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List of Abbreviations

BoF	Bicycle or on-Foot transport
CAPI	Computer Assisted Personal Interview
CATI	Computer Assisted Telephone Interview
CAWI	Computer Asissted Web Interview (‘online interveiw’)
ESOMAR	European Society for Opinion and Marketing Research
MIT	Motorized Individual Transport
MoT	Mode of Transport
MSS	Minimum Sample Size (Requirement)
PUB	Public Transport

1. Sample Design – Data Structure

1.1 General Sample Design

The market research within the USEmobility project is a study on actual changes in the mobility behaviour reported by European citizens in six European countries.

The study has two main research domains:

- **Country-Specific Survey (National Survey)**
  Changes in the general mobility behaviour throughout the whole country (6 countries)
- **Case-Specific Survey (Regional Survey)**
  Changes in the mobility behaviour of current or former users of certain means of public transport in selected regions within the six countries (10 cases)

Ten regions have been selected (one to three per country) where substantial changes in the acceptance of public transport could be recorded in the last five years and where important insights into reasons for a change towards or away from public transport can be expected. *Deliverable D2.3* of the USEmobility project details in depth on the selection of the regions.

The ten selected regions are:

- *Austria*
  - S-Bahn Salzburg (Salzburg region)
  - S-Bahn Steiermark (Steiermark region)
- *Belgium*
  - STIB (Brussels region)
- *Croatia*
  - CET (Zagreb region)
  - Varaždin-Međimurje (Varaždin-Međimurje region)
- *Germany*
  - Breisgau S-Bahn (Breisgau region)
  - Metronom (Lower Saxony region)
  - S-Bahn Rhein-Neckar (Rhein-Neckar region)
- *Hungary*
  - Budapest-Esztergom (Budapest region)
- *The Netherlands*
  - Connexion Valleilijn (Valleilijn region)

The surveys were performed in two phases, **phase I** in late spring 2011 and **phase II** in late autumn 2011. The division into two phases gave the opportunity of evaluation after phase I and the possibility of further fine-tuning of the survey in phase II.

The data collection in phase I of the survey took place between 30.05.11 and 15.07.2011, in phase II between 08.09.11 and 17.11.2011.

Data validation and data calibration was completed on 16.12.2011 with the finalisation of this report for the review process.

1.2 Data Sources

Due to their nature, data collection within the different surveys was performed in a variety of ways adapted to the specific requirements of the surveys / regions / partners and to reasons of survey efficiency.

The data sources used in the *national surveys* are:

- *Online interviews*
  A market research panel institute was asked to select, invite and finalize online a representative sample of *Computer Aided Web Interviews* (CAWI) using their existent field of potential respondents (online panel).
- *Direct CATI interviews*
  A market research fieldwork institute was asked to select, contact and finalize by telephone a representative sample of *Computer Assisted Telephone Interviews* (CATI).

All interviews for the national surveys have been set up as representative online interviews, except the survey in Croatia in phase II since the existing capacity of representative online panels in Croatia was used up in phase I already.

The data sources used in the *case-specific surveys* are:

- *Online CAWI interviews with subscribers*
  Subscribers, i.e. known regular users, of certain means of transport were invited in the name of USEmobility by their transport companies via email and recruited to participate in an online interview.
- *CAPI interviews in trains*
  Interviewers were deployed in trains to do *Compute Assisted Personal Interviews* (CAPI) directly on board.
- *Recruitment on platforms, CATI afterwards*
  Interviewers were deployed to stations to personally recruit interested participants on the platforms who were called afterwards and interviewed by CATI.

- *Recruitment in trains, CATI afterwards*
  Interviewers were deployed to trains to personally recruit interested participants who were called afterwards and interviewed by CATI.

Online CAWI interviews with subscribers have been as efficient as in the national surveys. They have been clearly focused on users who have already found their way into the public transport system. They required, of course, a transport company willing to contact their subscribers. In the case-specific surveys two companies agreed to contact their subscribers and asked them to participate in the USEmobility survey.

CAPI interviews in trains could clearly focus on the target-groups in question. They required permission to use the trains for free during the interview period. Such permissions have been received in seven of the selected regions. To get these permissions, the USEmobility recommendation letter by the European commission was very helpful.

A train ride or the waiting time on a platform is not always long enough to perform a full interview. In this case a two-stage approach was followed. The recruitment has been done on the platforms or – if possible – in the trains. If the recruited person has been willing to give their telephone number, the interview was postponed and later performed as a CATI interview. Here as well, the permission to recruit on the platforms or in the trains was a necessary requirement.

All project partners used their contacts to operators and transport companies to secure to the most reliable and efficient way of performing the interviews in the ten regions and during the two survey phases.

1.3 Selection of Institutes

The required data collection ('field work') has been performed by two groups of institutes:

- *Online Panel Institutes*, especially for the country specific surveys
- Interviewer and CATI based *Field Institutes*, especially for the case-specific surveys

The selection of the participating institutes was made based on:

- Availability of the required data collection tool
  (representative national online panels, local interviewers etc.)
- Quality criteria including adherence to the ESOMAR 'Guidelines and codes for international market research' (see http://www.esomar.org/index.php/26-questions.html)
- Economic efficiency

For the *country-specific survey* it was decided that the online-panel approach would be the most advantageous. To keep the survey efficient, the focus was on finding a panel institute that could operate in all six countries simultaneously.

For this task only institutes with large, well-established online panels were considered, which observe the international ESOMAR guidelines and codes. The online panels should be known to be well supported, up-to-date and adequately incentivised to guarantee a constantly high level of motivation and quality-in-participation among their panellists.

Following a comprehensive, multistage process of selection, the decision for the main partner in the country-specific surveys for both phases was made in favour of *Research Now* (www.researchnow.com), a leading provider of online panels worldwide.

The decision for Research Now was based on its many years of experience, its quality guidelines and its international presence. Research Now's international network enables representative, regionally structured samples to be collected also in countries with developing online panel coverage such as Croatia and Hungary.

The only exception to this approach has been Croatia. Due to low panel coverage the sampling method was changed to CATI (see 1.2) in phase II of the survey. Quotas selected *Ipsos Puls* as a competent CATI service provider for Croatia.

For the *case-specific surveys* the choice of the institute depends on type of data collection and availability of a partner with an existing regional interviewer network. The following national partners have been selected:

- *Ipsos Puls (www.puls.hr)*
  Regions: Varazdin-Medimurje and Zagreb (both Croatia)
- *Krämer Marktforschung (www.kraemer-germany.com)*
  Regions: Metronom and Breisgau S-Bahn (both Germany), S-Bahn Salzburg (only phase II) and S-Bahn Steiermark (both Austria), Valleilijn (the Netherlands)
- *Median Közvelemeny (www.median.hu)*
  Regions: Budapest (Hungary)

For the S-Bahn Rhein-Neckar (Germany), S-Bahn Salzburg (Austria, only phase I) and the STIB (Belgium) Quotas was able to perform the data collection internally by using own online survey capacities.

1.4 Sample Plan – National Samples

The comprehensive approach of the survey includes a national, representative part for each country (country-specific sample). This allows to compare the results on a transnational basis and to identify general trends.

A minimum sample of 500 persons, representative of the population (see 2.3), has been surveyed per phase in each of the six countries.

The sample plans for both phases including the Minimum Sample Sizes (MSS) are:

PHASE I			
Country	**Type of Sample**	**MSS**	**Institute**
Austria	Online-Interviews	N=500	Research Now
Belgium	Online-Interviews	N=500	Research Now
Croatia	Online-Interviews	N=500	Research Now
Germany	Online-Interviews	N=500	Research Now
Hungary	Online-Interviews	N=500	Research Now
The Netherlands	Online-Interviews	N=500	Research Now

Table 1: Sample Plan for the National surveys – Phase I

PHASE II			
Country	**Type of Sample**	**MSS**	**Institute**
Austria	Online-Interviews	N=500	Research Now
Belgium	Online-Interviews	N=500	Research Now
Croatia	CATI-Interviews	N=500	Ipsos Puls
Germany	Online-Interviews	N=500	Research Now
Hungary	Online-Interviews	N=500	Research Now
The Netherlands	Online-Interviews	N=500	Research Now

Table 2: Sample Plan for the National surveys – Phase II

In total, at least 1.000 standardised online interviews had to be conducted per country.

1.5 Sample Plan – Case-specific Samples

In addition to the national survey, in each country certain regions have been selected, where a high amount of change in the mobility mix could be expected. These spotlight surveys allow identifying exemplary good and bad practices within the countries.

The minimum sample sizes (MSS) are identical for all transport systems / transport companies surveyed and comprise 200 respondents per phase.

The sample plans for both phases including the Minimum Sample Sizes (MSS) are:

Country	Case	Type of Sample	MSS	Institute
Austria	S-Bahn Salzburg	Recruitment method mix online-interviews	N=200	(internal)
	S-Bahn Steiermark	Recruitment on platforms & in trains, CATI afterwards	N=200	Krämer Marktforschung
Belgium	STIB	Online-Interviews with subscribers	N=200	(internal)
Croatia	Zagreb	Direct CATI interviews	N=200	Ipsos Puls
	Varazdin-Medimurje	Recruitment on platforms & in trains, CATI afterwards	N=200	Ipsos Puls
Germany	Breisgau S-Bahn	Recruitment on platforms & in trains CATI afterwards	N=200	Krämer Marktforschung
	Metronom	Interviews in trains	N=200	Krämer Marktforschung
	S-Bahn Rhein-Neckar	Online-Interviews with subscribers	N=200	(internal)
Hungary	Budapest	Interviews in trains	N=200	Median
The Netherlands	Valleilijn	Recruitment on platforms & in trains, CATI afterwards	N=200	Krämer Marktforschung

Table 3: Sample Plan for the Case-Specific surveys – Phase I

The surveys have been conducted either in a certain catchment area (e.g. the Zagreb area) or on a selected route (e.g. Metronom: Hamburg-Cuxhaven). All methods applied (see 1.2) were set up to include as many current or former users of the specific transport system as possible.

Country	Case	Type of Sample	MSS	Institute
Austria	S-Bahn Salzburg	Recruitment on platforms & in trains, CATI afterwards	N=200	Krämer Marktforschung
	S-Bahn Steiermark	Recruitment on platforms & in trains, CATI afterwards	N=200	Krämer Marktforschung
Belgium	STIB	Online-Interviews with subscribers	N=200	(internal)
Croatia	Zagreb	Direct CATI interviews	N=200	Ipsos Puls
	Varazdin-Medimurje	Recruitment on platforms & in trains, CATI afterwards	N=200	Ipsos Puls
Germany	Breisgau S-Bahn	Recruitment on platforms & in trains CATI afterwards	N=200	Krämer Marktforschung
	Metronom	Interviews in trains	N=200	Krämer Marktforschung
	S-Bahn Rhein-Neckar	Online-Interviews with subscribers	N=200	(internal)
Hungary	Budapest	Interviews in trains	N=200	Median
The Netherlands	Valleilijn	Recruitment on platforms & in trains, CATI afterwards	N=200	Krämer Marktforschung

Table 4: Sample Plan for the Case-Specific surveys – Phase II

In total, at least 400 interviews had to be conducted per selected region. The total MSS for the USEmobility market research is **10.000 interviews** in 6 countries, 10 regions and 2 phases.

2. Design Basis

2.1 Target Populations

Finding out "What factors lead to a change in behaviour towards an extended use of environmentally friendly means of transport?" is the main objective of USEmobility.

USEmobility places its focus on the change-in-behaviour itself. The choice of means of transport is regarded as an ongoing process, in which valuable insights into future mobility decisions can be drawn from decision processes in the past. The core of the survey approach is based on reasons that have led to an actual change in the individual mobility-mix and on an understanding of the motivation, which made the participants reconsider their use of a certain transport alternative.

The *primary focus* of the surveys is on changes within the last five years from mono-modal motorised individual transport to multi-modal transport, mainly based on public transport. *Secondary focus* is on changes away from multi-modal public transport towards mono-modal and / or private motorized transport.

The first part of the questionnaire the screener (see 2.2) serves to identify persons with a change in their mobility mix as described above in the last five years. This is the actual **target population** of the USEmobility study.

The target population consists of both, persons who have completed a change *towards* public transport as well as those who currently use public transport *less frequently.* Persons who have not changed their use of public transport in the last five years are *not* part of the survey.

In order to limit the complexity of the survey approach, a division into public transport and motorised individual transport has been made. Sub-populations of special interest are people who have not only increased their use of public transport ("PUB+"), but also have decreased their use of motorized individual transport ("MIT-"). Similarly people with decreased use of public transport ("PUB-") and increased use of motorised individual transport ("MIT+") have been analysed, especially those who report a complete change towards private motorised transport.

In short, the USEmobility survey deals with four **sub-populations**:

Persons with a change

- **Case 1:** towards more PUB but either also towards more MIT or no change in MIT (i.e. persons with a generally higher level of mobility now)
- **Case 2:** towards more PUB instead of MIT (i.e. from MIT to PUB)
- **Case 3:** away from PUB and either also away from MIT or no change in MIT (persons with a generally lower level of mobility now)
- **Case 4:** towards more MIT instead of PUB (i.e. from PUB to MIT)

To make the survey as comprehensible and focused as possible for the interviewed persons, possible changes were recorded separately in relation to three specific **journey purposes**:

- **S1** Means of transport used on the *Way to / from Work*,
- **S2** Means of transport used when *Shopping / Running Errands* and
- **S3** Means of transport used for *Leisure Activities*.

To keep the interviews within the targeted twenty minute timeframe, only the most relevant purpose for USEmobility (as defined in A.1) has been selected as background for the questions in the main part of the interview.

The procedure described above holds for the national surveys (see 1.4). The case-specific surveys (see 1.5) have been set up in selected regions where insights from successful developments and known best practice could be expected. Therefore most of the persons who passed the screener can be expected to be of cases 1 and 2 and to report a rise in the use of public transport. They can give insights into the success of public transport in these regions.

2.2 Screener

In order to identify the four target sub-populations in each country, all interviews have been first subjected to a three-part screening procedure, based on the journey purposes *Work / Shopping / Leisure* (see 2.1).

In each part, all respondents have been asked about their current purpose-related mobility behaviour and about the extent to which this behaviour has changed in the last five years. A change does not necessarily mean a complete switch to a different mean of transport, but can also be expressed as a change in the frequency or intensity of use.

Only those persons who have described for at least one travel purpose a change in their *use* or in their *frequency of use* of public transport progressed to the main survey. Before progressing it was decided, based on the screener results, which journey purpose was to be pursued in the main survey.

In relation to this selected journey purpose it has additionally been determined if the interviewed person uses public transport (PUB), motorised individual transport (MIV) or bicycle or on-foot transport (BoF). Each participant has finally been categorised in one of the four cases described in 2.1. In detail the subgroups of interest are defined as follows:

- **PUB+:** (national and case specific surveys)
  An increased PUB use in the last 5 years plus at least occasional use of PUB today.
- **PUB-:** (national surveys)
  A decreased PUB use in the last 5 years plus no frequent use of PUB today.

- **MIT+:** (national surveys)
  An increased MIT use in the last 5 years plus at least a rare use of MIT today.
- **MIT-:** (national and case specific surveys)
  A decreased MIT use in the last 5 years plus no frequent use of MIT today.

The selection of the specific journey purpose relevant for the main survey has been done according to the following hierarchical selection process between the three purposes available:

- Selection Step 1: Take all PUB+ purposes, if available (take PUB- otherwise)
- Selection Step 2: From step 1 take those purposes with the maximum level of today's PUB use
- Selection Step 3: From step 2 take those purposes with the maximum change towards today's PUB use
- Selection Step 4: If step 3 still yields more than one journey purpose, make a random selection

This selection process prefers cases with (i) a positive change, (ii) a high current PUB-level and (iii) a steep rise towards today's frequency. These are the cases from whom the most insights for USEmobility's main objective can be expected.

2.3 Representativeness

For the national surveys (see 1.4) care has been taken to yield samples representative for all citizens in the country.

Four characteristics have been kept in tune with their respective national structures: (i) *Age* (six age-groups from 15 to 99), (ii) *gender* and (iii) *education* and (iv) *geographical distribution*. The geographical distribution is based on the European regional classification system NUTS (*Nomenclature des unités territoriales statistiques).* For each country three to nine NUTS regions have been selected.

In cases where the sample has not been fully representative, a weighting process was established to restore full proportionality to the desired national distribution (see 5.2).

The sampling and weighting procedures have been monitored to secure that extreme weights – and with them extreme influences of single interviews – are avoided.

The maximum permissible weight and influence per interview is three times the average.

The case-specific surveys (see 1.5) have been only performed with users of public transport in the selected regions. The chosen sampling methods secure a sufficient representativity.

2.4 Limitations

Since the survey focuses on persons with a change in their mobility behaviour, neither findings can be presented regarding persons who have not changed their use of public transport in the last five years nor the reasons for keeping their behaviour. Following the same argument:

> The survey results do **not allow deductions on the behaviour or attitude of the total public transport** in the countries surveyed.
>
> The surveys in the specific regions are **not necessarily fully representative for all users of the specific means of transport** in this region.

Deductions from best / bad practice identified by the survey in the past are only insofar applicable to future decision processes as a comparable socio-economic background can be assumed.

3. The Questionnaire

The focus of the USEmobility survey is on analysing the reasons for changes in the use of means of transport. In addition, further survey content on environmental awareness, general attitudes towards mobility and the emotional aspects of the utilisation of different means of transport are integrated.

Access to the questionnaire has been granted to all participants in the survey who have passed the screener (see 2.2).

3.1 Design Principles

The questionnaire has either been implemented as an online or offline questionnaire (see 1.2). The online questionnaires make use of immediate plausibility and completeness checks. The offline questionnaires rely on trained and experienced interview personnel.

In all implementations several types of questions are included:

- **Single Choice Selection** ('single', used in 10 questions in the national survey):
  The participant has to decide within a list of alternatives.
  In some questions an openly defined alternative is included (for example 'Other').
- **Multiple Choice Selection** ('multiple' used in 7 questions):
  The participant has to pick one or more items from list of alternatives.
  Some questions may include a fixed unspecific choice (for example 'Other').
  The order of the alternatives in longer lists is determined at random
  to avoid any bias introduced by the positioning in the list.
- **Number** ('number' used in 9 questions)
  The participant has to provide a number (for example 'Age').
- **Yes/No Selection** ('yes'/'no' used in one question):
  The participant has to agree or disagree to a number of suggestions.
- **Type-3** or **Type-5 Scale** ('type-3' used in one question, 'type-5' used in 40 questions):
  A list of alternatives which have to be evaluated using a scale of three or five (for example 'always' to 'never' or 'much more' to 'much less'). The participant has to make a decision, but has also the opportunity to choose a middle position (i.e. 'occasionally' or 'no change'). The order of the alternatives in longer lists is determined at random to avoid any bias introduced by the positioning in the list.
- **Type-3** or **Type-5 Scale** with **back-out** option ('type-3-bo' used in 5 questions, 'type-5-bo' used in 3 questions):
  A type-3 or type-5 scale with an extra back-out option like, for example, 'cannot judge'.

- **Type-6 Scale** (‘type-6’ used in one question):
  A list of alternatives which have to be evaluated using a scale of six (i.e. ‘very negative’ to ‘very positive’). The participant has to make a decision. There is no middle position. The order of the alternatives in longer lists is determined at random to avoid any bias introduced by the positioning in the list.
- **Type-6 Scale** with **back-out** option (‘type-6-bo’ used in one question):
  A type-6 scale with an extra back-out option like, for example, ‘cannot judge’.
- **Continuous Scale Type 1** (‘cont-T1’ used in one question):
  A list of alternatives which have to be evaluated using a continuous scale implemented in an online questionnaire, i.e. a ruler that can be moved on-screen. The participant has to move the ruler. There is a common scale for all alternatives (for example left ‘disagree completely’ and right ‘agree completely’).
  The order of the alternatives in longer lists is determined at random.
- **Continuous Scale Type 2** (‘cont-T2’ used in two questions):
  A list of alternatives which have to be evaluated using a continuous scale implemented in an online questionnaire. There is an individual scale for each alternative (for example ‘slow’ and ‘fast, ‘weak’ and ‘strong’).
  The order of the alternatives in longer lists is determined at random.

All questions have been provided only to the relevant subgroups.

Example: Questions about using public transport have been only presented to participants who have reported to be users of public transport services. Important parts of the questionnaire have been focused on only one travel purpose (see 2.1, 3.3, 3.4).

The questionnaire is structured in three main blocks:

- **Part I:** Characterisation of the participant in general (17 questions)
- **Part II:** Characterisation of the participant in relation to the relevant travel purpose (12 questions)
- **Part III:** Reasons for the change in behaviour in relation to the relevant travel purpose (3 up to 21 questions)

By streamlining the individual questionnaire to the participants mobility background the average length of the interview has been limited to twenty minutes.

3.2 Identification of Sub-Populations

The information gathered in the first two parts of the questionnaire is the basis for the definition of relevant sub-divisions of the target-populations (sub-populations). The sub-populations can be characterized by a number of personal characteristics.

The centre of interest of **Part I** therefore is:

- *Geographic and Socio-Demographic Characteristics*
  like country, region, language, postcode, age, gender, marital status, people in the household, occupation, highest educational qualification, net household income and car availability
- *Socialisation and Awareness to Environmentally Friendly Mobility*
  like familiarity with modes of transport (experience, socialisation), deeds or plans to be environmentally aware, possible additional payment for stronger environmental orientation
- *General Attitudes to Means of Transport / Mobility*
  Image / Status / Esteem of the means of transport plus emotional aspects of modes of transport (i.e. characteristics of PUB/PUB-users and MIT/MIT-users)

This question area is not related to the journey purpose, but applies generally to mobility as a whole or to the entire transport behaviour of the participant.

These general attitudes towards use of means-of-transport / mobility serve as a basis for a later *segmentation* of the respondents. The objective of segmentation is a transnational identification of concise mobility types in relation to the change.

The *emotional evaluation* of the PUB / MIT User and of PUB / MIT itself provides a starting point to understand non-rational decisions / behavioural patterns which, for example, can be used in communication policies. The procedure of semantic differential was applied to work out the used emotional profile. Based on suitable pairs of characteristics (e.g. 'old'/'young', 'simple'/'complicated') typical user profiles were charted, which express the emotions of the respondents.

The choice of means of transport is influenced by the purpose of the journey. Each journey purpose has its own demands upon a means of transport. For this reason, the implemented questionnaire determines for **part II** of each interview one of the three main journey purposes for which the questions have to be answered: *Way to Work, Shopping / Errands* and *Leisure Activities*. The questions of this part include experiences, attitudes and opinions on the means of transport. The topics raised in part II are:

- *Current Means of Transport / Mobility Behaviour*
  including means of transport in use, existing combinations of means of transport, favoured kind of tickets (PUB users), being a driver / passenger (MIT users), and the availability of a fixed, reserved parking space (MIT users)
- *Type of change* in the use of transport in the last five years
- *Perceived freedom of choice* in connection with the change

- *Information behaviour and influence*
  including emotionality of the communication (e.g. adventure, sympathy), the role of opinion leaders and social decision processes
- *Changes in the personal / private situation*
  including changes / lifecycle breaks in the last five years and the influence of each change on the choice of the mode of transport
- *Rating* of the means of transport used

The questions of **part III** are also specific to the relevant travel purpose. They deal with the *reasons* for the change in behaviour. They form the main body of the questionnaire and are detailed in 3.3 and 3.4.

3.3 Main Structure – National Questionnaires

The main part of the questionnaire has been based on the main journey purpose selected in the screener (see 2.1), either '*Way to Work', 'Shopping / Errands'* or *'Leisure Activities'.*

Four separate survey modules were developed, which have to be answered depending on:

- The *intensity* with which the Means of Transport are used today
  (public transport PUB, motorised individual transport MIT, bike / on foot mobility BoF)
- The *direction* of a reported change in the last 5 years
  (PUB+ / PUB-, MIT+ / MIT0 (no change) / MIT-, BoF+ / BoF0 / BoT-) and on
- The *intensity* of this change

This information has been collected in the screener (see 2.2) and leads to four different cases:

- **Case 1:** Change towards more PUB
  (but either also towards more MIT or no change in MIT)
- **Case 2:** Change towards more PUB instead of MIT
- **Case 3:** Change away from PUB
  (and either also away from MIT or no change in MIT)
- **Case 4:** Change towards more MIT instead of PUB

Two main criteria sum up the reasons for the choice of means of transport. It is – apart from personal circumstances – (i) the *attractiveness* of the means of transport used / used more frequently and (ii) the *lack of attractiveness* of the means of transport less frequently or no longer used.

Due to the fact that the reasons for an increase can differ from those for a decrease in the use of a means of transport, different survey modules were developed. These survey modules are for the most part identical, yet differ in the wording, or in the characteristics indicated.

Each respondent must answer one or two of the following survey modules:

- **Survey module 1 (PUB+)**: Reasons for more frequent use of PUB
- **Survey module 2 (PUB-)**: Reasons for less frequent use of PUB
- **Survey module 3 (MIT+)**: Reasons for more frequent use of MIT
- **Survey module 4 (MIT-)**: Reasons for less frequent use of MIT

The application of the survey modules depends on the case the participants falls in:

- **Case 1:** Module 1
- **Case 2:** Module 1 and 4
- **Case 3:** Module 2
- **Case 4:** Module 2 and 3

In the national questionnaires the four survey modules are identical for all six participating countries. This guarantees the comparability of the results between the six countries. Nevertheless, small modifications were necessary in terms of country-specific situations, for example the country-specific wording on issues of ‘emvirionmental friendliness’.

The four survey modules M1 - M4 concentrate on qualities of the mobility offer and the mobility background in the six countries that might have influenced participants to change their mobility behaviour (altogether fifteen possible **primary factors** of influence):

- *Atmosphere* (sensory experience, e.g. design / smell / cleanliness, M1-2)
- *Co-Passengers* (social interaction / privacy / autonomy, M1-3)
- *Costs* (fare system / price / costs, M1-4)
- *Environmental Friendliness* of the offer (M1-2+M4)
- *Flexibility of Use* (connections / schedule / ticket-restrictions, M1-4)
- *Journey Time* (planned and actual length, M1-4)
- *Joy of travelling* (positive image, M3-4)
- *Multimodal Chain* (infrastructure / necessary transfers / waiting times, M1-2)
- *Reachability* (in general and with regard to quality of connections, M1-4)
- *Reliability* (punctuality according to schedule plus security of scheduled connections, M1-4)

- *Safety* (sensation / emotions referring to accidents and crime / harassment, M1-4)
- *Simplicity / Complexity of the offer* (Planning / preparation / accessibility to the system / ticket purchase / information, M1-4)
- *Staff* (appearance / friendliness / commitment, M1-2)
- *Stations* (accessibility / equipment, M1-2)
- *Travel Comfort* (equipment / space / circumstances, M1-4)

If a primary factor has been relevant to the respondent it was further specified into **secondary factors** according to the means of transport in question. *Example:*

- Primary characteristic: Comfort
- Secondary characteristics Comfort, especially:
  - Availability of seats
  - Comfort of seats
  - Sufficient space
  - Possibility to transport luggage, etc.

The secondary characteristics are the refinement of the primary characteristics; they are oriented more strongly towards the actual means of transport. Secondary characteristics were only collected for those primary characteristics that have interesting sub-features and have shown at least a medium-strong significance on the change in use of the means of transport.

The questionnaire presents the primary factors plus, at maximum:

- Module 1: Ten sets of secondary factors
- Module 2: Eleven sets of secondary factors
- Module 3: Six sets of secondary factors
- Module 4: Six sets of secondary factors.

Beyond of the relevance of the primary factors it has been further recorded if the participants have perceived an **improvement** or **deterioration** in these characteristics in the last five years that might be an indication / reason for the personal relevance of the factor.

Finally all participants had to judge on a very basic level to what degree the following three categories contributed to their decision to change their mobility behaviour:

- Change in personal / private situation
- Attractiveness of means of transport preferred today
- Dissatisfaction with means of transport now less frequently used

3.4 Main Structure – Case-Specific Questionnaires

The case-specific questionnaires in most parts are identical to the national country-specific questionnaires. However, some changes and additions were necessary due to methodical and content-related requirements.

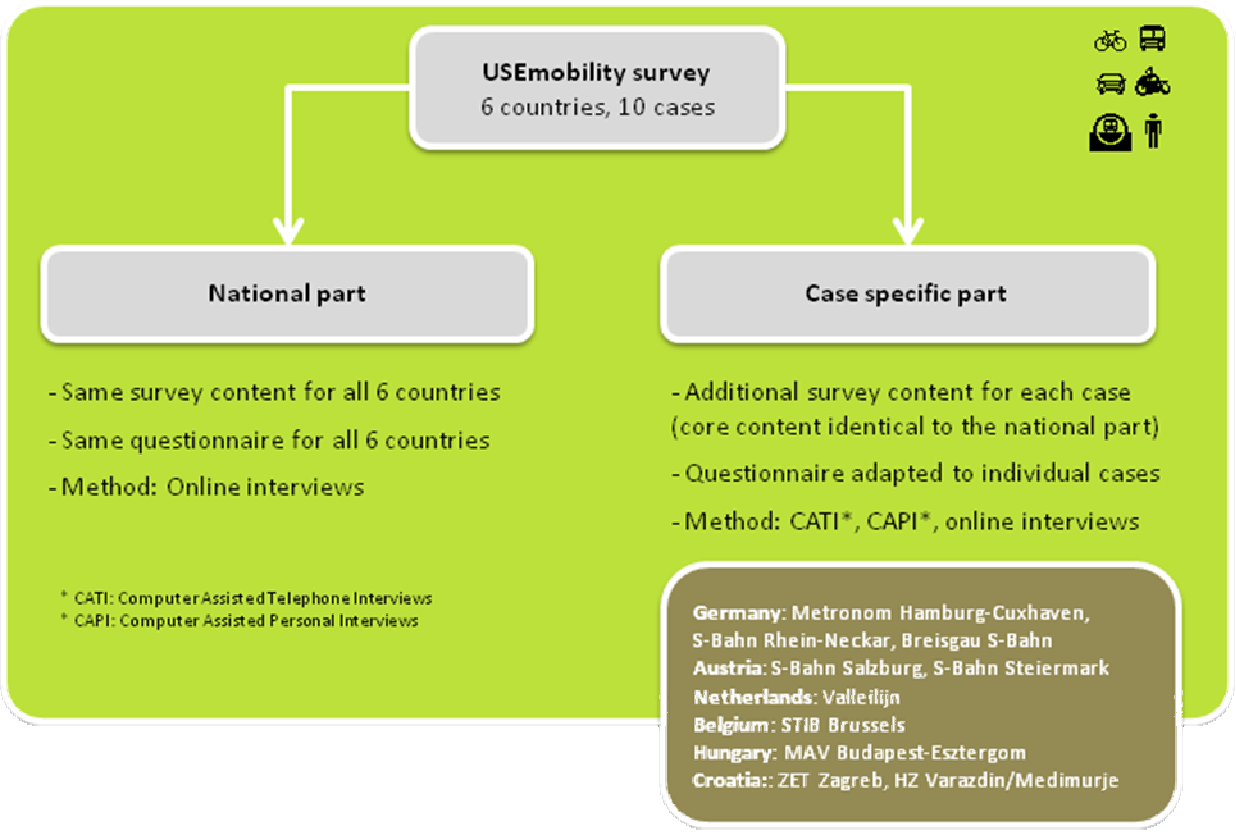

Figure 5: Comparison national and case-specific surveys

The case-specific questionnaires do not relate to public transport in general, but to the transport system or transport company under examination. Correspondingly, the existing category ‘public transport’ was supplemented with a new category representing the specific transport system or transport company (e.g. ‘metronom’).

PUB-specific questions in all three parts of the questionnaire are now directly related in content and wording to this new region-specific PUB-category. Questions about the means of transport in use and about existing combinations list now the region-specific means of transport (e.g. S-Bahn Steiermark) but, of course, still include the known option ‘public transport (other)’. In some cases the questionnaire offers not only one, but a mix of region-specific means of transport (e.g. ‘STIB bus’, ‘STIB tram’, ‘STIB train’).

The case-specific surveys were supplemented by questions on features of these transport systems that were not adequately covered by the general questions on primary and secondary characteristics. These new fields of interest are by definition quite specific and differentiated. For each region up to three case-specific questions have been included.

Some questions from part II of the national questionnaire relating to:

- Socialisation
- Awareness to environmentally friendly mobility
- Familiarity with modes of transport (i.e. experience, socialisation)
- Deeds or plans to be environmentally aware
- Possible additional payment for stronger environmental orientation

were primarily developed for national comparison and have been removed from the case-specific questionnaires. These questions are of lower priority for the case-specific perspective and were omitted to compensate for the inclusion of the case-specific questions.

Each selected case / region has its own special features that were responsible for the success of the regional transport project. A central objective of the case-specific survey design was to work out these specific success factors. The case-specific questionnaires enable the detailed examination of the participating transport systems or regions.

As in the country-specific questionnaires, a special focus lies on statements made as to whether an improvement or deterioration has been noticed in the primary characteristics. This evaluation is particularly interesting in the regional or case-specific context, because the success of previous measures can thus be ‘checked’.

3.5 Changes between Phases I and II

As it was checked on a smaller scale after the pre-test of the questionnaire, it was also checked after phase I of the survey if the questions:

- Were clearly stated and the participants understood them as intended
- Delivered meaningful and interpretable output
- Showed relevance for the participants.

All three aspects worked out well and required no additional corrections of the original layout.

A first evaluation of the data of phase I was used to indicate any missing information being not yet part of the questionnaire. It was identified that the rating of certain characteristics of public transport would benefit from an additional question on the rating of public transport in general (total rating). This variable was included into the questionnaire in phase II.

The length of the questionnaire was envisaged not to exceed twenty minutes. This target could not be held in a number of interviews in phase I. To shorten the interviews, questions with a higher completion time were identified. It was evaluated, which questions added the least additional information and which were not covered at least partially by other questions as well.

It was decided to take out all questions on perceived *changes* in the primary factors and to rely on the data from phase I for the analysis. This shortening reduced each interview by up to 26 individual evaluations. It eliminated perceived repetitions and secured a high level of attention throughout the whole interview.

4. Data Validation

4.1 Plausibility / Consistency

Checks on data consistency and plausibility are the backbone of the data validation process. They work out discrepancies within the data and have been applied on:

- The plausibility of each of the answers
- The plausibility of the interplay between answers and
- The consistency over answers covering the same background.

The result of these checks is an evaluation of the quality of single answers or certain groups of answers.

Plausibility checks are part of the programming of all online questionnaires and rule out data input of implausible answers. With offline interviews it had to be checked if the interviewers worked correctly through the questionnaire.

The plausibility checks applied in this questionnaire are diverse and include:

- The correct application of all filter rules (i.e. required but empty answers were declared missing, not required but existing answers were deleted)
- The correct application of all question types (see 3.1, e.g. single choice answers have exactly one answer — if one has to distribute 100% over three possibilities the three answers have to add up to 100% etc.)
- The correct reply regarding the questions' content (e.g. multimodality requires at least a combination of two means of transport — the age-range runs from 15 to 99 etc.)
- The consistency over several answers (e.g. if you say that you use public transport 'much less frequently', you cannot say that you use it 'always' now — if you claim to combine two or more means of transport, you must have stated in the first place that you use them at all — if the screener has determined that you are a Case 2, you have to answer Modules 1 and 4 and not Modules 2 or 3 etc.)

All answers that have been regarded implausible and inconsistent were removed from the data set and clearly marked as missing. It is always possible to distinguish between answers that are empty because they had not to be answered (filtered answers) and questions that are marked to be missing (open answers).

4.2 Reliability

Apart from the data consistency and plausibility, indications on the reliability of the total interview have been evaluated. The evaluation includes:

- The amount of implausible / inconsistent answers
- The length of the interview
- Susceptible patterns in the way the answers have been given.

The result of these evaluations is a decision on the reliability of the whole interview.

The following error-codes, mainly based on an online survey, apply for the *country specific* questionnaire (information on the interview length is available):

1. The question about Image / Status / Esteem of the means of transport provides a list of items with individual scales (cont-T2, see 3.1). It is highly improbable, that a participant would evaluate all items in the same way over all scales. It is rather to be assumed that the participant filled in the questionnaire without thinking properly about his answers ("click-through-behaviour").
2. More than one answer with at least ten items shows identical answers over all items in the list. Adding to that, the participant is within the 33% fastest respondents (i.e. with the shortest interview length). Again it has to be assumed that the participant filled in the questionnaire in a fast manner without thinking properly about his answers.
3. One answer with at least ten items shows identical answers over all items in the list. Adding to that, the participant is within the 2,5% fastest respondents. Again it has to be assumed that the participant filled in the questionnaire in a fast manner without thinking properly about his answers.

For the *region specific* questionnaire the following error-codes apply, based on an offline based survey (information on the interview length is not available):

1. The question about Image / Status / Esteem of the means of transport provides a list of items with individual scales. It has to be assumed that the participant filled in the questionnaire without thinking properly about his answers.
2. More than one answer with at least ten items shows identical answers over all items in the list. Again it has to be assumed that the participant filled in the questionnaire without thinking properly about his answers.

Interviews that fall in one of the listed error categories have been regarded unreliable and were removed from the data set.

4.3 Completeness

The final step in the validation process is a check on the completeness of the data. Completeness refers to:

- The percentage of answered questions, especially in offline interviews
- The number of completed interviews.

The result of this check is the net data set. The net data set shall fulfil the requirements of the sample plan (see 1.4 and 1.5).

Some of the interviews have a certain number of missing answers. If the number of missing answers is too high, the informative value of the interview has to be regarded as low and the reliability is questionable, too. Therefore, if there are more than 18 missing values within an interview, the interview was removed from the data set.

Since it had to be expected that a certain number of interviews do not pass the validation routines regarding reliability and completeness, the gross sample was set up with a certain surplus to cover losses. In cases where the surplus did not suffice, *additional interviews* were performed *during the validation phase* until the required net samples were achieved.

For the national surveys, for example, these procedures lead to:

Gross sample I	*13.373*
- Blocked by Screener	6.543
Gross sample II	*6.830*
- Error code 1	102
- Error code 2	168
- Error code 3	52
- Incomplete	151
Net Sample	**6.357**

Table 6: Gross and net samples for the National surveys

5. Data Calibration

5.1 Net Samples

The data validation process led from the gross to the net samples by eliminating unreliable und incomplete interviews. The final net samples for the national surveys are:

County	Phase I	Phase II	Total
Austria	484	516	**1000**
Belgium	491	509	**1000**
Croatia	858	464	***1322***
Germany	494	509	***1003***
Hungary	533	499	***1032***
The Netherlands	491	509	**1000**

Table 7: Net samples for the National surveys

In total 6.357 interviews passed the data validation process, 357 more than requested.

Croatia with a surplus of 358 interviews in the phase I is a special case. This is due to the fact that the survey in Croatia yielded an unrepresentative sample at the beginning of phase I and had to be adapted to fulfil the requirements on age and education of the respondents. The surplus of respondents of younger age and higher educational background has been compensated by the weighting procedure as described in the following chapters.

Regarding the four cases and four survey modules the National surveys (see 1.4) show the following distribution:

Country	Case 1	Case 2	Case 3	Case 4	PUB+	PUB-	MIT+	MIT-
Austria	185	269	206	340	454	546	340	269
Belgium	214	266	203	317	480	520	317	266
Croatia	239	300	357	426	539	783	426	300
Germany	174	259	277	293	433	570	293	259
Hungary	182	323	251	276	505	527	276	323
The Netherlands	207	137	367	289	344	656	289	137

Table 8: Cases and Service Modules in the National surveys

The final net samples for the case-specific surveys are:

Region	Phase I	Phase II	Total
Breisgau	201	199	**400**
Budapest	208	192	**400**
Metronom	205	195	**400**
Rhein-Neckar	199	201	**400**
Salzburg	215	205	***420***
Steiermark	200	200	**400**
STIB	186	274	***460***
Valleilijn	203	192	**395**
Varazdin	200	200	**400**
Zagreb	200	200	**400**

Table 9: Net samples for the case-specific surveys

In total 4.075 interviews passed the data validation process, 75 more than requested.

Regarding the four cases and four survey modules the case-specific surveys (see 1.5) show the following distribution:

Country	Case 1	Case 2	Case 3	Case 4	PUB+	PUB-	MIT+	MIT-
Breisgau	205	160	24	11	365	35	11	160
Budapest	266	127	4	3	393	7	3	127
Metronom	236	154	8	2	390	10	2	154
Rhein-Neckar	108	263	11	18	371	29	18	263
Salzburg	189	217	4	10	406	14	10	217
Steiermark	228	147	13	12	375	25	12	147
STIB	125	264	41	30	389	71	30	264
Valleiljin	252	130	9	4	382	13	4	130
Varazdin	184	77	75	64	261	139	64	77
Zagreb	122	82	147	49	204	196	49	82

Table 10: Cases and Service Modules in the case-specific surveys

The Regional surveys also show a certain surplus, for example the STIB in Brussels with a surplus of 74 interviews in the phase II. This is due to the fact that the STIB has placed a highly successful announcement for the USEmobility survey in their newsletter. Valleilijn has missed the target by five interviews, due to additional inconsistencies found in the last stages of the validation process.

5.2 Weighting of Data – Method used

For the national surveys three characteristics are kept in tune with their national structures:

- **Age** (six age-groups from 15 to 99: 15-24, 25-34, 35-44, 45-54, 55-64 and 65-99),
- **Gender** (male / female) and
- **Geographical distribution.**

The geographical distribution is based on the European regional classification system *NUTS* (*Nomenclature des unités territoriales statistiques).* For each country three to nine NUTS regions on the NUTS1 or NUTS2 level have been selected.

In setting quotas for all categories of these three characteristics, the composition of the target group was monitored constantly during data collection. If certain population segments have not been sufficiently represented, as it was for example the case with the online interviews in Croatia in phase I, these segments were supplemented with participants in the missing categories until the desired quota were filled (e.g. the percentage pensioners over an age of 64).

In cases where the sample has still not been fully representative, a weighting process was established to restore full proportionality to the desired national distribution in all three characteristics. All required distributions have been yielded from national or European statistical sources (i.e. EUROSTAT). The sampling and weighting procedures have been monitored to secure that extreme weights and thus extreme influences of single interviews are avoided.

The weighting system has been calculated in a way that the sum of the weights adds up to the number of valid interviews. A weight below one refers to a stratum where more than the required number of interviews have been performed and where the influence of the single interview had to be reduced. A weight over one refers to a stratum, where less than the required number of interviews have been performed and where the influence of the single interview had to be increased.

All weights should be kept as close to one as possible. No weight should

- Overemphasise the influence of any single interview (increased risk of introducing bias)
- Over-reduce the influence of any group of interviews (reduced efficiency)

Accoding to good practice, the maximum permissible weight per interview is therefore set to three, the minimum permissible weight to one third.

With regard to the weighting procedure the sample consists of all valid interviews that passed the screener *plus* all persons which were screened out without raising further doubts. The reason for this approach is that one cannot assume that representative structures remain the same after passing the screener, so that the representativeness has to be checked on the population *before* screening.

5.3 Weighted Net Samples – Results

In total, 12.900 participants completed the screener of the country specific survey successfully and were included into the weighting procedure. A subset of 6.357 interviews forms the *Country Specific Net Sample* (see 5.1)

The minimum weight applied per country in the net sample is 0,39, the maximum weight is 2,56, both fulfilling the minimum requirements. Lower weights can be found for example in younger age groups and groups of higher educational qualification, higher weights with pensioners and groups with lower educational status.

6. Management Summary

The main objective of USEmobility has been to find out: “What factors lead to a change in behaviour towards an extended use of environmentally friendly means of transport?” The USEmobility market research places its focus on the change in mobility-behaviour itself.

The study has two main research domains, the country-representative *national surveys* in six European countries and the *case-specific surveys* in ten regions where substantial changes in the acceptance of public transport were reported in the last five years and where important insights into reasons for a change towards or away from public transport could be expected.

The data sources in the national surveys are either online interviews or telephone interviews (CATI). The national online surveys are performed using *Research Now* online panels.

The data sources in the case-specific surveys are diverse: online interviews with subscribers of certain transport companies, interviews in trains, and recruitment on platforms / in trains (CATI afterwards). The interviews were performed by Quotas together with *Ipsos Puls* (Croatia), *Krämer Marktforschung* (Austria, the Netherlands) and *Median Közvelemeny* (Hungary).

The data collection took place in phase I between 30.05 and 15.07.2011 and phase II between 08.09 and 17.11.2011. The average length of the interview has been limited to twenty minutes.

The first part of the questionnaire, the *screener*, served to identify persons with a change in their mobility-mix in the last five years and their main travel purpose. The main questionnaire is structured in three parts, the characterisation of the participant in general (part I), the characterisation of the participant in relation to the main travel purpose (part II) and the reasons for the change in behaviour in relation to the main travel purpose (part III).

The information collected in the screener lead to four different target groups,
Case 1: people with a change towards increased mobility including public transport (PUB),
Case 2: people with a change towards more PUB *instead of* motorized individual transport,
Case 3: people with a change towards decreased mobility including decreased PUB and
Case 4: people with a change towards more motorized individual transport *instead of* PUB.

During data validation implausible or inconsistent answers were marked as missing. Unreliable interviews were removed from the data set. Only interviews with a high degree of completeness were kept in the net sample. *Altogether response and data quality were on a high level.*

The net sample of the national survey consists of at least 1.000 valid interviews per country. Adding to the 6.000 required interviews a surplus of 357 interviews remains in the data set. In the case-specific surveys at least 400 valid interviews (Croatia 395) per case are available. Apart from 4.000 planned interviews a surplus of 75 interviews remains in the data set. Altogether 10.432 interviews form the net data basis of the USEmobility market analysis.

For the national surveys representativity has been secured by calibration. 12.900 participants completed the screener of the country specific survey successfully and were subjected to a weighting procedure. The minimum weight applied per country to one interview is 0,39, the maximum weight is 2,56 with no interview gaining an unduly high influence on the results.

Annex A: The Questionnaire

Annex A gives a complete and detailed listing of the questions used in the questionnaires.

Annex A1 details on the Screener, Annexes A2 and A3 give a full overview of the general questions asked to achieve a sufficient characterisation of the respondent with regard to his mobility behaviour. Annex A4 summarises all questions regarding the reasons for the change in the individual mobility mix.

The types of questions stated in the following refer back to those listed in chapter 3.1.

A.1 Screener (by journey purposes S1-S3)

The screener consists of three questions for each journey purpose:

S1 Purpose 1: Way to Work

1. Means of transport in use (question of *type-5:* 3 alternatives: A 'Car/Motorcycle', B 'Public Transport', C 'Bicycle/Walking'; scale: 5 (a: 'Always' to e: 'Never'); no filter)
2. Change in frequency (*type-5:* 3 alternatives; scale: 5 (a: 'Much more f.' to e: 'Much less frequently')
3. Is 'Way to Work' not applicable? (Yes/No: no filter)

From the answers to these three questions Q1 to Q3 the following types can be defined:

PUB+: Q1.B.a-c and Q2.B.a-b (PUB0: Q1.B.a-e and Q2.B.c) **PUB-**: Q1.B.b-d and Q2.B.d-e
MIT+: Q1.A.a-d and Q2.A.a-b **MIT0**: Q1.A.a-e and Q2.A.c **MIT-**: Q1.A.b-d and Q2.A.d-e

Each purpose falls in one of the two PUB-categories and in one of the three MIT categories.

S2 Shopping / Running Errands

1. Means of transport in use (*type-5-bo:* 3 alternatives; scale: 5 (a: 'Always' to e: 'Never'); no filter)
2. Change in frequency (*type-5:* 3 alternatives; scale: 5 (a: 'Much more f.' to e: 'Much less frequently')
3. Is 'Shopping / Running Errands' not applicable? (Yes/No: no filter)

PUB+: Q1.B.a-c and Q2.B.a-b (PUB0: Q1.B.a-e and Q2.B.c) **PUB-**: Q1.B.b-d and Q2.B.d-e
MIT+: Q1.A.a-d and Q2.A.a-b **MIT0**: Q1.A.a-e and Q2.A.c **MIT-**: Q1.A.b-d and Q2.A.d-e

S3 Leisure Activities

1. Means of transport in use
   (*type-5-bo:* 3 alternatives; scale: 5 ('Always' to 'Never'); no filter)
2. Change in frequency
   (*type-5:* 3 alternatives; scale: 5 ('Much more f.' to 'Much less frequently')
3. Is 'Leisure Activities' not applicable? (Yes/No: no filter)

PUB+: Q1.B.a-c and Q2.B.a-b (PUB0: Q1.B.a-e and Q2.B.c) **PUB-**: Q1.B.b-d and Q2.B.d-e
MIT+: Q1.A.a-d and Q2.A.a-b **MIT0**: Q1.A.a-e and Q2.A.c **MIT-**: Q1.A.b-d and Q2.A.d-e

After the screener questions have been collected, the one relevant journey purpose out of three can be determined by the hierarchical procedure described below.

T Relevant Journey Purpose

1. Choice: PUB+ purposes preferred over PUB- purposes (6 cases; 1 to 3 counts)
2. Choice: Journey purpose with the most frequent use of PUB (1 to Max(T1) counts)
3. Choice: Journey purpose with the strongest change (1 to Max(T2) counts)
4. Choice: If necessary: Random selection (2 to Max(T3) counts)

This hierarchical procedure builds on the following set of possible decisions:

Choice 1	Choice 2	Choice 3	Coice 4
PUB+	Max_S1.1.B-S3.1.B(a-c)	Min_S1.2.B-S3.2.B(a-b)	Random
PUB+	Max_S1.1.B-S3.1.B(a-c)	Min_S1.2.B-S3.2.B(a-b)	Random
PUB+	Max_S1.1.B-S3.1.B(a-c)	Min_S1.2.B-S3.2.B(a-b)	Random
PUB-	Max_S1.1.B-S3.1.B(b-e)	Max_S1.2.B-S3.2.B(d-e)	Random
PUB-	Max_S1.1.B-S3.1.B(b-e)	Max_S1.2.B-S3.2.B(d-e)	Random
PUB-	Max_S1.1.B-S3.1.B(b-e)	Max_S1.2.B-S3.2.B(d-e)	Random

After finishing the screener procedure there were three new variables:

1. Journey **Purpose** (filter: see table above)
2. **PUB**: (JP.1.B.a-c, users of public transport);
   MIT: (JP.1.A.a-c; users of motorised individual transport);
   BoF: (JP.1.C.a-c; users of bicycles or on foot) (filter to all: purpose)
3. **Case 1**: PUB+ and MIT0 or MIT+
   Case 2: PUB+ and MIT-
   Case 3: PUB- and MIT0 or MIT-
   Case 4: PUB- and MIT+ (filter to all: purpose)

A.2 Questionnaire – General Questions Part I

The information gathered in the first two parts of the questionnaire is the basis for the definition of relevant sub-divisions of the target-populations (sub-populations). The sub-populations can be characterized by a number of personal characteristics.

The centre of interest of part I are *Geographic and Socio-Demographic Characteristics, Socialisation and Awareness to Environmentally Friendly Mobility* and *General Attitudes to Means of Transport / Mobility*

This question area is not related to the journey purpose, but applies generally to mobility as a whole or to the entire transport behaviour of the participant.

A.2.I Socialisation (not case-specific survey)

4. Familiarity with Modes of Transport (**MoT**)
   (*type-5:* alternatives: 7; scale: 5 ('Not at all familiar' to 'Very familiar'); no filter)

A.2.J Environment

5. Deeds or plans to be environmentally aware *(Phase I of sampling)* (*scale-3-bo:* alternatives: 15 types; scale: 3+1 ('Already do' to 'Not plan to do'); no filter, not case-specific survey)
6. Additional payment for stronger environmental orientation (*cont-T1:* 5)

A.2.K Segmentation (Attitudes to MoT / Mobility)

7. Agreement with statements (*type-6:* 19 statements; scale: 6 ('Disagree completely' to 'Agree completely'); no filter)

A.2.L Semantic differential (Emotional aspects of MoT / Mobility)

(not case-specific survey)

8. Characteristics of PUB[-users *(Phase I of sampling)*]
   (*cont-T2:* 16 adjectives; scale: ruler (Individual per type); no filter)
9. Characteristics of MIT[-users *(Phase I of sampling)*]
   (*cont-T2:* 16 adjectives; scale: ruler (Individual per type); no filter)

A.2.M Geographic and Socio-Demographic Characteristics

10. Country (country; single choice: 6; no filter)
11. Language (language; single choice: 4; filter: Belgium)
12. Postcode (postcode; no filter)
13. Sub-Stratum-1 (partially aggregated *Nuts1* or *Nuts2* regions, 3-9 strata per country)
14. Nuts3 (European *Nuts3* geographic region according to postcode)
15. Nuts3-type (Nuts-3-type: types 1-9 in three groups)
16. Nuts3-type-aggregation (Nuts-3-type-aggregation: aggregates I to IV)
17. Age (*number:* years; no filter)
18. Age-Group (Aggregation: 15-24, 25-34, … , 65-99)
19. Gender (*single choice:* 'male' / 'female'; no filter)
20. Sub-Stratum-2 (Composition: Country + Gender + Age-Group)
21. Stratum (Weighting basis: Composition: Sub-stratum-1 + Sub-stratum-2)
22. Martial status (*single choice:* 4; no filter)
23. People in household (*single choice:* 5; no filter)
24. Children under 18 in the household (*single choice:* 4; no filter)
25. Age only/youngest child (*number:* age; no filter)
26. Age oldest child (*number:* age; filter 23c-d)
27. Occupation (*single choice:* 7+1 (Other); no filter)
28. Highest educational qualification (*single choice:* 4+2 ('Other'; 'Still @ school'; no filter)
29. Net household income (*single choice:* 6+1 ('n/a'); no filter)
30. Car availability (*single choice:* 4; no filter)

A.3 Questionnaire – General Questions Part I (filter: purpose)

The questionnaire focuses for part I of each interview on the selected journey purpose for which the questions have to be answered: *Way to Work, Shopping / Errands* or *Leisure Activities*. The questions of this part include experiences, attitudes and opinions on the means of transport.

A.3.A Current Means of Transport (MoT) / Mobility Behaviour

31. Means of transport in use (*multiple selections:* up to 9+1 ('Other'); filter: JP.1.1a-c (MIT), JP.1.2a-c (PUB), JP.1.3a-c (Bicycle/Walking))
32. Combination of means of transport (*multiple selections:* count (A.1)+1 ('No combination'); filter: count(A.1)>1)
33. Kinds of tickets mostly used (*multiple selections:* 4+1 (Other); filter: JP1.2a-c (PUB))
34. Driver / passenger (*single selection:* 5; filter: JP1.1a-c (MIT))
35. Fixed, reserved parking space (*multiple selection:* 4; filter: JP1.1a-c (MIT))

A.3.B Type of change

36. Use of transport: Type of change in the last 5 years (*single selection:* 2; no filter)

A.3.C Perceived freedom of choice

37. Perceived freedom of choice (*single selection:* 3; no filter)

A.3.D Information behaviour and influence (filter: cases 1 + 2)

38. Source of information / motivation (multiple selections: 7+1 (Other); no filter)
39. Media sources (*multiple selections:* 5+1 (Other); filter: 8.4 (Media))

A.3.E Changes in the personal / private situation

40. Changes in the last 5 years (*Yes/No:* 'Yes'/'No': 12)
41. Influence of change on choice (*scale-3:* alternatives: count(13), scale: 3 ('No I.' to 'Decisive influence'; filter: 'Yes' in 10))

A.2.H Evaluation of Public Transport

42. Rating of the MoT used (*type-6-bo:* alternatives: 16 (all phases) +1 ('general', only in phase II); scale: 6+1 ('Very negative' to 'Very positive' + 'Cannot judge'); filter: JP.1.B.a-c (PUB))

A.4 Questionnaire – Reasons for the Change in Behaviour (filter: purpose)

The questions of part III are also specific to the relevant travel purpose. They deal with the *reasons* for the change in behaviour and form the main body of the questionnaire.

A.4.F.1 Factors towards an increased use of PUB (filter: cases 1 + 2)

1. Primary factors towards PUB
   (*type-5:* alternatives: 16, scale: 5 ('None' to 'Decisive'); no filter)
2. Reliability / Punctuality (secondary factor)
   (*type-5:* alternatives: 5, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 1.3)
3. Safety (secondary factor)
   (*type-5:* 2 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 1.4)
4. Reachability (secondary factor)
   (*type-5:* 3 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 1.5)
5. Easy journey (secondary factor)
   (*type-5:* 4 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 1.6)
6. Simplicity of planning, information, purchase (secondary factor)
   (*type-5:* 4 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 1.7)
7. High degree of travel Comfort (secondary factor)
   (*type-5:* 10 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 1.8)
8. Flexibility of Use (secondary factor)
   (*type-5:* 7 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 1.9)
9. Good atmosphere (secondary factor)
   (*type-5:* 6 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 1.10)
10. Good Staff (secondary factor)
    (*type-5:* 4 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 1.11)
11. Well equipped bus stops / stations (secondary factor)
    (*type-5:* 6 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 1.15)
12. Changes in PUB since start of use (*type-3-bo:* 16 alternatives, 3+1 class *(Phase I of sampling)* ('Deteriorated' to 'Improved' + 'Cannot judge'); no filter, only in phase I of the national surveys)

A.4.F.2 Factors away from PUB (filter: cases 3 + 4)

13. Primary factors away from PUB
    (*type-5:* alternatives: 16, scale: 5 ('None' to 'Decisive'); no filter)
14. Lack of Reliability / Punctuality (secondary factor)
    (*type-5:* 5 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 13.3)
15. Worries about Safety (secondary factor)
    (*type-5:* 2 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 13.4)
16. Poor Reachability (secondary factor)
    (*type-5:* 3 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 13.5)
17. Complicated Journey (secondary factor)
    (*type-5:* 3 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 13.6)
18. Complicated planning, information, purchase (secondary factor)
    (*type-5:* 4 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 13.7)
19. Little travel Comfort (secondary factor)
    (*type-5:* 11 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 13.8)
20. Lack of flexibility (secondary factor)
    (*type-5:* 5 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 13.9)
21. Bad atmosphere (secondary factor)
    (*type-5:* 6 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 13.10)
22. Poor staff (secondary factor)
    (*type-5:* 5 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 13.11)
23. Lack of privacy, co-passengers (secondary factor)
    (*type-5:* 3 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 13.12)
24. Poorly equipped bus stops / stations (secondary factor)
    (*type-5:* 6 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 13.15)
25. Changes in PUB since start of use (*type-5:* 16 alternatives, 3+1 class *(Phase I of sampling)* ('Deteriorated' to 'Improved' + 'Cannot judge'); no filter, only in phase I of the national surveys)

A.4.F.3 Factors towards an increased use of MIT (filter: case 4)

26. Primary factors towards MIT
    (*type-5:* 11 alternatives, 5 classes ('None' to 'Decisive'); no filter)
27. Reliability / Punctuality (secondary factor)
    (*type-5:* 3 alternatives, scale: 5 ('Absolute no i.' to 'Decisive influence'); filter: 26.3)

28. Safety (secondary factor)
    (*type-5:* 2 alternatives, scale: 5 (‘Absolute no i.’ to ‘Decisive influence’); filter: 26.4)
29. Reachability (secondary factor)
    (*type-5:* 3 alternatives, scale: 5 (‘Absolute no i.’ to ‘Decisive influence’); filter: 26.5)
30. Simplicity of Planning, ticket purchase (secondary factor)
    (*type-5:* 2 alternatives, scale: 5 (‘Absolute no i.’ to ‘Decisive influence’); filter: 26.6)
31. High degree of travel comfort (secondary factor)
    (*type-5:* 9 alternatives, scale: 5 (‘Absolute no i.’ to ‘Decisive influence’); filter: 26.7)
32. Flexibility of Use (secondary factor)
    (*type-5:* 4 alternatives, scale: 5 (‘Absolute no i.’ to ‘Decisive influence’); filter: 26.8)
33. Changes in MIT since start of use (*type-5:* 10 alternatives, 3+1 class *(Phase I of sampling)* (‘Deteriorated’ to ‘Improved’ + ‘Cannot judge’); no filter, only in phase I of the national surveys)

A.4.F.4 Factors away from MIT (filter: case 2)

34. Primary factors away from MIT
    (*type-5:* 10 alternatives, 5 classes (‘None’ to ‘Decisive’); no filter)
35. Costs (secondary factor)
    (*type-5:* 4 alternatives, scale: 5 (‘Absolute no i.’ to ‘Decisive influence’); filter: 34.2)
36. Lack of reliability / punctuality (secondary factor)
    (*type-5:* 4 alternatives, scale: 5 (‘Absolute no i.’ to ‘Decisive influence’); filter: 34.3)
37. Worries about safety (secondary factor)
    (*type-5:* 2 alternatives, scale: 5 (‘Absolute no i.’ to ‘Decisive influence’); filter: 34.4)
38. Poor reachability (secondary factor)
    (*type-5:* 3 alternatives, scale: 5 (‘Absolute no i.’ to ‘Decisive influence’); filter: 34.5)
39. Complicated planning, information, purchase (secondary factor)
    (*type-5:* 2 alternatives, scale: 5 (‘Absolute no i.’ to ‘Decisive influence’); filter: 34.6)
40. Little travel comfort (secondary factor)
    (*type-5:* 6 alternatives, scale: 5 (‘Absolute no i.’ to ‘Decisive influence’); filter: 34.7)
41. Changes in MIT since start of use (*type-5:* 10 alternatives, 3+1 class *(Phase I of sampling)* (‘Deteriorated’ to ‘Improved’ + ‘Cannot judge’); no filter, only in phase I of the national surveys)

A.4.F.5 Main reasons for the current choice (all cases)

42. Greatest influence on the current choice of MoT
    (*cont-T1:* alternatives: 3, Distribution in %)

A.4.F.6 Case-Specific Questions (case-specific surveys only)

For the case-specific surveys the public transport networks / organisations had the opportunity to include three system specific questions into the questionnaire. All regions apart from Budapest decided to make use of this option.

Most regions chose the following pattern:

43. Some changes have been made in *(case)* in the last few years.
    Which of these changes have you noticed? (*multiple:* no filter)
44. How important are these changes for your personal use of the *(case)*?
    (*type-6:* scale: 6 ('completely unimportant' to 'very important'); filter: 43)
45. How satisfied are you with the implementation of these measures?
    (*type-6-bo:* scale: 6+1 ('completely dissatisfied' to 'completely satisfied'); filter: 43)

The case specific surveys may have further special adaptations that are not detailed in the scheme of this Annex.

A.5 Screenshots (see attatched and zipped JPEG-Files)

A.5.1 Screenshots of questions of Annex A1

See attached file: *USEmobility_D3.5_Annex_A.5.1.zip*

A.5.2 Screenshots of questions of Annex A2

See attached file: *USEmobility_D3.5_Annex_A.5.2.zip*

A.5.3 Screenshots of questions of Annex A3

See attached file: *USEmobility_D3.5_Annex_A.5.3.zip*

A.5.4 Screenshots of questions of Annex A4

See attached file: *USEmobility_D3.5_Annex_A.5.4.zip*