safety to traffic 2011-2020, Austria, D2.2/Appendix B3
- National Road Safety Strategy 2011-2020, Czech Republic, D2.2/Appendix B7
- The topic of “Road safety” and the impact of demographic change reflected in the “Road Safety Programme 2011”, Germany, D2.2/Appendix B12
- Walking and cycling for elderly (study), Norway, D2.2/Appendix B23
- Ministry of the Interior: Police: “Bicycle safety!”, Slovenia, D2.2/Appendix B29

**Policy examples and reference**
- Austrian programme of safety to traffic 2011-2020, Austria, D2.2/Appendix B3
- “National Programme for the Improvement of Road Safety in the Republic of Bulgaria, 2010-2013”, D2.2/Appendix B5
<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
<th>Qualities of the transport system</th>
<th>Other considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>safe behaviour as cyclists</td>
<td>• Training to improve cycling abilities (e.g. in-cooperation with cycling associations) • Promotion and public information campaigns to raise awareness for healthy mobility and positive health benefits and contributing to the mobility and recreation needs of older people</td>
<td>• Federal project „Staying mobile, but safe! A program for traffic participants 50plus”, Germany, D2.2/Appendix B12 • Ministry of the Interior: Police: “Bicycle safety!”, Slovenia, D2.2/Appendix B29</td>
<td>Affordable</td>
<td>Visionary</td>
</tr>
<tr>
<td>Guidance for urban/spatial planning in an ageing society</td>
<td>These policies relate to the creation of safe infrastructure and a safe cycling environment with consideration of abilities and needs of older people</td>
<td>• better consideration of growing group of older cyclists in road design and infrastructure • Demand of considering further solutions alongside safe road design (e.g. more stable bicycles for older people, could prevent many cycling accidents) • Planning of intermodal terminals (bicycle, car, taxi, ship, bus, train) • Construction of bicycle lanes under consideration of the elderly: Reduction of crossings between motor traffic and cyclists and separation of motor and bicycle traffic • Repressive treatments against misuse of cycle lanes by motorised traffic (control of drivers parking or stopping) • Adaptation of spatial plans and development of urban areas in a way that reduces need for car travel</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Policy examples and reference
- The topic of “Road safety” and the impact of demographic change reflected in the “Road Safety Programme 2011”, Germany, D2.2/Appendix B12
- Seniors Proof Road Design, Netherlands, D2.2/Appendix B21
- Road Safety Strategic Plan (2008-2020), Netherlands, D2.2/Appendix B21
- Ministry of Transport: “Resolution on the Transport Policy of the Republic of Slovenia”, Slovenia, D2.2/Appendix B29
- Slovenian Ministry of Labour, Family and Social Affairs: “The strategy of care for the elderly until 2010 – Solidarity, good intergenerational relations and quality of ageing of the population”, Slovenia, D2.2/Appendix B29
- Slovenian Ministry of Health: “National Health Enhancing Physical Activity Programme 2007-2012”, Slovenia, D2.2/Appendix B29
Table 9: Types and variations of national transport policies: Virtual solutions

<table>
<thead>
<tr>
<th>Type of policy</th>
<th>Description</th>
<th>Variations</th>
<th>Qualities of the transport system</th>
<th>Other considerations</th>
</tr>
</thead>
</table>
| Technological solutions, communication and information services | These policies relate to the promotion of technical solutions, communication and information services which aid the social inclusion of elderly people and may also reduce the need for transport. They also relate to the use of innovations that can help to provide an appropriate residential and living environment. | • Identification of new technologies to assist older people in different life situation  
• Developing multi-channel communications and services, improving usability of hardware, software and auxiliary devices (“information society for all citizens”)  
• Targeting research and innovation contributing to development of solutions, products and services to foster quality of life and social inclusion in old age  
• Familiarising elderly persons with use of new technologies that help them to remaining socially integrated  
• Rural areas: local services in combination of individually customised services and close-to-home proposals, multifunctional drop-in centres with personal support, assistance of teleservices, typical everyday activities attended at one central location  
• Computer course for older people | x | x | x | x | x | x | x | x | x | x | Health Benefits |

Policy examples and reference
- Research on behalf of the Government, Austria, D2.2/Appendix B3
- Towards a barrier-free information society. Action Programme 2011–2015, Finland, D2.2/Appendix B10
- Council for Science and Technology Policy, Japan, D2.2/Appendix B16
- Log On, Learn, Republic of Ireland, D2.2/Appendix B26
- “Strategy for Swiss politics for the elderly” - Mobility related issues and measures, Switzerland, D2.2/Appendix B32
5.3 Meeting the transport needs of older people

Following on from the presented overview about current policy practice, this section discusses the variations that exist within the group that we have termed “older people” and posits how this influences the results of this research.

It also looks at variation between the countries and summarises the impact that this may have on the application of the results and recommendations from this research.

**Variation between different older people**

The characteristics of older people (cf. Chapter 3.2) and the ways in which they wish to travel and remain mobile will vary both between people, and during the ageing process of an individual. In general the heterogeneity of older people means that they will have:

- different travel habits and patterns;
- specific requirements according to the mode(s) of transport that they can use and would like to use; and
- might face specific barriers in the transport system.

This means that the importance of each system quality will vary for each person, although some are likely to remain more important than others depending on the individual circumstances. Governments need to recognise this variation among older people and take it into account when developing policy solutions.

It is likely that the transport demands of older people will need to be met by a mixture of different modal approaches available at different times. In this context it is necessary to consider all of the system qualities together in order to create a transport and mobility system suitable for (nearly) everyone within the ageing society.

**Variation between different countries**

Demographic trends vary between the countries (s. Chapter 1.3). This will generally lead to differences in the demands being placed upon the transport system and impact upon the speed with which countries need to take policy action in the field of transport and ageing.

Alongside this, administrative differences also have an impact on the policy solutions that national governments need and are able to put in place within each country. Moreover it is evident that there is already a prevalence of poverty among the older members of society. Recent economic developments and crises in certain European states might lead to a deterioration of the situation and limit options to tackle this, eventually resulting in even sharper spatial disparities than those currently visible between, but also within countries.

**Impact of differences**

The quality features of an age friendly transport and mobility system that have been defined in TRACY are likely to apply to a greater or a lesser degree in every country. National governments should take into account their own situation and demographic and administrative contexts to assess the actions they need to take to address the needs of their own older people.

5.4 Governments understanding of the issues

As was pointed out before (cf. Chapter 4), safety, affordability and barrier freedom appear to be the best understood quality features of an age friendly transport and mobility system at the national level. Transparency, comprehensibility, availability, complementary and security are quite well understood within some countries while comfort, efficiency, reliability and friendliness appear to be poorly understood (at least at the national level).
All of the system qualities are important, although to differing degrees depending on the context, and some appear to have stronger links to certain modes of transport, while others apply generally.

From this analysis it appears that there are two central system qualities:\footnote{that the other system qualities link to, and without the existence of either one or the other, activities to tackle the remaining system qualities are likely to be less effective.}: Available and complementary. To elaborate, the transport and mobility system is fundamentally focussed on either the existence of transport services (available), or on removing or reducing the need to travel to access services and activities (complementary). However the fact that these system qualities are central does not mean that they are the most important because existence alone does not make something usable. The rest of the system qualities are important to a greater or lesser extent depending on the individual and the available transport network.

There will be many other trade-offs that could be identified in specific locations and according to specific needs. Identifying these is discussed in more detail in the subsequent sections. Based on what we have learnt about the understanding of system qualities at the national level and the heterogeneous nature of countries and older people, it provides some discussion of how national governments might take action to improve mobility for older people.

5.5 What is the relevance for the transport and mobility system as a whole?

This section reviews the data that has been collected to engender an understanding of what the findings relating to the current policy activities of governments mean for the transport system as a whole.

5.5.1 What is the potential role of national government?

Needs of older people will be different between and within countries depending on the transport infrastructure available and local cultures and traditions. While much of the delivery of solutions to improve transport and mobility will take place at the local level in many countries, national governments have an important role to play. They can offer support at the local level through production of strategy, guidance and offers of funding. They can also undertake or support research projects where there are knowledge gaps in this area.

Main activities that governments could undertake in order to help create improvements for older people include:

- Developing or changing legislation in areas where transport improvements are required for older people.
- Developing strategy in areas that relate to older people and transport as required, or adapting existing strategies to take better account of the system qualities required by older people.
- Where necessary, implementing programmes at the national level that help to meet the transport and mobility needs of older people (e.g. national information service on transport for older people).
- Funding and/or undertaking research into subjects where it is either required at the national level, or is required strategically at the local level.
- Supporting and/or undertaking pilot projects to test new approaches to meeting the mobility needs of older people. Funding projects that will improve transport or mobility for older people. These could take a wide range of forms depending on local circumstances.
- Developing and publishing guidance (e.g. information relating to needs and interventions) for other government departments and lower levels of government on the transport and mobility needs of older people.
5.5.2 Understanding the national and local context

An understanding of the transport and mobility behaviours and needs of older people is essential in order to develop policies and deliver solutions that are effective.

The relative importance of the important system qualities will vary between and even within countries, this leads to a number of key questions that governments may wish to investigate:

- How is the population ageing, and what are the predicted characteristics (e.g. in terms of income and health) of this ageing population?
- What are the travel patterns of older people (possibly available from a national travel survey)?
- Do these travel patterns represent the ideal travel patterns of older people, or are the older people constrained by barriers which prevent them making the journeys that they need and want to?
- What destinations, services and activities do older people have difficulty in reaching?
- What are the barriers (if any) that are making transport and mobility difficult for older people?
- What would older people like to see put in place to make their transport and mobility easier?

5.5.3 The role of the travel chain

The travel chain is not considered as fully as it could be when developing transport policy for older people. This means that sometimes policies that are implemented are less suitable than they could be for tackling the needs of older people.

The suitability of a single element of the travel chain for use by older people does not in itself create a transport and mobility system that is suitable for older people. It is the creation of a system where all of the elements work together that will make a real difference.

Thinking about the transport needs of older people in this way seems to be relatively uncommon within national policy making at the moment: Many of the policies seem to either focus on particular modes of transport or on particular system qualities, but often there seems to be a lack of joined-up thinking within and between government departments about the journey as a whole.

5.5.4 Measuring success and quality control

Projects in the area studied are frequently poorly evaluated. This makes it difficult to draw conclusions regarding their impact and thus success. It also makes it difficult to implement changes that will improve project delivery in the future.

One of the main problems encountered during the TRACY project was identifying which policies were likely to be more or less successful at meeting their aims and creating a transport system suitable for an ageing society. During WP2 (cf. D2.2, Chapter 4) only a very small number of policies could be identified that had been evaluated, though it might be the case that a larger number had been evaluated but that results had not been published.

This lack of evaluation means that there is relatively little evidence regarding the policies that are effective (or not) at the national level. Subsequently it is difficult to understand which policies should be implemented, when, where and how. Therefore it is very difficult to establish whether the resources used in this field are effective and make changes in order to make policies more effective. Thus it is apparent that national governments need to be both encouraged to undertake evaluation, and to encourage consistent evaluation to take place at the local level.
5.6 Wider context and “side effects”

Policies that aim to improve the transport and mobility system for older people are likely to have wider positive impacts on social and environmental sustainability. They may also have both positive and negative impacts on economic sustainability depending on the policies that are implemented. Furthermore, there is the potential for such policies to have a positive impact on the activities of other sectors such as health care and social services.

It is likely that many of the benefits of policies that improve the transport and mobility system for older people will have benefits for sectors outside of transport. It was identified that the cross sector benefits were similar across the system qualities and might mainly relate to a reducing of costs to the health sector and to the social care sector.

Such a reduction may arise

- because people will be able to remain independent for longer (for example if they have other options for travelling when they can no longer drive, or use a normal public bus);
- because older people may be encouraged to remain active for longer by walking and cycling, and thus remain healthier; and/or
- because people will have a higher quality of life achieved through remaining mobile and are thus less likely to require medical assistance to maintain mental and physical health.

As suggested, the relationship to sustainability and the cross sector benefits are likely to occur regardless of which system qualities the policies are aimed at. As such, national governments should be aware of the potential wider impacts, and could use them to help justify projects in this field.

Nevertheless it will be important to measure the impact on sustainability and other sectors during evaluation activities to ensure that claims regarding the impact of policies in these areas are justified.

Furthermore, while there is some knowledge and understanding relating to the impact of policies on sustainability and on other sectors this is somewhat limited. There is a tendency to suggest that such impacts will occur, but limited evidence regarding exactly how they will occur, and the level of impact that could be expected.

Therefore this is an area where further research could be useful to enhance understanding and furnish governments with the knowledge to accurately estimate impact and develop and deliver their policies in the most effective way possible.

5.7 Conclusions

This chapter paper provided an overview of the work completed in terms of assessing how national governments are currently addressing the mobility needs of older people by national transport policies. The identification of the “bigger picture” brings together and discussed the previous findings regarding the implications of current government understanding and policy making, practice and research under consideration of broader economic, social and environmental aspects and links to sectors other than transport.

It set out that:

- Countries and older people are heterogeneous. This means that what works in some countries for some older people will not necessarily be appropriate in other countries or for other older people;
- Among the defined necessary quality features of an age friendly transport and mobility system, safety, affordability and barrier freedom are the ones most well understood and catered for. However the fact that the others are less well understood does not necessarily mean that
they are not being addressed, it could just mean that they are being addressed at a lower level.

- Nevertheless, national governments should endeavour to understand the role of all of the system qualities so that they can work with local governments to ensure that they are being addressed.
- National governments should consider how they can work best in this area. Potential actions include legislation, providing funding, offering guidance, undertaking research, putting in place pilot projects and evaluating current activities.
- Understanding the local context within each country is important. Governments at all levels should develop their understanding of their own local contexts so that they can identify and implement suitable solutions.
- The “travel chain” from door to door is a useful basis to assess what the transport and mobility issues are for older people. Using this concept as a basis should help governments to address the current deficits in the transport system in a systematic way.
- Improving the transport and mobility system will have both benefits and costs in terms of sustainability.
  One of the main benefits will be improved wellbeing and quality of life for older people which should help them remain independent and active for as long as possible. Here will therefore also be benefits for the health and social care sectors.
- Finally, governments need to take action to monitor the impact of their policies. This is an area where currently very little activity seems to take place. If more evaluation was undertaken, governments would be better able to change and adjust their policies to ensure they are performing as well as possible.

During this process it was also found recommendable to close some still existing knowledge gaps:

- Identifying which elements of journeys older people find most problematic would be helpful in developing solutions to tackle these issues. This is an area which current research does not seem to focus on.
- Quantifying the effects of transport and mobility policies aimed at older people on overall sustainability could be useful in helping governments to justify their implementation.
- Identifying procedures to evaluate and measure the impact of policies in this area would be beneficial. Such effort could aim to develop a standardised framework to enable policies to be compared to one another.

To conclude, this chapter has provided the framing for the action plan by starting to translate the evaluation of current government activities into guidance and potential actions for national authorities. This will be drawn upon and further set out in the following. Thus, in the next chapter, the main findings of the TRACY project as presented before are turned into suggestions and recommendations for future policy making and specific research topics for European and national RTD programmes.
6. Recommendations for future research and action

6.1 Introduction

The aim of the TRACY project was to identify research gaps and strategies capable of tackling the needs of an ageing society in the transport system. We therefore elaborated recommendations for further necessary research to be undertaken as well as recommendations for future policies. The research gaps include both needs for new knowledge and needs of better communication of existing knowledge and should establish a basis for policies and actions. The list below gives an overview about the recommendations elaborated which are set out in more detail in the following.

Before that some discussion is provided regarding why we see on one hand Design for all as basis for all potential action to be taken to cater for the transport needs in an ageing society, but why a group based approach with focus on older people may be needed nevertheless.

Research recommendations – better understanding of problems and needs

I. Harmonisation of travel surveys to establish an European overview on transport needs
II. Statistics and information about accidents and risks in relation to all modes
III. Improving knowledge about individual transport means for older people
IV. Research on virtual mobility and complementary mobile services
V. Assessing driver training programmes and preparing the transition from car to other transport modes
VI. Establishing an overview of best practices from the local level and their lessons for EU-policies

Policy recommendations – tackling of problems and needs

VII. Promotion of an all mode approach, including walking and cycling
VIII. Encouraging policy evaluation and impact assessment (in certain fields)
IX. Developing European guidance on age friendly road and street design
X. Developing European guidance on less frequently considered qualities of an age friendly transport system
6.2 Design for all versus a group based approach focussing on older people

Policies based on Design for All (DfA) include needs of older people and are regarded as a basis for our recommendations

The core of DfA\(^{13}\) is to take into account all groups of users and needs and to find common solutions that serve everybody to the greatest extent possible. DfA is defined as the intervention on environments, products and services with the aim that everyone, including future generations, regardless of age, gender, capabilities or cultural background, can enjoy participating in the construction of our society, with equal opportunities participating in economic, social, cultural, recreational and entertainment activities while also being able to access, use and understand whatever part of the environment with as much independence as possible (EuCan - European Concept for Accessibility Network 2003, p. 23).

In this way a wide range of users can benefit, with the aim that generally no needs must be met by extra segregated solutions or services. Besides discrimination is avoided and when the fulfilment of various needs is covered by one main solution, the solutions are efficient. Furthermore transport policies based on DfA will secure that the diversity in the population is taken into account, including various groups of older people and their needs.

Still – additional policies based on a group based approach with focus on older people may be needed

Even though policies based on DfA provide a good basis, policies focussing on older people as a group may be needed for the following reasons:

- The DfA approach can be wide, and may cover all the quality features of an age friendly transport and mobility system we have identified and used in the analysis of policies. But very often the approach is more narrow, and limited to removing groups of barriers. As an example our analysis showed there are barriers that are often overlooked, like security, friendliness etc..
- The DfA policies focus on the service providers’ side. Mobility can also be improved, at least to a certain extent, by enabling actions focussing the customers’ side. Such actions are often not part of the DfA approach.
- A group approach may be needed, even though a need based approach is rational, when some groups are growing or changing considerably. Then a group based approach may be needed to get an overview of the challenges and to be prepared for changes in the best possible way.
- Older people may have travel patterns that are different from the average passengers, and the respective special needs may not be covered by a traditional need based approach.

\(^{13}\) An related approach is Universal Design, which is included in the “Convention on the Rights of Persons with Disabilities” of United Nations: “Universal design” means the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. “Universal design” shall not exclude assistive devices for particular groups of persons with disabilities where this is needed” (United Nations 2006, Article 2).
6.3 Research and policy recommendations

I. Harmonisation of travel surveys to establish an European overview on transport needs

Challenge

In some countries the travel behaviour of older people is poorly understood and there is very little data available to assist with comparison of behaviour and needs at the EU level. This means it is difficult at the EU level to establish what support and action is necessary where and if this differs in the regional context. Further many countries do not seem to have an in-depth understanding of the barriers to travel that are likely to affect an ageing society. There are national surveys on registered travel behaviour, but transport needs are not identified. Usually, national travel surveys look at who travels in what way by which transport mode. Nevertheless there is relatively little information about why a certain mode is chosen for a certain type of trip. Also there is a lack of knowledge about trips which are wanted, but finally not undertaken due to whatever reasons.

Currently for some aspects it is hard to compare data from the different existing national surveys. It would be useful if comparable data could be extracted and used easily. If data were collected in a more common way on a European basis, they could be used more extensively and furthermore providing a good basis for transnational research - also in order to inform and support European policymaking with the aim to meet transport needs of ageing societies in the most suitable way possible.

Today, the consequences for transport flows and transport demand which the expected ongoing demographic change may bring are unknown. Answers could be extracted from the single national surveys, but it would be far more efficient if this was made on European level.

Description of the recommendation

In order to create an environment where transport is not a barrier to older people achieving a good quality of life, we still need to understand more about the transport needs of older people. This process of generating better knowledge might start at the local level where people really realise their mobility in the framework of the existing transport environment surrounding them.

Currently some countries have data in this regard while others do not: National authorities should be encouraged to ensure that they have a good level of understanding of the likely travel behaviour of their ageing population, and are aware of the main barriers to travel affecting this group. The EU can play a vital role in this by guiding national governments on how they can collect data at the local level. This should take place in combination with undertaking research to identify the transport barriers and patterns of the elderly at the EU level.

Key elements of the national travel surveys should be common at European level. The travel surveys cannot be totally harmonised in all states, but if some basic elements are common, they could be linked and analysed together. The definitions of age groups, types of travels and modes of transport are such elements to be harmonised.

Information about transport needs should be included in the harmonised travel survey. In addition to the recording of who travels in what way, it would be useful to include information of trips not taken, and the main reasons for not travelling. This might give indications of the real transport needs, and how the transport volumes may change if the barriers are removed.
II. Statistics and information about accidents and risks in relation to all modes

Challenge

There exists a lot of research and reports already, but still there is confusion. A huge amount of studies and reports related to risks and accidents is already available, in particular related to car driving, e.g. in terms of risks related to driving at high age etc.. But when these topics are discussed, like in the project focus groups, there is still a lot of confusion which seems to be related to when older people may be representing a risk for other people in the transport system, and when they are at risk because they are more vulnerable than younger people.

Information about risks in some travelling modes is missing. While the car driving area seems to be quite well understood, in comparison there is relatively little information about accidents and risks related to the other travel modes: At the moment research tends to relate to accidents involving a vehicle and those that do not involve a vehicle do not always get recorded in road safety statistics, although some studies indicate that the number of accidents in the transport modes other than car driving is high, and that a high percentage of them are related to older people. Falls are reported as the most common accident for older people (cf. Sagberg & Glad 1999), and some of those falls may happen while moving in the transport systems, but still they may not be reported as traffic accidents.

Therefore more knowledge is needed on the cause of older peoples’ accidents in transport and the impact this has on health and quality of life. Having a deeper understanding of the prevalence and impact of such occurrences would help with the design and implementation of solutions that could reduce them.

Description of the recommendation

The lack of information about accidents makes it difficult to work towards reducing them. It is therefore recommended to create a broader knowledge base about the older peoples' accidents in transport and the impact this has on health, quality of life and the realisation of an independent lifestyle until high age (see the importance of the system quality safe and the impact it might have on older peoples' travel behaviour, e.g. in relation to the fear of accidents influencing an older persons' mobility and thus substantial negative impact on an older persons quality of life and independence).

Developing a deeper understanding of the prevalence, of the causes (e.g. infrastructure related, weather-related, steps, travel speed etc.) and impact of such occurrences (including trips and falls) would help with the design and implementation of successful solutions for public transport systems, an improved safety in terms of walkability and use of cycles in public spaces and transport environments etc. with the aim to minimise the risk for accidents. In this context, new routines of accident reporting and new research should be established to identify risks related to the use of public transport, walking and cycling.

In addition, the facts about risks and accidents should be communicated more clearly and consequently to conclude what scientists can agree on, and what is still not clear. These facts have a wider audience than the traffic safety experts’ community. They are used in a wide range of discussions related to old people and transport.
III. Improving knowledge about individual transport means for older people

**Challenge**

In addition to the use of cars and public transport there are some more individual transport means to, which are usually used for shorter trips. Among this group of alternative individual transport means fall mobility scooters and other vehicles that can be used without a driver license. Also electric cycles and pedelecs as well as rollator walkers represent a category of transport means which ultimately grows a lot in importance, at least in certain parts of Europe.

While some of the literature reviewed referred to aspects regarding the future potential of electric bikes for older people, the knowledge about how alternative individual transport means can influence older peoples’ mobility situation in terms of widening and improving their transport options is limited at the moment: These transport means may have different areas of use and different requirements regarding the users’ capabilities.

**Description of the recommendation**

*A deeper knowledge of how such vehicles can influence older peoples’ mobility situation is required.*

The role of alternative individual transport means such as mobility scooters and electric bikes for older people is not well understood at the moment. It would be useful to monitor the uptake and use of these vehicles among older people and identify their benefits and risks, considering the heterogeneity of older people with their needs and their capabilities.

Furthermore it would be useful to understand whether individual transport means such as mobility scooters and electric bikes (especially due to the opportunity they presented which may make cycling more accessible for older people) should be more widely promoted to older people as new way to maintain their independent and autonomous mobility, and how this could be undertaken.

In a wider perspective, the possible positive or negative consequences of increased use of those transport means should also not be neglected, thus it is recommended to investigate potential consequences of an increased use related to:

- Safety (for the user and for other people in the transport systems).
- Environmental changes.
- Requirements for the design and planning of infrastructure and public space.
IV. Research on virtual mobility and complementary mobile services

Challenge

As the population ages it is likely that older people will become more IT literate and there may be scope for more “virtual solutions” than – as has shown our research - is currently applied. This could be ICT based measures such as communication and information services which might aid the social inclusion of elderly people. Thus the role of technological solutions is likely to grow in importance in all areas of life, including the handling of everyday activities.

While some of the services in this area may not be suitable for the current generation of “old” people and uptake is likely to be higher among future generations, the extent to which the policies are meeting the needs of older people is more difficult to establish in relation to “virtual” because the needs of older people in relation to reducing the need to travel and replacing it with virtual solutions is not fully understood.

This is an area where change is likely to happen over time, as generations who have been more familiar with the use of technology over their lifetimes continue to engage with it as they age. However if this happens efforts will need to be made to ensure that older people do not become socially isolated and lonely.

In addition, the policy review did not identify many policies promoting the use of mobile services, such as shops and libraries that can be used to travel to older people, especially in rural areas. While the ideal solution is to ensure older people can access the services they need locally, such solutions may provide a good alternative in areas where population density is too low to support full time local options.

Description of the recommendation

The role of technological solutions and mobile services on the mobility behaviour of older people is not certain in all respects. Especially their influence on replacing trips on behalf of older people is unclear. While such services also relate to the use of innovations that can help to provide an appropriate residential and living environment and they could have benefits in terms of reducing the burden of travel for essential activities that older people currently experience and enable them to stay in their familiar social environments for longer, it might also lead to a reduction in physical activity and personal social contact.

Therefore, in order to provide the highest level of adequate service for older people, technological “virtual” solutions and mobile services should be investigated on one hand in relation to their potential benefits as alternatives to travelling.

Nevertheless the role of travel as an activity in itself in terms of contributing to wellbeing should not be underestimated and technological solutions and mobile services should only form one element of a wider toolkit. Therefore on the other hand, as such the effect of reducing travel on a potentially resulting social isolation needs further exploration.
V. Assessing driver training programmes and preparing the transition from car to other transport modes

Challenge

Car driver training may help older people to stay mobile and drive safely. “Driver training” comprises polices that support older car users to strengthen and maintain their driving capabilities. This may be additional training on voluntary basis to ensure older drivers are aware of changes they may experience as they age that could affect their driving and to keep them up-to-date with the road rules. It can also be refreshment courses during mandatory driver licence renewal as supportive measure and include practical driving and/or theory (e.g. relevant legislation).

Transition to other modes from car use is the most important transition.
There is a big group of people, most of them are car users, entering the old age group who have never travelled in an experienced and regular way by public transport (cf. Berg & Levin 2011). Research shows that many of them never consider other transport modes.

There is need for training for people who have to give up driving.
Since many older people have travelled by car for most of their lives or at least a long period of time, they know little about other modes of transport that may be available. Since car drivers in most areas is among the biggest group of travellers, this group of possible “newcomers” to other modes may also be big. To provide good information about transport alternatives and how to use them becomes very important for these people who have to cease driving for different reasons: This group should be treated as a selected target group for travel training courses. For most members of this group a shift to public transport is the closest alternative.

Description of the recommendation

The various driver training solutions should be evaluated as a basis for European guidelines.
There are a few evaluations of various driver training solutions (Levin et al 2012), but nevertheless the effects of such policies which were found in the policy review to be currently implemented in many countries, are unclear. This means that more evaluation is needed, which should be done at European level, and can be a basis for guidelines and best practises on how to organise and design this training. It seems also reasonable to investigate how additional information and/or training could be incorporated into the driving licence renewal process, which could represent a good point at which information and training could be provided to older people, or they could be signposted to providers of it and could take it up if they wished. Such initiatives may take the form of the provision of simple information, or could be more complex and involve the provision of both information and training to older people.

The actions to help people making the transition from car use to other modes should be assessed.
Since the literature suggests that older people cope better with driving cessation when it is their own choice, initiatives and trainings to help people realising the transition from car use to other modes offer a great potential to allow older people maintain their mobility when they have to give up driving a car. But also in this area there are few evaluations of the various training forms and information initiatives which are mostly executed at the local level and therefore varying according to the respective local services and circumstances. It is recommended here to establish guidelines and examples of best practices to be disseminated at a European level.
VI. Establishing an overview of best practices from the local level and their lessons for EU-policies

Challenge

Although they were not the focal point of the TRACY research, it has shown that most of the suitable action has to be taken by local authorities to address the system qualities that we identified. In this regard there are a lot of innovative and good initiatives implemented at the local level to enable especially older people to travel (cf. AENEAS 2011).

Normally such programmes apply to all fields of intervention, including also infrastructure, planning and services in the context of national policies, which aim at motivating and enabling older people to remain mobile at age by improving transport systems and services. Usually initiatives and practices are related to one specific transport mode. This can be training courses to learn about current developments in car driving legislation, training for inexperienced people how to use the public transport system, actions to encourage people to walk etc..

In many cases these measures, which might really make a difference for older people to move around independently and autonomously, are also initiated by actors at the local level in the framework of the specific local circumstances, they are therefore not considered in our review of national level transport policies.

Description of the recommendation

The local initiatives and practices should be analysed as a basis for national and European policies. Although such "customised solution" are often developed for only one mode and according to the local context, they might have similarities, so that whole approaches or at least some elements in the realisation of certain approaches may be useful in general for several modes: There may be lessons to be learnt and general principles to be identified which can be applied to inform policymaking also at a higher level.

Therefore it is recommended to gather and analyse respective initiatives and experiences from the local level in order to establish an overview of successful practices and overcome obstacles as well as to identify transferable solutions. This knowledge about how challenges for meeting the transport needs in an ageing society are approached at the basis should be further disseminated in national and European policies.

Furthermore this research need might also be approached from the other direction: More research is required to establish what policy is generally implemented at the local level, and the extent to which this could be supported by EU level policy, up to assessing the question whether it supersedes the need for national level policy.
VII. Promotion of an all mode approach, including walking and cycling

Challenge

*Take an all mode approach whenever possible.*

It should be kept in mind that most trips include more than one mode, and that to be able to work in an efficient way to improve mobility options in an ageing society demands to work with more than one mode. The whole journey must be considered and it must be ensured that there are no links lefts that include barriers for any of the users groups.

This aspiration is underlined as also the idea of “ageing in place” is becoming more prominent (in political thinking). The concept demands a supportive environment that enables older people to remain independent, and this means that an older person should be able to rely on a complete age friendly travel chain. However, the creation of this environment places pressure on urban designers and transport planners to meet the needs of older people.

Description of the recommendation

*Include the links of walking and cycling.*

A trip very often starts and ends with a walking or cycling link. These links may have barriers and may be the weakest elements in the travel chain, therefore they require particular consideration.

*Put a special focus on the transfer points.* The identification and removal of barriers at transfer points, like in public transport terminals, has effects on all modes involved in a trip and as they represent important links in the travel chains.

These points are linked to the consideration of the whole of the travel chain: It should be ensured that policy changes associated with different modes work together to make the whole journey easier. Thinking about a journey from the beginning (planning the journey) to the end (reaching the final destination) is a useful exercise in the identification of barriers. Guidance to national governments on how best to guide their local authorities to consider an all mode approach in their planning may add to the improvement of the travel chain from start to the end.

*Ensure that transport is considered as part of the wider world, not just by its individual modes.*

While there are improvements to be made in terms of policy associated with individual modes, these should be framed within the “bigger picture” of the wider environment. New developments should meet the transport needs of older people by being “walkable” and having good transport connections. Alongside this improvements can be made to existing developments to meet these needs.

Currently the “all mode” policies that have been identified tend to highlight problems or potential issues but be weak in terms of providing structured guidance and tangible actions. The EU can support consideration of transport within the frame of the wider world by ensuring that transport is entrenched within other policy areas, and forms a key part of relevant infrastructure and research projects. Design for All should be a basis for all such development and design, not only in relation to transport.
VIII. Encourage policy evaluation and impact assessment (in certain fields)

**Challenge**

One of the main obstacles faced during the TRACY project was identifying which policies were likely to be more or less successful at meeting their aims of creating a transport system suitable for an ageing society. This was due to the situation found, that national level policies relating to transport are quite frequently poorly evaluated to measure their performance. This means it is very difficult to assess whether policies are successful or not and to prove which policies should be implemented, when, where and how. Consequently it is very difficult to establish whether resources in this field are used effectively, to implement changes to enhance the policy delivery in the future or to make changes in order to make established policies more effective. Regarded from a wider perspective, a lack of success control makes it also more complicated on a European level to learn from each other. Especially in policy areas which are widely applied in very different ways in Europe a better knowledge base about policy potentials and effects seems recommendable. Among these very common transport policy schemes with special importance for older people are the examples of driver licensing schemes and concessionary fares in public transport:

“Driver licensing” encompasses policies that relate to mandatory renewal of the driving licence once a certain age has been reached (though this can be regarded vs. “non-policy”-solutions of not implementing a mandatory scheme and/or the provision of voluntary offers). These policies were found in the majority of the countries, though not in all, indicating that renewal upon reaching a certain age is not deemed necessary by all governments. Furthermore there is not one common approach to renewal, rather there are variations in terms of age at which renewal must occur, intervals between renewals and the renewal approach. At this point it might be reasonable to assess if there is a need for, and the possible benefits of a more common European driver licensing regime.

Concessionary fares is a policy area which encompasses schemes that allow older people to use different public transport modes at low fares or for free. While some national policies in this field benefit all older people in a country, there are also approaches applying a variety of criteria to regulate the access. In some areas this scheme is only applicable for local citizens, in other areas it is only valid in low traffic periods. The reduced fares may be important for some travellers, but this system may also transfer public money to rather wealthy groups in the population. An overview on an European level of the various solutions, their costs and benefits for the transport provider and the transport system as well as their importance for the target groups might be useful to inform about the impact of such approaches for the individual person, for society as a whole and for the transport system.

**Description of the recommendation**

*From the TRACY research it is apparent that national governments need to be encouraged to undertake evaluation of their policies.*

Furthermore they need to be encouraged to give orientation that consistent evaluation takes place also at the local level.

A good support for this ambition might be further research, aimed at identifying best ways to evaluate policies aimed at catering for the transport needs of older people. This research might create a good basis for the development and establishment of an evaluation framework based on the research so that the EU and its constituent countries can measure the impact of policies on older people and subsequently judge accurately what works.
IX. Developing European guidance on age friendly road and street design

Challenge

*Roads and streets can be designed more age friendly.*
In our policy review there were very few policies found which aim at the transport and planning authorities who deal with the design of roads and other aspects of the driving environment. The policies found relate to recognising the needs of older drivers and contain guidance about the needs of older people as drivers and how these should be considered in terms of design principles for intersections and roundabouts, pavements, lighting, signage etc..

Some countries have undertaken research into the needs of older drivers in this regard. Nevertheless the number of policies found relating to the design of age friendly roads was very low. Since characteristics that would make a road age-friendly are likely to also be useful for other road users this is surprising.

Apart from guidance regarding the creation of a barrier free pedestrian environment, this applies in a similar way to the approaches regarding the creation of an age friendly walking and cycling environment.

Description of the recommendation

*Road design guidance should be developed on European level.*
Simple changes to road design may help older people drive more safely for longer.

However the knowledge base needs reviewing and testing. This requires the identification of how age friendly road design could be better incorporated into existing guidance and ascertain the effectiveness of their implementation on all road users.

As roads are more or less similar all over Europe and the needs of old people are similar, national policies that are already developed in this area should be analysed and harmonised to be translated into European guidance to assist national and local authorities with implementation. This guidance should include all elements of the transport environment for a most effective integrated use of all transport modes available.

*Similar guidance on how to satisfy the needs of older people in walking and cycling environments should be established.*
A wide approach, including signage, environments and “readability” is important.

Also design to avoid crime and to make users feel safe should be included. For example being able to rely upon a well maintained network of well usable footpaths can increase the confidence that an older person might travel to a destination on foot. Consistent urban design is something that could contribute to this.
X. Developing European guidance on less frequently considered qualities of an age friendly transport system

Challenge

Countries are tackling the “qualities” that the transport system should have to meet the needs of older people to differing extents. As identified in the literature, existence of a public transport in itself does not mean it is useful to an older person – there are myriad additional barriers that may prevent an older person, especially in relation to travelling by public transport. Some of the more tangible barriers are understood and often covered by DfA-policies, while the less tangible ones often seem to get overlooked. This may impact upon public transport use by older people since the literature indicates that the most important barriers for older people may be related to these less tangible aspects (cf. Hjorthol et al 2011). However, the policy review in relation to the consideration of system qualities revealed that in general the best understood are safety, affordability and barrier freedom and many countries have policies in place that deal with potential issues affecting older people in relation to each of these.

Overall, the less tangible qualities are less well catered for at the national level. Nevertheless it is important that governments understand the role and importance of all of the qualities in order that they can make real improvements to the transport system for older people. In particular in public transport, service quality and service design was not considered to such an extent, and existing policies were less common and less detailed than those relating to affordability or barrier freedom. Since information availability and driver friendliness are listed in the literature as key characteristics that encourage older people to use public transport this is an area where more work may be required.

Of course, action to address some of the qualities that we identified will be pursued by local authorities and therefore might not have been identified within this research. That is why at the moment we do not have a good picture of what this action might be, or how it differs geographically.

Description of the recommendation

Create comprehensive European policy guidance that deals with less frequently catered for transport system qualities.

The less tackled barriers, in particular to public transport use, relate security, efficiency, friendliness, reliability, comprehensibility and transparency (also in terms of travel information and ticketing). In many cases these less tangible aspects are likely to have a very real impact on willingness to use public transport.

While some good examples for how such barriers can be tackled might be found at the local level, these are unlikely to be consistent across a country, and in some areas they will not exist at all. Therefore guidance to national governments on how best to guide their local authorities to consider these less frequently catered for transport system qualities would may pay dividends. E.g. softer measures are likely to encourage older people to use public transport. This will help them to maintain quality of life when they can no longer drive, and may therefore also have a health benefit. Alongside this, if older people use public transport there will be less demand for specialist (and more expensive) transport services. There should be established a link between this action and the training of older people to realise the transition to public transport, since they are different actions related to some common barriers.

Assess the effects of catering for the frequently overlooked transport system qualities for older people.

As the barriers that seem currently overlooked are among the most important ones for old people, it is recommended to monitor how their removal impacts upon the mobility choices and transport behaviour of older people.
7. Conclusions

In this report we have taken the findings from the TRACY project and summarised them. The recommendations for further research and future action in terms of policymaking from EU to the national levels resulting from the project have been described and some explanation offered of their potential impact.

One of the main limitations of this project has been the focus on the national level. This means that some of the gaps that we have identified may be dealt with at the regional or local level. However while this may be a limitation in terms of our understanding, our findings have highlighted that national governments are also not considering all of the factors that could help older people to meet their transport needs. Therefore if these factors are considered at the national and even the EU level then older people may be able to travel more easily in the future.

We have tried to frame the actions and research gaps relevant to the transport system within the wider picture of a whole journey. It is vitally important that an older person can complete a whole journey – from finding the information they need to plan it to reaching their destination. Due to the geographical differences between countries and the differences between older people it is likely that different actions will be required in different places.

However, if national governments and local governments consider the feasibility of whole journeys and deal with the elements that are troublesome in their countries then the situation will be improved to a much greater extent than if changes are made to individual modes without considering these interactions. The EU can support this by providing research and guidance on the best approaches and practices.

While the transport needs of an ageing society will continue to grow and change, the findings from TRACY have indicated that continued actions can, to some extent, help to ease the burden of this and enable older people to travel in the ways that best meet their needs.
References


**References for review of academic literature (cf. Chapter 2)**


Bunce, D., Young, M. S., Blane, A. & Khugputh, P. (2012) 'Age and inconsistency in driving performance'. Accident Analysis & Prevention, 49, pp 293-299.


