

Grant Agreement number: 265392

Project Acronym: USEmobility

Project title: Understanding social behaviour for eco-friendly multimodal mobility

Funding Scheme: Coordination and Support Action (Supporting)

Project starting date: 01.01.2011

Project duration: 26 months

Deliverable D3.6

Factors influencing behavioural change towards eco-friendly multimodal mobility

Due date of deliverable: 15.03.2012

Completion date of deliverable: 15.03.2012

Lead partner for deliverable: Quotas

Dissemination level: Public

Document History

Issue date	Version	Changes made
23.02.2012	V1A	First draft including all countries issued (chapters 2 and 4-6)
09.03.2012	V1B	First draft including all countries and regions issued (chapters 1-2, 4-7, A-J) Remarks of the reviewer on chapters 2 and 4-6 are incorporated.
11.02.2012	V2A	Final draft including all countries and regions issued
14.02.2012	V2B	Final draft sent to the Coordinator. All remarks of the reviewer are incorporated.

Document main author: Klaus-R. Knuth, Quotas

Document reviewer: Andreas Geissler, Allianz pro Schiene

Contents

1. Management Summary	15
2 Methodology	25
2.1 The USEmobility Approach	25
2.2 Swing Users	26
2.3 Report Structure.....	28
2.4 Terminology	30
2.4.1 'The USEmobility Data'	30
2.4.2 'Top-2 Boxes' and 'Bottom-2 Boxes'	31
2.4.3 'NUTS-Regions' and 'Nielsen-regions'	32
2.4.4 List of Abbreviations	32
3 Characteristics of Swing Users	33
3.1 Current Use of Transport Means of Swing Users	33
3.1.1 Means of transport in use.....	33
3.1.2 Monomodality / Multimodality	34
3.2 Experiences with the Means of transport / Mobility	37
3.2.1 Experiences (Socialisation).....	37
3.2.2 Information behaviour and influence.....	38
3.3 Attitudes towards the Means of transport / Mobility	39
3.3.1 Attitude-based Segmentation	39
3.3.2 Environmental Awareness / Behaviour	42

3.4	<i>Changes in Means of Transport / Mobility Behaviour</i>	45
3.4.1	Type of change in means of transport	45
3.4.2	Perceived freedom of choice	46
4	Reasons for Changes-in-Behaviour of Swing Users	48
4.1	<i>Types of reasons for the changes in behaviour</i>	48
4.1.1	Main types of reasons for the changes	48
4.1.2	Type-of-Reason based segmentation	51
4.2	<i>Changes in the Personal / Private situation</i>	53
4.3	<i>Reasons for the change-in-use of public transport</i>	55
4.3.1	Increased / Decreased use of public transport (primary factors)	55
4.3.2	Secondary PUB+ Pull-in aspects: Change induced by satisfaction	63
4.3.3	Secondary PUB– Push-out aspects: Change by dissatisfaction	68
4.4	<i>Reasons for the change-in-use of motorised individual transport</i>	72
4.4.1	Increased / Decreased use of motorized individual transport	72
4.4.2	Secondary MIT+ Pull-In aspects: Change induced by satisfaction	77
4.4.3	Secondary MIT– Push-out aspects: Change by dissatisfaction	79
5	Public Transport Today	82
5.1	<i>Swing users attitudes towards public transport today</i>	82
5.2	<i>Image / Emotional Aspects</i>	87
6	Swing Users' Representative Background	92
6.1	<i>Current use of Means of transport</i>	92
6.2	<i>Swing use in the population</i>	94
6.3	<i>Segments of change</i>	97

Region A	<i>S-Bahn Salzburg (Salzburg region, Austria)</i>	100
A.1	<i>CHARACTERISTICS OF S-BAHN SALZBURG SWING USERS</i>	100
A.2	<i>REASONS FOR CHANGES-IN-BEHAVIOUR</i>	102
A.3	<i>PUBLIC TRANSPORT TODAY AS SEEN BY S-BAHN SALZBURG USERS</i>	110
A.4	<i>SPECIFIC CHARACTERISTICS OF THE S-BAHN SALZBURG</i>	112
REGION B	<i>S-BAHN STEIERMARK (STYRIA REGION, AUSTRIA)</i>	114
B.1	<i>CHARACTERISTICS OF S-BAHN STEIERMARK SWING USERS</i>	114
B.2	<i>REASONS FOR CHANGES-IN-BEHAVIOUR</i>	116
B.3	<i>PUBLIC TRANSPORT TODAY SEEN BY S-BAHN STEIERMARK USERS</i>	123
B.4	<i>SPECIFIC CHARACTERISTICS OF THE S-BAHN STEIERMARK</i>	126
REGION C	<i>STIB / MIVB (BRUSSELS REGION, BELGIUM)</i>	128
C.1	<i>CHARACTERISTICS OF STIB/MIVB SWING USERS</i>	128
C.2	<i>REASONS FOR CHANGES-IN-BEHAVIOUR</i>	130
C.3	<i>PUBLIC TRANSPORT TODAY AS SEEN BY STIB/MIVB USERS</i>	136
C.4	<i>SPECIFIC CHARACTERISTICS OF THE STIB/MIVB</i>	139
REGION D	<i>HZ/ZET (ZAGREB REGION, CROATIA)</i>	141
D.1	<i>CHARACTERISTICS OF HZ/ZET SWING USERS</i>	141
D.2	<i>REASONS FOR CHANGES-IN-BEHAVIOUR</i>	143
D.3	<i>PUBLIC TRANSPORT TODAY AS SEEN BY HZ/ZET USERS</i>	150
D.4	<i>SPECIFIC CHARACTERISTICS OF THE HZ/ZET-OPERATOR</i>	153
REGION E	<i>HZ VARAŽDIN-MEĐIMURJE RAIL (CROATIA)</i>	155
E.1	<i>CHARACTERISTICS OF VARAŽDIN-MEĐIMURJE RAIL SWING USERS</i>	155
E.2	<i>REASONS FOR CHANGES-IN-BEHAVIOUR</i>	157

E.3	PUBLIC TRANSPORT TODAY SEEN BY VARAŽDIN-MEĐIMURJE USERS.....	164
E.4	SPECIFIC CHARACTERISTICS OF HZ VARAŽDIN-MEĐIMURJE RAIL.....	167
REGION F	BREISGAU S-BAHN (BADEN REGION, GERMANY)	169
F.1	CHARACTERISTICS OF BREISGAU SWING USERS	169
F.2	REASONS FOR CHANGES-IN-BEHAVIOUR	171
F.3	PUBLIC TRANSPORT TODAY AS SEEN BY BREISGAU S-BAHN USERS	178
F.4	SPECIFIC CHARACTERISTICS OF THE BREISGAU S-BAHN.....	181
REGION G	METRONOM (HAMBURG / CUXHAVEN, GERMANY)	183
G.1	CHARACTERISTICS OF METRONOM HAMBURG SWING USERS.....	183
G.2	REASONS FOR CHANGES-IN-BEHAVIOUR	185
G.3	PUBLIC TRANSPORT TODAY AS SEEN BY METRONOM USERS	192
G.4	SPECIFIC CHARACTERISTICS OF THE METRONOM.....	195
REGION H	S-BAHN RHEIN-NECKAR (GERMANY)	197
H.1	CHARACTERISTICS OF RHEIN-NECKAR SWING USERS	197
H.2	REASONS FOR CHANGES-IN-BEHAVIOUR	199
H.3	PUBLIC TRANSPORT TODAY SEEN BY S-BAHN RHEIN NECKAR USERS.....	206
REGION I	MAGYAR ÁLLAMVASUTAK (BUDAPEST-ESZTERGOM, HUNGARY).....	210
I.1	CHARACTERISTICS OF MAV SWING USERS.....	210
I.2	REASONS FOR CHANGES-IN-BEHAVIOUR	212
I.3	PUBLIC TRANSPORT TODAY AS SEEN BY MAV USERS	219
REGION J	CONNEXION VALLEILIJN (GELDERLAND REGION, THE NETHERLANDS).....	222
J.1	CHARACTERISTICS OF VALLEILIJN SWING USERS.....	222
J.2	REASONS FOR CHANGES-IN-BEHAVIOUR	224

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

J.3	<i>PUBLIC TRANSPORT TODAY SEEN BY CONNEXION VALLEILIJN USERS</i>	231
J.4	<i>SPECIFIC CHARACTERISTICS OF CONNEXION VALLEILIJN.....</i>	234
ANNEX A	<i>STATISTICAL BACKGROUND.....</i>	236
A.1	<i>SEGMENTATION BY ATTITUDE.....</i>	236
A.2	<i>REGIONAL SURVEYS – SOCIO DEMOGRAPHICS OF RESPONDENTS.....</i>	240

List of Figures

Figure 1	Current use of different Means of transport (multiple answers possible)	34
Figure 2	Monomodality / Multimodality per country	35
Figure 3	Monomodality / Multimodality per type of region.....	36
Figure 4	Multimodality (sequential) per combination of transport means	36
Figure 5	Familiarity with certain means of transport (multiple answers possible).....	37
Figure 6	Information / Motivation for an (increased) use of public transport.....	38
Figure 7	Segments of Attitude by country	40
Figure 8	Car availability by attitude based segmentation.....	41
Figure 9	Monomodality / Multimodality by attitude based segmentation	41
Figure 10	Plans to establish environmental awareness in the future	42
Figure 11	Plans to increase four selected aspects of environmental awareness by country (I)	43
Figure 12	Plans to increase four selected aspects of environmental awareness by country (II)	44
Figure 13	Accepted rise in mobility costs for a stronger environmental orientation.....	45
Figure 14	Type of change by timeline and age-group	46
Figure 15	Type of change by freedom of choice and country	46
Figure 16	Type of change by freedom of choice and age group.....	47
Figure 17	Main influencing factors for the swing users change of transport means by country	48
Figure 18	Main reason for the change of transport means by segments of change.....	49
Figure 19	Main reason for the change of transport means by freedom of decision.....	50
Figure 20	Segmentation by Reason – Definition	51
Figure 21	Segmentation by Reason – Overview	52
Figure 22	Changes in the personal / private situation by county.....	53
Figure 23	Degree of influence of changes in the personal/private situation on mobility decisions.....	54
Figure 24	Influence of primary PUB+ Pull- and PUB– Push-factors concerning public transport	56
Figure 25	Influence of primary PUB+ pull-in factors into public transport by country	58
Figure 26	Influence of primary PUB+ pull-in factors into public transport by segments of reason.....	59
Figure 27	Influence of primary PUB– push-out factors out of public transport by country	60

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 28	Influence of primary PUB– push-out factors out of public transport by segments of reason.....	61
Figure 29	Changes in primary PUB– push-out-factors out of public transport prior to the actual decision to use it less often.....	62
Figure 30	Secondary PUB+ pull-in aspects by (1) Reachability and (2) Journey characteristics	64
Figure 31	Secondary PUB+ pull-in aspects by (3) Flexibility and (4) Simplicity in planning ...	65
Figure 32	Secondary PUB+ pull-in aspects by (5) Reliability / Punctuality and (6) Comfort...	66
Figure 33	Secondary PUB+ pull-in aspects by (7) Safety and (8) Station equipment	66
Figure 34	Secondary PUB+ pull-in aspects by (9) Atmosphere and (10) Staff related issues	67
Figure 35	Secondary PUB– push-out aspects by (1) Journey characteristics and (2) Flexibility	68
Figure 36	Secondary PUB– push-out aspects by (3) Reachability and (4) Reliability / Punctuality	68
Figure 37	Secondary PUB– push-out aspects by (5) Comfort and (6) Complicated planning	69
Figure 38	Secondary PUB– push-out aspects by (7) Atmosphere and (8) Social Contact.....	70
Figure 39	Secondary PUB– push-out aspects by (9) Equipment of stations and (10) Safety.	71
Figure 40	Secondary PUB– push-out aspects by (11) Staff-related issues	71
Figure 41	Influence of primary MIT+ Pull-in- and MIT– Push-out-factors concerning motorized individual transport.....	73
Figure 42	Influence of primary MIT+ pull-in-factors into motorized individual transport by country	74
Figure 43	Influence of primary MIT– push-out-factors out of motorized individual transport by country	75
Figure 44	Changes in primary MIT– push-out-factors out of motorized individual transport prior to the actual decision to use it less often.....	76
Figure 45	Secondary MIT+ pull-in aspects (1) Reachability and (2) Flexibility of use	77
Figure 46	Secondary MIT+ pull-in aspects (3) Reliability/Punctuality & (4) Simple planning..	78
Figure 47	Secondary MIT+ pull-in aspects (5) Travel comfort and (6) Safety issues	78
Figure 48	Secondary MIT– push-out aspects (1) Costs and (2) Reachability of destinations & places	79
Figure 49	Secondary MIT– push-out aspects (3) Safety issues and (4) Simplicity in planning	80
Figure 50	Secondary MIT– push-out aspects (5) Reliability / Punctuality and (6) Travel comfort.....	81
Figure 51	Swing users overall satisfaction with public transport today by country	82

Figure 52	Swings users overall satisfaction with public transport by USEmobility regions.....	83
Figure 53	Swing users overall satisfaction with public transport by frequency of use	84
Figure 54	Swing users overall satisfaction with public transport by segments of reason	85
Figure 55	Current evaluation of the primary factors of public transport by country	87
Figure 56	Image characteristics of public transport and motorized individual transport	88
Figure 57	Image characteristics of public transport by county	89
Figure 58	Image characteristics motorized individual transport (car) by country.....	90
Figure 59	Current use of transport means by travel purpose.....	93
Figure 60	Intensity of the current use of Public Transport (countries, by travel purpose).....	94
Figure 61	Changes in the mobility-mix in the last five years (by travel purpose).....	95
Figure 62	Changes in the mobility-mix in the last five years (by travel purpose and country)	96
Figure 63	Segmentation of Change – Definition	97
Figure 64	Segments of change by country.....	98
Figure 65	Segments of change by type-of-region and age-group.....	99
Figure 66	Multimodality / Monomodality of S-Bahn Salzburg swing users.....	100
Figure 67	Sources of information / motivation to use S-Bahn Salzburg	101
Figure 68	Type of change and perceived freedom of choice of S-Bahn Salzburg swing users	102
Figure 69	Main types of reason for a change in use of S-Bahn-Salzburg	103
Figure 70	Changes in the personal situation of S-Bahn Salzburg swing users	104
Figure 71	Relevance of changes in the personal situation on the decision to use S-Bahn Salzburg.....	105
Figure 72	Influence of primary pull-factors to use more PUB (Austria & S-Bahn Salzburg) .	107
Figure 73	Influence of secondary characteristics to use S-Bahn Salzburg more often (I)	108
Figure 74	Influence of secondary characteristics to use S-Bahn Salzburg more often (II) ...	109
Figure 75	Current evaluation of the S-Bahn Salzburg offer in comparison with PUB in Austria	110
Figure 76	Perceived Improvements and deteriorations of the S-Bahn Salzburg offer.....	111
Figure 77	Selected aspects of the S-Bahn Salzburg offer	112
Figure 78	Multimodality / Monomodality of S-Bahn Steiermark swing users.....	114
Figure 79	Sources of information / motivation to use S-Bahn Steiermark.....	115
Figure 80	Type of change and perceived freedom of choice of S-Bahn Steiermark swing users	116
Figure 81	Main types of reason for a change in use of S-Bahn-Steiermark.....	117
Figure 82	Changes in the personal situation of S-Bahn Steiermark swing users.....	118

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 83	Importance of certain changes in the personal situation on the decision to use S-Bahn Steiermark	119
Figure 84	Influence of primary pull-in factors to use more PUB (Austria & S-Bahn Steiermark)	120
Figure 85	Influence of secondary pull-in aspects of S-Bahn Steiermark transport offer (I)...	121
Figure 86	Influence of secondary pull-in aspects of the S-Bahn Steiermark transport offer (II)	122
Figure 87	Overall satisfaction of swing users with the S-Bahn Steiermark	123
Figure 88	Current evaluation of S-Bahn Steiermark service in comparison with PUB in Austria	124
Figure 89	Perceived Improvements and deteriorations of the S-Bahn Steiermark offer.....	125
Figure 90	Selected aspects of the S-Bahn Steiermark offer	126
Figure 91	Multimodality / Monomodality of STIB/MIVB swing users	128
Figure 92	Sources of information / motivation to use STIB/MIVB	129
Figure 93	Type of change and perceived freedom of choice of STIP/MIVB swing users	130
Figure 94	Changes in the personal situation of STIB/MIVB swing users	131
Figure 95	Importance of certain changes in the personal situation on the decision to use STIB/MIVB	132
Figure 96	Influence of primary pull-factors to use more PUB (Belgium & STIB/MIVB).....	133
Figure 97	Influence of secondary pull-in aspects concerning the STIB/MIVB transport offer (I)	134
Figure 98	Influence of secondary pull-in aspects concerning the STIB/MIVB transport offer (II)	135
Figure 99	Overall satisfaction of swing users with the STIB/MIVB offer.....	136
Figure 100	Current evaluation of STIV/MIVB service in comparison with PUB in Belgium	137
Figure 101	Perceived Improvements and deteriorations of the STIB/MIVB offer	138
Figure 102	Selected specific aspects of the STIB/MIVB transport offer.....	139
Figure 103	Multimodality / Monomodality of HZ/ZET swing users	141
Figure 104	Sources of information / motivation to use HZ/ZET	142
Figure 105	Type of change and perceived freedom of choice of HZ/ZET swing users	143
Figure 106	Main types of reason for a change in use of HZ/ZET.....	144
Figure 107	Changes in the personal situation of HZ/ZET swing users	145
Figure 108	Importance of certain changes in the personal situation on the decision to use HZ/ZET in Zagreb	146
Figure 109	Influence of primary pull-factors to use more PUB (Croatia & HZ/ZET)	147

Figure 110 Influence of secondary pull-in aspects concerning the HZ/ZET transport offer (I)	148
Figure 111 Influence of secondary pull-in aspects concerning the HZ/ZET transport offer (II)	149
Figure 112 Overall satisfaction of swing users with the HZ/ZET operator offer.....	150
Figure 113 Current evaluation of HZ/ZET operator service in comparison with PUB in Croatia	151
Figure 114 Perceived Improvements and deteriorations of the HZ/ZET Zagreb offer	152
Figure 115 Selected aspects of the HZ/ZET offer	153
Figure 116 Multimodality / Monomodality of VM-Rail swing users.....	155
Figure 117 Sources of information / motivation to use HZ Varaždin-Međimurje Rail	156
Figure 118 Type of change and perceived freedom of choice of VM-Rail swing users	157
Figure 119 Main types of reason for a change in use of VM Rail.....	158
Figure 120 Changes in the personal situation of VM-Rail swing users	159
Figure 121 Importance of certain changes in the personal situation on the decision to use HZ Varaždin-Međimurje rail	160
Figure 122 Influence of primary pull-factors to use more PUB (Croatia & HZ Varazdin).....	161
Figure 123 Influence of secondary pull-in aspects concerning the VM rail transport offer (I) .	162
Figure 124 Influence of secondary pull-in aspects concerning the VM Rail transport offer (II)	163
Figure 125 Overall satisfaction of swing users with the VM Rail offer.....	164
Figure 126 Current evaluation of VM Rail service in comparison with PUB in Croatia.....	165
Figure 127 Perceived Improvements and deteriorations of the VM rail offer	166
Figure 128 Selected aspects of the VM Rail offer	167
Figure 129 Multimodality / Monomodality of Breisgau S-Bahn swing users.....	169
Figure 130 Sources of information / motivation to use Breisgau S-Bahn.....	170
Figure 131 Type of change and perceived freedom of choice of Breisgau S-Bahn swing users	171
Figure 132 Main types of reason for a change in use of Breisgau S-Bahn	172
Figure 133 Changes in the personal situation of Breisgau S-Bahn swing users	173
Figure 134 Importance of certain changes in the personal situation on the decision to use Breisgau S-Bahn.....	174
Figure 135 Influence of primary pull-factors to use more PUB (Germany & Breisgau S-Bahn)	175
Figure 136 Influence of secondary pull-in aspects of the Breisgau S-Bahn transport offer (I)	176
Figure 137 Influence of secondary pull-in aspects of the Breisgau S-Bahn transport offer (II)	177
Figure 138 Overall satisfaction of swing users with the Breisgau S-Bahn offer	178

Figure 139 Current evaluation of Breisgau S-Bahn service in comparison with PUB in Germany	179
Figure 140 Perceived Improvements and deteriorations of the Breisgau S-Bahn offer	180
Figure 141 Selected aspects of the Breisgau S-Bahn offer	181
Figure 142 Multimodality / Monomodality of Metronom swing users.....	183
Figure 143 Sources of information / motivation to use Metronom.....	184
Figure 144 Type of change and perceived freedom of choice of Metronom swing users.....	185
Figure 145 Main types of reason for a change in use of Metronom	186
Figure 146 Changes in the personal situation of Metronom swing users.....	187
Figure 147 Importance of certain changes in the personal situation on the decision to use Metronom.....	188
Figure 148 Influence of primary pull-in factors to use more PUB (Germany & Metronom).....	189
Figure 149 Influence of secondary pull-in aspects concerning the Metronom transport offer (I)	190
Figure 150 Influence of secondary pull-in aspects concerning the Metronom transport offer (II)	191
Figure 151 Overall satisfaction of swing users with the Metronom offer	192
Figure 152 Current evaluation of Metronom service in comparison with PUB in Germany	193
Figure 153 Perceived improvements and deteriorations of the Metronom offer.....	194
Figure 154 Selected aspects of the Metronom offer	195
Figure 155 Multimodality / Monomodality of S-Bahn Rhein-Neckar swing users	197
Figure 156 Sources of information / motivation to use S-Bahn Rhein-Neckar	198
Figure 157 Type of change and perceived freedom of choice of S-Bahn Rhein-Neckar swing users	199
Figure 158 Main types of reason for a change in use of S-Bahn Rhein-Neckar.....	200
Figure 159 Changes in the personal situation of S-Bahn Rhein-Neckar swing users	201
Figure 160 Importance of certain changes in the personal situation on the decision to use S-Bahn Rhein-Neckar.....	202
Figure 161 Influence primary pull-factors to use more PUB (Germany & S-Bahn Rhein-Neckar)	203
Figure 162 Influence of secondary pull-in aspects of the S-Bahn Rhein-Neckar transport offer (I)	204
Figure 163 Influence of secondary pull-in aspects of the S-Bahn Rhein-Neckar transport offer (II)	205
Figure 164 Overall satisfaction of swing users with the S-Bahn Rhein-Neckar offer.....	206

Figure 165 Current evaluation of the S-Bahn Rhein-Neckar in comparison with PUB in Germany	207
Figure 166 Perceived improvements and deteriorations of the S-Bahn Rhein-Neckar offer ..	208
Figure 167 Multimodality / Monomodality of MAV swing users.....	210
Figure 168 Sources of information / motivation to use MAV	211
Figure 169 Type of change and perceived freedom of choice of MAV swing users.....	212
Figure 170 Main types of reason for a change in use of MAV Budapest-Esztergom	213
Figure 171 Changes in the personal situation of MAV Budapest-Esztergom swing users	214
Figure 172 Importance of certain changes in the personal situation on the decision to use MAV Budapest-Esztergom.....	215
Figure 173 Influence of primary pull-factors to use more PUB (Hungary & MAV Budapest) ..	216
Figure 174 Influence of secondary pull-in aspects concerning the MAV BE Line offer (I)	217
Figure 175 Influence of secondary pull-in aspects concerning the MAV BE Line offer (II)	218
Figure 176 Overall satisfaction of swing users with the MAV Budapest-Esztergom offer	219
Figure 177 Current evaluation of the MAV BE Line in comparison with PUB in Hungary	220
Figure 178 Perceived improvements and deteriorations of the MAV BE Line offer.....	221
Figure 179 Multimodality / Monomodality of Valleilijn swing users.....	222
Figure 180 Sources of information / motivation to use Connexion Valleilijn.....	223
Figure 181 Type of change and perceived freedom of choice of Valleilijn swing users.....	224
Figure 182 Main types of reason for a change in use of Connexion Valleilijn	225
Figure 183 Changes in the personal situation of Valleilijn swing users.....	226
Figure 184 Importance of certain changes in the personal situation on the decision to use the Connexion Valleilijn.....	227
Figure 185 Influence of primary pull-factors to use more PUB (Netherlands & Valleilijn).....	228
Figure 186 Influence of secondary pull-in aspects concerning the Valleilijn transport offer (I)	229
Figure 187 Influence of secondary pull-in concerning the Valleilijn transport offer (II)	230
Figure 188 Overall satisfaction of swing users with the Connexion Valleilijn offer	231
Figure 189 Current evaluation of Connexion service in comparison with PUB in the Netherlands	232
Figure 190 Perceived improvements and deteriorations of the Valleilijn offer.....	233
Figure 191 Selected aspects of the Valleilijn offer	234
Figure 192 Segmentation by Attitude – factors and factor loadings.....	237
Figure 193 Segmentation by Attitude – clusters including average factor values	238
Figure 194 Segmentation by Attitude – results of question A.2.K for the six clusters.....	239
Figure 195 Distribution of selected swing user characteristics in the ten regions	240

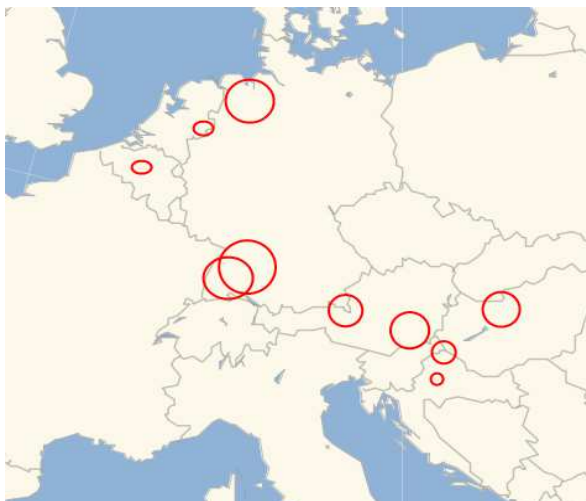
Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

1. MANAGEMENT SUMMARY

1.1 THE USEMOBILITY SURVEY

- The USEmobility survey deals with mobility behaviour and its ongoing changes in six European countries. Which changes did happen in the mobility behaviour of European citizens in the last five years? What are their reasons for these changes? What is their current attitude towards the means of transport used?
- The main objective of the USEmobility survey is to understand what moves European citizens to use more environmentally friendly means of transport with an extended focus on public transport and – on the other hand – what keeps them from doing so.
- The USEmobility survey took place in 6 European countries in two phases in June / July 2011 and Sept/Oct 2011. For the survey, more than 10.000 interviews with swing users were performed in *Austria, Belgium, Croatia, Germany, Hungary and the Netherlands*.
- The survey is based on two parts, a
 - Representative general *national survey* with at least 1.000 interviews per country of *swing users* who have changed their mobility behaviour and
 - *Specific swing user surveys* in ten selected regions / transport systems (links) with at least 400 interviews per public transport systems per region.



Selected Regions / Transport systems:

AT – Salzburg / S-Bahn Salzburg
 AT – Steiermark / S-Bahn Steiermark
 BE – Brussels / STIB/MIVB
 HR – Zagreb / HZ/ZET
 HR – Varazdin-Medimurje / HZ
 DE – Breisgau / S-Bahn
 DE – Hamburg-Cuxhaven / Metronom
 DE – Rhein-Neckar / S-Bahn
 HU – Budapest-Esztergom / MAV
 NL – Gelderland / Connexion Valleilijn

- The USEmobility project is funded by the 7th Framework Program of the European Commission. Implementation, analysis and reporting of the survey were performed under the leadership of the Germany quality-research institute *Quotas*.

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

1.2 CHANGES IN THE MOBILITY MIX

- Citizens of the USEmobility countries were interviewed in a representative sample regarding their mobility behaviour in the last five years. It showed, that almost half of the population reported a change in their use of means of transport, a fact indicating a highly dynamic mobility mix among European citizens.
- The highest dynamic of change can be observed in Hungary. The lowest level of change was recorded in Croatia and the Netherlands.
- 20% of the population in the USEmobility countries has decided to increase their use of public transport or to start using it for the first time. In selected regions like the metropolitan region *Brussels* or *Central Hungary*, this proportion rises to over 35% of the population.
- If one divides swing users into different segments based on their specific change patterns, the segment of *complete changers* from motorized individual transport (MIT) to public transport (PUB) is of special interest. With a proportion of almost one third, the complete changers are the biggest subgroup of all swing users who decide for an increased use of public transport (PUB+).
- In all USEmobility countries, there are significant differences in the choice of transport means depending on the travel purpose. The highest dynamic of change can be found with the travel purpose *way to work*.
- In Metropolitan areas, one registers in total an increase of public transport, while in the rural areas of the USEmobility countries the change rather tends towards an increased use of motorized individual transport.
- In comparison of different age groups, one finds the most frequent change towards public transport in the age group 15-24 years.
- The changes take place in the group of swing users in 2/3 of the cases rather *step-by-step* and only in one third of the cases *overnight*. While one finds only 18% of swing users changing overnight in the age group of 65+, this proportion rises, the younger the swing users in the respective countries get.
- The opposite trend can be found regarding the (subjective) *freedom of choice*. With rising age, one sees an increased freedom in the choice of means of transport. This draws attention in two ways on the group of older citizens as a target group for public transport. On the one hand, the freedom of choice towards an increased use is high and can be exploited, on the other hand and with the same reasoning, older citizens have a low barrier to leave and can as easily turn away from public transport again.

1.3 MAIN TYPES OF REASON FOR CHANGES IN THE MOBILITY MIX

- The USEmobility results show that swing users usually explain the changes in their choice of means of transport by a *mix* of (i) changes in the personal / private situation, (ii) pull-in factors (attractiveness) and (iii) push-out factors (dissatisfaction).
- A change in the use of means of transport is primarily induced by a change in the personal / private situation. The attractiveness of public transport and the dissatisfaction with the means of transport used so far can also cause a change, but are in many cases decisive only after a change in the personal / private situation.
- The change in the personal / private situation is more important for a change *towards* public transport than for a change away from public transport. On the other hand, a decrease of public transport is comparably often influenced by dissatisfaction, yet on a lower level of importance.
- One finds the same picture in the 'success stories' analysed in the regional surveys. The increased use in these successful transport systems is in the beginning also mostly connected to a change in the personal / private situation. Pull-in factors (= attractiveness of the offer) do have their share in the total decision process, but they do not have an increased relevance compared to the country results.
- Despite changes in the personal situation, for a continued use, public transport needs to be attractive in comparison to other means of transport. Therefore, for a successful transport system attractiveness is a requirement, too.
- Pull-in factors have a higher relevance than push-out factors (dissatisfaction with the means of transport used so far) in all countries and all analysed traffic systems.
- Many swing users with increased use of public transport have access to a car. Nevertheless, these users stick with public transport, probably because of the attractiveness of public transport compared to the alternatives available.

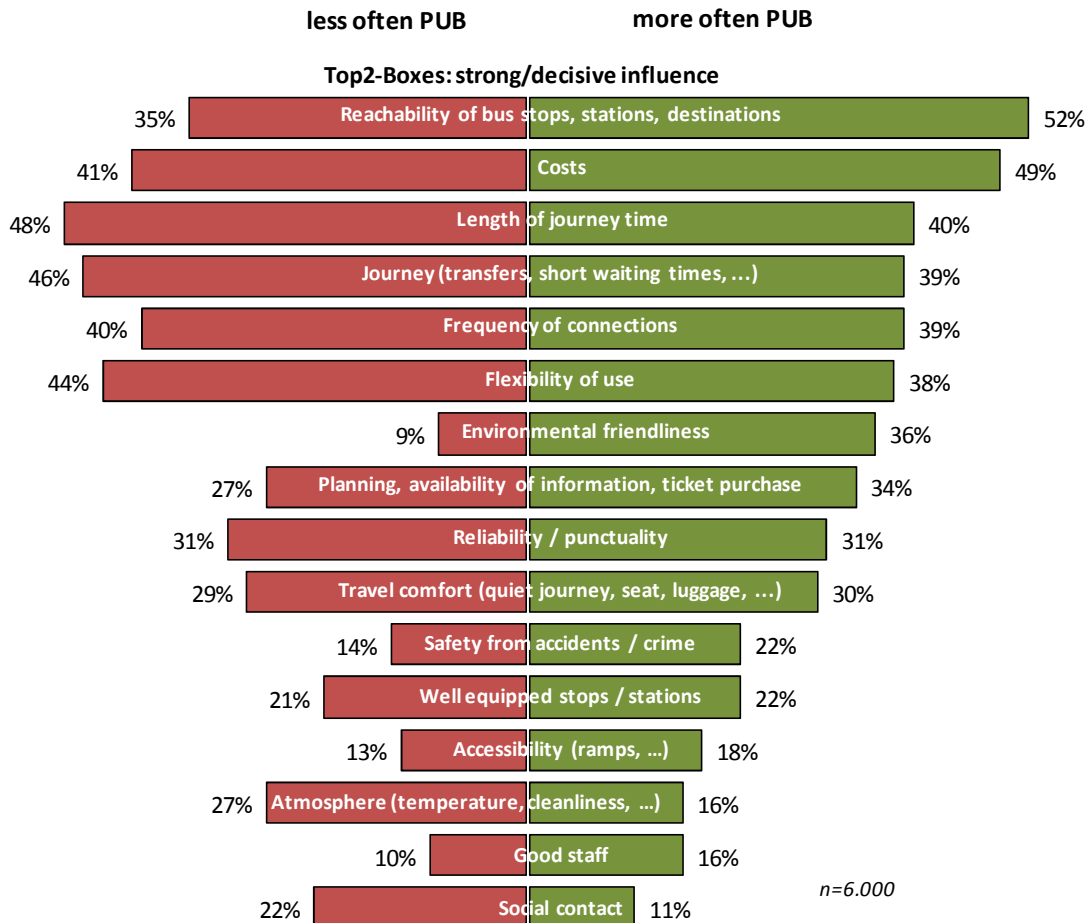
1.4 CHANGES IN THE PERSONAL / PRIVATE SITUATION

- 90% of all swing users in the USEmobility countries have had a change in their personal / private situation in the last five years. On average each swing user had 2,8 relevant changes.
- The high leverage of the personal / private situation on the choice of means of transport roots in all USEmobility countries in both, the frequent occurrence of these private changes in the population and their high relevance for the changes in the individual mobility mix.

- The highest leverage in all countries had a *change of job or work location*. With considerable decrease in relevance do follow:
 - Relocation to another city / town (highly relevant, but not as common)
 - Increased availability of a car
 - Retirement or loss of occupation
 - Health restrictions (highly relevant as well, but also not common)
- *Lost access to a car* or the *receipt of a driving license* both have, as is to be expected, a high relevance, but are a rather rare event among USEmobility swing users.

1.5 PRIMARY FACTORS OF INFLUENCE (PULL-IN AND PUSH-OUT FACTORS)

- When because of a change in the personal / situation a reconsideration of the individual mobility mix is necessary or when new mobility alternative get available, pull-in and push-out factors move into the spotlight of the mobility decision process.
- Classical 'hard' factors of mode choice models (*reachability, costs, journey time, waiting times, number of transfers, frequency of connections*) have the highest decision relevance in both, the decision to use public transport more often or, in opposite, to quit public transport.
- When users' expectations regarding these hard factors are fulfilled, an enduring increased usage of public transport can be expected. In case these factors fall below the users acceptance level and an attractive alternative exists, a reduced or ceased used of public transport has to be expected.
- The primary factors for an increased or decreased user of public transport in the USEmobility countries are show *in the next figure*.
- Regarding the so-called 'soft' factors, *flexibility, planning effort, availability of information* and *environmental friendliness* have the highest relevance.
- *Comfort of travel, atmosphere on the journey* and *staff* are usually complementary factors, which usually do not dominate the decision. Nevertheless, these classical soft factors can be pivotal pro or contra public transport in decisions between comparable transport alternatives.

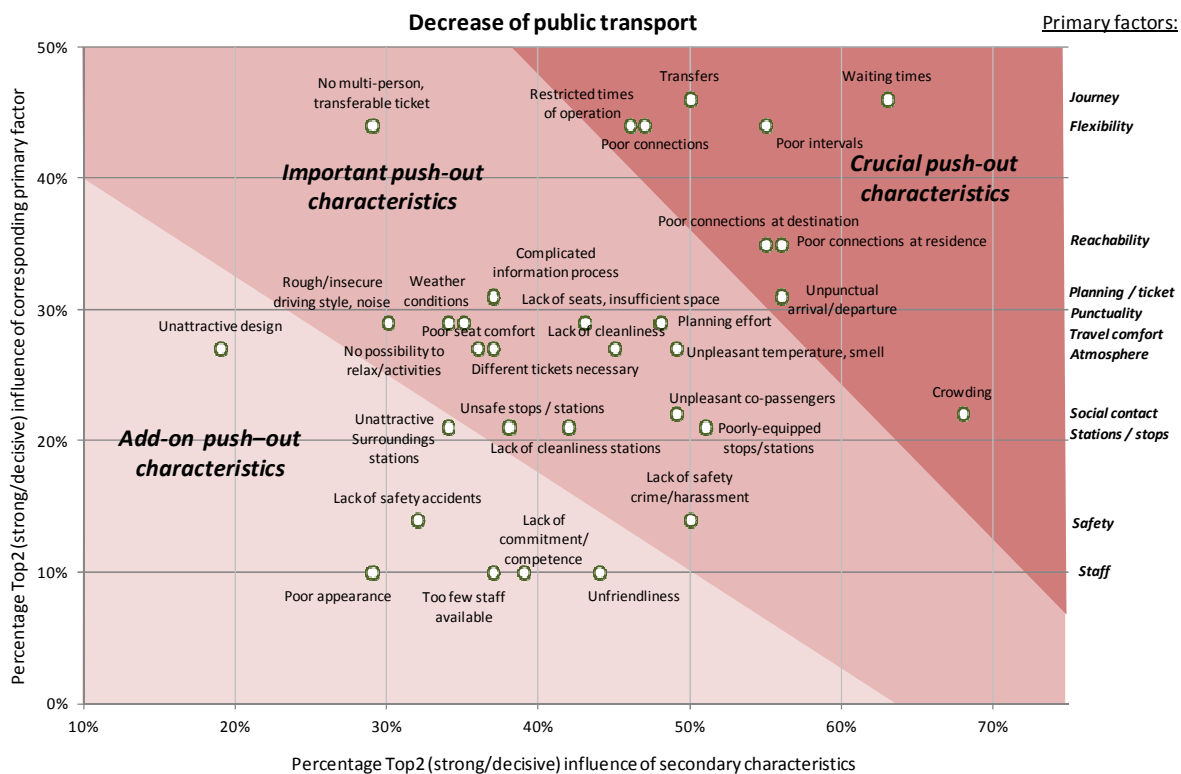
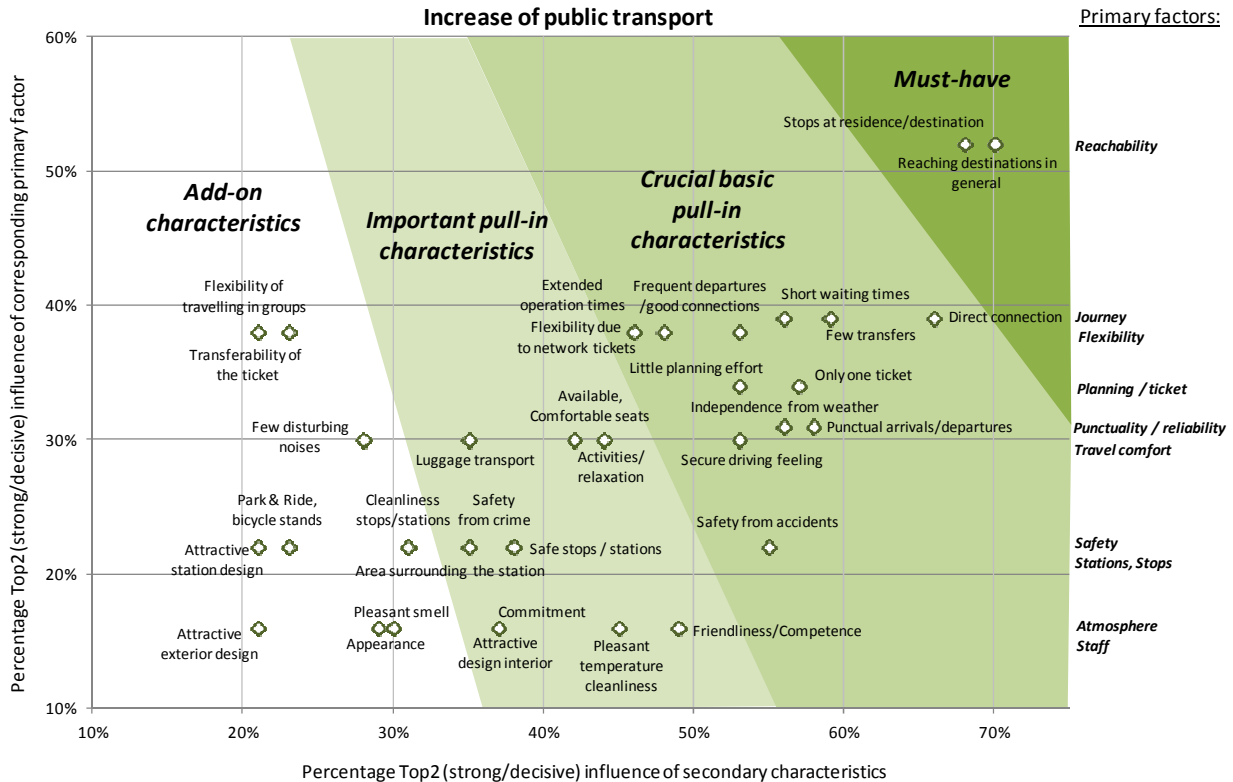


- Regarding the transport systems in the ten selected regions the hard factors dominate, too. The analysed transport systems nevertheless show distinctive features:
 - MAV Budapest Esztergom:*
Travel comfort and atmosphere have together with the time of travel the most relevant influence on the choice to increase the use of public transport. It may be the case, that these swing users have used long-distance buses beforehand for their travel purpose. The new MAV trains have – compared to these long-distance buses – clear advantages in comfort and atmosphere.
 - S-Bahn Salzburg, STIB/MIVB, S-Bahn Rhein-Neckar*
All three cases show a very high relevance of environmental friendliness. It is a known fact that the real relevance of environmental considerations of changes in behaviour is often overrated. Nevertheless, the results indicate effective and believable environmental measures of the concerned transport companies.

- *STIB/MIVB, HZ/ZET Zagreb, S-Bahn Rhein-Neckar*
One finds a relatively high relevance of personal flexibility of use due to a high degree of network integration of the traffic systems plus the existence of attractive system wide transport offers.
- *Metronom Hamburg-Cuxhaven*
Reliability and punctuality are one of the most important pull-in factors for the users of the Metronom on this relation.
- The soft factors have a tendency to have a higher influence on the observed transport systems in the regions than in the participating countries in general.
- They can therefore be regarded as specific success factors, which under certain circumstances (previously used means of transport, current public transport offer, situation of the MIT) can become an influential co-factor for the increased use of public transport. But it has to be kept in mind that they always have an complementary character and cannot completely substitute the relevant hard factors.

1.6 SECONDARY ASPECTS OF INFLUENCE (PULL-IN AND PUSH-OUT FACTORS)

- In order to gain further insights into the decision processes of the swing users and to increase the practical relevance of the findings, some primary factors of influence were further specified.
- In the following two figures, the secondary characteristics are displayed according to (i) the intensity of their relevance and (ii) the importance of the primary factors they belong to. The more the secondary characteristics are placed in the upper right corner, the more important is its leverage on the decision for a change in the mobility mix.
- The 1st figure (green shading) displays secondary pull-in characteristics leading to an increased use of public transport. The 2nd figure (red shading) details on secondary push-out characteristics leading to a decreased use of public transport.
 - *PRO*: The reachability of stops / stations at the place of residence and at the destination are quasi an indispensable prerequisite for the use of public transport.
 - *PRO*: Direct connections without transfers push an increased use of public transport considerably.
 - *CONTRA*: Apart from an inadequate reachability of stops, stations and destinations, it is predominantly long waiting times, insufficient frequency of connections and crowding that push swing users out of a regular use of public transport.



Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

© USEmobility consortium

Date: 15.03.2012

- The USEmobility countries and especially the selected regions / links display noteworthy characteristics. Often these characteristics mirror country / region / transport system specifics or measures of improvement taken in the last years. Examples:
 - *Breisgau S-Bahn and Metronom*
Compared to the average German swing user, secondary aspects of *staff* (like friendliness, competence) are more important for an increased use of public transport, presumably backed by an effective training of the staff.
 - *HZ/ZET Zagreb*
In the USEmobility context rather low-ranking secondary factor *comfortable embarkation / disembarkation* has a rather high influence here, hinting at decisive improvements concerning this issue.

1.7 MULTIMODALITY

- On average over all USEmobility countries 70% of the swing users report an multimodal use of transport means, i.e. they use several means of transport or they combine them with each other. About one third of the swing users combines several means of transport sequentially on the same journey.
- The highest proportion and therefore the highest potential for multimodality one finds in Germany (77%), Austria (75%) and Hungary (73%). The highest proportion of sequential multimodality can be found in Austria and Germany (40%).
- Region specific, the biggest group of multimodal users can be found in Metropolitan areas (75% multimodality).
- There are still 30% of swing users on average over all USEmobility countries that show a monomodal mobility pattern.
- In comparison between the included regions / links one finds, as was to be expected, a considerably higher proportion of multimodal use in public transport networks like HZ/ZET (83%) and STIV/MIVB (92%), while on a regional link like Budapest-Esztergom, multimodality has an occurrence of just 65%.

1.8 PUBLIC TRANSPORT TODAY

- Swing users are rather satisfied with the public transport they currently use (30% satisfaction) than dissatisfied (10% dissatisfaction). The major part of the swing users although is indifferent in their evaluation.
- The swing users' satisfaction is highest in Austria; it is lowest in Hungary.

- The swing users in the selected regions / links rate the surveyed cases considerably better than their counterparts do on national levels, underlining the fact that the selected regions / links are sources for best practice.
- There for example are 75% of the swing users of the *Metronom* in Hamburg-Cuxhaven or the *Valleilijn* in Gelderland who are satisfied with the services offered to them.
- Regular usage of public transport enhances the satisfaction with it. The higher the intensity of use, the higher is the level of satisfaction with public transport today. This relation implies, too, that attractive transport offers foster a higher intensity of use (only one ticket for the complete journey, cheap seasonal tickets) and have a self-enhancing effect on the users' satisfaction and engagement with public transport.

1.9 ATTITUDES TOWARDS MOBILITY

- Based on 19 statements regarding attitudes towards mobility, swing users were divided into segments, which show a homogeneous attitude background. Covering all USEmobility countries, stable attitude based mobility segments emerged.
- These segments improve the understanding of swing users, their behaviour and decisions. Moreover, the segments are more tangible for mobility planning and measures than the heterogeneous group of swing users.
- Of special interest in all countries e.g. is a segment of swing users with predominantly pragmatic attitudes towards their choice of means of transport (covering about one quarter of the swing users).
- The behaviour of these mobility pragmatists is less governed by their mobility attitudes (including fewer prejudices). It is easier to be influenced by an attractive transport offer. The mobility pragmatists therefore are a very promising target group for an increase of eco-friendly multimodal transport.

1.10 ENVIRONMENTAL AWARENESS

- It is a remarkable finding that in general in all USEmobility countries one finds a high willingness to increase sustainable, eco-friendly mobility and to be prepared to pay more to achieve this goal. Only 12% of the swing users fully refuse additional costs for eco-friendly mobility.
- The highest willingness to accept an increase in mobility costs to achieve a higher environmental orientation in the personal mobility mix can be found in Croatia.

1.11 IMAGE OF PUBLIC AND INDIVIDUAL MOTORIZED TRANSPORT

- The image profile of public transport is less pronounced and it does usually not achieve the emotional intensity connected to car-use.
- Positive attributes like *attractive, exciting, successful, strong* or *fast* are more intensely attributed to car use. Public transport has an image advantage concerning *urbanity, rationality* and *community*.
- Many advantages based on a pronounced image are in fact highly correlated to actual characteristics of the transport system. A general change in the image profiles is therefore not feasible. Nevertheless, the country specific results show that for public transport a more positively profiled image is possible.
- In Austria and Germany, public transport induces a more positive image than in the other USEmobility countries. In Croatia, one finds rather small differences between public transport and car use. Public transport reaches for example in the attributes *successful, nice* or *modern* the image level of car use.

1.12 CONCLUSION

The most surprising finding of the USEmobility survey is the high dynamics that USEmobility found in the choice of transport means of European citizens. The mobility-mix in the USEmobility countries is not static at all. Looking back five years, USEmobility found a considerable number of swing users, willing to share their experiences and motivations.

The USEmobility survey has analysed, which social and behavioural aspects characterise swing users in different countries and regions and which segmentations can be used to describe them in a straightforward way. These insights are of high relevance, since the decision for a change in the individual mobility-mix depends in most of the cases primarily on the change in the personal / private situation of the swing user. It is of future relevance, how citizens can be accompanied in their mobility decisions during these personal points of change.

With the assistance of actual swing users, the USEmobility survey determined the real reasons for their change in transport-means in the last five years.

The survey shows possible solutions to understand the complex mechanisms that stand behind the change in behaviour, including the influence of the attractiveness of transport-offer related pull-in factors. It also provides findings on why and how dissatisfaction with public transport pushed swing users out of the system.

The USEmobility survey delivers a sound scientific analysis combined with high relevance for practical application. It can be used as basis for a deeper understanding of the processes behind the choice of transport means and measures necessary to foster a change in behaviour.

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

2 METHODOLOGY

2.1 THE USEMOBILITY APPROACH

The main objective of the USEmobility survey is 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 a change in mobility-behaviour, which already has taken place (ex post-analysis).

USEmobility regards the choice of transport means as an ongoing process, in which valuable insights into future mobility decisions can be drawn from decision processes in the past. USEmobility analyses the participants’ motivation to reconsider and change their use of certain transport alternatives. The core of the USEmobility approach is to identify reasons that have led to an actual change in the individual mobility-mix (complete change or change of intensity).

A so-called screener, constructed as initial part of the questionnaire, served to identify persons with a change in their individual mobility mix (so called swing users, see chapter 2.2) in order to identify the target group of USEmobility.

The *primary focus* of the survey is on changes from mono-modal motorised individual transport to multi-modal transportation chains including public transport within the last five years. The *secondary focus* is on changes away from multi-modal public transport towards mono-modal and / or individual motorized transport. The purpose is to understand why some approaches of public transportation / multimodality are more successful in attracting and keeping users while others are less successful.

The study has two main research domains, the country-representative *national surveys* in six European countries including *Austria, Belgium, Croatia, Germany, Hungary* and the *Netherlands*, as well as *case-specific surveys* in ten European regions where substantial changes in the use of public transport have been observed in the last five years.

The surveys evaluate a broad range of potential factors leading to a change in mobility behaviour. They include well researched topics from a structural or technological background (so called ‘hard factors’, having a quantifiable background) as well as new topics that today rarely find their way into common schemes for modelling passenger behaviour. These include factors like socialisation, environmental awareness, amenity values of transport and others (so called ‘soft factors’, having a more qualitative background).

The data collection took place in June / July 2011 and in September / October 2011.

The net sample of the national surveys consists of more than 1.000 valid online interviews of swing users per country. A weighting process has secured representativeness on a national

level. Altogether 6.357 interviews in six countries form the net data basis of the national USE-mobility market analysis.

The net sample of the case-specific regional surveys consists of more than 400 valid interviews of swing users per region selected randomly. Altogether 4.075 interviews in ten regions form the net data basis of the regional USEmobility market analysis.

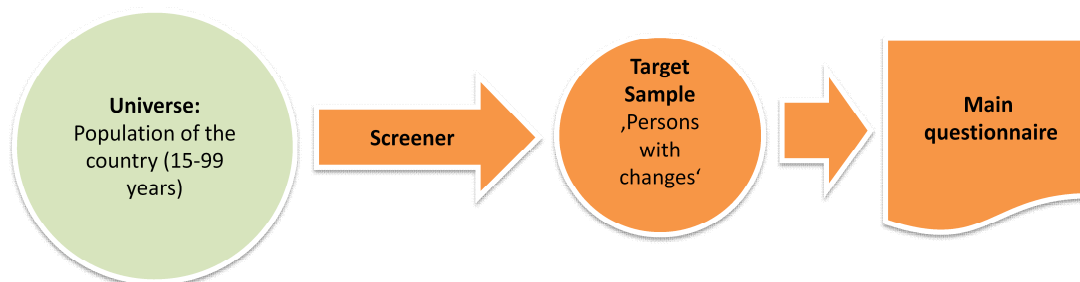
In sum 10.432 interviews with swing users form the net data basis of the USEmobility market analysis.

2.2 SWING USERS

The focus of the survey is put on public transport (PUB) and motorised individual transport (MIT). *Bicycle use* and *walking* are mostly left out of consideration to limit the complexity of the approach.

Swing users, i.e. persons who reported a change in their mobility mix regarding public transport within the last five years are the actual target population of the USEmobility survey.

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



Therefore, for the rest of the report, swings users shall be citizens that report one of the following two changes for at least one travel purpose within the last five years:

- **PUB+** More frequent use of PUB than before (at least 'occasionally' now)
- **PUB–** Less frequent use of PUB than before (less than 'always' now)

In chapters 4-6, the report will focus on these PUB+ / PUB– Swing Users only.

Sub-populations of special interest are people who have not only increased their use of public transport ("PUB+"), but also have reduced their use of motorized individual transport ("MIT–"). Similarly people with less use of public transport ("PUB–") and increased use of motorised indi-

vidual transport ("MIT+") have been analysed, especially those who report a substantial change towards private motorised transport.

In short, the national USEmobility survey deals with four types of swing users: Swing users with

- More public transport or increased mobility in general (1.201 participants),
- More public transport instead of motorized individual transport (1.554 participants),
- Less public transport or decreased mobility in general (1.661 participants),
- More motorized individual transport instead of public transport (1.941 participants).

In contrast to the national survey, the case-specific regional surveys are not sampled from the general public but from the current users of a best-practice public-transport system in the regions. These surveys therefore predominantly focus on swing users towards public transport, including swing users with

- More public transport or increased mobility in general (1.915 participants),
- More public transport instead of motorized individual transport (1.621 participants).

Current users of these public transport systems of course also include persons who reduced their share of public transport in the last five years, although to a negligible degree. Exceptions are STIB/MIVB, HZ Varaždin and HZ/ZET Zagreb, where swing users away from public transport form an analysable data basis of participants (71, 139 and 196 interviews respectively).

In all other regions, the reasons why users reduced their share of public transport cannot be analysed due to a too limited number of cases.

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

- On the *Way to / from Work*,
- When *Shopping / Running Errands*,
- For *Leisure Activities*.

Since the survey focuses on persons with a change in their mobility behaviour (swing users), findings can neither be presented regarding persons who have not changed their use of public transport in the last five years or regarding the reasons for keeping their behaviour.

Following the same argument, the survey results do not allow deductions on the behaviour or attitude of *all* public transport users in the countries surveyed, but only for the swing users as defined above.

The surveys in the specific regions are therefore not necessarily representative for all users of the specific means of transport in the countries / regions.

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

2.3 REPORT STRUCTURE

The total deliverable D.3.6 consists of four parts:

- **Chapters 1-3: Common Background**
Introduction and better understanding of the report
- **Chapters 4-7: The National Survey**
The USEmobility Survey-Area and its six constituting countries
- **Chapters A-J: The Regional Surveys**
Ten case-specific European regions
- **Annex A: Further Background**
Selected details on the applied methodology

The National Survey presents an analysis for the total *USEmobility Survey-Area* and all six constituting countries. The reader will find comprehensive information on common patterns and country specific developments in chapters four to six.

The Regional Survey presents region specific results in chapters A to J including mentionable regional differences to corresponding national results.

• <i>USEmobility Survey-Area (total)</i>	<i>National Survey</i>	<i>Chapters 4-6</i>
• <i>Austria</i>	<i>National Survey</i>	<i>Chapters 4-6</i>
○ S-Bahn Salzburg	Regional Survey	Chapter A
○ S-Bahn Steiermark	Regional Survey	Chapter B
• <i>Belgium</i>	<i>National Survey</i>	<i>Chapters 4-6</i>
○ STIB/MIVB Brussels	Regional Survey	Chapter C
• <i>Croatia</i>	<i>National Survey</i>	<i>Chapters 4-6</i>
○ HZ/ZET-Operators	Regional Survey	Chapter D
○ HZ Varaždin-Međimurje Rail	Regional Survey	Chapter E
• <i>Germany</i>	<i>National Survey</i>	<i>Chapters 4-6</i>
○ Breisgau S-Bahn	Regional Survey	Chapter F
○ Metronom Hamburg-Cuxhaven	Regional Survey	Chapter G
○ S-Bahn Rhein-Neckar	Regional Survey	Chapter H
• <i>Hungary</i>	<i>National Survey</i>	<i>Chapters 4-6</i>
○ MAV Budapest-Esztergom	Regional Survey	Chapter I
• <i>The Netherlands</i>	<i>National Survey</i>	<i>Chapters 4-6</i>
○ Connexion Valleilijn	Regional Survey	Chapter J

Chapter 3 provides the detailed description of the swing users and their change in behaviour.

Chapter 3.1 focuses on the current use of means of transport of swing users. It details on means of transport specific characteristics and on user-segmentations based on multimodality.

Chapter 3.2 addresses the swing users' experience with their means of transport. This includes the users' socialization with mobility and the role that availability of information and information-sources play in the decision process.

Chapter 3.3 focuses on the attitudes of swing users towards the means of transport and mobility in general. Using an in-depth factor- and cluster analysis, we develop a user segmentation based on attitudes (*segments of attitudes*). A chapter on the role of environmental awareness / behaviour completes the attitude-based view.

Chapter 3.4 centres on the swing users' *changes* in means of transport / mobility behaviour. It deals with the type of change and the perceived freedom of choice.

Chapter 4 comprises the core analysis of the survey. It contains in chapter 4.1 the *main factors influencing the changes-in-behaviour of swing users*, starting with a subdivision into the three main types of reasons for a change:

- Changes in the personal / private situation,
- Attractivity of the transport means used more (Pull-in Factors) and
- Dissatisfaction with the transport means used less (Push-out Factors)

Further details concerning the influence of these reasons will be provided in order to model them into a comprehensive reason-based segmentation (*segments of reason*).

Chapter 4.2 gives further insights into the importance of a change in the personal / private situation of the swing user for a new choice of means of transport.

Chapter 4.3 summarises the pull-in / push-out factors of public transport given by swing users. It includes cases of increased as well as decreased use of public transport. It also points out any changes induced by satisfaction or dissatisfaction with the transport offer.

Chapter 4.4 provides a similar insight for motorized individual transport.

Chapter 5 moves the view away from the change and towards the role of public transport today. In chapter 5.1, we provide today's evaluation of public transport made by swing users.

Chapter 5.2 illuminates the image of public and motorized individual transport as seen by swing users today.

Chapter 6 pictures the background of the National survey data. It has a wider focus as the targeted swing users. It presents the information available on *all users* within the country to put the target population of swing users into its representative context.

Chapters 6.1 and 6.2 illustrate the current use of means of transport and the swing use in the population of the six countries and the proportion of swing users.

However, the figures of all users do not reflect the modal split in the investigated countries, but they describe the intensity of use of the modes of transport based on the users' own estimation.

Chapter 6.3 works with a new type of user-segmentation based on the direction and intensity of the change in use of means of transport (*segments of change*)

The chapters on **Region A** to **Region J** contain a scaled down version of the structure already presented for the country responses in chapters 3 to 5 including

- Characteristics of the swing users in the regions,
- Case specific reasons for the change-in-behaviour and
- Evaluation of the specific cases (regions / links) today

Also added are additional chapters A.4 to J.4 dealing with specific characteristics of the surveyed regional transport companies / systems.

A comprehensive covering of the statistical background can be found in the technical **Annex A**

2.4 TERMINOLOGY

2.4.1 'THE USEMOBILITY DATA'

The findings of this report are elaborated on basis of all valid data from the surveys, which forms the *USEmobility data set*. All details on the structure and building process of the data set can be found in deliverable D3.5, including all measures guaranteeing representativeness and data quality.

The answers to all questions included in the USEmobility surveys are laid down in a number of *USEmobility tabulation volumes* (background data). Tabulation volumes exist for each of the USEmobility countries and for each of the USEmobility regions (16 tabulation volumes). Due to their volume, they are not part of this report.

This report contains a great number of *figures*, which are a compilation of key findings of the surveys' data analysis. The figures are interpreted and explained in due detail.

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

However, in line with possible future requests, further analyses are possible based on the USEmobility tabulation volumes.

If additional explanations are included in the report that do not concern the figures themselves but are based on data from the tabulation volumes, this is indicated by the phrase

“The USEmobility data shows ... ”

These additional explanations are included, when the key findings have suggested that a supplementary query would deliver valuable insights.

The USEmobility data set provides an excellent extended information base for further research into questions of USEmobility.

2.4.2 ‘TOP-2 BOXES’ AND ‘BOTTOM-2 BOXES’

In the USEmobility survey, for many questions possible answers had the form of a *scale*, for example:

- ‘never’, ‘rarely’, ‘occasionally’, ‘frequently’, and ‘always’
- ‘absolute no influence’, ‘little influence’, ‘moderate influence’, ‘strong influence’ and ‘decisive influence’

Scales are usually ordered by frequency of occurrence, degree of influence, degree of satisfaction etc.

Regarding the answers to questions using such scales, those interviewees are of special interest who show a distinctive position, either ‘important’ or ‘not important’ and not just ‘somewhat important’.

Therefore, the upper and lower ends of the scales are put into focus. They are grouped for the further analysis. The two groups that are used are:

- **Bottom-2 Boxes** Into the Bottom-2 Boxes all those answers are grouped that fall into the first two modes of a scale, e.g. ‘absolute no or little influence’.
- **Top-2 Boxes** Into the Top-2 Boxes all those answers are grouped that fall into the last two modes of a scale, e.g. ‘strong or decisive influence’.

The distribution of answers on Top-2 and Bottom-2 Boxes give a good indication in which direction the majority of the answers tend.

In many figures of the following chapters, you find analyses based on the percentage that Top-2 or Bottom-2 Boxes have in the total sample. They tell you much about the importance of both ends of the scale.

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 ‘Factors influencing behavioural change towards eco-friendly multimodal mobility’

2.4.3 'NUTS-REGIONS' AND 'NIELSEN-REGIONS'

Geographical study regions specified in this report as, for example in Figure 52, are based on the European regional classification system **NUTS** (*Nomenclature des unités territoriales statistiques*). For each country, three to five NUTS regions on the NUTS1 or NUTS2 level are selected.

A special case is Germany where the 'Bundesländer' are the NUTS1 regions. In Figure 52, they are combined to **Nielsen-Regions**, a common classification in German market research.

The groups are:

- *Nielsen I* Northern Germany
(Bremen, Hamburg, Lower Saxony, Schleswig Holstein)
- *Nielsen II* Western Germany
(North Rhine-Westphalia)
- *Nielsen III* South-Western Germany
(Baden-Württemberg, Hessen, Rhineland-Palatinate, Saarland)
- *Nielsen IV* South-Eastern Germany
(Bavaria)
- *Nielsen V, VI, VII* Eastern Germany
(Berlin, Brandenburg, Mecklenburg-W. Pomerania, Saxony, Saxony-Anhalt, Thuringia)

2.4.4 LIST OF ABBREVIATIONS

MIT	Motorized Individual Transport
MIT+	Increase in MIT
MIT–	Decrease in MIT
MoT	Mode of Transport
PUB	Public Transport
PUB+	Increase in PUB
PUB–	Decrease in PUB

3 CHARACTERISTICS OF SWING USERS

Swing users are the target population of USEmobility survey. In chapter 4, we will present the reasons why they have changed their mobility mix in the last five years.

However, what are the defining characteristics of a swing user; what makes them special? What is their mobility background? What kind of change have swing users performed in the past? Who can be expected to be a change candidate in the future?

Along these questions, USEmobility now provides a detailed description of the swing users and their change in behaviour.

3.1 CURRENT USE OF TRANSPORT MEANS OF SWING USERS

3.1.1 MEANS OF TRANSPORT IN USE

USEmobility looks at the means of transport currently used as a first step to illuminate the swing-users (see 2.2) background for mobility decisions.

Our first results can be found in Figure 1.

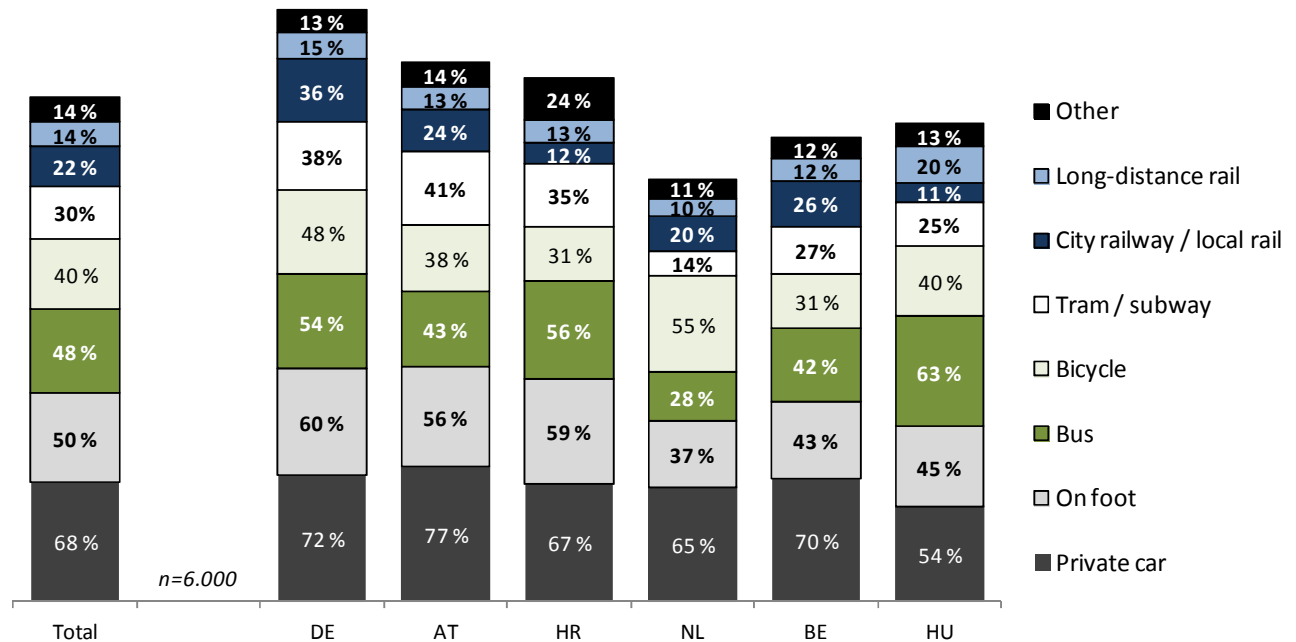
Means of public transport are used by up to 48% of the swing users in the USEmobility area, forming the backbone of USEmobility. Mostly used are buses (48%) followed by tram / subways (30%) and the rail system (14-22%), as shown in the next figure. Private cars have the highest use with 68% of the swing users. Bicycle use and walking are strong too with 40-50% use.

The most diversified use of means of transport among swing users can be found in Germany with a strong segment of city rail use (36%). The Netherlands are the least diversified, with a strong bicycle use (55%) and a comparatively small use of public transport (10-28%).

Hungarian swing users are strong on public transport with the highest use of buses (63%) and long-distance rail (20%). Car use among Hungarian swing users is still on a low level (54%) in comparison to countries like Austria, Belgium and Germany (70-77%).

The USEmobility data shows that 85% of the swing users are not barred from MIT, since at least one car is available in the household. Even in the group of swing users who report an *increased* use of public transport, still 76% have access to a car.

Figure 1 Current use of different Means of transport (multiple answers possible)



3.1.2 MONOMODALITY / MULTIMODALITY

Multimodality is one of the key topics of the USEmobility project. Multimodal transportation chains including public transport are seen as promising eco-friendly and sustainable alternative to monomodal motorized individual transport, which still dominates traffic throughout Europe nowadays. Concerning transport modality, we distinguish three groups:

- Exactly one transport means in use for the travel purpose* **Monomodal**
 Except for walking *only one* means of transport is used for the chosen travel purposes.
- More than one transport means, but usually not used in combination* **Multimodal – Parallel**
 One uses *different* means of transport, but for the selected travel purpose one does not combine the chosen means of transport with other means except for walking.
- Combined use of transport means* **Multimodal – Sequential**
 One uses different means of transport, and for some or all of the travel purposes one combines different means of transport in the individual transportation chain.

Figure 2 Monomodality / Multimodality per country

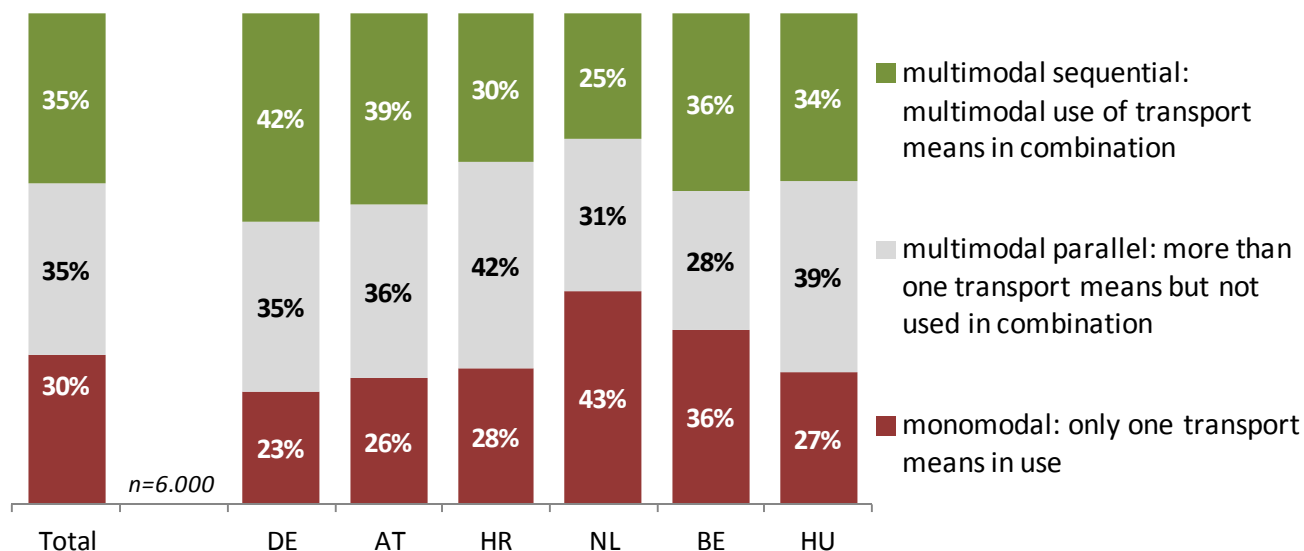


Figure 2 shows that a vast majority of the swing users (70%) today use more than one transport mean. Only 30% are fixed to one means of transport only. One third of the swing-users show a multimodal (sequential) choice pattern (transport means uses in combination). In Germany, more than 40% of the swing-users are multimodal (sequential), whereas in the Netherlands only one quarter of the swing-users makes multimodal decisions in a sequential manner.

Most countries have a proportion of monomodal swing-users well below 30%, except Belgium with 36% and the Netherlands with 43%. Urban and especially Metropolitan regions foster multimodal choices (see Figure 3). The proportion of multimodal (sequential) users in metropolitan regions is 42%, in rural regions it is only 27%.

Urban and rural regions have about the same proportion of monomodal swing-users, but in urban areas, 6% more swing-users are multimodal (sequential).

Figure 4 shows in the table on the right all possible combinations between two means of transport and the occurrence of these combinations in the transport chains (multiple combinations per chain are possible)

The combination most widely used is *MIT combined with local PUB* or *city rail combined with local PUB*. 54% of the multimodal (sequential) swing users decide for one of these two combinations (27% each).

Multimodal (sequential) usage of *long distance rail* is rather on the low side. 10% report a combination with *local PUB* and 3% and less with *city rail* and *bicycle*. Multimodal (sequential) usage of *MIT* has still potential for growth. 10% combine MIT with *city rail*, 7% with *bicycle* and only 4% with *long-distance rail*.

Figure 3 Monomodality / Multimodality per type of region

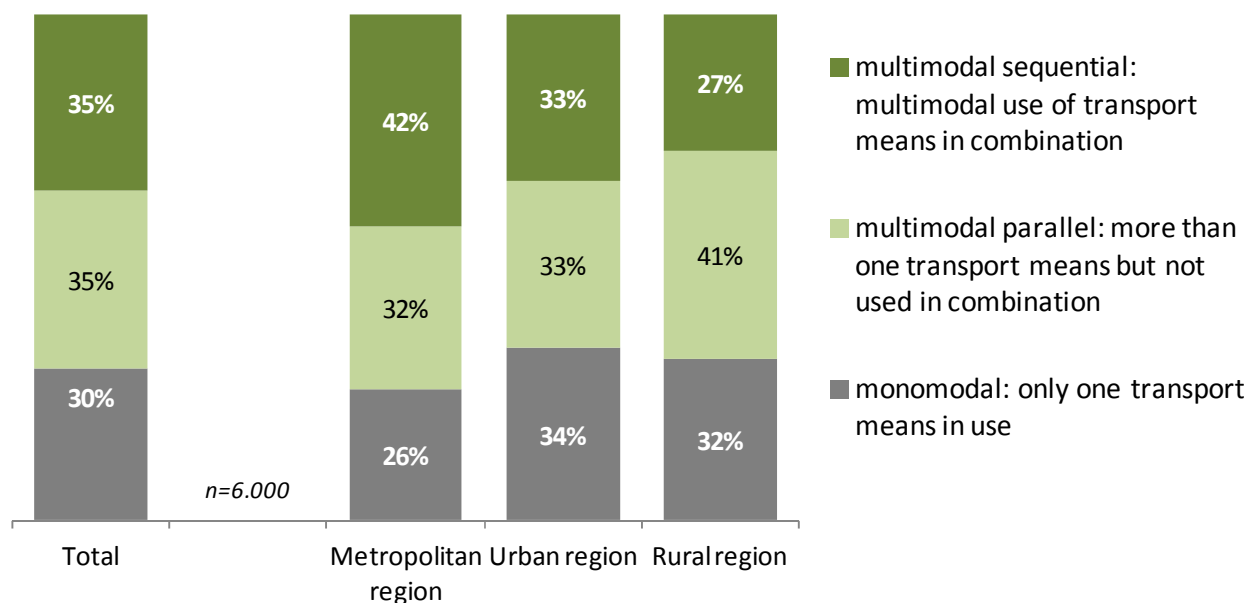
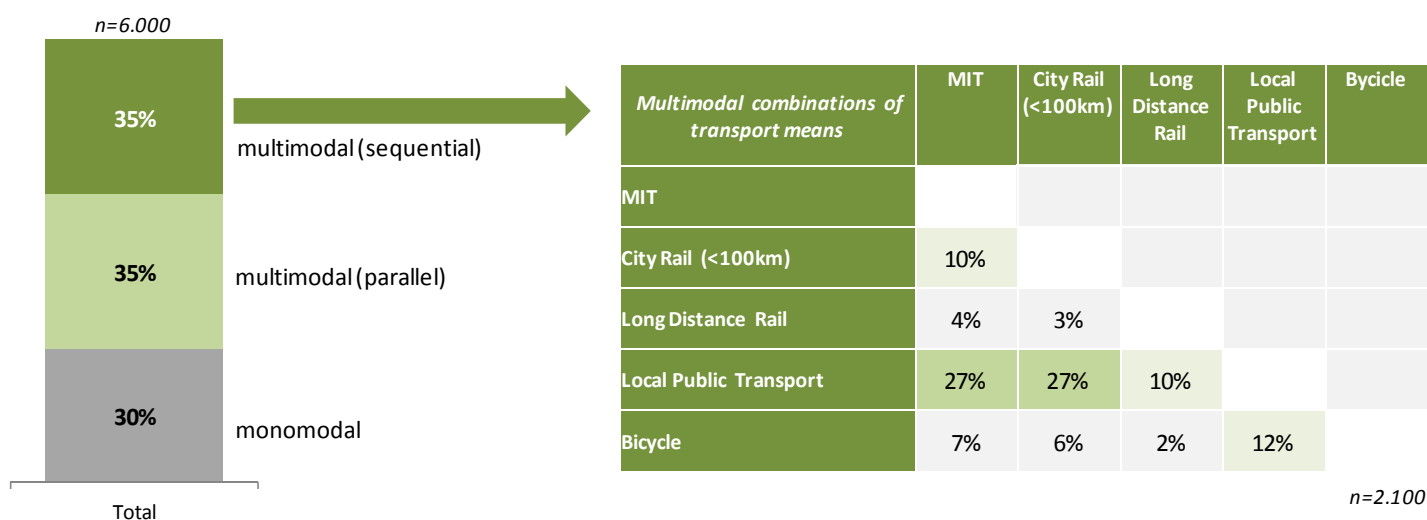


Figure 4 Multimodality (sequential) per combination of transport means



(Multiple pairings per transport chain are possible.)

3.2 EXPERIENCES WITH THE MEANS OF TRANSPORT / MOBILITY

3.2.1 EXPERIENCES (SOCIALISATION)

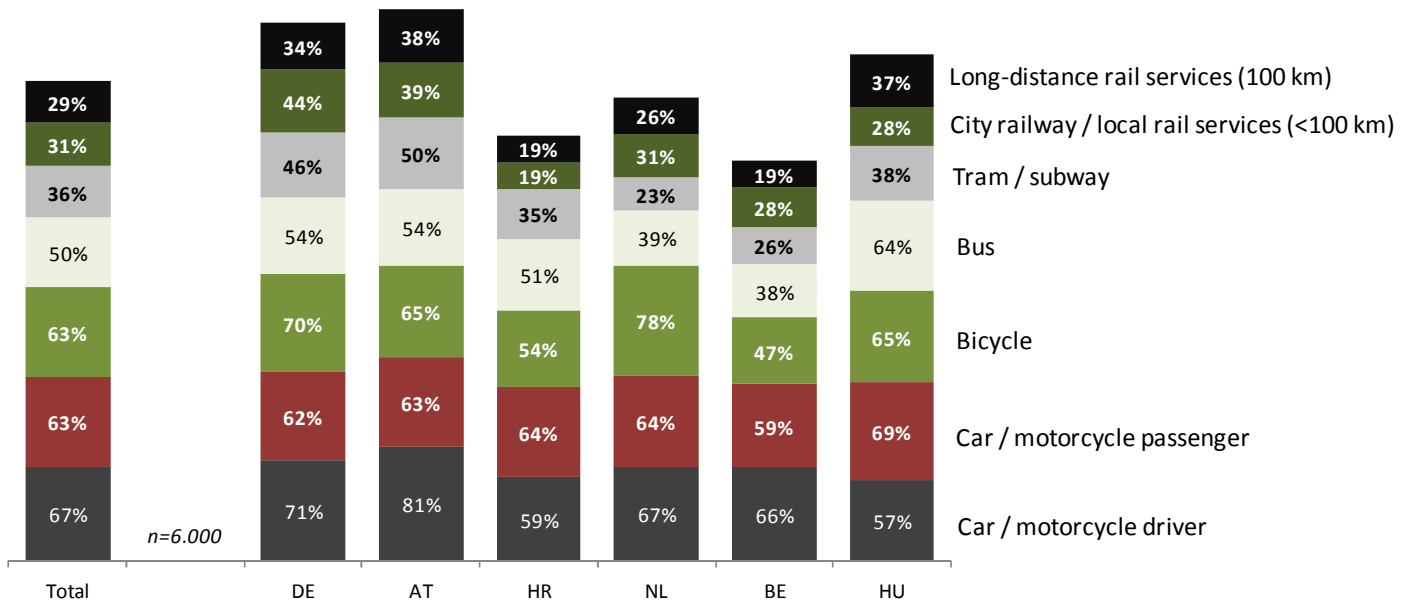
Chapter 3.2 deals with the swing users experiences with different means of transport and mobility in general. These experiences form part of the swing-user's background for his decision for a means of transport.

Figure 5 looks at the degree of familiarity the swing-users have with selected means of transport, taking into account the experiences since childhood. It shows the proportions of users who are familiar or even very familiar.

As we will see in 3.2.2, the own experience with means of transport is an important background for mobility decisions.

Figure 5 Familiarity with certain means of transport
(multiple answers possible)

Percentage Top2: high degree of familiarity / very high familiarity



High familiarity with cars and bicycles is at about two thirds among the swing users. 50% are highly familiar with buses, and only about one third is familiar with tram / subway / rail services. The high familiarity with cars does not differ significantly from country to country.

Austria, Germany and Hungary show a diverse familiarity with a number of means of transport among their swing-users (high columns). The familiarity and socialization with different public transport services is high. In Belgium, the Netherlands and Croatia the diversity is lower, providing a less supportive background for multimodal mobility decisions.

In Belgium and Croatia, only 19% are highly familiar with long-distance rail services, showing only half of the familiarity compared to Austria.

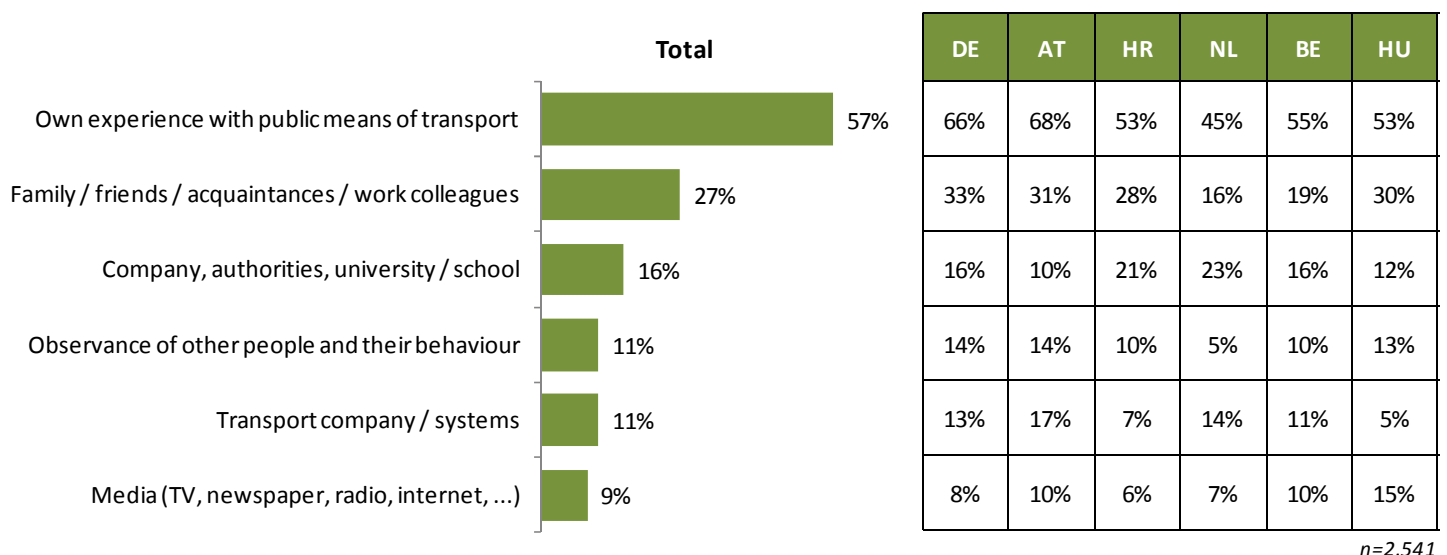
In all countries, more than half of the swing users are highly familiar with bus systems, except for Belgium and the Netherlands (below 40%). In Hungary, almost two thirds are highly familiar with buses.

In Austria 81% of the swing-users are highly familiar with cars, in Croatia and Hungary only up to 60%. Socialisation with bicycles is high in the Netherlands (78%) compared to the quite low 47% in Belgium.

3.2.2 INFORMATION BEHAVIOUR AND INFLUENCE

Another aspect of the experience with public transport is the information about public transport available to the swing user. Is there somebody who motivated him/her to use public transport more often (or at all)? Were they provided with information about public transport prior to their decision?

Figure 6 Information / Motivation for an (increased) use of public transport



The participants were allowed multiple answers regarding their information sources.

As was to be expected, most swing-users rely on their own numerous experiences with public transport (57% relevance). However, with 27% still quite strong they also got information / motivation from personal contacts (family, friends, acquaintances and work colleagues).

In Austria and Germany, personal contacts have had influence in one third of the cases. In the Netherlands, on the other hand, only 16% reported an influence by personal contacts.

Official authorities (companies, universities, schools) provided information / motivation in at least 16% of the cases, in the Netherlands even 23%.

Concerning the influence if information by transport companies one sees clear differences between the countries. In Austria, we record 17% influence, in Hungary only 5%. Obviously, the intensity and quality of the information policy by different transport companies does not show the same motivational effect.

3.3 ATTITUDES TOWARDS THE MEANS OF TRANSPORT / MOBILITY

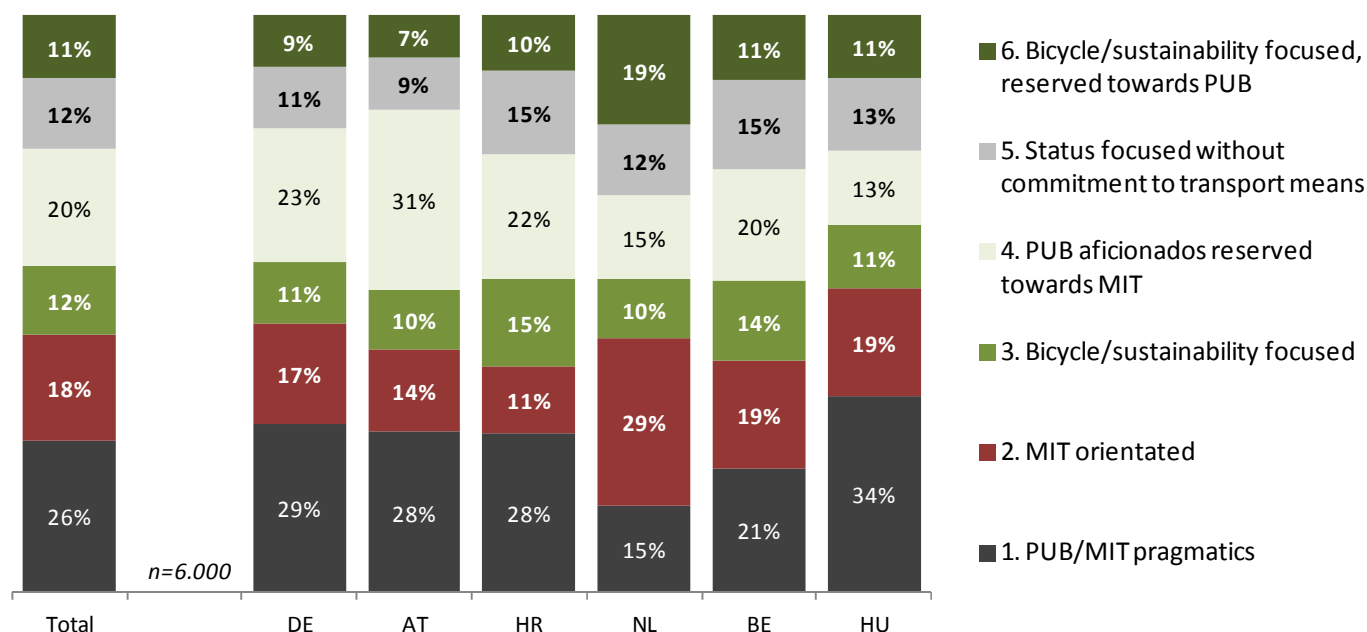
3.3.1 ATTITUDE-BASED SEGMENTATION

Chapter 3.3 deals with the swing users' attitudes towards different means of transport and to mobility in general. These attitudes form another part of the swing-user's background for his decision for a means of transport. The attitudes are laid down in the *Segmentation by Attitude*.

The segments of attitude are based on the agreement of the swing users with 19 statements about different means of transport and mobility in general. (see Annex A.1)

- *Segment 1:* **PUB / MIT Pragmatics** (26% of the swing users)
- *Segment 2:* **MIT orientated** users (18% of the swing users)
- *Segment 3:* **Bicycle / Sustainability focused** users (12% of the swing users)
- *Segment 4:* **PUB Aficionados** reserved towards MIT (21% of the swing users)
- *Segment 5:* **Status focused** without commitment to one transport means (12% of the swing users).
- *Segment 6:* **Bicycle / Sustainability focused, reserved towards PUB** (11% of the swing users).

Figure 7 Segments of Attitude by country



One quarter of the swing-users are *PUB / MIT pragmatics*, peaking in Austria / Croatia (28%) and Hungary (34%). In Belgium on the other hand, only 21%, and in the Netherlands merely 15% are *PUB / MIT pragmatics*.

The proportion of *MIT orientated users* differs considerably between the countries. It ranges from 11% to 19% with the exception of the Netherlands where 29% of the swing users are *MIT orientated*.

Bicycle / Sustainability focused users (segments 3 & 6) and status focused users (segment 5) form three stable segments with a proportion between 9% and 15% of the swing users each. The only exception here is the Netherlands with a high proportion of swing users in segment 6.

PUB aficionados reserved towards MIT differ considerably between the countries, too. The range goes from 13% to 23% with the exception of Austria where even 31% of the swing users are *PUB aficionados*.

The attitude-based segmentation differentiates well in a number of characteristics shown earlier. One of these characteristics is car availability. A look at the attitude based swing-user segments in *Figure 8* shows clearly that car availability is higher with *MIT orientated* swing users (95%) and considerably lower with *PUB aficionados*, for which in one quarter of the cases no car is available.

Swing users who decide pragmatically about their mobility mix have in 91% of the cases the car as an option and even the group of sustainability-focused users has in 85% access to a car.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 8 Car availability by attitude based segmentation

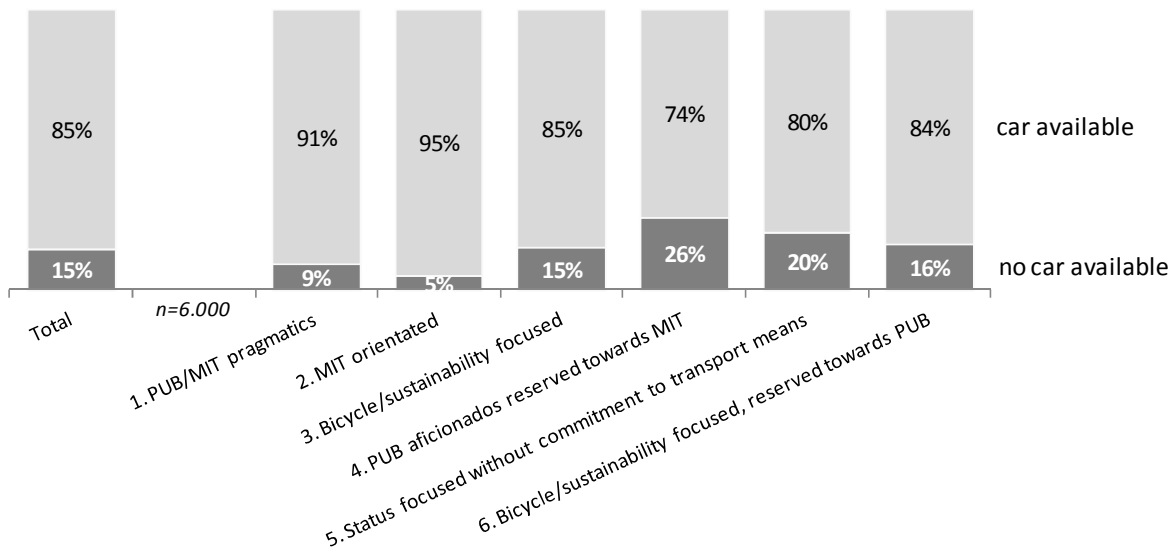
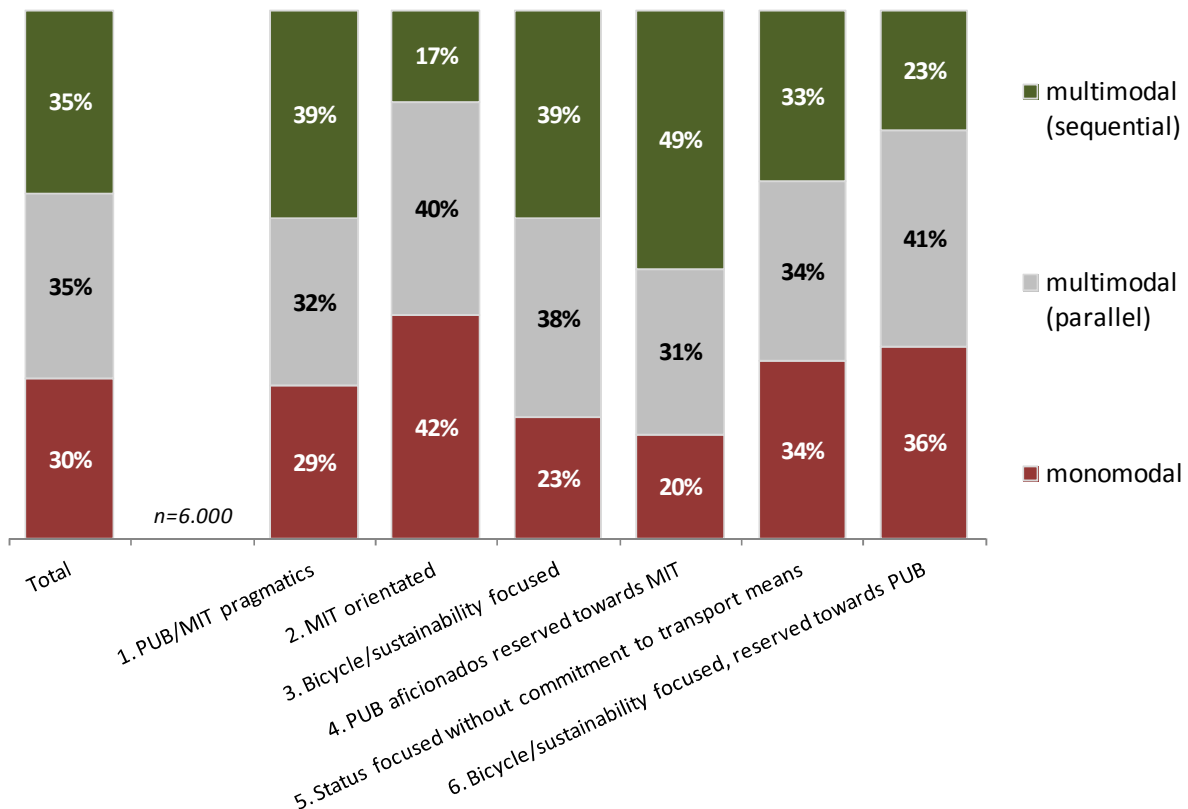


Figure 9 Monomodality / Multimodality by attitude based segmentation



Another characteristic is presented in *Figure 9*: Monomodality / multimodality (see also 3.1.2).

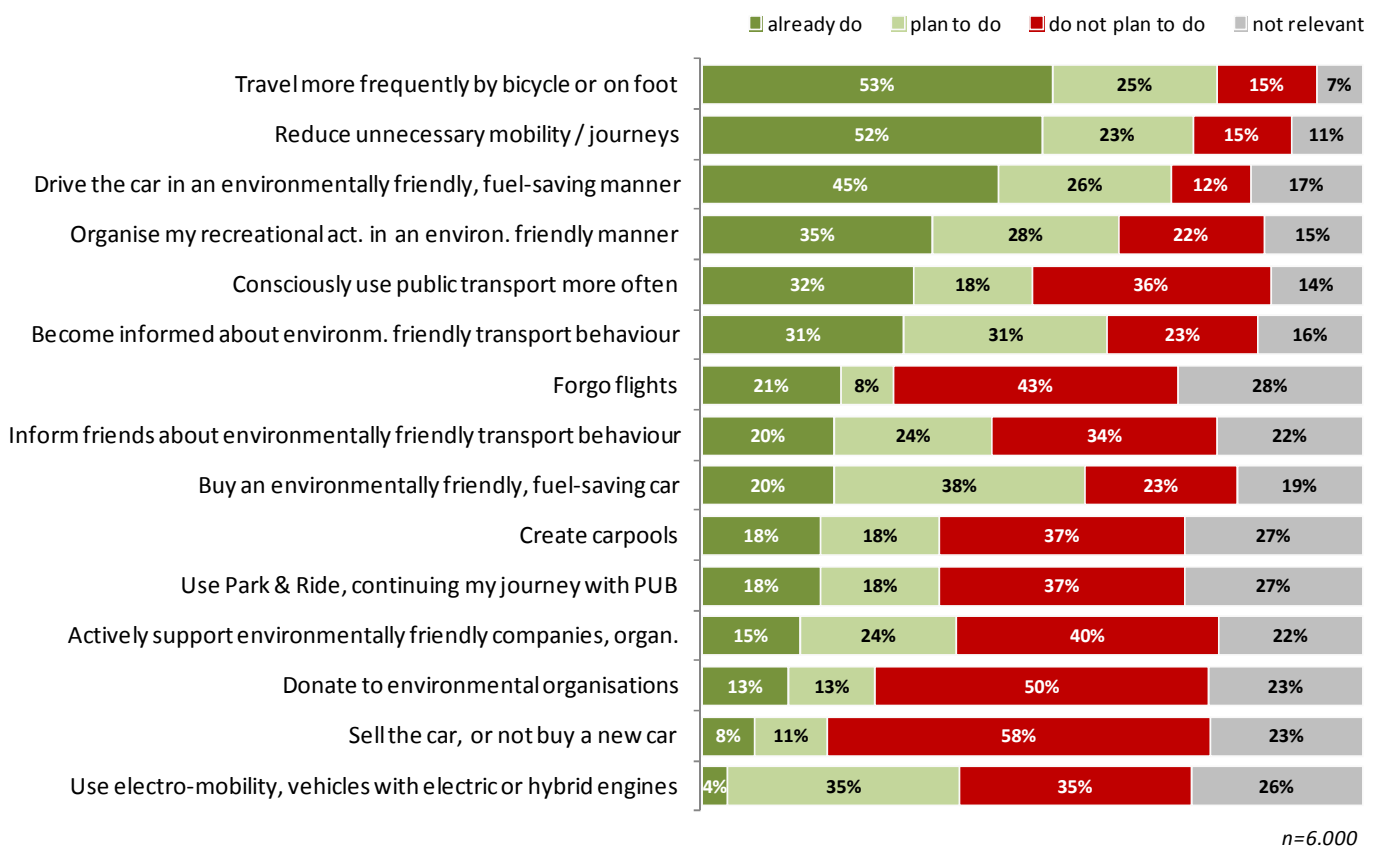
It is interesting to note, that PUB aficionados in three quarters of the cases still have access to a car. They are not only highly inclined to use public transport; they are also multimodal (sequential) in half of the cases (see Figure 9).

MIT orientated users on the other hand combine their car on the same journey with other means of transport only in 17% of the cases; in 42% of the cases they are strictly monomodal. PUB / MIT pragmatics are not monomodal in about 70% of the cases, almost 40% of them are even multimodal (sequential).

3.3.2 ENVIRONMENTAL AWARENESS / BEHAVIOUR

Since environmentally friendly mobility is one of the core topics of USEmobility, this chapter highlights the environmental awareness / environmental behaviour of the swing users.

Figure 10 Plans to establish environmental awareness in the future



Environmental awareness is already quite strong among USEmobility swing users when it comes to *frequent travel by bicycle or on foot* (see Figure 10), the *reduction of unnecessary journeys* (both over 50% of the swing users) or an *fuel saving driving style* (45%).

Plans to more environmental awareness in the future are strongest concerning the plan to buy a *fuel saving car* (38%), use *electro-mobility* (35%) or to *become more informed about environmentally friendly transport* (31%).

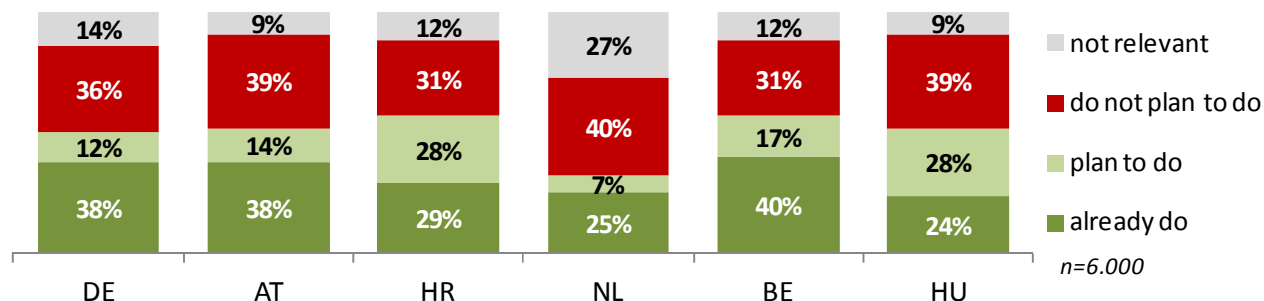
Five times more swing users intend to keep their car and not sell it as well as keep up their amount of using the plane and not forgo flights.

Only half as much swing users will consciously use public transport more often than do not intend to do so, but 32% already do so anyway. Also, only half as much swing users will consciously *create car pools* or use *park & ride* more often than do not intend to do so.

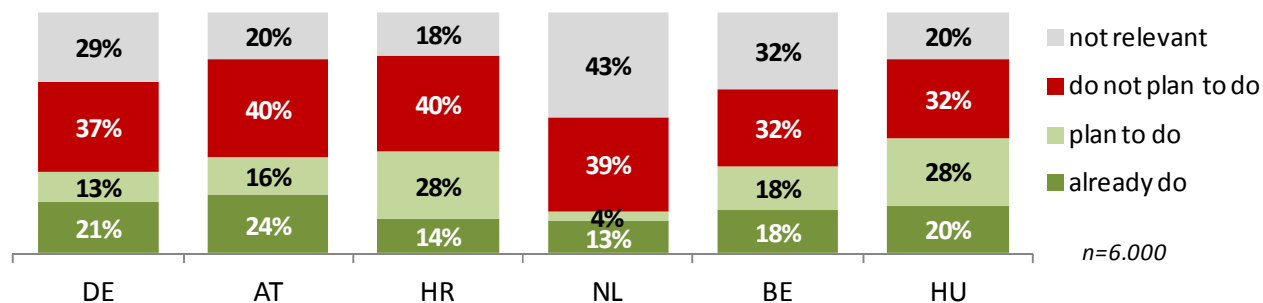
For ca. 15% to 25% of the swing users the aspects presented in Figure 10 are not relevant at all. The highest relevance lies with the *use of bicycles and walking* (93%), the *reduction of unnecessary mobility* (89%) and the *use of public transport* (86%).

Figure 11 Plans to increase four selected aspects of environmental awareness by country (I)

Consciously use public transport more often



Use Park & Ride, parking the car and then continuing my journey with PUB

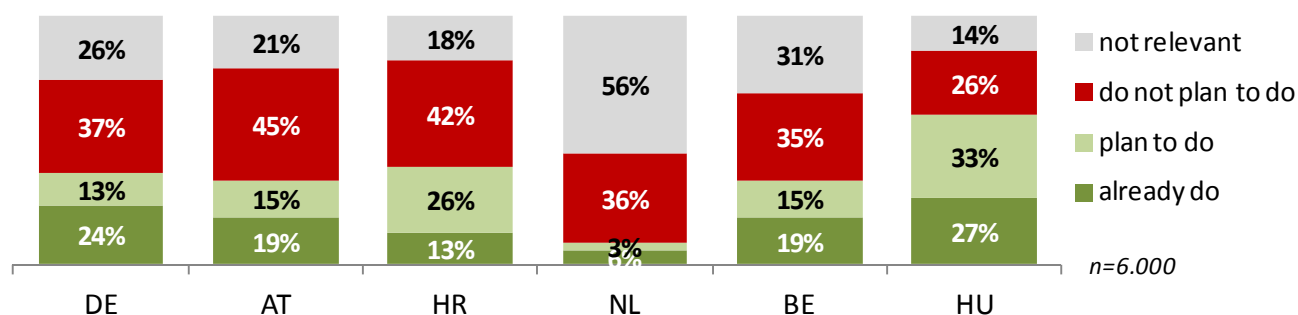


The *conscious use of public transport* is high already in Austria, Germany and Belgium (about 40%). The highest intentions to increase it lie in Croatia and Hungary (28%). The strongest objection to increase the use of public transport can be found in Austria, Hungary and the Netherlands (about 40%).

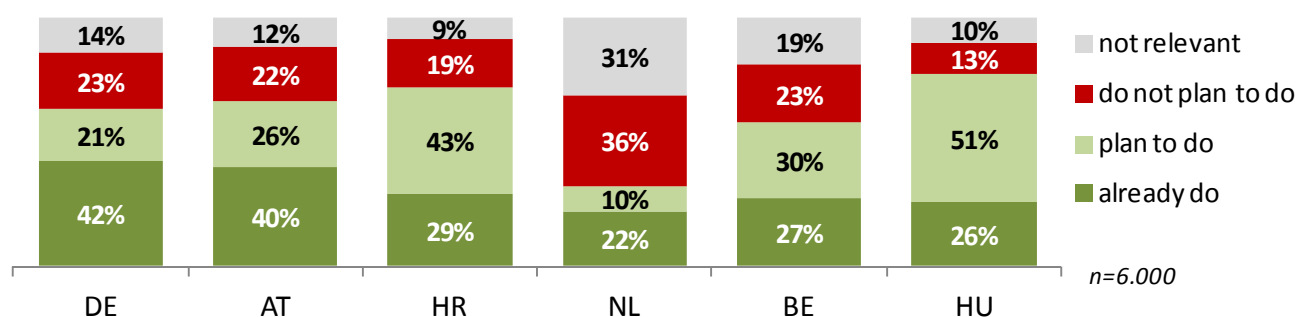
The use of *park & ride facilities* is in Austria, Germany and Hungary already on a relevant level (20-24%). The highest intentions to increase it lie in Croatia and Hungary (28%). The strongest objection to increase it can be found in Austria, the Netherlands and in Croatia also (ca. 40%).

Figure 12 Plans to increase four selected aspects of environmental awareness by country (II)

Create car pools



Become informed about environmentally friendly transport behaviour

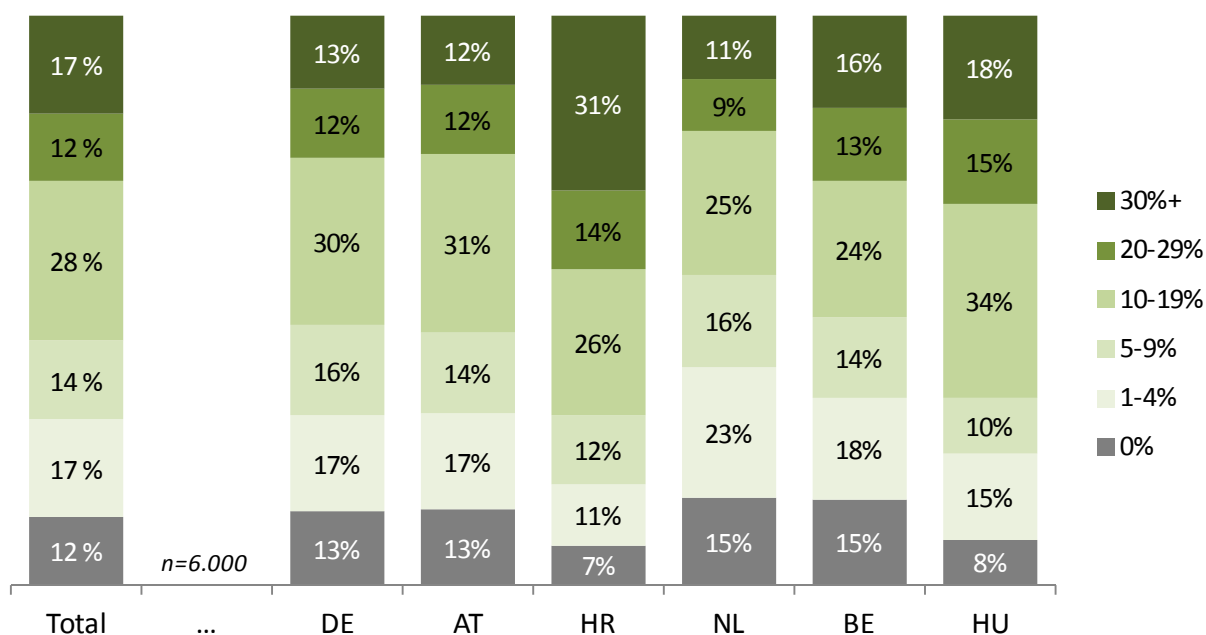


The creation of *car pools* is in Germany and Hungary already on a relevant level (20-24%). The highest intentions to create more lie in Croatia and again in Hungary (26%, 32%). The strongest objection to increase it can be found in Austria and in Croatia also (over 40%).

The *information level on environmentally friendly transport behaviour* is high already in Austria, and Germany (about 40%). The highest intentions to increase it lie in Croatia (43%) and even more in Hungary (over 50%). The strongest objection to increase it can be found in the Netherlands (36%).

Figure 13 Accepted rise in mobility costs for a stronger environmental orientation

What percentage of your current costs for transport/travel/mobility would you be prepared to pay in addition for a stronger environmental orientation?



In the USEmobility area, only 12% of the swing users would not accept any rise in mobility costs for a stronger environmental orientation (see Figure 13), but more than half of them can think of provisions for which they would accept a rise in mobility costs of more than 10%.

The willingness is similar in all countries except for Croatia, where one third of the swing users could even be committed to a rise of 30% and more for an environmentally friendly improvement. In Hungary, one third of the swing users would pay at least 20% more.

3.4 CHANGES IN MEANS OF TRANSPORT / MOBILITY BEHAVIOUR

3.4.1 TYPE OF CHANGE IN MEANS OF TRANSPORT

This chapter characterises the change towards / off public transport itself, its timeline and the perceived freedom of choice.

Two thirds of the swing users report their change to have happened step-by-step / gradually. For one third the change was rather an overnight experience (see Figure 14). Change in the mobility behaviour therefore is rather a long-term experience.

The USEmobility data shows that in Hungary only a quarter had a sudden change in the last five years, but overall the distribution is quite similar in all countries.

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 14 Type of change by timeline and age-group

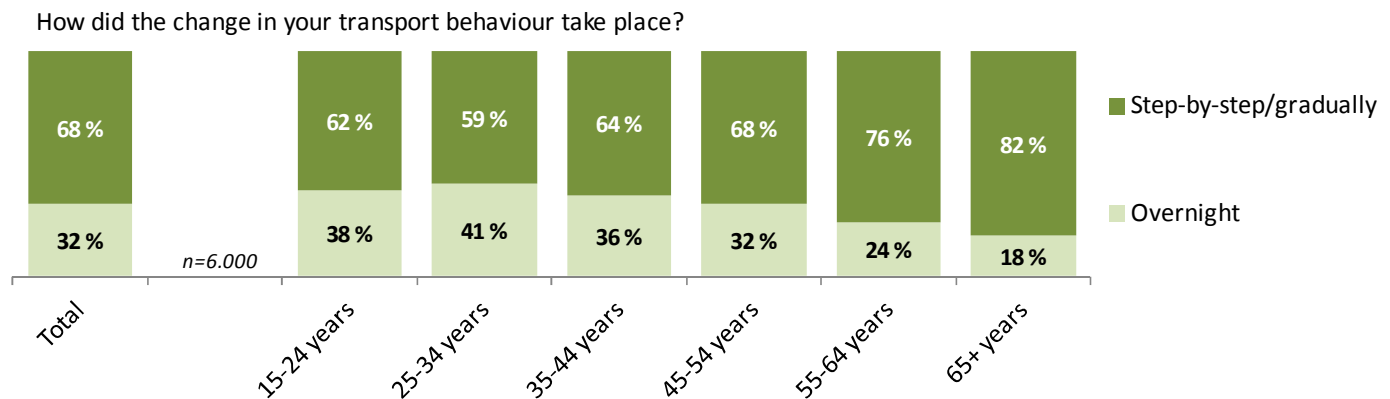


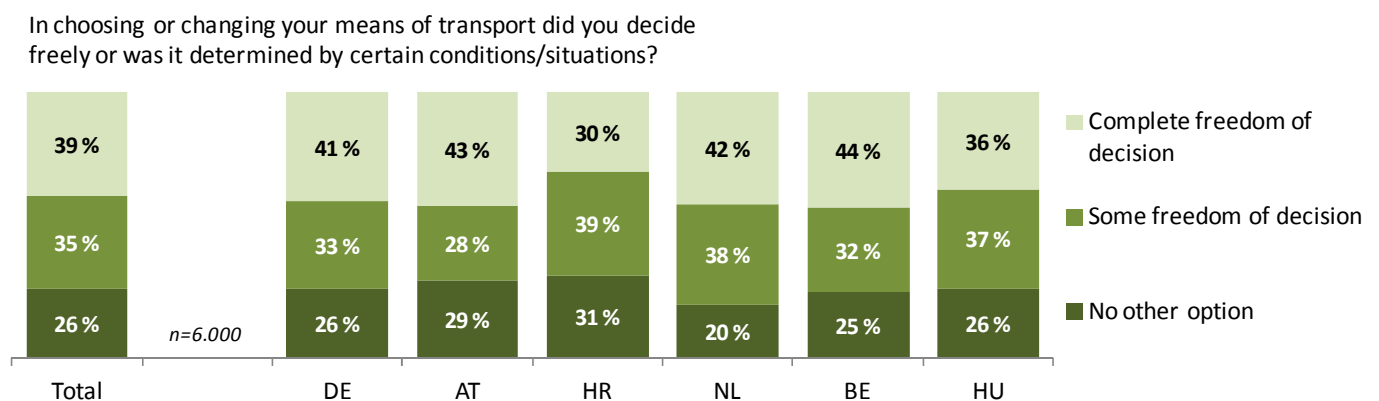
Figure 14 clearly shows that an overnight change is less likely with growing age.

41% of the swing users in the age group 25 to 34 changed suddenly, having a higher probability of changes in their personal situation (job, children etc.). Elderly persons in retirement age on the other hand had the freedom for a gradual decision in 82% of the cases.

3.4.2 PERCEIVED FREEDOM OF CHOICE

One of the most important aspects of every decision is the perceived freedom of choice.

Figure 15 Type of change by freedom of choice and country



In the USEmobility area, according to Figure 15 only 26% of the swing users had no other option than to make a change in their mobility mix. On the other hand, 39% reported that they had complete freedom in their decision for a certain means of transport.

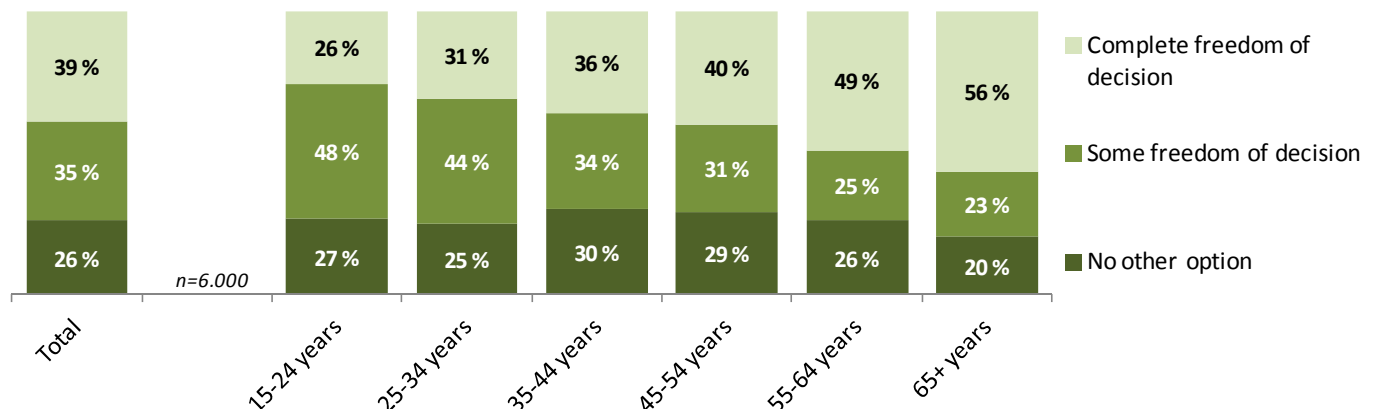
In most countries, more than 40% had complete freedom of choice, except for Hungary (36%) and Croatia (30%).

In most countries, 25-29 % had no other option, except for Croatia (31%) and the Netherlands. Here the proportion of swing users with no other option is lowest with only 20%.

The lowest share of complete freedom of decision can be found in Croatia (30%) and Hungary (36%).

Figure 16 Type of change by freedom of choice and age group

In choosing or changing your means of transport did you decide freely or was it determined by certain conditions/situations?



The freedom of choice shows a high correlation with age. With rising age the complete freedom of decision for a specific means of transport clearly rises.

While 56% of the swing users in retirement age feel that they had complete freedom in their decision for a change in mobility, only about one quarter of the swing users in the age group 15-24 were equally free in their decision. This shift in freedom is predominantly a shift from 'some freedom' to 'complete freedom' with growing age.

Swing users with no option are a rather stable category. Swing users in the settled and productive phase of their life (35 to 54 years) show the highest probability of having no alternative to the decision they made (about 30%).

4 REASONS FOR CHANGES-IN-BEHAVIOUR OF SWING USERS

4.1 TYPES OF REASONS FOR THE CHANGES IN BEHAVIOUR

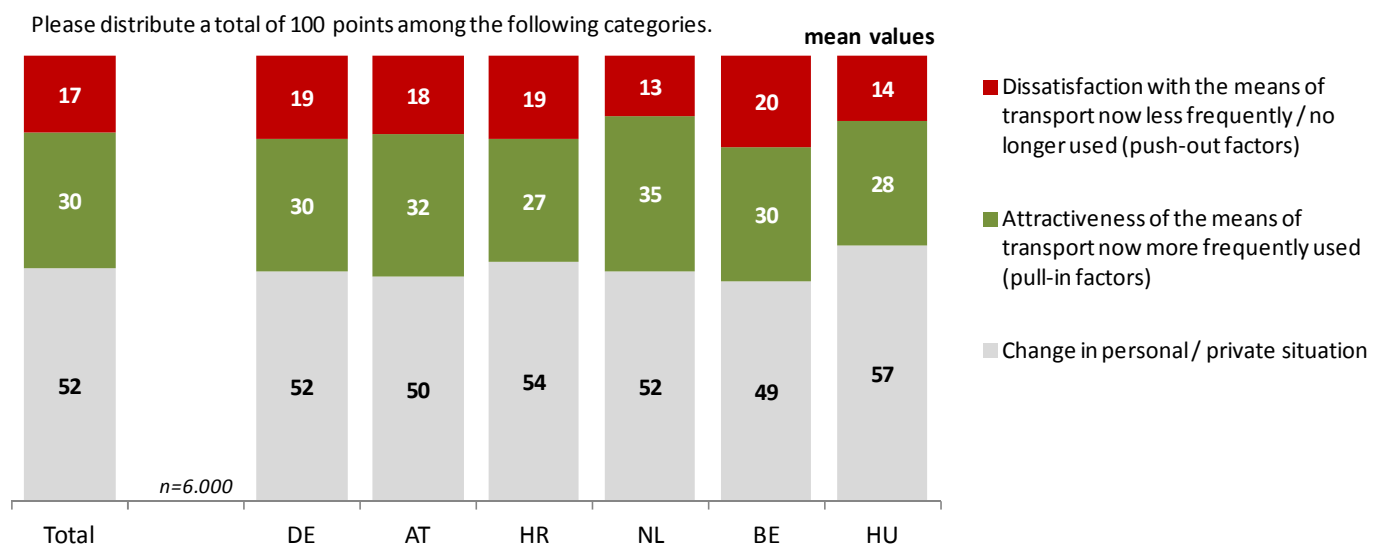
4.1.1 MAIN TYPES OF REASONS FOR THE CHANGES

The decision in favour or against a certain means of transport is complex. Usually you come to a decision in a number of steps. Reasons for the first-time usage of a transport system and reasons for continuously using (and not abandoning) it are rarely the same. Single-cause explanations for mobility decisions rarely correspond with the users' decision patterns.

The USEmobility approach therefore groups the main influencing factors for a mobility decision into *three major categories*:

- REASON 1: Changes in the **Personal / Private Situation** e.g. change of job, relocation to another city etc. (*Personal Factor*)
- REASON 2: **Attractiveness** of the means of transport used more frequently now (*Pull-In Factor*)
- REASON 3: **Dissatisfaction** with the means of transport used less frequently / no longer used now (*Push-Out Factor*)

Figure 17 Main influencing factors for the swing users change of transport means by country



The main influencing factors to trigger a change in the choice of means of transport in the USEmobility area are changes in the personal / private situation. Swing users were asked to distribute a total of 100 points on the three main influencing factors stated above according to relevance. On average, swing users gave a relevance of more than 50 points (%) to the personal / private situation.

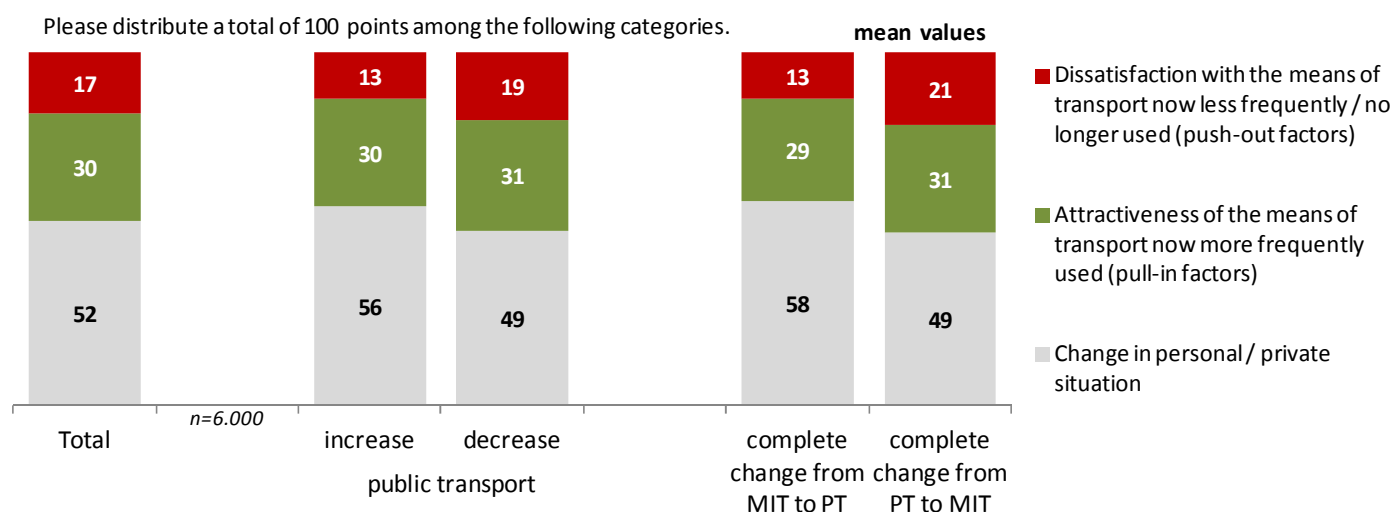
Following second with on average 30% relevance is the attractiveness of the means of transport used more frequently now. With 18% relevance, the dissatisfaction with the means of transport used more in the past is the least important of the three main influencing factors.

In most cases there are several factors in combination that are relevant for a change in behaviour of swing users. The USEmobility data shows that only about 20% of the swing users base their decision on more or less only one of the main influencing factors, (i.e. give a rating of 90 to 100 for one category only). The dominant single-cause here is clearly with 15% relevance the change in personal / private situation.

Merely 5% of the swing users were predominantly influenced (i.e. give a rating of 90 to 100) by the attractiveness or dissatisfaction. In all six countries, we see a similar pattern of relevance among the three main influencing factors, although with small differences.

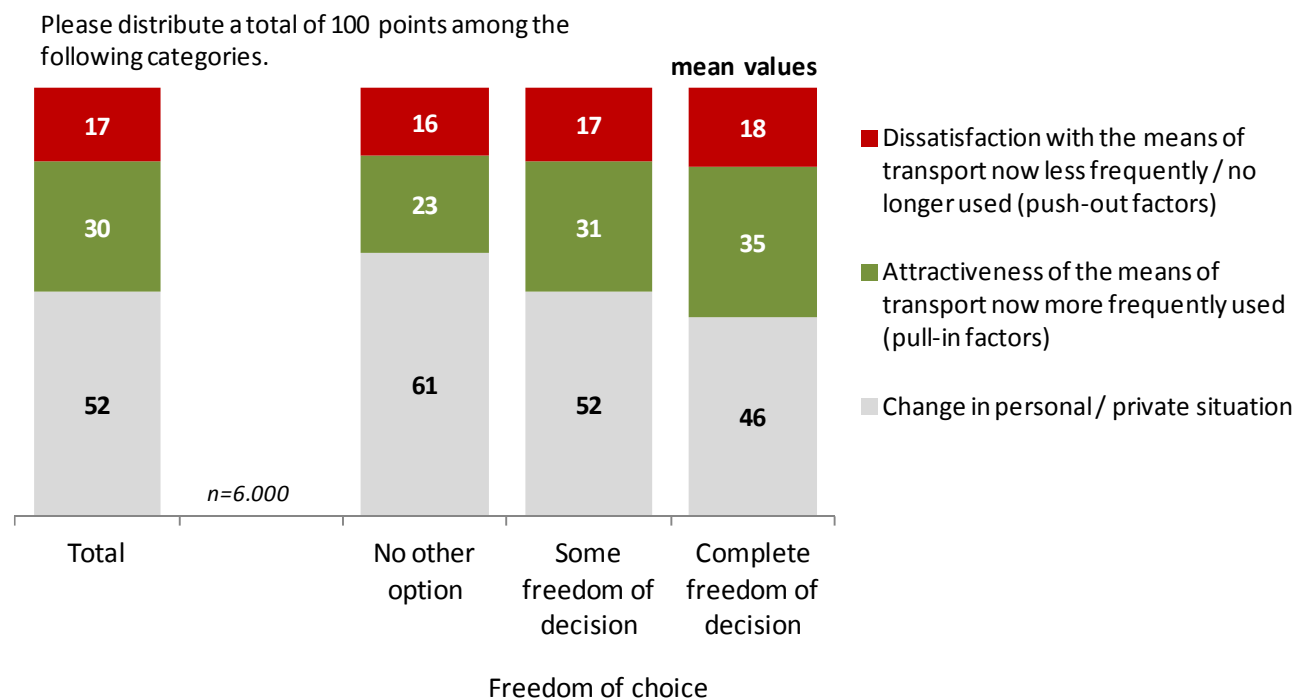
In Hungary, the decision is to a higher degree influenced by the personal situation than in the other countries. In the Netherlands, attractiveness has a higher relevance and dissatisfaction is rather unimportant.

Figure 18 Main reason for the change of transport means by segments of change



Swing users with an increased use of public transport justify this more often with their personal and private situation and less often with their dissatisfaction with MIT. Differences between the direction of change get only marginally bigger even when one focuses on the extreme segments of change only (i.e. on the change by replacement).

Figure 19 Main reason for the change of transport means by freedom of decision



The reasons differ according to the perceived freedom of choice for a means of transport. For swing users with complete freedom of choice, satisfaction and dissatisfaction play an important role in their decision process (more than 50% relevance altogether). Swing users who perceive themselves as having no other option name the personal / private situation as the most relevant reason for change (more than 60% relevance).

Conclusion:

The results show that a change in the swing users' mobility mix is typically linked to a mix of different reasons / occasions. The basis or starting point is often a change in the personal / private situation (initial impulse). Attractiveness or dissatisfaction usually induces a change in behaviour only in combination with changes in the personal situation.

However, the attractiveness of a means of transport gets much more important when one can freely decide between a range of possible means of transport and their combination.

4.1.2 TYPE-OF-REASON BASED SEGMENTATION

The results concerning the 3 main influencing factors for a change in behaviour as presented in the last chapter provide a promising approach for a *third new segmentation* to be applied on the USEmobility data. The guiding questions for the development of this segmentation are:

Do swing users who are predominantly influenced by their personal / private situation decide differently in comparison to swing users for whom attractiveness or dissatisfaction are leading factors? When swing users were predominantly drawn to a more intense use of public transport by its attractiveness, what are these attracting characteristics?

Swing users rarely have one single cause only, which caused their change in behaviour but rather a mix of reasons. Even when one limits himself to the three main categories as laid down in 4.1.1, it is in most cases not possible to assign a swing user in a clear-cut manner to one of the categories only. Therefore, we have built segments to match actual decision patterns more flexibly:

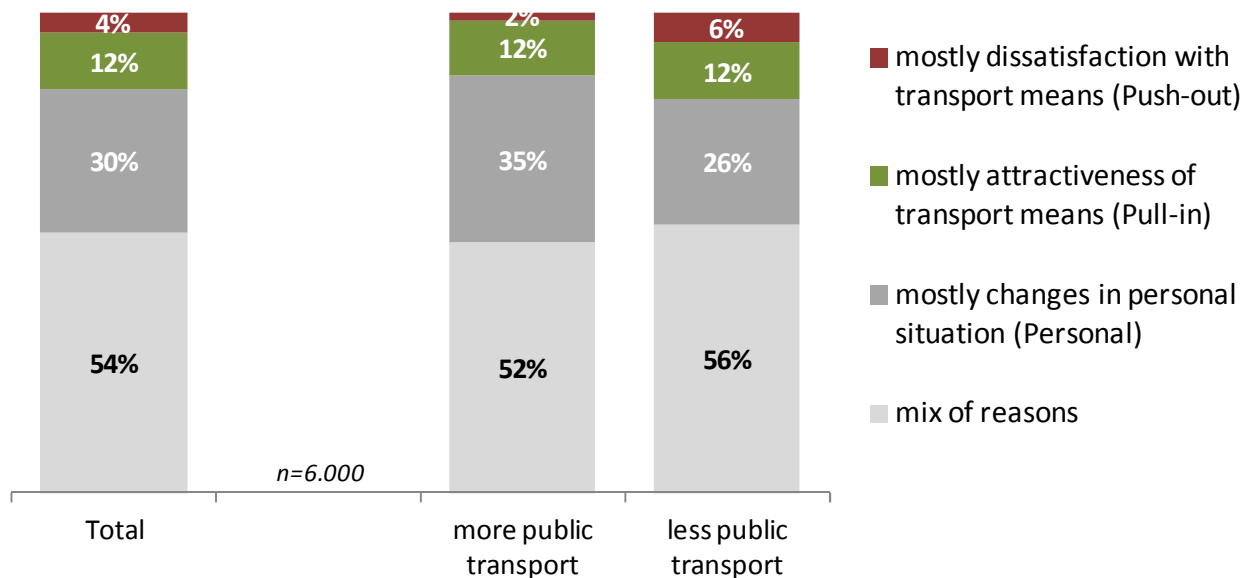
- *Predominantly Personal Factors* **Personal**
More than 70% relevance in the category 'reasons in personal / private situation'
- *Predominantly Pull-In Factors* **Pull-In**
More than 60% relevance in the category 'the attractiveness of the means of transport has pulled me into the system'
- *Predominantly Push-Out Factors* **Push-Out**
More than 60% relevance in the category 'the dissatisfaction with the means of transport has pushed me out of the system'
- *Mix of Reasons* **Mixed**
The reported relevance suggests that the motivational background behind the decision is mixed. No single factor has reached at least 60% relevance (personal: not 70%).

The final *Segmentation by Reason* takes these four factors and divides them up between swing users with increased and swing users with decreased use of public transport, so that we get:

Figure 20 Segmentation by Reason – Definition

	More PUB	Less PUB
Personal	PUB+ Personal	PUB– Personal
Pull-In	PUB+ Pull-In	Other Pull-In
Push-Out	Other Push-Out	PUB– Push-Out
Mixed	PUB+ Mixed	PUB– Mixed

Figure 21 Segmentation by Reason – Overview



More than half of the swing-users do not report about one single reason, but about rather a mix of reasons for their change in behaviour.

About 30% of the swing users report a change in behaviour predominantly based on a change in their private / personal situation.

12% of the swing users are predominantly influenced by the attractiveness of the means of transport they use today.

Only 4% of the swing users report that they were predominantly moved to change their means of transport because of their dissatisfaction with the means of transport used by them before.

The category 'mostly changes in the personal / private situation' is stronger in the segment *PUB+ Personal* than in the segment *PUB- Personal*. The category 'mostly due to dissatisfaction' on the other hand is stronger in the *PUB- Push* than in the *Other- Push* segment, i.e. the risk of change due to dissatisfaction is greater with public transport than with other means of transport.

The segmentation by reason will be used for the analysis in the following chapters, for example to analyse the influence of primary pull-in and push-out factors on the change in and out of public transport (see Figure 26 and Figure 28).

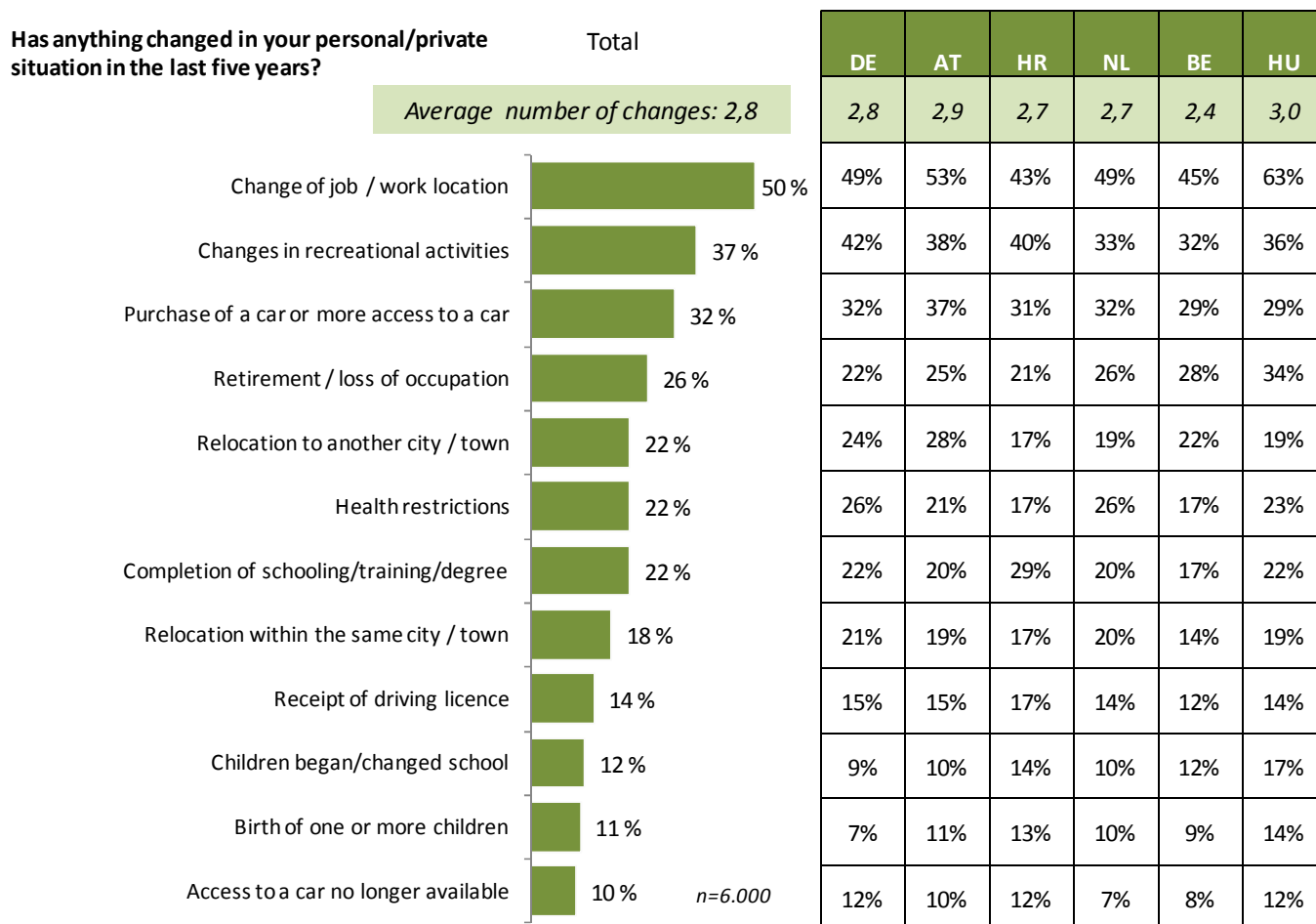
4.2 CHANGES IN THE PERSONAL / PRIVATE SITUATION

Changes in the private / personal situation are the most important trigger for a change in the individual mobility mix.

The USEmobility data shows that 90% of the swing users had at least one mobility relevant change in their personal situation in the last five years!

On average, every swing user had 2.8 changes. In Hungary, the swing users reported the most changes (3.0), in Belgium the least (2.4).

Figure 22 Changes in the personal / private situation by county



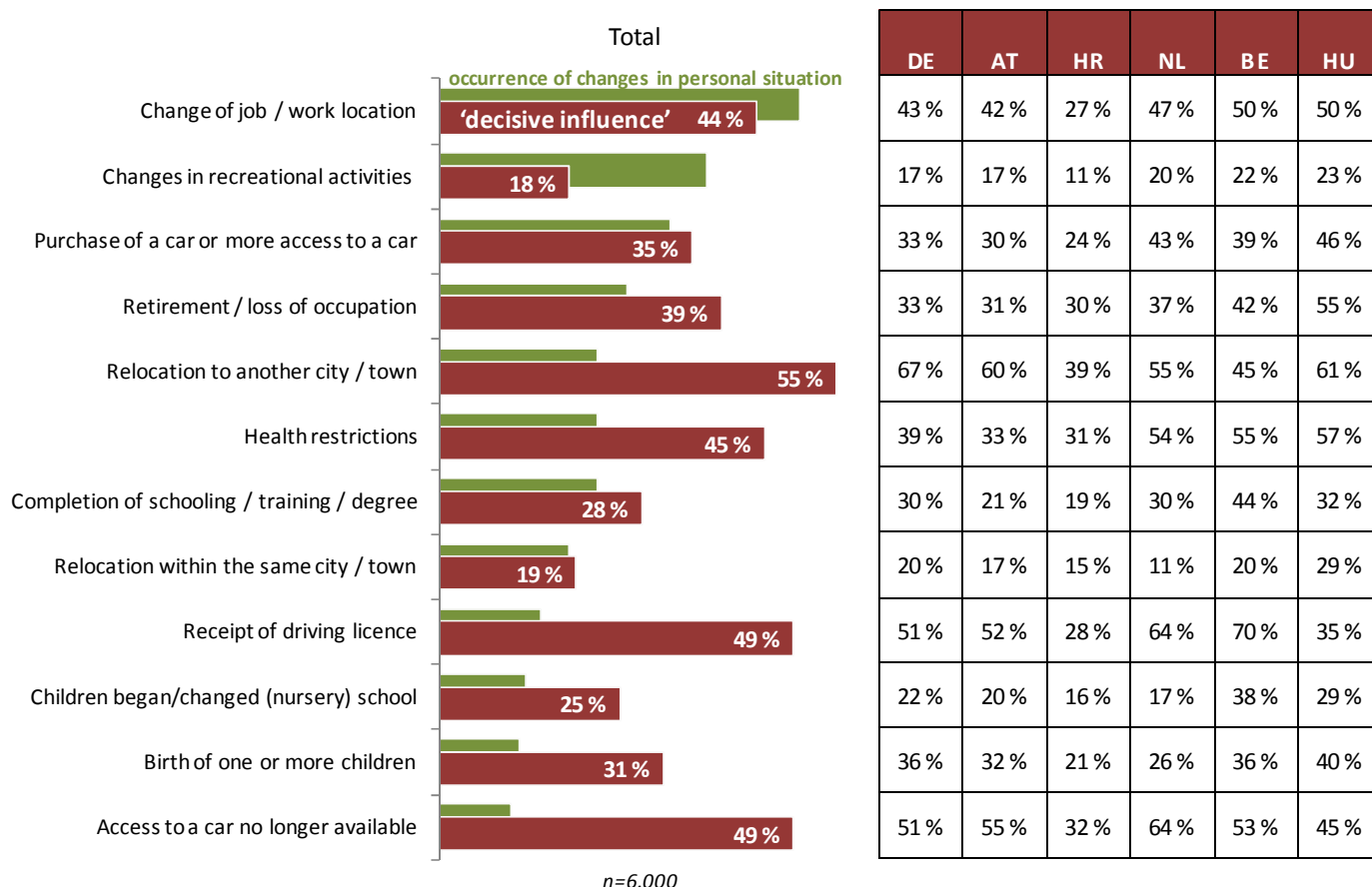
The change of job and / or work location is the most common change in the personal situation of the swing users. Half of the swing-users in the USEmobility area are affected by this type of change, in Hungary even 63%.

Other frequent reasons for change are recreational activities and hobbies (37% of all changes). 32% have purchased a car or have more access to a car. On the other hand, only 10% of the swing users have lost access to their car within the last five years.

Relocations within the same city / town or to another town have been performed altogether by about 40% of the swing users.

The occurrence of changes in the personal / private situation of swing-users produces situations in which a change of the individual mobility mix might become an option. However, it does not necessarily mean that there is no other choice than to change the mobility mix. This depends heavily on the intensity of the influence that the personal change has on the mobility decisions.

Figure 23 Degree of influence of changes in the personal/private situation on mobility decisions



Personal changes might differ in their intensity and occurrence. The green and red bars in Figure 23 indicate this. For example is the receipt of a driving licence a factor with a high influence

on mobility decisions (red bar), although this situation occurred not very often to the USEmobility swing users in the last five years (green bar).

The type of change that is most decisive (although not the most common!) for the alteration of the mobility mix is relocation to another city / town. For more than half of the swing users that moved to another city this move had a decisive influence on their mobility mix. In Germany, the influence of relocation to another city/town is especially strong (two-thirds), in Belgium (45%) and Hungary (39%) on the other hand it is less decisive.

The receipt of a driving license and loss of access to a car both have a decisive influence on the choice of means of transport in all USEmobility countries (49% each). Only in Croatia and Hungary, the influence of a new driving license is less pronounced. Health restrictions are especially in Belgium, Hungary and the Netherlands an important influence on the choice of an appropriate mobility-mix.

Moreover, of course, the most common personal change, the *change of work / job location*, influences swing users in all countries (42-50%), except for Croatia (27%). The combination of high occurrence plus high relevance shows that this type of change has the highest leverage of all changes. 50% had a change of this type and for 44% the change was decisive.

In contrast, changes in recreational activities are quite common, but they are not very relevant for a change in the mobility mix. Lost access to a car is highly relevant, but not very frequent. Both types therefore only have a minor leverage.

It can be said that the personal / private changes lead to situations in which the users have to decide if they stick to their mobility mix or if they have to adapt it to the new background in their life. This could be a promising opportunity, for example for a transportation company, to contact people in order to motivate them to use more public transport.

4.3 REASONS FOR THE CHANGE-IN-USE OF PUBLIC TRANSPORT

4.3.1 INCREASED / DECREASED USE OF PUBLIC TRANSPORT (PRIMARY FACTORS)

In combination with a change in the personal / private situation, the attractiveness of the means of transport is the decisive reason for a lasting change use of a means of transport. In this chapter, we take a detailed look at reasons for a change rooted in the attractiveness of public transport, which is used more often or less often now.

Dissatisfaction with a certain means of transport is another important reason for a change, but this is, as we will see, rarely change-relevant without an attractive alternative to switch to.

USEmobility thoroughly examines swing users who are new users of public transport or use public transport more often now (PUB+), as well as swing users who use less public transport or none at all any more (PUB-).

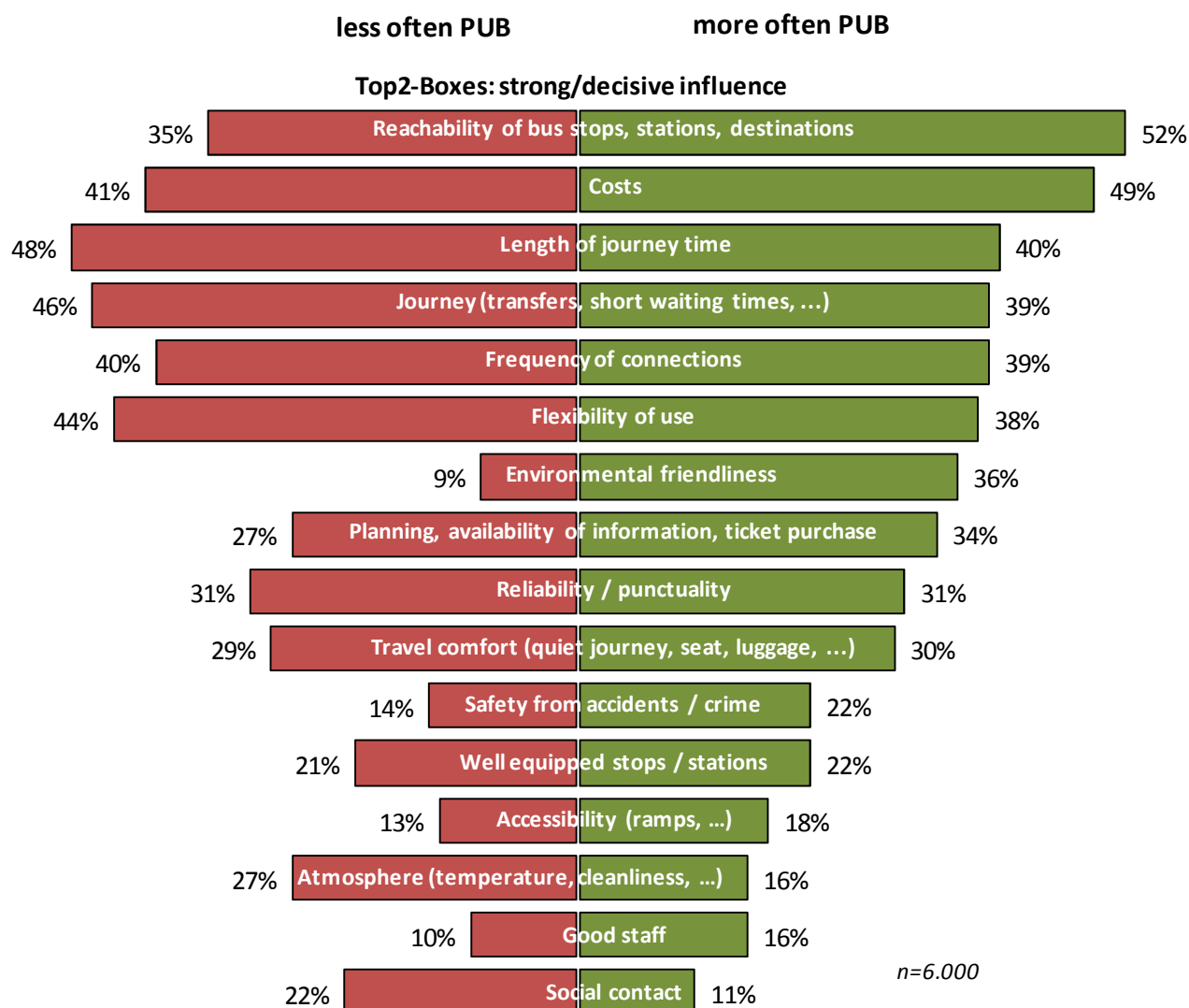
Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

In the PUB+ case USEmobility analyses the reasons, which have lead swing users to use public transport more often (attractiveness of PUB, ***pull-in factors***). In the PUB– case the analysis concentrates on the reasons that have lead to a less intense use of public transport or none use any more at all (dissatisfaction with PUB, ***push-out-factors***).

The next figure compares the characteristics having a strong or decisive influence on potential pull-in or push-out factors connected to public transport.

Figure 24 Influence of primary PUB+ Pull- and PUB– Push-factors concerning public transport



The two most important reasons to use public transport more often or use it regularly for the first time (**pull-in factors**) are the

- Good reachability of bus stops / stations and
- Low travel costs

Other reasons of higher importance are further measurable ‘hard’ factors like *short journey time*, *few and short transfers* and a *high frequency of connections*.

Looking at the ‘soft’, more qualitative characteristics, only *high flexibility* and *environmental friendliness* reach the level of importance of the hard factors. However, it has to be kept in mind that the real relevance of *environmental friendliness* may in individual cases be overestimated due to socially desirable answer patterns.

Other soft pull-in factors like *high travel comfort* and *safety*, *good station equipment*, *atmosphere* and *staff* are rarely seen as decisive factors. However, they have their impact most of all in combination with other pull-in factors.

The most important **push-out factors** that may lead to a reduction – or even the end of PUB usage – also come predominantly from the group of classical hard factors.

- A long journey time and
- An unpleasant course of the journey (high number of transfers / long waiting times)
- Missing flexibility

are the most important factors that push users out of the public transport system.

Issues connected to *reachability* and *travel-costs* are less important with PUB– than they are with PUB+ users.

Safety issues are rarely decisive for a decision away from public transport. Soft factors like atmosphere or social contact are more often a reason to leave than to enter PUB, i.e. these topics are not so well suited to convince people of using public transport more often. In case of difficulties or poor service, they, on the contrary, may push users out of the public transport system.

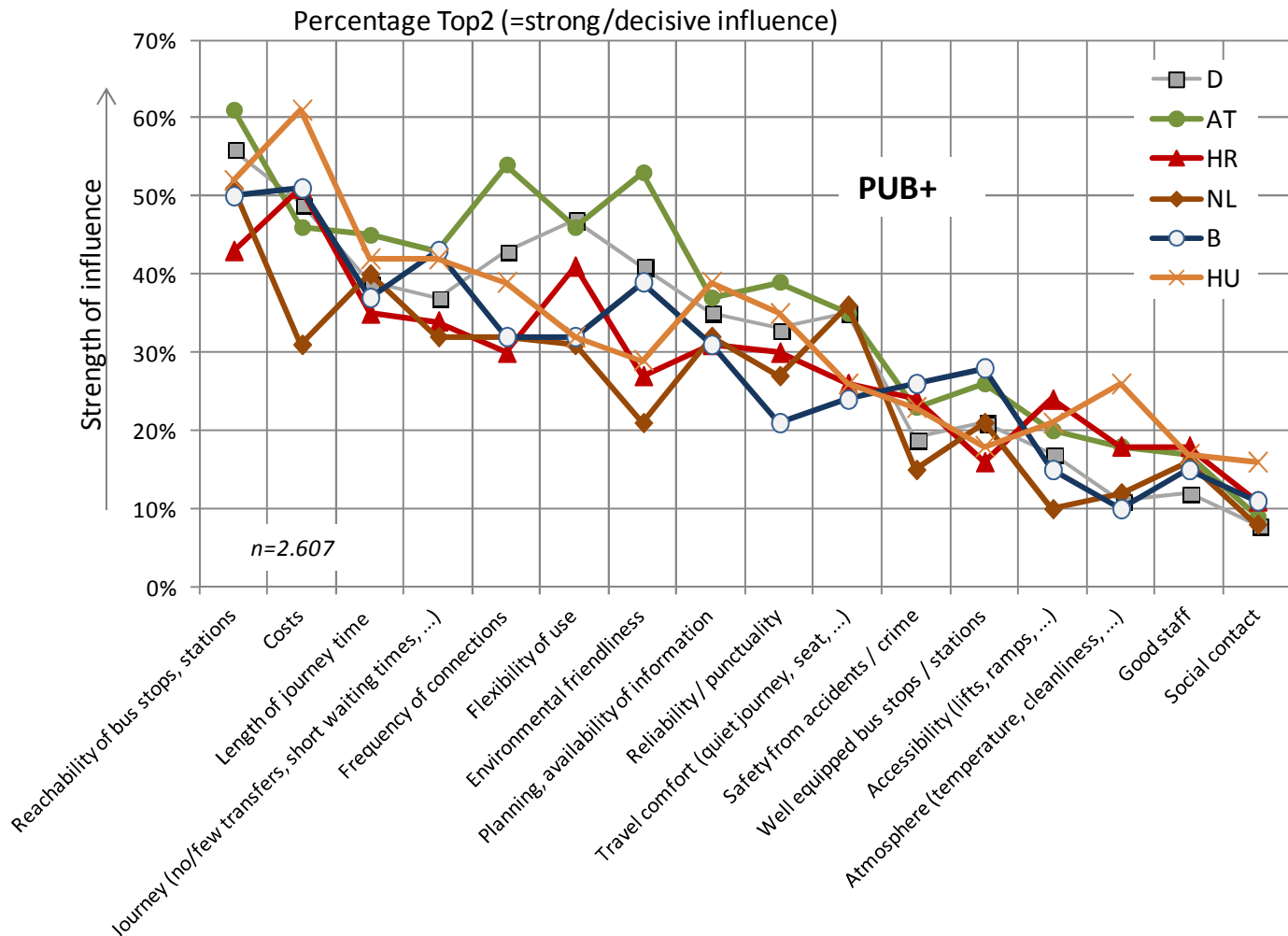
The USEmobility data shows that accessibility (escalators, ramps etc.) are a factor rather relevant to women than to men. *Perceived safety*, *staff related issues* and *accessibility of bus stops / stations* gain importance with age.

The relevance of the pull-in- and push-out factors differs in some cases substantially between the countries. Nevertheless, the classical hard factors maintain their high importance in all countries. Classical soft factors generally have the character of an amplifier in a given hard-factor mix of reasons.

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 ‘Factors influencing behavioural change towards eco-friendly multimodal mobility’

Figure 25 Influence of primary PUB+ pull-in factors into public transport by country

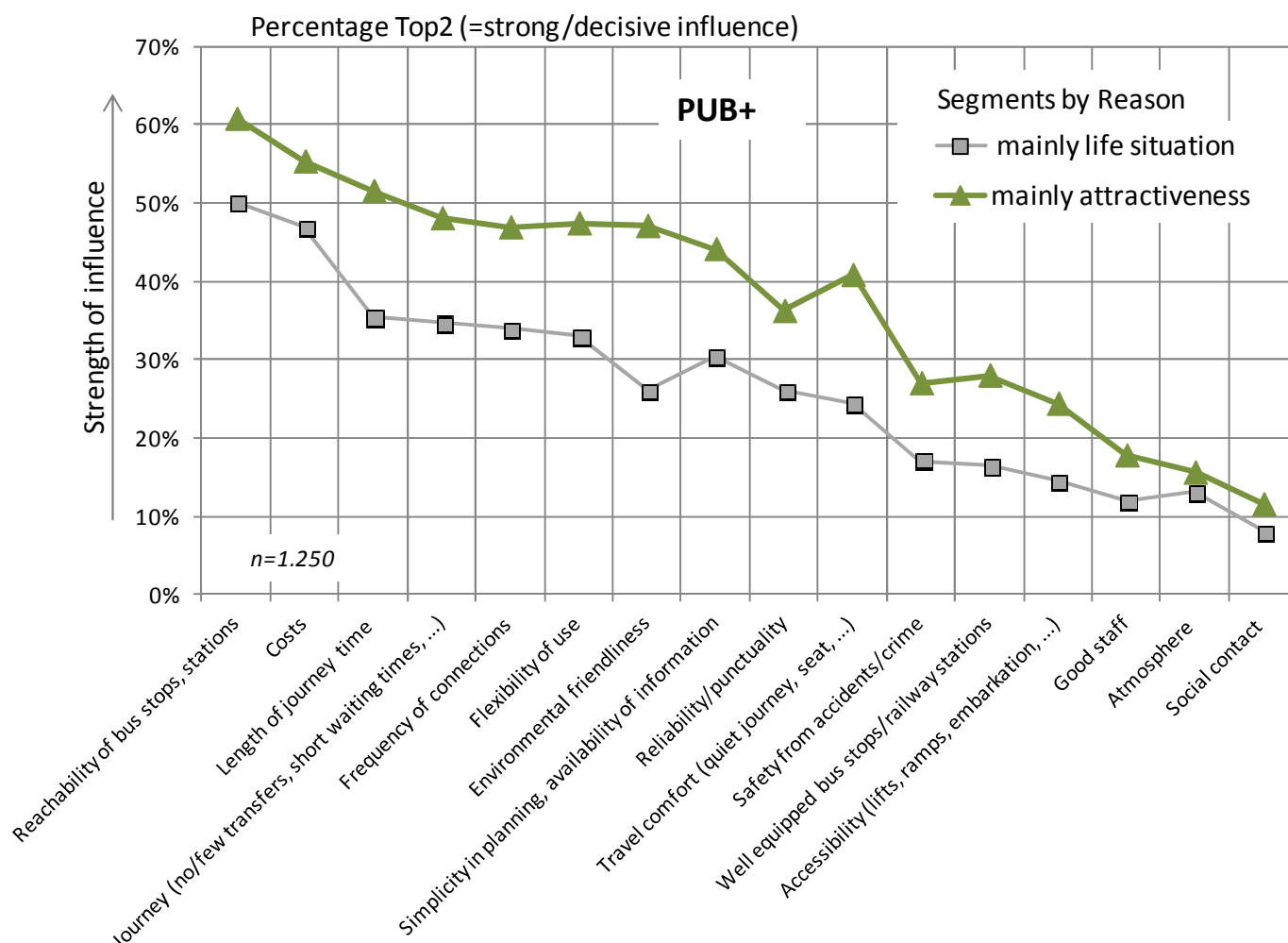


In Hungary the high relevance of costs to use PUB more often is striking. For Dutch swing-users on the other hand, costs are less relevant than in all other countries and only half as relevant than in Hungary.

Austrian swing users show a high fixation on *reachability*, *flexibility*, *frequency of connection* and the environmental friendliness. In the Netherlands, environmental considerations have only a marginal influence.

Atmosphere as a classical soft factor has convinced a good deal more swing users in Hungary than in other countries.

Figure 26 Influence of primary PUB+ pull-in factors into public transport by segments of reason



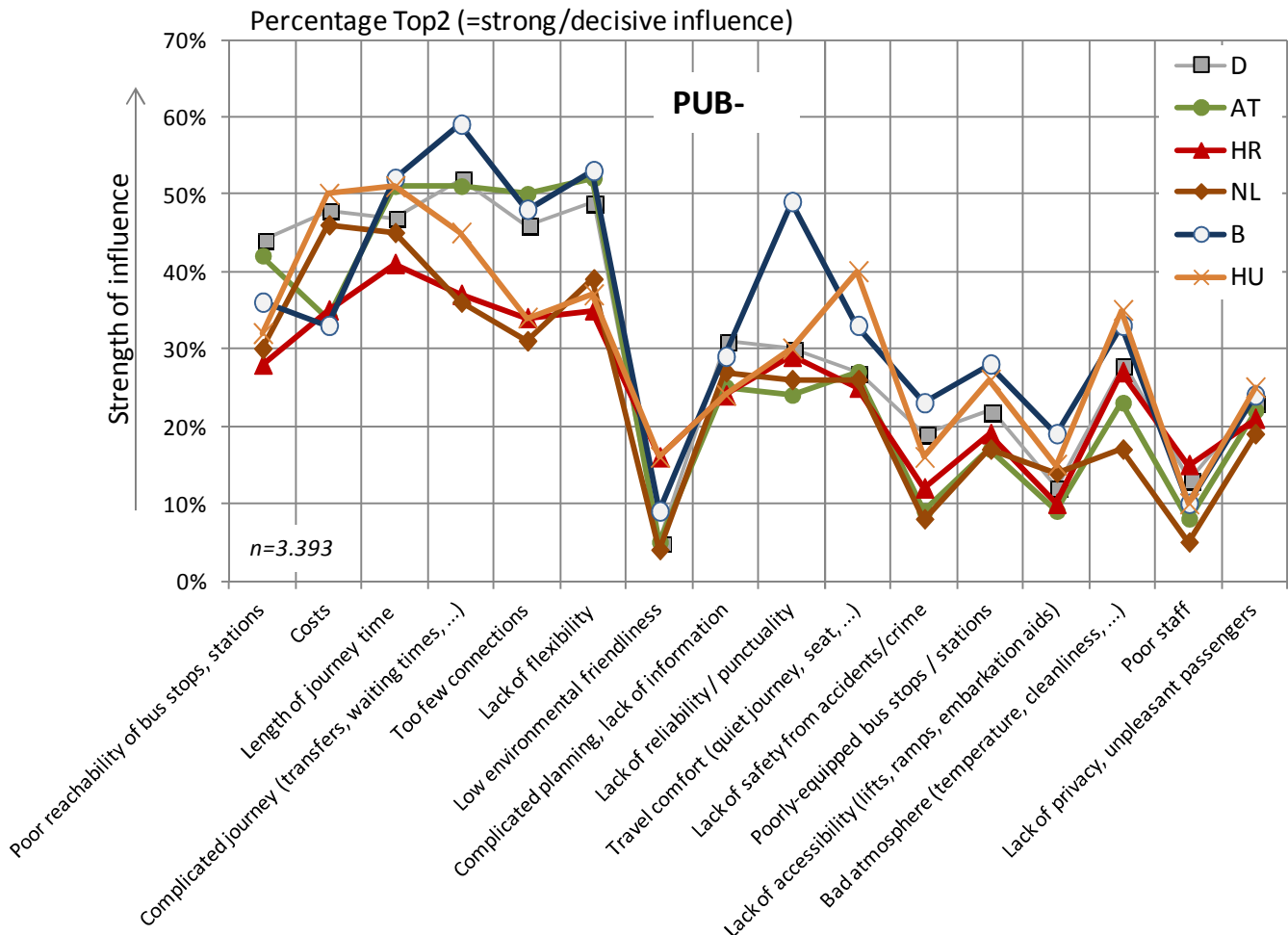
Swing users who primarily increased their use of public transport because of the pull-in factor effect (segment of reason “mainly attractiveness”) give all primary factors a higher relevance for their PUB+ decision.

The differences to swing users with reasons in their life situation (segment of reason “mainly life situation”) are more distinctive regarding factors like *few transfers, short waiting and journey times, high number of connections* and soft factors such as *high travel comfort and environmental friendliness*.

Costs are a rather strong pull-in-factor for those swing users who indicated pull-in factors as their most important reason for a change in the mobility mix.

Some of the factors, which pushed swing users out of the public-transport system, also show distinct country specific characteristics as can be seen in Figure 27.

Figure 27 Influence of primary PUB– push-out factors out of public transport by country



In Austria and Germany, a poor reachability of bus stops and stations is a rather important factor for leaving public transport.

Concerning costs, we see a split into two groups. In Germany, Hungary and the Netherlands high costs are a decisive reason to use public transport less. In Austria, Belgium and Croatia the cost level is still important, but it does not have the high priority as in the other countries.

A further bipolarity we find concerning the frequency of connections, the course of the journey and the flexibility. In Austria, Belgium and Germany *few connections*, *many transfers with long transfer times* and *missing flexibility* are the main influencing factors for abandoning public transport.

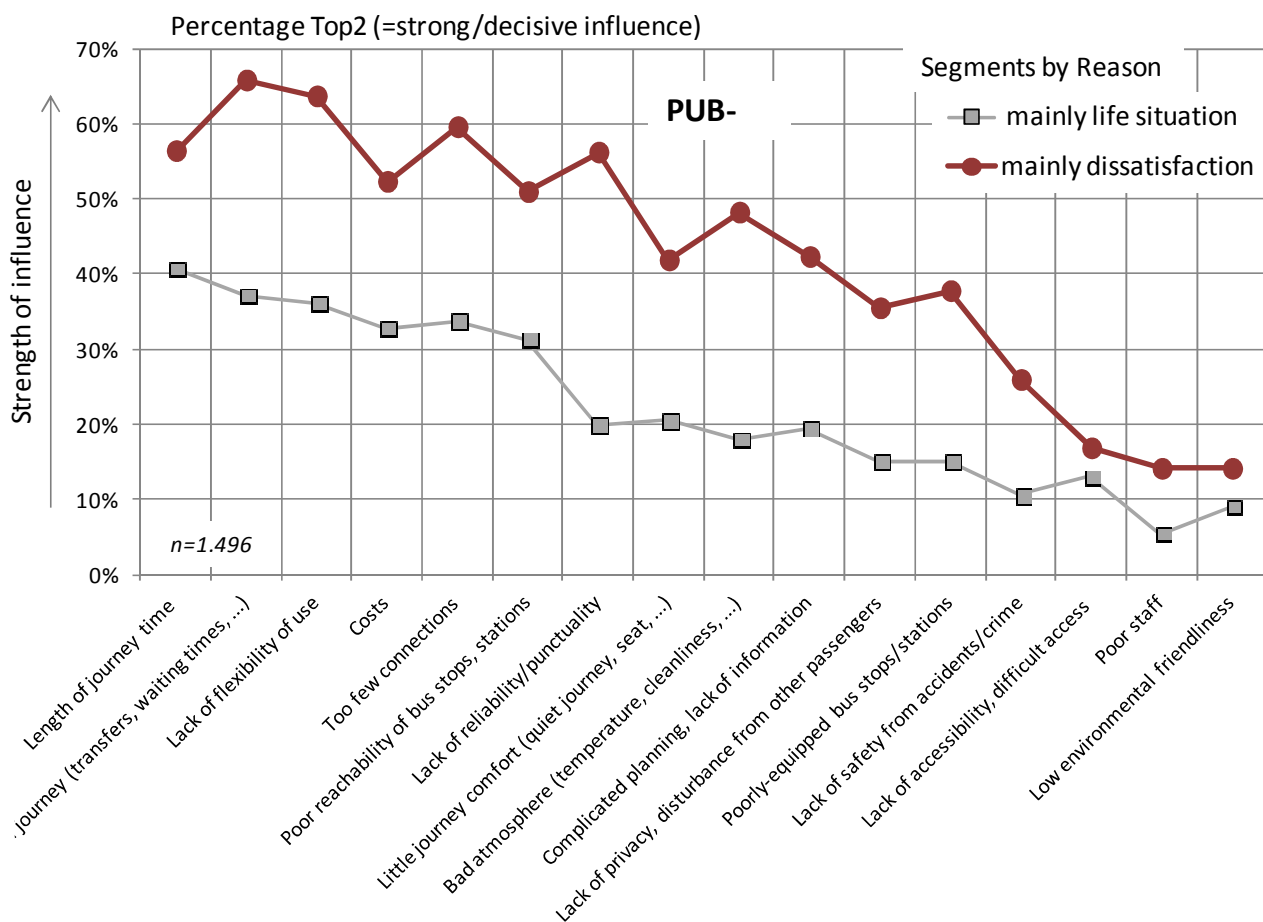
In Croatia, Hungary and the Netherlands these key factors still have a high relevance, but not to such a degree.

There is a remarkably huge relevance of missing punctuality / poor reliability in Belgium, which makes this characteristic to one of the most important push-out factors. Missing travel comfort and bad atmosphere foster behavioural change away from PUB to a bigger extent in Hungary.

The USEmobility data shows that:

- Users with a substantial change from PUB to MIT were motivated predominantly by the hard factors *long journey*, *poor reachability of stations*, *too many and too long transfers* and *too few connections*.
- Classical hard factors like *long journey time* and *high costs* get less important with growing age.

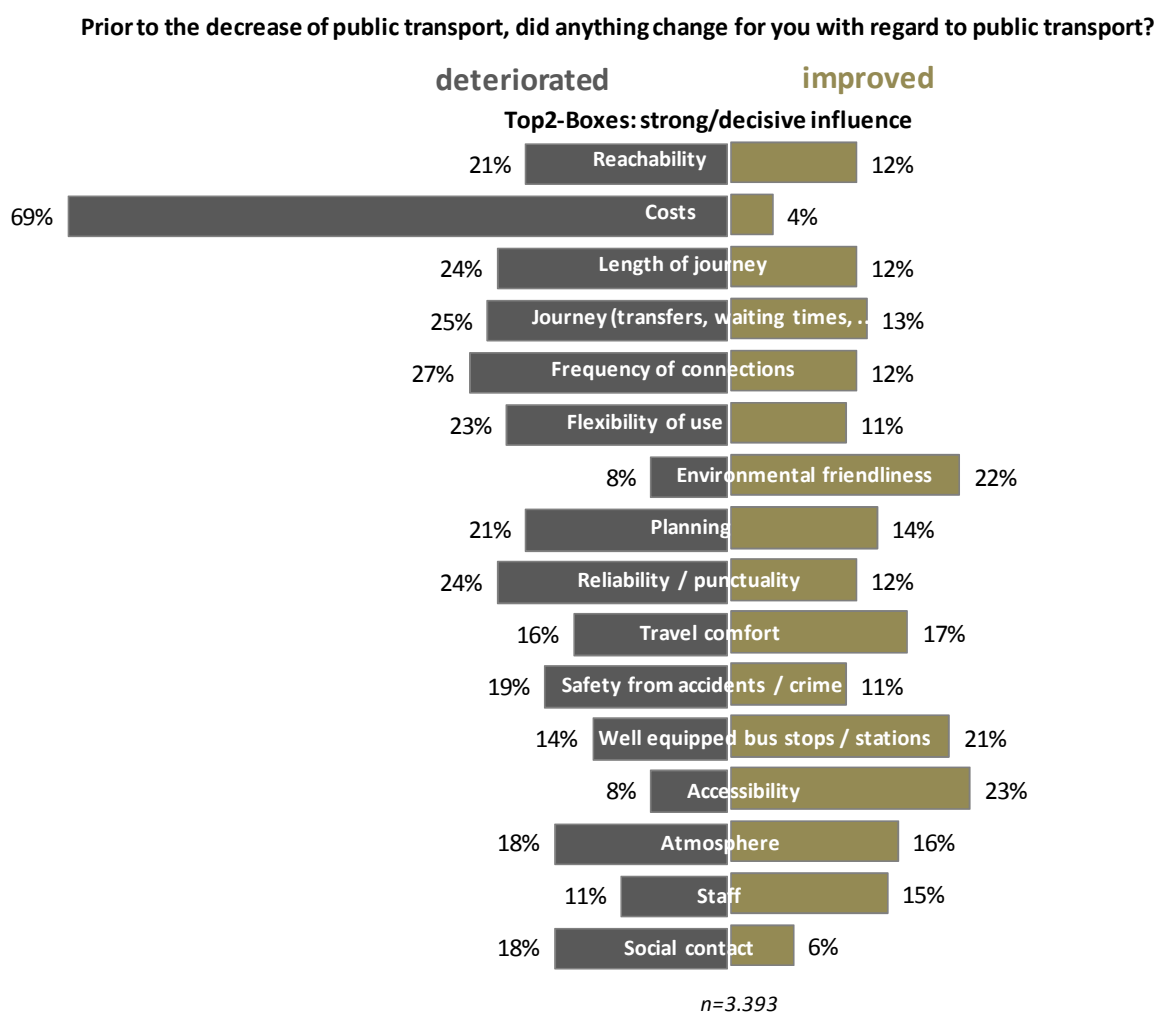
Figure 28 Influence of primary PUB– push-out factors out of public transport by segments of reason



Swing users who primarily reduced their use of public transport because of the push-out factor effect (segment of reason “mainly dissatisfaction”) give all primary factors a higher relevance for their PUB– decision. The differences to the other segments are more distinctive for the push-out factors *too many transfers / long waiting times*, *too few connections* and *lack of reliability / punctuality* as well as soft factors as – quite strongly – *lack of flexibility* and *poor atmosphere*, which is positioned quite high here for a soft factor. Costs are a comparatively lower factor in the group of the ‘mainly dissatisfied’ users.

Swing Users, who are predominantly influenced by a change in the personal / private situation (segment of reason “mainly life situation”), have only six factors that exceed a marginal relevance of 20%, all of them hard factors.

Figure 29 Changes in primary PUB– push-out-factors out of public transport prior to the actual decision to use it less often



Prior to the decisions leading to a reduced use of public transport part of the swing users have recorded changes in the public transport offer. According to the direction of change (PUB–) deterioration factors are more prominent. Almost 70% of the swing users recorded rising costs prior to their decision to reduce the use of public transport.

In the impression of swing users having reduced their use of public transport, the hard factors *reachability, length of journey time, transfers, frequency of connections* and *reliability / punctuality* have more frequently deteriorated than improved.

With the soft factors *environmental friendliness, accessibility and equipment of stations* and *staff related issues* swing users quite often remembered improvements in service. However, these improvements could not keep them from reducing the use of public transport.

The USEmobility data enables to look at the country specific results:

- Costs are the factor, which in all countries was reported as the predominant source of deterioration prior to the decision to reduce PUB. In Germany and Hungary, the negative influence of costs was even higher than in the other countries.
- Over all factors, PUB– swing users in Belgium have – more than in any other country – noticed deteriorations in public transport. Especially *reliability of public transport* has deteriorated exceptionally. It can be assumed that this had a grave influence on the PUB–user in Belgium to cut the ties to public transport.
- In Croatia, the level of experienced deterioration is seen lowest over most primary push-out factors.

4.3.2 SECONDARY PUB+ PULL-IN ASPECTS: CHANGE INDUCED BY SATISFACTION

One of the main goals / targets of the USEmobility research approach is to get a better understanding of the swing users' decision patterns. Therefore it is necessary to subdivide the primary factors of influence further into decision relevant **secondary** (sub-)characteristics.

The USEmobility participants had to give detailed information on secondary characteristics. They had to do this only for those primary factors, which had at least a medium influence on their decision. Therefore, in interpreting the analysis of the secondary characteristics it has to be kept in mind that their level of relevance is mostly *higher* than in the corresponding primary factor, since only participants who reported at least a medium primary influence are included.

Concerning a secondary characteristic, it is important to determine if it has a high leverage on mobility decisions. A secondary characteristic with reported high relevance has also high leverage only in such cases, when the corresponding primary factor has a high relevance as well.

Example: The secondary characteristic *safety from accidents* has a high relevance and *safety from crime* has a low relevance for all those interviewees for whom the

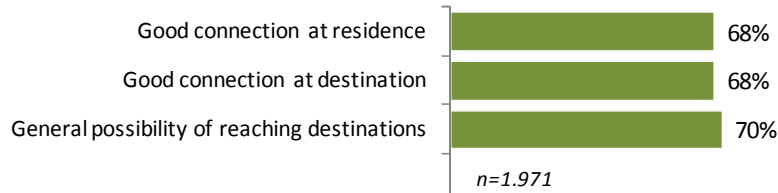
topic *safety* is an issue at all. However, if there are only a few interviewees, for whom *safety in general* is a topic, *safety from crime in specific* has only a low leverage for the entire group of swing users.

The main objective of the analysis of secondary characteristic is to detect, if a well-defined and easy-to-understand sub-aspect dominates the result of the primary factor or if the result is quite similar for all secondary sub- characteristics. What do people really mean when they say they use public transport more often because of the staff? Is it the competence or just the appearance or all of it together?

The following analysis of secondary aspects pulling citizens into the public transport system by stressing its attractiveness is in *descending order of relevance* of the corresponding primary factors. Not all primary factors have been subdivided (e.g. journey time), only those which might be ambiguous or heterogeneous in interpretation.

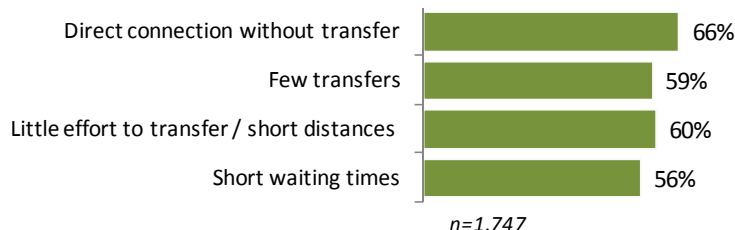
Figure 30 Secondary PUB+ pull-in aspects by (1) Reachability and (2) Journey characteristics

1. Reachability of bus stops, stations, destinations



DE	AT	HR	NL	BE	HU
71%	76%	65%	63%	66%	66%
72%	74%	68%	58%	67%	66%
69%	72%	69%	63%	67%	77%

2. Journey (no/few transfers, short waiting times, information, ...)



63%	67%	68%	57%	60%	78%
58%	65%	55%	53%	52%	72%
65%	58%	47%	51%	62%	69%
54%	61%	55%	45%	47%	69%

Reachability is the most central primary pull-in factor (1) for a decision to enter or increase the use of public transport. In connection with reachability, three aspects are equally important in all USEmobility countries: (i) the reachability of bus stops and stations at the starting point of the journey, (ii) the reachability at the destination and (iii) the ability to reach destinations *at all* within the PUB network.

Concerning the journey characteristics (2), especially the availability of direct connections is of high importance. A low number of transfers, little effort to transfer and short waiting times follow closely.

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

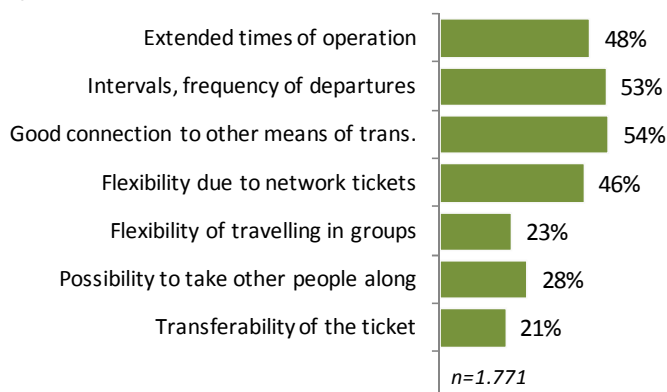
Flexibility (3, see Figure 31) is a qualitative primary factor that benefits from sub-definitions on a less abstract level. In the subjective characteristic flexibility *good connections to other means of transport, high frequencies of departures, extended operation hours* and *flexibility arising from seasonal / network tickets* are the leading sub-aspects defining flexibility.

Possibilities to travel with others and to be able to transfer a ticket are less in focus.

In the Netherlands, flexibility is in general a less urgent topic than in the other USEmobility countries. Concerning simplicity in planning and ticket purchase (4), all secondary aspects are equally important. Of special interest is the very positive effect of the common ticket (through ticket) for a whole country. This type of ticket was seen as a success factor especially in Austria and Germany.

Figure 31 Secondary PUB+ pull-in aspects by (3) Flexibility and (4) Simplicity in planning

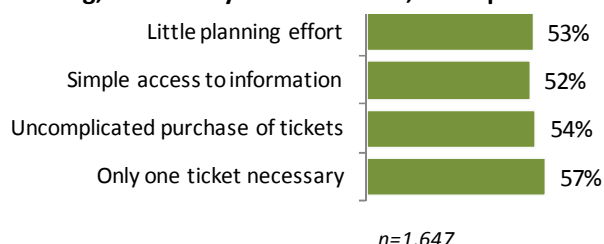
3. Flexibility of use



Top2-Boxes: strong/decisive influence

DE	AT	HR	NL	BE	HU
57%	63%	48%	22%	35%	56%
55%	61%	59%	31%	42%	65%
60%	64%	53%	42%	42%	63%
56%	59%	47%	24%	30%	54%
29%	22%	27%	12%	19%	27%
33%	29%	32%	26%	27%	23%
29%	28%	16%	11%	18%	18%

4. Simplicity in planning, availability of information, ticket purchase



56%	59%	45%	54%	51%	53%
55%	55%	47%	51%	45%	57%
50%	64%	49%	49%	52%	57%
65%	70%	50%	54%	55%	49%

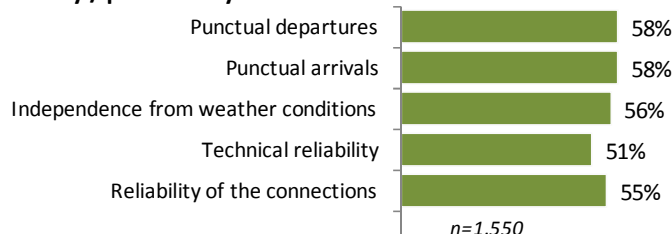
Reliability / Punctuality (5) are a prerequisite for the use of public transport. Swing users do not differentiate much between its different aspects. There exists a wide range of possible reasons that might contribute to the feeling of high travel comfort (6). Travel comfort is dominated by a secure driving feeling. The possibility to carry out activities is another strongly rated aspect. The low noise level is not recognized by the swing users to a degree that they would find it decisive.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 32 Secondary PUB+ pull-in aspects by (5) Reliability / Punctuality and (6) Comfort

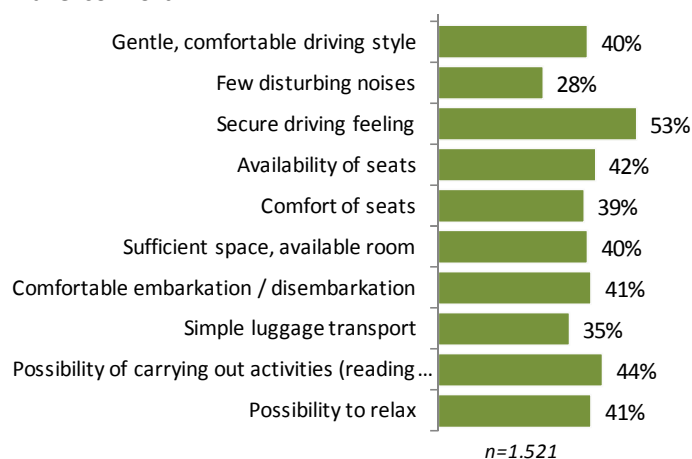
5. Reliability / punctuality



Top2-Boxes: strong/decisive influence

DE	AT	HR	NL	BE	HU
64%	61%	55%	45%	46%	71%
65%	64%	58%	44%	42%	72%
60%	64%	51%	48%	51%	59%
50%	54%	57%	43%	47%	52%
62%	63%	45%	47%	45%	62%

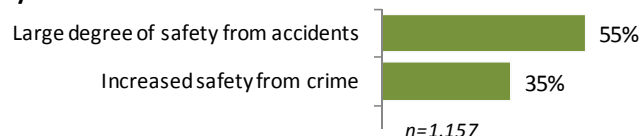
6. Travel comfort



40%	46%	45%	26%	31%	50%
19%	26%	25%	27%	27%	45%
53%	56%	58%	43%	45%	61%
43%	46%	39%	39%	30%	58%
37%	42%	33%	34%	30%	60%
41%	41%	38%	38%	32%	49%
47%	47%	35%	30%	32%	57%
40%	32%	33%	27%	27%	50%
50%	52%	27%	46%	40%	48%
41%	46%	35%	39%	35%	46%

Figure 33 Secondary PUB+ pull-in aspects by (7) Safety and (8) Station equipment

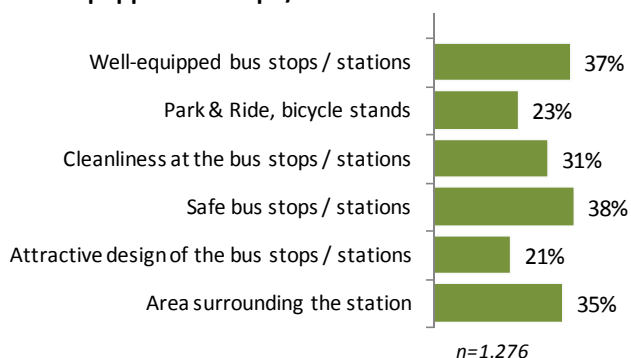
7. Safety



Top2-Boxes: strong/decisive influence

DE	AT	HR	NL	BE	HU
53%	66%	56%	38%	63%	47%
34%	38%	40%	25%	23%	50%

8. Well-equipped bus stops / stations



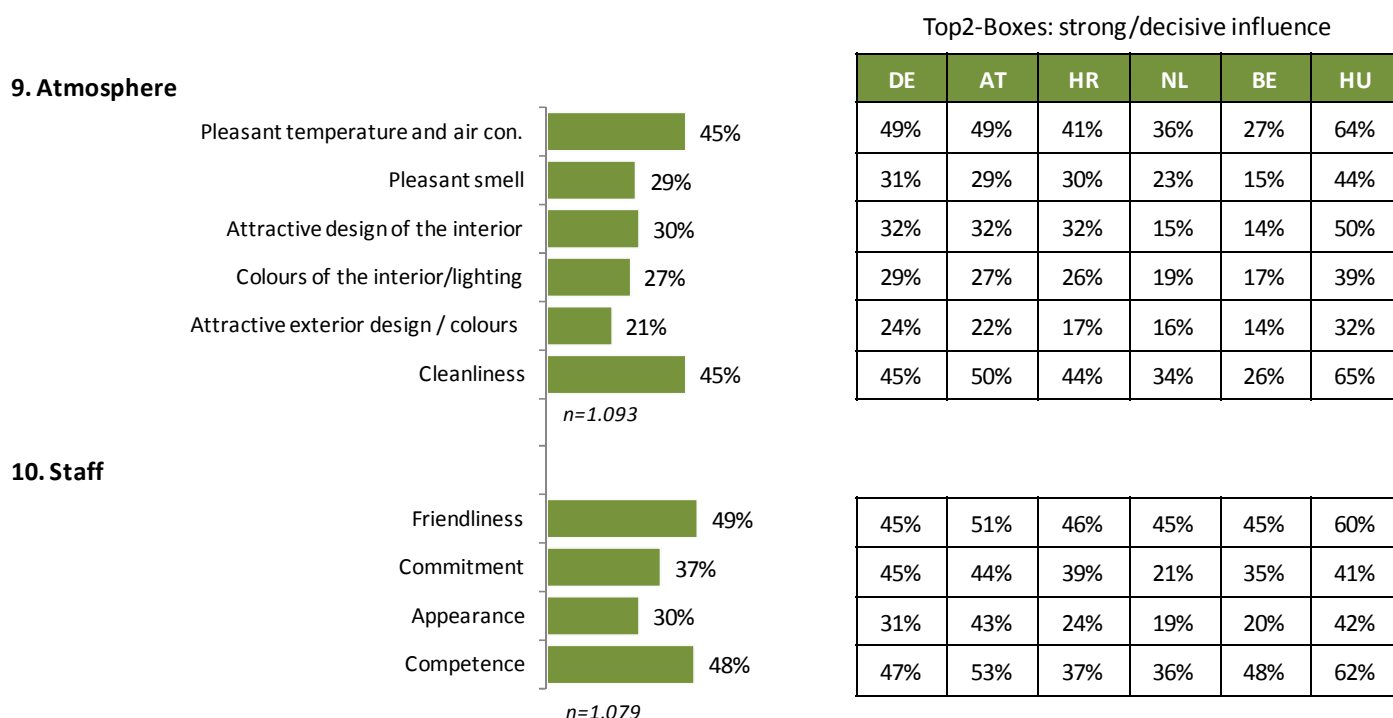
32%	42%	40%	30%	25%	55%
23%	31%	27%	15%	21%	24%
28%	34%	34%	24%	19%	49%
39%	40%	42%	29%	25%	56%
15%	21%	19%	12%	11%	47%
32%	32%	37%	35%	26%	48%

The sense of personal safety (7, see Figure 33) depends as a pull-in factor more on the awareness of protection from accident than on that of protection from crime. An exception are Hungarian swing users, for whom the rating of safety from crime exceeds that of safety from accidents and where it is much more important than in the other USEmobility countries.

The equipment of bus stops and stations (8) shows a heterogeneous picture as well. Swing users stress here good equipment *in the stations* themselves with shelters, toilets etc, equipment that enhances *safety* (well-lit areas etc.), cleanliness in the stations and pleasant offers in the surroundings of the stations (*shopping & eating* possibilities).

The station surroundings are clearly less important in Belgium and the Netherlands than in the other USEmobility countries.

Figure 34 Secondary PUB+ pull-in aspects by (9) Atmosphere and (10) Staff related issues



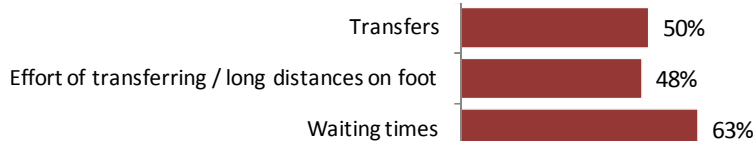
Another classical soft factor is atmosphere (9). The two dominating defining characteristics of this factor are *temperature* and *cleanliness*. The influence of factors like design and pleasant smell is comparatively low.

Staff related issues (10) are a primary factor with comparatively low relevance. Concerning staff, swing users are rather motivated by competence and friendliness than by commitment and appearance.

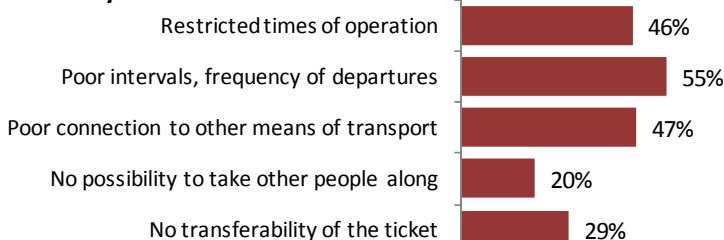
4.3.3 SECONDARY PUB– PUSH-OUT ASPECTS: CHANGE BY DISSATISFACTION

Figure 35 Secondary PUB– push-out aspects by (1) Journey characteristics and (2) Flexibility

1. Journey (no/few transfers, short waiting times, information, ...)



2. Flexibility of use



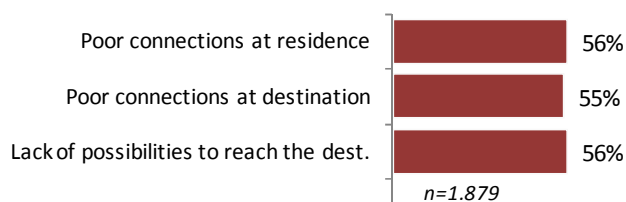
Top2-Boxes: strong/decisive influence

DE	AT	HR	NL	BE	HU
44%	48%	49%	50%	57%	51%
49%	51%	46%	39%	52%	50%
55%	60%	66%	59%	69%	69%

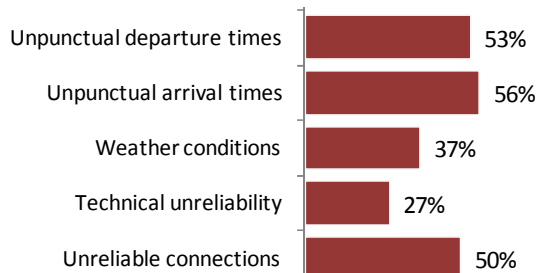
DE	AT	HR	NL	BE	HU
48%	55%	34%	41%	59%	38%
56%	55%	58%	44%	61%	57%
47%	45%	44%	45%	53%	49%
21%	20%	22%	21%	19%	16%
33%	27%	33%	26%	29%	25%

Figure 36 Secondary PUB– push-out aspects by (3) Reachability and (4) Reliability / Punctuality

3. Reachability of bus stops, stations, destinations



4. Reliability / punctuality



Top2-Boxes: strong/decisive influence

DE	AT	HR	NL	BE	HU
55%	58%	57%	50%	60%	56%
55%	54%	57%	50%	60%	53%
58%	58%	49%	53%	66%	51%

DE	AT	HR	NL	BE	HU
51%	52%	52%	43%	64%	52%
55%	56%	55%	46%	65%	55%
39%	38%	28%	37%	35%	43%
28%	21%	33%	23%	28%	28%
51%	51%	42%	46%	56%	53%

The analysis of secondary characteristics pushing citizens out of the public transport system is in descending order of relevance of the corresponding primary factors. Not all primary factors have been divided, only those, which might be ambiguous or heterogeneous in interpretation.

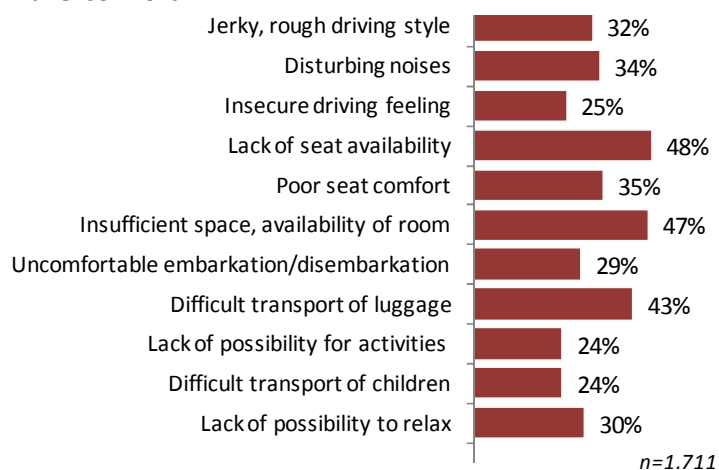
The most important primary factor that might push out of the public transport system is the users' dissatisfaction with characteristics of the journey itself (1, see Figure 35). *Long waiting times* are the key issue here, but *too many transfers* and *too much effort when transferring* are highly annoying aspects as well.

Swing users are disappointed by restrictions in their flexibility of travel (2, see Figure 35). In connection with journey related issues, they reduce their use of public transport mainly because of *too few connections in irregular intervals*, *poor / missing options for multimodality* and *too short service hours*.

Unsatisfactory reachability (3, see Figure 36) refers to the end-to-end view of the journey (can I get to my final destination from here?). It also refers to the local reachability of stations / bus stops at the starting point or the destination of the journey. Unreliability (4) is mainly connected to missing punctuality and unreliable connections. Technical unreliability is no strong issue. Especially in Belgium, unpunctuality is a strong push-out attribute.

Figure 37 Secondary PUB– push-out aspects by (5) Comfort and (6) Complicated planning

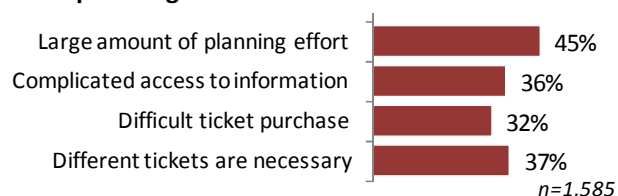
5. Travel comfort



Top2-Boxes: strong/decisive influence

DE	AT	HR	NL	BE	HU
22%	20%	43%	26%	32%	43%
32%	29%	34%	37%	38%	36%
19%	15%	29%	18%	28%	34%
42%	44%	43%	48%	56%	55%
33%	35%	37%	31%	31%	43%
36%	35%	48%	48%	58%	54%
21%	21%	29%	26%	36%	37%
42%	40%	31%	40%	47%	56%
19%	22%	28%	19%	29%	28%
15%	20%	31%	12%	27%	39%
28%	27%	34%	26%	34%	32%

6. Complicated planning



52%	46%	45%	40%	48%	37%
43%	36%	42%	36%	33%	26%
39%	32%	25%	39%	28%	29%
44%	37%	35%	34%	36%	33%

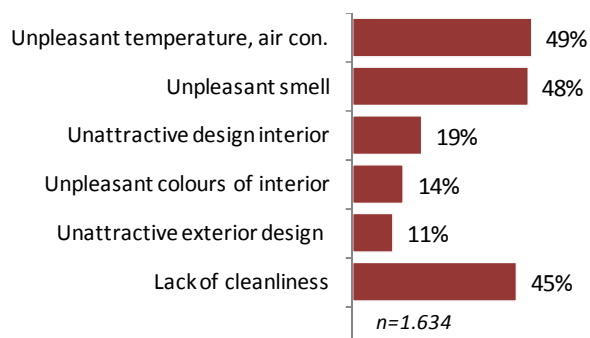
Only a few of the secondary aspects of travel comfort (5 see Figure 37) are on a higher influence level. From the multitude of characteristics that might reduce ones travel comfort significantly, only *lack of seat availability*, *insufficient space* and *difficult transport of luggage* are seen as essential elements where the service should not fail.

In Belgium and Hungary, the lack of seat availability is more often a reason to decide against public transport than in the other USEmobility countries. The same two countries also stick out for *insufficient space*, *transport of luggage* and *uncomfortable embarkation*. In Hungary and Croatia, a *rough driving style* gains its own prominence when defining poor travel comfort.

Complicating planning (6) is seen more as a general issue. Germany is always highest here. Especially the effort connected with the planning itself makes planning a negative issue.

Figure 38 Secondary PUB– push-out aspects by (7) Atmosphere and (8) Social Contact

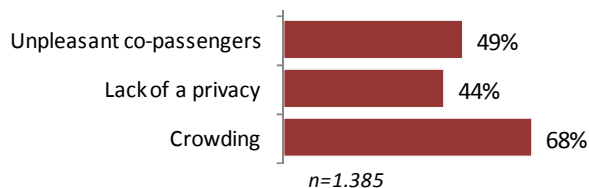
7. Atmosphere



Top2-Boxes: strong/decisive influence

DE	AT	HR	NL	BE	HU
48%	48%	63%	31%	39%	63%
40%	43%	61%	38%	46%	55%
14%	16%	21%	11%	16%	32%
10%	12%	15%	10%	14%	24%
8%	11%	10%	9%	9%	16%
41%	39%	50%	30%	46%	57%

8. Social Contact



53%	46%	45%	45%	57%	49%
43%	45%	44%	47%	46%	41%
64%	60%	71%	64%	73%	74%

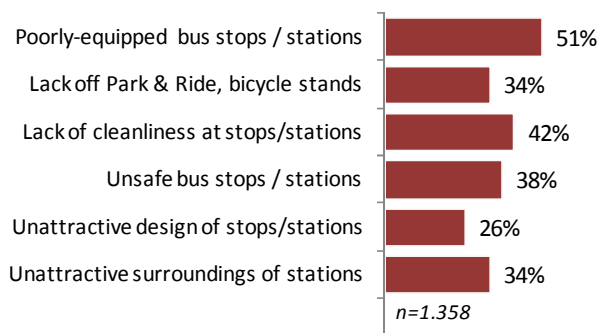
Atmosphere (7) alone is no dominant reason to leave public transport. However, to undercut the tolerance levels concerning cleanliness, smell and temperature can result in a situation, where a reconsideration of the mobility mix might be possible.

Especially in Croatia and Hungary, missing cleanliness and bad smell are severe push-out aspects when it comes to atmosphere.

As to social contact (8), not so much the fellow-passengers in themselves are the problem for PUB– swing users. In this quite emotional issue especially the crowding is seen as a very unpleasant and strong push-out characteristic.

Figure 39 Secondary PUB– push-out aspects by (9) Equipment of stations and (10) Safety

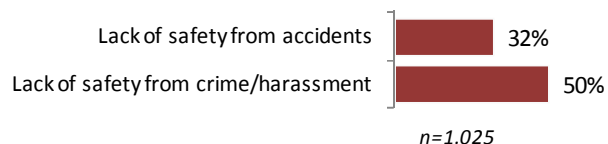
9. Well-equipped bus stops / stations



Top2-Boxes: strong/decisive influence

DE	AT	HR	NL	BE	HU
47%	50%	48%	43%	53%	66%
33%	40%	41%	24%	26%	40%
39%	37%	43%	30%	40%	62%
39%	28%	37%	34%	43%	44%
21%	21%	25%	18%	22%	45%
29%	27%	26%	27%	30%	58%

10. Safety



DE	AT	HR	NL	BE	HU
33%	25%	34%	24%	34%	36%
58%	48%	36%	40%	60%	51%

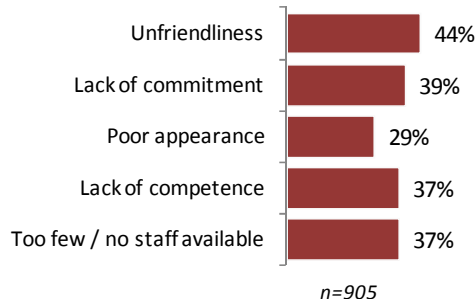
Concerning bus stops and stations especially *poor basic equipment* (missing / non-functional restrooms and shelters), a *lack of cleanliness* and a *subjectively low safety* contribute to dissatisfaction with public transport.

Safety issues are rarely a leading push-out factor. However, for those PUB– users for which safety was a decisive factor, incidents of crime or harassment were the leading cause.

In Belgium and Germany PUB– users are more concerned with lack of safety from crime / harassment than in the other USEmobility countries.

Figure 40 Secondary PUB– push-out aspects by (11) Staff-related issues

11. Staff



Top2-Boxes: strong/decisive influence

DE	AT	HR	NL	BE	HU
48%	39%	50%	39%	44%	42%
45%	47%	39%	32%	35%	33%
28%	27%	43%	15%	27%	29%
46%	42%	41%	33%	27%	33%
48%	38%	36%	36%	35%	28%

All secondary characteristics concerning staff are almost on the same level. Unfriendliness is the most annoying. Poor appearance is slightly less important.

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

4.4 REASONS FOR THE CHANGE-IN-USE OF MOTORISED INDIVIDUAL TRANSPORT

4.4.1 INCREASED / DECREASED USE OF MOTORIZED INDIVIDUAL TRANSPORT

We now take a detailed look at reasons for a change rooted in the attractiveness of motorised individual transport used more often now. To achieve this we proceed as with public transport in chapter 4.3.1

USEmobility examines swing users (with a PUB change in the last 5 years) who are new MIT users or use motorized individual transport more often now (MIT+) as well as those who use less motorized individual transport (MIT–) or none at all anymore.

In the MIT+ case, USEmobility analyses the reasons, which have led swing users to use motorized individual transport more often (PUB– and attractiveness of MIT, **pull-in factors**). In the MIT– case the analysis concentrates on the reasons that have led to a less intense use of motorized individual transport or none use any more at all (PUB+ and dissatisfaction with MIT, **push-out factors**).

In Figure 41 the factors are listed in order of relevance regarding the pull-in-factors into motorized individual transport. The three most important reasons to use motorized individual transport more often (**pull-in factors**) are the

- Good reachability of destination and places (85%)
- High flexibility of use (82%)
- Short journey time (79%)

Further ‘hard’ factors of importance are *reliability / punctuality* and the *ease of planning*.

Looking at the ‘soft’, more qualitative characteristics,

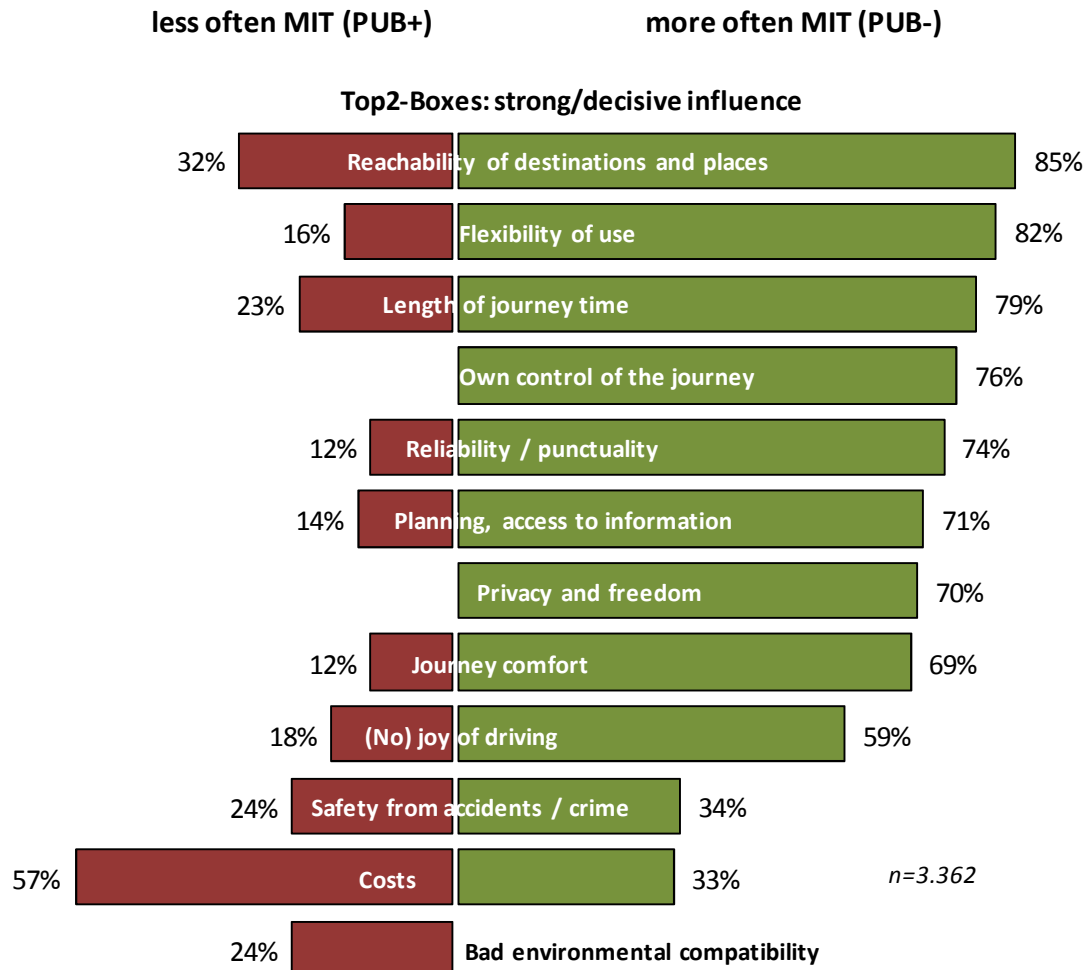
- Own control of the journey (76%),
- Privacy & freedom (70%),
- Joy of driving (59%)

almost reach the level of importance of the hard factors.

Other factors like *safety* are rarely seen as decisive pull-in factors. They have their impact most of all in combination with other pull-in factors.

There is only one **push-out factor** of high importance for the MIT: high costs (57%).

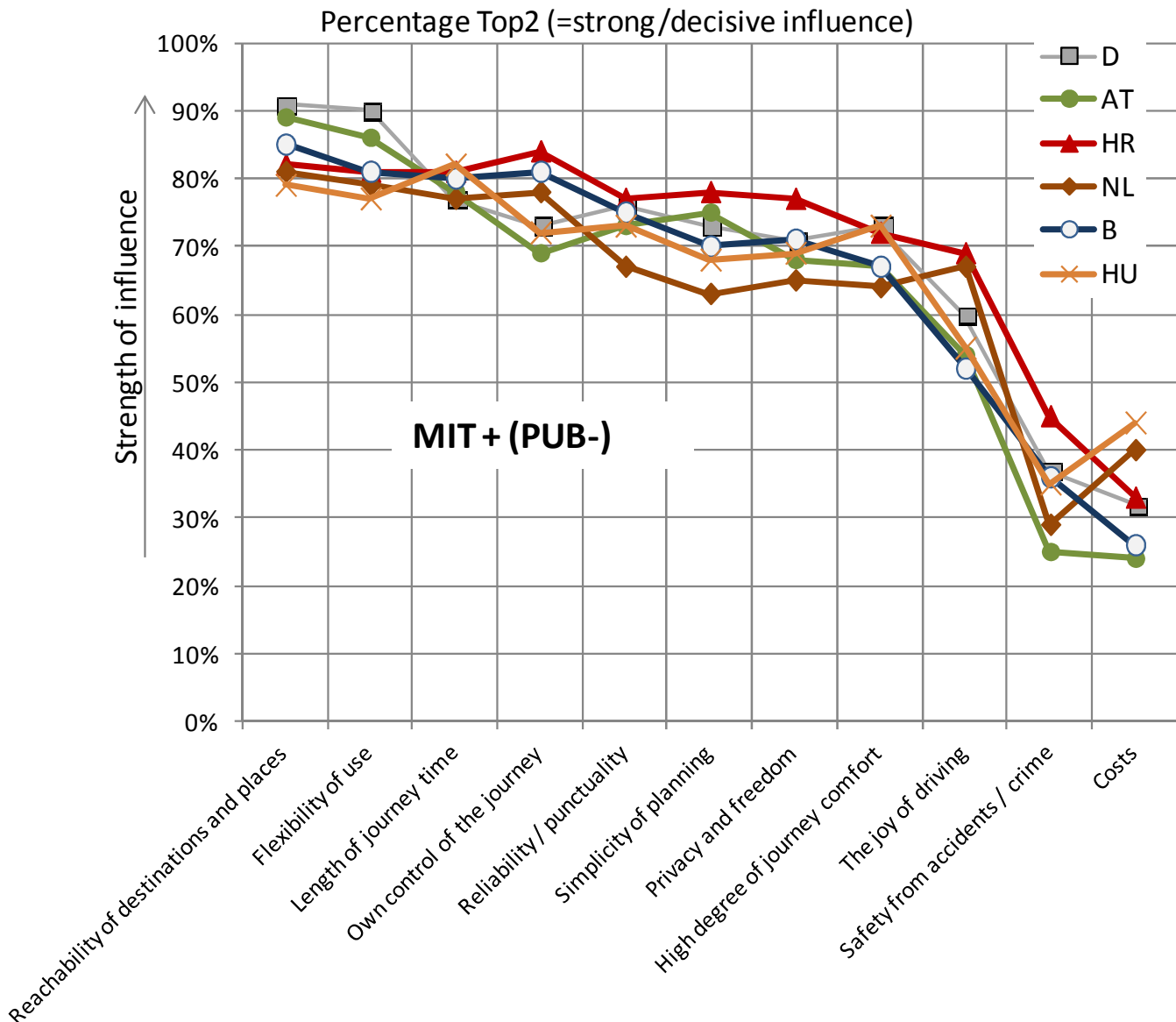
Figure 41 Influence of primary MIT+ Pull-in- and MIT- Push-out-factors concerning motorized individual transport



Push-out factors that might gain importance with certain users occasionally are a *restricted reachability by car*, a *long journey time* and *safety issues*. For at least 24% *bad environmental compatibility* is a *decisive factor* to reduce their use of MIT.

Except costs, practically all pull-in factors in favour of more MIT use are by far stronger than the push-out factors. There is quite a number of pull-in factors, which foster a higher MIT use, but the reasons for a reduction of MIT use obviously lay beyond mere dissatisfaction with it.

Figure 42 Influence of primary MIT+ pull-in-factors into motorized individual transport by country



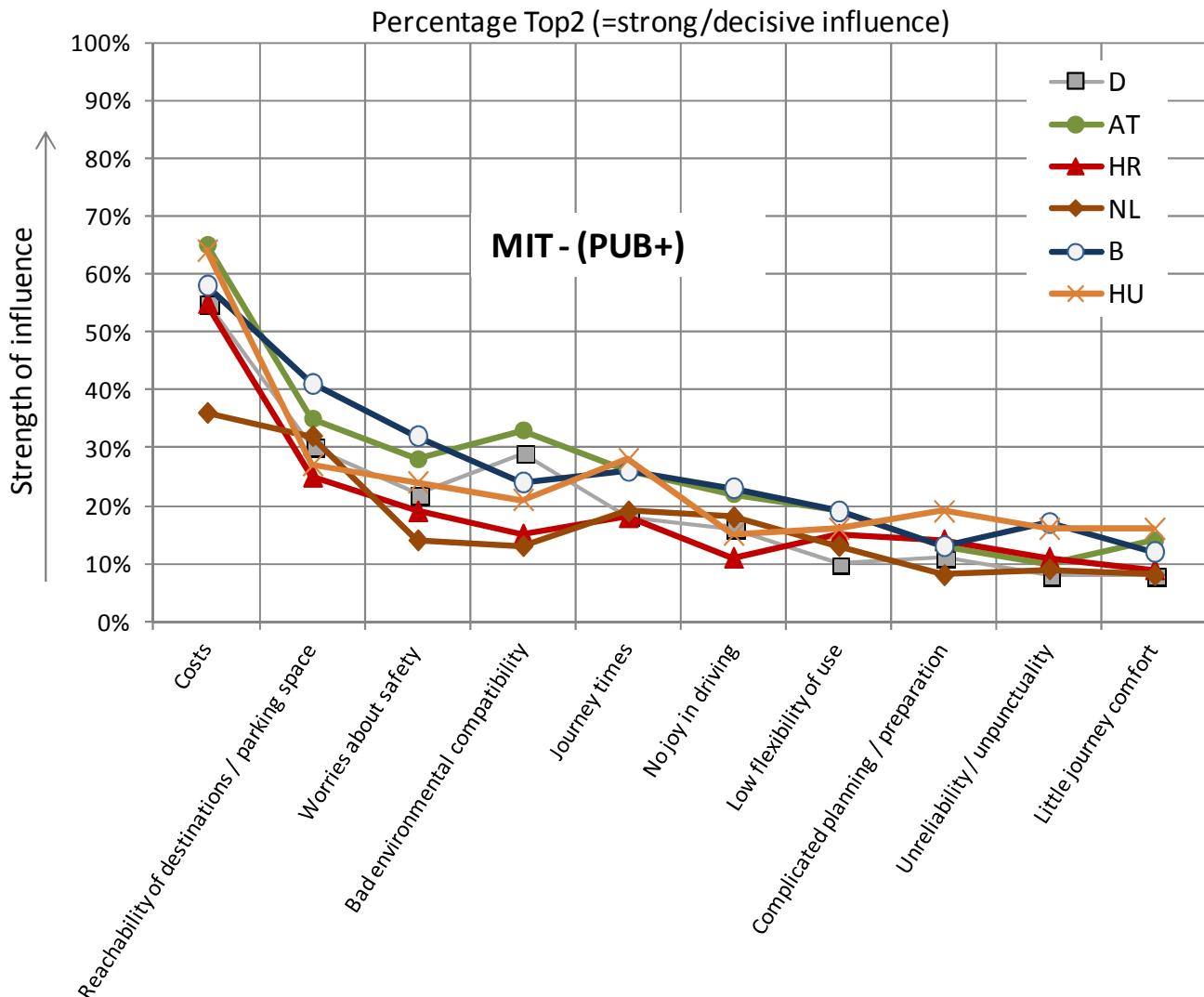
All primary factors apart from joy of driving, safety and cost are well above 60% relevance in all countries. We see a quite homogeneous picture here. Small differences in the general level we see between Croatia (higher) and the Netherlands (lower). Privacy and simplicity of planning are rated highest in Croatia.

Cost perception is the most irrelevant factor, especially in Austria and Belgium. Hungary and the Netherlands are slightly above the average here.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

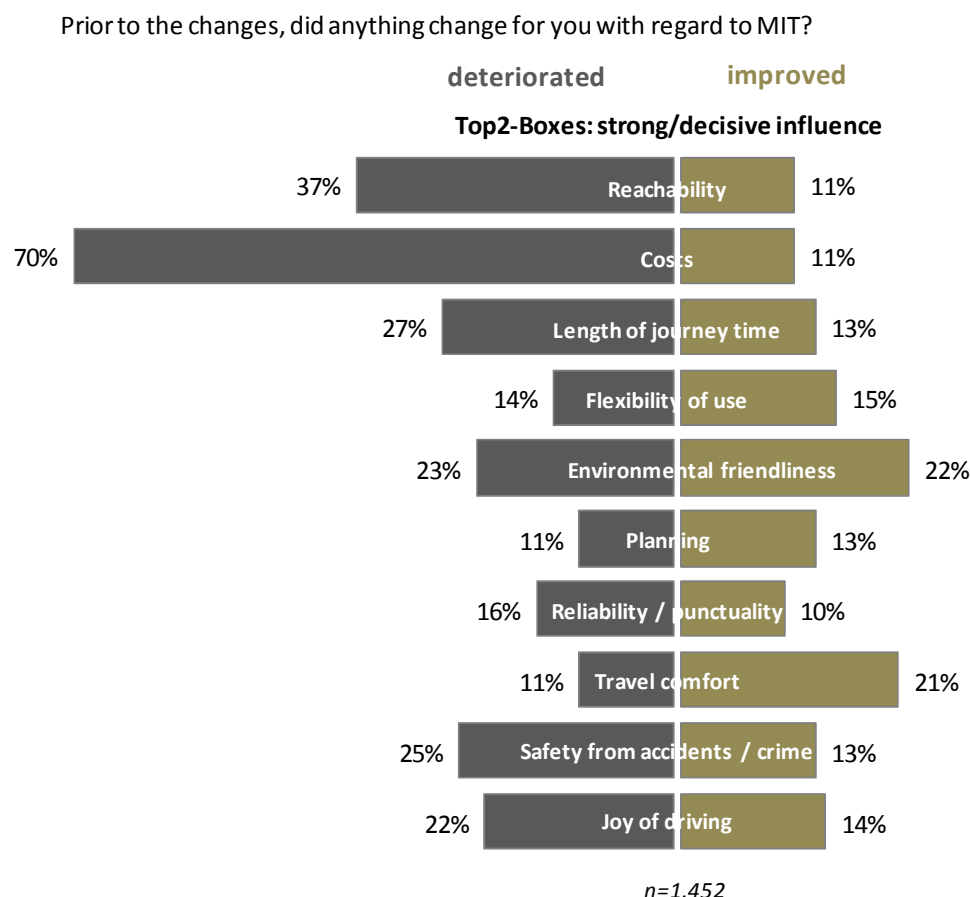
Figure 43 Influence of primary MIT– push-out-factors out of motorized individual transport by country



Costs are the most important reason to use motorised individual transport less often (about 60% relevance). It is remarkable, that the importance of costs on the decision of change is rated considerably lower in the Netherlands (35%).

Apart from costs, bad environmental compatibility differentiates most between the countries. In Austria, it has a higher relevance than it has in Croatia and the Netherlands.

Figure 44 Changes in primary MIT– push-out-factors out of motorized individual transport prior to the actual decision to use it less often



Prior to the decisions leading to a change in the use of motorized individual transport possible MIT– push-out factors might have changed. MIT– swing users have recorded these changes.

The clearly gravest change reported by MIT users is a serious increase in costs. 70% of the swing users recorded rising costs prior to their decision to reduce motorised individual transport.

The hard factors *reachability*, *length of journey time* and *safety* have – from a individual point of view – clearly deteriorated. It is remarkable, that even the *joy of driving* (soft factor) went down.

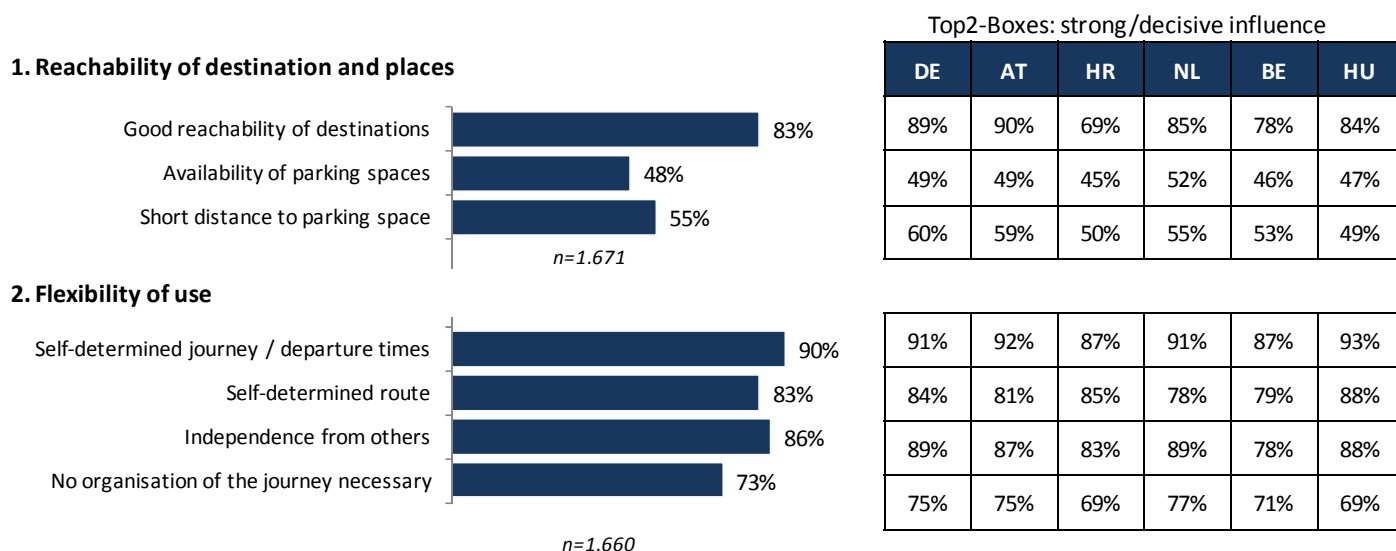
Concerning the travel comfort, the bigger parts of the swing users have even remembered an improvement. Environmental friendliness is a balanced category.

4.4.2 SECONDARY MIT+ PULL-IN ASPECTS: CHANGE INDUCED BY SATISFACTION

As it is the case with the analysis of PUB+ pull-in factors (see also chapter 4.3.2), we subdivide the primary factors of influence for changes towards more motorised individual transport further into decision-relevant **secondary** (sub-)characteristics.

The following analysis of secondary characteristics pulling citizens towards higher use of MIT by stressing its attractiveness is in *descending order of relevance* of the corresponding primary factors. Not all primary factors have been subdivided, only those which might be ambiguous or heterogeneous in interpretation.

Figure 45 Secondary MIT+ pull-in aspects (1) Reachability and (2) Flexibility of use

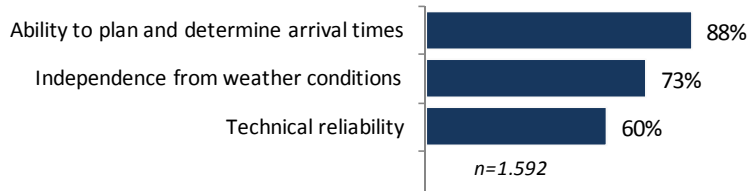


Regarding the reachability (1), which is the most relevant factor to change to more motorised individual transport, the *good general reachability of destinations* is clearly the most important secondary sub-aspect (83%). In Croatia, the relevance of this sub-aspect is lower than with the other USEmobility countries.

The sub-aspects of flexibility of use (2) show that two topics are equally relevant, the *self-determination of the route/ journey / departure times* and the *general independence from others*. The countries do not differ considerably.

Figure 46 Secondary MIT+ pull-in aspects (3) Reliability/Punctuality & (4) Simple planning

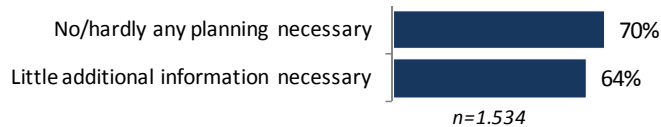
3. Reliability / punctuality



Top2-Boxes: strong/decisive influence

DE	AT	HR	NL	BE	HU
87%	90%	88%	88%	88%	86%
70%	75%	75%	75%	71%	70%
57%	54%	68%	58%	58%	65%

4. Simplicity in planning, availability of information



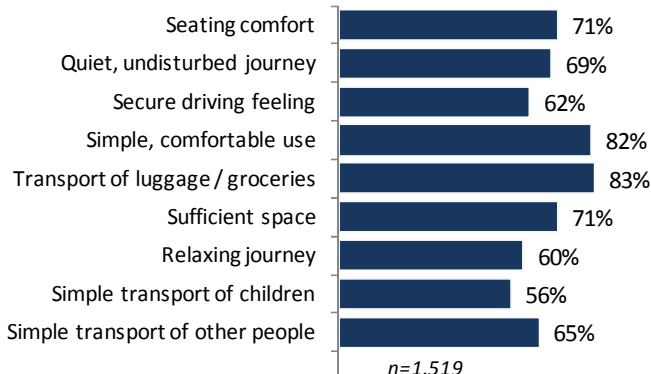
75%	73%	67%	70%	69%	62%
70%	65%	61%	66%	60%	61%

Regarding the reliability (3), *ability to plan and determine arrival times* is clearly the most important secondary sub-aspects (88%). In Croatia and Belgium, the relevance of this sub-aspects is lower than with the other USEmobility countries. It is remarkable, though, that the *technical reliability* differs between countries like Austria and Germany with lower relevance, and Hungary and Croatia, where technical reliability is more relevant.

Simplicity (4) becomes relevant when the MIT user does not have to plan much before starting the journey. In Hungary the simplicity of planning has less relevance.

Figure 47 Secondary MIT+ pull-in aspects (5) Travel comfort and (6) Safety issues

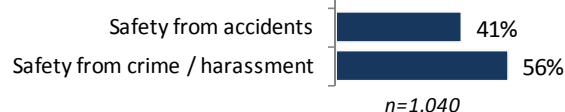
5. Travel comfort



Top2-Boxes: strong/decisive influence

DE	AT	HR	NL	BE	HU
64%	66%	72%	77%	69%	79%
60%	61%	74%	77%	66%	79%
58%	55%	70%	64%	56%	69%
80%	86%	80%	83%	79%	86%
84%	84%	82%	82%	83%	84%
64%	71%	71%	75%	75%	72%
47%	47%	72%	72%	63%	63%
52%	49%	65%	50%	59%	64%
63%	63%	73%	59%	66%	60%

6. Safety



37%	40%	36%	41%	43%	49%
61%	58%	50%	49%	57%	62%

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Travel comfort (5) is a wide category with a multitude of possible meanings. Relevant for a MIT+ change is a simple and comfortable use of the car and an easy transport of luggage. Amenity values like seating comfort and sufficient place come only second. Again, we see little difference between the countries.

Clear country differences exist around the relaxing effect of driving your own car (or being driven). In Austria and Germany MIT is less often seen as relaxing. In Croatia and the Netherlands on the other hand relaxation is a strong argument.

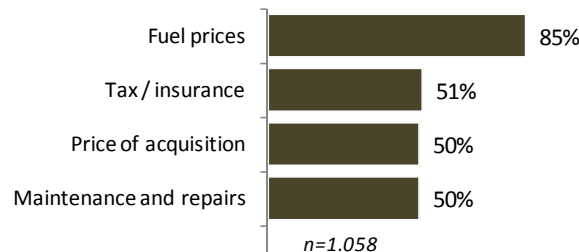
Safety (6) is a low-relevance factor. It only has some importance when one thinks about safety from crime, especially in Germany and Hungary.

4.4.3 SECONDARY MIT– PUSH-OUT ASPECTS: CHANGE BY DISSATISFACTION

The analysis of secondary characteristics pushing citizens away from motorized individual transport system is in descending order of relevance of the corresponding primary factors. Again, not all primary factors have been subdivided, only those which might be ambiguous or heterogeneous in interpretation.

Figure 48 Secondary MIT– push-out aspects (1) Costs and (2) Reachability of destinations & places

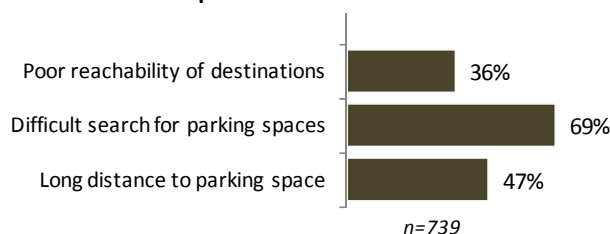
1. Costs



Top2-Boxes: strong/decisive influence

DE	AT	HR	NL	BE	HU
85%	89%	83%	77%	85%	84%
46%	52%	57%	38%	56%	52%
48%	45%	61%	46%	48%	53%
45%	50%	63%	51%	54%	43%

2. Reachability of destination and places



26%	26%	32%	39%	41%	50%
63%	76%	70%	55%	75%	66%
39%	50%	43%	33%	49%	58%

Concerning costs (1), the *fuel prices* are the most deterring aspect of MIT use. They come clearly first before all other aspects of car-related costs. In all countries, the fuel-prices are rated well above 80%, except the Netherlands with a slightly lower rating of this factor.

Document: USEmobility_WP3_D3.6_ V2B

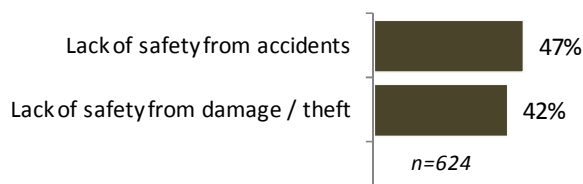
Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Taxes and insurances seem to be a less pressing issue in the Netherlands as well with only 38% compared to an general level around 50%.

The primary factor *reachability* (2) is dominated by the *difficult search for parking spaces*. In the total USEmobility area, it has a value of 69%. A peak we find in Austria and Belgium, where the parking situation seems to be an even more important push-factor.

Figure 49 Secondary MIT– push-out aspects (3) Safety issues and (4) Simplicity in planning

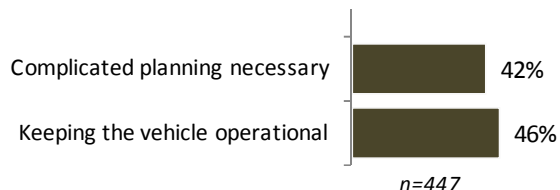
3. Safety



Top2-Boxes: strong/decisive influence

DE	AT	HR	NL	BE	HU
46%	49%	39%	36%	51%	50%
36%	39%	33%	37%	47%	50%

4. Simplicity in planning, availability of information



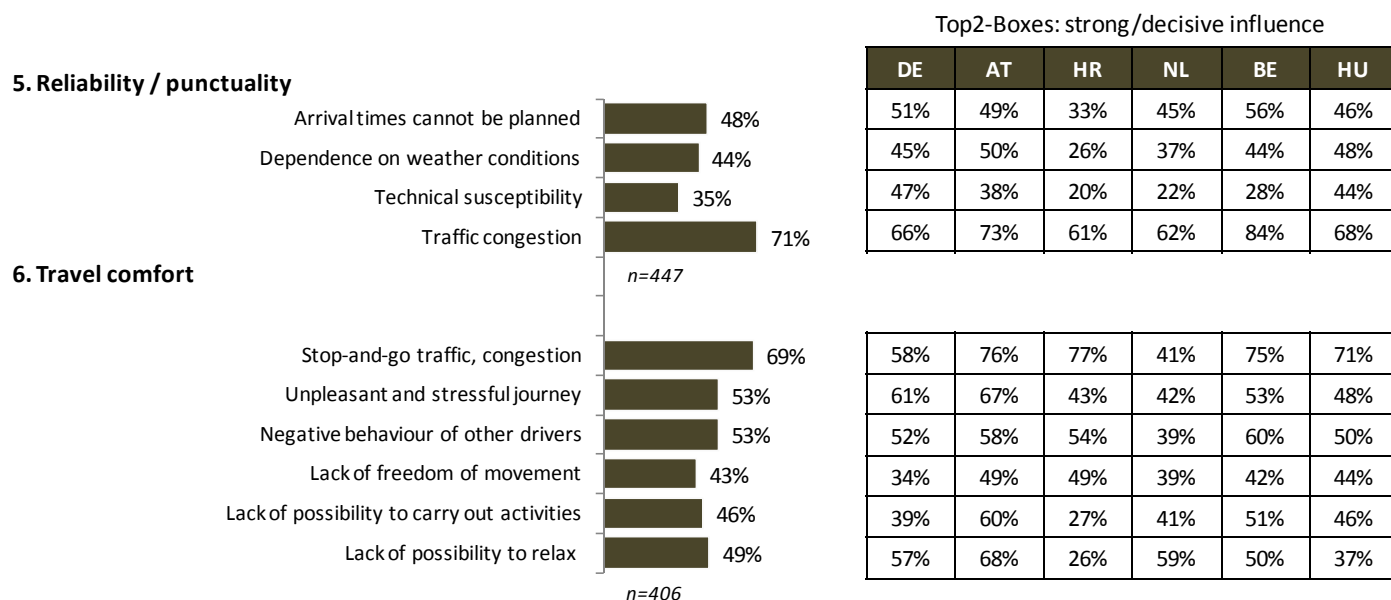
41%	47%	27%	40%	50%	41%
42%	47%	60%	41%	36%	52%

Safety (3) is a split issue when it comes to reduce MIT use. Lack of safety from damage is seen almost as important as safety from accidents. The latter gets ratings around 50% except in Croatia and Hungary, where risk of accidents is not such an important push-out factor.

The same situation we find concerning simplicity in planning (4). Complicated planning and keeping the vehicle operational are equally important issues.

In Croatia, the planning effort is only half as important as it is in Belgium. When it comes to keep the car operational, it is the other way round: Double the relevance in Croatia than in Belgium.

Figure 50 Secondary MIT– push-out aspects (5) Reliability / Punctuality and (6) Travel comfort



The leading issue of reliability / punctuality (5) is traffic congestion, which has a very deterring effect on those swing users who are affected by it (70% decisive influence). Traffic congestion in Belgium (84%) The main sub-aspect of missing travel comfort is stop-and-go traffic / congestion. In Austria, Croatia, Belgium and Hungary it reaches relevance levels above 70%.

A very heterogeneous picture we find concerning the possibility to carry out activities or relax while travelling. These sub-aspects have less importance in Croatia and Hungary, but are quite relevant in Austria and Belgium.

Conclusion

There are a number of reasons, which give MIT in certain situations a competitive advantage. Public transport should analyse these reasons and try to use adapted strategies for its own advantage. The analysis of reasons, why users turn away from MIT delivers valid arguments for developing and improving public transport.

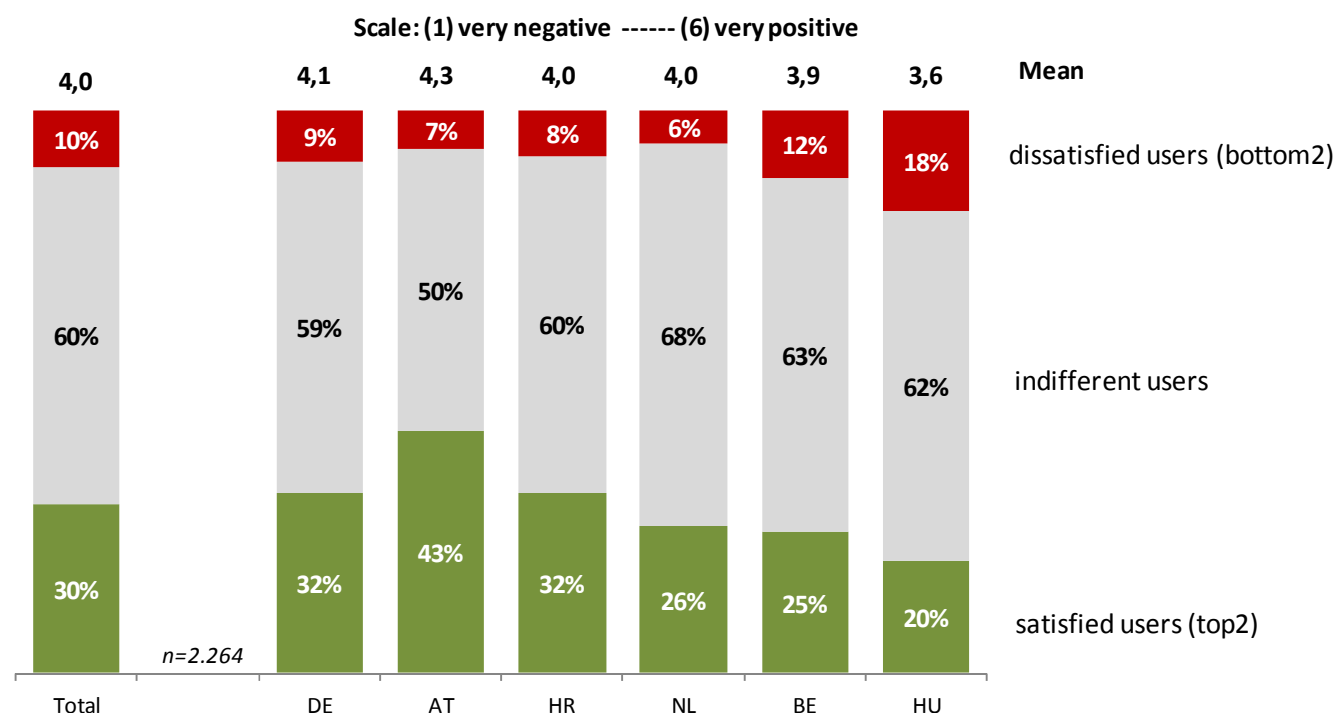
5 PUBLIC TRANSPORT TODAY

5.1 SWING USERS ATTITUDES TOWARDS PUBLIC TRANSPORT TODAY

The previous chapter dealt with the changes-in-mobility-behaviour in the past as reported by swing users. In so far, chapter 4 is analysing decisions of the last five years and their background at the time of their occurrence.

In this chapter, we want to look at public transport as it is seen by swing users today and indicate possible implications for the future. Swing users were asked about their *general satisfaction* with public transport on a scale from 'very negative' to 'very positive'.

Figure 51 Swing users overall satisfaction with public transport today by country

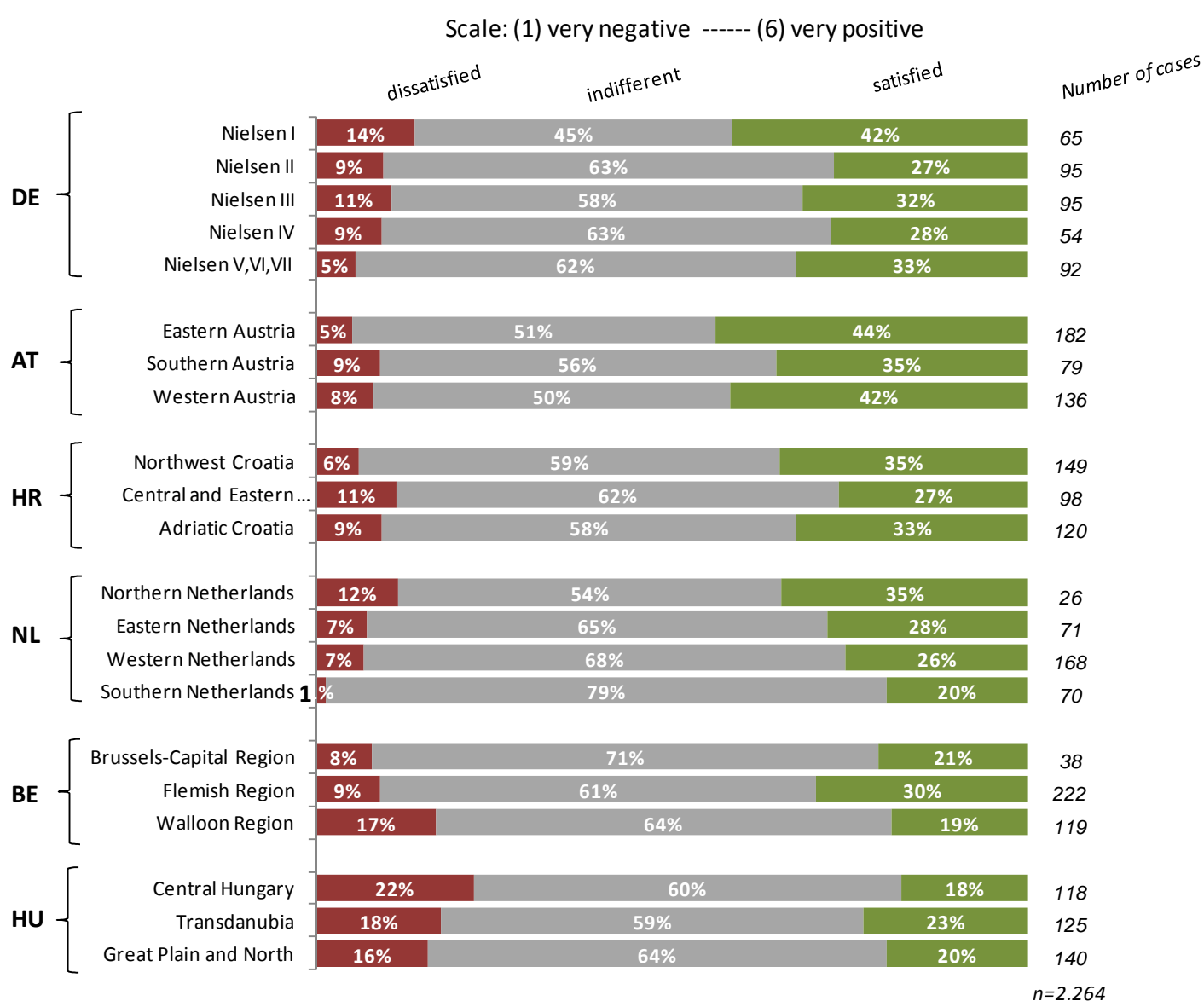


30% of the swing users in the USEmobility area are satisfied with the offered service. Only 10% are dissatisfied with the public transport as used by them today. The major part of the swing users has a neutral position towards public transport (60%).

Austrian swing users are the most satisfied with their public transport (43% satisfaction). We also find a rather high satisfaction in Germany and Croatia. The level of satisfaction in Hungary is considerably lower in comparison to the other countries. Here almost as many swing users are dissatisfied (18%) as are satisfied (20%).

This evaluation can be specified further by national regions. (Regarding the choice of national regions, see also 2.4.3).

Figure 52 Swings users overall satisfaction with public transport by USEmobility regions



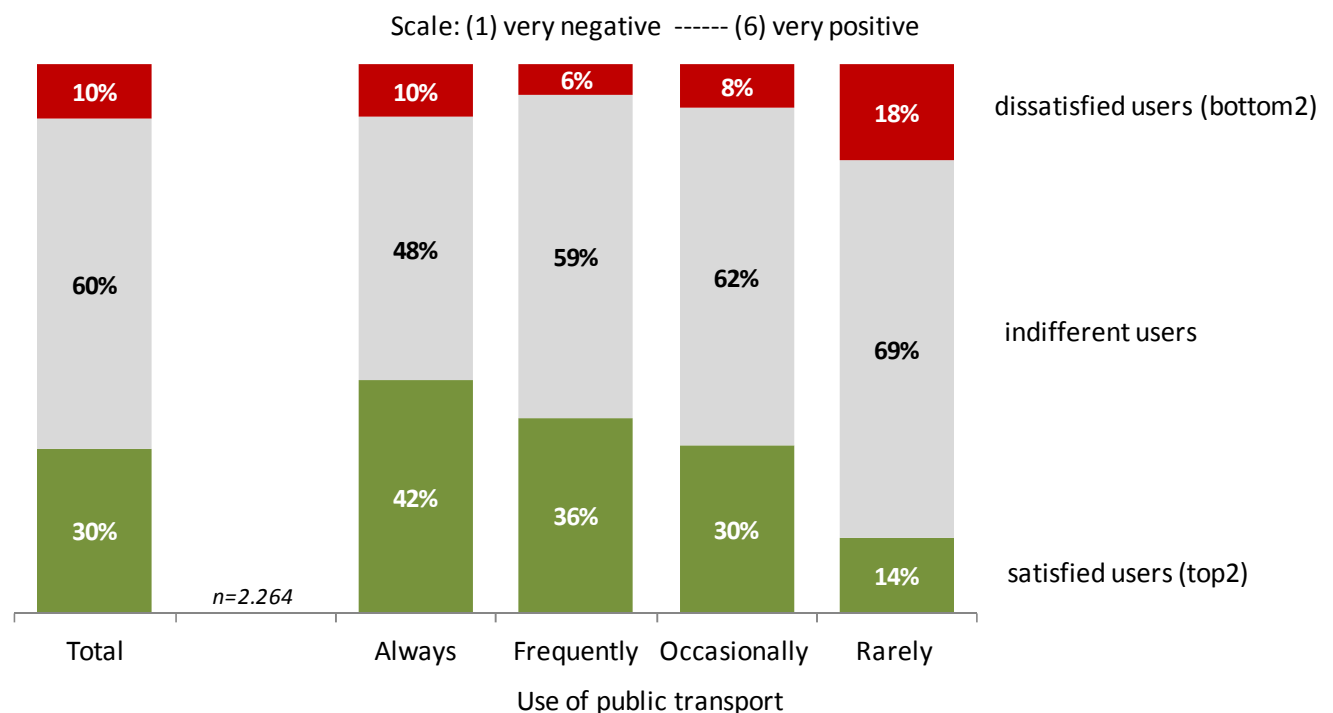
Within the six countries in Figure 52, we see a considerable variation in user satisfaction.

In Germany, especially Nielsen I (Bremen, Hamburg, Lower-Saxony and Schleswig-Holstein) emerges as a region with considerable proportions of both satisfied and dissatisfied swing users.

In the Netherlands, we find a north-south downward trend in the ratings. The proportions of positive and negative ratings are higher in northern Netherlands than in any other Dutch region.

The bottom of the league concerning user satisfaction in the USEmobility area is Central Hungary (including Budapest). 22% of all swing users are not satisfied with the public transport used by them here.

Figure 53 Swing users overall satisfaction with public transport by frequency of use



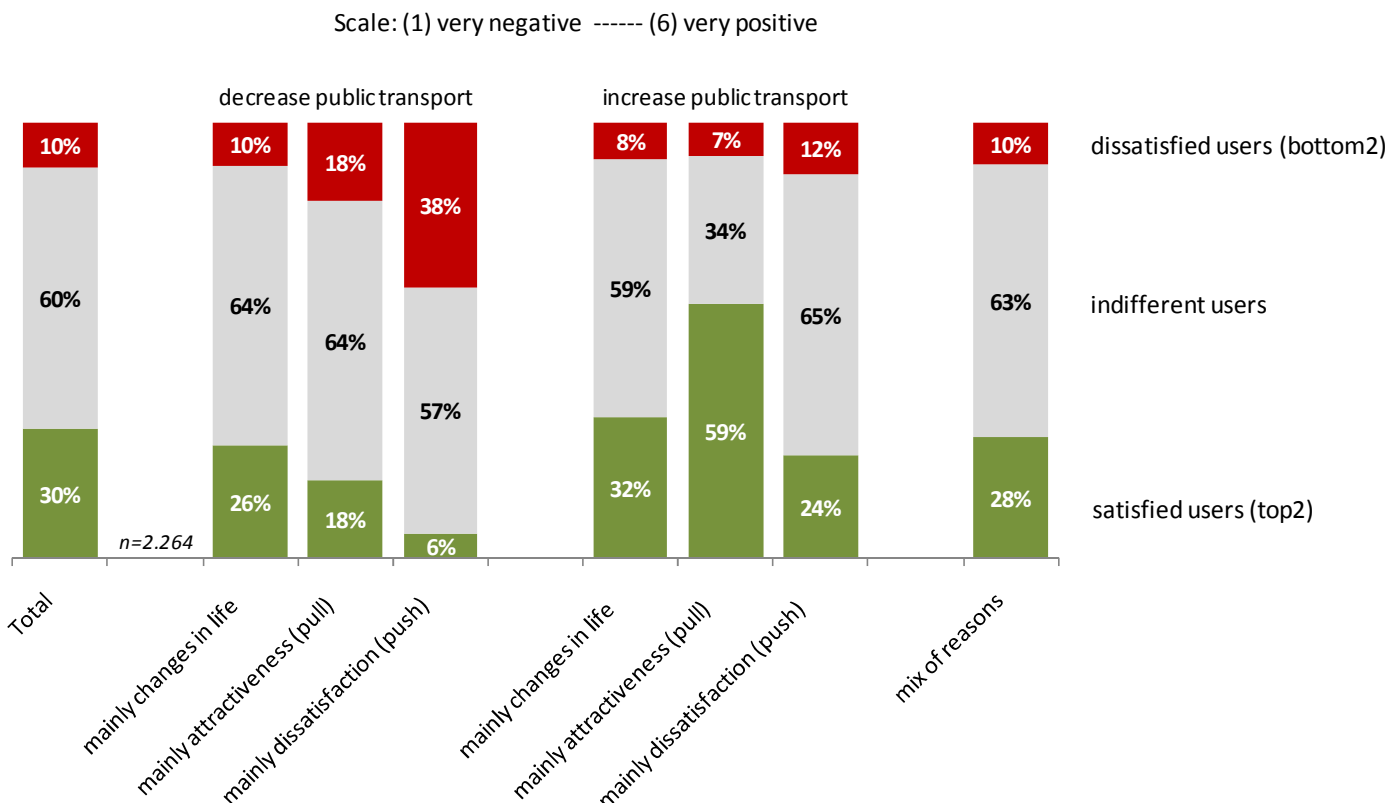
There is a further well-established connection between swing user satisfaction and frequency of use. The more intensely they use public transport the better is their rating of the services.

42% of those swing users who always use public transport are satisfied. This percentage goes down gradually to 14% of those users who only use public transport rarely. In this group, already 18% are dissatisfied with the service.

A further look into the USEmobility data shows:

- Swing users with an increase in public transport use in the last five years (PUB+) rate their public transport systems considerably more positive than those with a decrease in public transport use (PUB–).
- Swing users that have to stick to public transport, because they do not have access to a car are more satisfied than car owners who have a choice. The necessity to use public transport has no negative effect on its evaluation.
- The ratings in metropolitan areas are better than those in less densely populated areas. However, the differences are moderate. Swing users in rural regions are still quite satisfied with the services used by them.
- With growing age of the swing users, also the proportion of satisfied public transport users goes up. In the category of retired swing users 46% are satisfied.

Figure 54 Swing users overall satisfaction with public transport by segments of reason



The specific swing users' segments by reason clearly correlate with customer satisfaction.

The most dissatisfied are swing users who use less public transport now, because of their dissatisfaction with it at the time of change (Push-out factor). In this segment, 38% of the swing users are dissatisfied.

The most satisfied are swing users who use more public transport now, because of their satisfaction with it at the time of the change (Pull-in factor). In this segment, 59% of the swing users are satisfied.

Less convinced are swing users, who use more public transport today, but predominantly because of changes in their private / personal situation (32% satisfaction with PUB now) or dissatisfaction with the means of transport used before (24% satisfaction with PUB now).

Obviously, users with a change due to the influence of push-out-factors (dissatisfaction) or pull-in-factors (attractiveness) at the time of the change still keep their high level of (dis)satisfaction.

Apart from their overall satisfaction, swing users were asked individually about their current satisfaction with specific primary factors of influence as dealt with in chapter 4 on a scale from 'very negative' to 'very positive'.

Figure 55 gives a comparison of the country results.

Among all the primary factors of PUB *environmental friendliness* gets the highest ratings in the categories 'satisfied' and 'very satisfied' (top-2 boxes, see 2.4.2). However, we also see considerable differences between the countries.

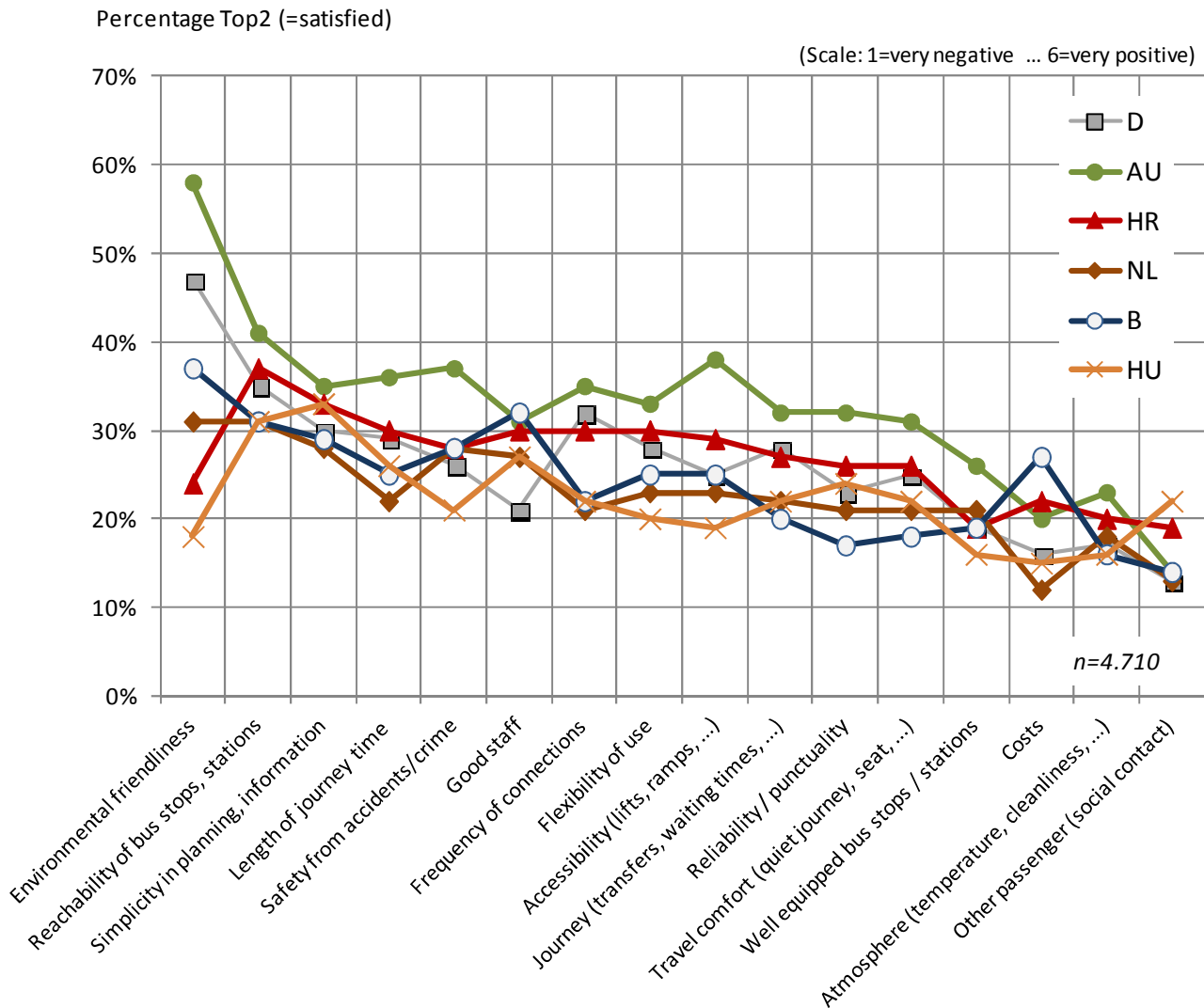
While the environmental friendliness of public transport is rated very good in Austria and Germany, the swing users in Croatia and Hungary are only partially satisfied with the achieved environmental friendliness of the public transport system.

Regarding all primary factors, the factors *reachability* and *simplicity of planning* also gather high ratings.

We find the lowest ratings for the factors *costs*, *atmosphere* and *other passengers (social contact)*. Regarding costs, especially the swing users in the Netherlands are sceptical. In Belgium, on the other hand, costs are evaluated rather positively.

Of all users, Austrian users are the most satisfied with their public transport services. Concerning the primary factors, the public transport in Austria clearly reaches the best ratings

Figure 55 Current evaluation of the primary factors of public transport by country



5.2 IMAGE / EMOTIONAL ASPECTS

Today's image of public transport and the direct satisfaction with public transport are in constant exchange with each other.

On a subjective and rather unconscious level, citizens attribute certain characteristics to public transport and to motorized individual transport. These features form an equally important part of their personal decision background, as do their levels of satisfaction. These characteristics and their subjective connection with PUB or MIT today are a result of the citizens' socialisation and lifelong experience, and they form a background for mobility decisions, today.

Figure 56 Image characteristics of public transport and motorized individual transport

Which characteristics would you ascribe spontaneously to public transport /cars?

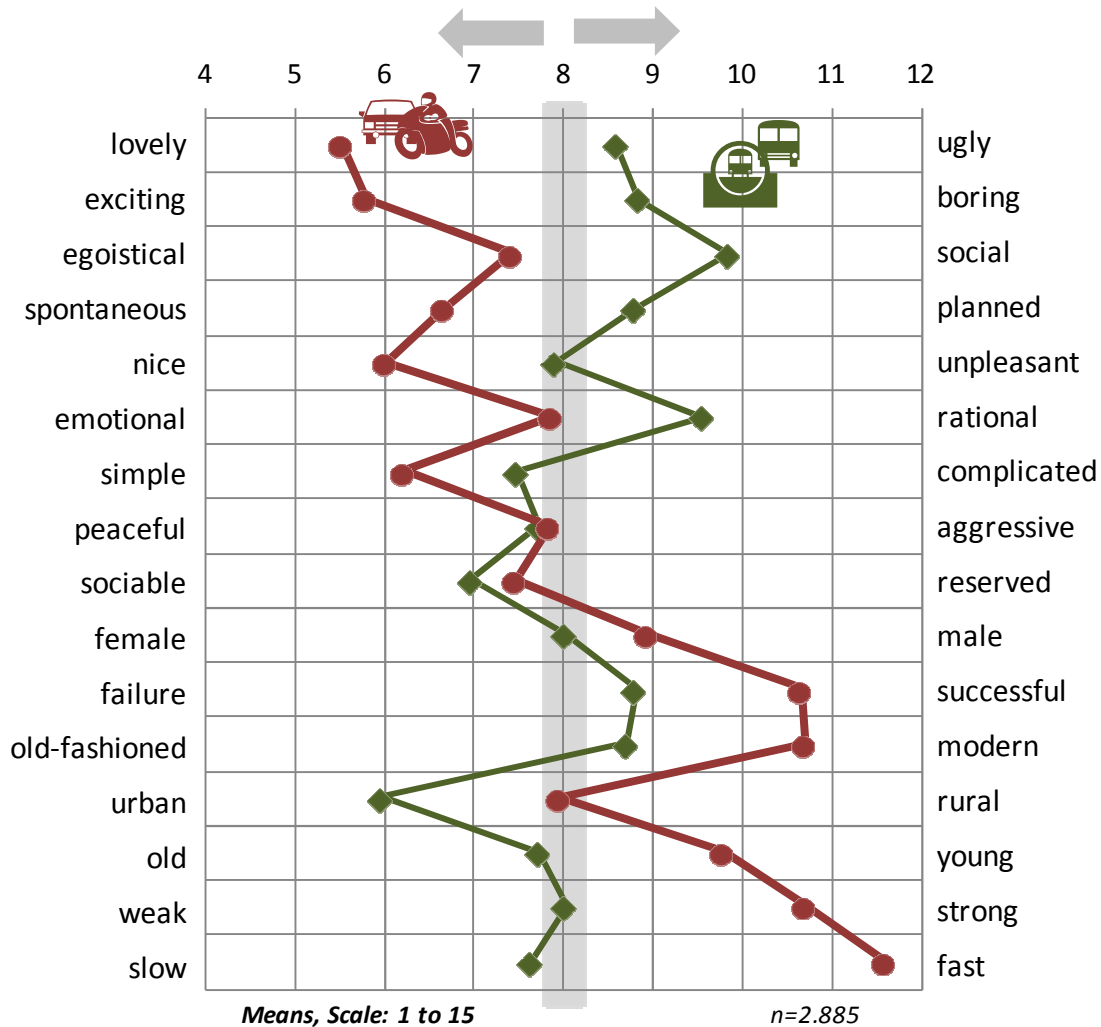


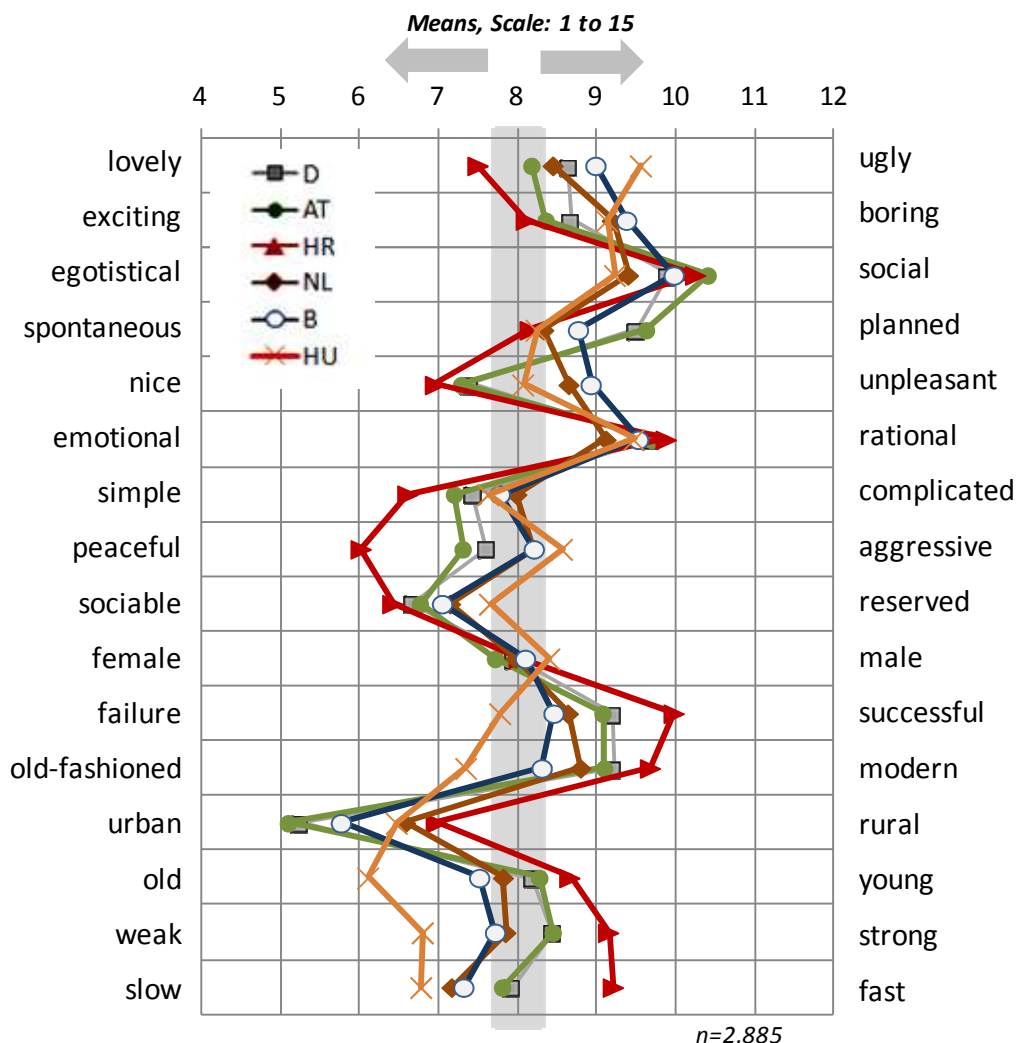
Figure 56 shows a rating of 16 bipolar characteristics on a scale from 1 to 15. Values around '8' (i.e. medium values) show that a characteristic is on average rather irrelevant for describing the means of transport. The figure contains ratings for PUB and MIT. The sorting order in this figure will be kept for the next figures, too.

The image of MIT / car is obviously much more profiled (many ratings below 7 and above 9) and it is clearly stronger associated with positive characteristics. The MIT has distinct image advantages as being rated *fast*, *strong*, *young*, *modern* and *successful*. Cars are seen as *nicer*, *simpler* and much more *exciting*.

Public transport on the other hand can excel in social aspects and in rational reasons to use it. Public transport is much more associated with mobility in urban areas. Public transport is not connected significantly to further characteristics. Its image is less emotional than the image of car usage.

Figure 57 Image characteristics of public transport by county

Which characteristics would you ascribe spontaneously to public transport?



The image profiles of public transport differ considerably between the countries. In Croatia we find the most positive image. Swing users in Croatia see public transport as *nicer, simpler, stronger, faster and more peaceful, sociable, successful and modern* than swing users in the other countries.

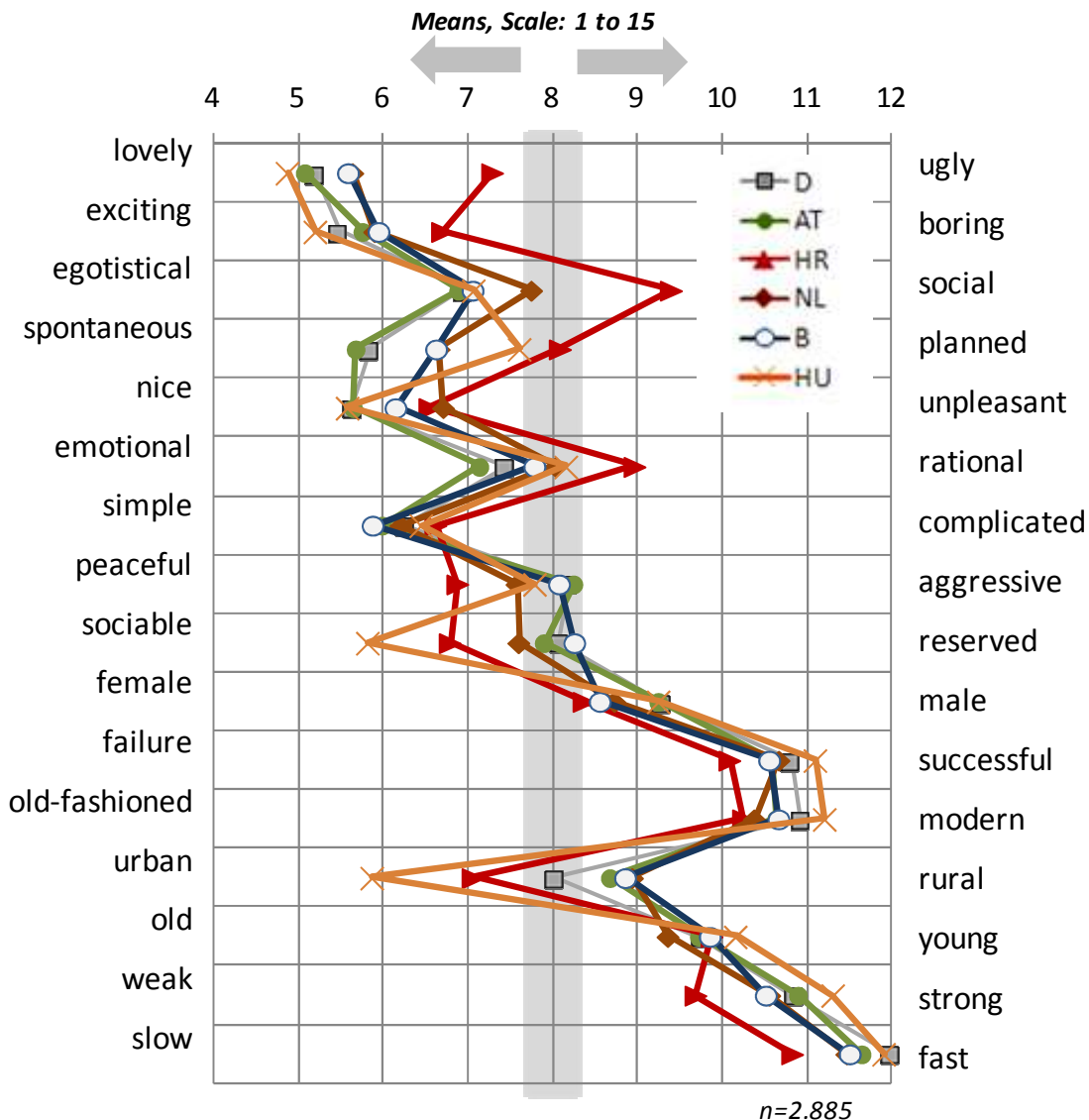
Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

In contrast to Croatia, the image of public transport in Hungary is less advantageous. In categories like *ugly*, *aggressive*, *failure*, *old-fashioned*, *weak* and *slow* Hungary is above average and therefore falls back behind the PUB image in the other USEmobility countries.

Figure 58 Image characteristics motorized individual transport (car) by country

Which characteristics would you ascribe spontaneously to car?



The image profile of motorized individual transport is generally quite similar in all countries with the exception of some characteristic outliers:

- In Austria and Germany, using cars is much more connected to spontaneous actions.
- In Croatia, car usage has a more social component (social & sociable).
- In Croatia and Hungary, swing users connect the car stronger with urbanity. In Austria, Belgium and the Netherlands car usage is more on the rural side.

6 SWING USERS' REPRESENTATIVE BACKGROUND

6.1 CURRENT USE OF MEANS OF TRANSPORT

The USEmobility national surveys have asked altogether 12.900 interviewees to assess their current mobility mix and possible changes in their use of means of transport.

The answers of the interviewees form six country-specific representative samples of personal assessments of citizens 15 years or older.

All interviewees were subject to a screening procedure to identify persons who changed their mobility mix in the last five years (swing user target group).

The screener questions concern the:

- Current use of means of transport and
- Changes in the use of means of transport in the last five years
(see deliverables D3.1, D3.2 and in conclusion D3.5)

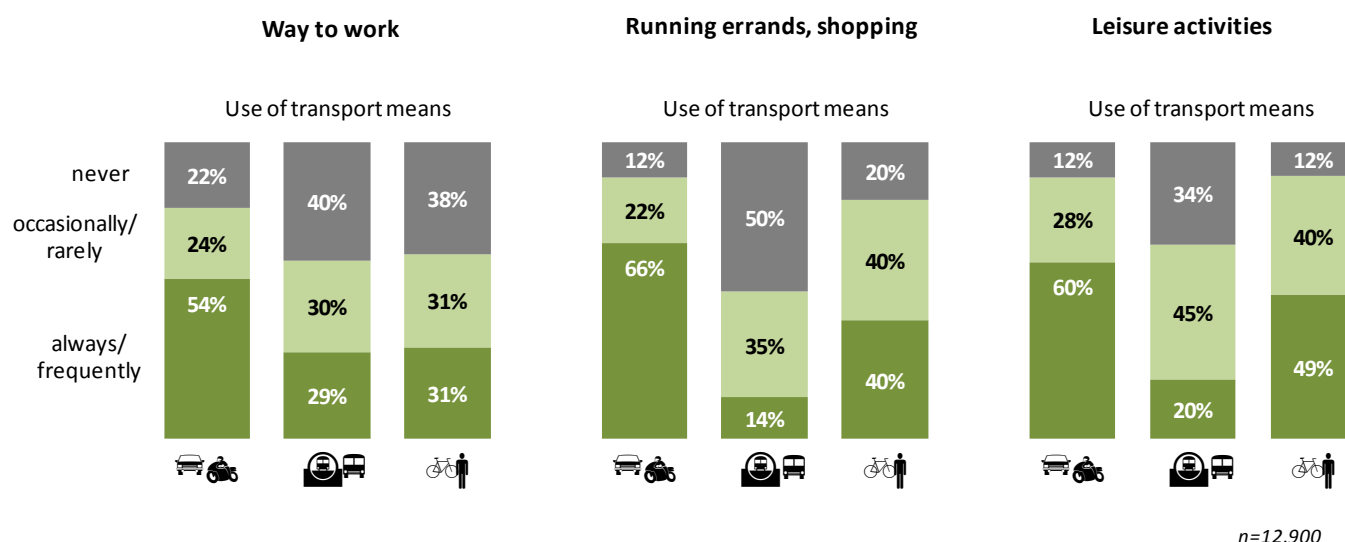
Based on the screener results, swing users have been selected (6.357) and further interviewed.

During the screening procedure, three types of means of transport are analysed:

- *Motorized Individual Transport* (MIT) including CARS 🚗 and MOTORCYCLES 🏍️
- *Public Transport* (PUB) including RAIL 🚆 and BUS 🚌 systems
- *Bike and on-foot* (BoF) including using BICYCLES 🚲 and WALKING 🚶

To get realistic assessments, the participants answered separately with respect to three easy-to-identify travel purposes Way to Work, Running Errands / Shopping and Leisure Activities.

Figure 59 Current use of transport means by travel purpose



The intensity of use of all three types depends on the travel purpose. The proportion of 'no use' as well as 'frequent use' clearly differs between travel-purposes.

It is in common for all three travel-purposes that the *Motorized Individual Transport* (MIT) is the dominant means of transport (54-66% of the population). Only 22% of the citizens do *not* use MIT on their way to work (down to 12% with other travel purposes).

Public Transport (PUB) plays a relevant role especially on the way to work (29%) and for leisure activities (20%). At the same time, half of the citizens never use PUB for running errands and shopping.

It has to be added that in connection with leisure activities almost half of the participants do *cycle or walk* frequently.

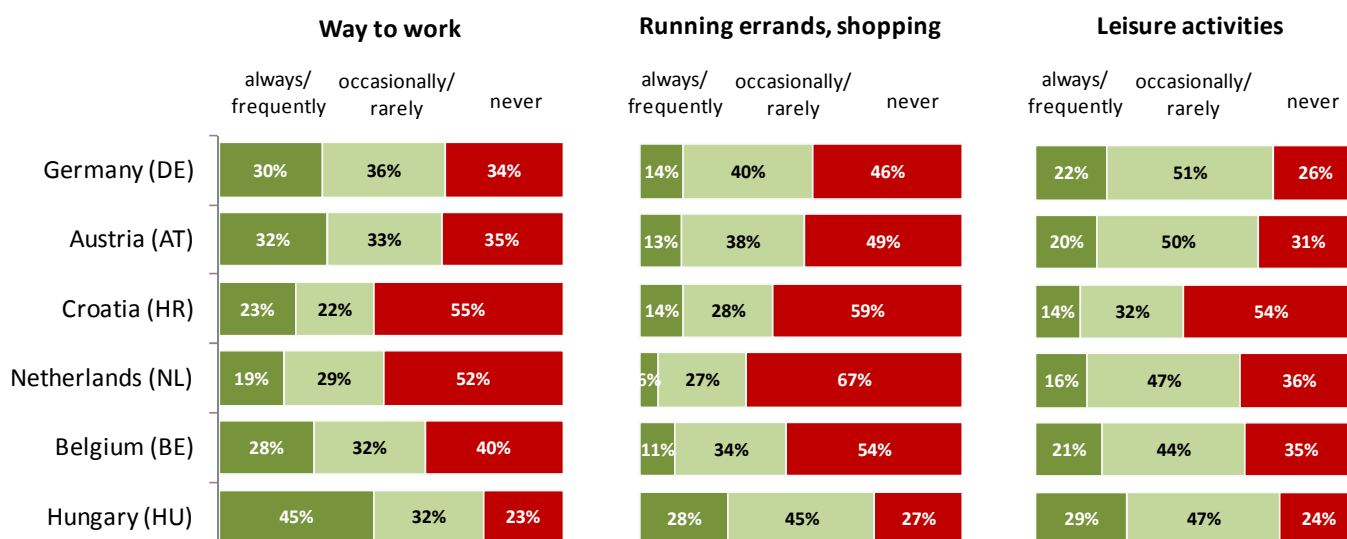
Figure 60 takes a country-specific look at the intensity of the current use of public transport in comparison between the six USEmobility countries.

The current use of PUB, based on individual assessment, differentiates well between the countries.

In Hungary, we find the highest proportion of frequent PUB users on their way to work (45%). None-use of PUB is on a low level (23-27%). A high number of PUB non-users can be found in Croatia (more than 50%) and in the Netherlands.

Austria and Germany show quite similar results. In these countries about the same number of citizens use PUB either frequently or never on their way to work.

Figure 60 Intensity of the current use of Public Transport (countries, by travel purpose)



n=12.900

6.2 SWING USE IN THE POPULATION

The swing users selected by the survey's screening process are the target group of USEmobility. They include all interviewees who have reported a change in their mobility mix regarding public transport within the last five years.

The population in each country could be divided into two groups, people with a change in their intensity of use of public transport in the last five years (swing users, see 2.2) and people without a change. In total 6.357 swing users have been identified (49.3% of all interviewees).

This interesting result shows that in all countries surveyed a great number of persons have changed their mobility behaviour in a five-year time-period.

People without a change do either

- Not use public transport at all (No PUB) or
- Use public transport, but have not changed their intensity of use (PUB0).

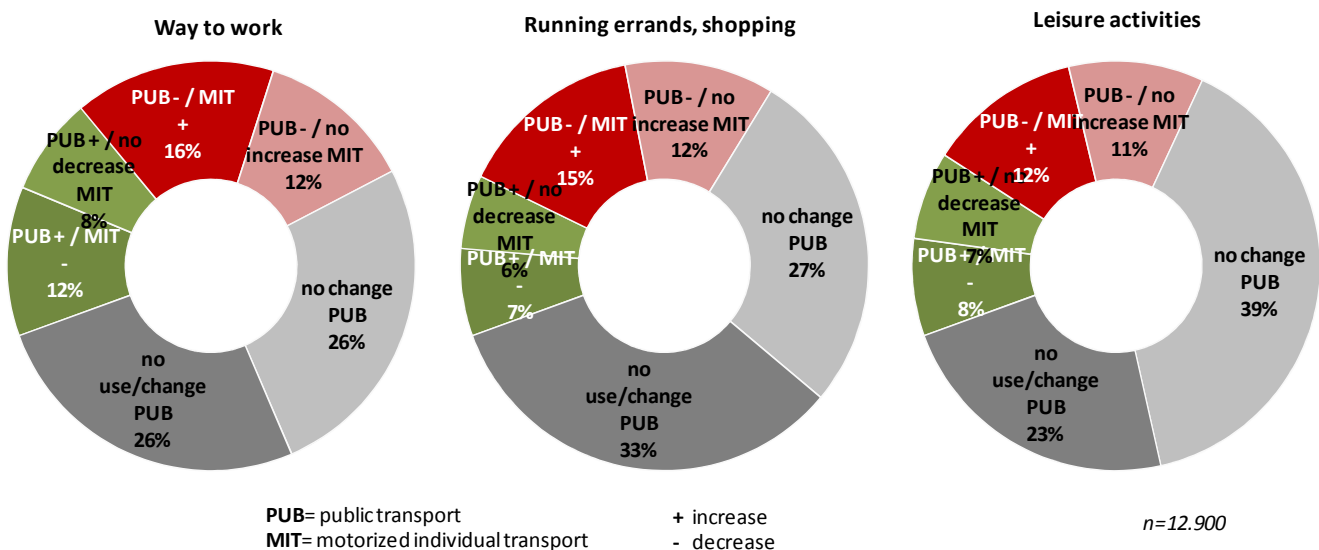
Swing users do either

- Use more public transport (PUB+, MIT 0+),
- Increase public transport instead of motorized individual transport (PUB+, MIT-),
- Use Less public transport (PUB-, MIT0-) or
- Increase motorized individual transport instead of public transport (PUB-, MIT+).

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 61 Changes in the mobility-mix in the last five years (by travel purpose)



For all travel purposes, up to 48% of the populations do register a change in their use of public transport in the last five years.

The highest amount of swing users can be found with respect to their *mobility on the way to work* (48% change of any kind). The stable PUB-users and PUB non-users have equal proportions (26% each). 20% of the population report a change towards more PUB on their way to work, more than regarding shopping (13%) or leisure activities (15%).

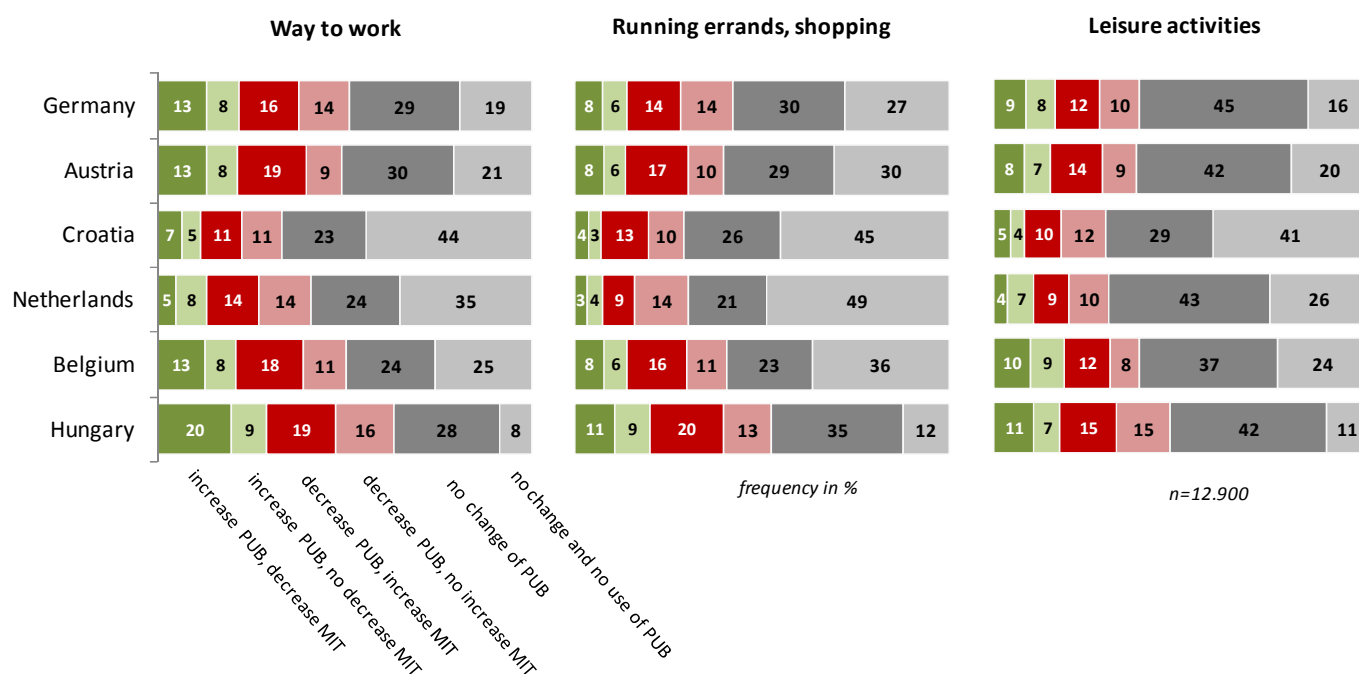
In total, slightly more swing users have been identified changing away from PUB than towards PUB for all travel purposes, especially when running errands / shopping (27% vs. 13%). This result is based on the *number of swing users* shifting and not on the intensity of their daily mobility. Therefore, no conclusions can be drawn regarding the *modal split* from these results.

It is positive to note that the four swing user groups that form the methodological basis of the survey each make up a relevant proportion of the population. It is adequate to perform the analysis of the change in behaviour in all four groups.

The next figure shows the changes in the mobility mix individually for each country.

As with the intensity of use, also the patterns of change in the mobility mix clearly depend on the travel purpose and the country. In comparison between the countries, the *general level of change* differs considerably between the countries.

Figure 62 Changes in the mobility-mix in the last five years (by travel purpose and country)



There are 64% swing users on their way to work in Hungary and only half of them (34%) in Croatia. The 'PUB-' Groups show fewer differences between the countries than the 'PUB+' groups, which vary considerably between 6% (Shopping Croatia) and 29% (Way to work Hungary, including 20% more PUB instead of MIT).

The ranking of countries regarding their proportion on swing users is, on the other hand, quite similar for all travel purposes, Hungary ranking first and Croatia last.

Do Swing users, which are the USEmobility target-population, differ systematically from citizens with no change in their PUB-use? The USEmobility database shows that

- Regions with a Metropolitan character like Brussels, Central Hungary (including Budapest) or Austria (including Wien) show a significantly higher proportion of PUB+ users. Central Hungary has the highest proportion of PUB+ users, Northern Netherlands and Central & Eastern Croatia the lowest.
- Concerning age, the proportion of swing users varies between the age groups. Age groups with a high probability of changes in the personal / private situation (15-24, 65-99) show a higher proportion of swing users than users in mid-life.
- In the age group of 65+ years, the users show a very travel-purpose specific change pattern. They seem to adapt their mobility mix to their individual mobility demands for their travel purposes.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

6.3 SEGMENTS OF CHANGE

We now introduce an advanced segmentation of the swing users, the *Segmentation of Change*. This segmentation focuses on types of changes characterising the ‘swing’ that happened in the group of swing users.

To avoid a definition of a group of swing users ‘with no distinct change’ in public transport, the interview screener-process specified in deliverable D3.5 lead to the selection of one of the travel purposes with a PUB change to be the *background purpose* for the rest of the interview.

The swing users are classified according to their background purpose and the direction of change (PUB+, PUB–). Adding to that, the intensity of PUB and MIT *changes* and the intensity of today’s PUB and MIT-use are included in the definition of the new segmentation.

The compilation of the *Segments of Change* leads to four plus four segments:

Figure 63 Segmentation of Change – Definition

MIT and PUB changes	PUB+	PUB–
Complete Change	MIT → PUB	PUB → MIT
Partial Change	MIT → PUB	PUB → MIT
Change only for PUB	Increase PUB	Decrease PUB
Change for both	Increase Both	Decrease Both

The detailed definition of the four PUB+ segments is:

- Segment I Complete change from MIT to PUB**
 Currently high intensity of PUB–use, none or rare use of MIT; high intensity of change to PUB in the last five years; at the same time high intensity of change away from MIT
- Segment II Change from MIT to PUB**
 Change to PUB, but without a high intensity of PUB–use now and without a high intensity of change towards PUB; change away from MIT with rare or no use of MIT now.
Example: Users who use PUB slightly more and at the same time use their car less
- Segment III Only increase of PUB**
 Change towards PUB but no change in the use of MIT;
 ‘No change in MIT’ includes ‘still no MIT-use at all’
- Segment IV Increase of PUB and MIT**
 Change towards PUB and a higher use of MIT (including a higher degree of mobility in general or a lower use of bicycles / going on foot)

Document: USEmobility_WP3_D3.6_ V2B

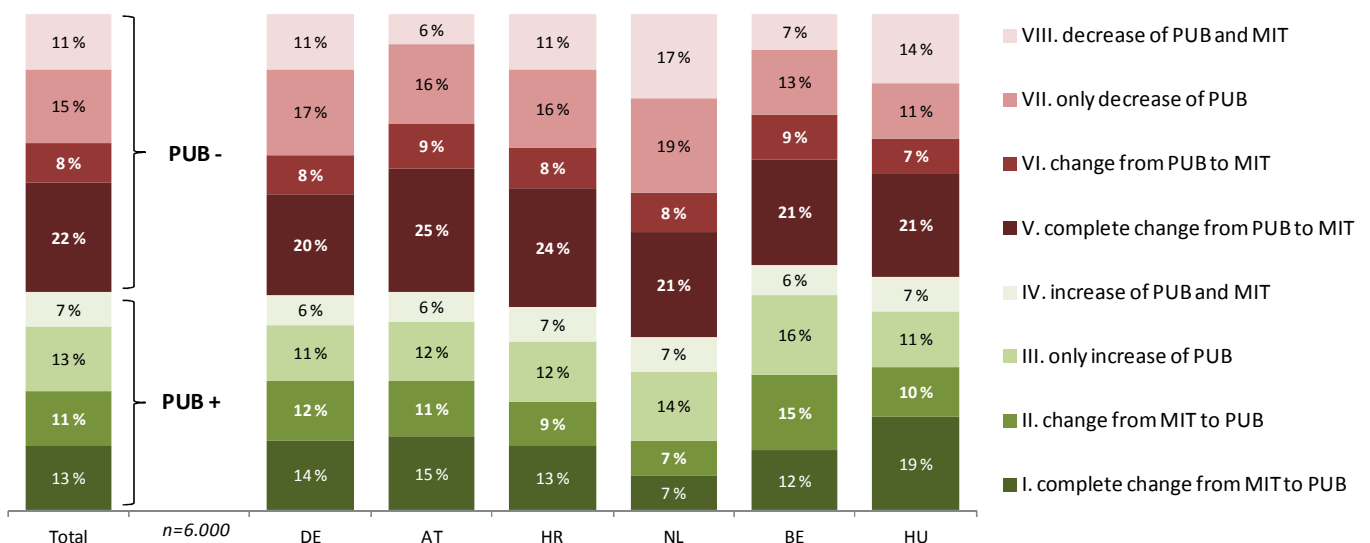
Title: D3.6 ‘Factors influencing behavioural change towards eco-friendly multimodal mobility’

The detailed definition of the four PUB– segments is:

- **Segment V Complete change from PUB to MIT**
Currently high intensity of MIT use, none or rare use of PUB;
high intensity of change towards MIT in the last five years;
at the same time high intensity of change away from PUB
- **Segment VI Change from PUB to MIT**
Change to MIT, but without a high intensity of MIT use now and without a high intensity of change towards MIT; change away from PUB with rare or no use of PUB now.
Example: Users who use their car slightly more and at the same time use PUBT a less
- **Segment VII Only decrease of PUB**
Change away from PUB but no change in the use of MIT;
'No change in MIT' includes 'still no MIT use at all'
- **Segment VIII Decrease of PUB and MIT**
Change away from PUB and a lower use of MIT (including a lower degree of mobility in general or a higher use of bicycles / going on foot)

Segments I-IV mark a change towards a higher individual use of public transport, segments V-VIII mark a change away from public transport. The change in the intensity-of-use in the last five years is based on the *subjective evaluation* of the swing user. USEmobility did not collect any quantitative data regarding number of trips or passenger-kilometres. Therefore, no conclusions can be drawn regarding the *modal split* in the USEmobility area.

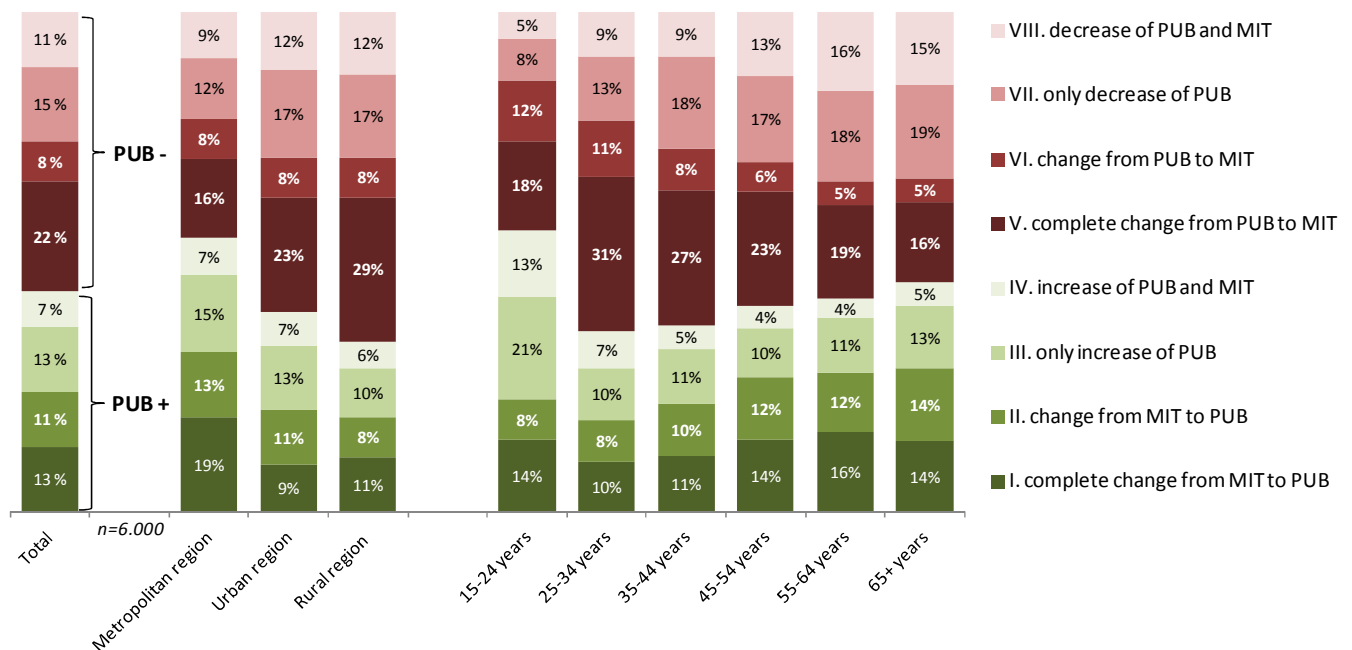
Figure 64 Segments of change by country



In total, 44% of the defined swing users change into PUB, 56% away from PUB, including 22% with a complete change to MIT. About a quarter of the swing-users (24%) form the two key segments that describe a change from motorized individual traffic to public transport. These segments are rather small in the Netherlands (only 14% here).

The highest substantial change from MIT to PUB can be found in Hungary (19% of swing users). Users, for which the change is rather a complete replacement, do change in 13% from MIT to PUB, but in 22% from PUB to MIT.

Figure 65 Segments of change by type-of-region and age-group



The difference between Metropolitan and Rural regions is striking. We find 35% *PUB+* users in rural areas versus 54% in metropolitan areas. In Metropolitan areas, more swing users have decided to use PUB more often in the last five years, while in rural areas more swing users have decreased their use of public transport.

In the age group of 15 to 24 years, we find the highest increase of public transport (56%). The increase drops sharply to 35% in the age group of 25-34 years, wherein one usually finds the start into the working life and the acquisition of the first car. Especially the proportion of complete changes from PUB to MIT rises from 18% to 31%.

With age in further progress, the proportion of *PUB+* changes is in constant rise until in the age-group of 65+ the 'in' and 'out' changes are almost on the same level. From an age of 45 onwards, a stable group of 26% to 28% can be found which at least partially change from motorized individual to public transport.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Region A *S-BAHN SALZBURG* (SALZBURG REGION, AUSTRIA)

A.1 CHARACTERISTICS OF *S-BAHN SALZBURG* SWING USERS

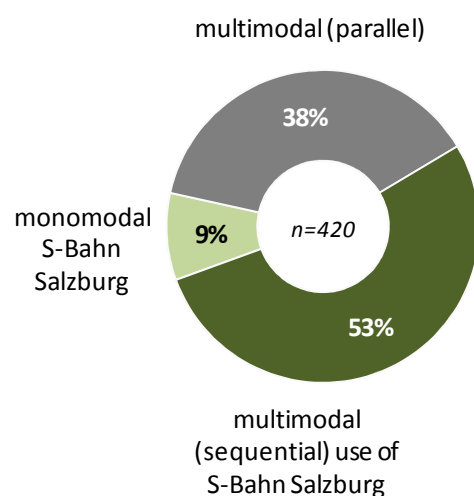
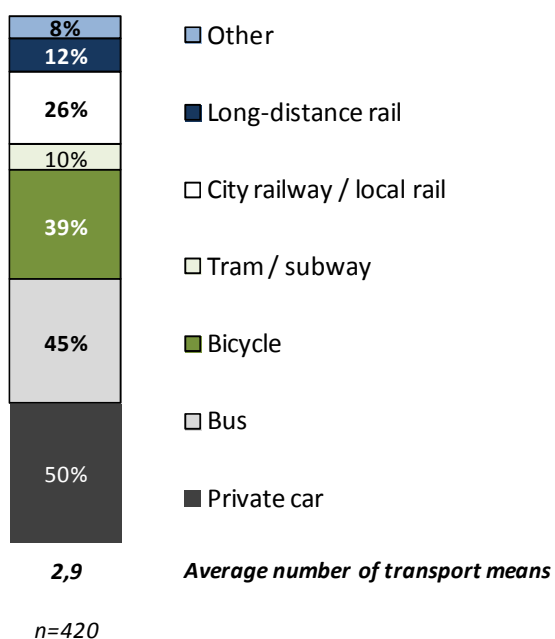
A.1.1 Monomodality / Multimodality

To start the analysis of the regional data, USEmobility looked at the current use of means-of-transport of the *S-Bahn Salzburg* swing users in Western Austria. These swing users, who have changed their mobility mix regarding public transport within the last five years, have usually access to different means of transport, private and public.

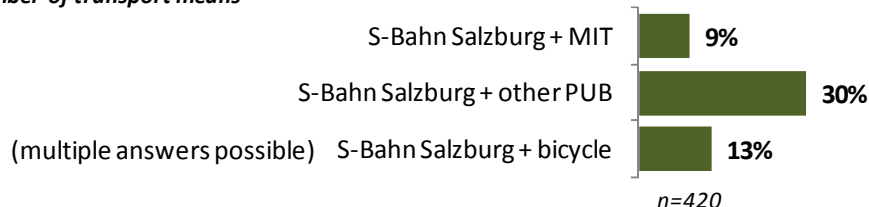
Figure 66 Multimodality / Monomodality of *S-Bahn Salzburg* swing users

Means of transport used besides *S-Bahn Salzburg*

Type of modality



Selected types of sequential multimodality



The most frequent means-of transport used by the *S-Bahn Salzburg* swing users besides the *S-Bahn Salzburg* city railway is private car (50%), bus (45%) and bicycle (39%), but other city rail / local rail is with 26% in strong use, too.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

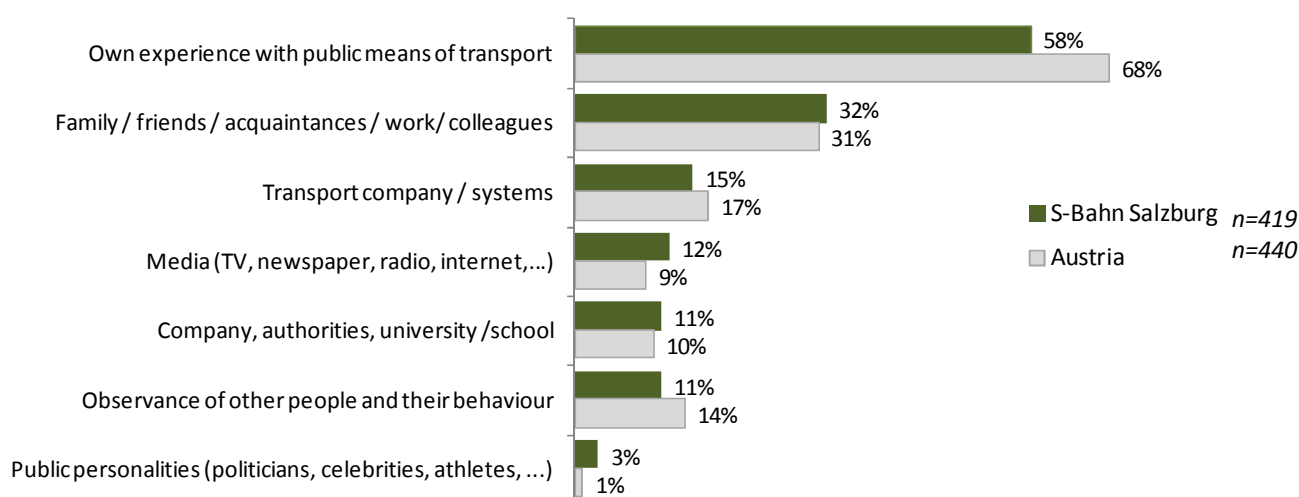
Salzburg swing users show a high percentage of 53% sequentially multimodal use, i.e. multimodal combinations with S-Bahn Salzburg during the journey from the starting point to destination.

The most common combination with 30% in the mobility mix is S-Bahn Salzburg with other public transport means (PUB). Other typical combinations of the S-Bahn Salzburg are with bicycle (13%) and with motorized individual transport (MIT, 9%).

A.1.2 Information behaviour and influence

USEmobility looked at possible sources including own experience and information about transport services from other sources that might have informed or motivated swing users to change their mobility mix and compared them to swing users in the whole country.

Figure 67 Sources of information / motivation to use S-Bahn Salzburg



The own experience is the leading source of information for the decision to increase the use of S-Bahn Salzburg, although it plays with 58% a weaker role than in total Austria. For more than one third of swing users the information received from the family, friends, acquaintances or work colleagues played an important role in decision to use the services (32% of S-Bahn Salzburg vs. 31% of total Austria).

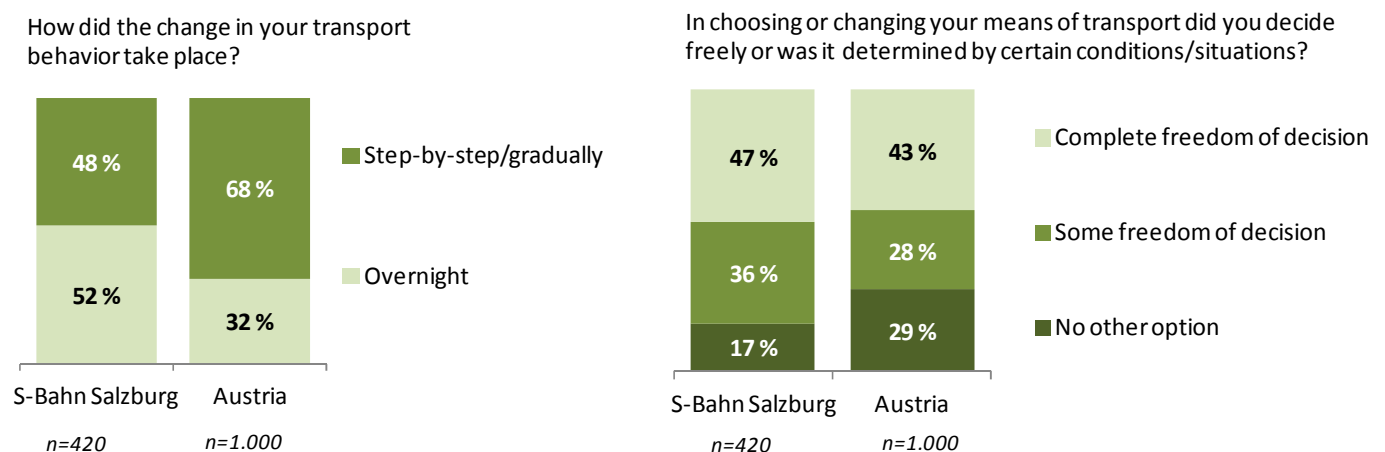
Information directly from the S-Bahn Salzburg transport company was influential in 15% of the cases.

The influence of the information about the services of S-Bahn Salzburg provided by the media was slightly higher than on the national level (12% vs. 9%)

A.1.3 Type of change and perceived freedom of choice

Important characteristics of the change itself are how the change took place (step-by-step or overnight) and the perceived freedom of decision.

Figure 68 Type of change and perceived freedom of choice of S-Bahn Salzburg swing users



Obviously, the decision for an increased use of S-Bahn Salzburg mostly took place overnight (52%), a quite high proportion in comparison to the average swing user in Austria (32%).

In Salzburg, the change is much more connected with the freedom of decision. Only 17% of the S-Bahn Salzburg swing users had no other option, compared to 29% of the Austrian swing users.

A.2 REASONS FOR CHANGES-IN-BEHAVIOUR

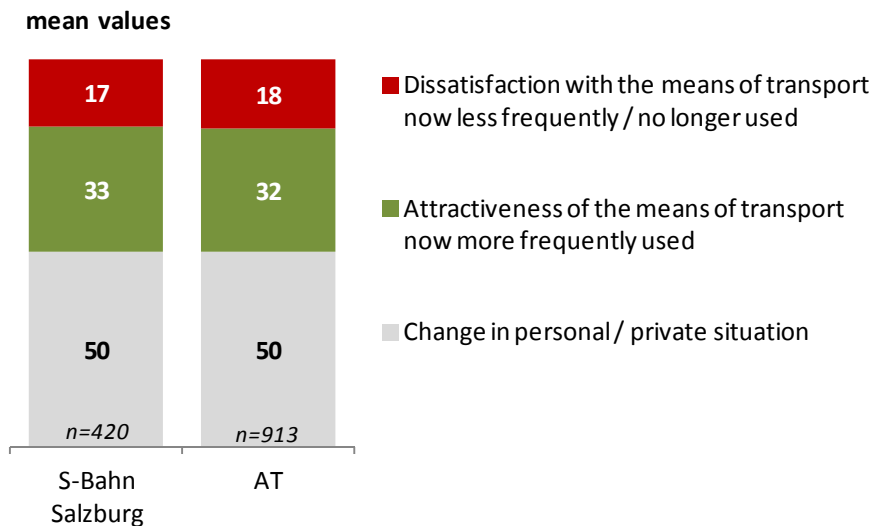
A.2.1 Types of reasons for the changes in behaviour

The USEmobility approach focuses on the reasons for the increased use of public transport in the region. S-Bahn Salzburg users report three types of reasons:

- Changes in personal / private situation
- Attractiveness of the S-Bahn Salzburg
- Dissatisfaction with the means of transport now less frequently / no longer used

Figure 69 Main types of reason for a change in use of S-Bahn-Salzburg

Please distribute a total of 100 points among the following categories.



The USEmobility data shows that it is rarely one type of reason alone that drives the decision to use more PUB in Salzburg. Only 15% of the swing users decided for one type of reason alone, mostly change in personal / private situation.

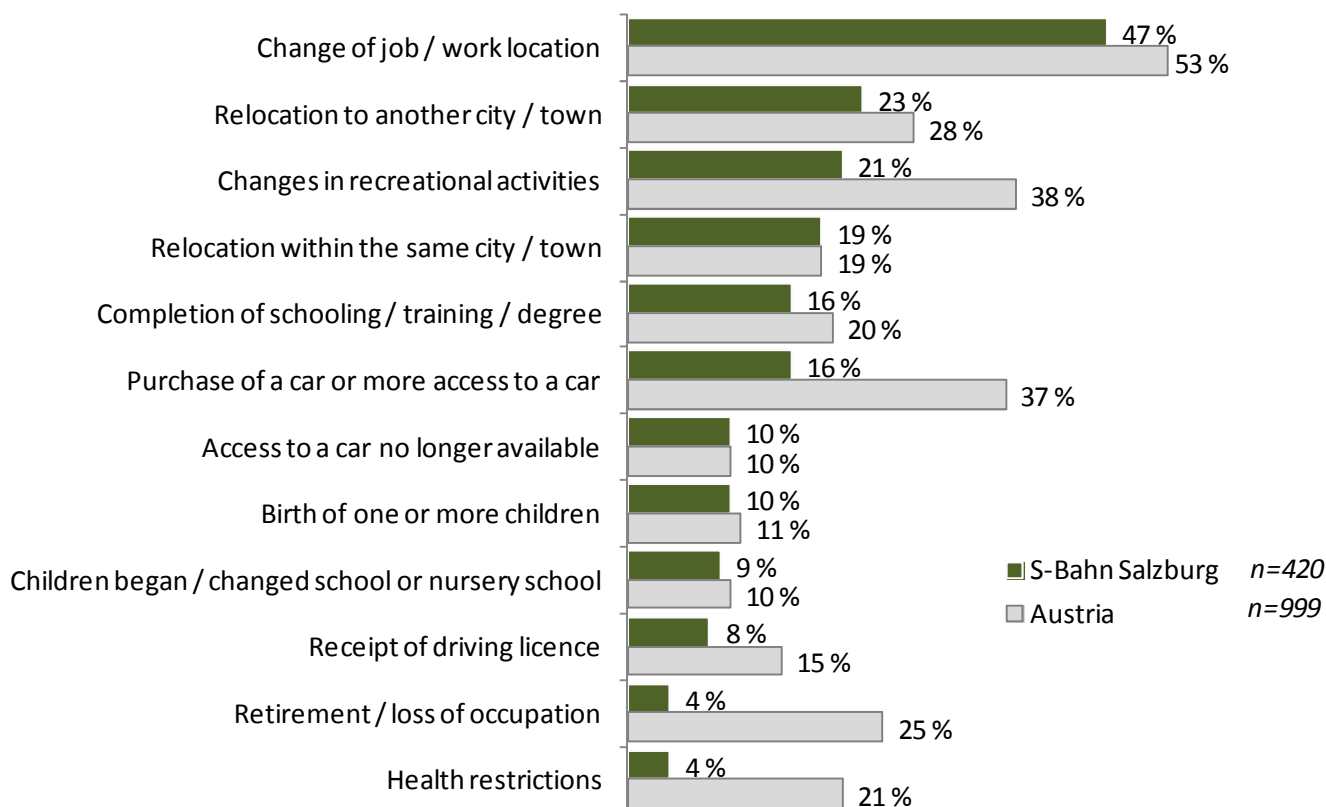
Most swing users report a mix of the three categories. Main type is the change in personal situation with on average half of the relevance, followed by the attractiveness of the S-Bahn Salzburg in one-third of the cases. Dissatisfaction with the means-of-transport formerly used has only half of the relevance of its attractiveness.

A.2.2 Changes in the Personal / Private situation

Since the changes in the personal / private situation play such an important role in the reason-mix, we now look at them in more detail.

Figure 70 Changes in the personal situation of S-Bahn Salzburg swing users

Has anything changed in your personal/private situation in the last five years?



In total, we find fewer changes in the personal situation among Salzburg swing-users than among Austrian swing users in general.

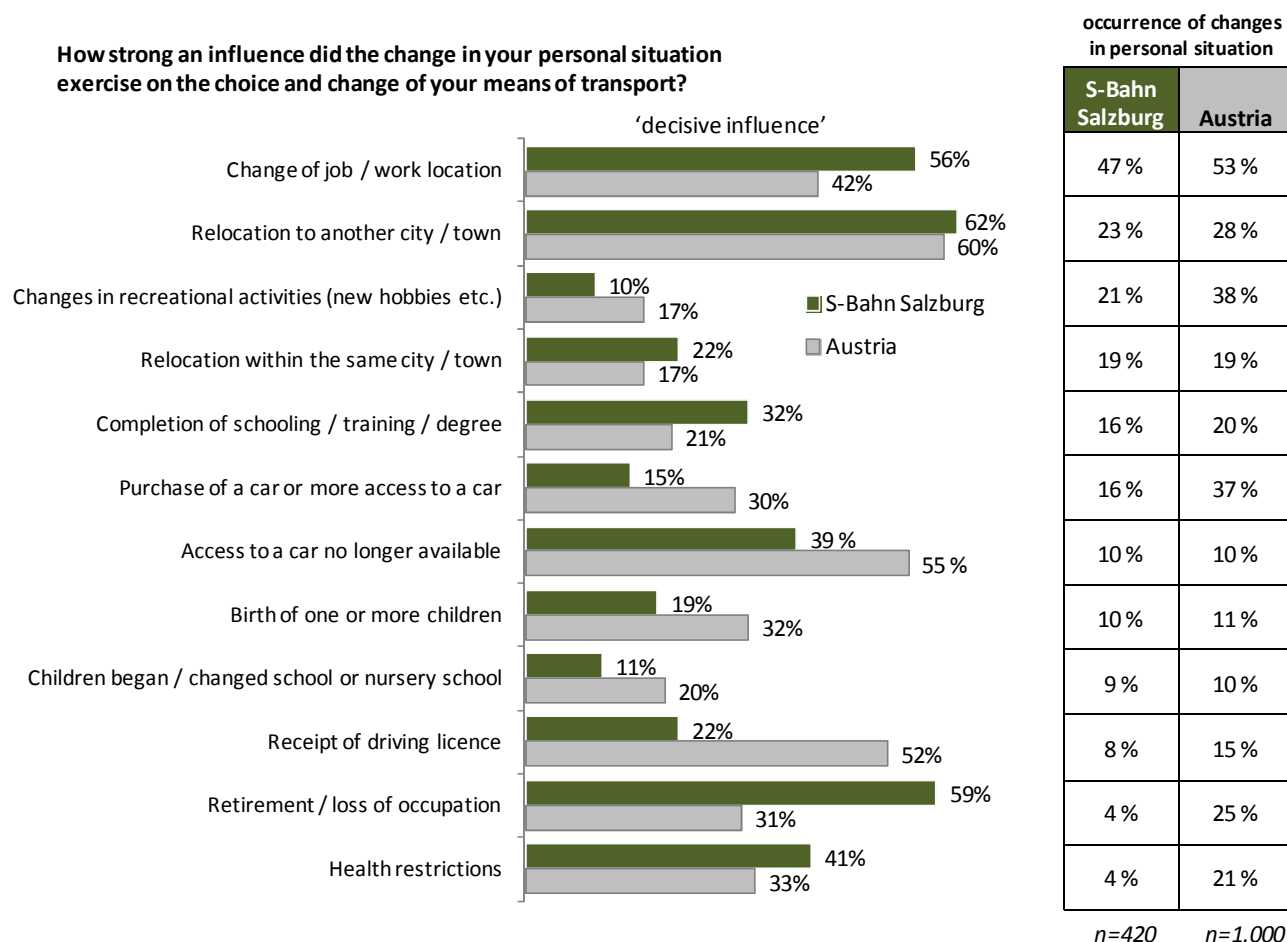
Almost half of the S-Bahn Salzburg swing users had a change of job / work location in the last five years. As with the Austrian swing users, this was the most common type of personal change.

Further decisive changes in Salzburg are the relocation to Salzburg from another town (23%) or within Salzburg (19%) as well as a change in the recreational activities (21%), although on a much lower level as in total Austria (38%).

In comparison to the Austrian Swing users, some types of personal change are much rarer including *retirement / loss of occupation* and *health restrictions*.

Even more than the occurrence, the importance of these types of change has to be analysed. Types of change that have a high leverage on the decision to use more public transport, combine high occurrence and high importance for the decision to change (see next figure).

Figure 71 Relevance of changes in the personal situation on the decision to use S-Bahn Salzburg



The highest influence on the decision to change has a

- Relocation to Salzburg (62% decisive influence) and / or
- Change in the job / work location (56% decisive influence)

Both factors have a high influence and a high occurrence and therefore a high leverage.

In case of the occurrence of *retirement / loss of occupation* and *health restrictions*, the influence is often on a high level as well, but they are quite rare among S-Bahn Salzburg swing users.

In comparison with their Austrian counterparts, *change of job* (56%) and the *completion of schooling and training* (32%) have a more decisive influence among S-Bahn Salzburg swing users. No availability of a car is less decisive for the swing users of S-Bahn Salzburg.

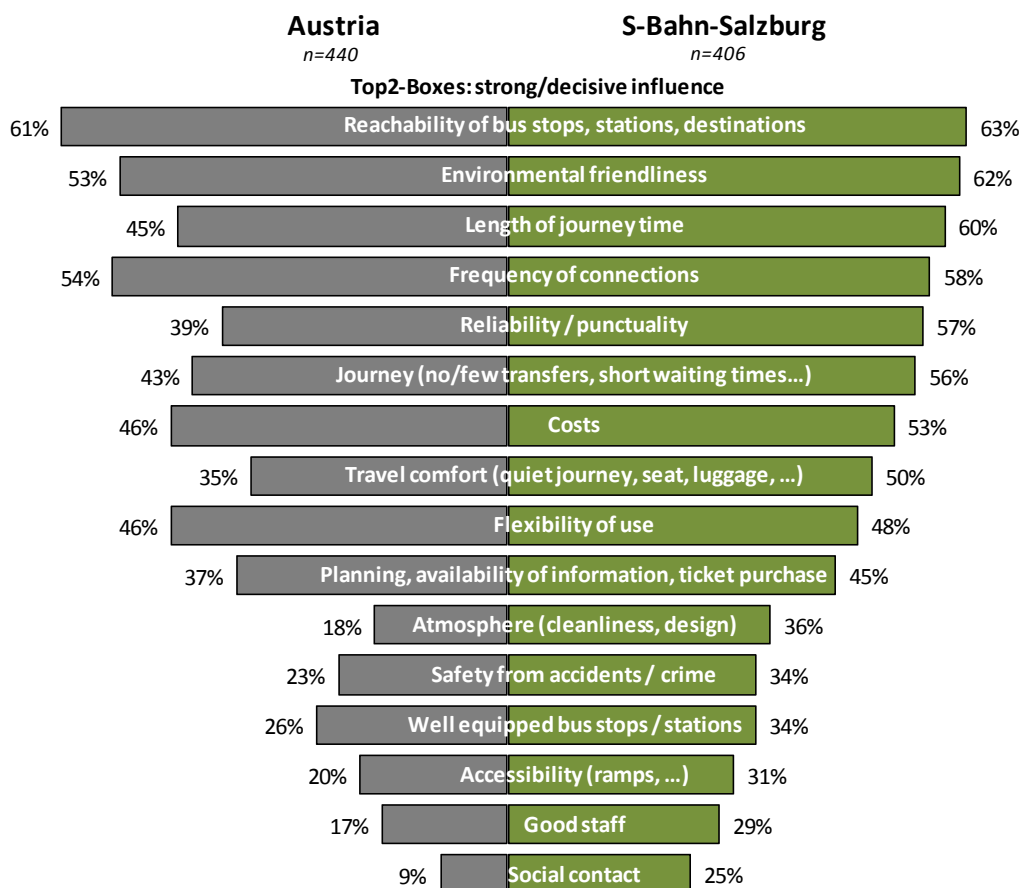
A.2.3 Reasons for the increase of public transport

USEmobility has put its central focus on the reasons for an increase of public transport, which are rooted in the public transport system itself. As we have seen in A.2.1, factors connected to the transport offer can act as *Pull-in factors attracting citizens* into the public transport system or increase their use.

The next figure shows the proportion of cases, which have reported a strong or decisive influence on the primary factors. We see a comparison between swing users of S-Bahn Salzburg (right) and the average Austrian swing-user (left).

Figure 72 Influence of primary pull-factors to use more PUB (Austria & S-Bahn Salzburg)

Which characteristics have convinced you to use PUB more often



Regarding all primary pull-in factors, predominantly the 'hard' factors *good reachability* (63%), *short journey time* (60%), *high frequency of connections* (58%) as well as *reliability / punctuality*, *few transfers / short waiting times* and *low costs* lead to an increased use of S-Bahn Salzburg. The only 'soft' factor with a high pull-in potential is *environmental friendliness* (62%)

From the classical 'soft' pull-in factors, the *travel comfort* has the highest relevance for a PUB+ change. Other soft factors like a *pleasant atmosphere* during the journey, a *high impression of security*, *well equipped stations* etc. have all a rather low relevance for the change. They have to be considered as supplemental factors supporting the effect of the hard factors.

In comparison with the average Austrian swing-users, hard factors like short journey times and high reliability and soft factors like high travel comfort, pleasant atmosphere and good staff get a higher rating with S-Bahn Salzburg.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 73 Influence of secondary characteristics to use S-Bahn Salzburg more often (I)

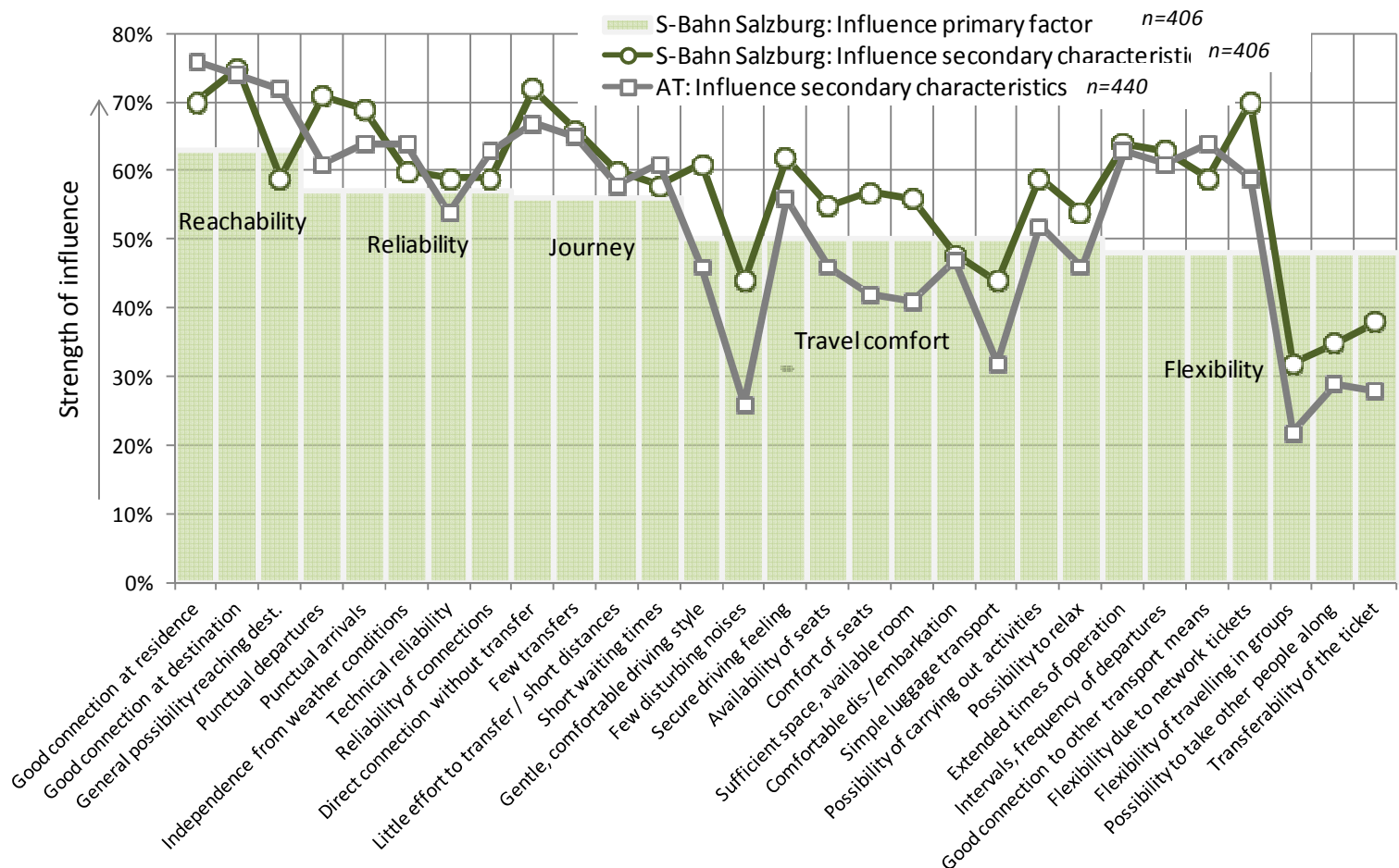


Figure 73 and Figure 74 give an overview over secondary characteristics, which can be seen as specifications of the primary factors mentioned above. The comparison S-Bahn Salzburg / Austria in Figure 73 shows:

- Punctuality of S-Bahn Salzburg serves as a stronger influence than general punctuality in Austria. Direct connections without transfers have a higher relevance for S-Bahn Salzburg users than for Austrian swing users.
- A gentle driving style and secure driving feeling are recognized as strong pull-in aspects
- All secondary aspects concerning travel comfort show higher than average relevance.
- The importance of flexibility due to the use of Salzburg area network tickets is striking in comparison with the Austrian situation in general.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 74 Influence of secondary characteristics to use S-Bahn Salzburg more often (II)

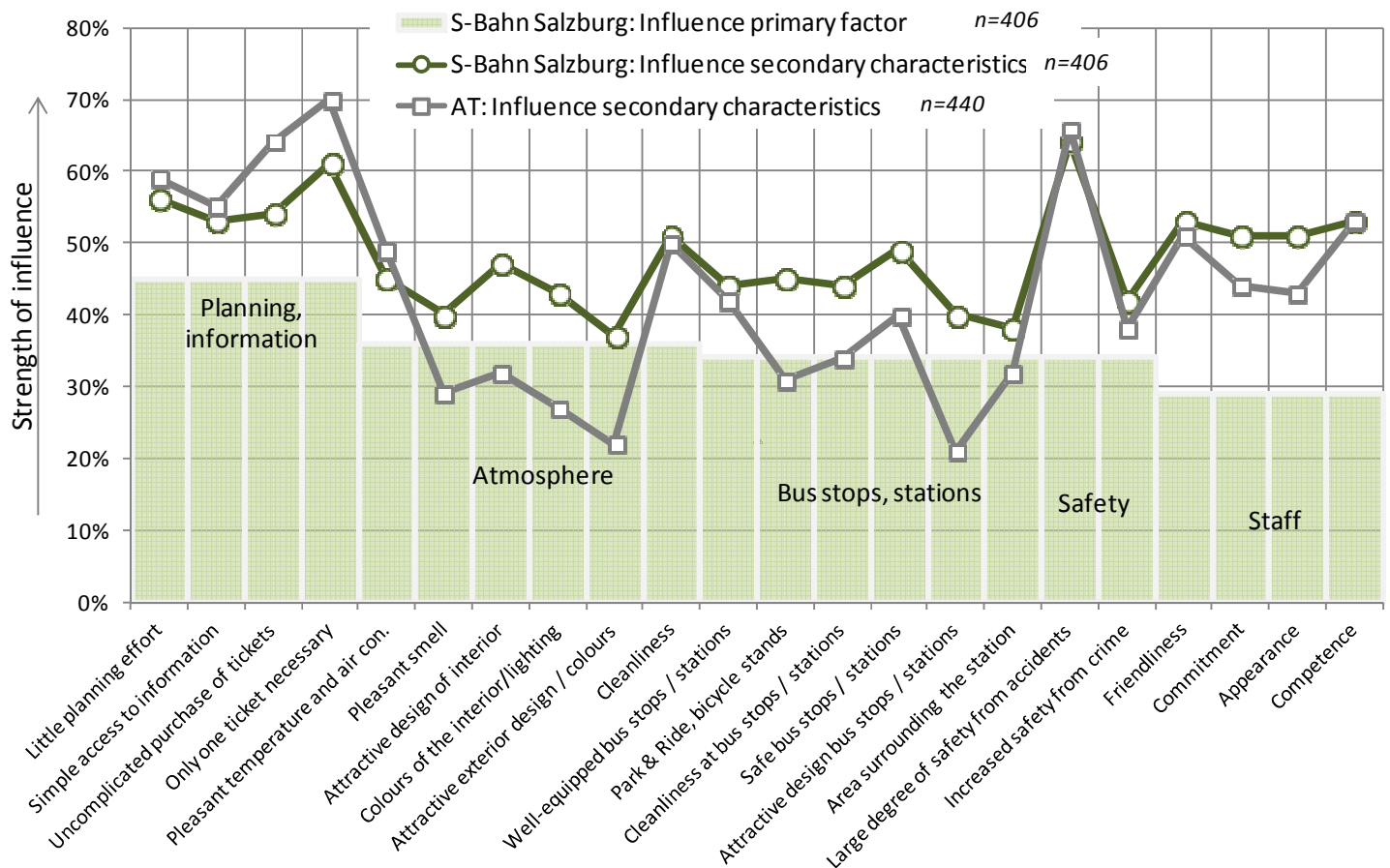


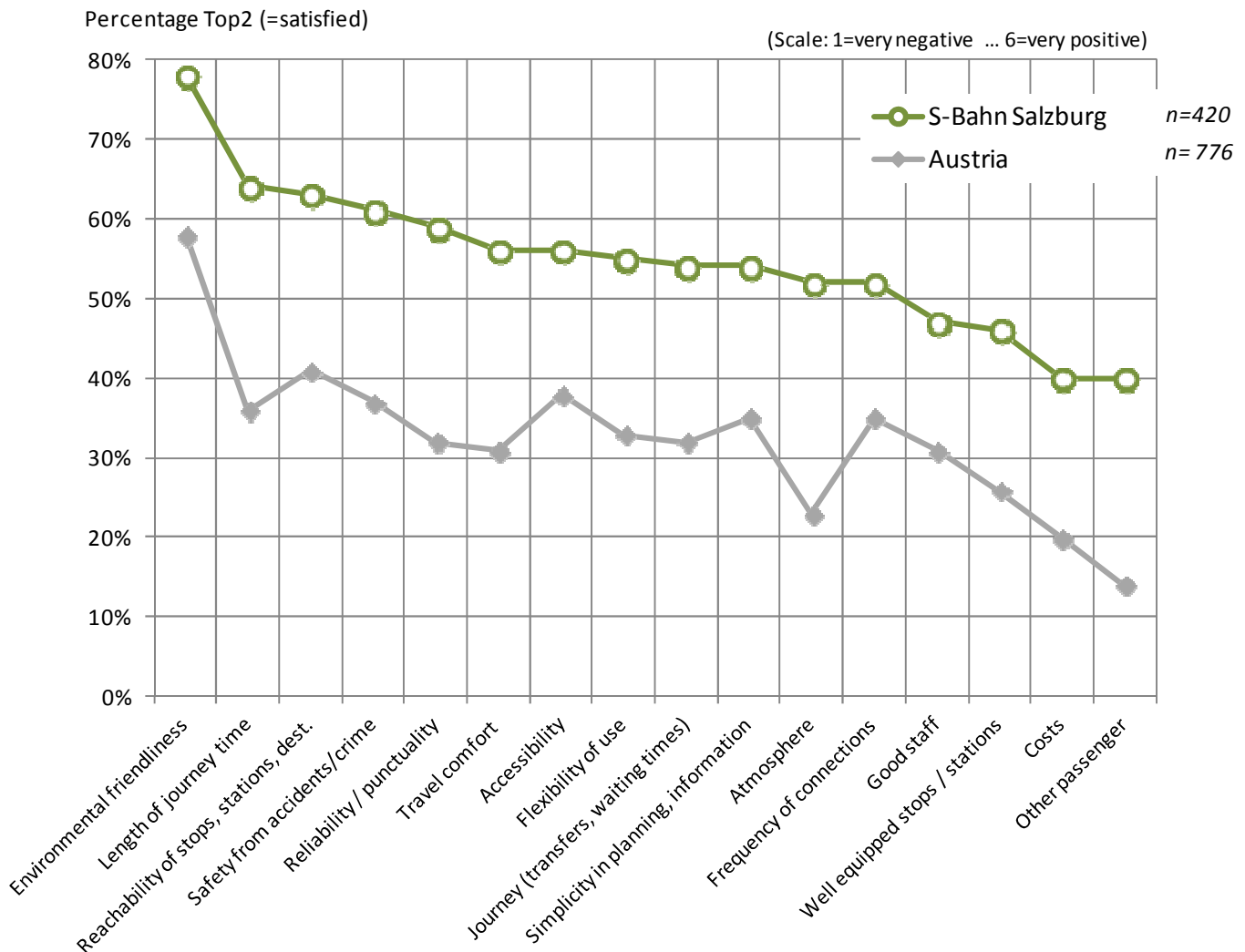
Figure 74 shows for the second part of the secondary characteristics:

- The advantage to use only one ticket is of high relevance with S-Bahn Salzburg swing users, as it is generally with Austrian swing users.
- Another important secondary aspect in Salzburg and Austria is safety from accidents.
- The relevance of characteristics concerning pleasant atmosphere, good equipment of stations, and good staff is lower than the importance of *one ticket* or *safety from accidents*. However, the importance of these aspects is higher among the S-Bahn Salzburg swing users than among all Austrian swing users.

A.3 PUBLIC TRANSPORT TODAY AS SEEN BY S-BAHN SALZBURG USERS

Since the S-Bahn Salzburg was successful in gaining new passengers, USEmobility asked users for current evaluations.

Figure 75 Current evaluation of the S-Bahn Salzburg offer in comparison with PUB in Austria



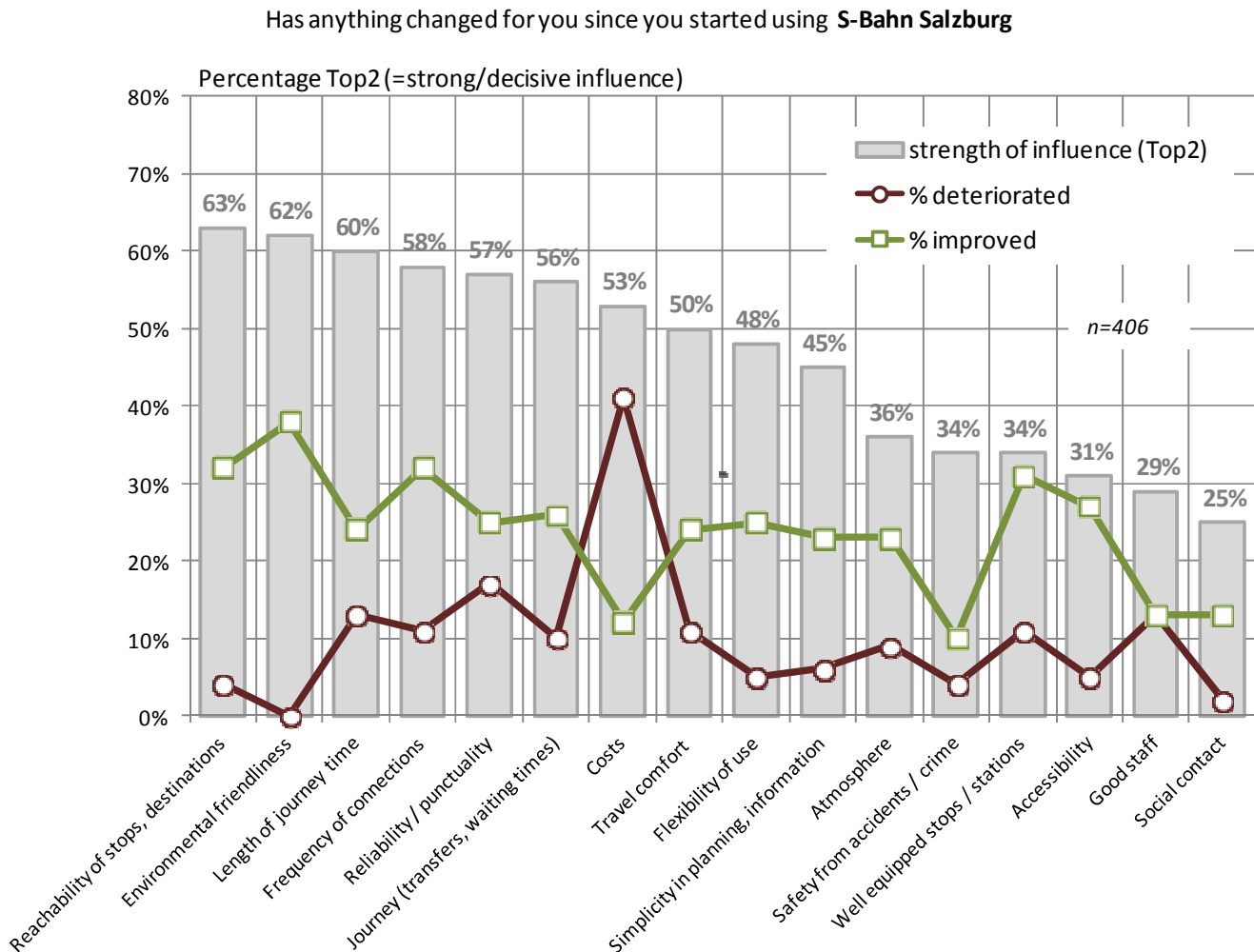
The comparison between all swing users in Austria and S-Bahn Salzburg swing users shows that in Salzburg all primary factors concerning the transport offer are rated much better.

Environmental friendliness, short journey time and good reachability of stations rate well beyond 60% satisfaction. Especially *short journey time* and *good atmosphere* are rated much higher by S-Bahn Salzburg swing users than by Austrian swing users.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 76 Perceived Improvements and deteriorations of the S-Bahn Salzburg offer



How to read the figure: ca. 4% of the S-Bahn Salzburg swing users perceived deterioration for reachability. Ca. 32% perceived an improvement for reachability. For 63% of the swing users the primary factor reachability was highly influential to use S-Bahn Salzburg.

S-Bahn Salzburg swing users have reported more improvements than deteriorations over the primary factors since they started using S-Bahn Salzburg. The only evident deterioration is reported in the cost level (40% deterioration). For 53% of the S-Bahn Salzburg swing users, the PUB cost-level was a decisive reason to use public transport more often.

Generally, the percentage of swing users who reported deteriorations is on a low-level considerably below 20%. Higher improvements are seen regarding *environmental friendliness*, *reachability of stations and destinations*, and *frequency of connections*, all being highly relevant factors for an increased use of S-Bahn Salzburg.

Document: USEmobility_WP3_D3.6_V2B

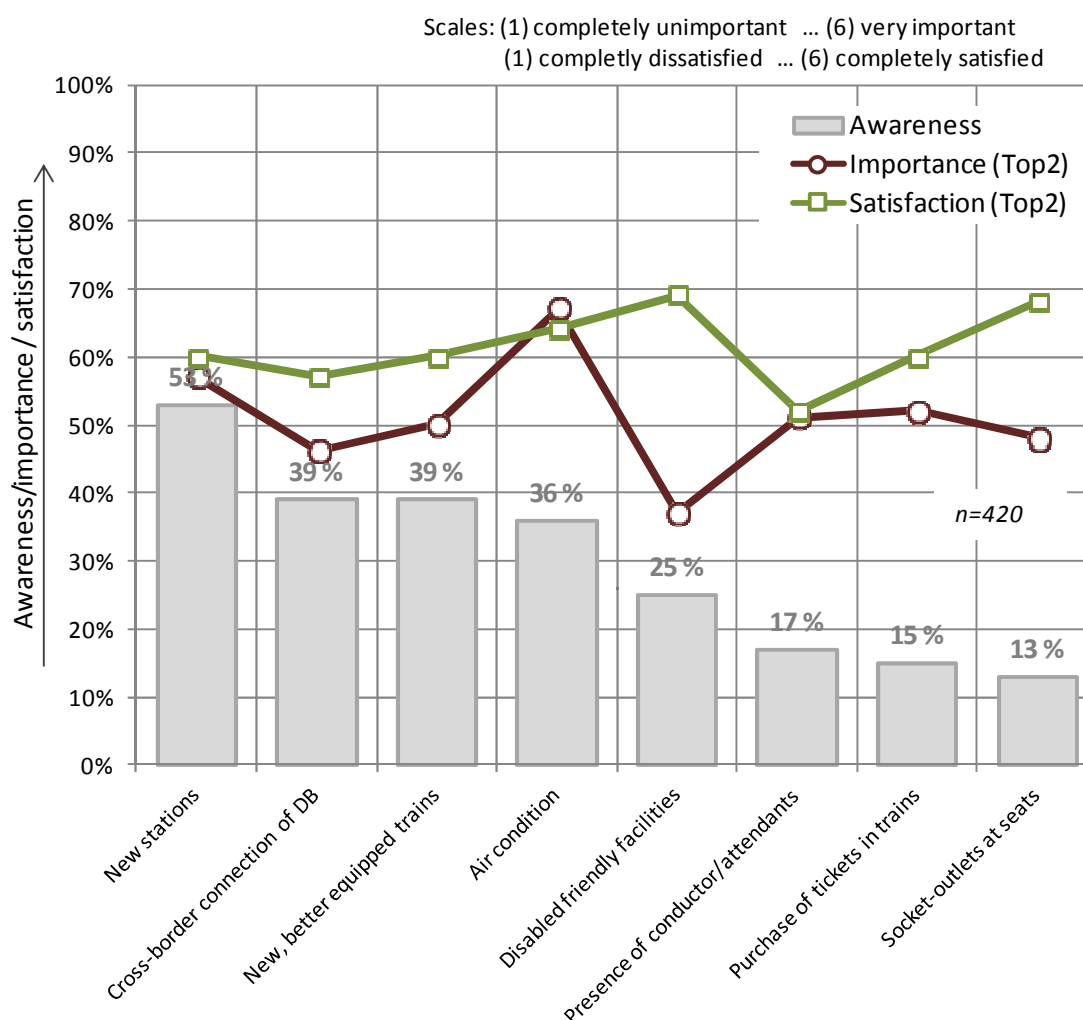
Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Well-equipped bus stops / stations also show a high level of improvement, although this factor has only a relevance of 34%.

A.4 SPECIFIC CHARACTERISTICS OF THE S-BAHN SALZBURG

In this chapter, USEmobility reports on specific aspects of the S-Bahn Salzburg transport offer that have been improved or newly established in the last five years. All specific aspects are surveyed regarding their awareness, importance and satisfaction among the users.

Figure 77 Selected aspects of the S-Bahn Salzburg offer



The figure shows that, for example, 25% of the swing users were aware of disabled friendly facilities. Ca 38% of the swing users think that disabled friendly facilities are important or very important, and ca. 70% of the swing users are satisfied or very satisfied with the current offer of disabled friendly facilities.

Especially for new stations, we find a high *awareness* of 53%. Awareness is on the low side with *presence of a conductor*, *possibility to buy tickets on the train* and *new socket-outlets at the seats* (all below 20%)

We have recorded the highest importance for the air conditioning with 36% awareness and again for new stations (almost 60% importance).

Satisfaction is on a high level between 50% and 70% for all listed factors. We find the highest satisfaction with disabled friendly facilities, although their importance is indicated by only 25% of the swing users.

Region B S-BAHN STEIERMARK (STYRIA REGION, AUSTRIA)

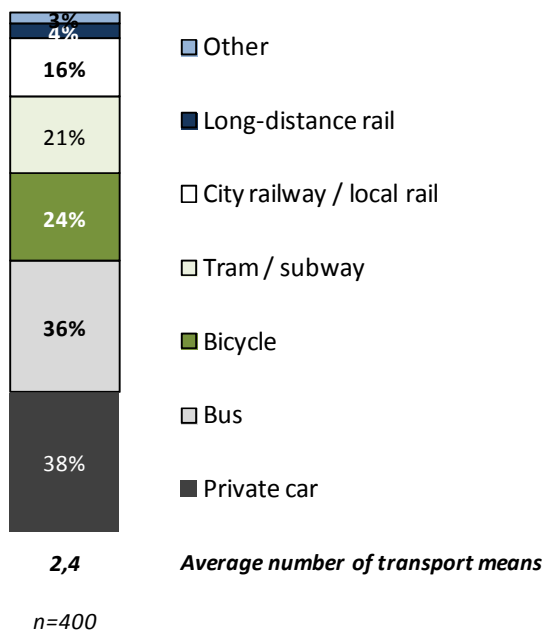
B.1 CHARACTERISTICS OF S-BAHN STEIERMARK SWING USERS

B.1.1 Monomodality / Multimodality

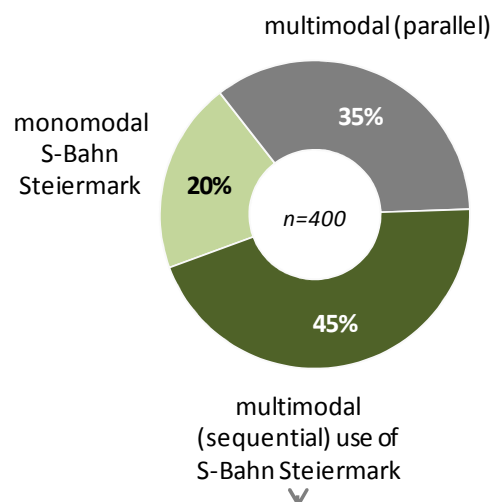
To start the analysis of the regional data, USEmobility looked at the current use of means-of-transport of the *S-Bahn Steiermark* swing users in Western Austria. These swing users, who have changed their mobility mix in the last five years, have usually access to different means of transport, private and public.

Figure 78 Multimodality / Monomodality of S-Bahn Steiermark swing users

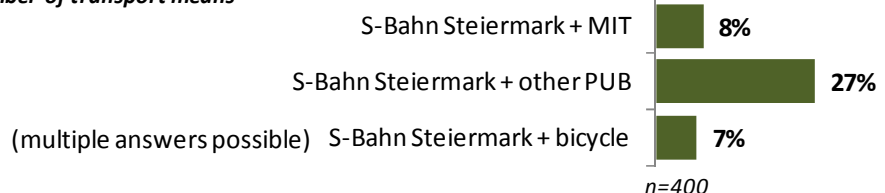
Means of transport used besides S-Bahn Steiermark



Type of modality



Selected types of sequential multimodality



The most frequent means-of transport used by the S-Bahn Steiermark swing users besides the S-Bahn Steiermark is the private car (38%), bus (36%) and bicycle (24%), but tram / subway is with 21% in strong use, too.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

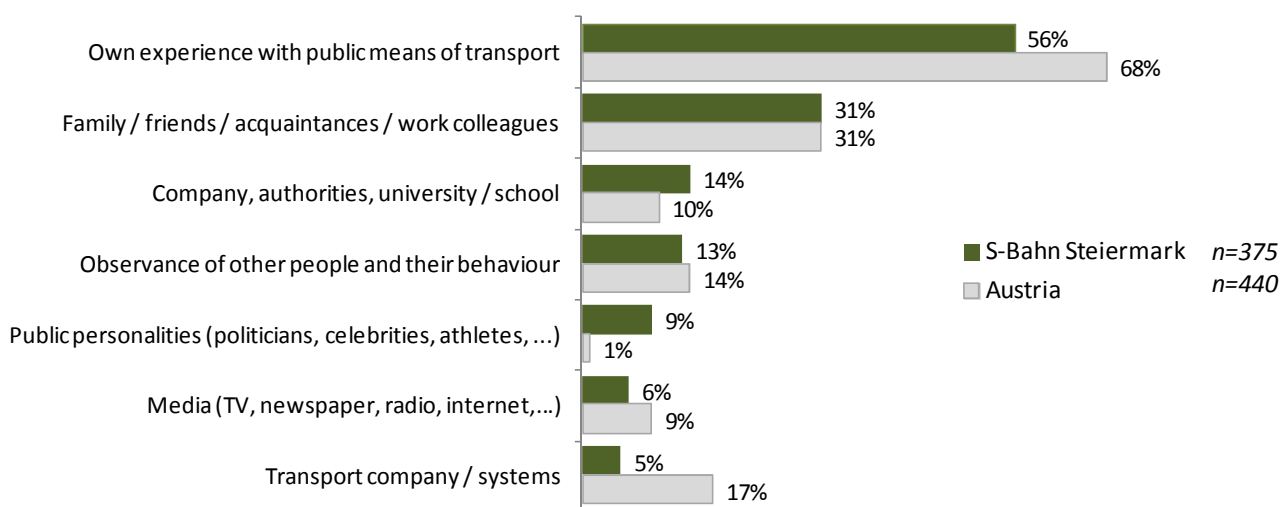
Steiermark swing users show a high percentage of 45% sequentially multimodal use, i.e. multimodal combinations with S-Bahn Steiermark during the journey from the starting point to destination.

The most common multimodal combination is S-Bahn Steiermark with *other public transport means (PUB, 27%)*. Other typical combinations of the S-Bahn Steiermark are with *bicycle (7%)* and with *motorized individual transport (MIT, 8%)*.

B.1.2 Information behaviour and influence

USEmobility looked at possible sources including own experience and information about transport services from other sources that might have informed or motivated swing users to change their mobility mix and compared them to swing users in the whole country.

Figure 79 Sources of information / motivation to use S-Bahn Steiermark



Own experience is the leading source of information for the decision to increase the use of S-Bahn Steiermark, although it plays with 56% a somewhat weaker role than in total Austria.

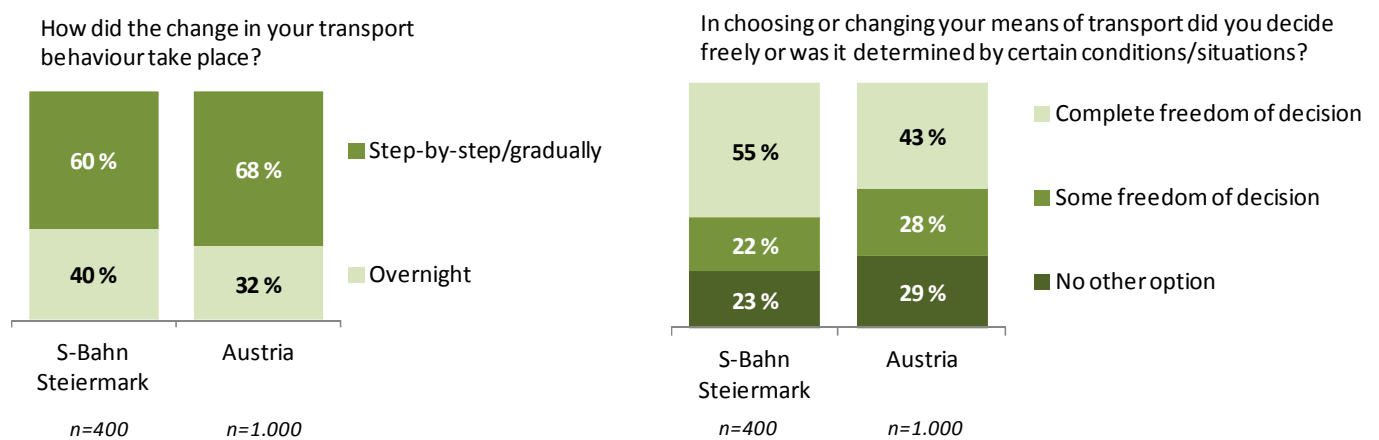
The influence of public persons is with 9% much stronger than on the national level (1%).

Information directly from the S-Bahn Steiermark transport company was influential in only 5% of the cases, well below the national average of 17%.

B.1.3 Type of change and perceived freedom of choice

Important characteristics of the change itself are how the change took place (step-by-step or overnight) and the perceived freedom of decision.

Figure 80 Type of change and perceived freedom of choice of S-Bahn Steiermark swing users



Obviously, the decision for an increased use of S-Bahn Steiermark mostly took place step-by-step. We find slightly more users where the decision took place overnight (40%) than with average swing users in Austria (32%).

In Steiermark, the change is much more connected to freedom of decision. 55% of the S-Bahn Steiermark swing users had *complete* freedom of choice. Only 23% of the swing users had no other option, compared to 29% of the Austrian swing users.

B.2 REASONS FOR CHANGES-IN-BEHAVIOUR

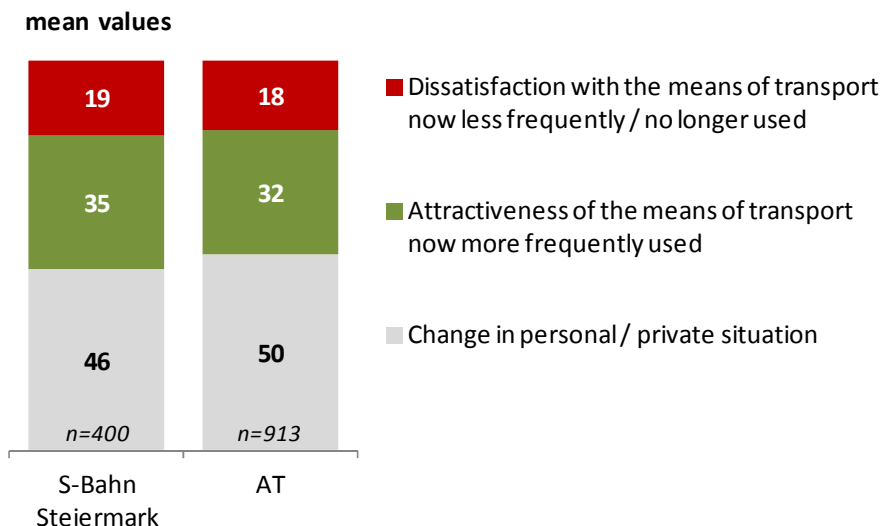
B.2.1 Types of reasons for the changes in behaviour

The USEmobility approach focuses on the reasons for the increased use of public transport in the region. S-Bahn Steiermark users report three types of reasons:

- Changes in personal / private situation
- Attractiveness of the S-Bahn Steiermark
- Dissatisfaction with the means of transport now less frequently / no longer used

Figure 81 Main types of reason for a change in use of S-Bahn-Steiermark

Please distribute a total of 100 points among the following categories.



The USEmobility data shows that it is rarely one type of reason alone, which drives the decision to use S-Bahn Steiermark. Only 20% of the S-Bahn Steiermark swing users decided for one type of reason alone, mostly for a change in personal / private situation.

Most S-Bahn Steiermark swing users report a mix of the three categories. Main type is changes in the personal situation with on average almost half of the relevance, followed by the attractiveness of the S-Bahn Steiermark in one-third of the cases. Dissatisfaction with the means-of-transport formerly used has only about half of the relevance of attractiveness.

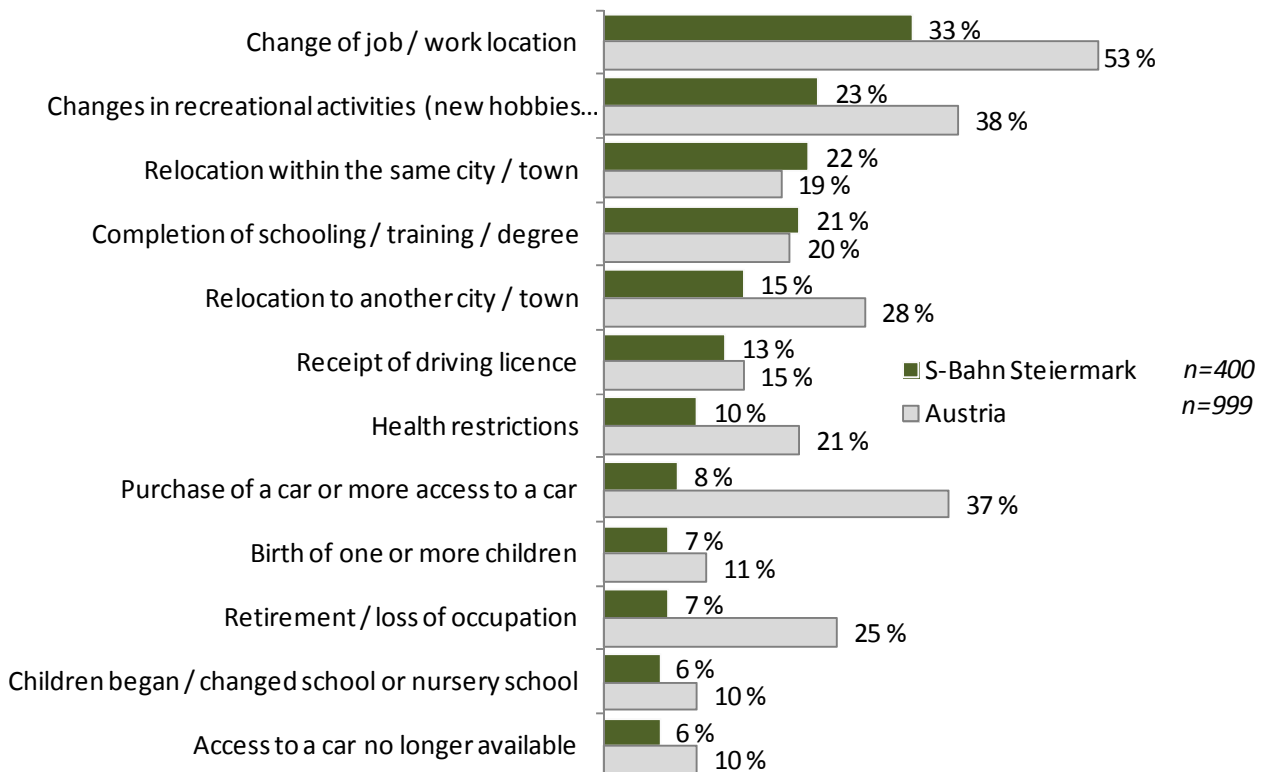
There is a slight difference between S-Bahn Steiermark swing users and the average swing user in Austria. The former are more influenced by pull-factors and less by the changes in the personal situation.

B.2.2 Changes in the Personal / Private situation

Since the changes in the personal / private situation play such an important role in the reason-mix, we now look at them in more detail.

Figure 82 Changes in the personal situation of S-Bahn Steiermark swing users

Has anything changed in your personal/private situation in the last five years?



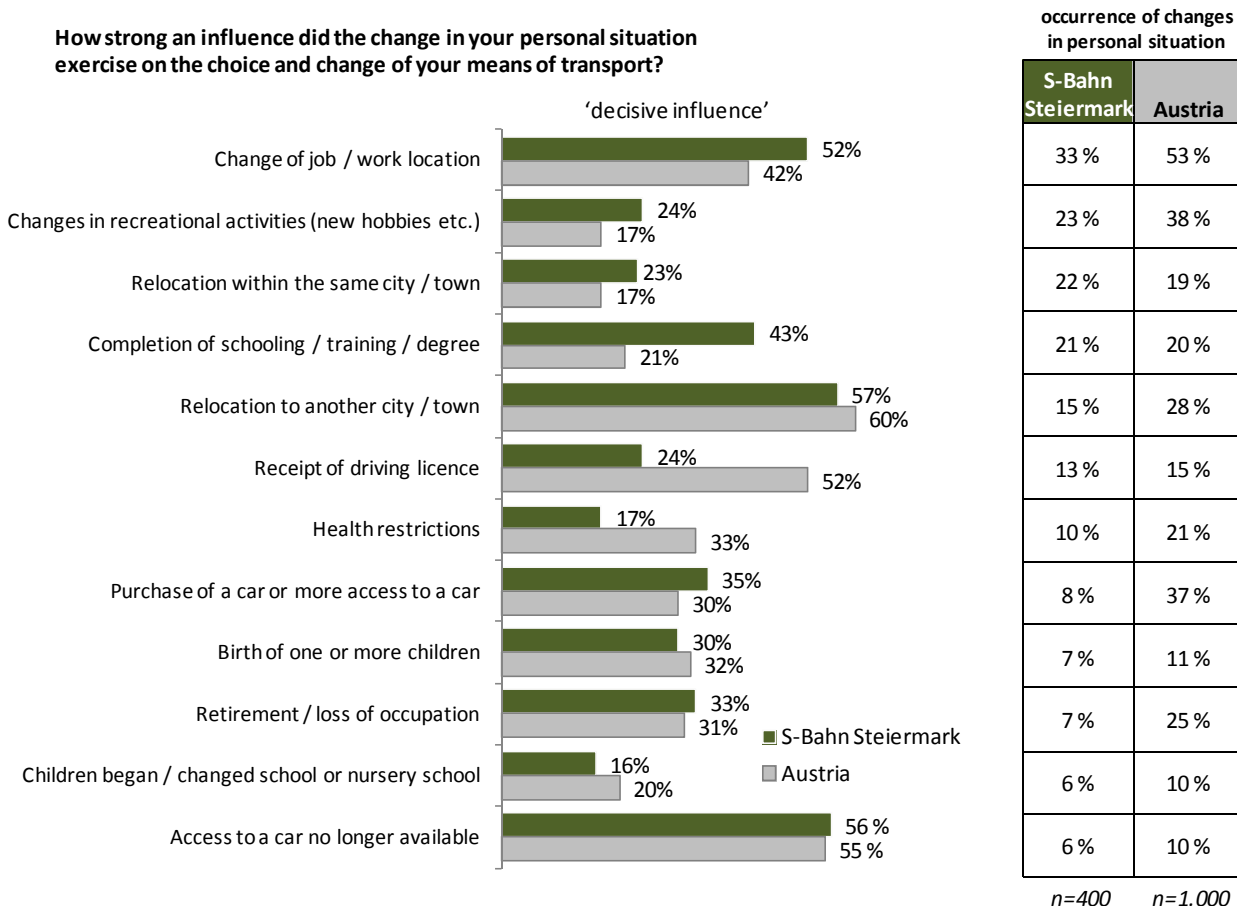
Almost one third of the S-Bahn Steiermark swing users had a change of job / work location in the last five years. As with the Austrian swing users, this was the most common type of personal change (33%), although on a much lower level as in total Austria (53%).

Further frequent changes in Steiermark are changes in the recreational activities (23%, also well below the Austrian average of 38%), the relocation within the Steiermark area (22%) and the completion of school and training (21%).

In total, we find fewer changes in the personal situation among S-Bahn Steiermark swing-users than among Austrian swing users in general.

Even more than the occurrence, the importance of these types of change has to be analysed. Types of change that have a high leverage on the decision to use more public transport, combine high occurrence and high importance for the decision to change (see next figure).

Figure 83 Importance of certain changes in the personal situation on the decision to use S-Bahn Steiermark



The highest influence on the decision to change has

- Relocation to another town in the Steiermark area (57% decisive influence)
- Completion of schooling or training (43% decisive influence) and / or
- Change in the job / work location (52% decisive influence)

A *change in the job location* has a high influence and a high occurrence and therefore a high leverage. *Lost access to a car* has a high influence, but it is quite rare among S-Bahn Steiermark swing users.

In comparison with their Austrian counterparts, *change of job* (56%) and the *completion of schooling and training* (32%) have a more decisive influence among S-Bahn Steiermark swing users; *receipt of a driving licence* and *health restrictions* are not as decisive than among all Austrian swing users.

Document: USEmobility_WP3_D3.6_ V2B

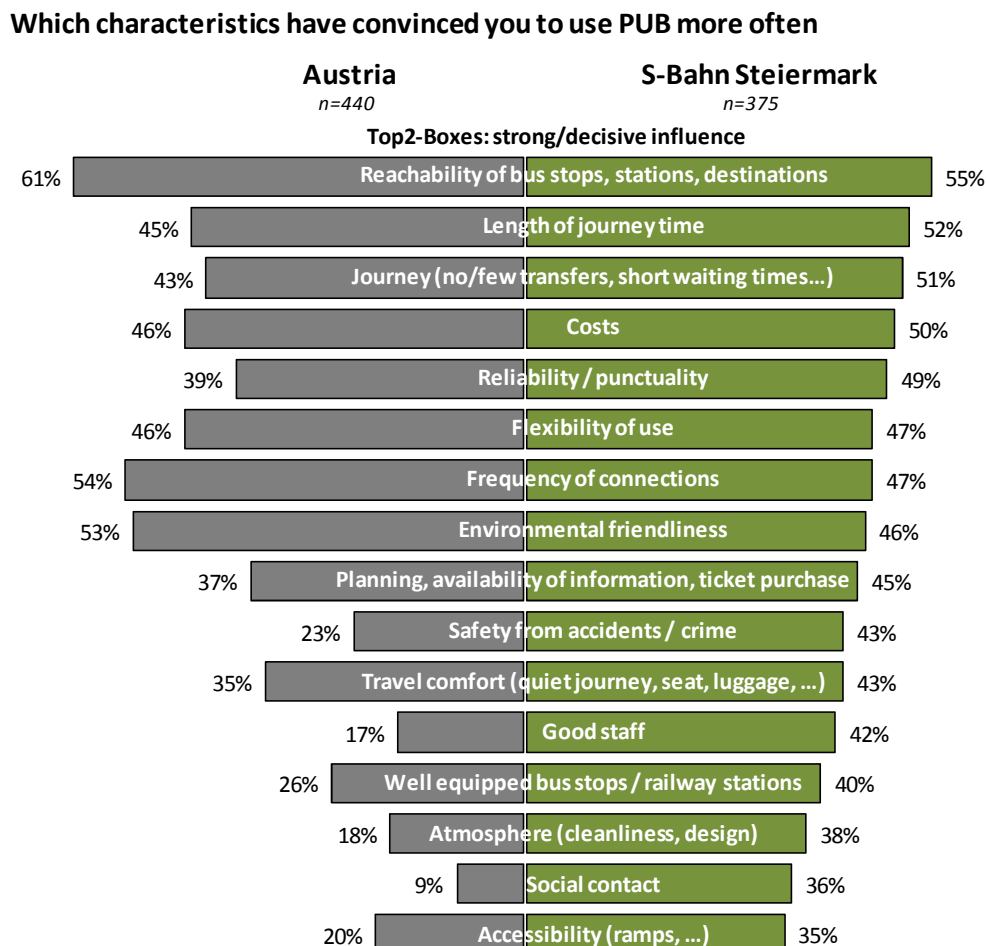
Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

B.2.3 Reasons for the increase of public transport

USEmobility has put its central focus on the reasons for an increase of public transport, which are rooted in the public transport system itself. As we have seen in B.2.1, factors connected to the transport offer can act as *Pull-in factors attracting* citizens into the public transport system or increasing their use.

The next figure shows the proportion of cases, which have reported a strong or decisive influence on the primary factors. We see a comparison between swing users of S-Bahn Steiermark (right) and the average Austrian swing-user (left).

Figure 84 Influence of primary pull-in factors to use more PUB (Austria & S-Bahn Steiermark)



Regarding all primary pull-in factors, predominantly the 'hard' factors *good reachability* (55%), *short journey time* (52%), *few transfers / short waiting times* (51%) as well as *low costs* (50%)

lead to an increased use of S-Bahn Steiermark. The only 'soft' factors with a high pull potential are *high flexibility of use* (47%) and *environmental friendliness* (46%)

From the classical 'soft' pull-in factors, the *availability of information / easy ticket purchase* has the highest relevance for the use of S-Bahn-Steiermark. Other soft factors like *well-equipped stations*, *pleasant atmosphere* during the journey or the possibility of *social contact* have all a rather low relevance. They have to be considered as supplemental factors supporting the effect of the hard factors.

In comparison with the average Austrian swing-users, factors like *reliability / punctuality*, *well-equipped stations* and typical soft factors like a *high impression of safety*, *good staff* or *pleasant atmosphere* have a higher influence with S-Bahn Steiermark.

Figure 85 Influence of secondary pull-in aspects of S-Bahn Steiermark transport offer (I)

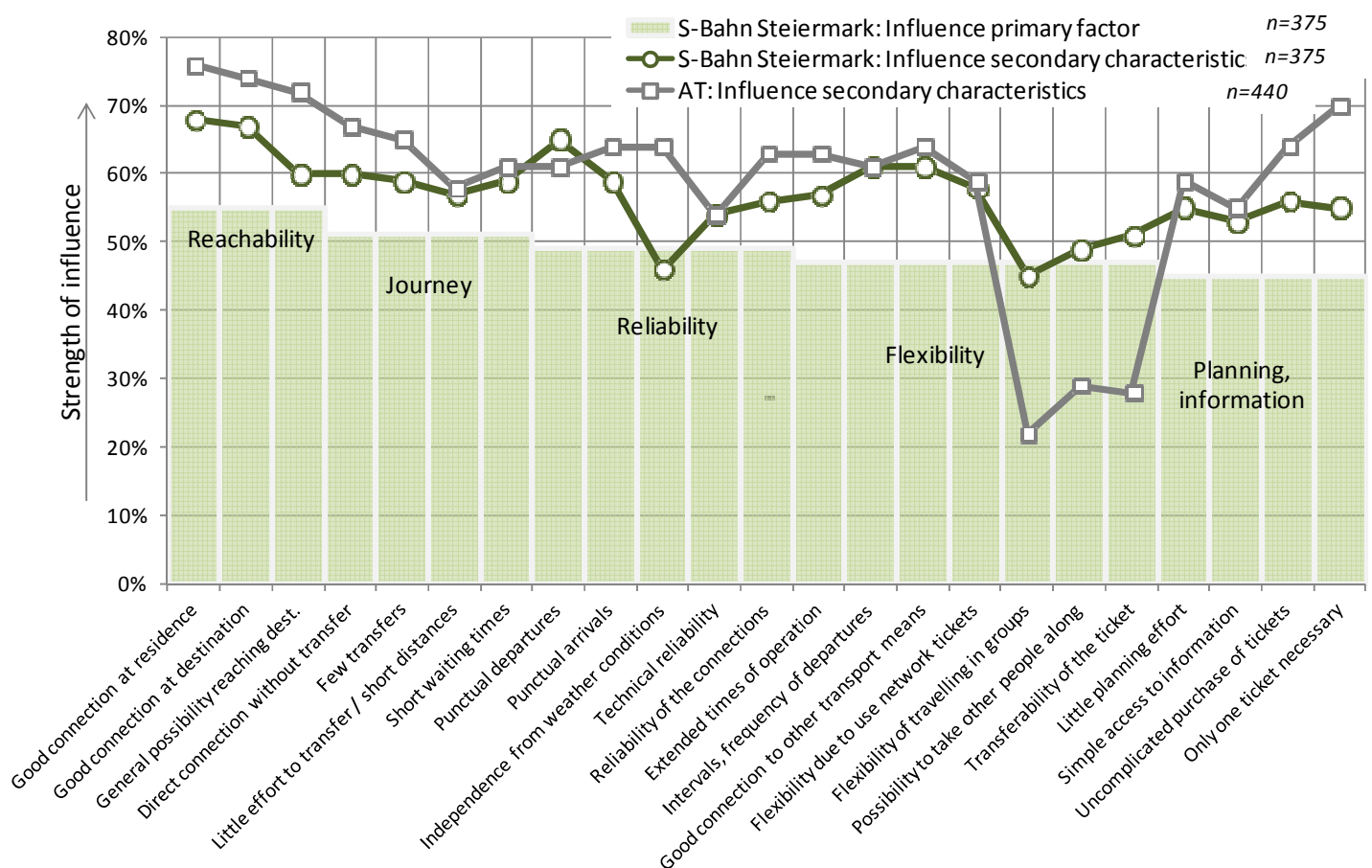


Figure 85 and Figure 86 give an overview over secondary characteristics, which are specifications of the primary factors mentioned above. Figure 85 shows:

- The two strongest pull-in aspects with S-Bahn Steiermark swing users are *good connections at residence and destination*.
- *Punctuality* is an important pull-in attributes with S-Bahn-Steiermark users, even higher than with the average swing user in Austria.
- Characteristics connected to mobility in groups, e.g. *flexibility of travelling in groups* score much higher in their relevance with S-Bahn Steiermark swing users
- The effect of *independence from weather conditions* is considerably lower in comparison with the Austrian result.

Figure 86 Influence of secondary pull-in aspects of the S-Bahn Steiermark transport offer (II)

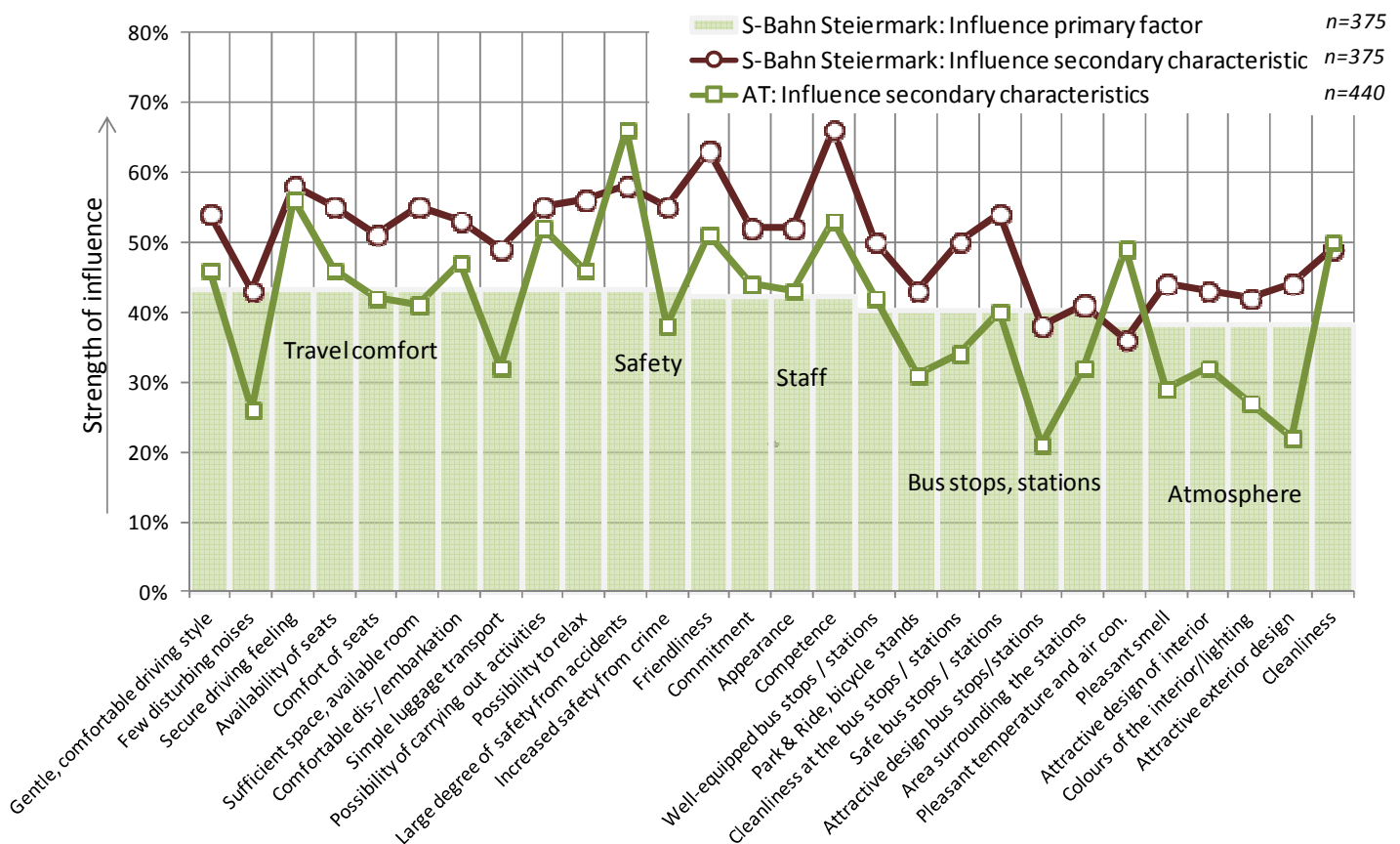


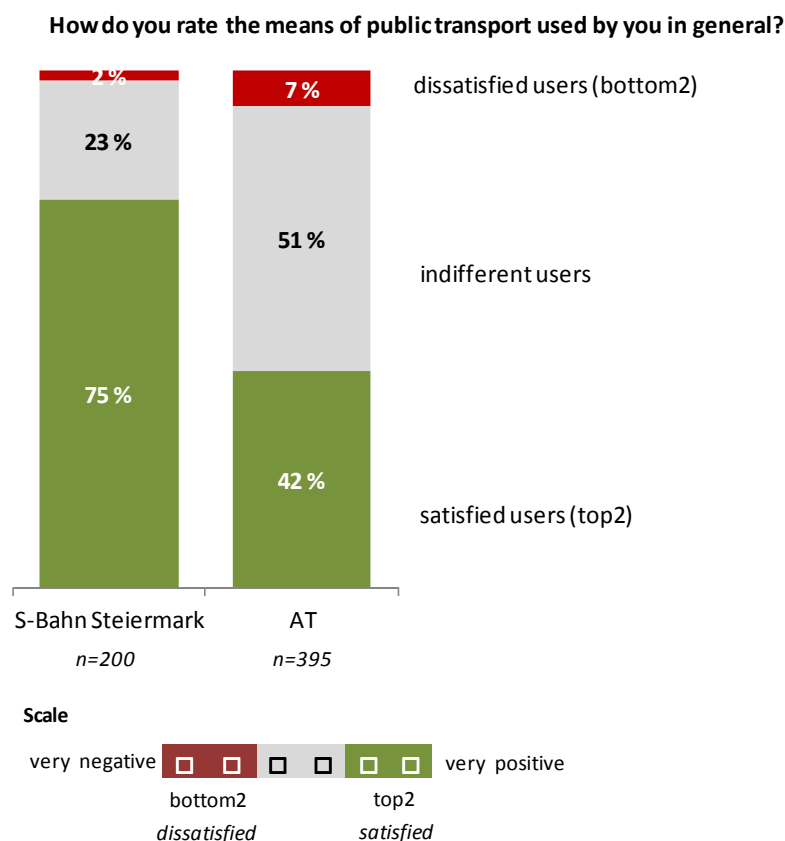
Figure 86 shows:

- Staff-related aspects like friendliness and competence are rated higher by S-Bahn-Salzburg users than by their Austrian counterparts.
- Secondary 'soft' characteristics concerning *high travel comfort*, *good staff* and *pleasant atmosphere* are on a higher level of relevance than with Austrian swing users.
- The same is valid for the equipment of stations.

B.3 PUBLIC TRANSPORT TODAY SEEN BY S-BAHN STEIERMARK USERS

Since the S-Bahn Steiermark was successful in gaining new passengers, USEmobility asked users for current evaluations

Figure 87 Overall satisfaction of swing users with the S-Bahn Steiermark



75% of the S-Bahn Steiermark swing users are in general satisfied with the services offered to them. The satisfaction with S-Bahn Steiermark is considerably higher than overall satisfaction

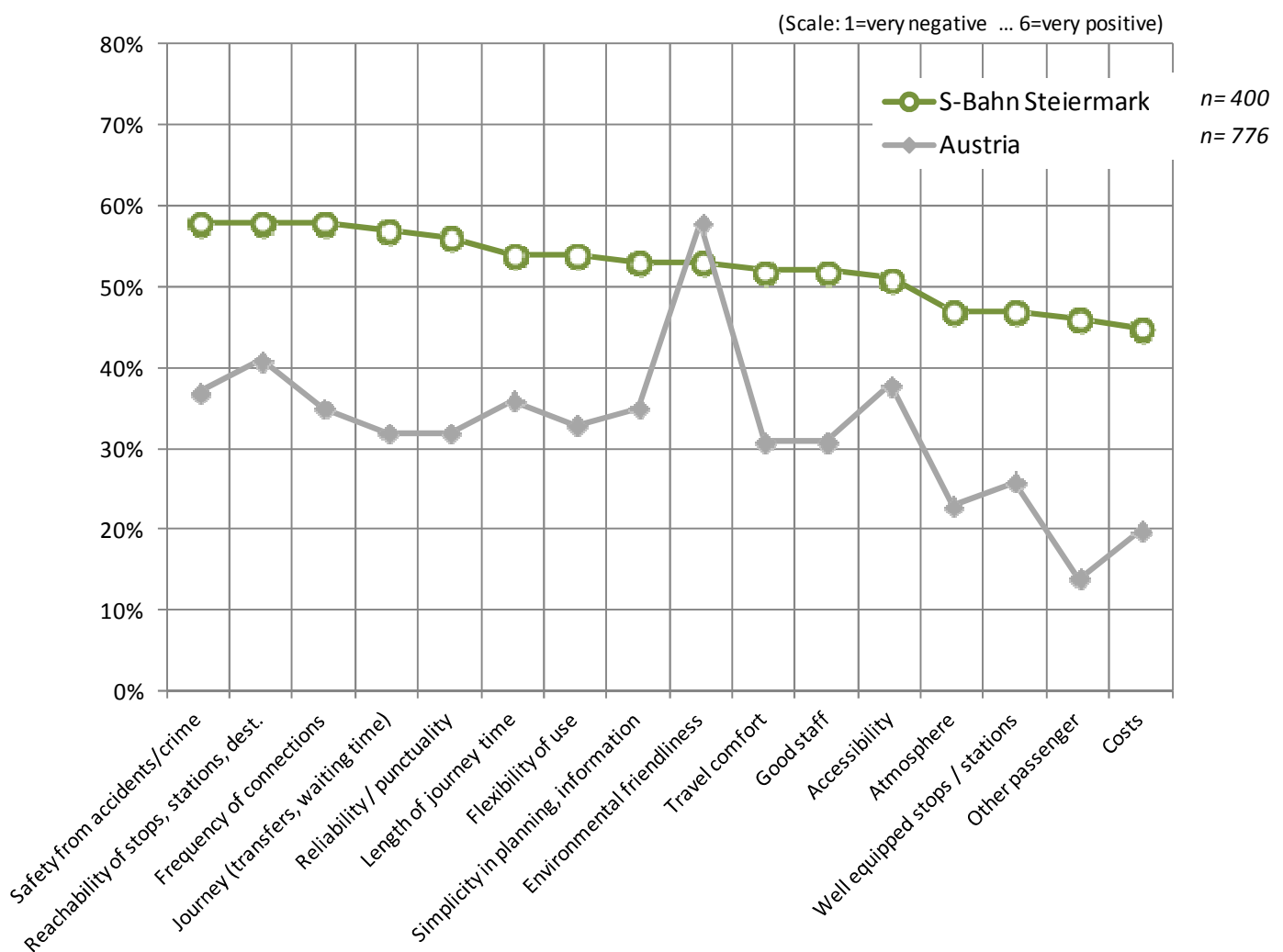
Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

of swing users in Austria evaluating their public transport used today. The proportion of dissatisfied S-Bahn Steiermark swing users is with 2% on a very low level.

Figure 88 Current evaluation of S-Bahn Steiermark service in comparison with PUB in Austria

Percentage Top2 (=satisfied)



The comparison with swing users in Austria shows that all primary factors of S-Bahn-Steiermark are rated much better, except for environmental friendliness.

Safety from accidents / crime, good reachability of stations and high frequency of connections achieve almost 60% of satisfied users.

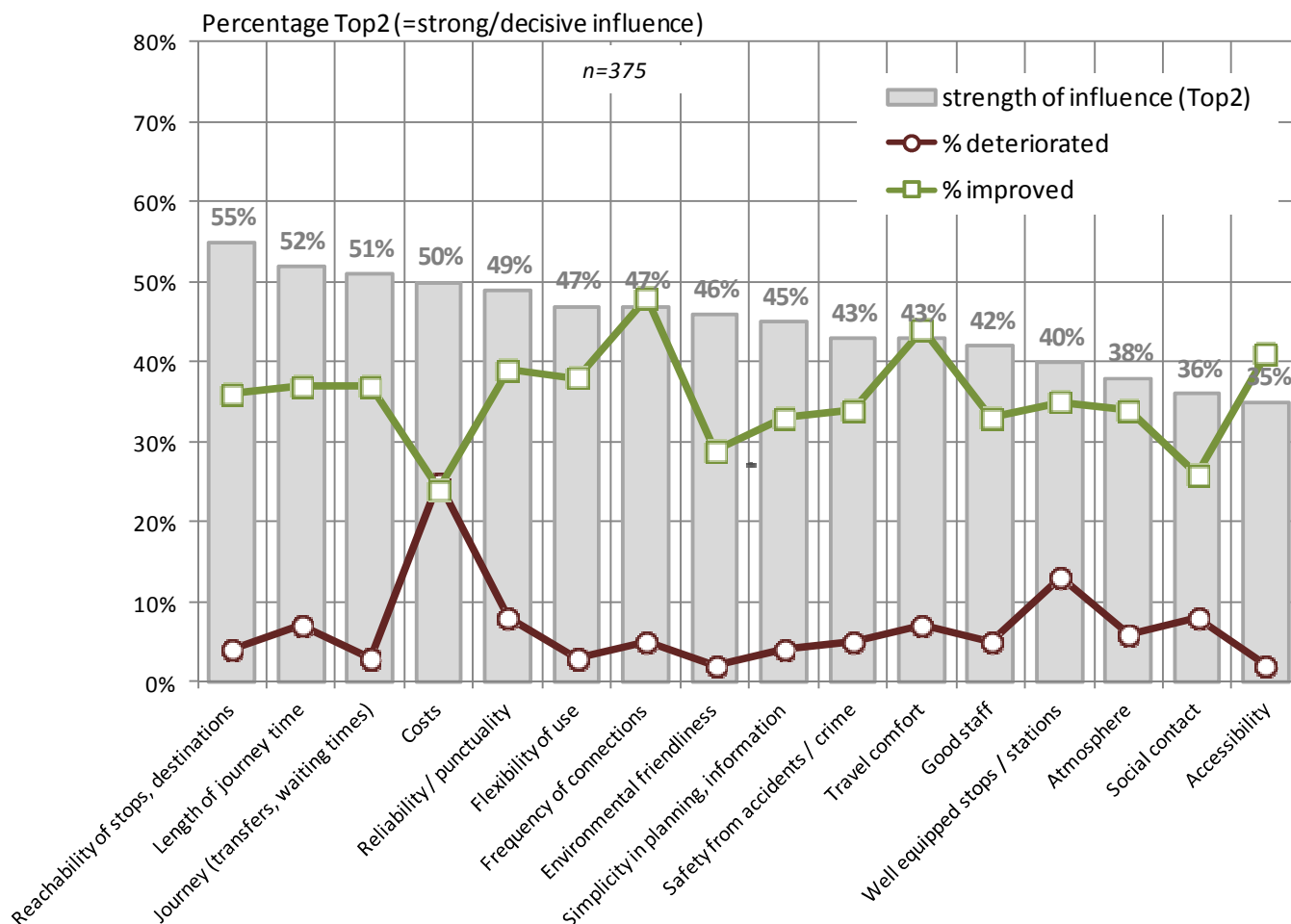
Especially *transfers, waiting times, reliability / punctuality* and *accessibility of stations* are rated more positively by S-Bahn Steiermark swing users.

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 89 Perceived Improvements and deteriorations of the S-Bahn Steiermark offer

Has anything changed for you since you started using **S-Bahn Steiermark**



How to read the figure: ca. 4% of the S-Bahn Steiermark swing users perceived deteriorations for reachability. Ca. 36% perceived an improvement for reachability. For 55% of the swing users the primary factor reachability was highly influential to use S-Bahn Steiermark.

S-Bahn Steiermark swing users have reported more improvements than deteriorations over the primary factors since they started using S-Bahn Steiermark. The only clear deterioration is seen in the cost level (25% deterioration). Generally, the recognition of deteriorations is on a low-level well below 10%.

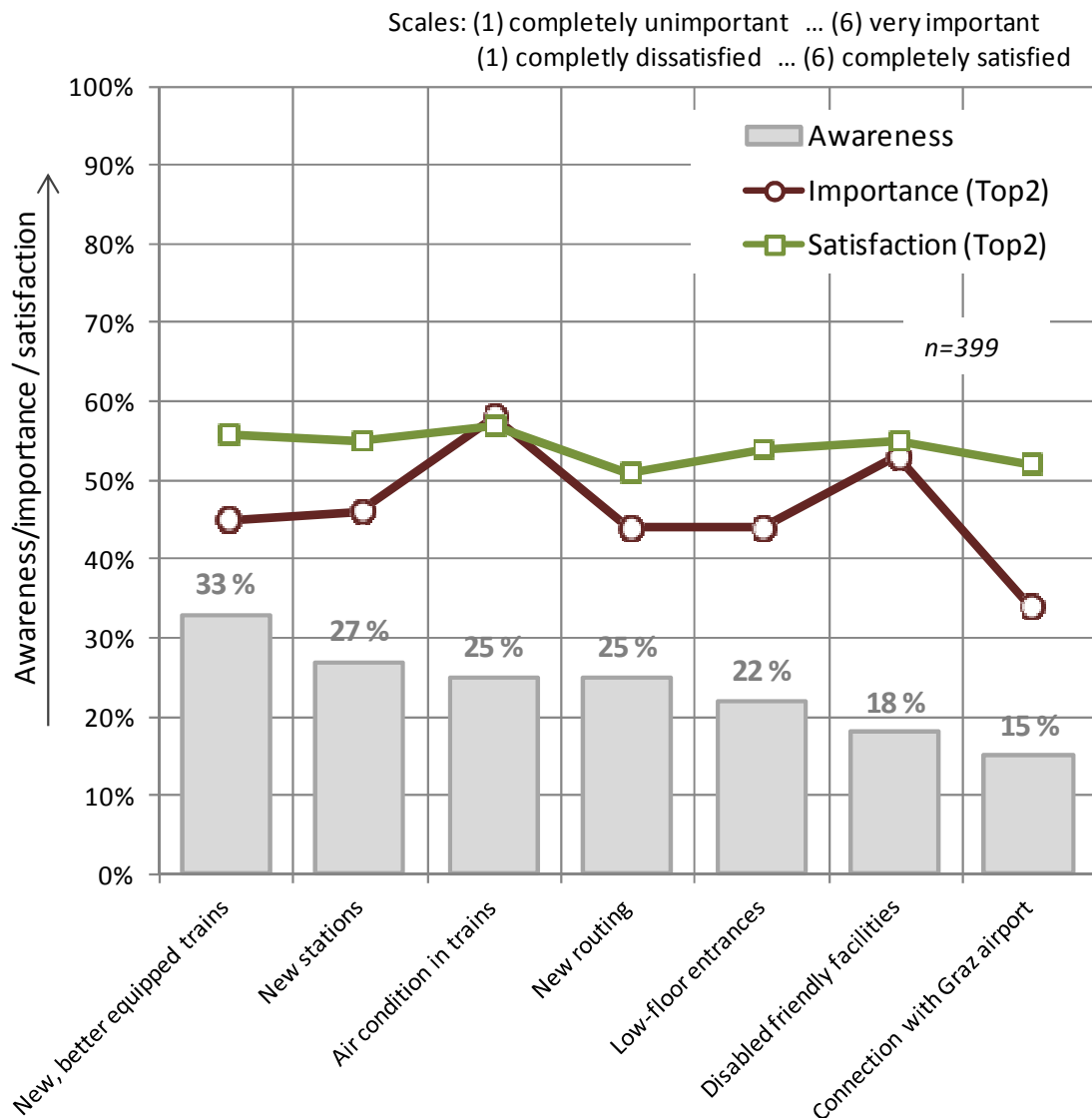
Frequent improvements are seen regarding *reliability / punctuality*, *frequency of connections* and *travel comfort*, all being quite relevant factors for an increased use of S-Bahn Steiermark.

Accessibility of stations shows a high level of improvement, although this factor is only of minor relevance.

B.4 SPECIFIC CHARACTERISTICS OF THE S-BAHN STEIERMARK

In this chapter, USEmobility reports on specific aspects of the S-Bahn Steiermark transport offer that have been improved or established in the last five years. All specific aspects are surveyed regarding their awareness, importance and satisfaction among the users.

Figure 90 Selected aspects of the S-Bahn Steiermark offer



How to read the figure: 27% of the swing users were aware of new stations. 46% of the swing users who are aware of new stations think that new stations are important or very important, and 55% are satisfied or very satisfied with the current offer of new stations.

Awareness for all listed aspects is low. For *new, better-equipped trains*, we find an awareness of 33%. Awareness is poor with *disabled friendly facilities* and *connections with the Graz airport* (all below 20%)

The highest importance is recorded for *air conditioning* and *disabled friendly facilities*. The lowest importance has *connection to the Graz airport*.

Satisfaction is on a high level between 50% and 60% for all special aspects.

Region C STIB / MIVB (BRUSSELS REGION, BELGIUM)

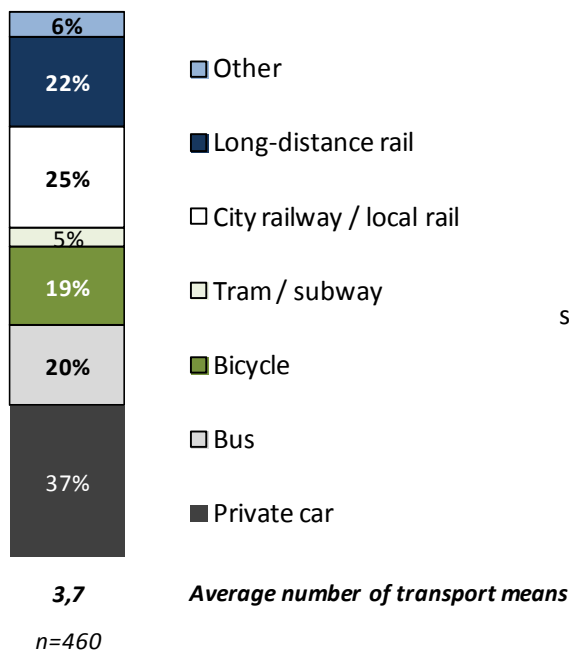
C.1 CHARACTERISTICS OF STIB/MIVB SWING USERS

C.1.1 Monomodality / Multimodality

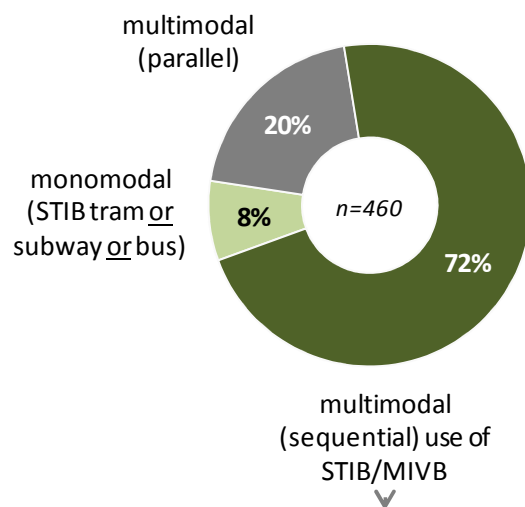
To start the analysis of the regional data, USEmobility looked at the current use of means-of-transport of the STIB/MIVB users in Brussels. These swing users, who have changed their mobility mix regarding public transport within the last five years, have access to different means of transport, private and public.

Figure 91 Multimodality / Monomodality of STIB/MIVB swing users

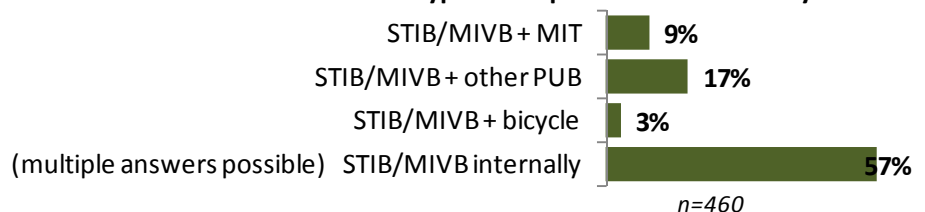
Means of transport used besides STIB/MIVB



Type of modality



Selected types of sequential multimodality



Besides the STIB/MIVB operator in Brussels, STIB/MIVB passengers frequently use the private car (37%), city railway (25%) and long distance rail (22%).

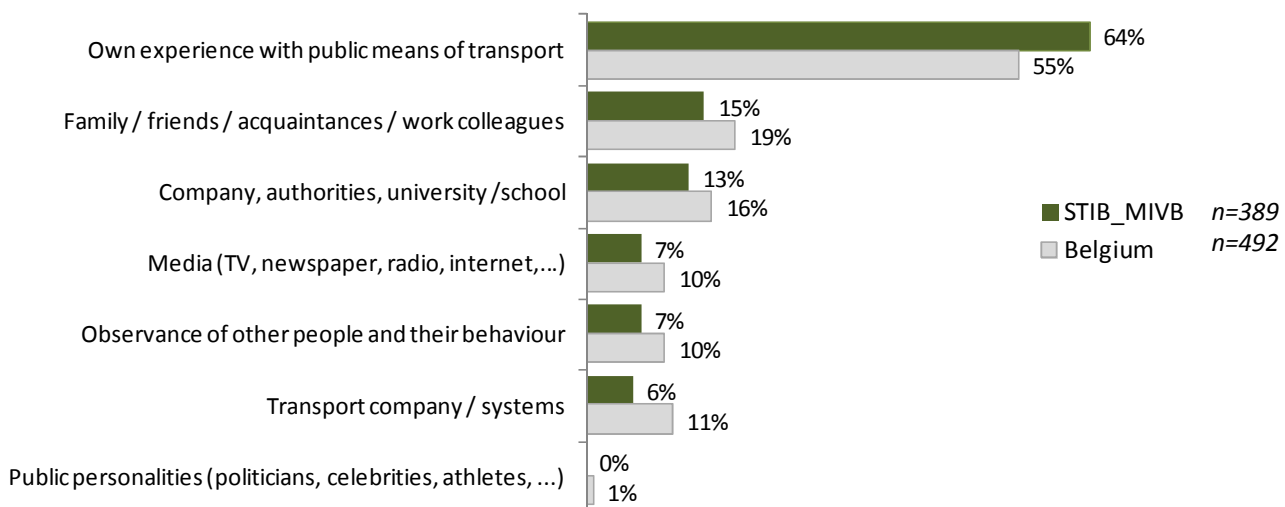
STIB-/MIVB swing users show an extraordinary percentage of 72% sequentially multimodal use, i.e. multimodal combinations with and within STIB/MIVB during the journey from the starting point to destination.

Most common are combinations *within STIB/MIVB* (57%). Other typical combinations are STIB/MIVB with *other public transport* (17%) and with *motorized individual transport* (MIT, 9%).

C.1.2 Information behaviour and influence

USEmobility looked at possible sources including own experience and information about transport services from other sources that might have informed or motivated swing users to change their mobility mix and compared them to swing users in the whole country.

Figure 92 Sources of information / motivation to use STIB/MIVB



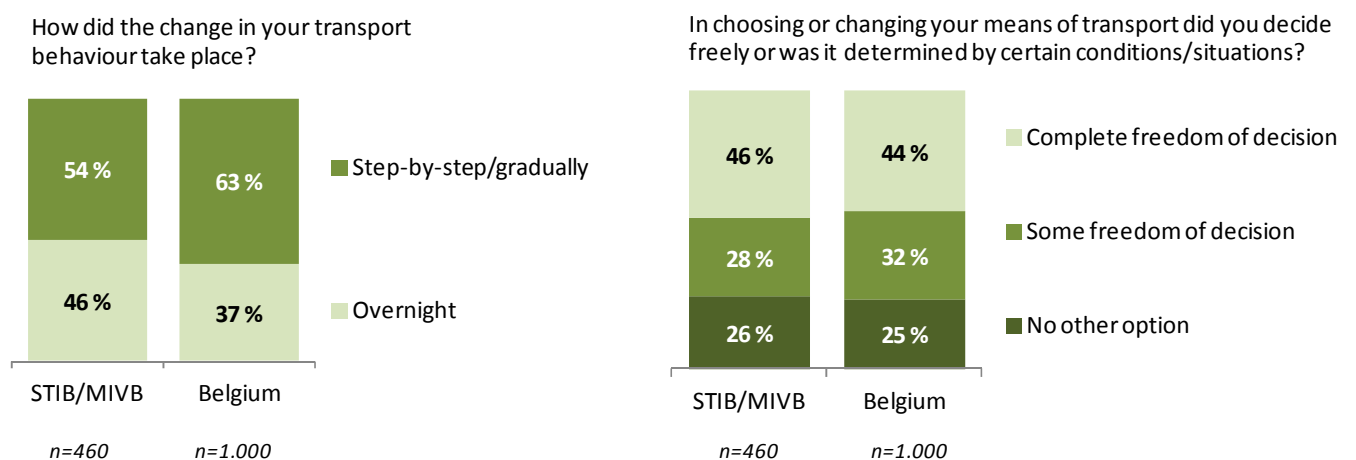
Own experience is the leading source of information to decide for STIB/MIVB.

Information directly from the STIV/MIVB transport company was influential in only 6% of the cases, even below the national average of 11%.

C.1.3 Type of change and perceived freedom of choice

Important characteristics of the change itself are how the change took place (step-by-step or overnight) and the perceived freedom of decision.

Figure 93 Type of change and perceived freedom of choice of STIP/MIVB swing users



The decision for an increased use of STIB/MIVB relatively often took place overnight (46%).

For STIB-/MIVB users, as with Belgian swing users in general, the change is mostly connected to at least some freedom of decision (74%). 46% of the STIB/MIVB swing users even had *complete* freedom of choice. Only 26% of the swing users had no other option.

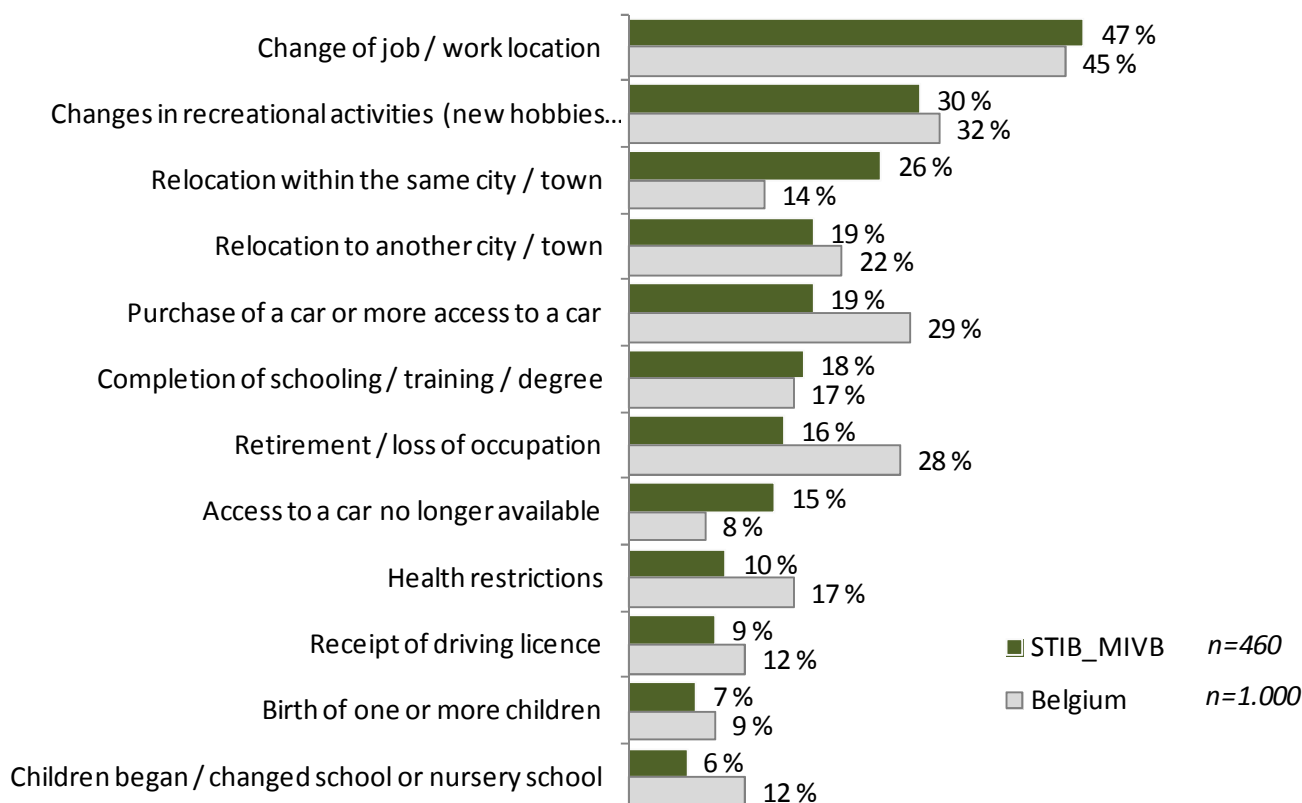
C.2 REASONS FOR CHANGES-IN-BEHAVIOUR

C.2.1 Changes in the Personal / Private situation

Since the changes in the personal / private situation play such an important role in the reason-mix, we now look at them in more detail.

Figure 94 Changes in the personal situation of STIB/MIVB swing users

Has anything changed in your personal/private situation in the last five years?



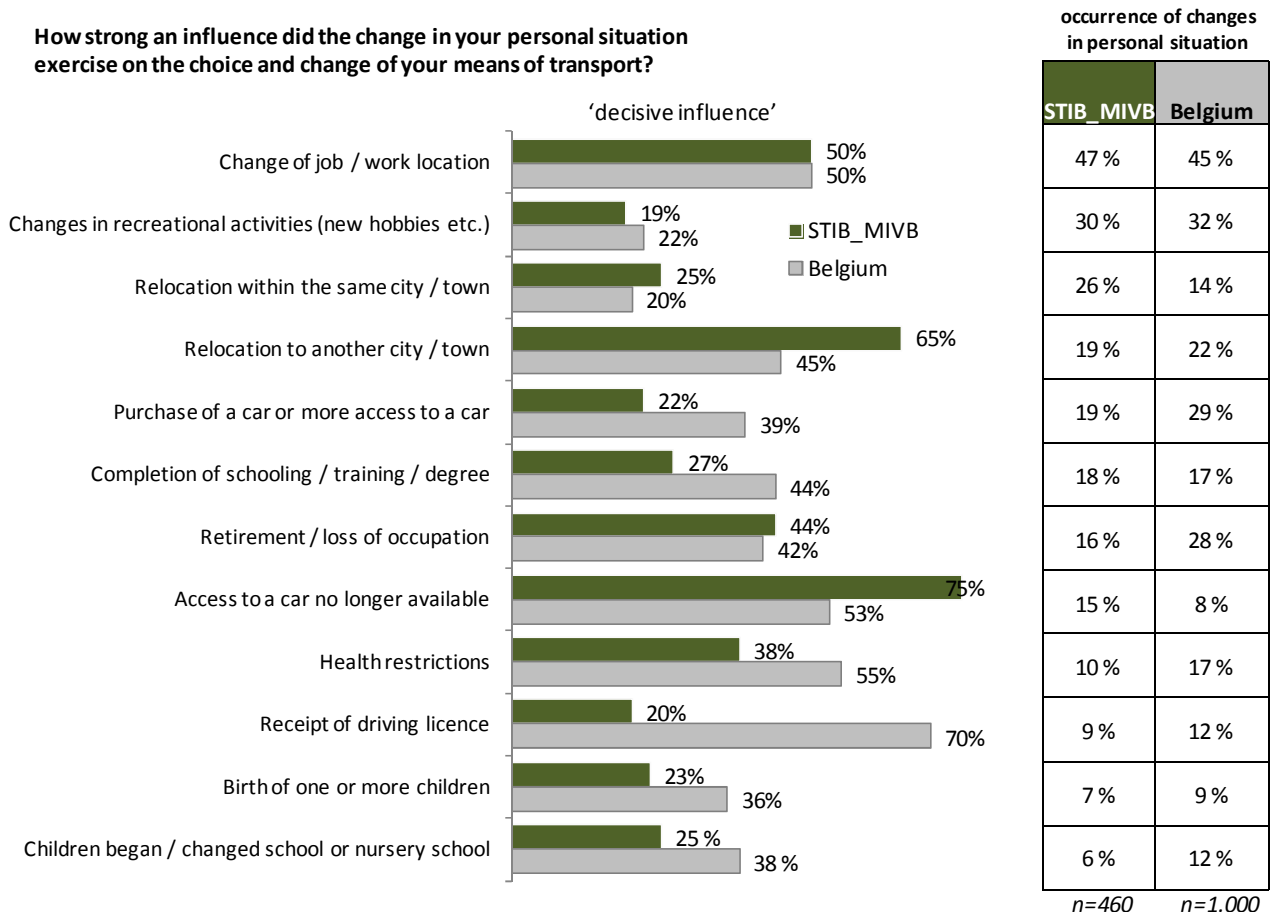
Almost half of the STIB/MIVB swing users had a change of job / work location in the last five years. As with the Belgian swing users, this was the most common type of personal change.

Further decisive changes are relocation to the Brussels region from another town (19%) or within Brussels (26%, much more regular for STIB-/MIVB users than in the rest of Belgium) as well as a change in the recreational activities (30%).

In comparison to the Belgian swing users, some types of personal changes are much rarer including *more access to a car* and *retirement / loss of occupation*. Reduced access to a car is more frequently than for swing users countrywide.

Even more than the occurrence, the importance of these types of change has to be analysed. Types of change that have a high leverage on the decision to use more public transport, combine high occurrence and high importance for the decision to change (see next figure).

Figure 95 Importance of certain changes in the personal situation on the decision to use STIB/MIVB



The highest influence on the decision to use STIB/MIVB has

- Access to a car no longer available (75% decisive influence)
- Relocation to Brussels (65% decisive influence compared to 45% with Belgian swing users in general) and / or
- Change in the job / work location (50% decisive influence).

Especially a change in the work location has a high influence and a high occurrence and therefore a high leverage.

In case of *retirement or loss of occupation*, *health restrictions* and – most of all – *lost access to a car* influence is on a high level, but they are rather rare among STIB/MIVB swing users (occurrence in only 10-16% of the cases).

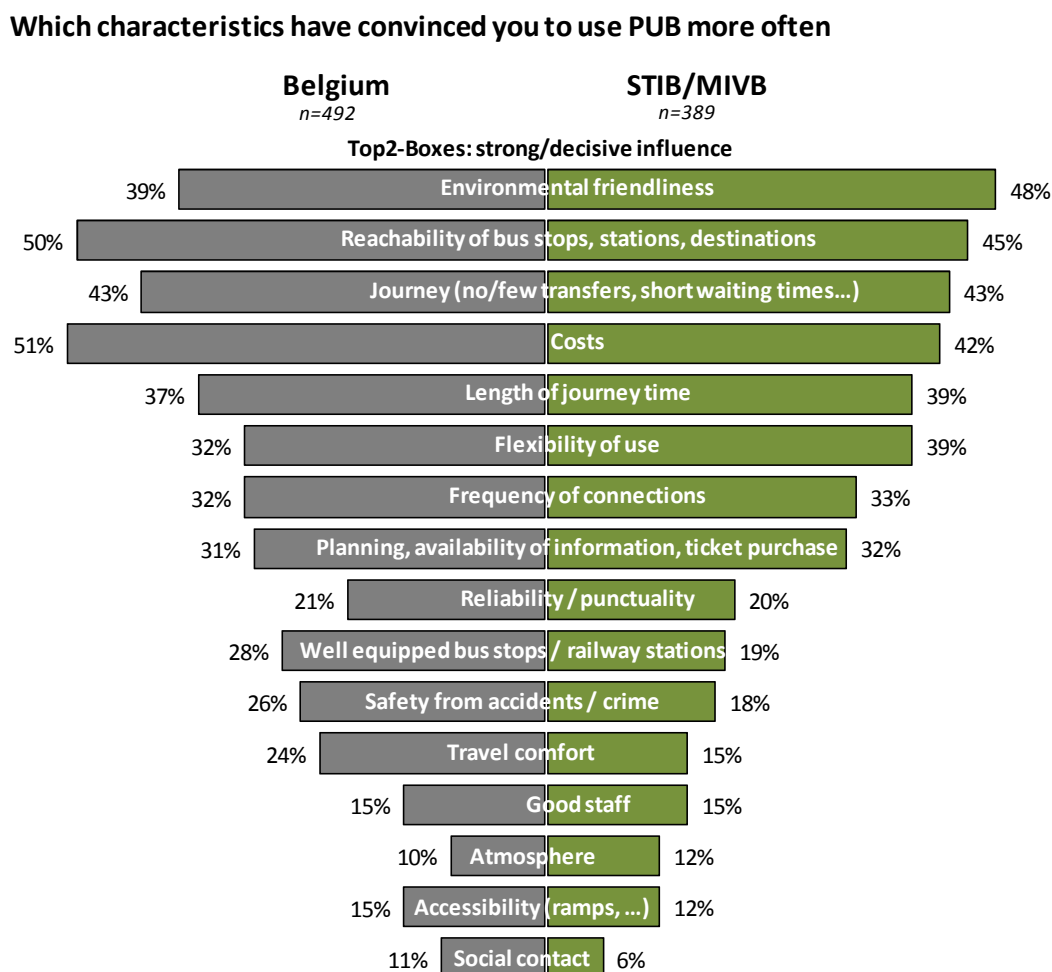
In comparison with their Belgian counterparts, *lost access to a car* (56%) and the *relocation to Brussels* (32%) have a more decisive influence among STIB/MIVB swing users; *receipt of a driving licence* is not as much a decisive category than among all Belgian swing users.

C.2.2 Reasons for the change-in-use of public transport

USEmobility has put its central focus on the reasons for an increase of public transport, which are rooted in the public transport system itself. Factors connected to the transport offer can act as *Pull-in factors attracting citizens* into the public transport system or increasing their use.

The next figure shows the proportion of cases, which have reported a strong or decisive influence on the primary factors. We see a comparison between swing users of STIB/MIVB (right) and the average Belgian swing-user (left).

Figure 96 Influence of primary pull-factors to use more PUB (Belgium & STIB/MIVB)



Regarding all primary pull-in factors, predominantly the 'hard' factors *good reachability* (45%), *few transfers / short waiting times* (43%) as well as *low costs* (42%) lead to an increased use of STIB/MIVB. However, the top reason is the soft factor *environmental friendliness* with 48% of the STIB /MIVB users seeing a strong or decisive influence in it. The only other 'soft' factor with a high pull-in potential is *high flexibility of use* (39%)

From the classical 'soft' pull-in factors, the *availability of information / easy ticket purchase* has a considerable relevance for a PUB+ change. Other soft factors like *good staff, pleasant atmosphere* during the journey or the possibility of *social contact* have all a rather low relevance for the change. They have to be considered as supplemental factors supporting the effect of the hard factors.

In comparison with the average Belgian swing-users, hard factors like *low costs, well-equipped stations* and soft factors like high impression of *safety and high travel comfort* have a lesser importance for STIB/MIVB users.

Figure 97 Influence of secondary pull-in aspects concerning the STIB/MIVB transport offer (I)

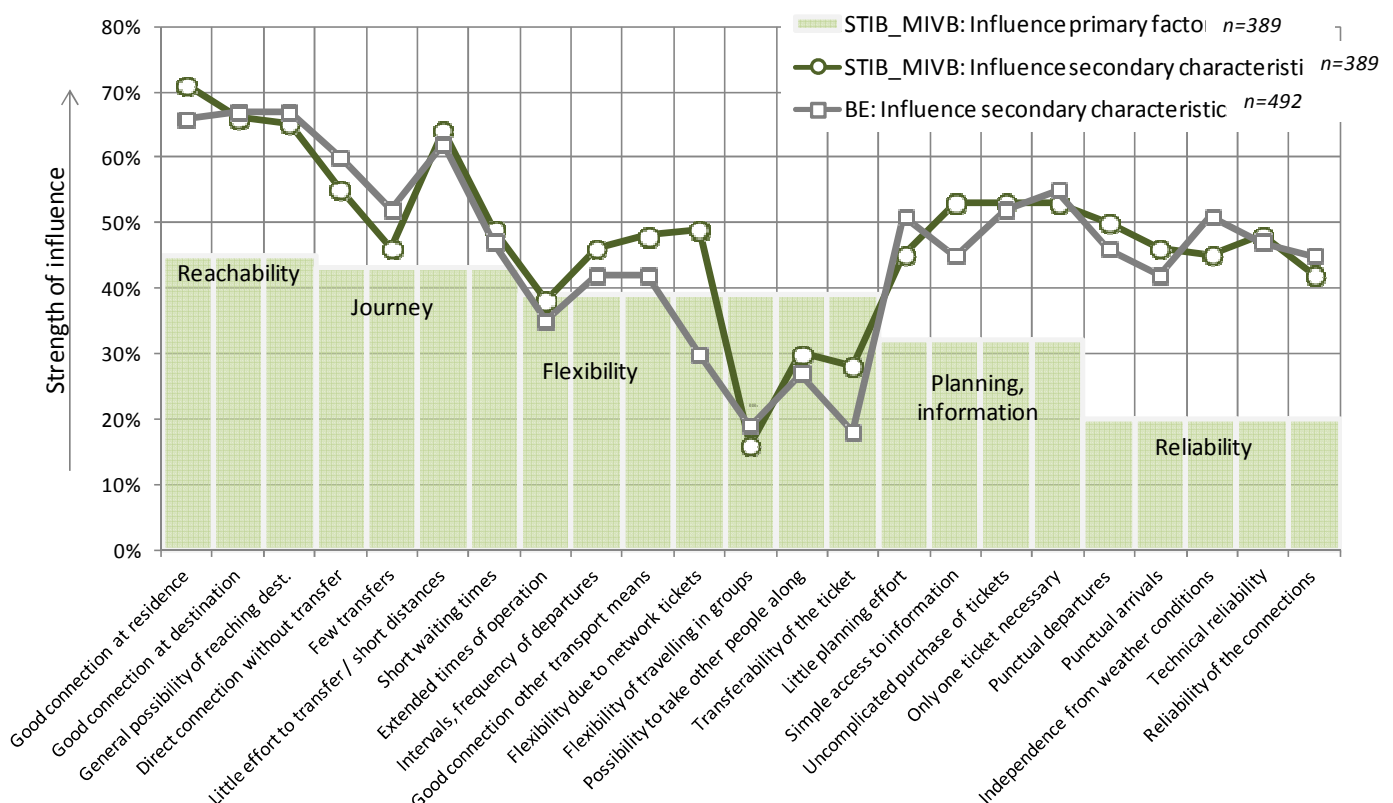


Figure 97 and Figure 98 give an overview over secondary characteristics, which can be seen as specifications of the primary factors mentioned above. The comparison STIB / Belgium in Figure 97 shows:

- The strongest pull-in aspects with STIB/MIVB swing users are *good connections a residence and destination, good possibilities to reach destinations and little effort to transfer (short distances)*.
- Generally, STIB/MIVB swings users are quite in line with their Belgian counterparts.
- *Flexibility due to network tickets* is an important pull-in aspect with STIB/MIVB users, even higher than with the average swing user in Belgium.

Figure 98 Influence of secondary pull-in aspects concerning the STIB/MIVB transport offer (II)

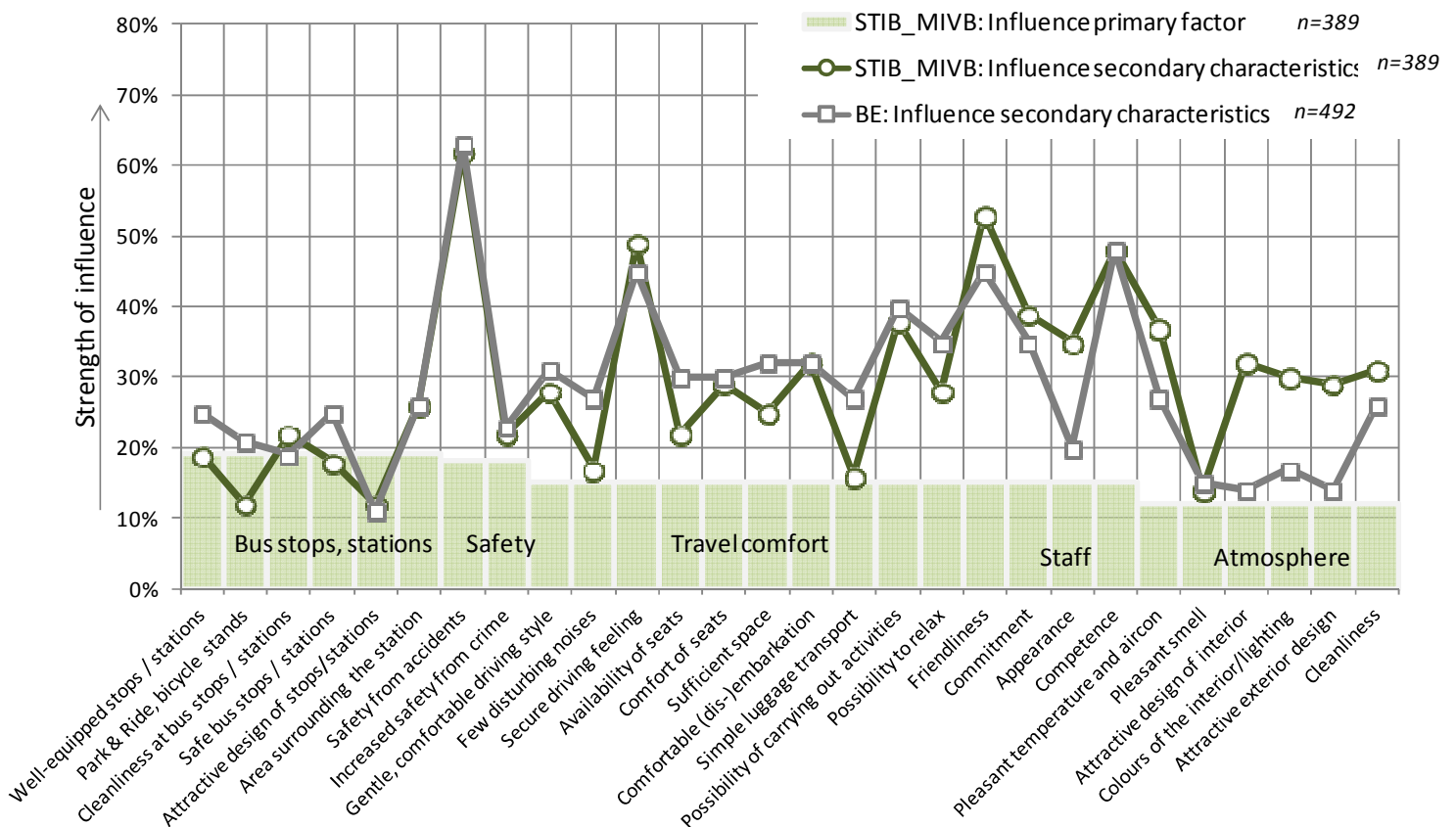


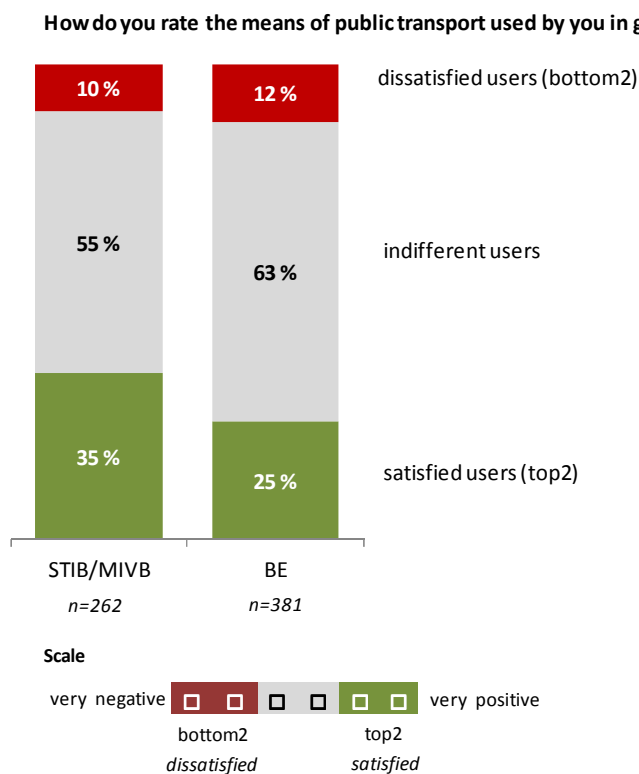
Figure 98 shows for the second part of the secondary characteristics:

- *Safety from accidents* and a *secure driving feeling* are important secondary characteristics.
- Staff-related aspects like *friendliness* and *competence* are rated relatively high, even slightly higher by STIB/MIVB users than by their Belgian counterparts.
- Secondary ‘soft’ characteristics concerning *pleasant atmosphere* are well above 30% relevance and therefore on a higher level of relevance than with Belgian swing users.
- *Park & Ride* and *attractive design of the bus stops and stations* are rather irrelevant for the decision to use more PUB.

C.3 PUBLIC TRANSPORT TODAY AS SEEN BY STIB/MIVB USERS

Since STIB/MIVB was successful in gaining new passengers, USEmobility asked users for current evaluations.

Figure 99 Overall satisfaction of swing users with the STIB/MIVB offer



Document: USEmobility_WP3_D3.6_ V2B

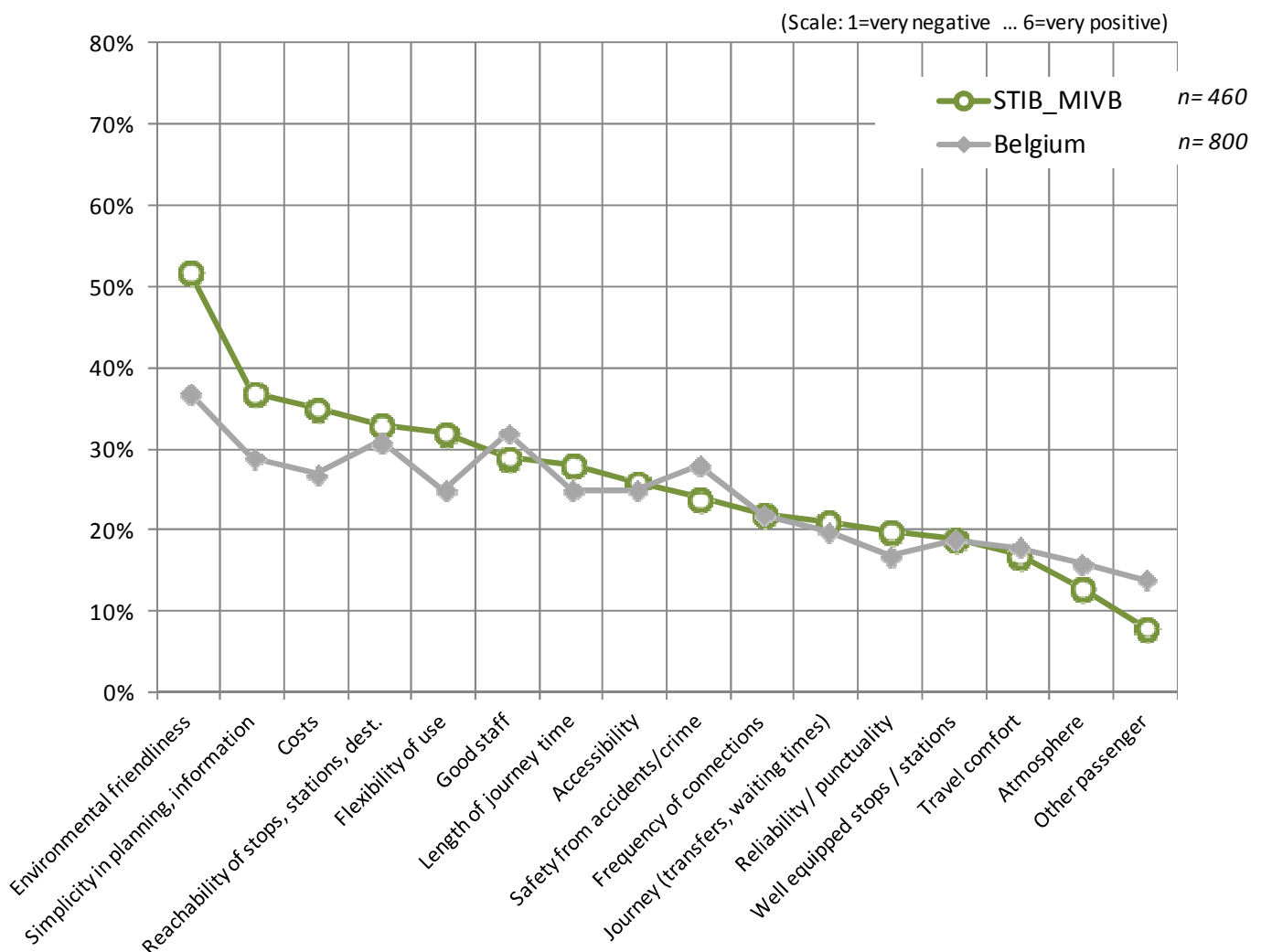
Title: D3.6 ‘Factors influencing behavioural change towards eco-friendly multimodal mobility’

Only 35% of the STIB/MIVB swing users are satisfied with the services offered to them. The satisfaction with STIB/MIVB is slightly higher than the overall satisfaction of swing users in Belgium with public transport.

The proportion of dissatisfied STIB/MIVB swing users is with 10% on a low level.

Figure 100 Current evaluation of STIV/MIVB service in comparison with PUB in Belgium

Percentage Top2 (=satisfied)



The comparison between all swing users in Belgium and STIB/MIVB swing users shows that – in contrast to many other USEmobility regions – for STIB/MIVB the primary factors are rated on the national average.

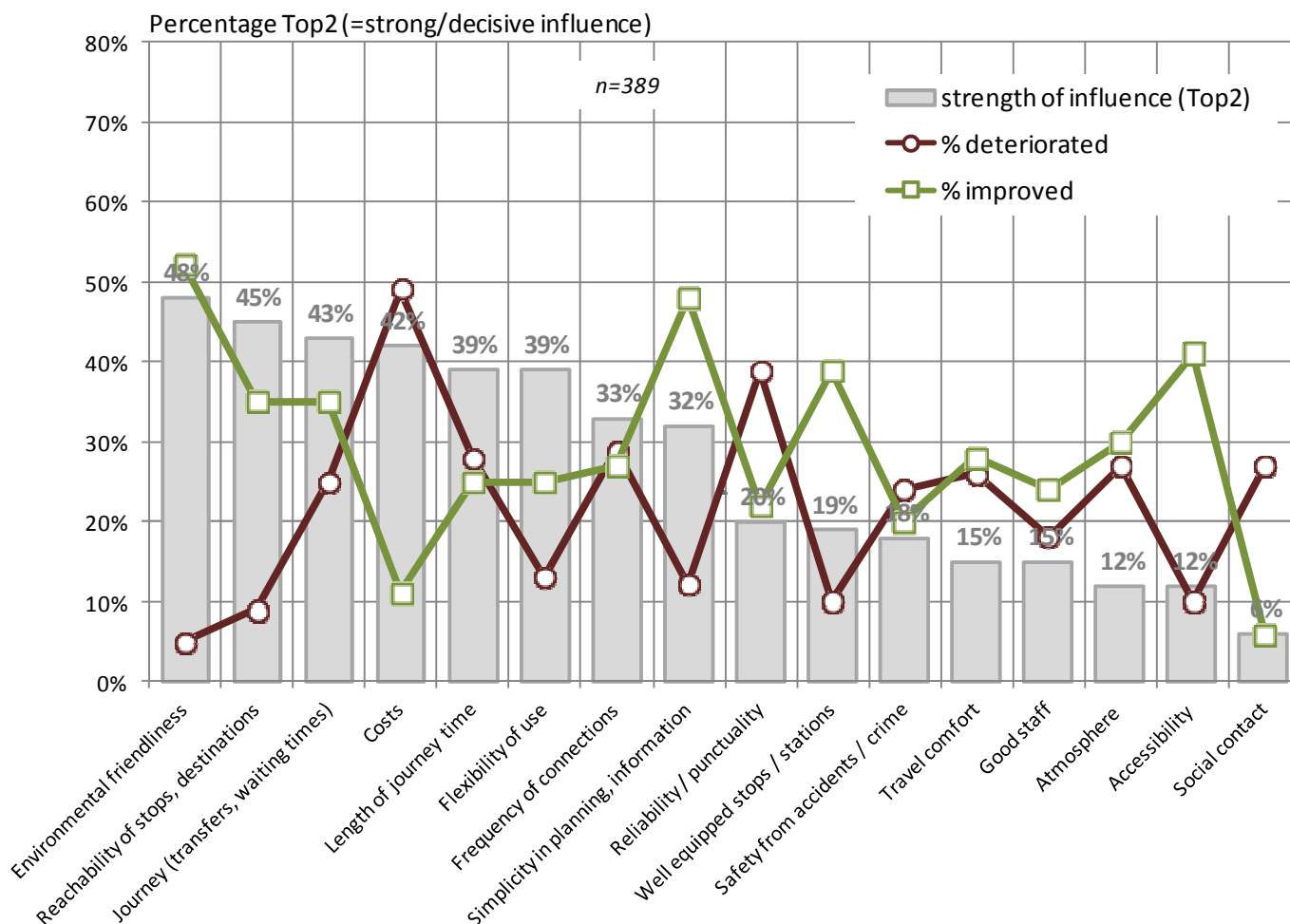
Only Environmental friendliness is rated considerably above Belgian swing user average.

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 101 Perceived Improvements and deteriorations of the STIB/MIVB offer

Has anything changed for you since you started using **STIB**



How to read the figure: ca. 9% of the STIB/MIVB swing users perceived deterioration for reachability. Ca. 35% perceived an improvement for reachability. For 45% of the swing users the primary factor reachability was highly influential to use STIB/MIVB.

Swing users have reported improvements and deteriorations in equal measures since they started using STIB/MIVB. This is a critical result when compared to most of the other USEmobility regions, where users usually experience considerably more improvements than deteriorations.

Major improvements are seen regarding the soft factors environmental friendliness and simple *planning / adequate information* as well as the hard factors *good reachability* and *few transfers / short waiting times*, all being relevant factors for an increased use of STIB/MIVB.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

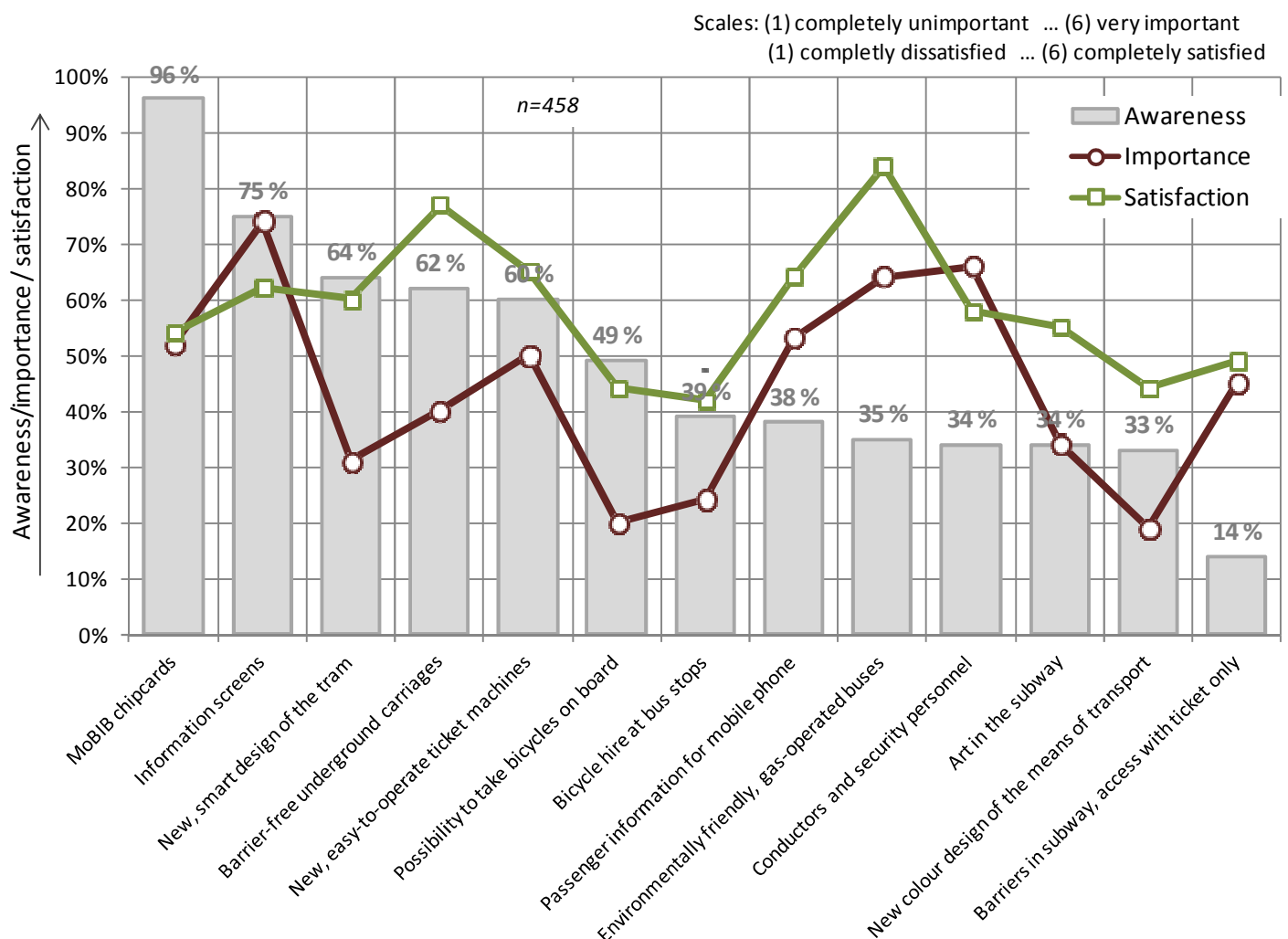
Well-equipped bus stops / stations with a good accessibility also show a good level of improvement, although these factors are only of minor relevance.

Deteriorations are mainly seen regarding the hard factors costs (almost 50%) and low reliability / punctuality.

C.4 SPECIFIC CHARACTERISTICS OF THE STIB/MIVB

In this chapter, USEmobility reports on specific aspects of the STIB/MIVB transport offer that have been improved or established in the last five years. All specific aspects are surveyed regarding their awareness, importance and satisfaction among the users.

Figure 102 Selected specific aspects of the STIB/MIVB transport offer



Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

How to read the figure: 96% of the swing users were aware of MoBIB chip cards. 52% of the swing users who are aware of MoBIB chip cards think that MoBIB chip cards are important or very important, and 54% are satisfied or very satisfied with the current offer of new stations.

Almost all users of STIB/MIVB are aware of *MoBIB chip cards*. Moreover, information screens are widely noted. Awareness is on the low side with *barriers in the underground stations, access with ticket only* (14%)

We have recorded the highest importance for *environmentally friendly, gas operated buses*, the deployment of *conductors and security personnel* (over 60% importance) and again for *information screens* (almost 75% importance)

PUB+ swing users in Brussels are mostly satisfied with important aspects. Satisfaction with all listed aspect is above 40%.

A good balance between awareness, importance and satisfaction one finds with *information screens* and the *new, easy to operate ticket machines* with ratings above 50%.

Region D HZ/ZET (ZAGREB REGION, CROATIA)

D.1 CHARACTERISTICS OF HZ/ZET SWING USERS

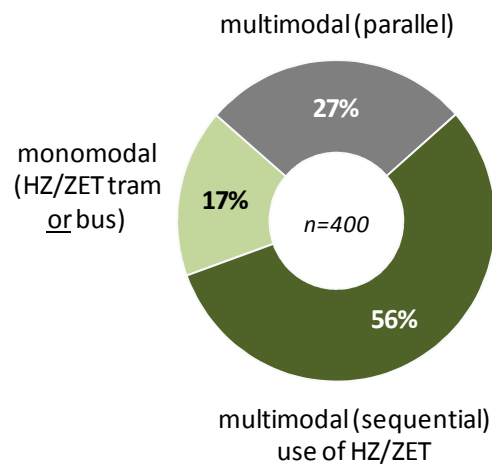
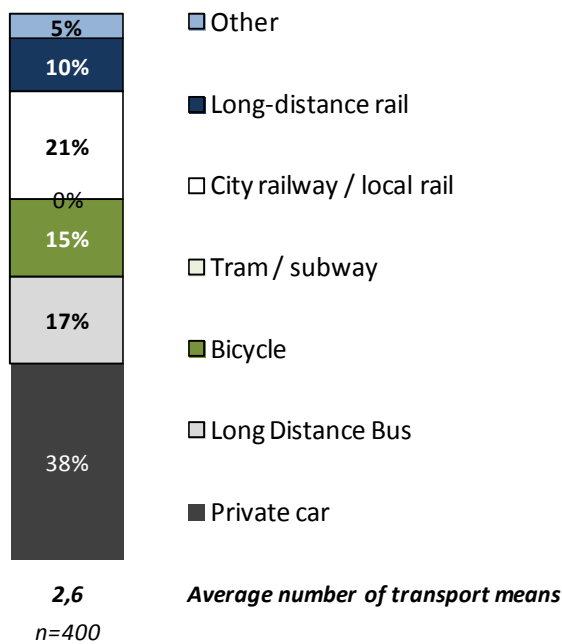
D.1.1 Monomodality / Multimodality

To start the analysis of the regional data, USEmobility looked at the current use of means-of-transport of the *HZ/ZET* swing users in Zagreb. These swing users, who have changed their mobility mix regarding public transport within the last five years, have access to different means of transport, private and public.

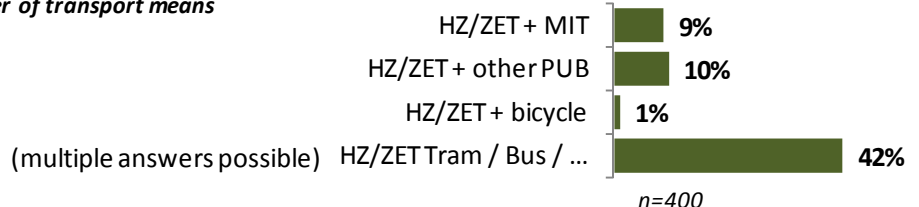
Figure 103 Multimodality / Monomodality of HZ/ZET swing users

Means of transport used besides HZ/ZET

Type of modality



Selected types of sequential multimodality



Besides the HZ/ZET in the Zagreb area, passengers frequently use the private car (38%) and the city rail (21%).

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

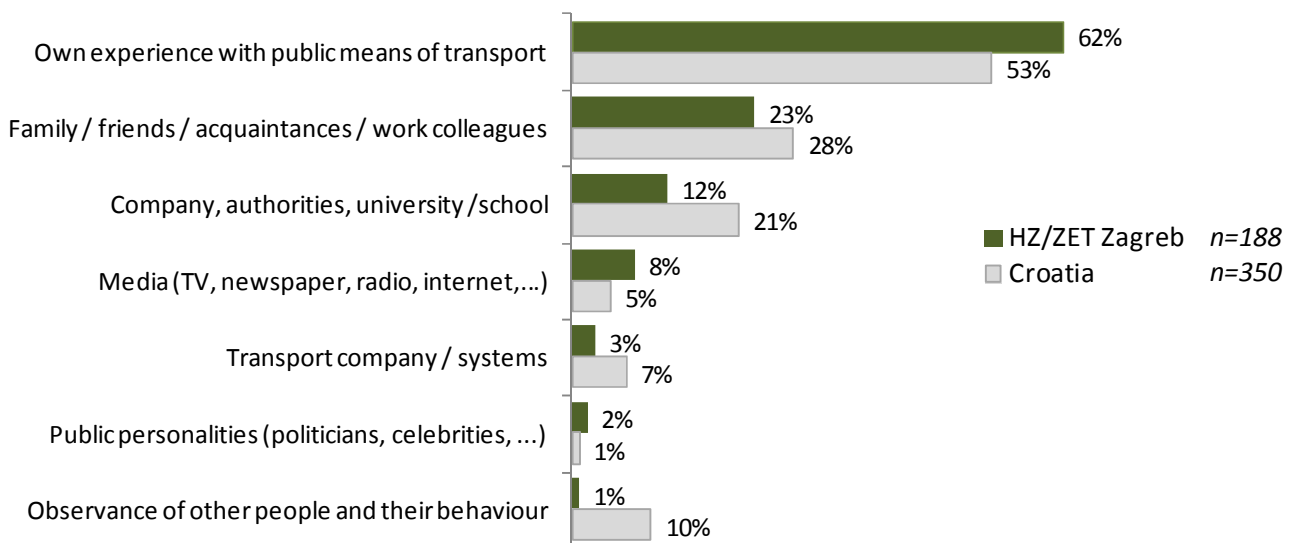
HZ/ZET swing users show a high percentage of 56% sequential multimodal use, i.e. multimodal combinations with and within HZ/ZET during the journey from the starting point to destination.

The most common combinations are HZ/ZET *internal* combinations with tramway and bus (42%). Other typical combinations of HZ/ZET are with *other public transport* (10%) and with *motorized individual transport* (MIT, 9%).

D.1.2 Information behaviour and influence

USEmobility looked at possible sources including own experience and information about transport services from other sources that might have informed or motivated swing users to change their mobility mix and compared them to swing users in the whole country.

Figure 104 Sources of information / motivation to use HZ/ZET



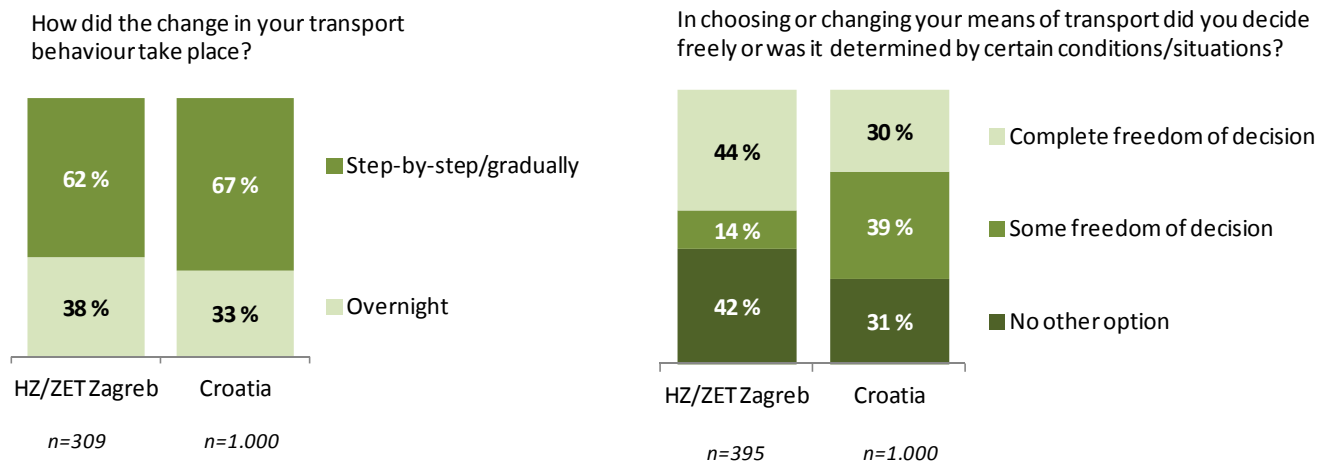
The own experience is the leading source of information for the decision to increase the use of HZ/ZET, and it plays with 62% an even stronger role than in total Croatia.

The influence of Media information is with 8% stronger than on the national level. Information directly from the HZ/ZET transport company was influential in only 3% of the cases.

D.1.3 Type of change and perceived freedom of choice

Important characteristics of the change itself are how the change took place (step-by-step or overnight) and the perceived freedom of decision.

Figure 105 Type of change and perceived freedom of choice of HZ/ZET swing users



The decision for an increased use of HZ/ZET mostly took place step-by-step. We find slightly more cases where the decision took place overnight (38%) than with the average swing user in Croatia (33%).

In Zagreb, as with Croatian swing users in general, the change is mostly connected to at least some freedom of decision (44%+14%).

However, the general picture among HZ/ZET swing users is extreme compared to the average Croatian swing user. They have either complete freedom (44%) or no other option at all (42%).

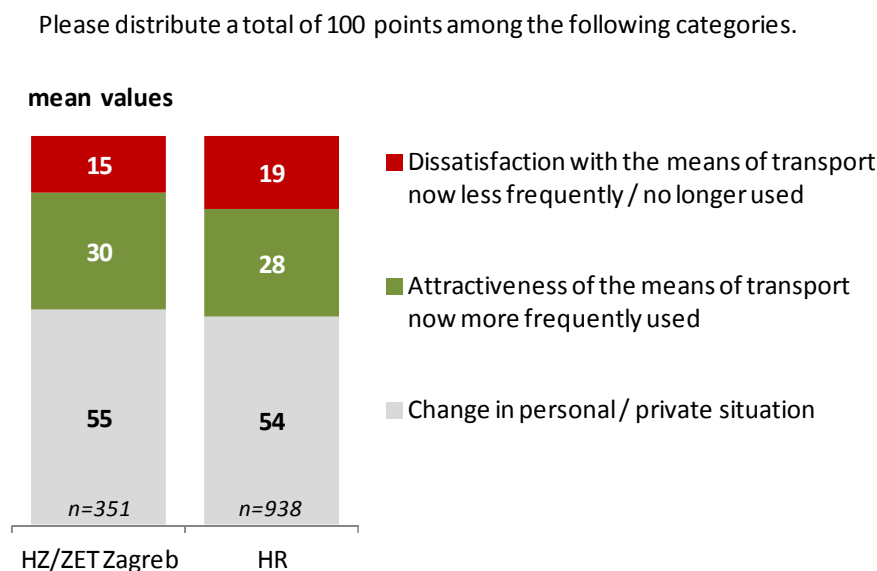
D.2 REASONS FOR CHANGES-IN-BEHAVIOUR

D.2.1 Types of reasons for the changes in behaviour

The USEmobility approach focuses on the reasons for the increased use of public transport in the region. HZ/ZET users report three types of reasons:

- Changes in personal / private situation
- Attractiveness of the HZ/ZET operator
- Dissatisfaction with the means of transport now less frequently / no longer used

Figure 106 Main types of reason for a change in use of HZ/ZET



The USEmobility data shows that in many cases *one type of reason alone* drives the decision to use HZ/ZET in Zagreb. 40% of the swing users decided for one type of reason alone, mostly change in personal / private situation.

However, most swing users report a mix of the three categories. Main type is the change in personal situation, followed by the attractiveness of the HZ/ZET. Dissatisfaction with the means-of-transport formerly used has only half of the relevance of attractiveness.

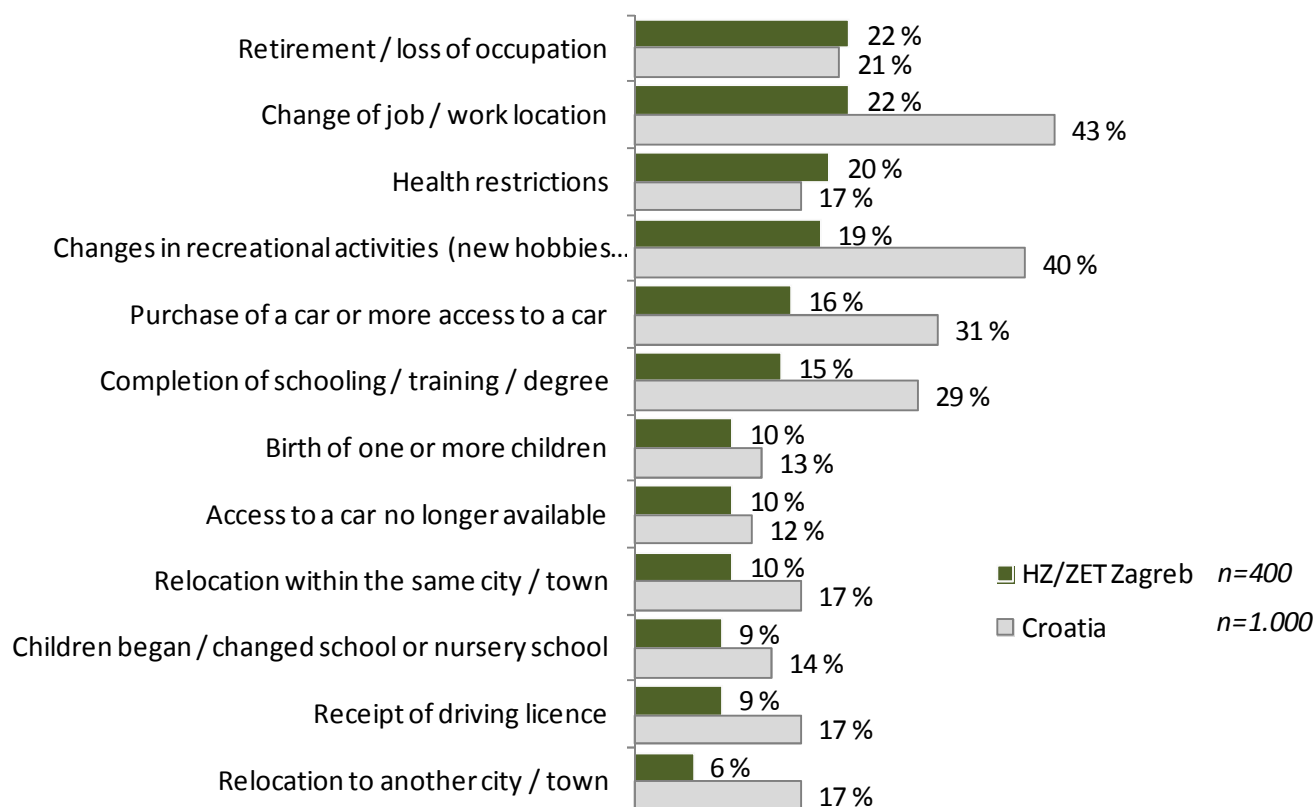
HZ/ZET users were somewhat less often pushed out by dissatisfaction with their former transport means than their counterparts on a national level.

D.2.2 Changes in the Personal / Private situation

Since the changes in the personal / private situation play such an important role in the reason-mix, we now look at them in more detail.

Figure 107 Changes in the personal situation of HZ/ZET swing users

Has anything changed in your personal/private situation in the last five years?



In general, HZ/ZET users had to cope with fewer changes in their personal / private situation than many of their USEmobility counterparts.

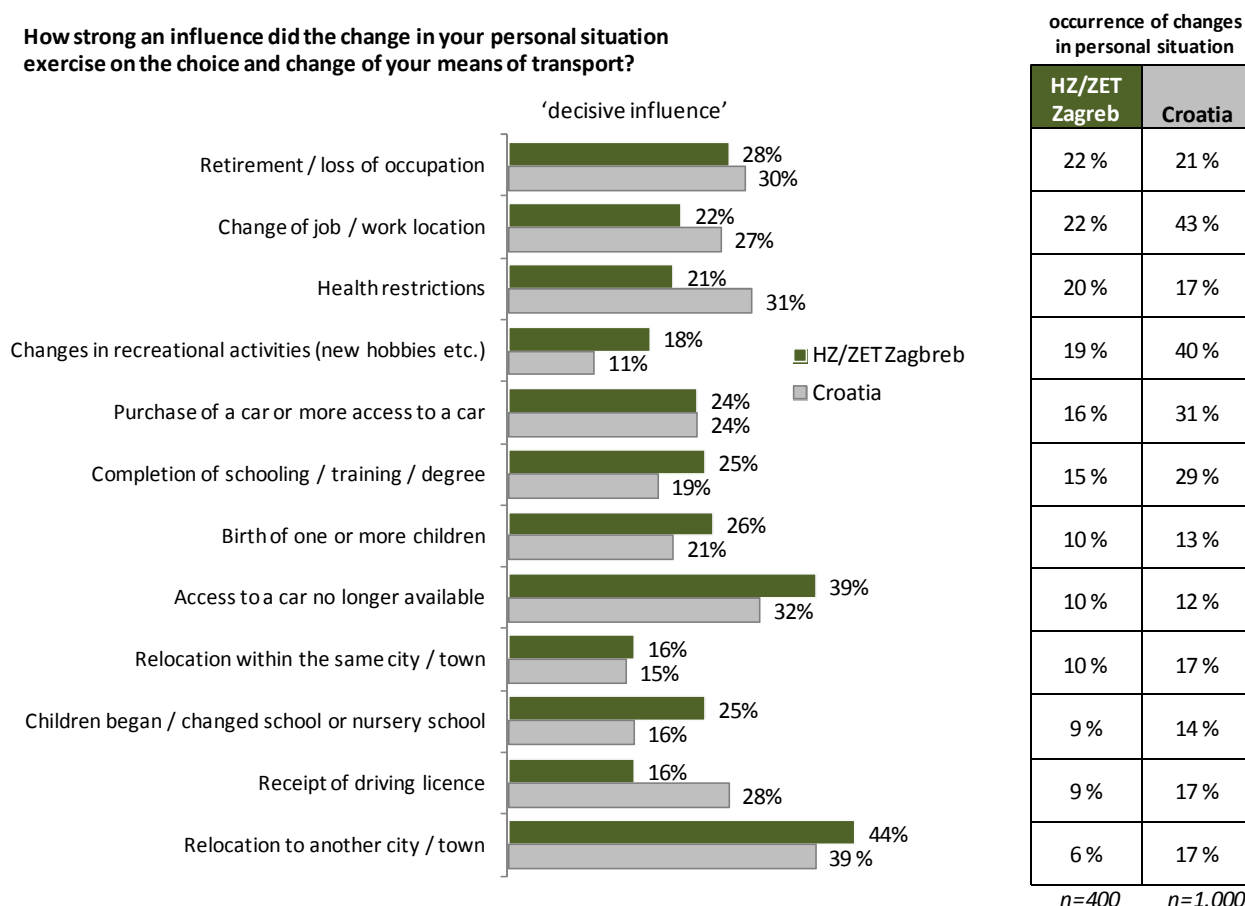
22% of the HZ/ZET swing users had a *change of job / work location* in the last five years. The job / work location is much more stable here than on average in Croatia (43%).

Further frequent changes in Zagreb are *retirement / loss of occupation* (22%) and *health restrictions* (20%).

Even more than the occurrence, the importance of these types of change has to be analysed. Types of change that have a high leverage on the decision to use more public transport, combine high occurrence and high importance for the decision to change (see next figure).

Figure 108 Importance of certain changes in the personal situation on the decision to use HZ/ZET in Zagreb

How strong an influence did the change in your personal situation exercise on the choice and change of your means of transport?



None of the changes with a high occurrence has also a decisive influence over 30%. The highest influence on the decision to change has a

- Relocation to Zagreb (44% decisive influence) and / or
- Lost access to a car (39% decisive influence)

Both factors are quite rare among HZ/ZET swing users and therefore do not have a high leverage. The highest leverage shows the *retirement / loss of occupation* (28% decisive influence, 22% occurrence).

In case children begin or change school or nursery school, this has with 25% a quite high influence compared to the average Croatian swing user (16%), although this event is not a very frequent one among HZ/ZET swing users.

In comparison with their Croatian counterparts, *health restrictions* and the *receipt of a driving licence* have not as much a decisive influence among HZ/ZET swing users.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

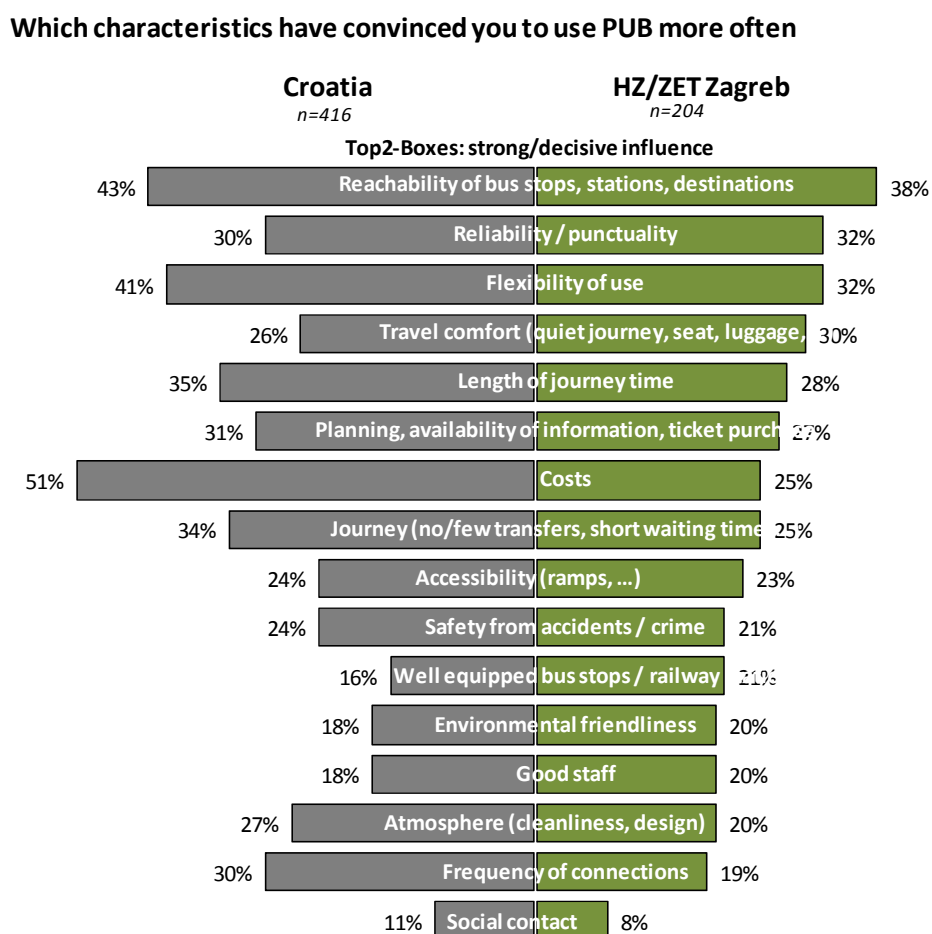
In combination with the frequency of the changes in the personal / private situation, most of all *changes in the job / work location and retirement / loss of occupation* are drivers for a change towards an increased HZ/ZET use in Zagreb.

D.2.3 Reasons for the change-in-use of public transport

USEmobility has put its central focus on the reasons for an increase of public transport, which are rooted in the public transport system itself. As we have seen in D.2.1, factors connected to the transport offer can act as *Pull-in factors attracting citizens* into the public transport system or increasing their use.

The next figure shows the proportion of cases, which have reported a strong or decisive influence on the primary factors. We see a comparison between swing users of HZ/ZET Zagreb (right) and the average Croatian swing-user (left).

Figure 109 Influence of primary pull-factors to use more PUB (Croatia & HZ/ZET)



Regarding all primary pull-in factors predominantly the 'hard' factors good reachability (38%), as well as reliability / punctuality (32%) lead to an increased use of HZ/ZET.

The 'soft' factors with a high pull-in potential are high flexibility of use (32%) and high travel comfort (30%). In comparison to the other USEmobility regions, these two soft factors have a high influence for the change on a level comparable to that of the top-rated hard factors.

Other soft factors like *good staff*, *pleasant atmosphere* during the journey or the possibility of *social contact* have a lower relevance for the change. They have to be considered as supplemental factors supporting the effect of the hard factors. In comparison with the average Croatian swing-users, hard factors like *low costs* or *high frequency of connections* and soft factors like *high flexibility of use* have less influence with HZ/ZET.

Figure 110 Influence of secondary pull-in aspects concerning the HZ/ZET transport offer (I)

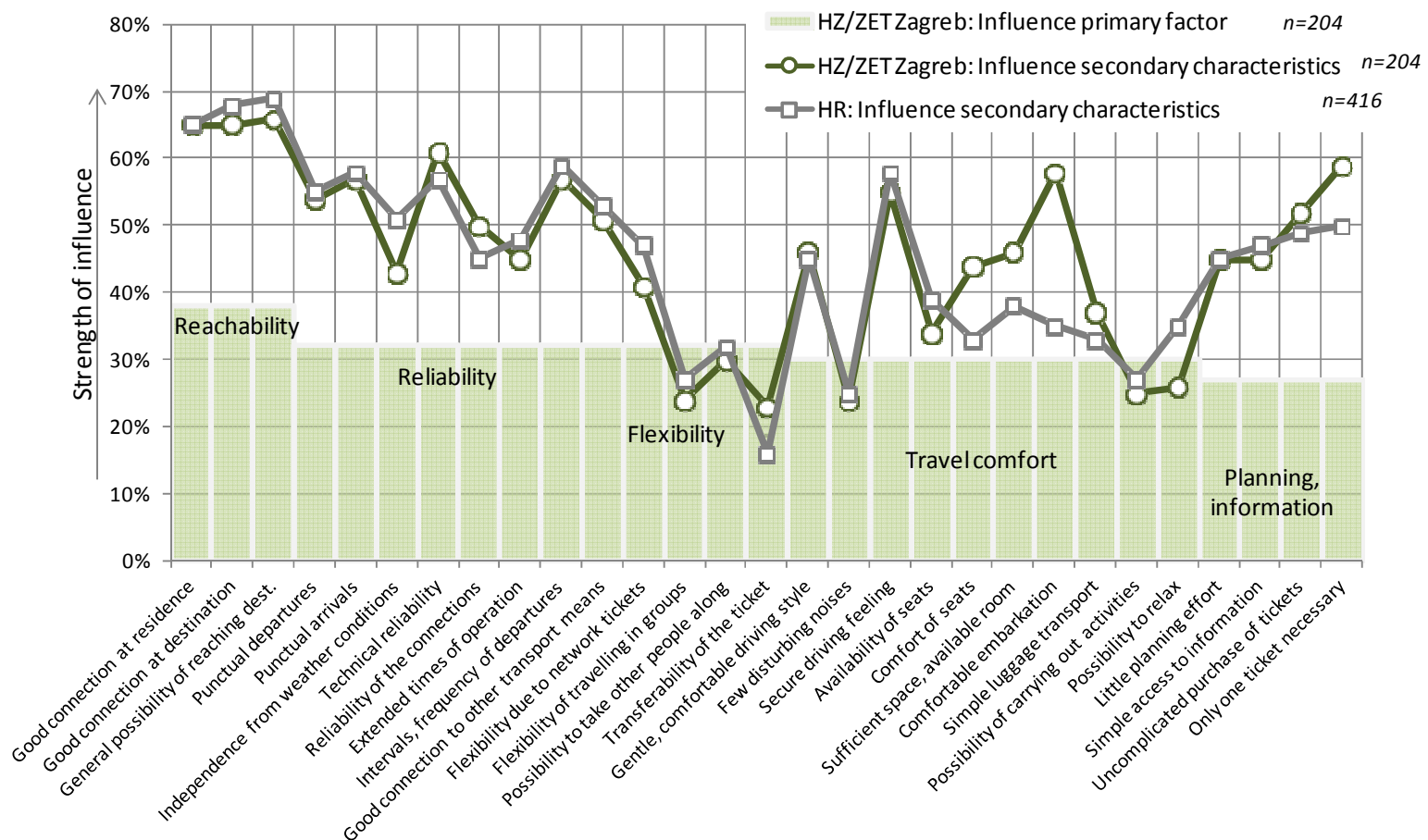


Figure 110 and Figure 111 give an overview over secondary characteristics, which can be seen as specifications of the primary factors mentioned above. The comparison HZ/ZET / Croatia in Figure 110 shows:

- The strongest pull-in factors with HZ/ZET swing users are *good connections at residence and destination, good possibilities to reach destinations* and *technical reliability*.
- *High frequency of departures* and a *secure driving feeling* are secondary characteristics of strong relevance as well.
- Generally, HZ/ZET swings users are quite in line with their Croatian counterparts.
- Comfort related aspects like, for example, *comfortable embarkation* are strong pull-in characteristics with HZ/ZET users, clearly stronger than with the average swing user in Croatia. Here the HZ/ZET seems to be very attractive.

Figure 111 Influence of secondary pull-in aspects concerning the HZ/ZET transport offer (II)

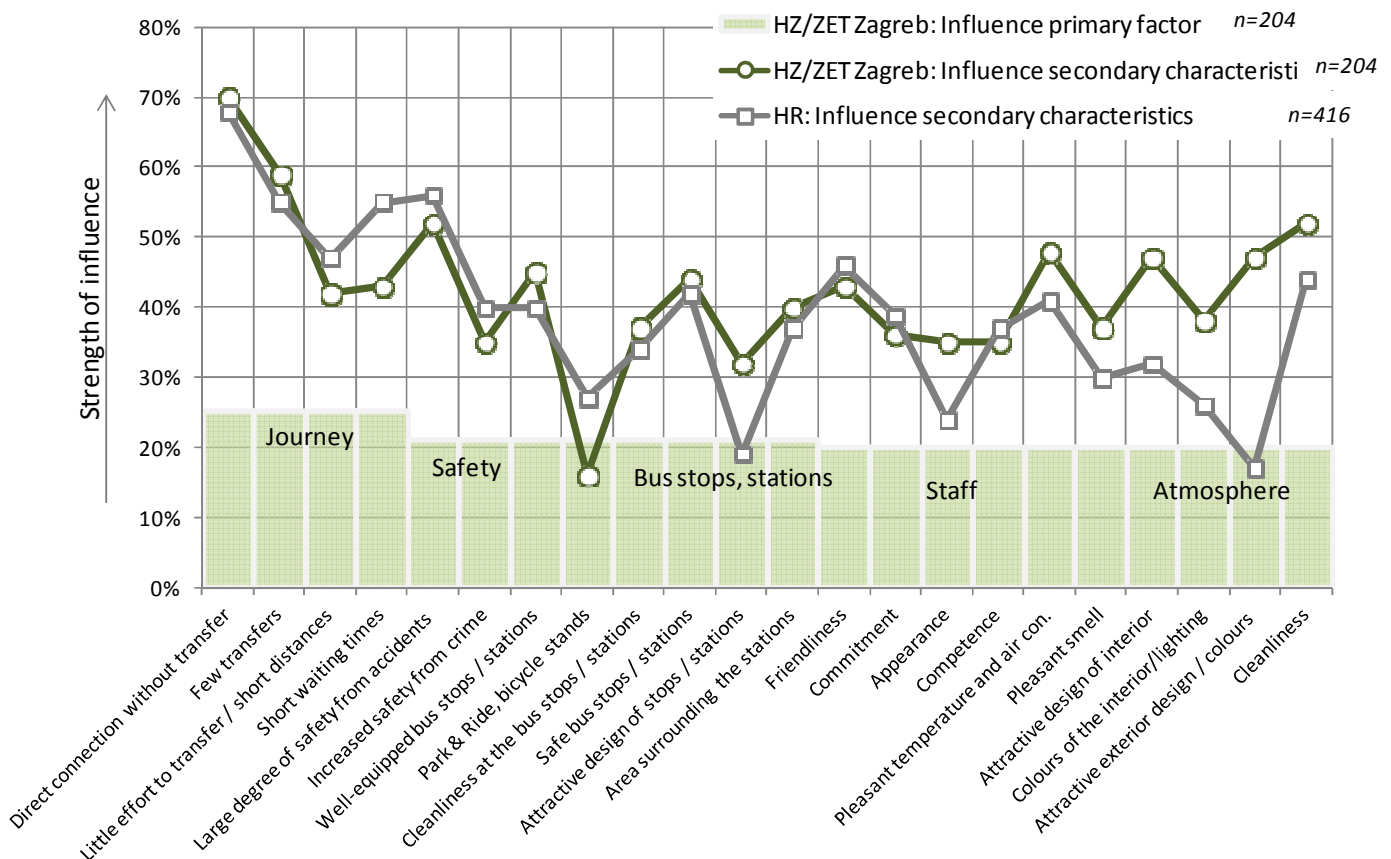


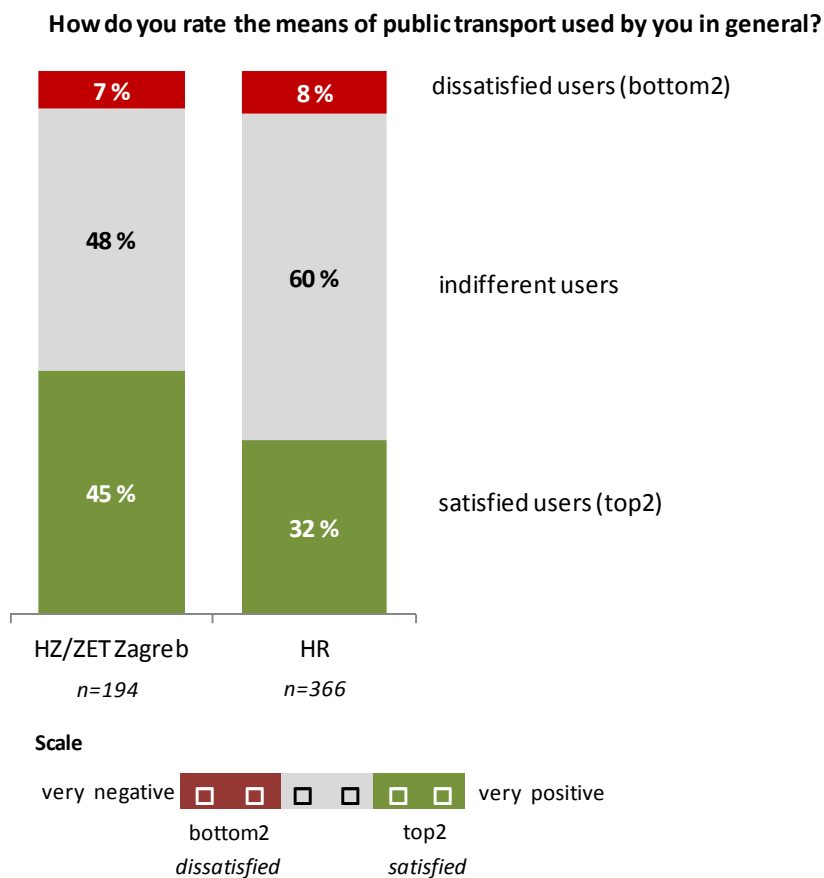
Figure 111 shows for the second part of the secondary characteristics:

- *Direct connections or few transfers, a high degree of safety from accidents and the 'soft' attribute cleanliness* are other important secondary characteristics.
- Staff-related aspects like friendliness and competence are rated highly influential, even slightly higher by HZ/ZET users than by their Croatian counterparts.
- Secondary 'soft' characteristics concerning *pleasant atmosphere* including design aspects are well above 33% relevance and therefore on a higher level of relevance than with Croatian swing users.
- *Park & Ride* is rather irrelevant for the decision to use more PUB.

D.3 PUBLIC TRANSPORT TODAY AS SEEN BY HZ/ZET USERS

Since the HZ/ZET operator was successful in gaining new passengers, USEmobility asked users for current evaluations.

Figure 112 Overall satisfaction of swing users with the HZ/ZET operator offer



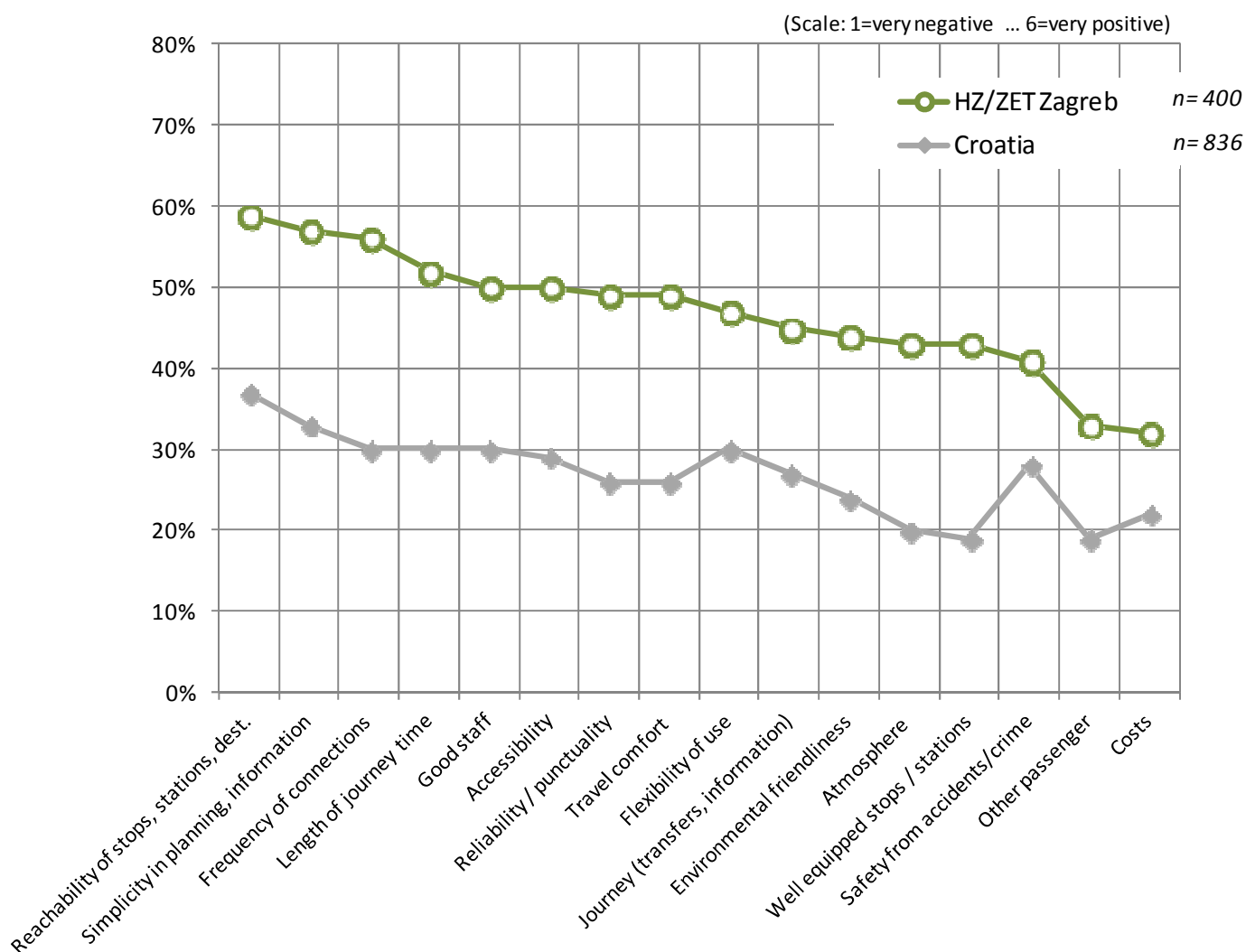
Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

45% of the HZ/ZET swing users are satisfied with the services offered to them. The satisfaction with HZ/ZET is slightly higher than the Overall satisfaction of swing users in Croatia with their public transport. The proportion of dissatisfied HZ/ZET swing users is with 7% on a low level.

Figure 113 Current evaluation of HZ/ZET operator service in comparison with PUB in Croatia

Percentage Top2 (=satisfied)



The comparison between all swing users in Croatia and HZ/ZET swing users shows that in Zagreb all primary factors are rated better. *Good reachability of bus stops / stations, simple planning / good informational background and high frequency of connections* rate almost up to 60% satisfaction.

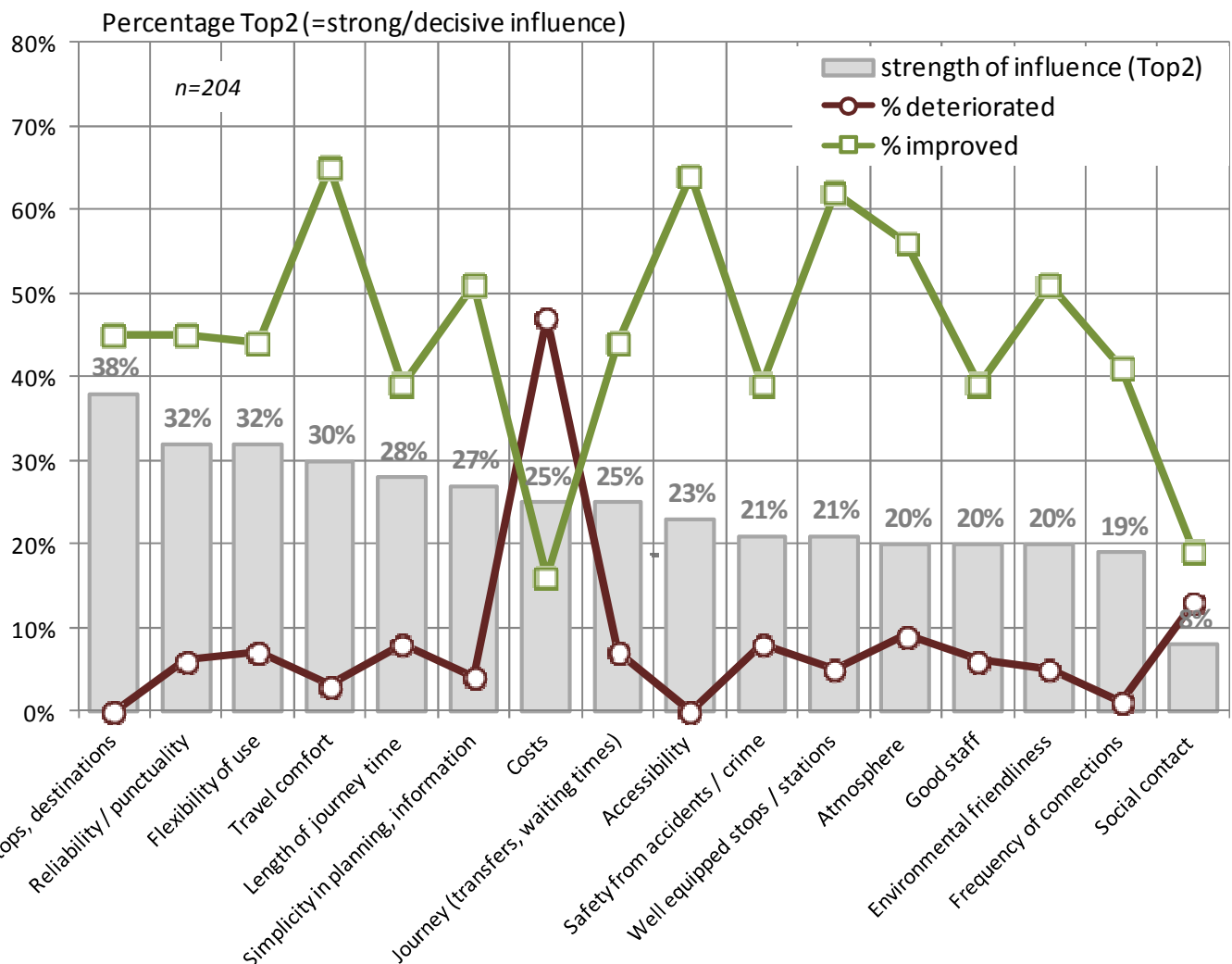
The lowest improvement to the national average can be found with safety from accidents /crime.

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 114 Perceived Improvements and deteriorations of the HZ/ZET Zagreb offer

Has anything changed for you since you started using **ZET Zagreb**



How to read the figure: Almost none of the HZ/ZET swing users perceived deterioration for reachability. Ca. 45% perceived an improvement for reachability. For 38% of the swing users the primary factor reachability was highly influential to use HZ/ZET.

HZ/ZET swing users have reported more improvements than deteriorations over the primary factors since they started using HZ/ZET. Regarding *travel comfort*, *accessibility* and *equipment of bus stops / stations* almost two thirds of the passengers have recorded improvements.

The only clear deterioration is seen in the cost level, where almost 50% of the swing users see deterioration. Generally, the recognition of deteriorations is on a low-level well below 10%.

Document: USEmobility_WP3_D3.6_V2B

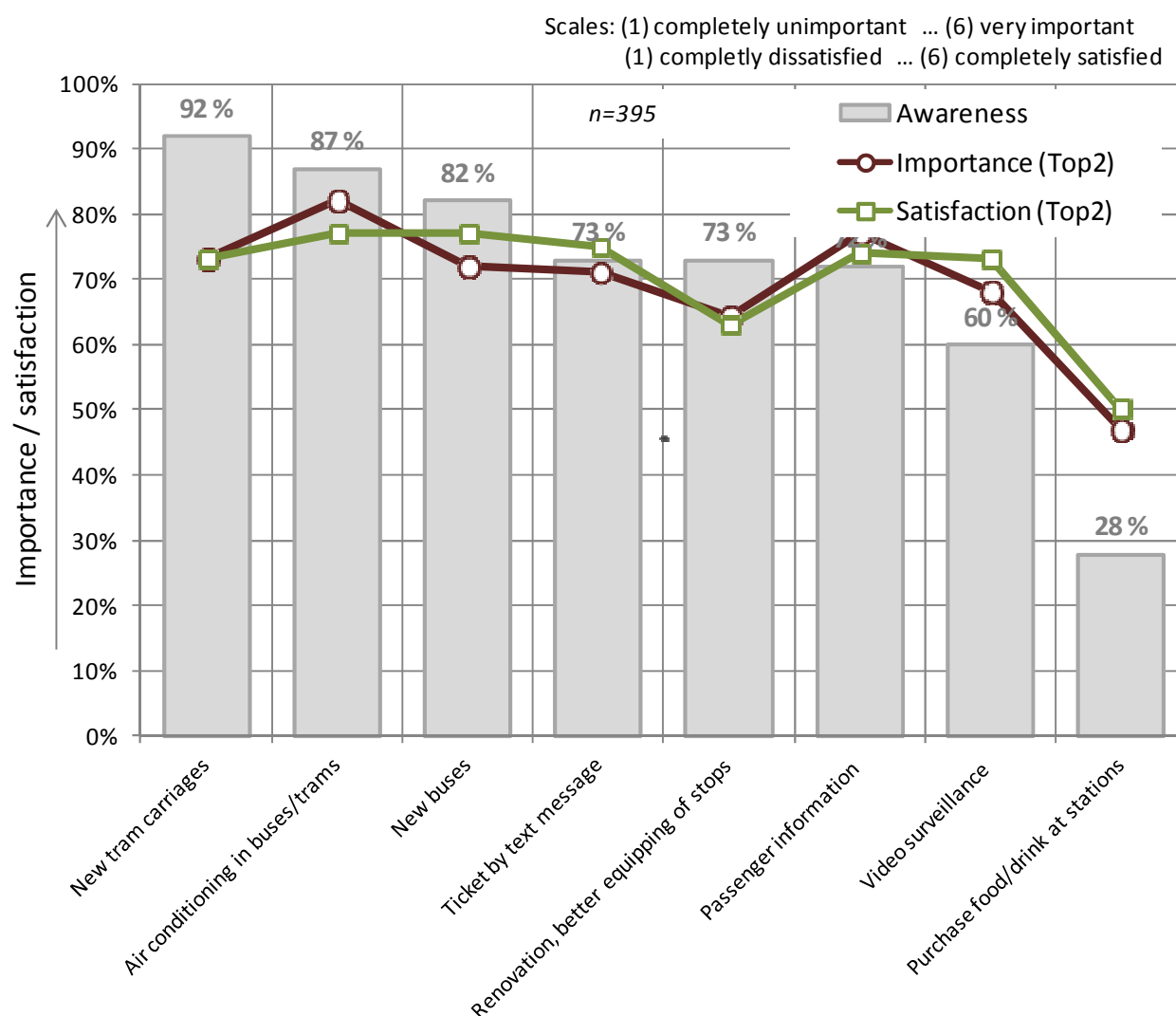
Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Well-equipped bus stops / stations, accessibility, a pleasant atmosphere and environmentally friendliness also show a high level of improvement, although these factors are rather of minor relevance.

D.4 SPECIFIC CHARACTERISTICS OF THE HZ/ZET-OPERATOR

In this chapter, USEmobility reports on specific aspects of the HZ/ZET transport offer that have been improved or established in the last five years. All specific aspects are surveyed regarding their awareness, importance and satisfaction among the users.

Figure 115 Selected aspects of the HZ/ZET offer



The figure shows that, for example, 82% of the swing users are aware of new buses. More than 70% of the swing users who are aware of new busses think that new buses are important or very important, and almost 80% are satisfied or very satisfied with the current offer of new busses.

Especially for *new tram carriages*, *air conditioning in buses* and trams and the *new busses*, we find a high awareness above 80%. Awareness is on the low side with *the possibility to purchase food and drink at the stations* (28%)

We have recorded the highest importance for the *air conditioning* with over 80% awareness, but all listed factors are well above 60% importance except *the possibility to purchase food and drinks at the stations* (below 50%)

Satisfaction with the special characteristics is on a very high level of around 70% satisfied swing users. Exceptions with a slight drop in satisfaction are *renovation*, *better equipment* and *possibility to purchase food/drinks at station*.

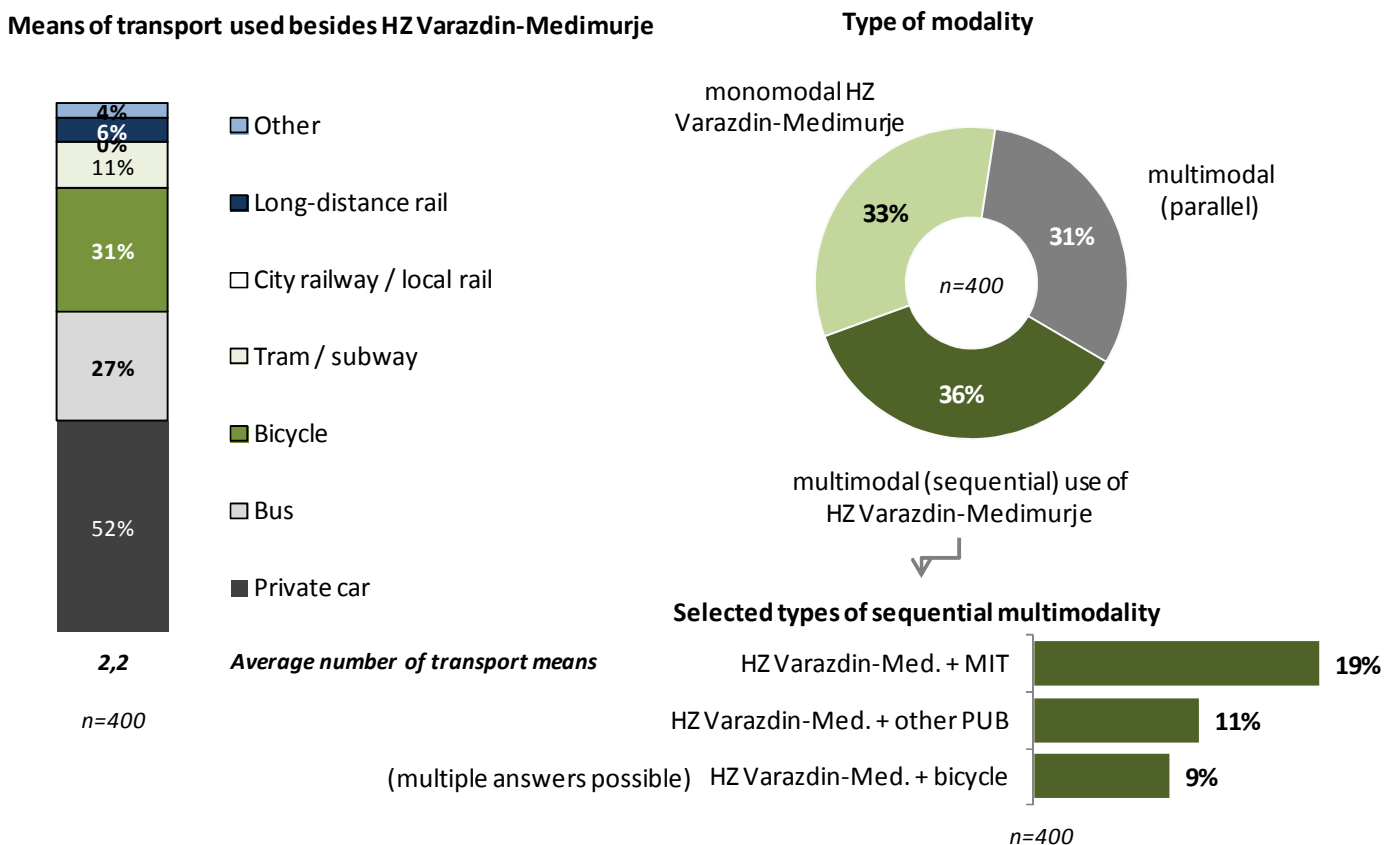
Region E HZ VARAŽDIN-MEĐIMURJE RAIL (CROATIA)

E.1 CHARACTERISTICS OF VARAŽDIN-MEĐIMURJE RAIL SWING USERS

E.1.1 Monomodality / Multimodality

To start the analysis of the regional data, USEmobility looked at the current use of means-of-transport of the HZ Varaždin-Međimurje Rail (VM-Rail). These swing users, who have changed their mobility mix regarding public transport within the last five years, have access to different means of transport, private and public.

Figure 116 Multimodality / Monomodality of VM-Rail swing users



The most frequent means-of transport used by VM Rail swing users besides the VM local rail are private car (52%), bus (27%) and bicycle (31%).

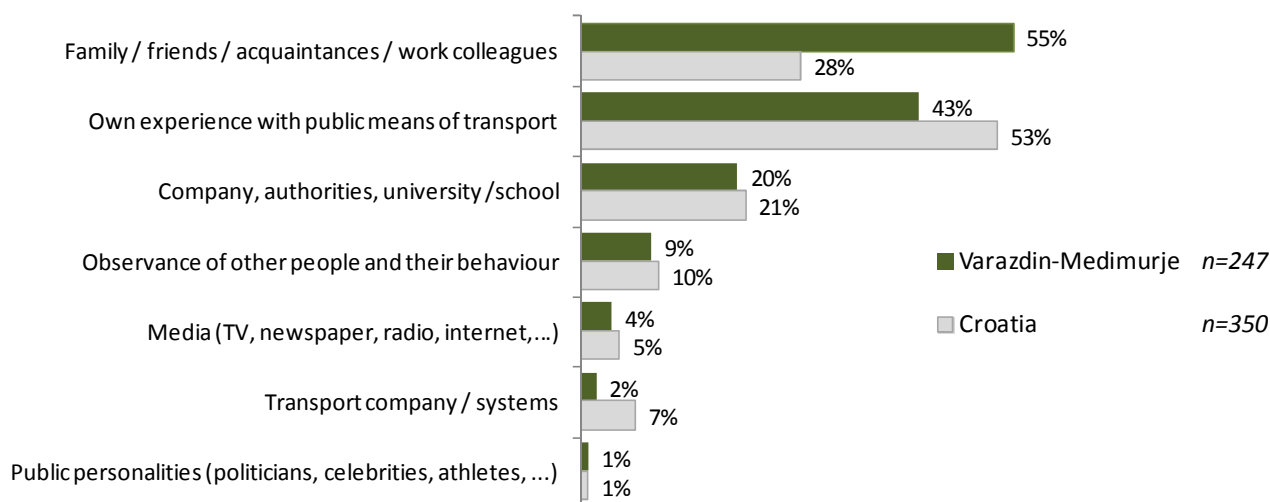
VM Rail swing users show a moderate percentage of 36% sequentially multimodal use, i.e. multimodal combinations including VM Rail during the journey from the starting point to destination.

The most common combination with 19% is VM Rail with motorized individual transport (MIT, 19%). Other typical combinations of the VM Rail include other public transport (PUB, 11%) and bicycle (9%).

E.1.2 Information behaviour and influence

USEmobility looked at possible sources including own experience and information about transport services from other sources that might have informed or motivated swing users to change their mobility mix and compared them to swing users in the whole country.

Figure 117 Sources of information / motivation to use HZ Varaždin-Međimurje Rail



In contrast to most of the other USEmobility regions, personal contacts like *family*, *friends*, *acquaintances* and *work colleagues* are the leading source of information for the decision to increase use of VM Rail. It plays with 55% a considerably stronger role than on average in Croatia (28%).

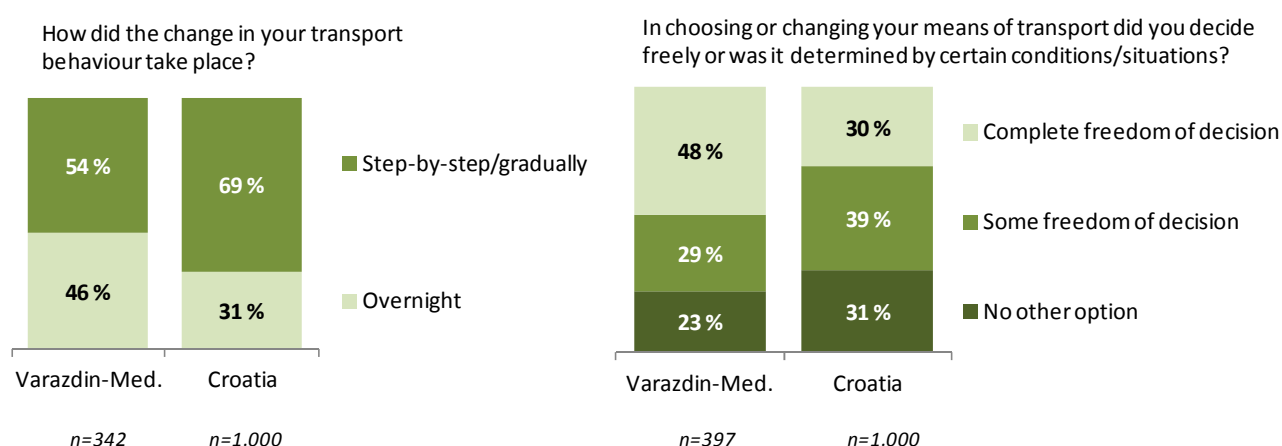
There is a remarkable is the high influence of companies, authorities and universities / schools (20%).

Information directly from the VM transport company was influential only for 2% of the VM swing users.

E.1.3 Type of change and perceived freedom of choice

Important characteristics of the change itself are how the change took place (step-by-step or overnight) and the perceived freedom of decision.

Figure 118 Type of change and perceived freedom of choice of VM-Rail swing users



The decision for an increased use of VM Rail mostly took place step-by-step. We find slightly more cases where the decision took place overnight (46%) than with the average swing user in Croatia (31%).

In Varaždin-Međimurje, as with Croatian swing users in general, the change is mostly connected to at least some freedom of decision (77%). Only 23% of the swing users had no other option, 8% less than on average with Croatian swing users.

The freedom of choice among HZ Varaždin-Međimurje swing users is generally on higher level than with their Croatian counterparts. Especially complete freedom of choice is with 48% considerably above the Croatian 30% level.

E.2 REASONS FOR CHANGES-IN-BEHAVIOUR

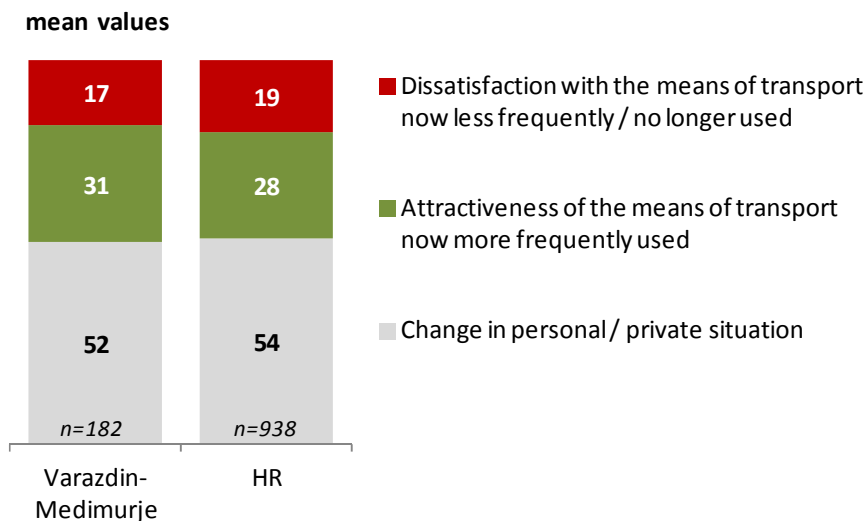
E.2.1 Types of reasons for the changes in behaviour

The USEmobility approach focuses on the reasons for the increased use of public transport in the region. VM Rail users report three types of reasons:

- Changes in personal / private situation
- Attractiveness of the VM Rail
- Dissatisfaction with the means of transport now less frequently / no longer used

Figure 119 Main types of reason for a change in use of VM Rail

Please distribute a total of 100 points among the following categories.



The USEmobility data shows that it is quite often one type-of-reason alone, which drives the decision to use VM-Rail. 30% of the swing users selected just one type of reason, mostly change in personal / private situation.

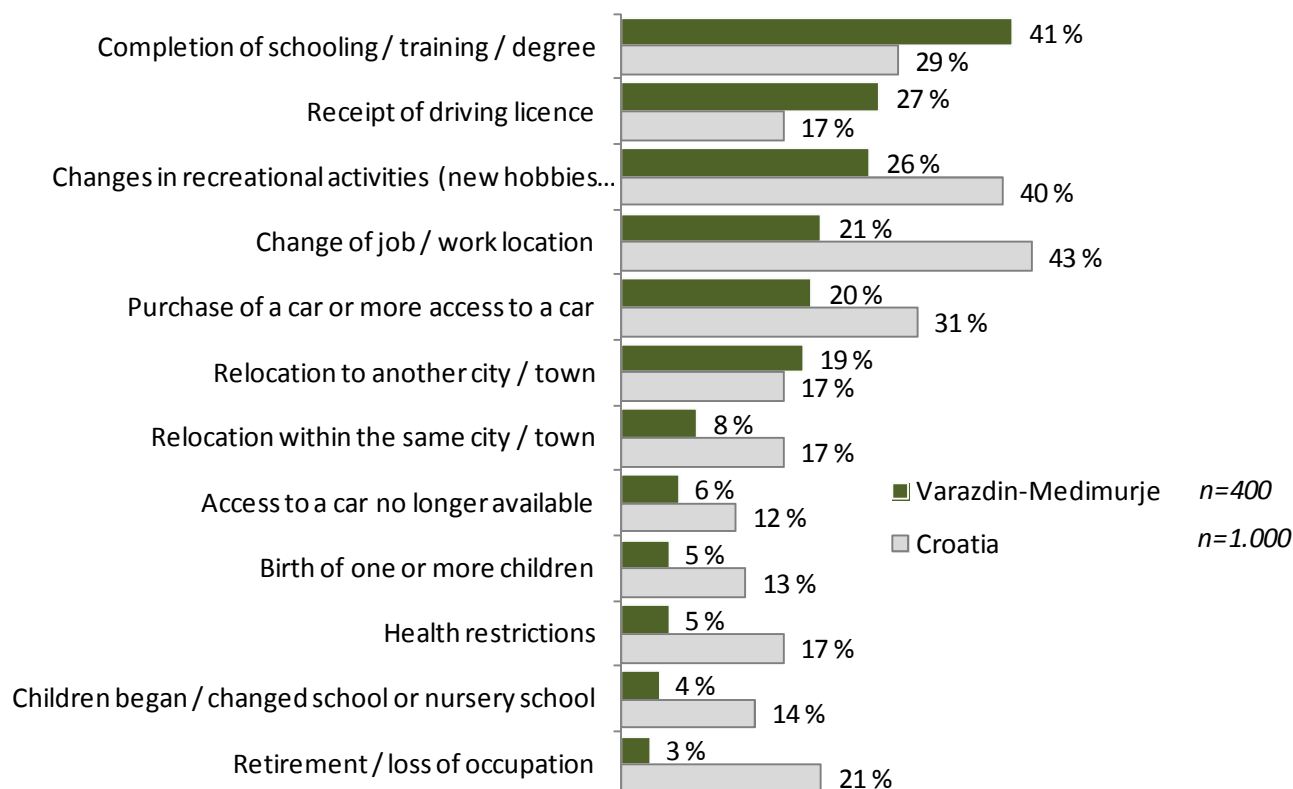
Most swing users report a mix of the three categories. Main type is a change in personal situation with on average half of the relevance, followed by the attractiveness of VM-Rail in one-third of the cases. Dissatisfaction with the means-of-transport formerly used (push-out factors) has only half of the relevance of attractiveness (pull-in factors).

E.2.2 Changes in the Personal / Private situation

Since the changes in the personal / private situation play such an important role in the reason-mix, we now look at them in more detail.

Figure 120 Changes in the personal situation of VM-Rail swing users

Has anything changed in your personal/private situation in the last five years?



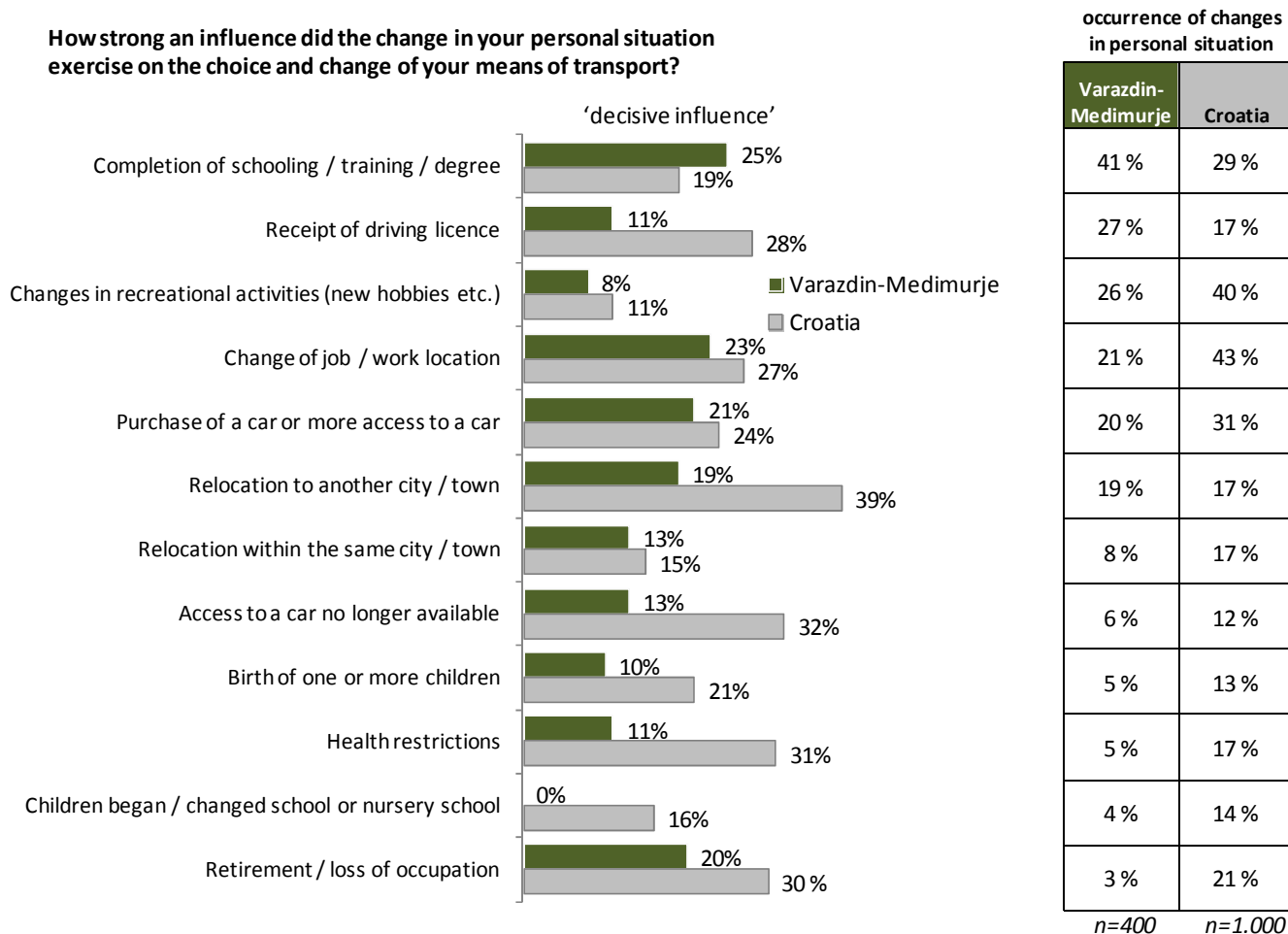
The personal/private changes of the VM swing users suggest a younger user structure (please compare Figure 195). More than 40% of the VM Rail swing users have completed their schooling or training or have received a degree in the last five years. This is far above the Croatian average among swing users of 29%. Many of the VM swing users have received a driving license (27%, compared to 17% in total Croatia) or have more access to a car (20%).

Further decisive changes in the VM area are changes in recreational activities (26%) and a change of job (20%), both on a much lower level as in total Croatia (40-43%).

In comparison to the Croatian Swing users, several types of personal change are rarer especially changes in an older life-phase: *retirement*, *loss of occupation* and *health restrictions*.

Even more than the occurrence, the importance of these types of change has to be analysed. Types of change that have a high leverage on the decision to use more public transport, combine high occurrence and high importance for the decision to change (see next figure).

Figure 121 Importance of certain changes in the personal situation on the decision to use HZ Varaždin-Međimurje rail



The general influence-level of changes in the personal / private situation is regarded considerably lower by VM swing users than by the average Croatian swing user.

The highest influence on the decision to change has a

- Completion of schooling or training (25% decisive influence) and / or
- Change in the job / work location (23% decisive influence)

In comparison with their Croatian counterparts, both factors have a more decisive influence among VM Rail users. The *completion of schooling* has a medium influence and a high occurrence (41%).

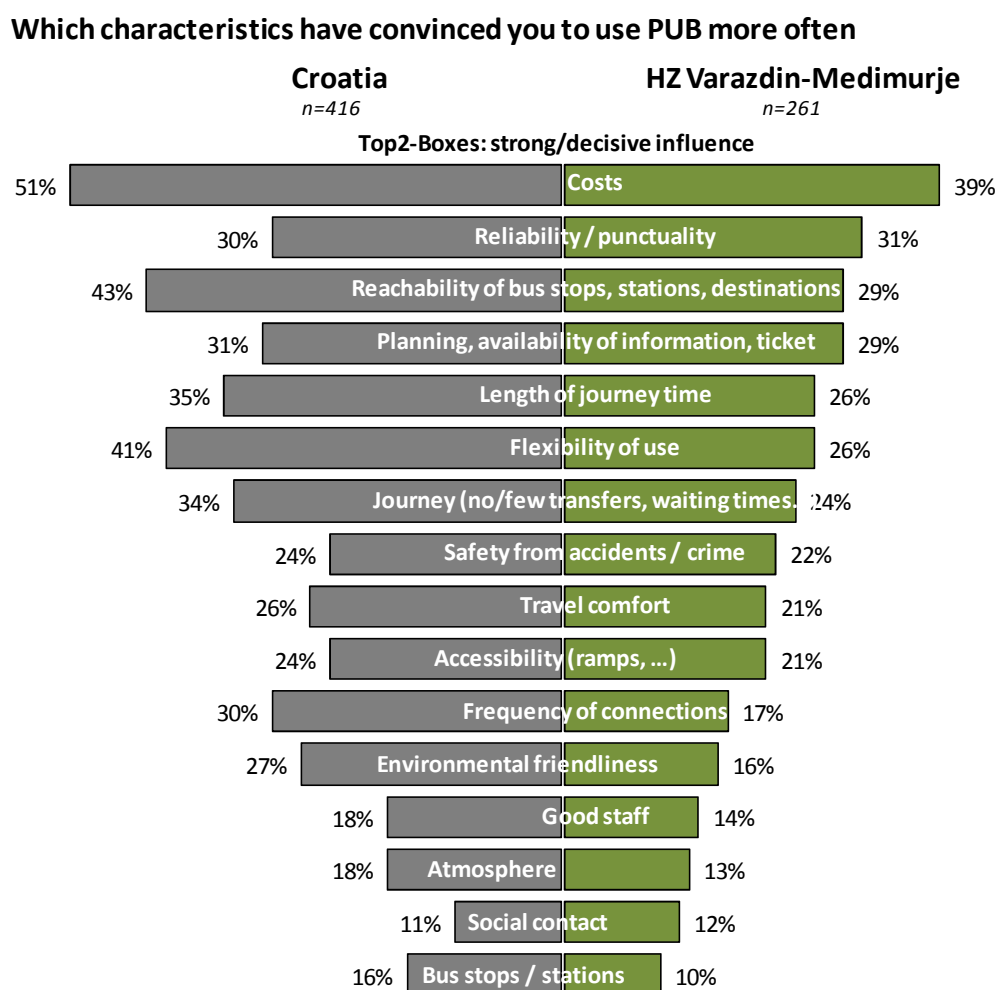
The *change in the work location* has a high influence and an average occurrence (20%). Both factors therefore have an above average leverage.

E.2.3 Reasons for the change-in-use of public transport

USEmobility has put its central focus on the reasons for an increase of public transport, which are rooted in the public transport system itself. As we have seen in E.2.1, factors connected to the transport offer can act as *Pull-in factors attracting citizens* into the public transport system or increasing their use.

The next figure shows the proportion of cases, which have reported a strong or decisive influence on the primary factors. We see a comparison between swing users of HZ Varaždin-Međimurje rail (right) and the average Croatian swing-user (left). Swing users of VM rail are displayed on the right, as comparison Croatian swing-users are displayed on the left.

Figure 122 Influence of primary pull-factors to use more PUB (Croatia & HZ Varazdin)



Regarding all primary pull-in factors, predominantly the 'hard' factors *low costs* (39%), *reliability / punctuality* (31%) as well as *good reachability of stations and destinations* (29%) lead to an increased use of VM-Rail.

From the classical 'soft' pull-in factors, the *planning / availability of information / ticket purchase* has the highest relevance for a VM-Rail use. Other soft factors like *good staff, pleasant atmosphere* during the journey or the possibility of *social contact* have all a rather low relevance for the change. They have to be considered as supplemental factors supporting the effect of the hard factors.

In comparison with the average Croatian swing-users, hard factors like *low costs*, *good reachability* and *few transfers / short waiting times* and soft factors like flexibility or *environmental friendliness* have less influence for VM rail.

Figure 123 Influence of secondary pull-in aspects concerning the VM rail transport offer (I)

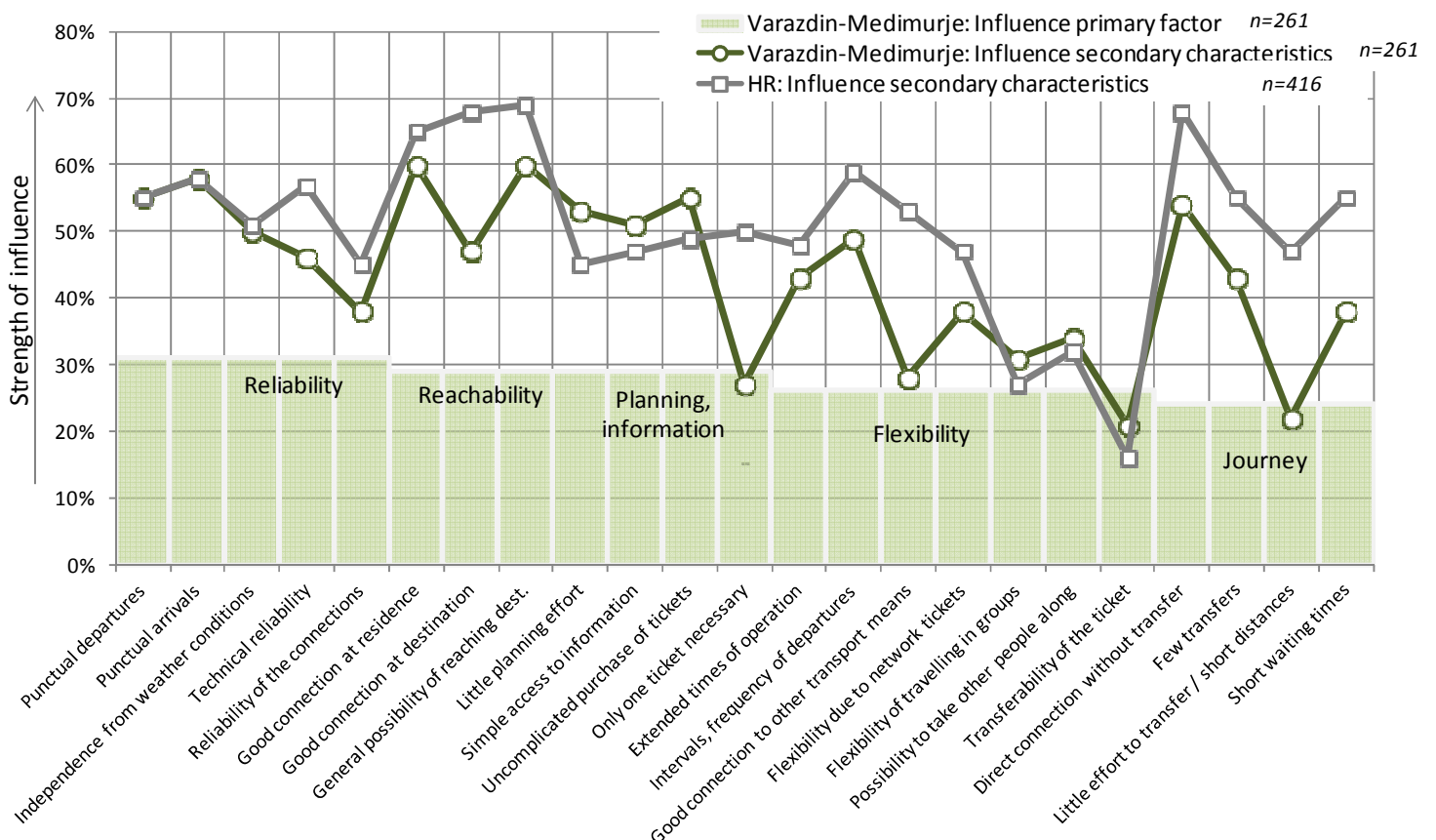


Figure 123 and Figure 124 give an overview over secondary characteristics, which can be seen as specifications of the primary factors mentioned above. The comparison VM Rail / Croatia in Figure 123 shows:

- The strongest pull-in factors with VM Rail swing users are *punctual arrivals*, *good connections at residence* and *direct connections without transfer*.
- Planning related factors like, for example, *uncomplicated purchase of tickets* are also quite influential with VM Rail users, clearly higher than with the average swing user in Croatia.
- Some secondary aspects are rather irrelevant for the increase in VM Rail-use including *good connections to other transport means*, *transferability of the ticket* and in general *little effort to transfer*.

Figure 124 Influence of secondary pull-in aspects concerning the VM Rail transport offer (II)

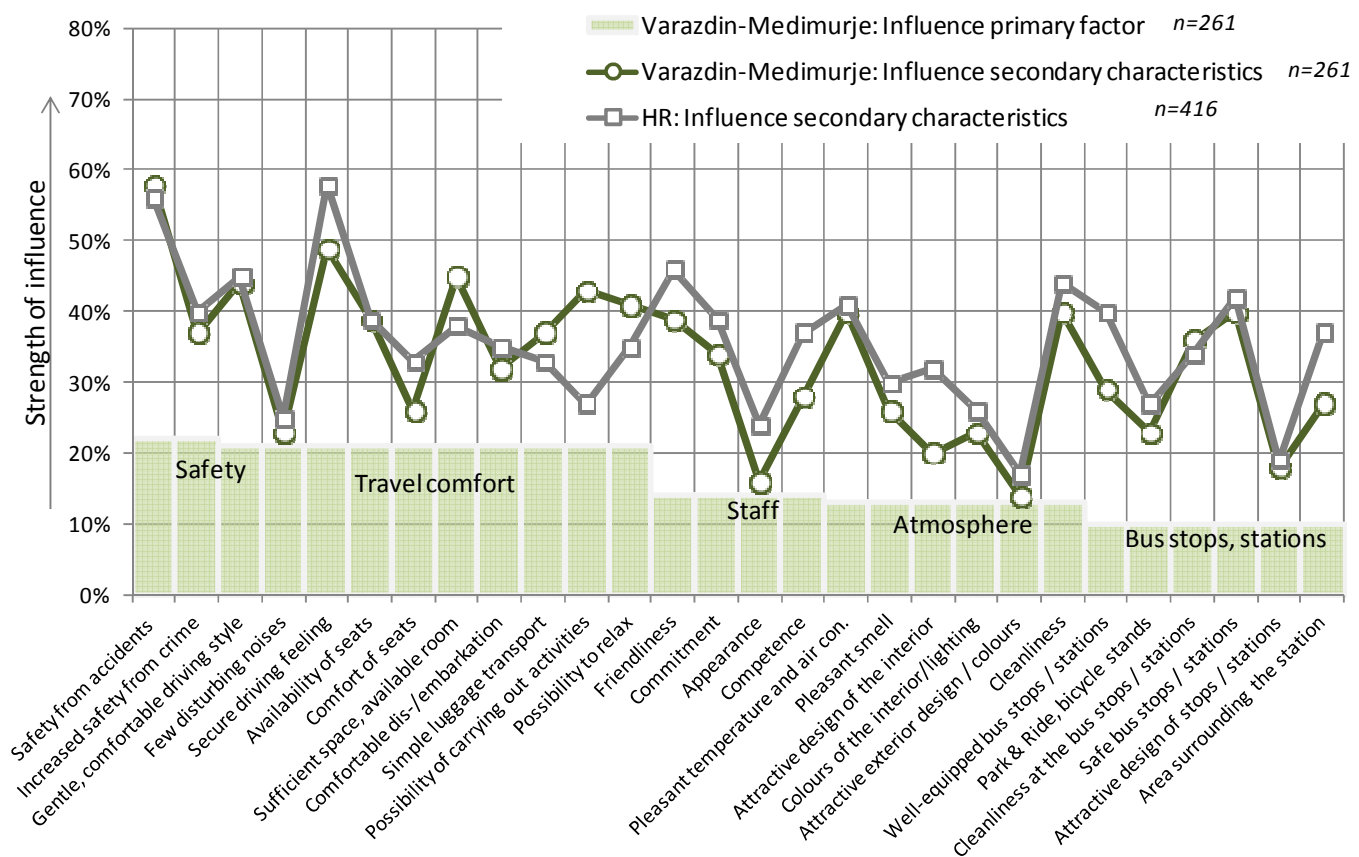


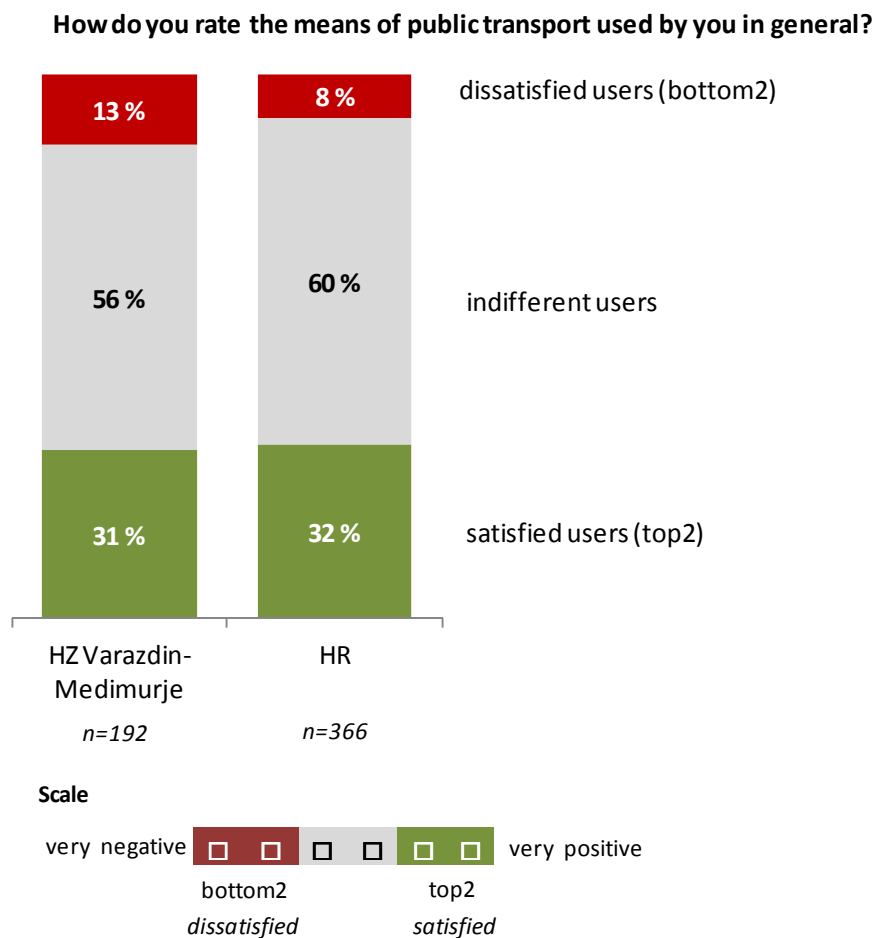
Figure 124 shows for the second part of the secondary characteristics:

- *Safety from accidents and secure driving feeling* are further important secondary aspects.
- Travel comfort-related factors like *sufficient space* and the *possibility to carry out activities* are rated higher by VM Rail users than by their Croatian counterparts.
- *Appearance of staff and the exterior design* are rather irrelevant for the decision to use VM Rail more.

E.3 PUBLIC TRANSPORT TODAY SEEN BY VARAŽDIN-MEĐIMURJE USERS

Since HZ Varaždin-Međimurje Rail was successful in gaining new passengers, USEmobility asked users for current evaluations.

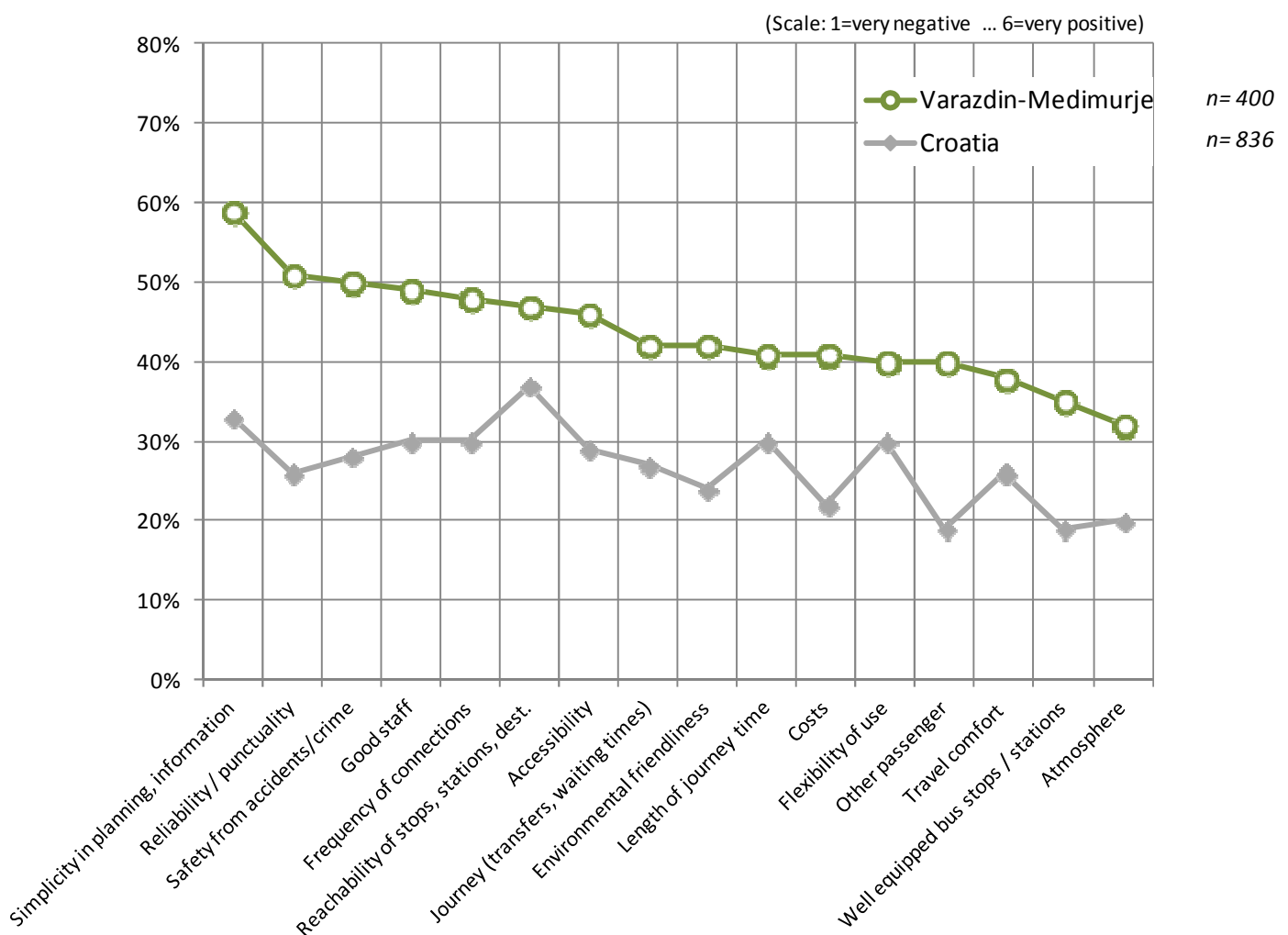
Figure 125 Overall satisfaction of swing users with the VM Rail offer



Only 31% of the VM Rail swing users are satisfied with the services offered to them. The satisfaction with VM Rail is on the same level as the Overall satisfaction of swing users in Croatia with public transport. The proportion of dissatisfied VM Rail swing users is with 13% on a moderate level, but clearly above the Croatian average.

Figure 126 Current evaluation of VM Rail service in comparison with PUB in Croatia

Percentage Top2 (=satisfied)



Despite the moderate overall satisfaction, all primary factors are rated better by VM-Rail swing users than by their Croatian counterparts.

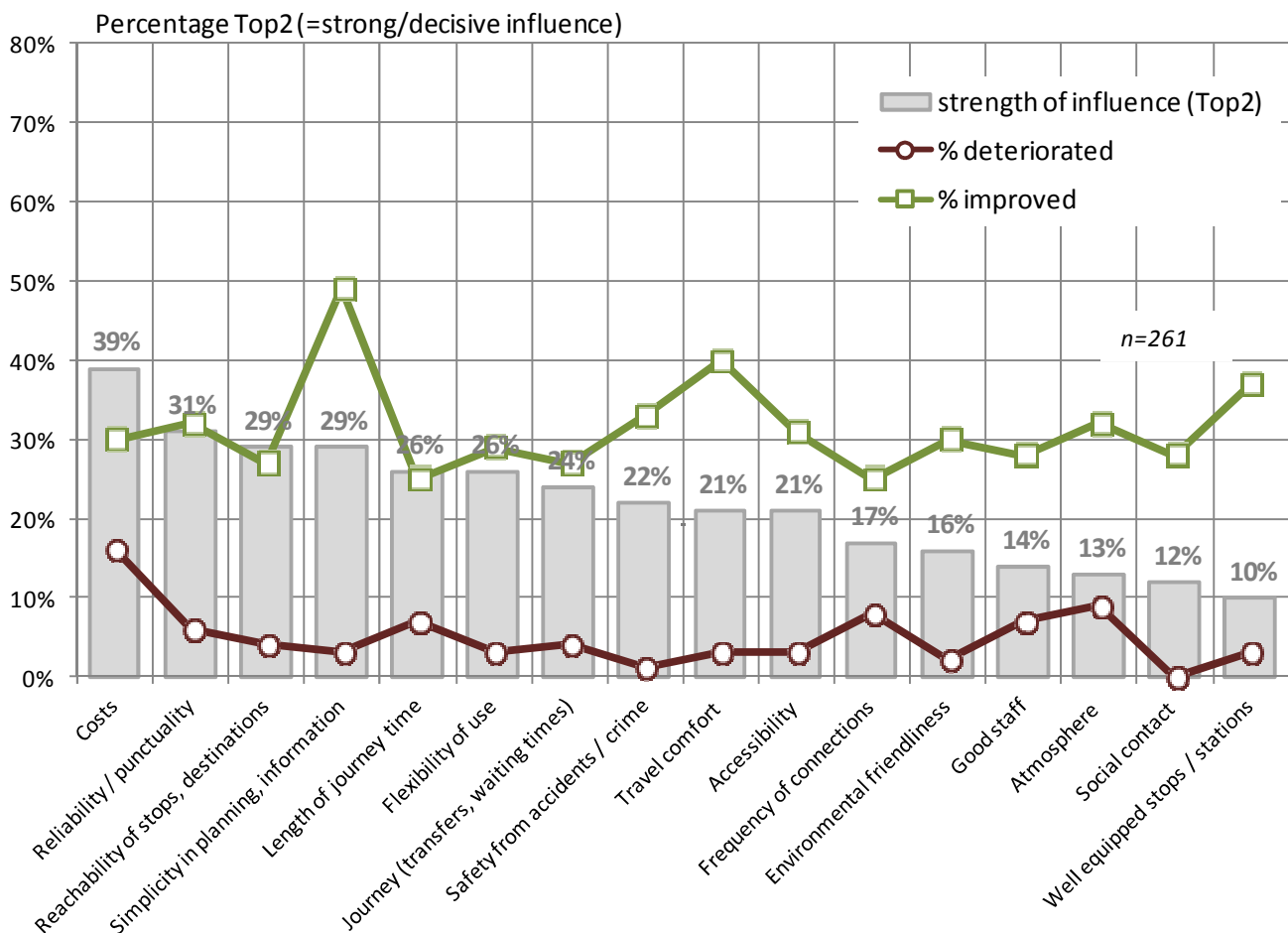
Simple planning / good availability of information, reliability / punctuality and safety from accidents / crime achieve 50% of satisfied VM swing users and more.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 127 Perceived Improvements and deteriorations of the VM rail offer

Has anything changed for you since you started using **Varazdin-Medimurje**



How to read the figure: ca. 4% of the VM rail swing users perceived deterioration for reachability. Between 25% and 30% perceived an improvement for reachability. For 29% of the swing users the primary factor reachability was highly influential to use VM rail.

VM Rail swing users have reported more improvements than deteriorations over the primary factors since they started using VM rail. The only serious deterioration is seen in the cost level (15% deterioration), yet there are more users who perceived an improvement for costs (30%).

Generally, the recognition of deteriorations is on a low-level well below 10%.

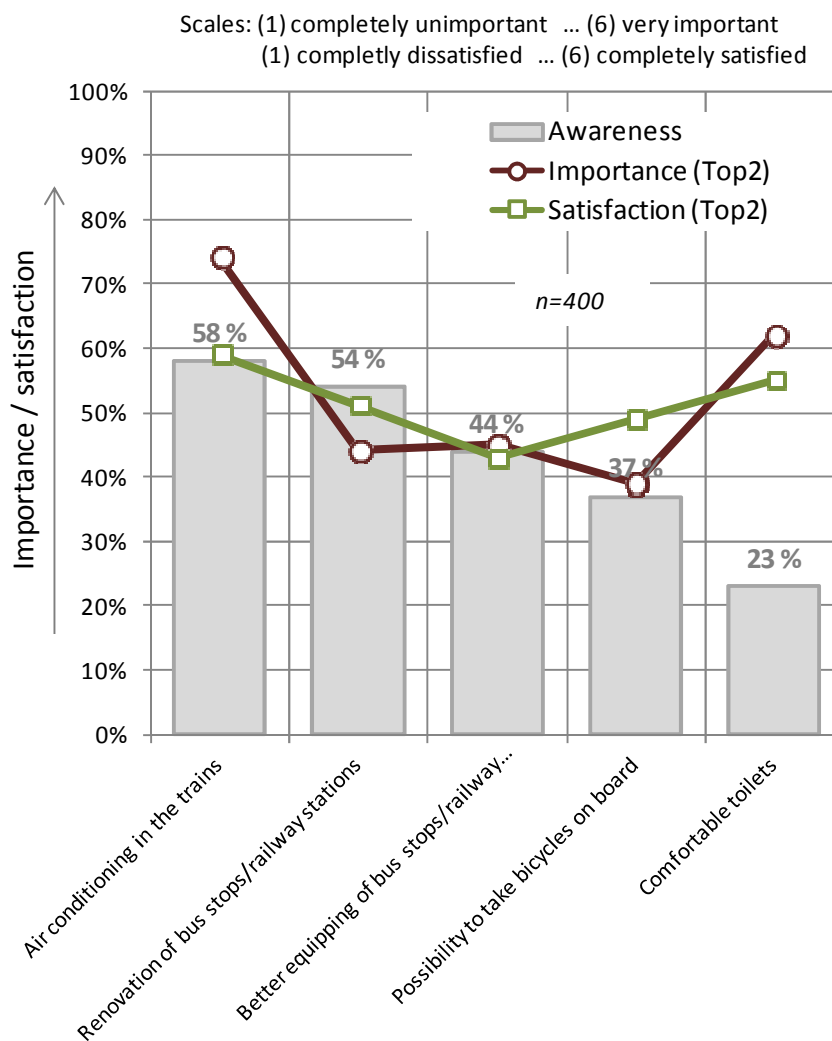
Outstanding improvements are seen regarding *simple planning / good availability of information* and travel comfort, all being quite relevant factors for an increased use of VM Rail.

Well-equipped bus stops / stations and a pleasant atmosphere also show a good level of improvement, although these factors are rather of minor relevance.

E.4 SPECIFIC CHARACTERISTICS OF HZ VARAŽDIN-MEĐIMURJE RAIL

In this chapter, USEmobility reports on specific aspects of the HZ Varaždin-Međimurje Rail transport offer that have been improved or established in the last five years. All specific aspects are surveyed regarding their awareness, importance and satisfaction among the users.

Figure 128 Selected aspects of the VM Rail offer



The figure shows that, for example, 58% of the swing users were aware of air conditioning in the trains. Over 60% of the swing users who are aware of air conditioning in the trains think that air conditioning in the trains is important or very important, but only 55% are satisfied or very satisfied with the current offer of air conditioning in the trains.

More than half of the VM-Rail users are aware of *air conditioning in the trains* and *renovation of bus stops / railway stations*,. Awareness is on the low side with *comfortable toilets* (23%)

We have recorded the highest importance for *air conditioning in the trains* and especially for *better equipment of bus stops / railway stations*.

Satisfaction is between 40% and 60% for all listed factors and peaks for *better equipment of bus stops / railway stations* and *air conditioning in trains*.

Region F BREISGAU S-BAHN (BADEN REGION, GERMANY)

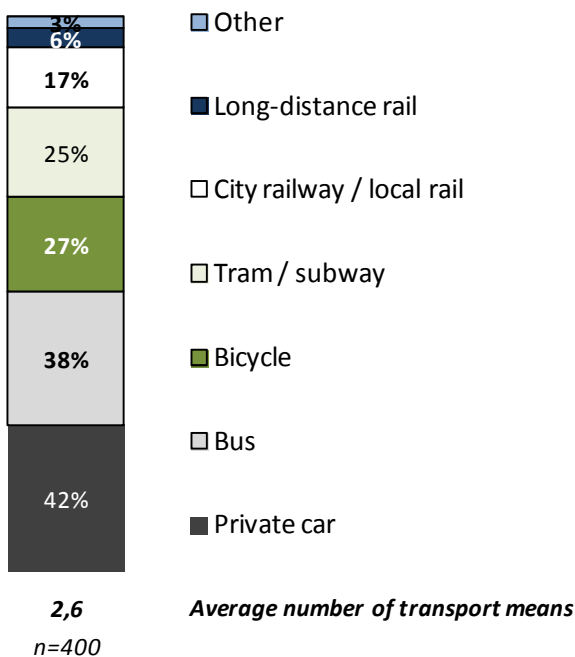
F.1 CHARACTERISTICS OF BREISGAU SWING USERS

F.1.1 Monomodality / Multimodality

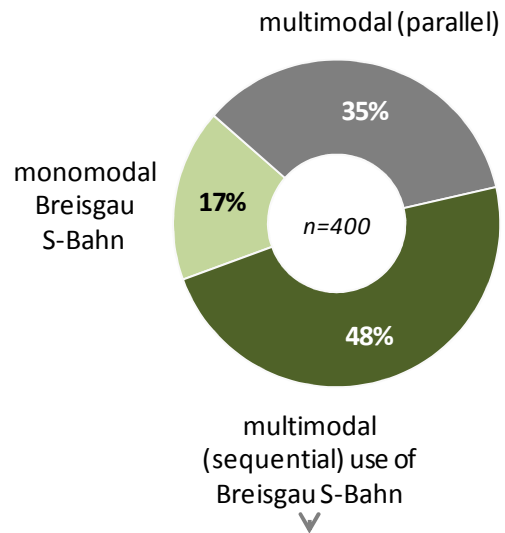
To start the analysis of the regional data, USEmobility looked at the current use of means-of-transport of the *Breisgau S-Bahn* swing users in South-Western Germany (Baden region). These swing users, who have changed their mobility mix regarding public transport within the last five years, have access to different means of transport, private and public.

Figure 129 Multimodality / Monomodality of Breisgau S-Bahn swing users

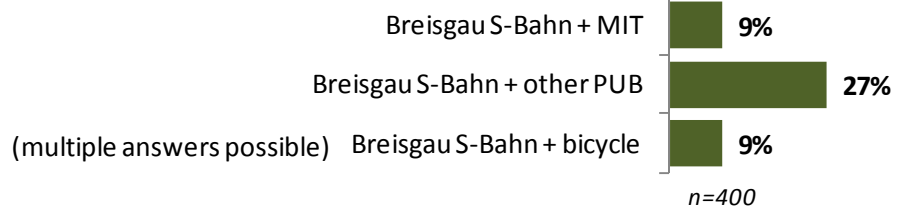
Means of transport used besides Breisgau S-Bahn



Type of modality



Selected types of sequential multimodality



The most frequent means-of transport used by the Breisgau S-Bahn swing users besides the Breisgau S-Bahn is the private car (42%), bus (38%) and bicycle (27%).

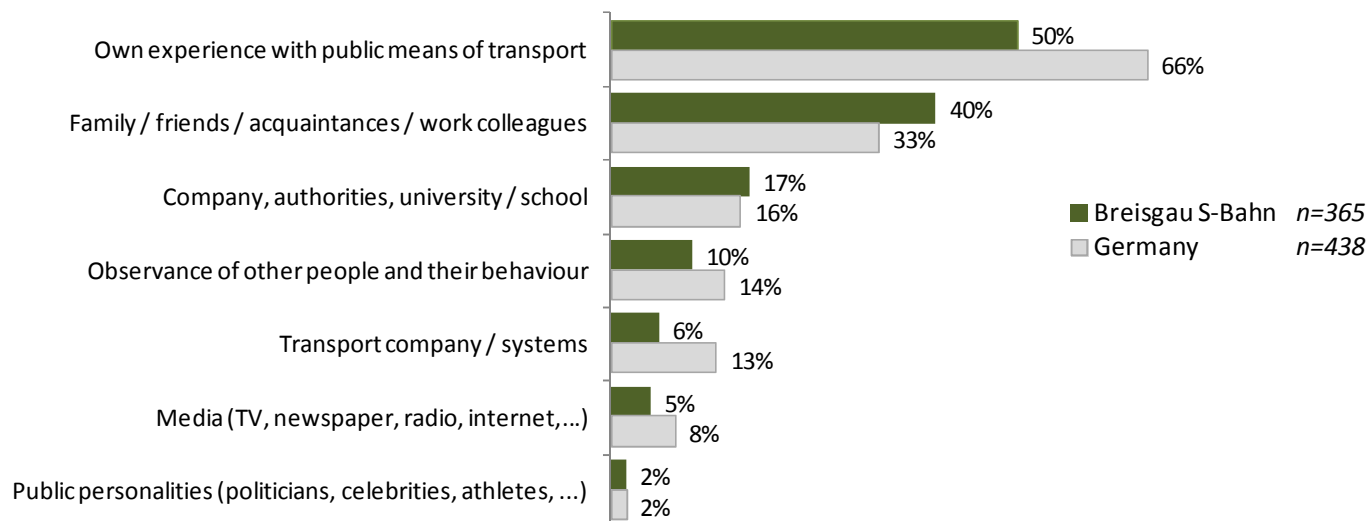
Breisgau S-Bahn swing users show a high percentage of 48% sequentially multimodal use, i.e. multimodal combinations with Breisgau S-Bahn during the journey from the starting point to destination.

The most common multimodal combination is Breisgau S-Bahn *with other public transport* (PUB, 27%). Other typical combinations including Breisgau S-Bahn are combinations with *bicycle* (9%) and with *motorized individual transport* (MIT, 9%).

F.1.2 Information behaviour and influence

USEmobility looked at possible sources including own experience and information about transport services from other sources that might have informed or motivated swing users to change their mobility mix and compared them to swing users in the whole country.

Figure 130 Sources of information / motivation to use Breisgau S-Bahn



The own experience is the leading source of information for the decision to increase the use of Breisgau S-Bahn, but with 50% it plays a weaker role than in total Germany (66%).

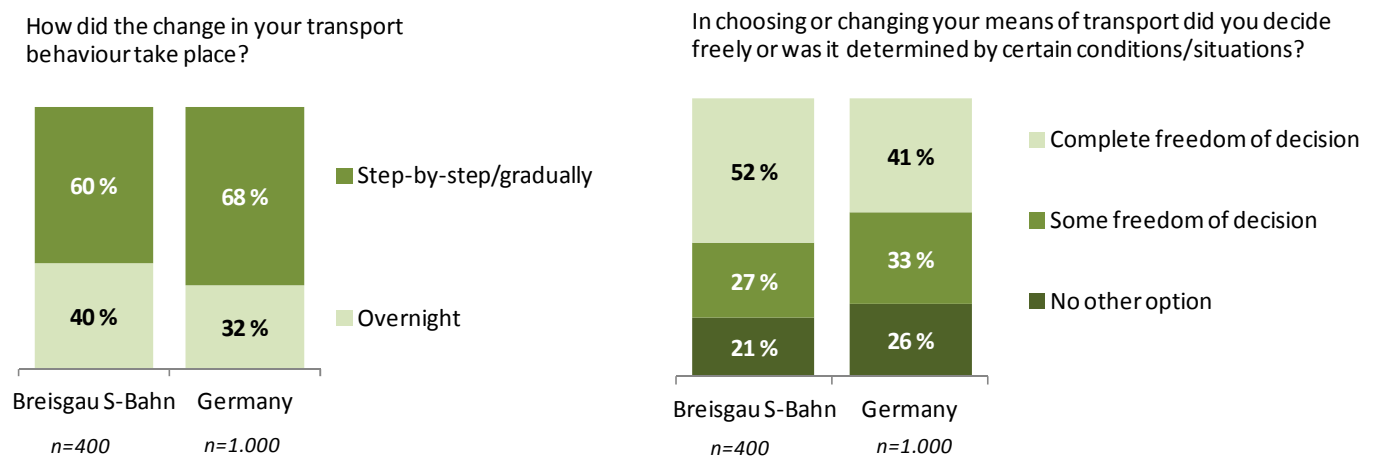
The influence of personal contacts is with 40% stronger than on the national level.

Information directly from the Breisgau S-Bahn transport company was influential in only 6% of the cases, below the national average of 13%.

F.1.3 Type of change and perceived freedom of choice

Important characteristics of the change itself are how the change took place (step-by-step or overnight) and the perceived freedom of decision.

Figure 131 Type of change and perceived freedom of choice of Breisgau S-Bahn swing users



The decision for an increased use of Breisgau S-Bahn mostly took place step-by-step. We find slightly more cases where the decision took place overnight (40%) than with the average swing user in Germany (32%).

In Breisgau, even more than with German swing users in general, the change is mostly connected to at least some freedom of decision (52%+27%).

52% of the Breisgau S-Bahn swing users had *complete* freedom of choice, which is 11% more than their Germany counterparts had. Only 21% of the Breisgau S-Bahn swing users had no other option.

F.2 REASONS FOR CHANGES-IN-BEHAVIOUR

F.2.1 Types of reasons for the changes in behaviour

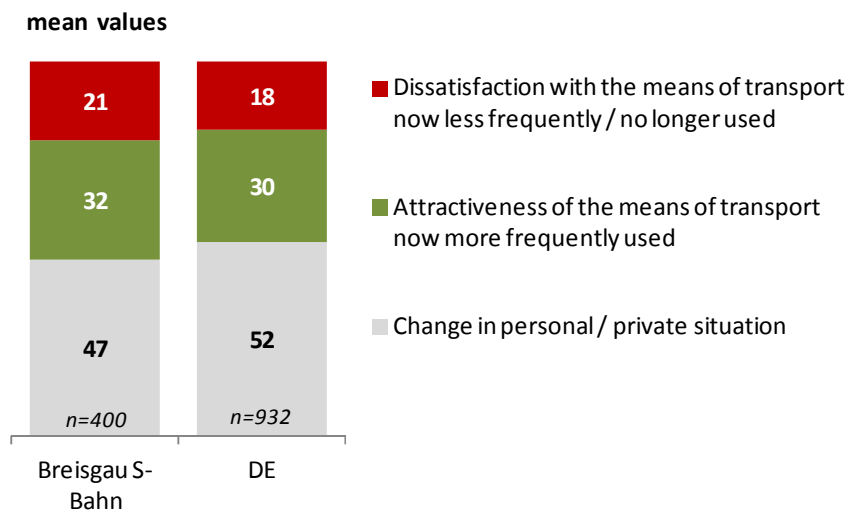
The USEmobility approach focuses on the reasons for the increased use of public transport in the region. Breisgau S-Bahn users report three types of reasons:

- Changes in personal / private situation

- Attractiveness of the Breisgau S-Bahn
- Dissatisfaction with the means of transport now less frequently / no longer used

Figure 132 Main types of reason for a change in use of Breisgau S-Bahn

Please distribute a total of 100 points among the following categories.



The USEmobility data shows that it is not only one type of reason alone that drives the decision to use Breisgau S-Bahn. Only 20% of the Breisgau S-Bahn swing users selected only one reason alone, mostly a change in personal / private situation.

Most swing users report a mix of the three categories. Main type is changes in the personal situation with on average almost half of the relevance, followed by the attractiveness of the Breisgau S-Bahn in one-third of the cases. Dissatisfaction with the means-of-transport formerly used has only 21% relevance.

Breisgau S-Bahn swing users show some differences to German swing users in general. Changes in personal situation are less important. It is slightly more the pull and push-factors (attractiveness and dissatisfaction), which are the background for their decision to use public transport more often.

F.2.2 Changes in the Personal / Private situation

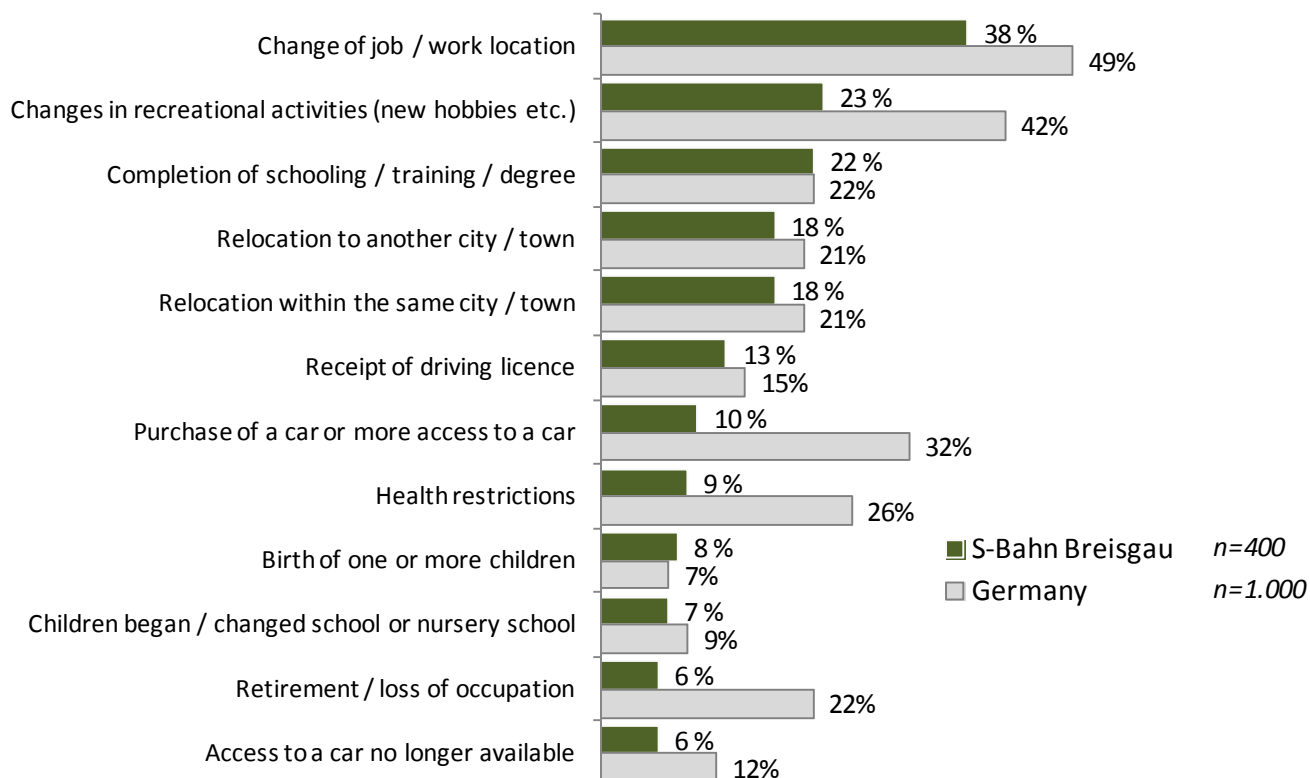
Since the changes in the personal / private situation play such an important role in the reason-mix, we now look at them in more detail.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 133 Changes in the personal situation of Breisgau S-Bahn swing users

Has anything changed in your personal/private situation in the last five years?



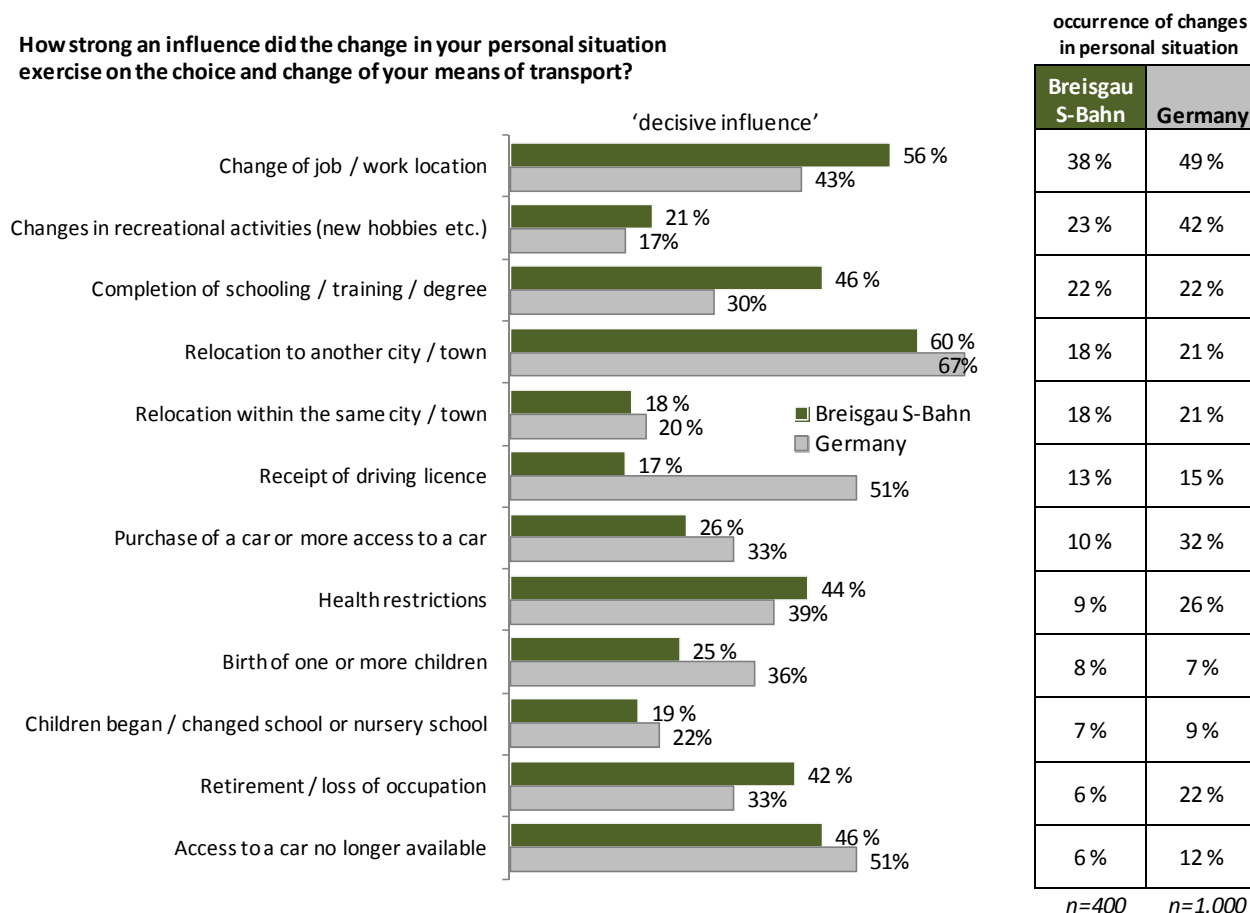
Almost 40% of the Breisgau S-Bahn swing users had a change of job / work location in the last five years. It was the most common type of personal change.

Further decisive changes in Breisgau are *relocation within the same town* (18%), the *completion of school or training* (22%) as well as a *change in the recreational activities* (23%), although on a much lower level than in total Germany (42%).

In total, we find fewer changes in the personal situation among Breisgau swing-users than among German swing users in general.

Even more than the occurrence, the importance of these types of change has to be analysed. Types of change that have a high leverage on the decision to use more public transport, combine high occurrence and high importance for the decision to change (see next figure).

Figure 134 Importance of certain changes in the personal situation on the decision to use Breisgau S-Bahn



The highest influence on the decision to change has a

- Relocation to another town in the Breisgau area (60% decisive influence),
- Completion of schooling or training (46% decisive influence) and / or
- Change in the job / work location (56% decisive influence)

The *change in the work location* has a high influence and a frequent occurrence and therefore a high leverage. The influence is even higher than with the average German swing user (43%).

In case of occurrence of *retirement*, *loss of occupation*, *loss of access to a car* and *health restrictions* influence is on a high level as well, but they are quite rare among Breisgau S-Bahn swing users.

In comparison with their German counterparts, *retirement / loss of occupation* (42%) the *completion of schooling and training* (46%) have a more decisive influence among Breisgau S-Bahn swing users; *receipt of a driving licence* is less decisive than among all German swing users.

Document: USEmobility_WP3_D3.6_V2B

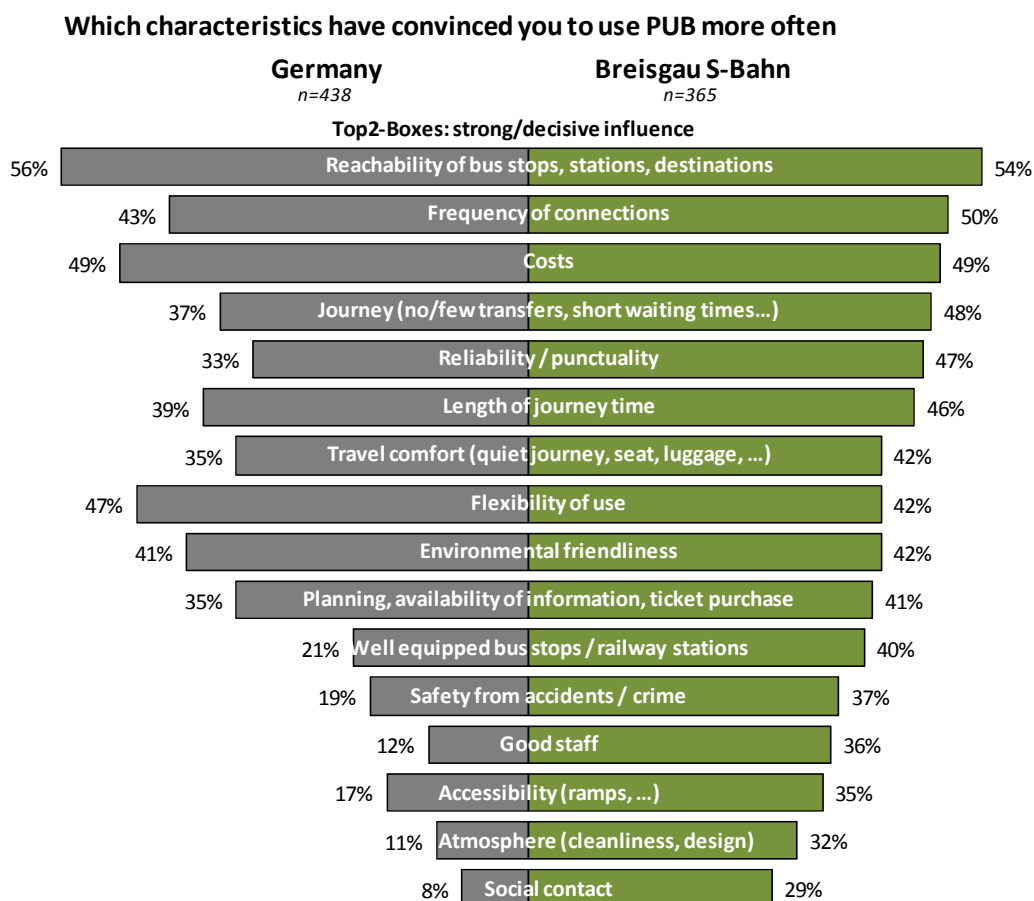
Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

F.2.3 Reasons for the increase of public transport

USEmobility has put its central focus on the reasons for an increase of public transport, which are rooted in the public transport system itself. As we have seen in F.2.1, factors connected to the transport offer can act as *Pull-in factors attracting citizens* into the public transport system or increasing their use.

The next figure shows the proportion of cases, which have reported a strong or decisive influence on the primary factors. We see a comparison between swing users of Breisgau S-Bahn (right) and the average German swing-user (left). Swing users of Breisgau S-Bahn are displayed on the right, as comparison German swing-users are displayed on the left.

Figure 135 Influence of primary pull-factors to use more PUB (Germany & Breisgau S-Bahn)



Regarding all primary pull-in factors, predominantly the 'hard' factors *good reachability* (54%), *high frequency of connections* (50%), *low costs* (49%) as well as *few transfers* and *short wait-*

ing times lead to an increased use of Breisgau S-Bahn. The only 'soft' factor with a high pull potential is *high travel comfort* (42%)

Other soft factors like *good staff*, a *pleasant atmosphere* or *the opportunity for social contact* have all a rather low relevance for the change. They have to be considered as supplemental factors supporting the effect of the hard factors.

In comparison with the German swing-users, hard factors like *few transfers / short waiting times*, *high reliability / punctuality* and soft factors like a *high impression of safety*, *good staff*, *well-equipped stations* or *pleasant atmosphere* are more influential with Breisgau S-Bahn.

Figure 136 Influence of secondary pull-in aspects of the Breisgau S-Bahn transport offer (I)

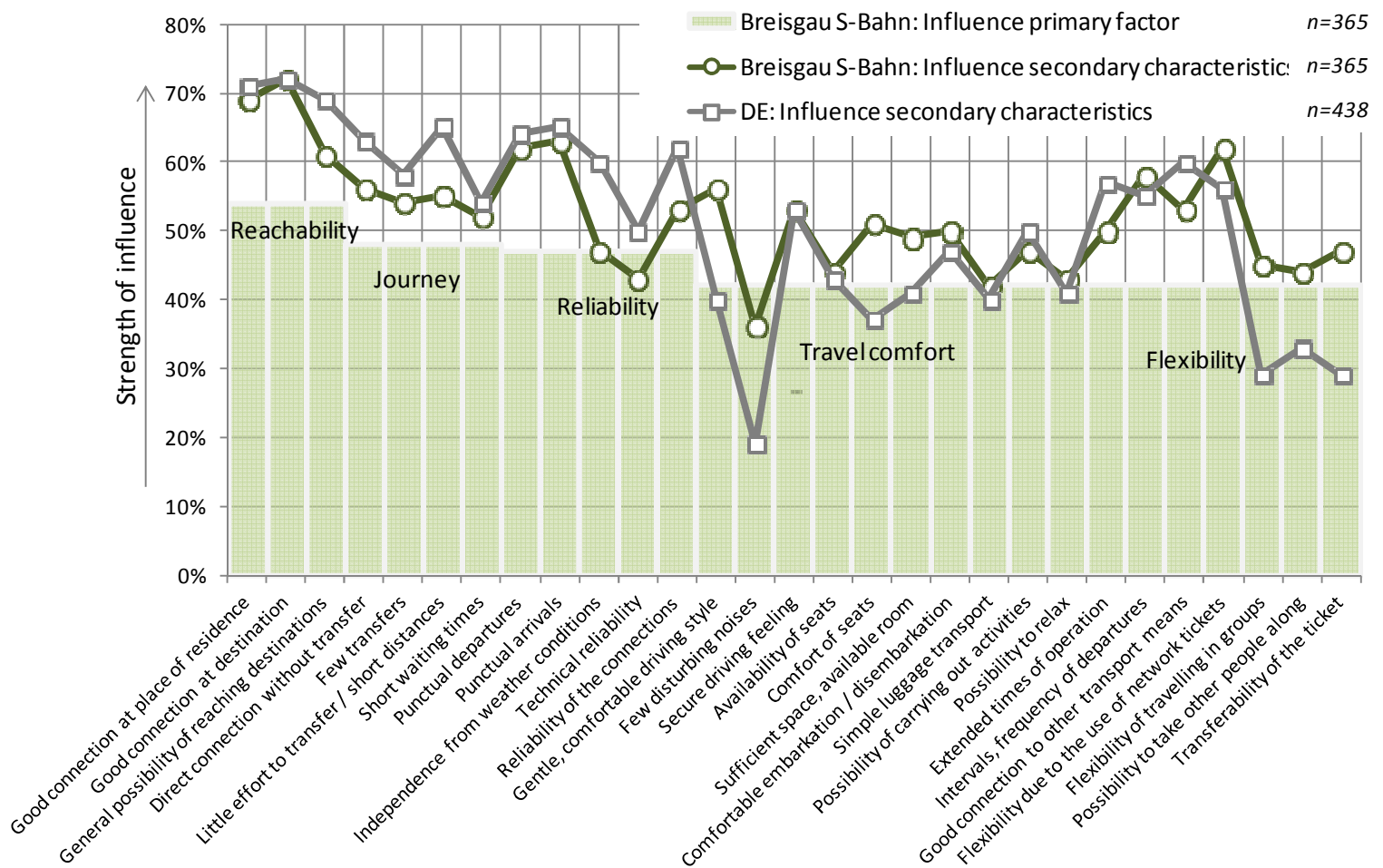


Figure 136 and Figure 137 give an overview over secondary characteristics, which can be seen as specifications of the primary factors mentioned above. It shows

- The strongest pull-in factors with Breisgau S-Bahn swing users are *good connections at residence and destination, punctuality* and the *flexibility due to network tickets*.
- A *gentle, comfortable driving style* is an important pull-in factor with Breisgau S-Bahn users, even higher than with the average swing user in Germany.
- Characteristics connected to mobility in groups, e.g. *transferability of the ticket* and travel comfort score much higher in their relevance with Breisgau S-Bahn swing users than with their German counterparts.
- The effect of *independence from weather conditions* is considerably lower in comparison with the result from German swing users; possibly due to the good weather in Breisgau

Figure 137 Influence of secondary pull-in aspects of the Breisgau S-Bahn transport offer (II)

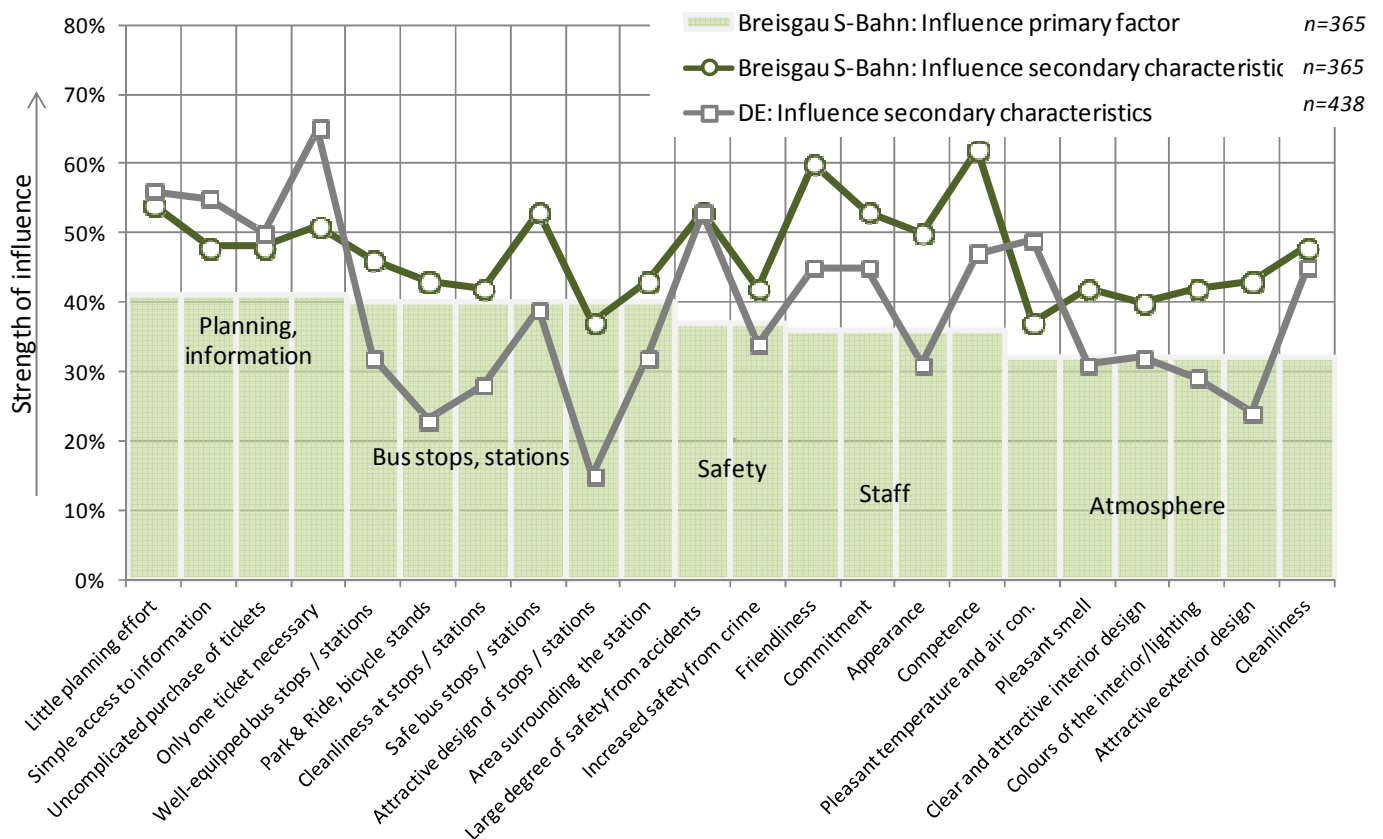


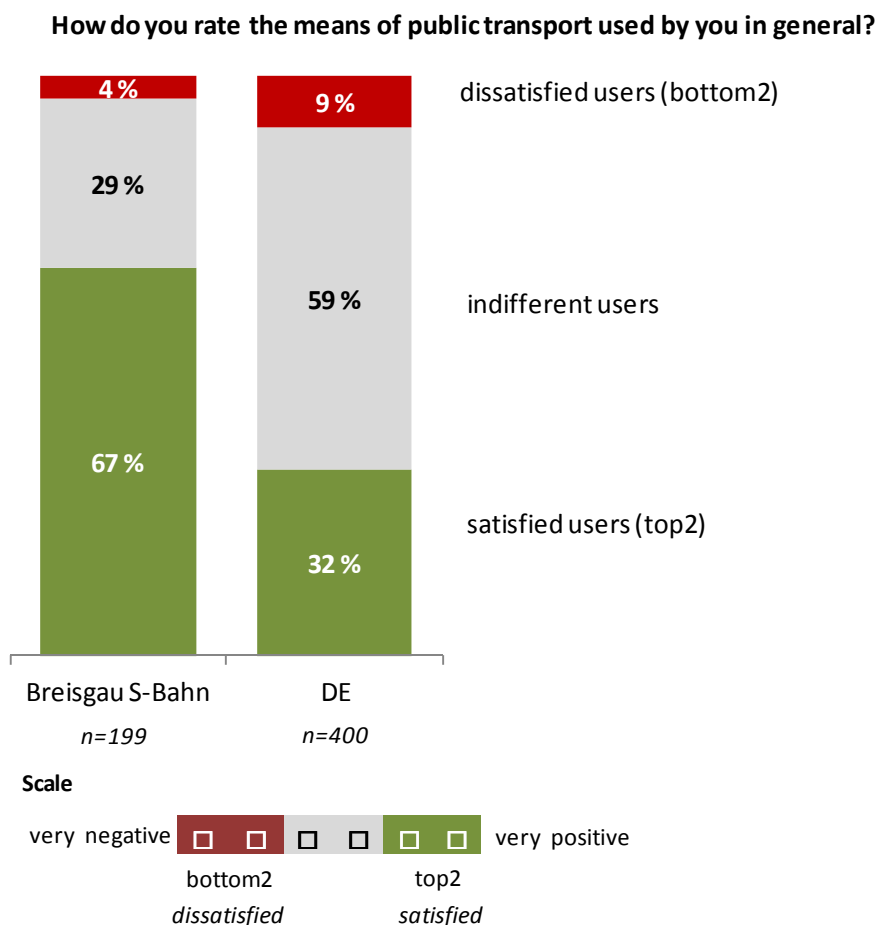
Figure 137 shows for the second part of the secondary characteristics:

- All staff-related aspects like *friendliness* and *competence* are fairly relevant for an increased use and rated clearly higher by Breisgau S-Bahn users than by their German counterparts.
- Other secondary characteristics as *equipment of stations* and *atmosphere* (including design aspects) are above 40% relevance and therefore on a higher level of relevance than with German swing users.

F.3 PUBLIC TRANSPORT TODAY AS SEEN BY BREISGAU S-BAHN USERS

Since the Breisgau S-Bahn was successful in gaining new passengers, USEmobility asked users for current evaluations.

Figure 138 Overall satisfaction of swing users with the Breisgau S-Bahn offer



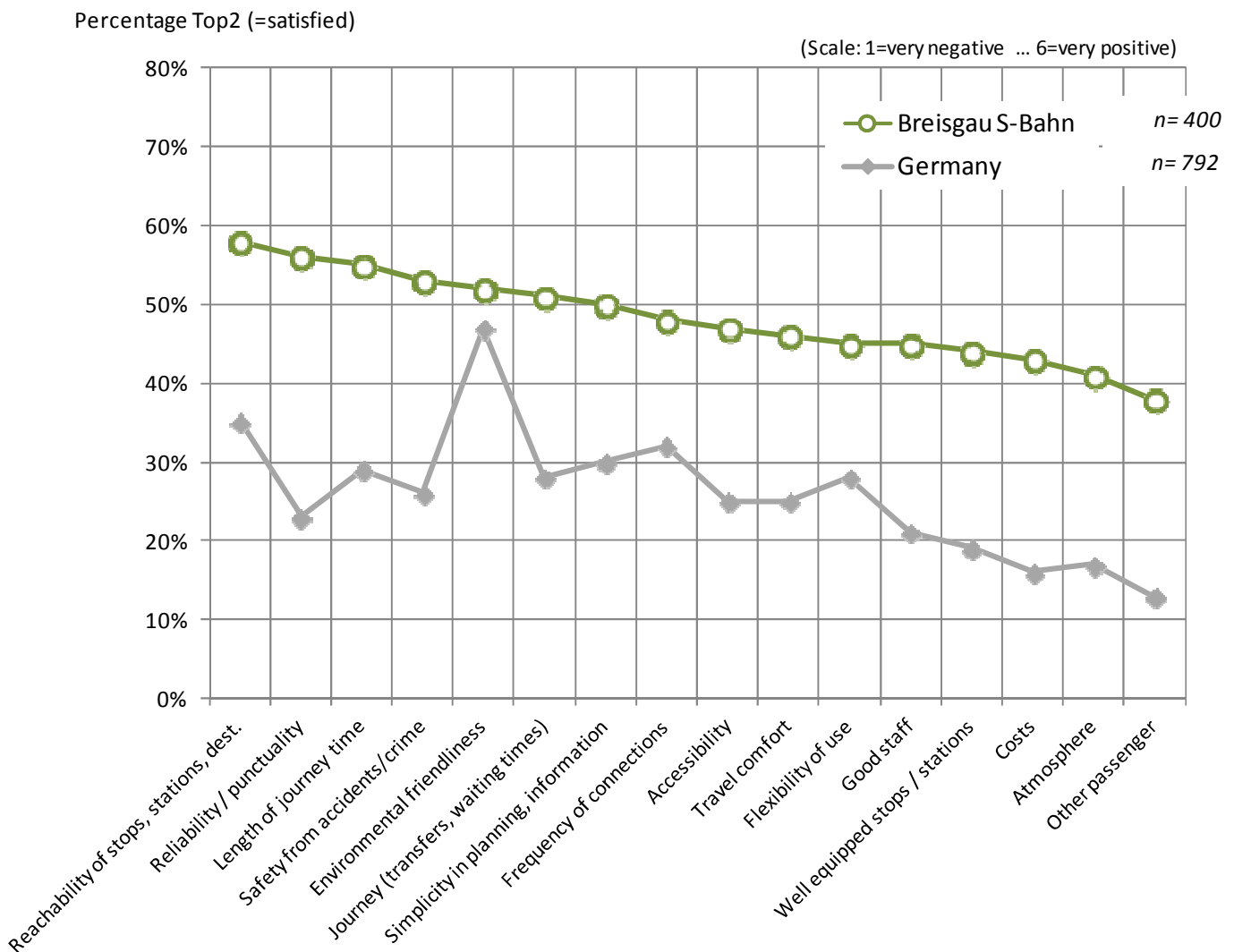
Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Two thirds of the Breisgau S-Bahn swing users are satisfied with the services offered to them. The satisfaction with the Breisgau S-Bahn is considerably higher than the Overall satisfaction of swing users in Germany with their public transport.

Dissatisfied Breisgau S-Bahn users are exceptions.

Figure 139 Current evaluation of Breisgau S-Bahn service in comparison with PUB in Germany

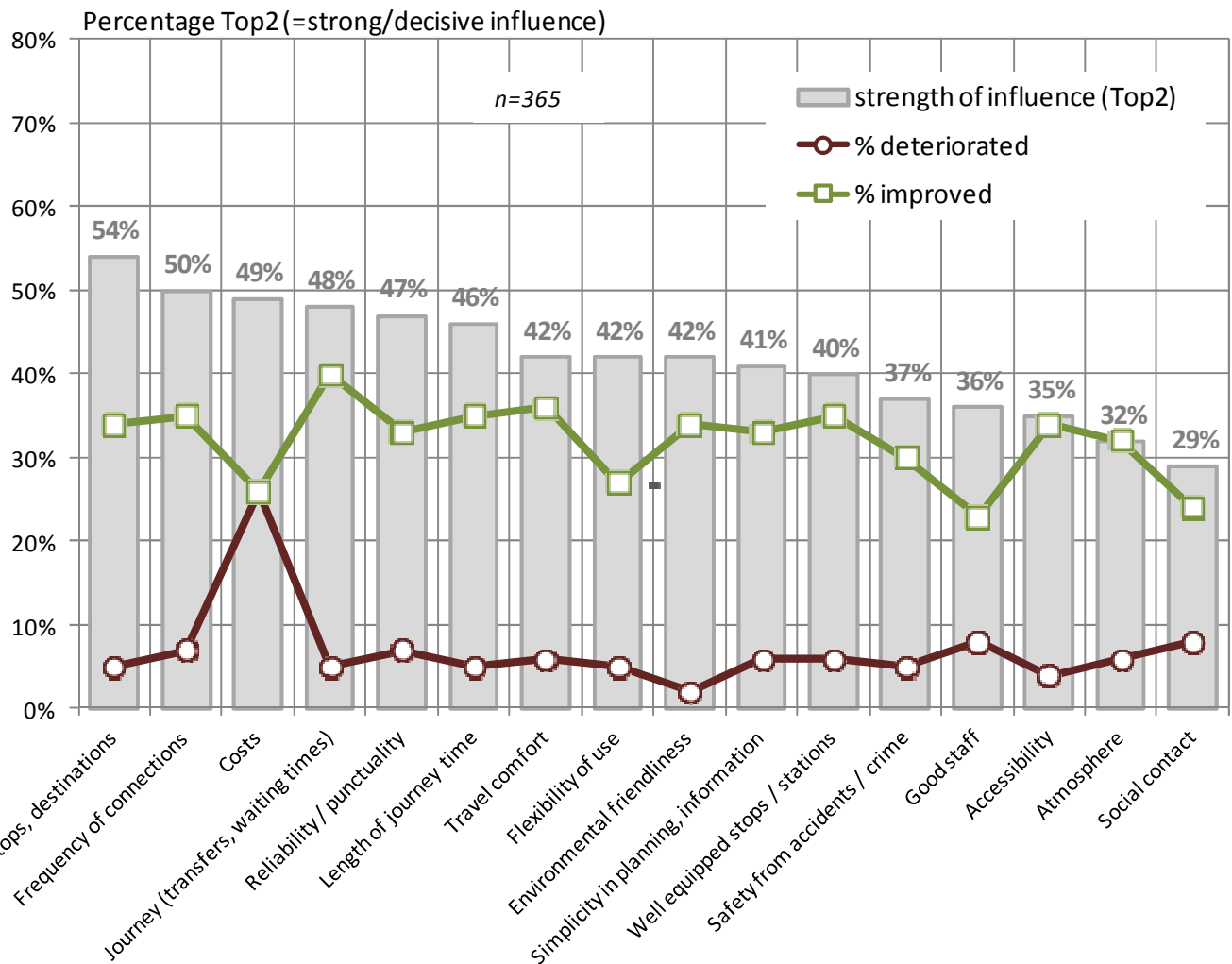


The comparison between all swing users in Germany and Breisgau S-Bahn swing users shows that in Breisgau all primary factors concerning the transport offer are rated much better.

With *Reachability of stations*, *reliability / punctuality* and *journey time* between 55% and 60% of the users are satisfied.

Figure 140 Perceived Improvements and deteriorations of the Breisgau S-Bahn offer

Has anything changed for you since you started using **Breisgau S-Bahn**



How to read the figure: ca. 5% of the Breisgau S-Bahn swing users perceived deterioration for reachability. Ca. 33% perceived an improvement for reachability. For 54% of the swing users the primary factor reachability was highly influential to use Breisgau S-Bahn.

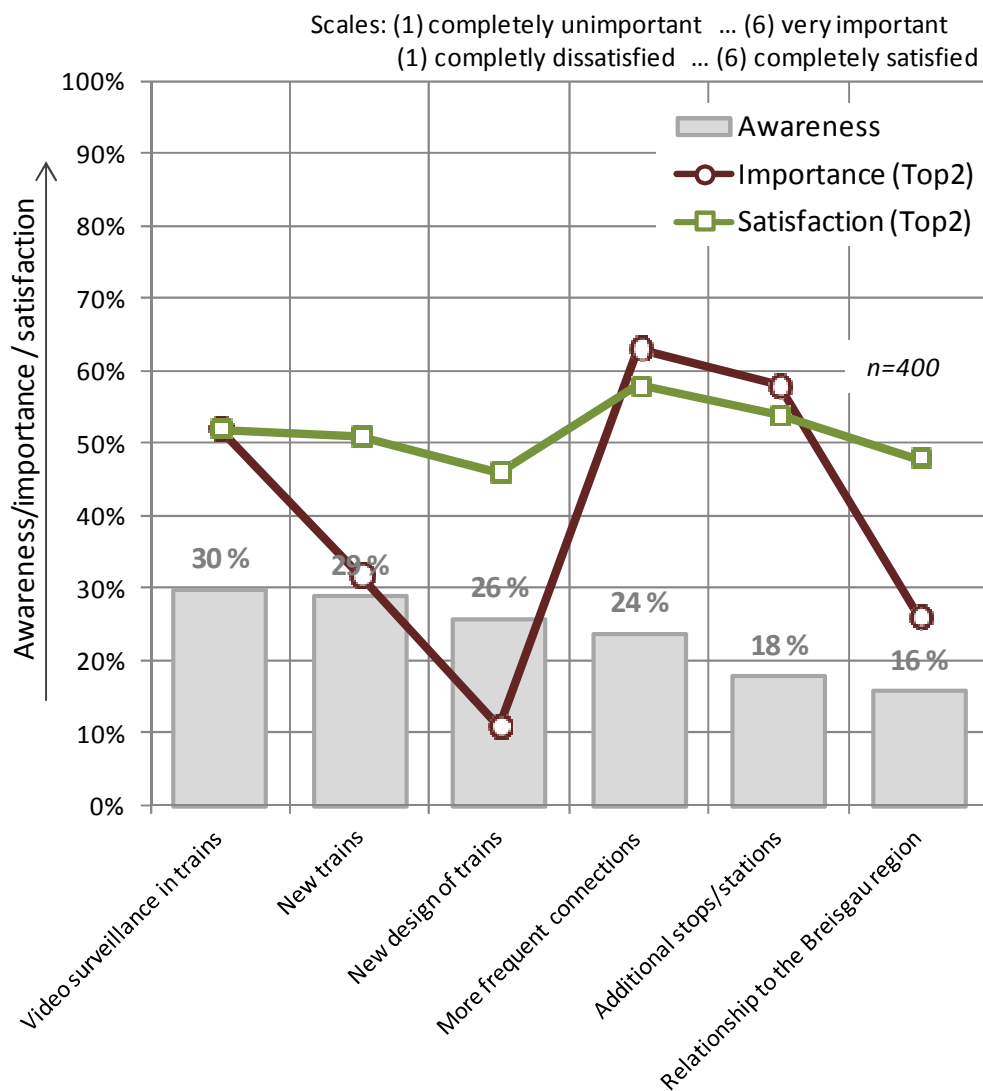
Breisgau S-Bahn swing users have perceived more improvements than deteriorations over the primary factors since they started using Breisgau-S-Bahn. The only clear deterioration is seen in the cost level (25% deterioration). Yet 25% of the Breisgau S-Bahn swing users also perceived cost improvements.

Generally, the recognition of deteriorations is on a low-level well below 10%.

F.4 SPECIFIC CHARACTERISTICS OF THE BREISGAU S-BAHN

In this chapter, USEmobility reports on specific aspects of the Breisgau S-Bahn transport offer that have been improved or established in the last five years. All specific aspects are surveyed regarding their awareness, importance and satisfaction among the users.

Figure 141 Selected aspects of the Breisgau S-Bahn offer



The figure shows that, for example, 29% of the swing users were aware of new trains. 31% of the swing users who are aware of new trains think that new trains are important or very important, 50% are satisfied or very satisfied with the current offer of new trains.

The awareness of all listed specific aspects is below 30% and is lowest for additional stops and relationship to the Breisgau region.

Breisgau S-Bahn users reported high importance for *video-surveillance in trains*, frequent *connections that are more frequent* and *additional stops / stations* (all above 50% importance).

The new design of the trains and the relationship to the Breisgau region is rather irrelevant for the Breisgau S-Bahn swing users.

Satisfaction is between 40% and 60% for all listed aspects.

Region G *METRONOM* (HAMBURG / CUXHAVEN, GERMANY)

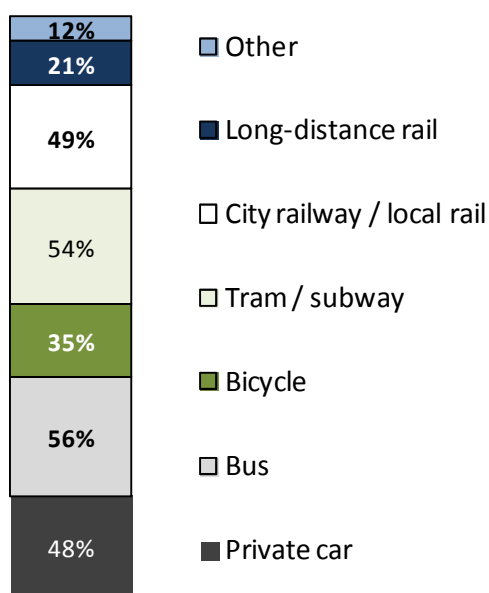
G.1 CHARACTERISTICS OF METRONOM HAMBURG SWING USERS

G.1.1 Monomodality / Multimodality

To start the analysis of the regional data, USEmobility looked at the current use of means-of-transport of the *Metronom* swing users in Northern Germany. These swing users, who have changed their mobility mix regarding public transport within the last five years, have access to different means of transport, private and public.

Figure 142 Multimodality / Monomodality of Metronom swing users

Means of transport used besides Metronom

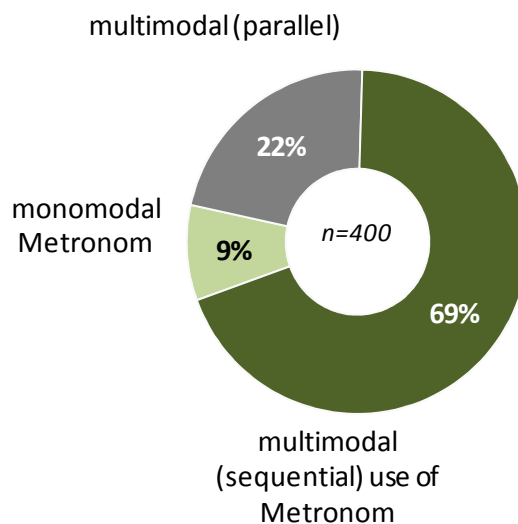


3,7

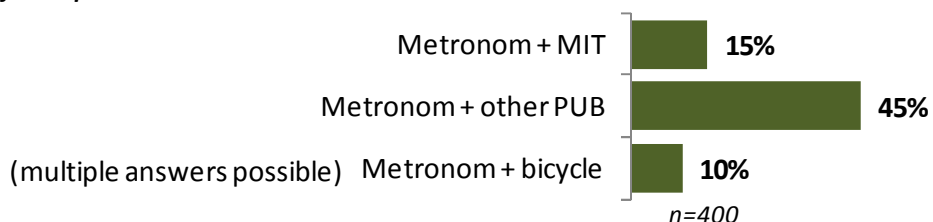
n=400

Average number of transport means

Type of modality



Selected types of sequential multimodality



The most frequent means-of transport used by Metronom swing users besides the Metronom is the private car (48%), bus (56%), tram/subway (54%) and other city/local rail. Other city / local rail is with 49% a strong competitor to motorized individual transport in the mobility mix.

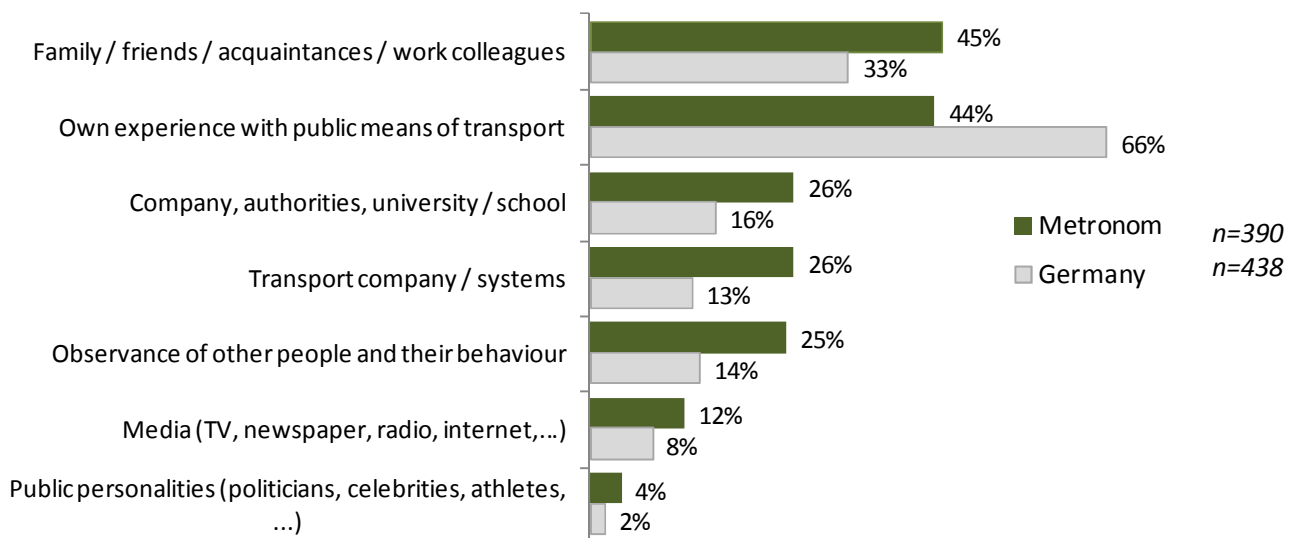
On average Metronom swing users apply a lot of transport means. They also show an extraordinary percentage of 69% sequentially multimodal use of the Metronom, i.e. multimodal combinations including the Metronom during the journey from the starting point to destination.

The most common combination with 45% is Metronom with other public transport means (PUB). Other typical combinations of the Metronom are with bicycle (10%) and with motorized individual transport (MIT, 15%).

G.1.2 Information behaviour and influence

USEmobility looked at possible sources including own experience and information about transport services from other sources that might have informed or motivated swing users to change their mobility mix and compared them to swing users in the whole country.

Figure 143 Sources of information / motivation to use Metronom



The own experience together with information from family/friends/colleagues are important sources of influence for the initial use of the Metronom. Own experience plays with 44% relevance a considerably weaker role than in total Germany (66%).

Remarkable are the high impacts of *companies, authorities and universities / schools* (26%), the *observance of other people* and their behaviour (25%) and *information directly from the Metronom transport company* (26%), being clearly above the national average of 13%.

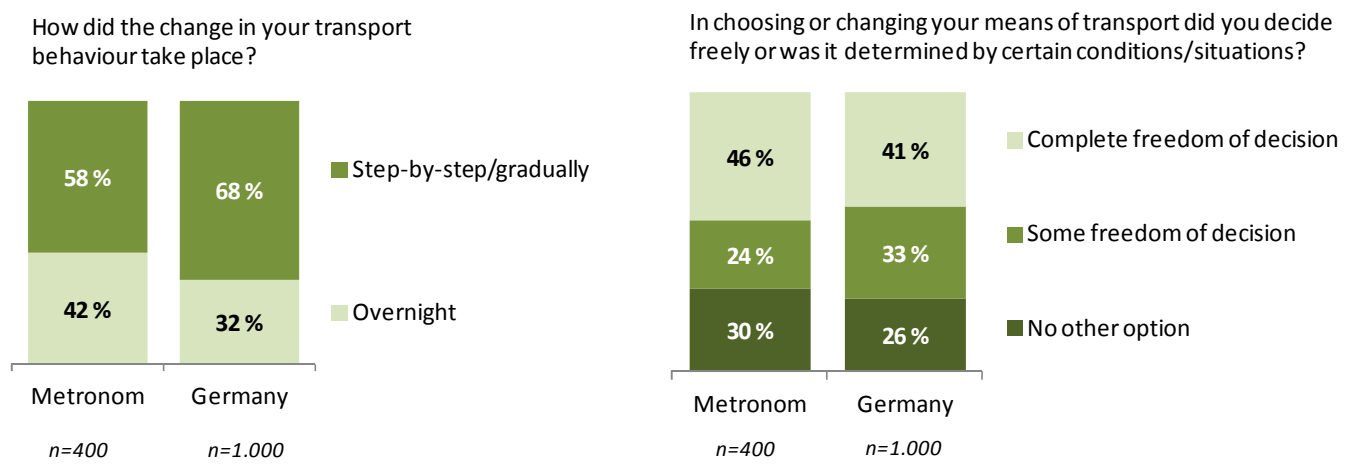
Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

G.1.3 Type of change and perceived freedom of choice

Important characteristics of the change itself are how the change took place (step-by-step or overnight) and the perceived freedom of decision.

Figure 144 Type of change and perceived freedom of choice of Metronom swing users



The decision for an increased use of Metronom mostly took place step-by-step. However, there are more cases where the decision took place overnight (42%) than with the average swing user in Germany (32%).

With the Metronom users, the change is mostly connected to at least some freedom of decision (70%). 46% of the Metronom swing users even had *complete* freedom of choice. 30% of the Metronom swing users had no other option.

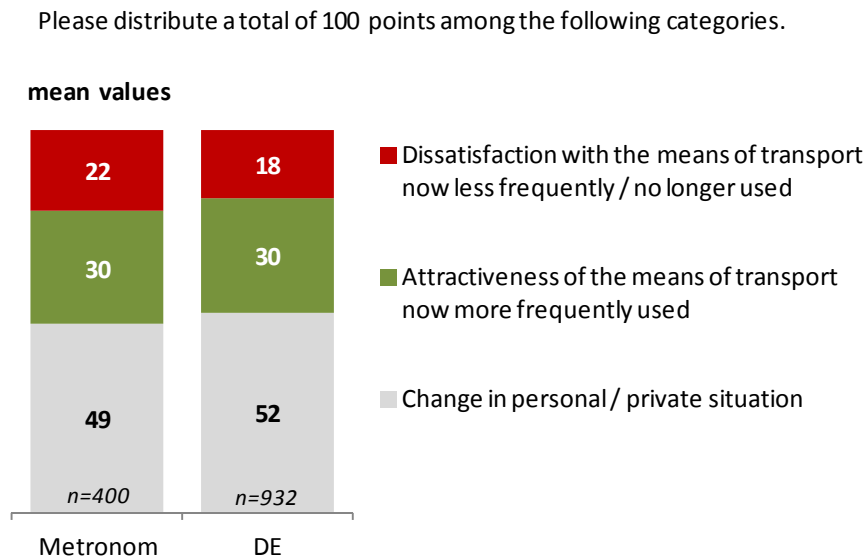
G.2 REASONS FOR CHANGES-IN-BEHAVIOUR

G.2.1 Types of reasons for the changes in behaviour

The USEmobility approach focuses on the reasons for the increased use of public transport in the region. Metronom users report three types of reasons:

- Changes in personal / private situation
- Attractiveness of the Metronom Hamburg-Cuxhaven
- Dissatisfaction with the means of transport now less frequently / no longer used

Figure 145 Main types of reason for a change in use of Metronom



The USEmobility data shows that it is rarely one type of reason alone, which drives the decision to use the Metronom on the link Hamburg-Cuxhaven. Only 16% of the swing users gave all 100 points to one type of reason alone, mostly change in personal / private situation according to the USEmobility data.

Most swing users report a mix of the three categories. Main type is the change in personal situation with almost half of the relevance, followed by the attractiveness of the Metronom in 30% of the cases. Dissatisfaction with the means-of-transport formerly used covers only 22% of the total relevance.

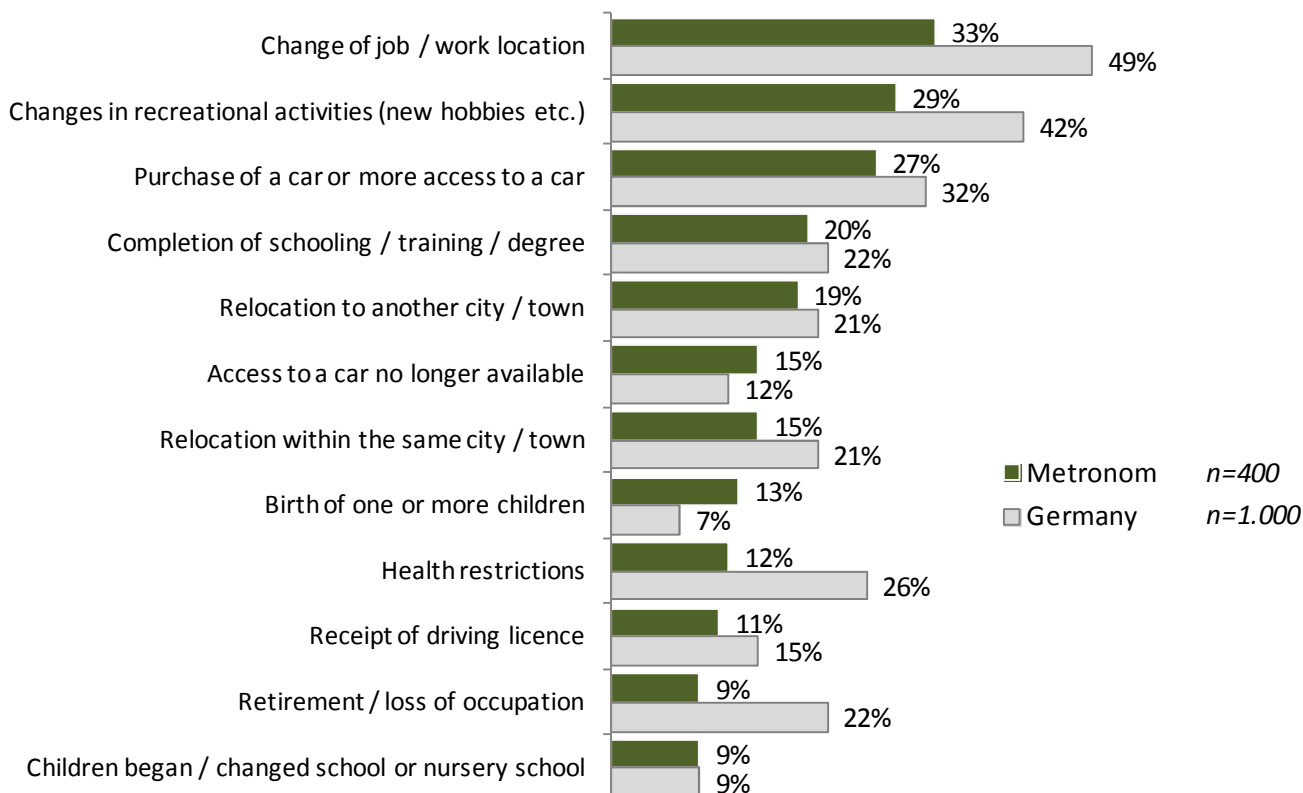
Dissatisfaction with the means-of-transport has a slightly higher influence than usual among German swing users.

G.2.2 Changes in the Personal / Private situation

Since the changes in the personal / private situation play such an important role in the reason-mix, we now look at them in more detail.

Figure 146 Changes in the personal situation of Metronom swing users

Has anything changed in your personal/private situation in the last five years?



One third of the Metronom swing users had a change of job / work location in the last five years. As with the German swing users, this was the most common type of personal change, yet not as frequent.

Further frequent changes of the Metronom users are *completion of school or training* (20%), *more access to a car* (27%, even though they use Metronom now!) and *change in the recreational activities* (29%, although on a much lower level than in total Germany).

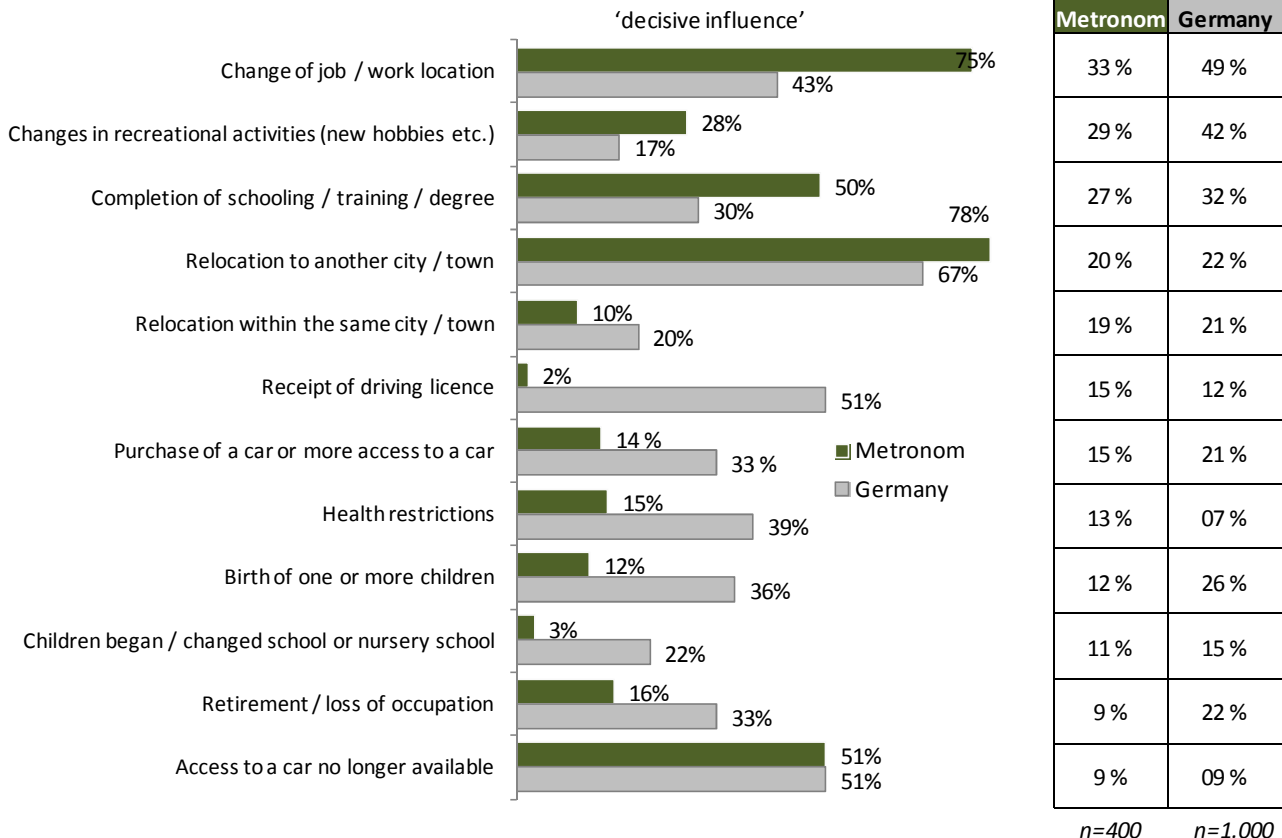
In comparison to the German swing users, personal changes are generally much rarer with Metronom Swing users.

Even more than the occurrence, the importance of these types of change has to be analysed. Types of change that have a high leverage on the decision to use more public transport, combine high occurrence and high importance for the decision to change (see next figure).

Figure 147 Importance of certain changes in the personal situation on the decision to use Metronom

How strong an influence did the change in your personal situation exercise on the choice and change of your means of transport?

occurrence of changes in personal situation



The highest influence on the decision to change has a

- Relocation to another town in the Hamburg-Cuxhaven area (78% decisive influence)
- Change in the job / work location (75% decisive influence)
- Completion of schooling or training (50% decisive influence) and / or

The *change in the work location* has a high influence and a high occurrence and therefore a high leverage. The influence is considerably higher than with the average German swing user (43%). In case of occurrence of *lost access to a car*, influence is on a high level as well but it is quite rare among Metronom swing users.

In comparison with their German counterparts, *relocation to another city* (78%) the *completion of schooling and training* (50%) and *changes in recreational activities* (28%) have a more deci-

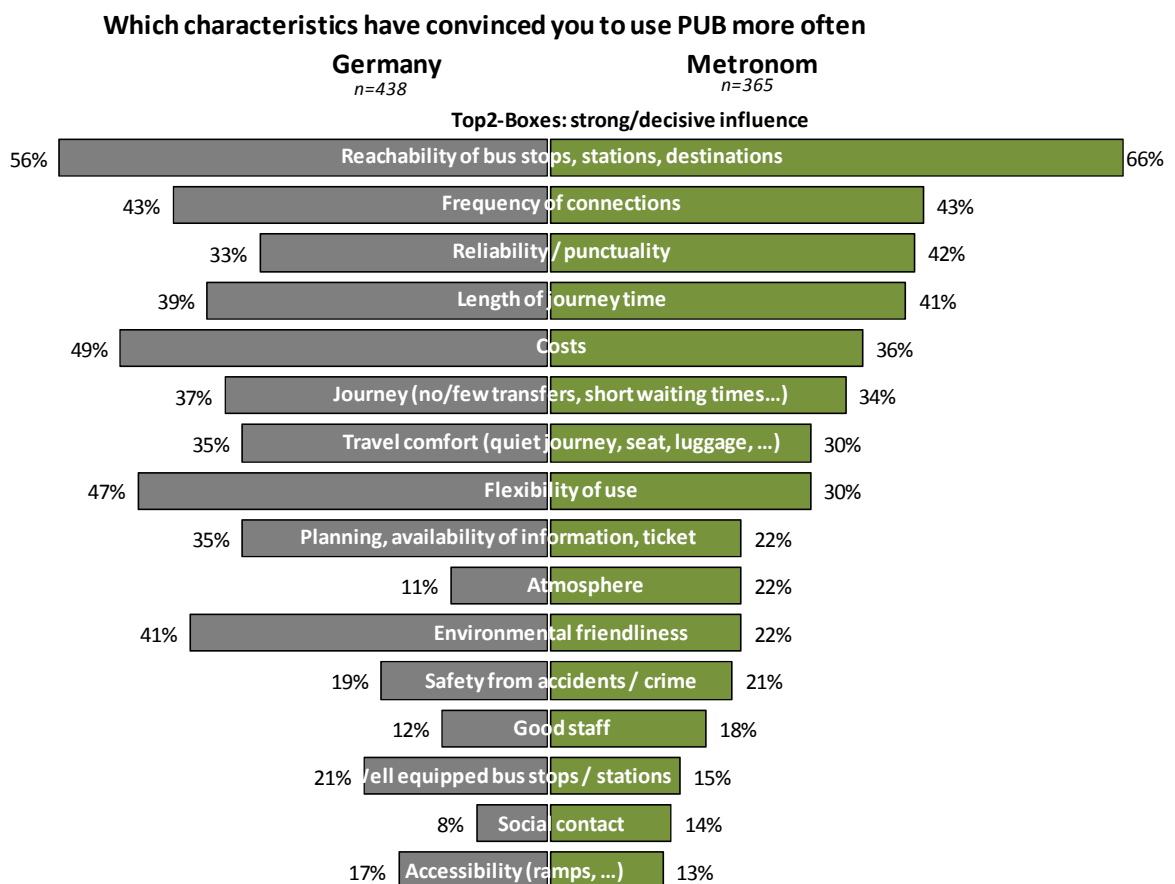
sive influence among Metronom swing users; *health restrictions* or *children related issues* are less decisive than among all German swing users.

G.2.3 Reasons for the increase of public transport

USEmobility has put its central focus on the reasons for an increase of public transport, which are rooted in the public transport system itself. As we have seen in G.2.1, factors connected to the transport offer can act as *Pull-in factors attracting citizens* into the public transport system or increasing their use.

The next figure shows the proportion of cases, which have reported a strong or decisive influence on the primary factors. We see a comparison between swing users of the Metronom (right) and the average German swing-user (left). Swing users of the Metronom are displayed on the right, as comparison German swing-users are displayed on the left.

Figure 148 Influence of primary pull-in factors to use more PUB (Germany & Metronom)



Regarding primary pull-in factors, predominantly the 'hard' factor *good reachability* (an impressive 66%) drives people to use Metronom on the line Hamburg-Cuxhaven. Moreover, *high frequency of connections* (43%), *high reliability / punctuality* and *short journey time* lead to an (increased) use of the Metronom. The only 'soft' factors with relatively strong pull potential are *high travel comfort* and *flexibility of use*.

Other soft factors like *high impression of safety*, *good staff* or *the opportunity for social contact* have all a rather low relevance for the change compared to hard factors. They have to be considered as supplemental factors supporting the effect of the hard factors.

In comparison with the average German swing-users, factors like *good reachability*, *high reliability / punctuality* and the soft factor *good atmosphere* have a stronger influence with the Metronom. In contrast, factors like *low costs*, *high flexibility of use* and the soft factor *good availability of information / easy ticket purchase* get a lower rating with the Metronom.

Figure 149 Influence of secondary pull-in aspects concerning the Metronom transport offer (I)

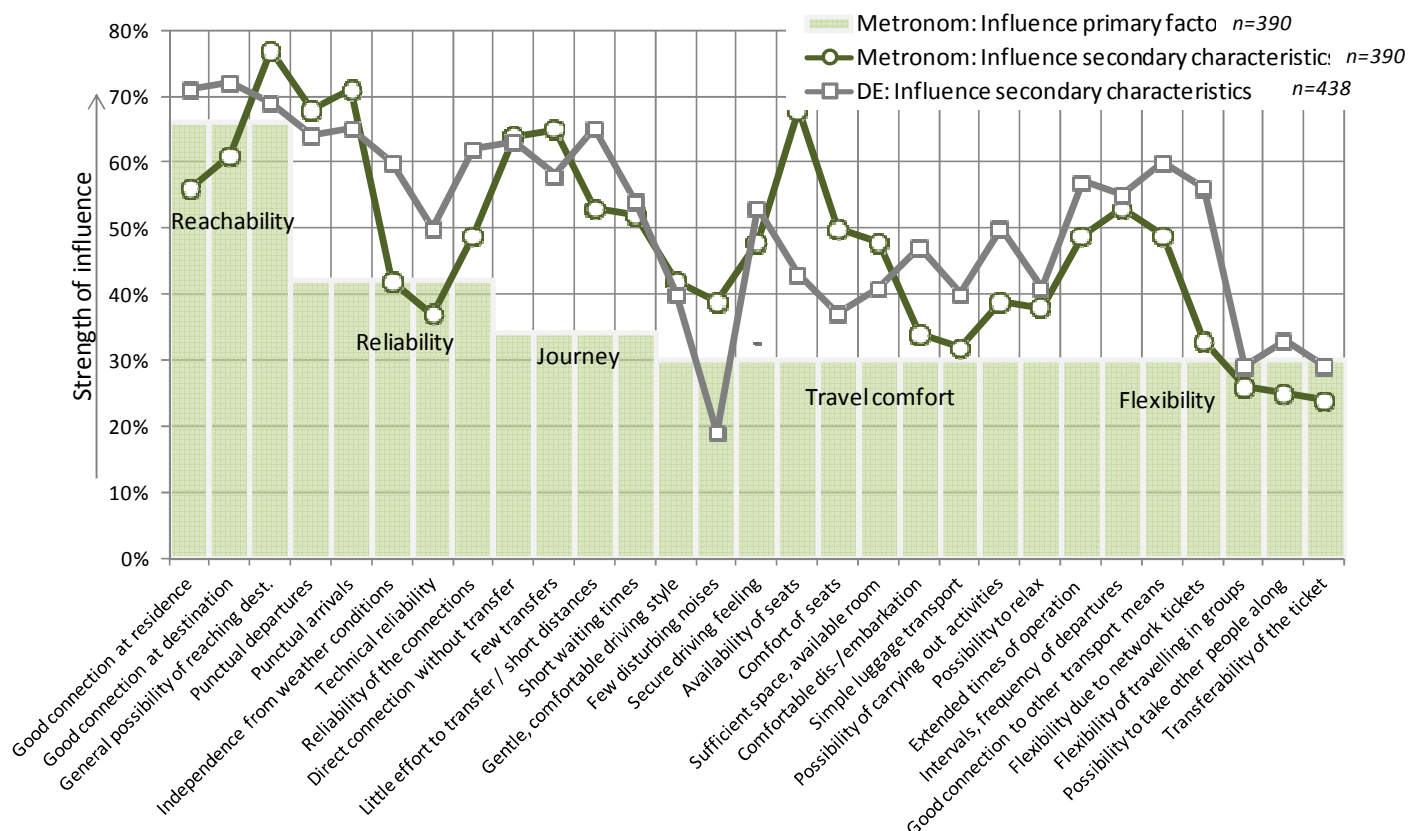


Figure 149 and Figure 150 give an overview over secondary characteristics, which can be seen as specifications of the primary factors mentioned above. Figure 149 shows:

- The strongest pull-in factors with Metronom swing users are *good possibilities to reach destinations, punctuality* and the *direct connections or few transfers*.
- The *availability of seats* is a very important pull-in factor for Metronom swing users, considerably higher than with the average swing user in Germany.
- Characteristics connected to travel comfort, e.g. *comfort of seats* score higher in their relevance with Metronom swing users than with their German counterparts.

Figure 150 Influence of secondary pull-in aspects concerning the Metronom transport offer (II)

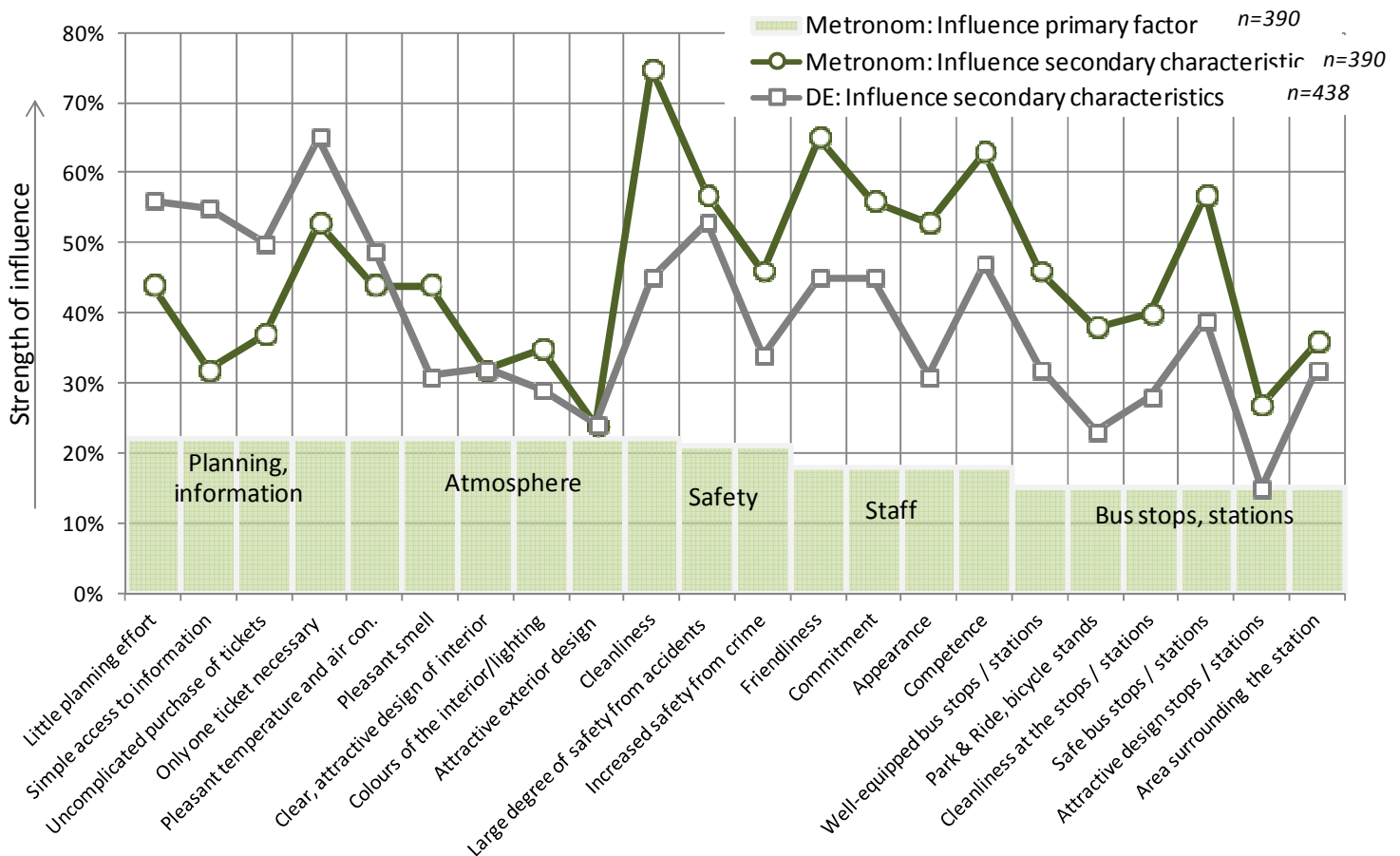


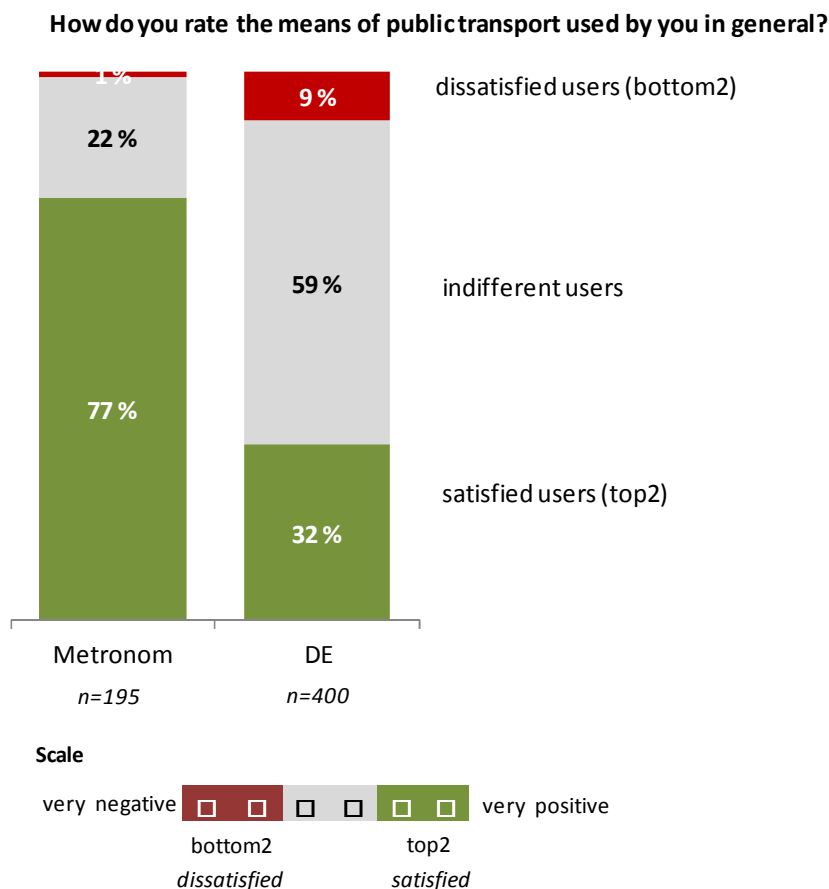
Figure 150 shows for the second part of the secondary characteristics:

- The 'soft' attribute *cleanliness* has an extraordinary relevance for Metronom swing users compared to the average German swing user.
- Staff-related attributes like *friendliness* and *competence* are clearly more influential for Metronom users compared to their German counterparts.
- The increased relevance is also obvious for *equipment of stations*, too, especially concerning safety issues.

G.3 PUBLIC TRANSPORT TODAY AS SEEN BY METRONOM USERS

Since the Metronom was successful in gaining new passengers, USEmobility asked users for current evaluations.

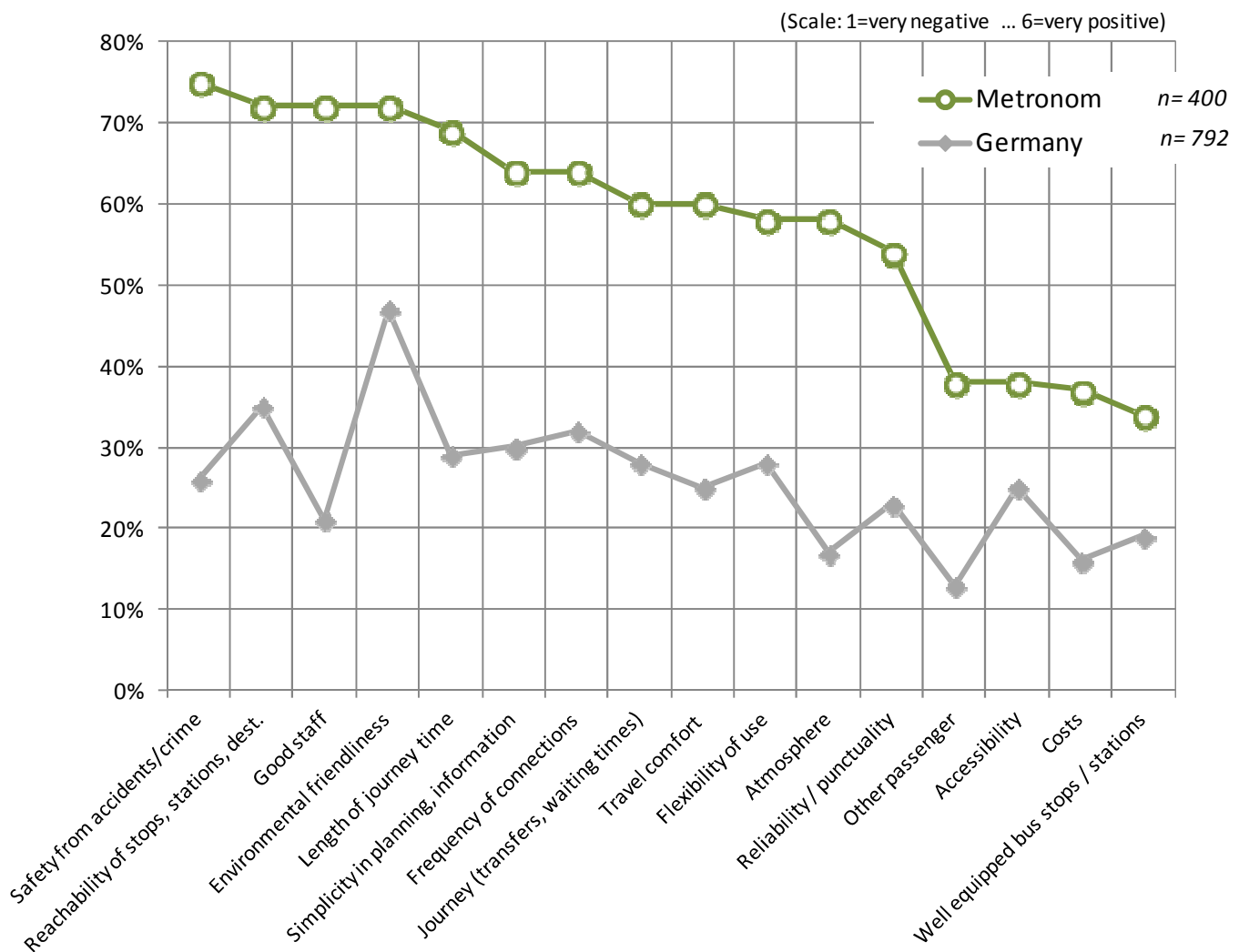
Figure 151 Overall satisfaction of swing users with the Metronom offer



77% of Metronom swing users are satisfied with the services offered to them. The satisfaction with the Metronom is considerably higher than the Overall satisfaction of swing users in Germany with public transport. There are hardly any dissatisfied swing users of the Metronom.

Figure 152 Current evaluation of Metronom service in comparison with PUB in Germany

Percentage Top2 (=satisfied)



The comparison between swing users in Germany and Metronom swing users shows that in Hamburg-Cuxhaven all primary factors concerning the transport offer are rated much better.

Above 70% of the swing-users are satisfied with *safety from accidents / crime*, *reachability of stations*, *good staff* and *environmental friendliness*, superior results in comparison with other USEmobility regions.

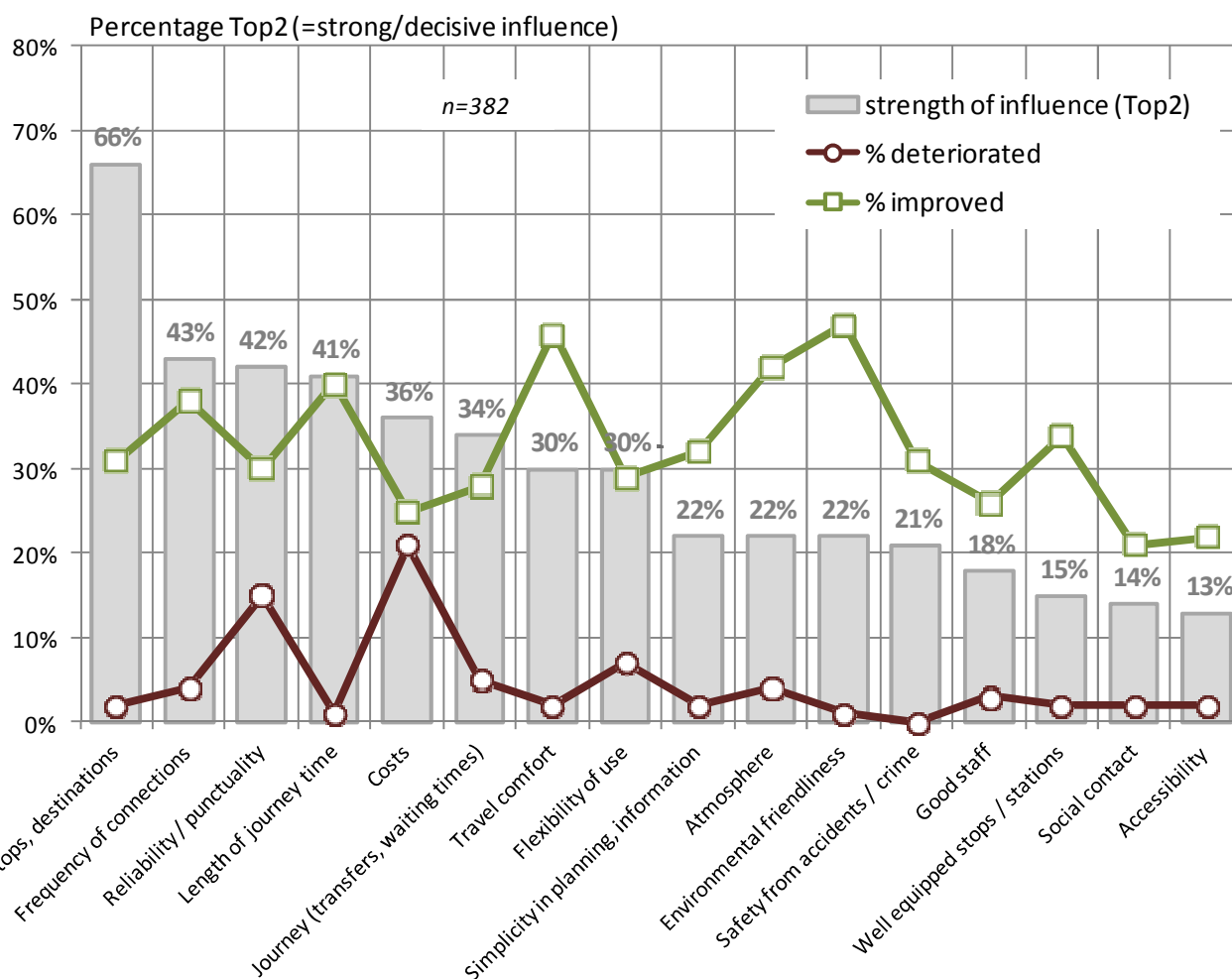
Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

The evaluation of characteristics like *other passengers*, *accessibility*, *costs* and the *equipment of stations* is more similar to the German average.

Figure 153 Perceived improvements and deteriorations of the Metronom offer

Has anything changed for you since you started using **Metronom**



How to read the figure: Almost none of the Metronom swing users perceived deterioration for reachability. Over 30% perceived an improvement for reachability. For a high proportion of 60% of the swing users the primary factor reachability was highly influential to use the Metronom.

Metronom swing users have reported clearly more improvements than deteriorations over the primary factors since they started using Metronom. The only clear deterioration is seen for *reliability / punctuality* and the *cost level* (20% deterioration).

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

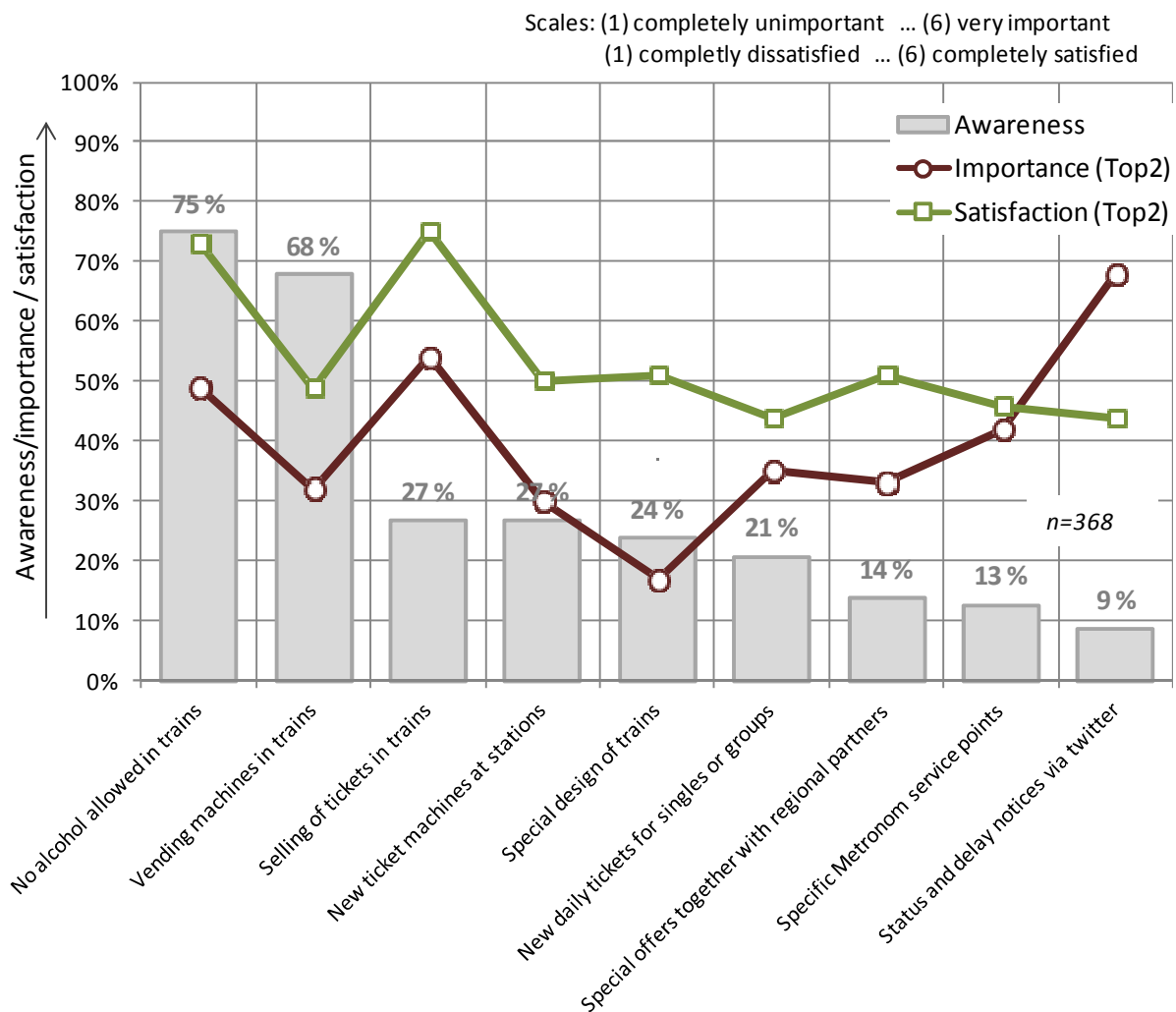
Otherwise, the perception of deteriorations is on a low-level well below 10%. Considerable shares of improvements are seen regarding *frequent connections*, *short journey time* and a *high travel comfort*, all being quite relevant factors for an increased use of the Metronom.

Soft factors like *pleasant atmosphere in the trains* and *environmental friendliness* also show a high level of improvement, although these factors are rather of minor relevance.

G.4 SPECIFIC CHARACTERISTICS OF THE METRONOM

In this chapter, USEmobility reports on specific aspects of the Metronom transport offer that have been improved or established in the last five years. All specific aspects are surveyed regarding their awareness, importance and satisfaction among the users.

Figure 154 Selected aspects of the Metronom offer



The figure shows that, for example, 27% of the swing users were aware that they can buy tickets on the train. Over 50% of the swing users who are aware that they can buy tickets on trains think that the opportunity to buy tickets on the train is important or very important, and 75% are satisfied or very satisfied with the opportunity to buy tickets on the train.

Especially the alcohol ban and vending machines in trains are widely established. One finds a high *awareness* of 68% and above. Awareness is rather on the low side for the other specific aspects, especially for *special ticket offers*, *special Metronom service points and status* and *delay notices via twitter* (all below 20%)

Most important for the Metronom swing users are the *alcohol ban*, *selling tickets in trains* and first of all *status notices via twitter*. Only few Metronom users know about the possibility of notices via twitter. However, for these users the twitter notices became a very important service.

Satisfaction is on a medium level around 50%, and peaks for the alcohol ban and the possibility to buy tickets on the trains.

Region H S-BAHN RHEIN-NECKAR (GERMANY)

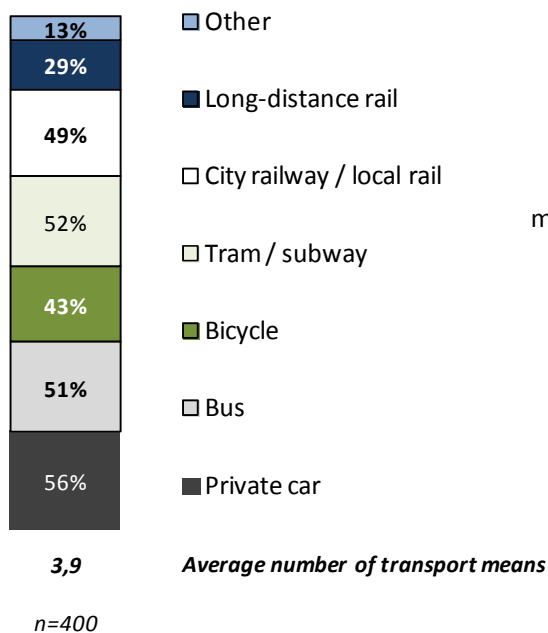
H.1 CHARACTERISTICS OF RHEIN-NECKAR SWING USERS

H.1.1 Monomodality / Multimodality

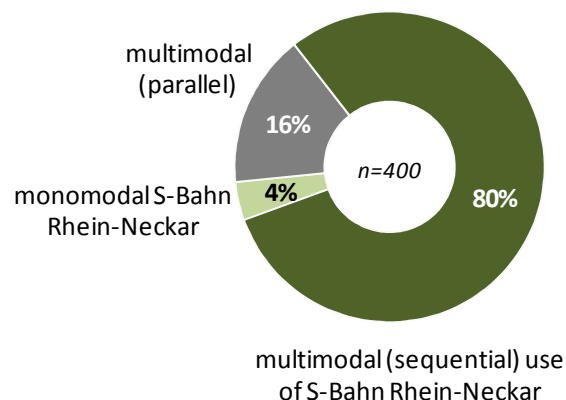
To start the analysis of the regional data, USEmobility looked at the current use of means-of-transport of the *S-Bahn Rhein-Neckar* swing users in Central Germany. These swing users, who have changed their mobility mix regarding public transport within the last five years, have access to different means of transport, private and public.

Figure 155 Multimodality / Monomodality of S-Bahn Rhein-Neckar swing users

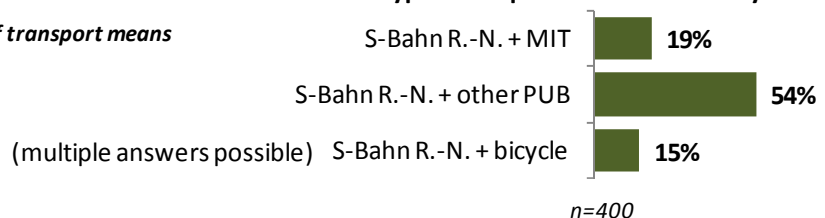
Means of transport used besides S-Bahn Rhein-Neckar



Type of modality



Selected types of sequential multimodality



The most frequent means-of transport used by the S-Bahn Rhein-Neckar swing users besides the S-Bahn Rhein-Neckar is *private car* (56%), *bus* (51%) and *bicycle* (43%) City rail is with 49% a strong competitor to motorized individual transport in the mobility mix, but long distance rail is with 29% in frequent use, too.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

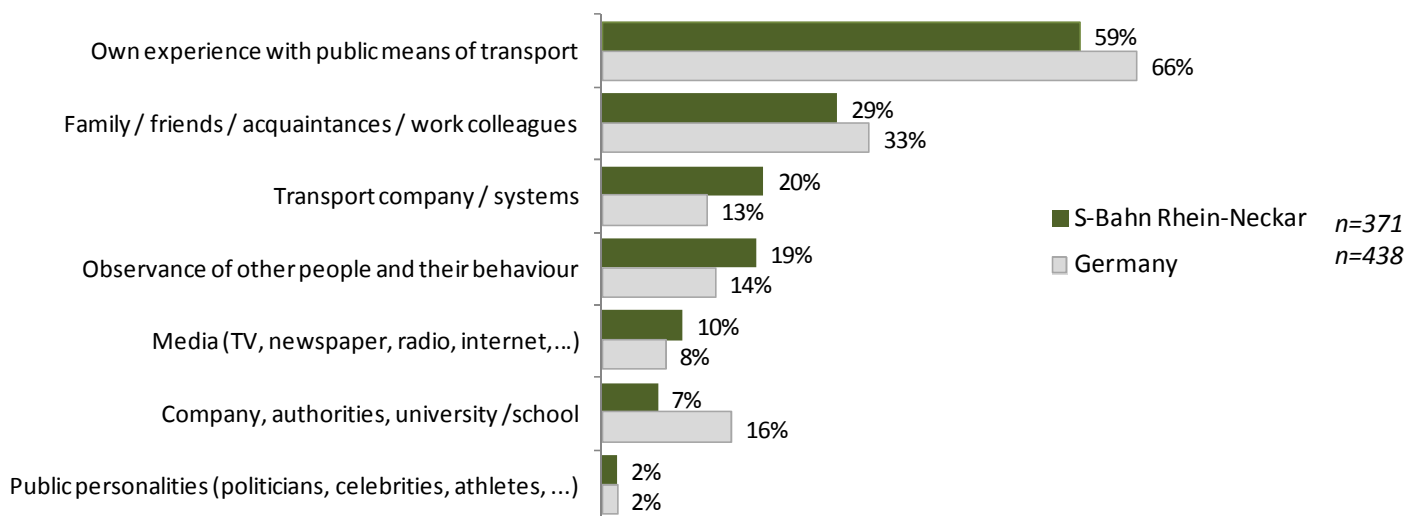
S-Bahn Rhein-Neckar swing users show an extraordinary percentage of 80% sequential multi-modal use, i.e. multimodal combinations with S-Bahn Rhein-Neckar during the journey from the starting point to destination.

The most common combination is S-Bahn Rhein-Neckar together with other public transport means (PUB). Other typical combinations of the S-Bahn Rhein-Neckar are with bicycle (15%) and with motorized individual transport (MIT, 19%).

H.1.2 Information behaviour and influence

USEmobility looked at possible sources including own experience and information about transport services from other sources that might have informed or motivated swing users to change their mobility mix and compared them to swing users in the whole country.

Figure 156 Sources of information / motivation to use S-Bahn Rhein-Neckar



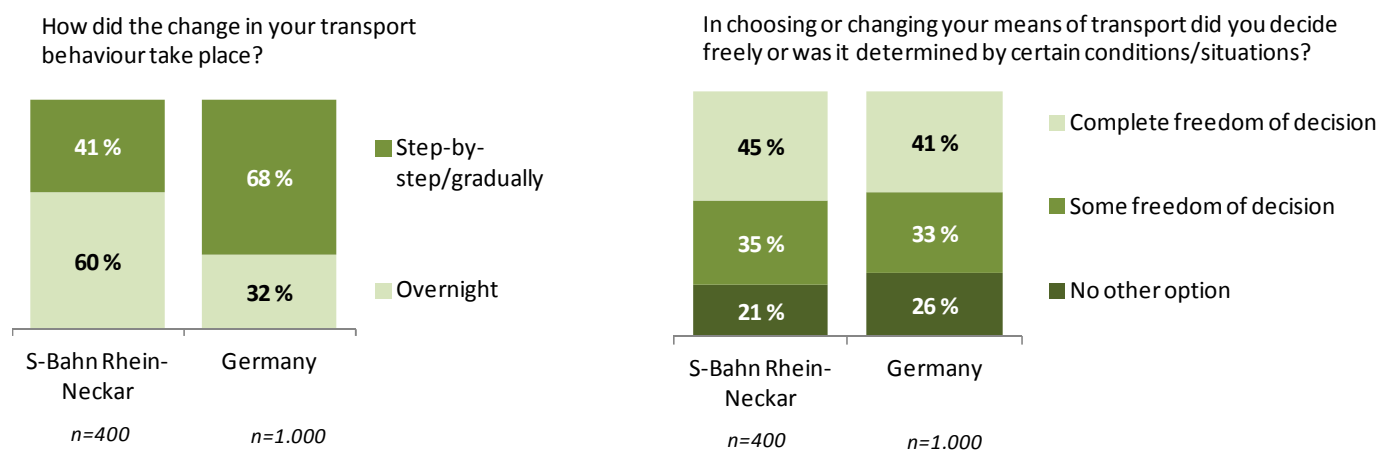
Own experiences are the leading source of information for the decision to use S-Bahn Rhein-Neckar, The influence of observance of other people and their behaviour is with 19% stronger than on the national level.

Information directly from the S-Bahn Rhein-Neckar transport company was influential in 20% of the cases also well above the national average of 13%.

H.1.3 Type of change and perceived freedom of choice

Important characteristics of the change itself are how the change took place (step-by-step or overnight) and the perceived freedom of decision.

Figure 157 Type of change and perceived freedom of choice of S-Bahn Rhein-Neckar swing users



Unlike most other USEmobility regions, the decision for an increased use of the S-Bahn Rhein-Neckar mostly took place overnight. We find considerably more cases where the decision took place overnight (60%) than with the average swing user in Germany (32%).

With the S-Bahn Rhein-Neckar users, the change is mostly connected to at least some freedom of decision (79%). 45% of the S-Bahn Rhein-Neckar swing users even had *complete* freedom of choice.

21% of the S-Bahn Rhein-Neckar swing users had no other option.

H.2 REASONS FOR CHANGES-IN-BEHAVIOUR

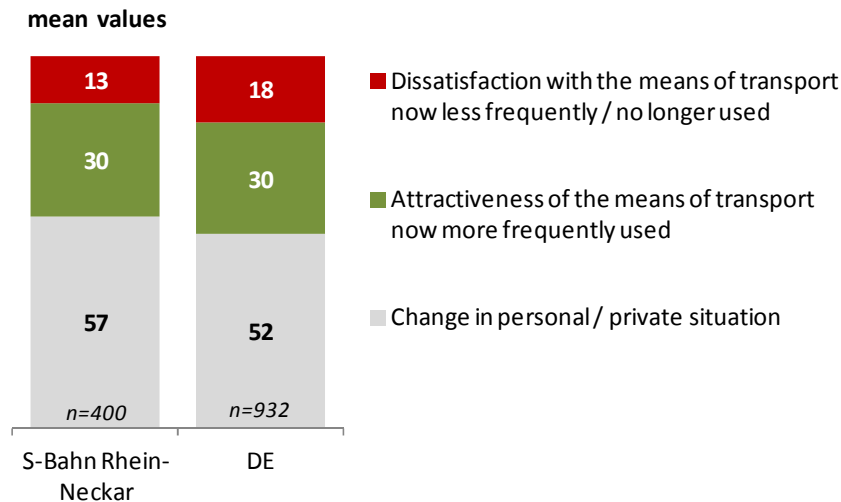
H.2.1 Types of reasons for the changes in behaviour

The USEmobility approach focuses on the reasons for the increased use of public transport in the region. S-Bahn Rhein-Neckar users report three types of reasons:

- Changes in personal / private situation
- Attractiveness of the S-Bahn Rhein-Neckar
- Dissatisfaction with the means of transport now less frequently / no longer used

Figure 158 Main types of reason for a change in use of S-Bahn Rhein-Neckar

Please distribute a total of 100 points among the following categories.



The USEmobility data shows that it is rarely one type of reason alone that drives the decision to use more PUB in Rhein-Neckar. Only 23% of the S-Bahn Rhein-Neckar swing users selected one type of reason alone, mostly a change in the personal / private situation.

Most swing users report a mix of the three categories. Main type is again the change in personal situation with on average nearly 60% of the relevance, followed by the attractiveness of the S-Bahn Rhein-Neckar in 30% of the cases.

Dissatisfaction with the means-of-transport formerly used has less than half of the relevance of attractiveness.

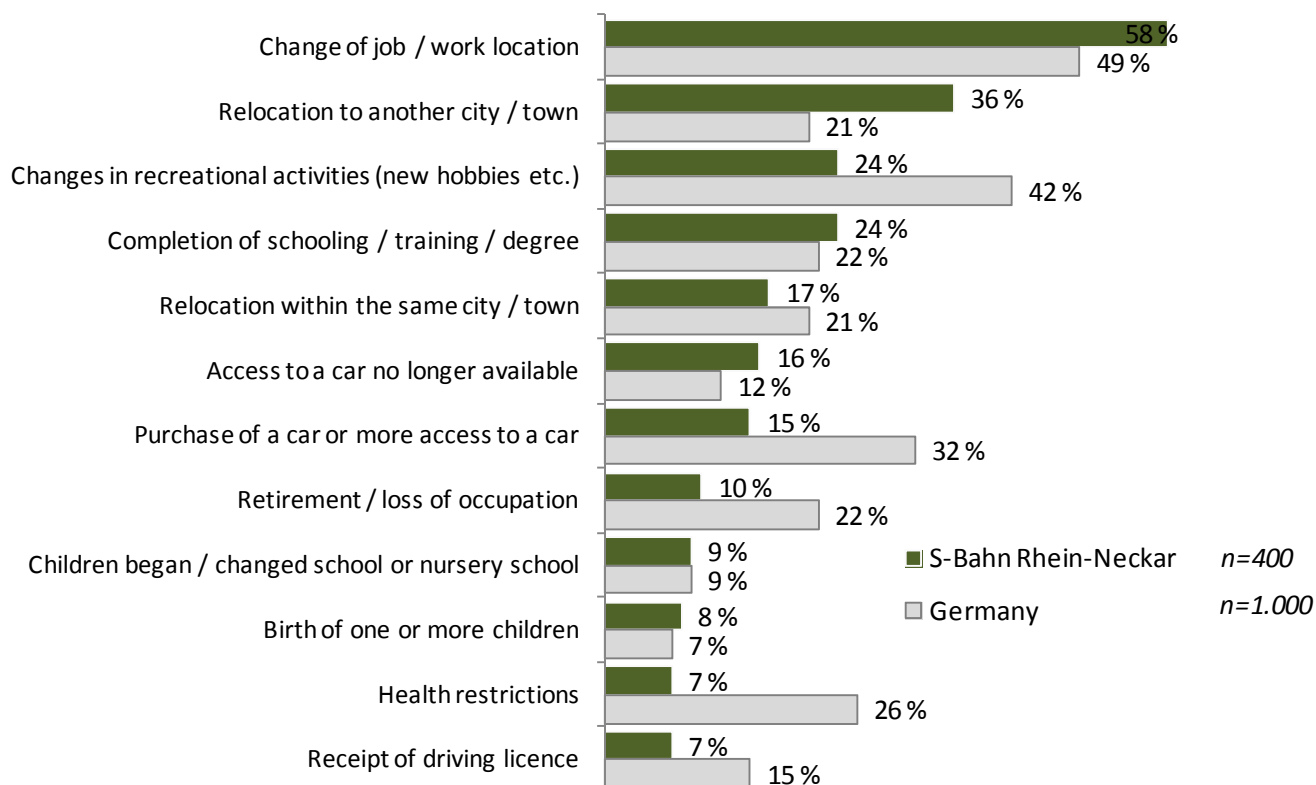
S-Bahn Rhein-Neckar swing users show differences to German swing users. Changes in personal situation are relatively important and push-out factors (dissatisfaction with the former means-of-transport) are less important.

H.2.2 Changes in the Personal / Private situation

Since the changes in the personal / private situation play such an important role in the reason-mix, we now look at them in more detail.

Figure 159 Changes in the personal situation of S-Bahn Rhein-Neckar swing users

Has anything changed in your personal/private situation in the last five years?



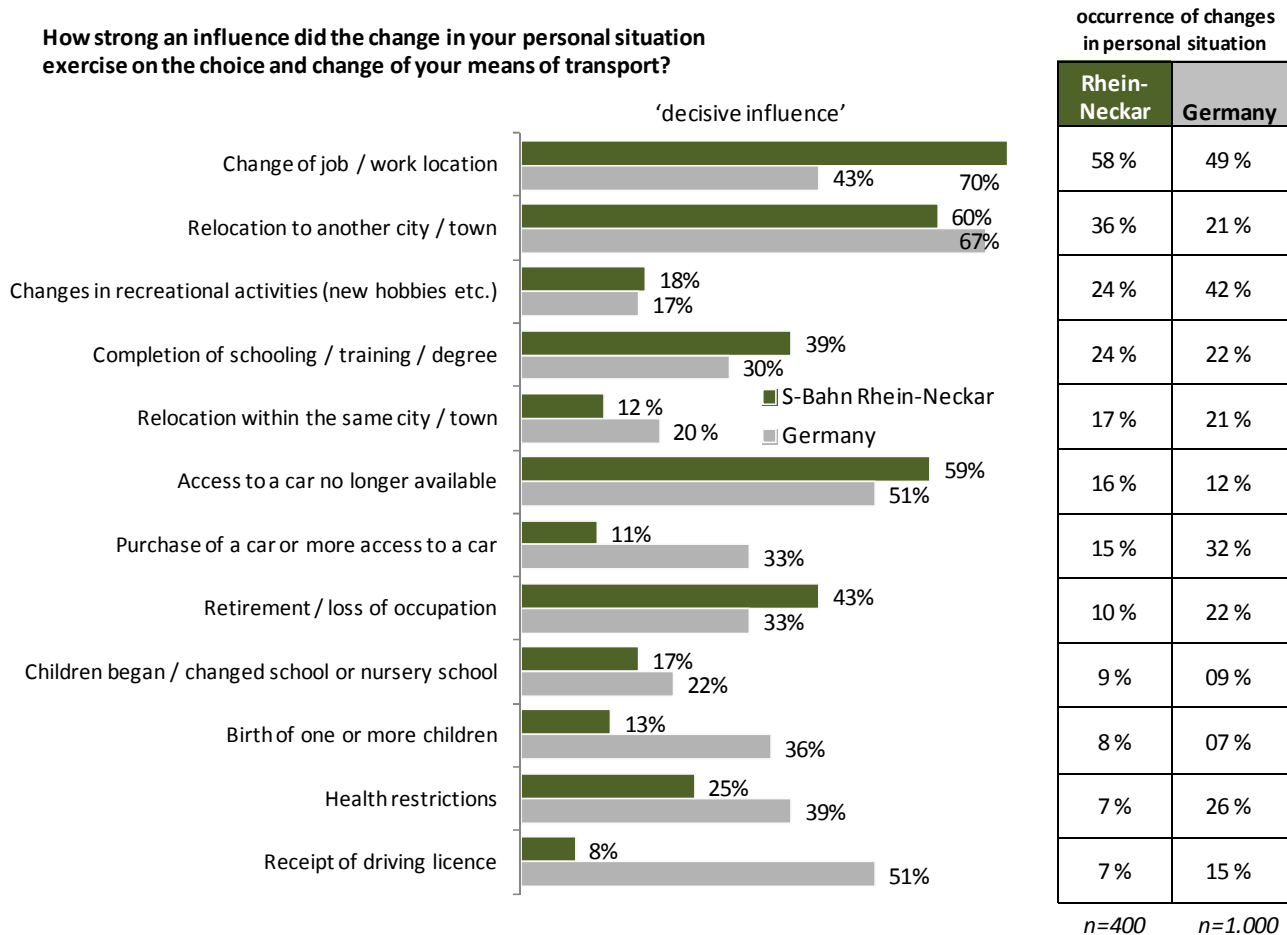
Almost 60% of the S-Bahn Rhein-Neckar swing users had a change of job / work location in the last five years. As with the German swing users, this was the most common type of personal change. It even surpasses the high German average of 49%.

Further frequent changes are the *relocation to another town* in the Rhein-Neckar area (36%), the *completion of schooling or training* (24%) and a *change in recreational activities* (24%).

In comparison to the German Swing users, many types of personal changes are much rarer including *changes in recreational activities*, *retirement / loss of occupation* and *health restrictions*.

Even more than the occurrence, the importance of these types of change has to be analysed. Types of change that have a high leverage on the decision to use more public transport, combine high occurrence and high importance for the decision to change (see next figure).

Figure 160 Importance of certain changes in the personal situation on the decision to use S-Bahn Rhein-Neckar



The highest influence on the decision to change has

- Relocation to another town in the Rhein-Neckar area (60% decisive influence) and / or
- Change in the job / work location (70% decisive influence)

Both factors have a high influence and a high frequency of occurrence and therefore a high leverage.

Completion of schooling and training has an above average influence (39%) and an average occurrence (24%) combining to an above average leverage.

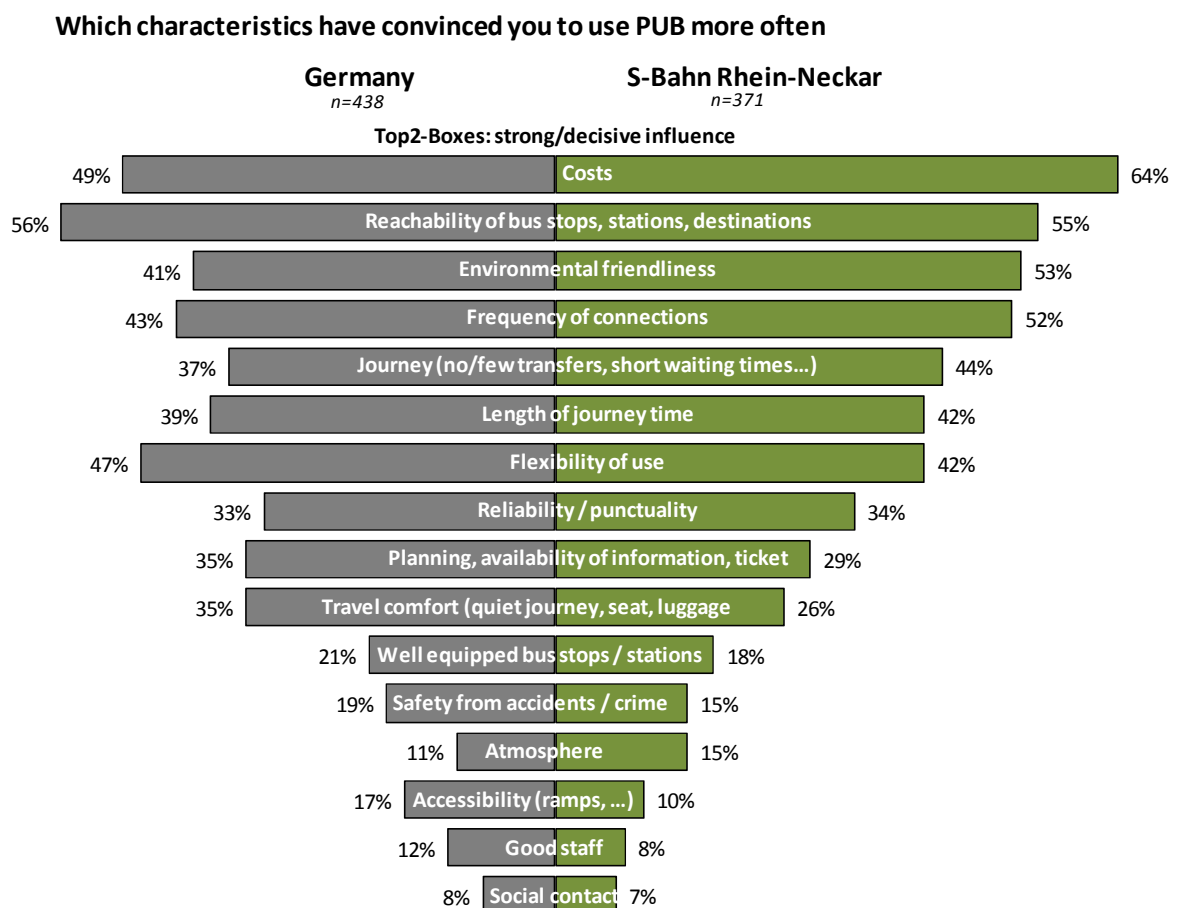
In case of *retirement, loss of occupation* (43%) and *loss of access to a car* (59%) influence is often on a high level, but these changes are not common among Rhein-Neckar swing users.

H.2.3 Reasons for the increase of public transport

USEmobility has put its central focus on the reasons for an increase of public transport, which are rooted in the public transport system itself. As we have seen in H.2.1, factors connected to the transport offer can act as *Pull-in factors attracting citizens* into the public transport system or increasing their use.

The next figure shows the proportion of cases, which have reported a strong or decisive influence on the primary factors. We see a comparison between swing users of S-Bahn Rhein-Neckar (right) and the average German swing-user (left). Swing users of S-Bahn Rhein-Neckar are displayed on the right, as comparison German swing-users are displayed on the left.

Figure 161 Influence primary pull-factors to use more PUB (Germany & S-Bahn Rhein-Neckar)



Regarding all primary pull-in factors, predominantly the 'hard' factors *low costs* (64%), *high reachability* (55%) and *high frequency of connections* (52%) as well as *few transfers and short*

waiting times and a short journey time lead to an increased use of S-Bahn Rhein-Neckar. The only 'soft' factor with a high pull-in potential is *environmental friendliness* (53%)

From the classical 'soft' pull-in factors, the *flexibility of use* has the highest relevance for a change. Other soft factors like a *pleasant atmosphere* during the journey, *good staff* or the opportunity for *social contact* have all a rather low relevance for the change. They have to be considered as supplemental factors supporting the effect of the hard factors.

In comparison with the average German swing-users, a number of hard factors like *low costs* and *high frequency of connections* and soft factors like environmental friendliness have a bigger influence for S-Bahn Rhein-Neckar swing users.

Figure 162 Influence of secondary pull-in aspects of the S-Bahn Rhein-Neckar transport offer (I)

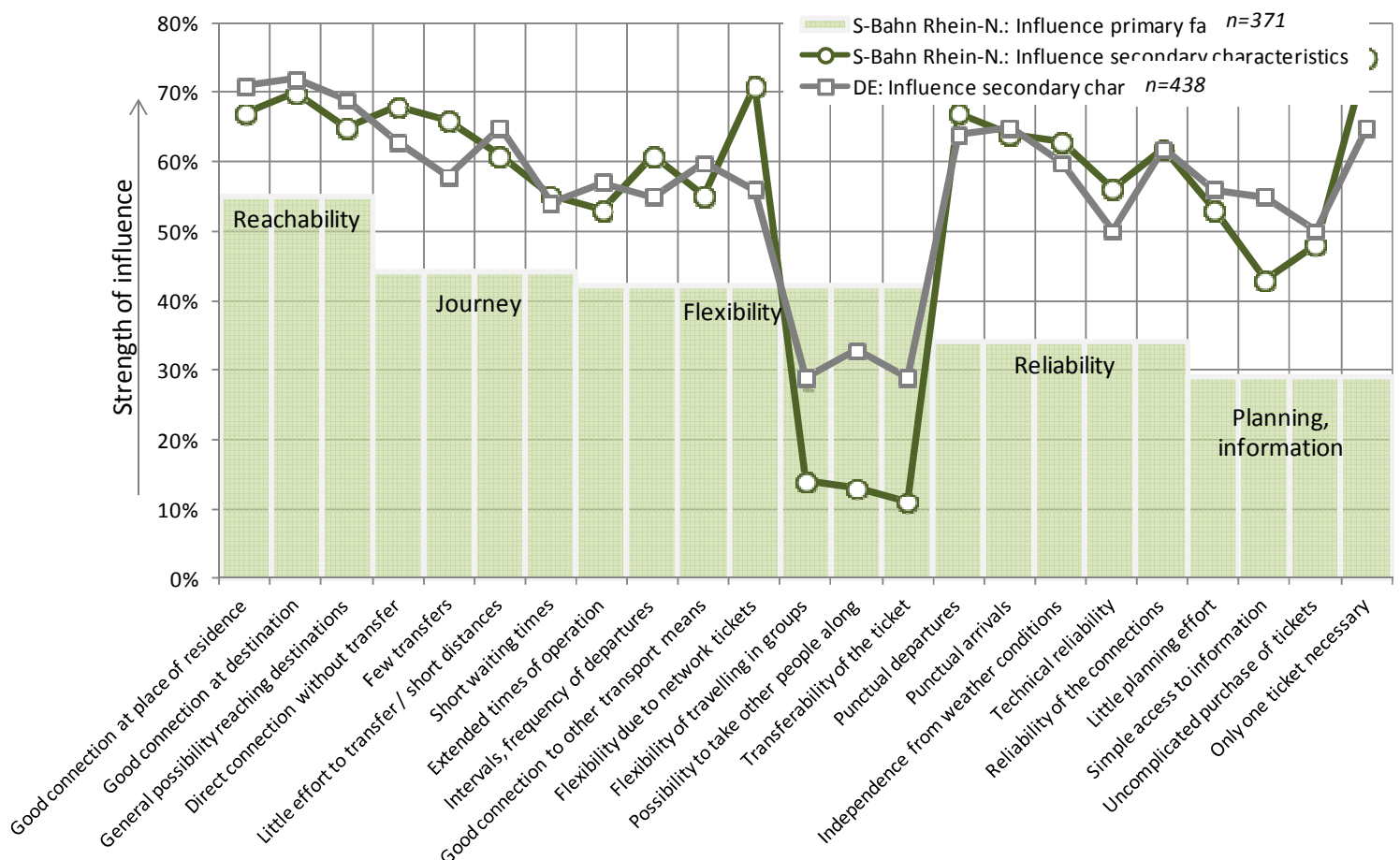


Figure 162 and Figure 163 give an overview over secondary characteristics, which can be seen as specifications of the primary factors mentioned above. Figure 162 shows:

- The strongest secondary pull-in aspects with Rhein-Neckar swing users are connected to the primary factors *reachability*, *few transfers / short waiting times* and *reliability*.
- Despite few exceptions, there are no big differences in relevance-evaluation between S-Bahn Rhein-Neckar swing users and their German counterparts.
- The *flexibility due to network tickets* and the fact, that *only one ticket is necessary* are important pull-in factors with S-Bahn Rhein-Neckar swing users, considerably higher than with the average swing user in Germany.

Figure 163 Influence of secondary pull-in aspects of the S-Bahn Rhein-Neckar transport offer (II)

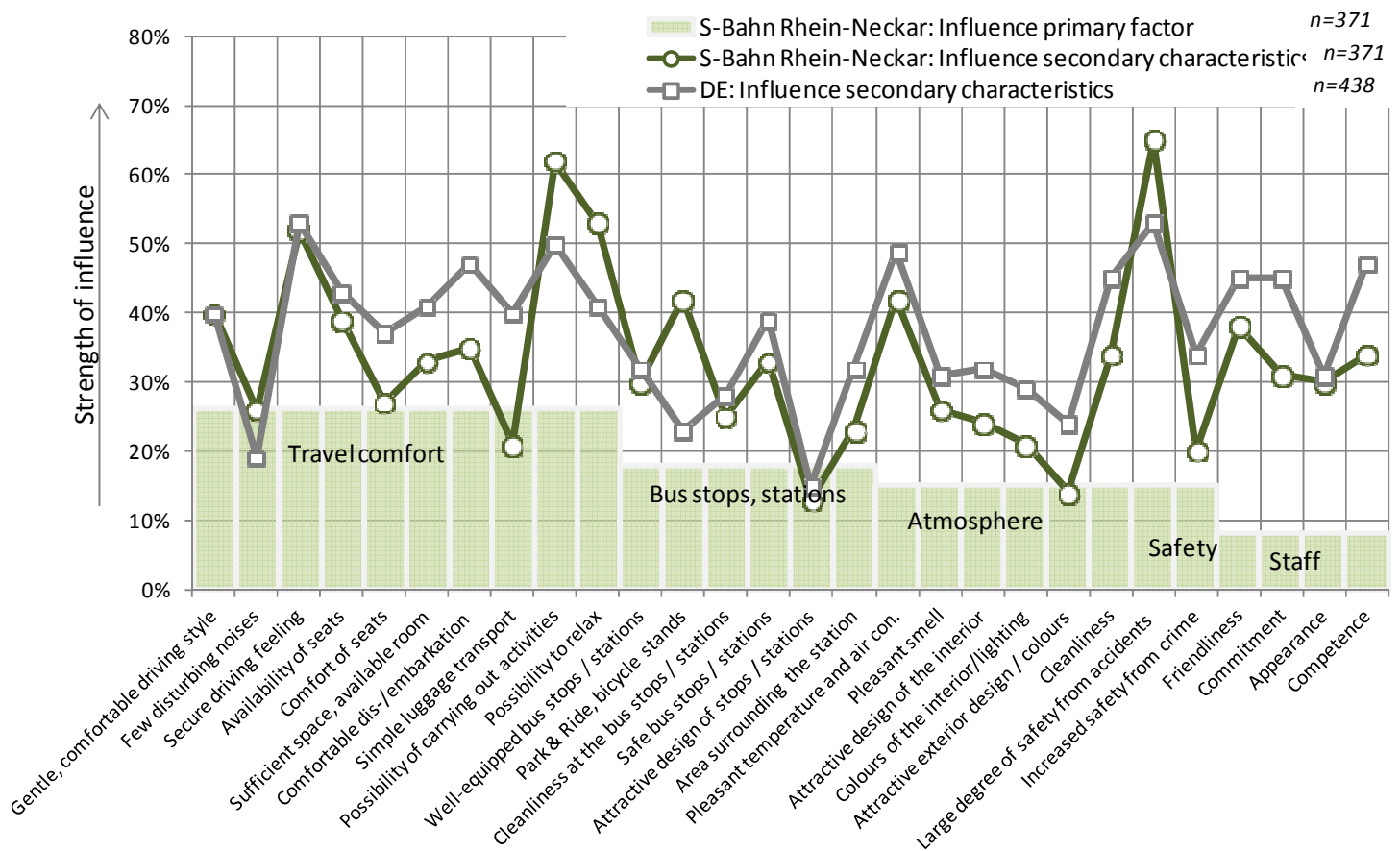


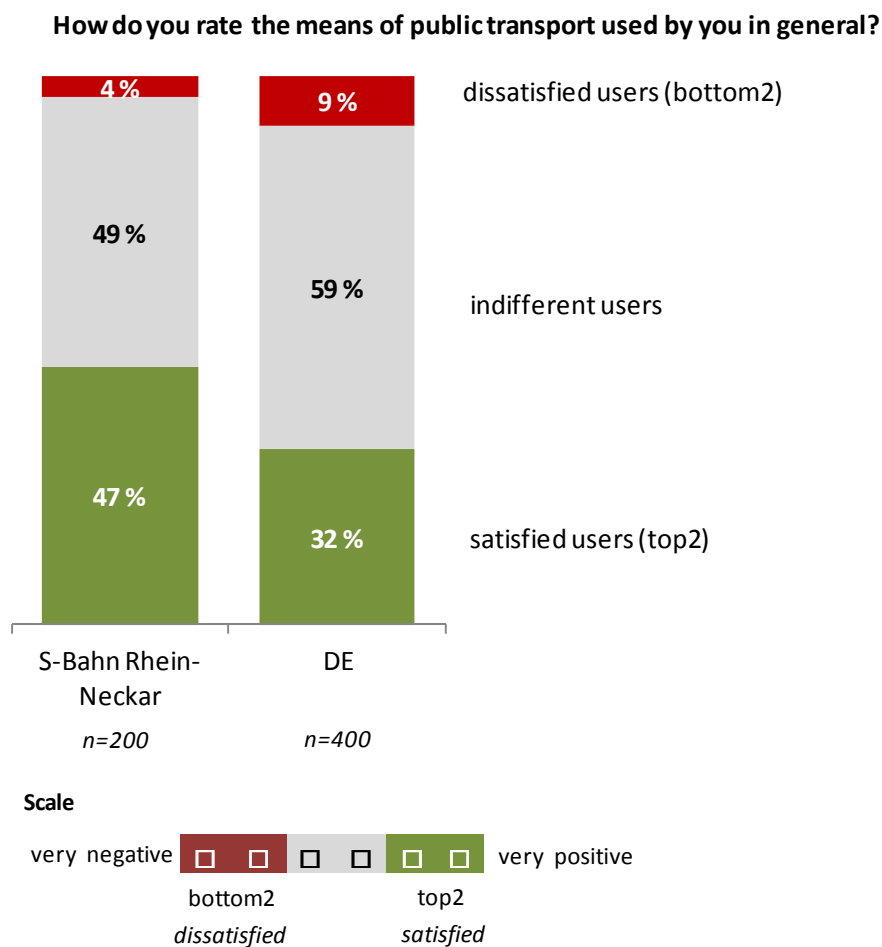
Figure 163 shows for the second part of the secondary characteristics:

- *Safety from accidents* is important for an increased use, and it is rated higher by S-Bahn Rhein-Neckar users than by their German counterparts.
- Some secondary 'soft' factors of *travel comfort* including the possibility to *relax* or *carry out activities* and *park & ride* and *bicycle stands* are more influential than with German swing users.

H.3 PUBLIC TRANSPORT TODAY SEEN BY S-BAHN RHEIN NECKAR USERS

Since the S-Bahn Rhein-Neckar was successful in gaining new passengers, USEmobility asked users for current evaluations.

Figure 164 Overall satisfaction of swing users with the S-Bahn Rhein-Neckar offer



Document: USEmobility_WP3_D3.6_ V2B

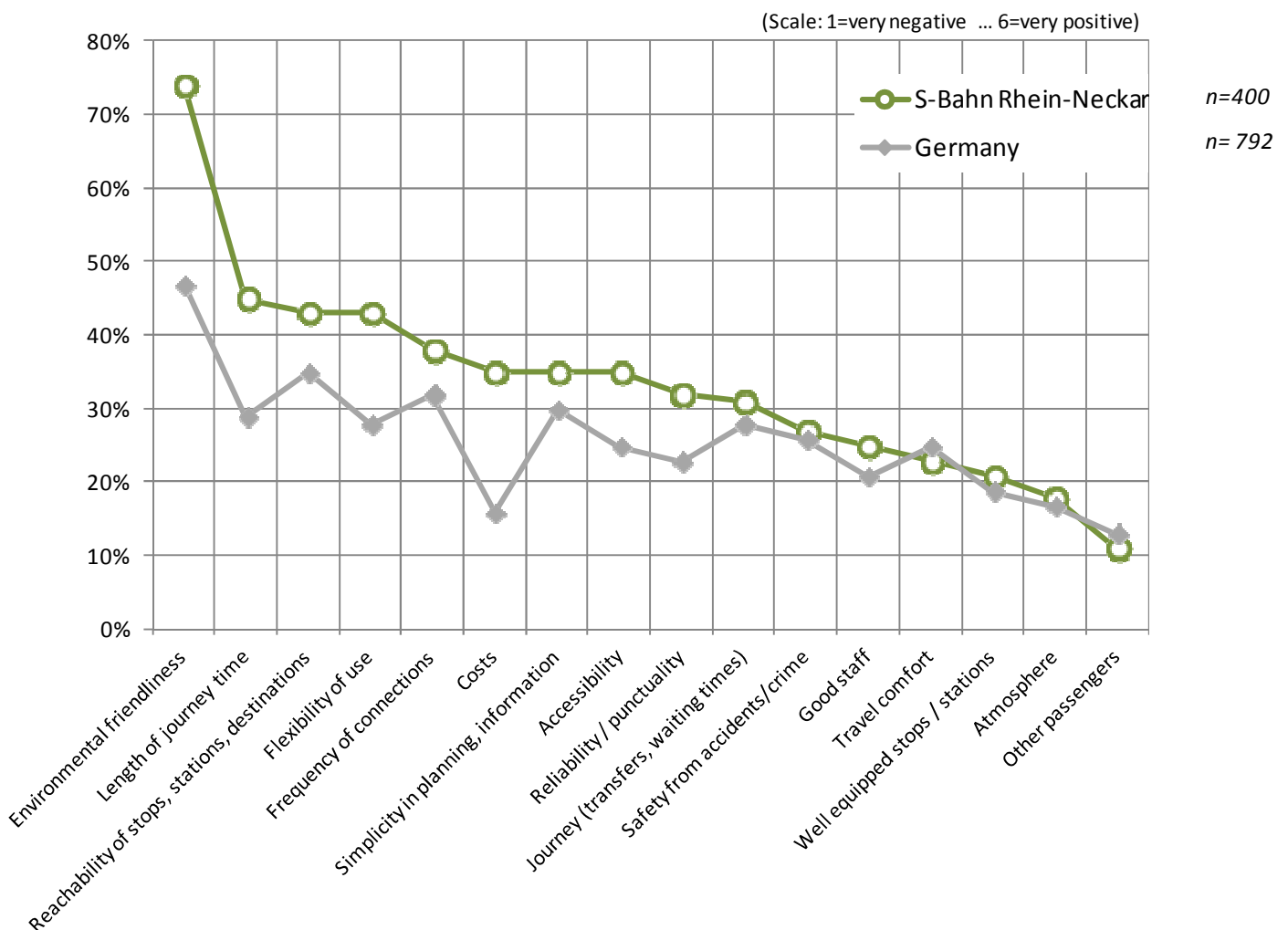
Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

47% of the S-Bahn Rhein-Neckar swing users are generally satisfied with the services offered to them. The satisfaction with the S-Bahn Rhein-Neckar is considerably higher than the Overall satisfaction of swing users in Germany with public transport.

The proportion of dissatisfied S-Bahn Rhein-Neckar swing users is with 4% on a very low level.

Figure 165 Current evaluation of the S-Bahn Rhein-Neckar in comparison with PUB in Germany

Percentage Top2 (=satisfied)

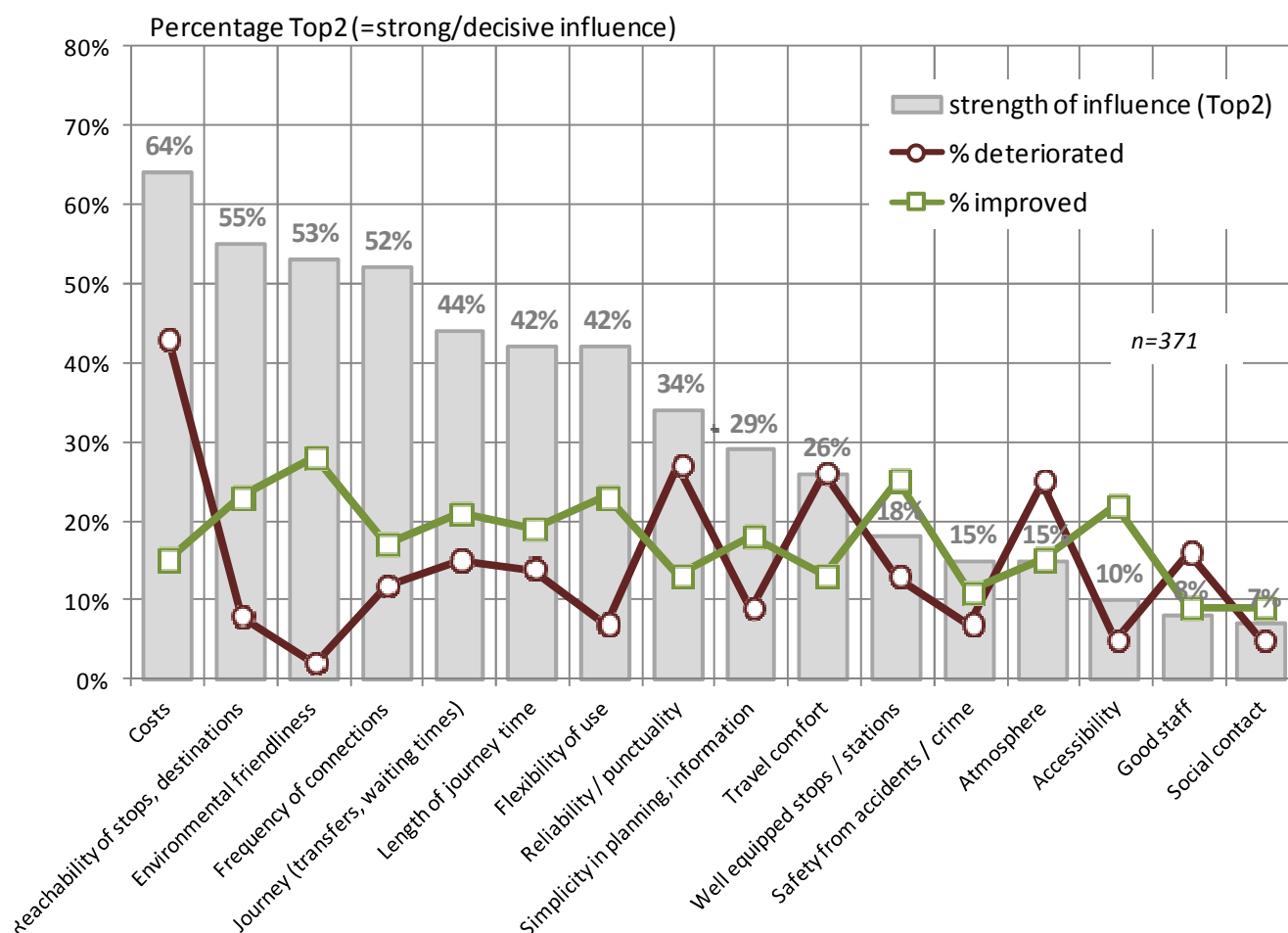


Despite a high satisfaction level in general, evaluations of single primary factors partially do not excel German average.

Environmental friendliness is rated clearly more positive by S-Bahn Rhein-Neckar swing users, than German swing users. The same holds for the *length of journey* and the *cost level*.

Figure 166 Perceived improvements and deteriorations of the S-Bahn Rhein-Neckar offer

Has anything changed for you since you started using **S-Bahn Rhein-Neckar**



How to read the figure: ca. 8% of the S-Bahn Rhein-Neckar swing users perceived deterioration for reachability. Ca. 22% perceived an improvement for reachability. For 55% of the swing users the primary factor reachability was highly influential to use S-Bahn Rhein-Neckar.

S-Bahn Rhein-Neckar swing users have reported improvements and deteriorations in equal measures since they started using S-Bahn Rhein-Neckar. This is a critical result when compared to most of the other USEmobility regions, where users usually experience much more improvements than deteriorations

Improvements are primarily seen regarding the soft factors *environmental friendliness* and *flexibility of use* as well as the hard factor *few transfers / short waiting times*, all being relevant factors for an increased use of S-Bahn Rhein-Neckar.

Well-equipped bus stops / stations with a good accessibility also show a good level of improvement, although these factors are only of minor relevance for the use.

Deteriorations are seen regarding the hard factors *costs (over 40%)* and *reliability / punctuality*.

One has to keep in mind, that costs were the top factor with highest relevance for the users swing towards more PUB, and now over 40% of the swing users see deteriorations here.

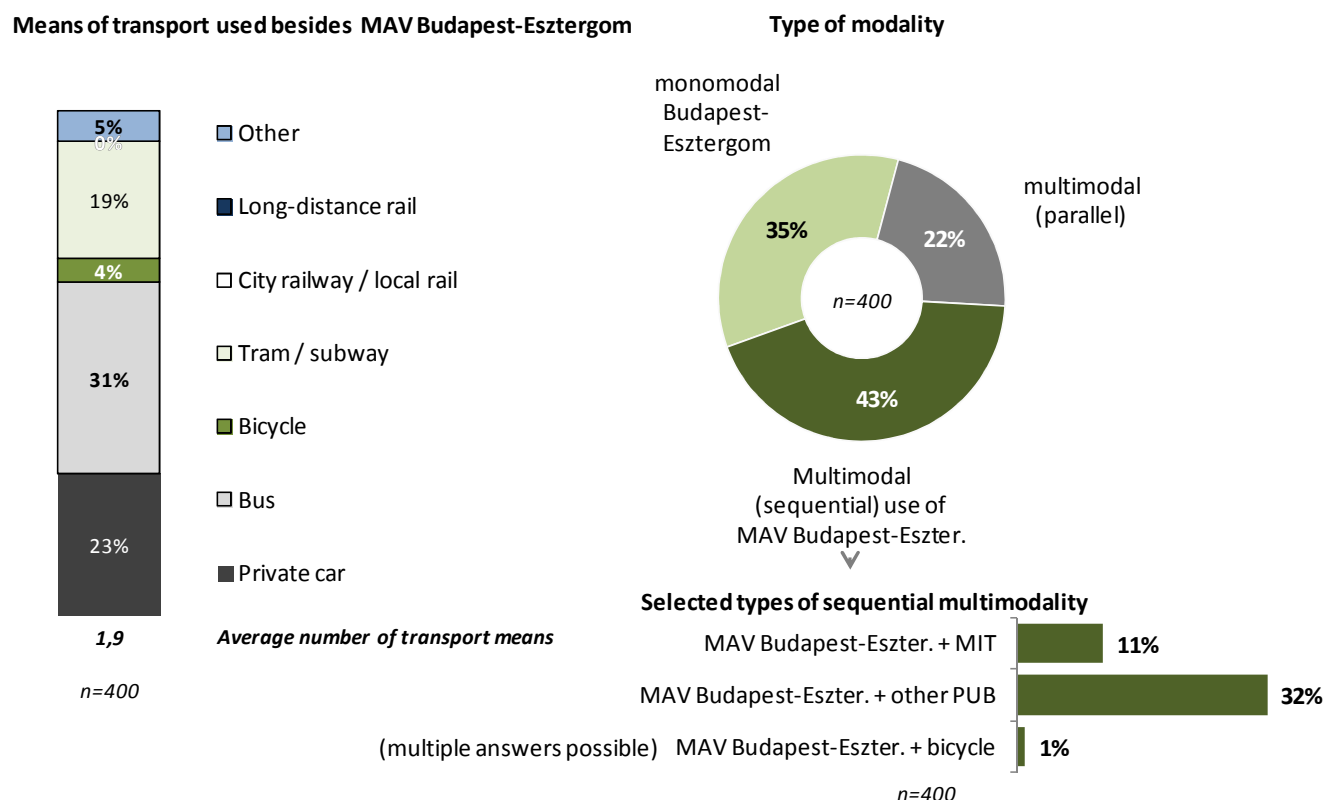
Region I *MAGYAR ÁLLAMVASUTAK (BUDAPEST-ESZTERGOM, HUNGARY)*

I.1 *CHARACTERISTICS OF MAV SWING USERS*

I.1.1 Monomodality / Multimodality

To start the analysis of the regional data, USEmobility looked at the current use of means-of-transport of the *MAV* swing users on the Budapest-Esztergom link. These swing users, who have changed their mobility mix regarding public transport within the last five years, have access to different means of transport, private and public.

Figure 167 Multimodality / Monomodality of MAV swing users



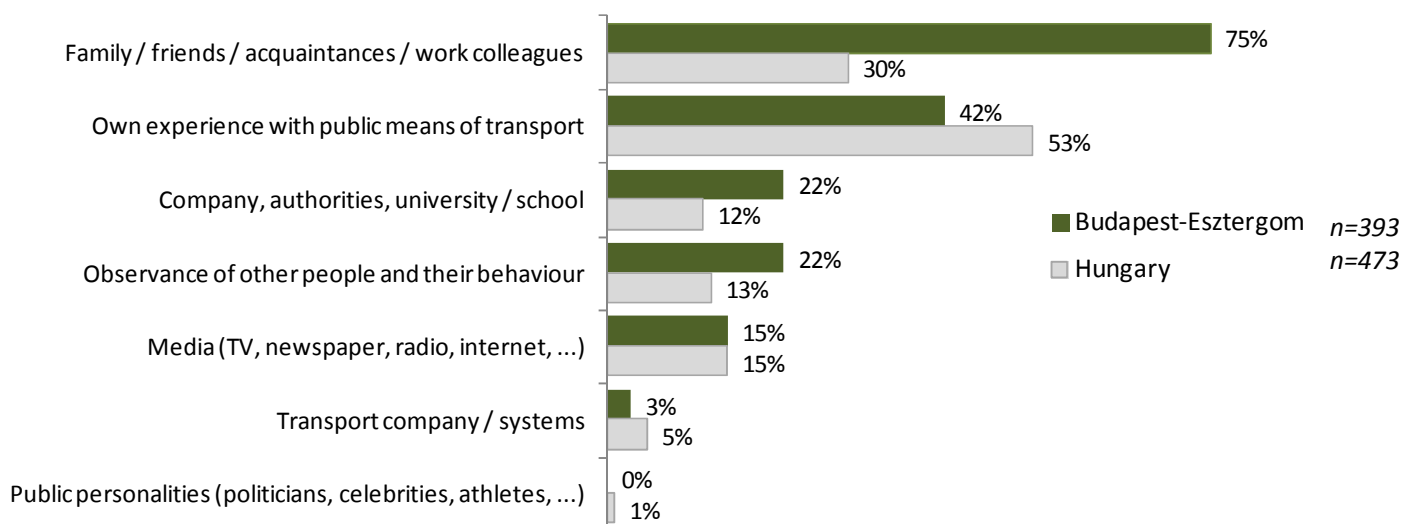
The most frequent means-of transport used by the MAV swing users besides the Budapest-Esztergom local rail is the bus (31%) and private car (23%), but city rail is with 19% in strong use, too.

43% of the MAV swing users combine the MAV on the Budapest-Esztergom link sequentially with other transport means, during the journey from the starting point to destination. The most common combination with 32% is MAV with other public transport (PUB) or with motorized individual transport (MIT, 11%).

I.1.2 Information behaviour and influence

USEmobility looked at possible sources including own experience and information about transport services from other sources that might have informed or motivated swing users to change their mobility mix and compared them to swing users in the whole country.

Figure 168 Sources of information / motivation to use MAV



Family/friends/colleagues are by far the most important source of information for the decision to use MAV on the Budapest-Esztergom link. Compared to Hungarian swing users and other exemplary regions/lines, this is unique.

Moreover, company, authorities, schools and observance of other people's behaviour are relatively important triggers to use MAV on the line Budapest-Esztergom.

Yet, information directly from the MAV transport company is on a low level (3% of the cases).

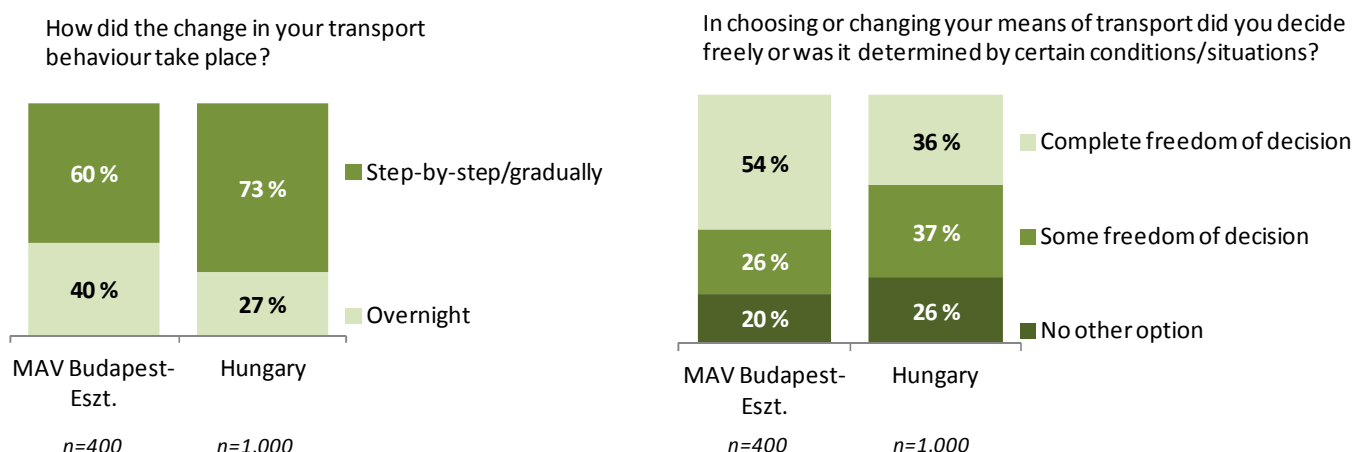
I.1.3 Type of change and perceived freedom of choice

Important characteristics of the change itself are how the change took place (step-by-step or overnight) and the perceived freedom of decision.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 169 Type of change and perceived freedom of choice of MAV swing users



The decision for an increased use of MAV mostly took place step-by-step. Yet, considerably more users of MAV Budapest-Esztergom made their decisions overnight (40%) compared to the average swing user in Hungary (27%).

With the MAV users, even more than with Hungarian swing users in general, the change is mostly connected to at least some freedom of decision (80%).

54% of the MAV swing users had *complete* freedom of choice, much more than their Hungarian counterparts (36%). 20% of the MAV swing users had no other option.

I.2 REASONS FOR CHANGES-IN-BEHAVIOUR

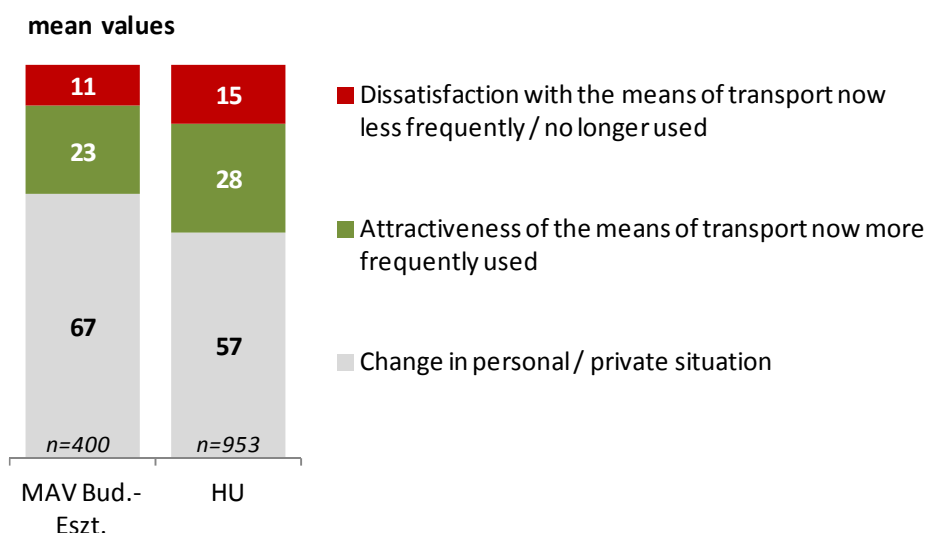
I.2.1 Types of reasons for the changes in behaviour

The USEmobility approach focuses on the reasons for the increased use of public transport in the region. MAV swing users on the *Budapest-Esztergom line* (BE Line) report three types of reason:

- Changes in personal / private situation
- Attractiveness of the MAV
- Dissatisfaction with the means of transport now less frequently / no longer used

Figure 170 Main types of reason for a change in use of MAV Budapest-Esztergom

Please distribute a total of 100 points among the following categories.



The USEmobility data shows that it is quite often only one type of reason alone, which drives the decision to use MAV Budapest-Esztergom. 36% of the swing users gave all 100 points to the change in personal / private situation.

Nevertheless, most swing users report a mix of the three categories. Main type is again the change in personal situation with a towering two-thirds of the relevance, being clearly higher than the countrywide average of 57%.

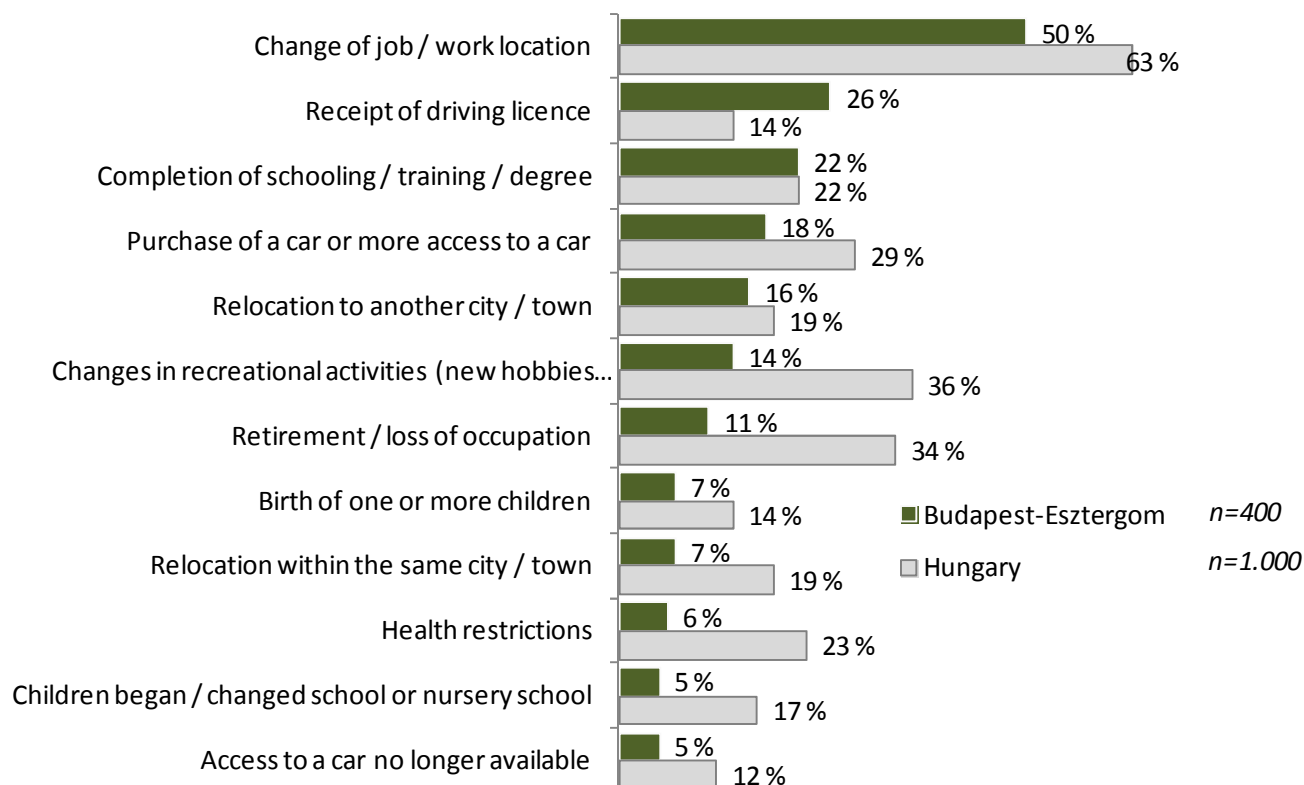
It is followed by the attractiveness of the BE Line in almost a quarter of the cases. Dissatisfaction with the means-of-transport formerly used has only half of the relevance of attractiveness.

I.2.2 Changes in the Personal / Private situation

Since the changes in the personal / private situation play such an important role in the reason-mix, we now look at them in more detail.

Figure 171 Changes in the personal situation of MAV Budapest-Esztergom swing users

Has anything changed in your personal/private situation in the last five years?

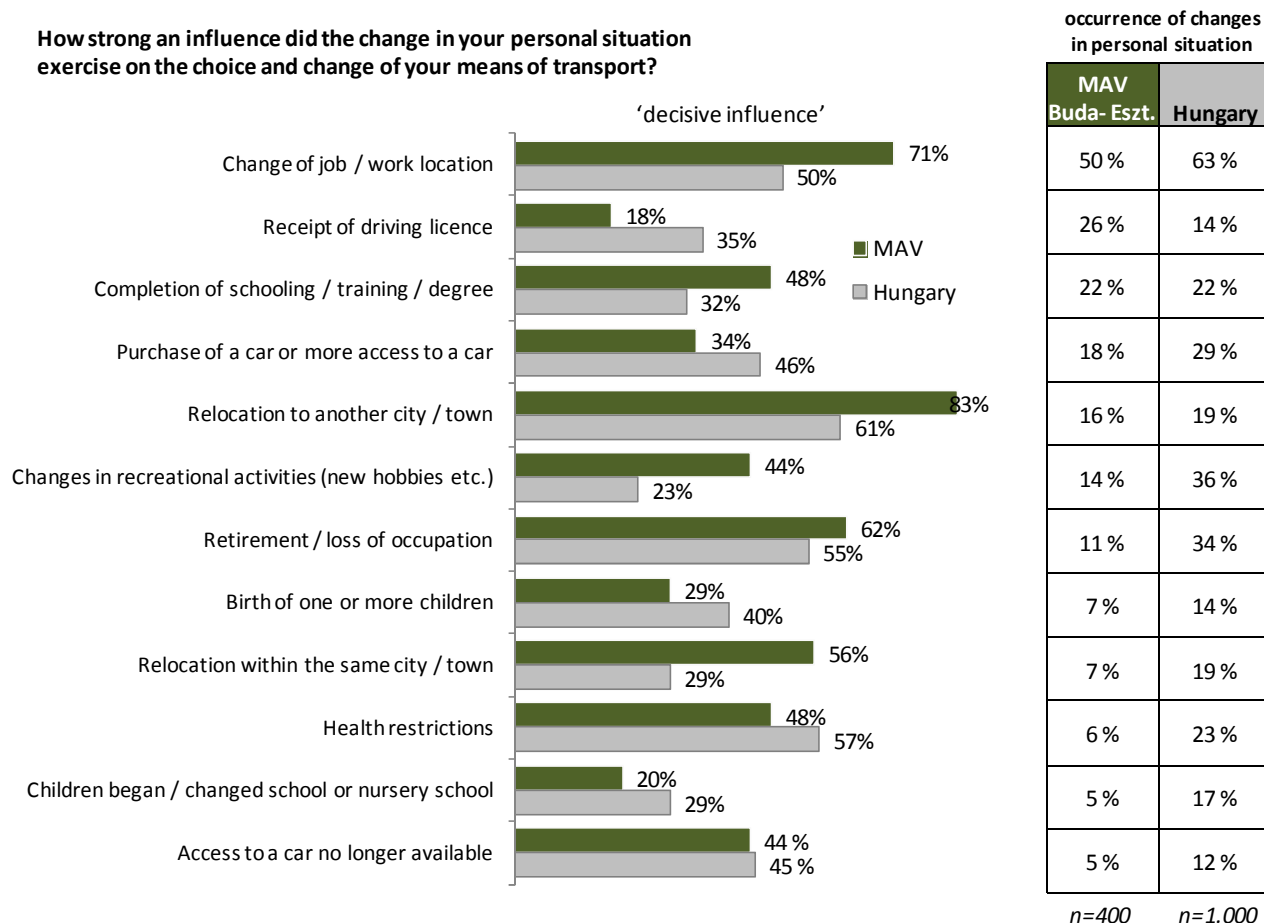


Half of the MAV swing users had a change of job / work location in the last five years. As with the Hungarian swing users, this was the most common type of personal change. Most other types of personal change do not even have half of its occurrence.

In comparison to the Hungarian swing users, many types of personal change are much rarer including *changes in recreational activities, retirement / loss of occupation and health restrictions*.

Even more than the occurrence, the importance of these types of change has to be analysed. Types of change that have a high leverage on the decision to use more public transport, combine high occurrence and high importance for the decision to change (see next figure).

Figure 172 Importance of certain changes in the personal situation on the decision to use MAV Budapest-Esztergom



The influence of changes in the personal / private situation on the increase of public transport is generally on a higher level with MAV swing users than with the average Hungarian swing user.

The highest influence on the decision to change has relocation to another town (83% decisive influence) or a change in the job / work location (71% decisive influence). *Change in the work location* has both a high influence and a high occurrence and therefore a very high leverage.

In case of occurrence of *retirement*, *loss of occupation*, *relocation within the same town* and *health restrictions* influence is often on a high level as well, but they are quite rare among MAV swing users.

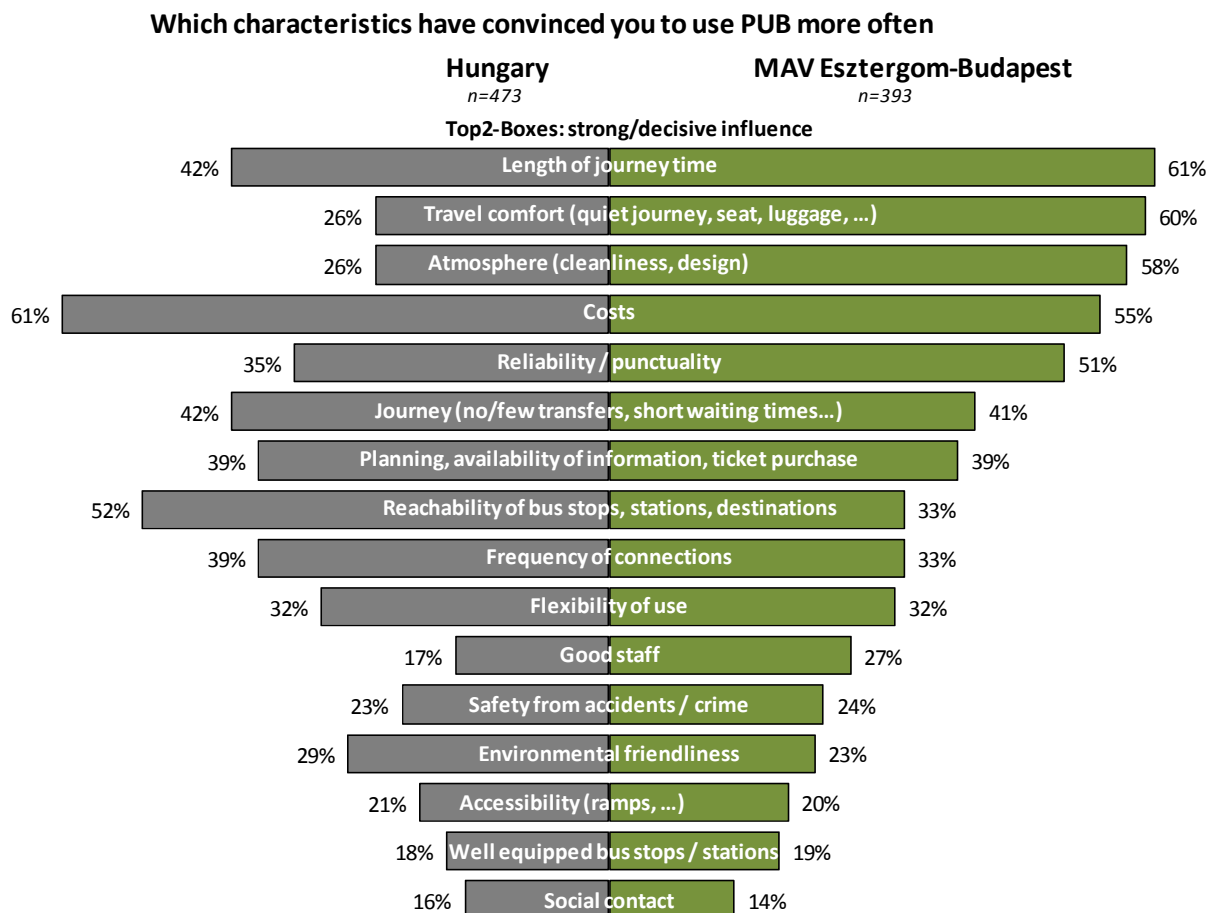
In comparison with their Hungarian counterparts, many types of change have a more decisive influence among BE line swing users, for example *relocation within the same town* ; *receipt of a driving licence*.

I.2.3 Reasons for the use of MAV Budapest-Esztergom

USEmobility has put its central focus on the reasons for an increase of public transport, which are rooted in the public transport system itself. As we have seen in I.2.1, factors connected to the transport offer can act as *Pull-in factors attracting citizens* into the public transport system or increasing their use.

The next figure shows the proportion of cases, which have reported a strong or decisive influence on the primary factors. We see a comparison between swing users of MAV Budapest (right) and the average Hungarian swing user (left).

Figure 173 Influence of primary pull-factors to use more PUB (Hungary & MAV Budapest)



The MAV on the Budapest-Esztergom Line has extraordinary results compared to the other USEmobility regions and the Hungarian average. Two of the top-three influential primary factors are 'soft' factors.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Regarding all primary pull-in factors, mostly *short journey time* (61%), *low costs* (55%) and the 'soft' factors *high travel comfort* (60%) and *pleasant atmosphere* (58%) lead to an increased use of Budapest-Esztergom line. Other soft factors like a *high impression of safety*, *environmental friendliness*, or *social contact* have rather low relevance for the change. They have to be considered as supplemental factors supporting the effect of the hard factors.

In comparison with the average Hungarian swing users, many hard factors like *short journey time* and *high reliability / punctuality* and soft factors like *high travel comfort* and *pleasant atmosphere* are considerably more important with MAV. One possible explanation for the unique results of MAV may be the change of the MAV travellers from long distance bus to modern rail.

Figure 174 Influence of secondary pull-in aspects concerning the MAV BE Line offer (I)

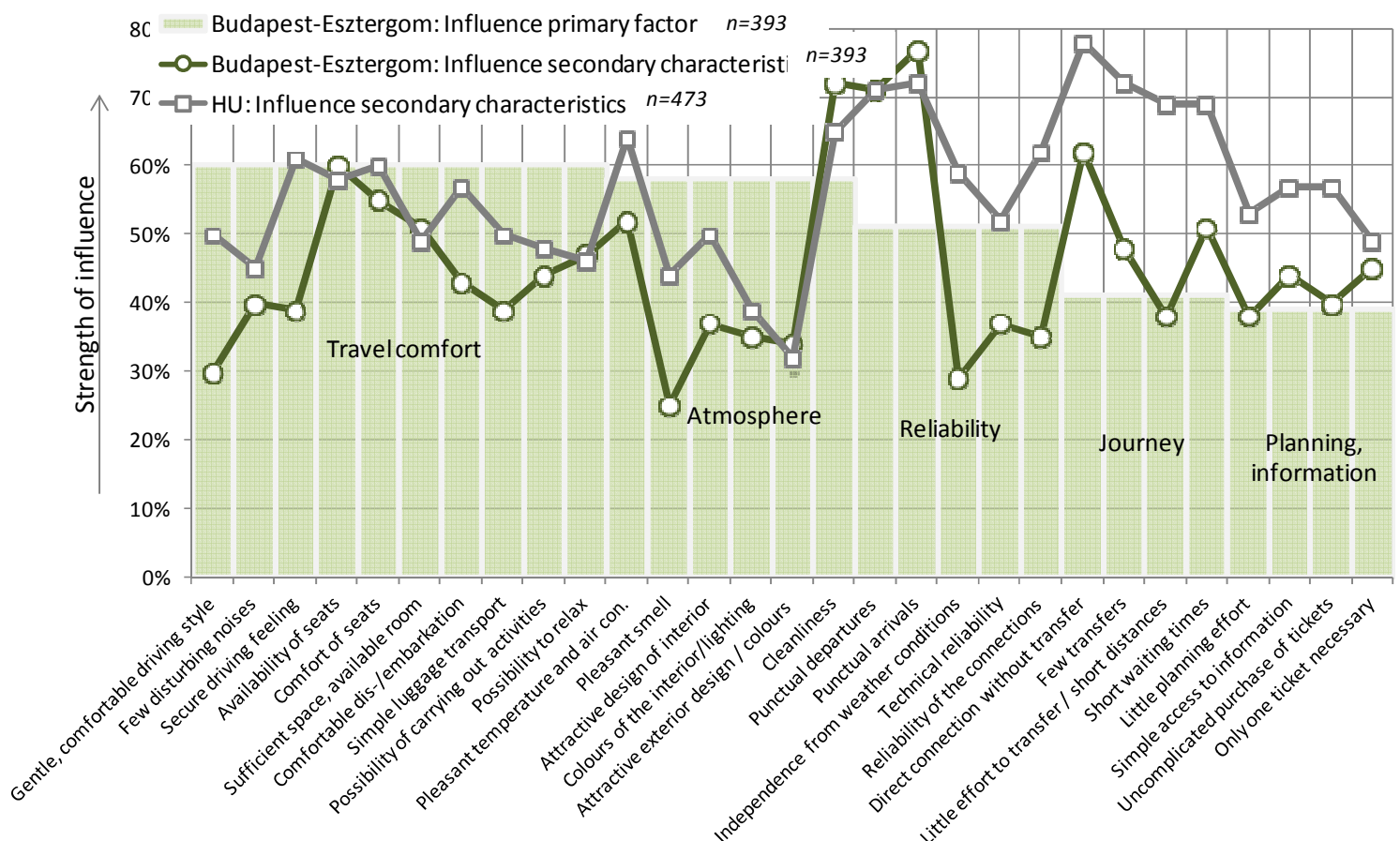
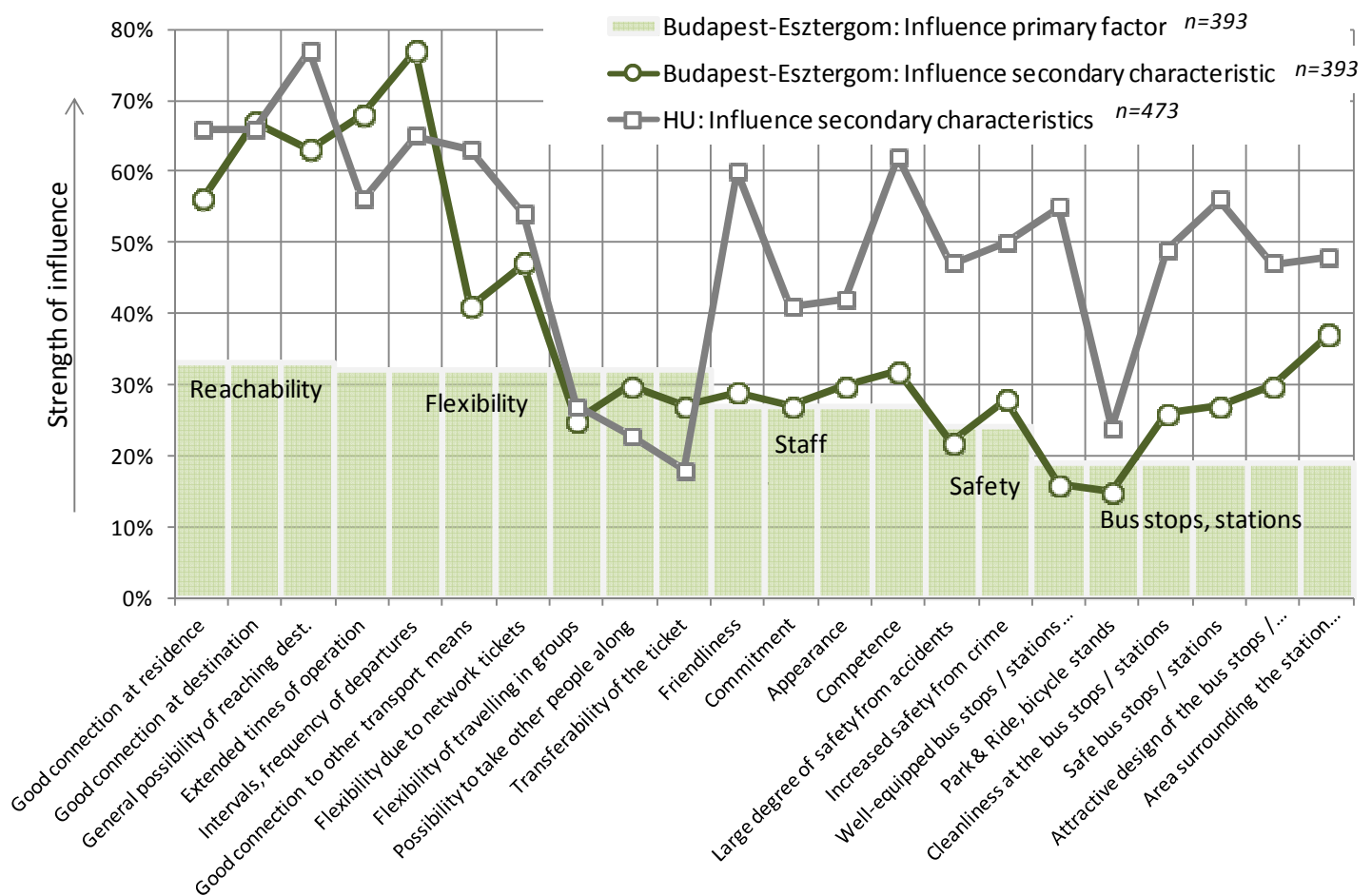


Figure 174 and Figure 175 give an overview over secondary characteristics, which can be seen as specifications of the primary factors mentioned above. Figure 174 shows:

- The strongest secondary pull-in aspects with MAV swing users are *cleanliness* and *punctuality*. Other important characteristics are *direct connections without transfer* and the 'soft' factors *availability and comfort of seats*.
- The most attractive aspect of travel comfort is the *availability of seats* and *pleasant temperatures*.

Figure 175 shows for the second part of the secondary characteristics.

Figure 175 Influence of secondary pull-in aspects concerning the MAV BE Line offer (II)

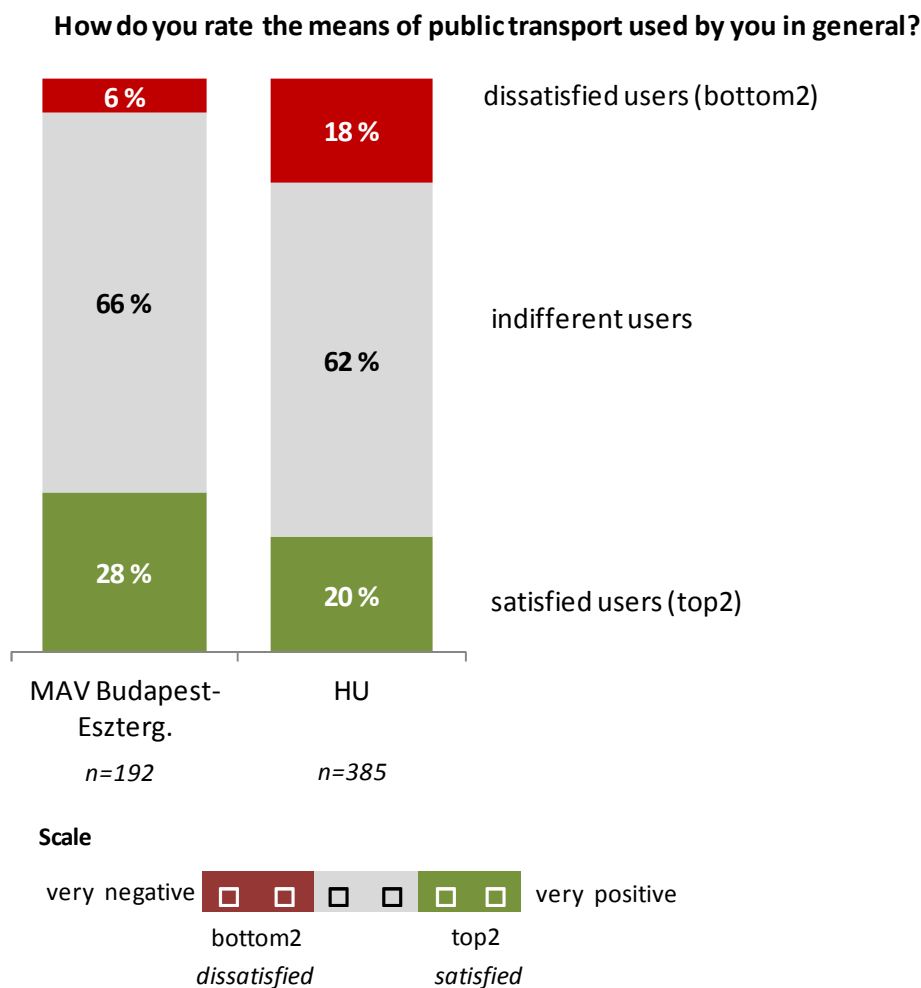


- *Good Reachability, extended times of operation* and especially a *high frequency of departures* are highly relevant for an increased use of MAV.
- Secondary factors regarding *staff, safety* and the *equipment of stations* are rather irrelevant and are on a much lower level of relevance than with Hungarian swing users.

I.3 PUBLIC TRANSPORT TODAY AS SEEN BY MAV USERS

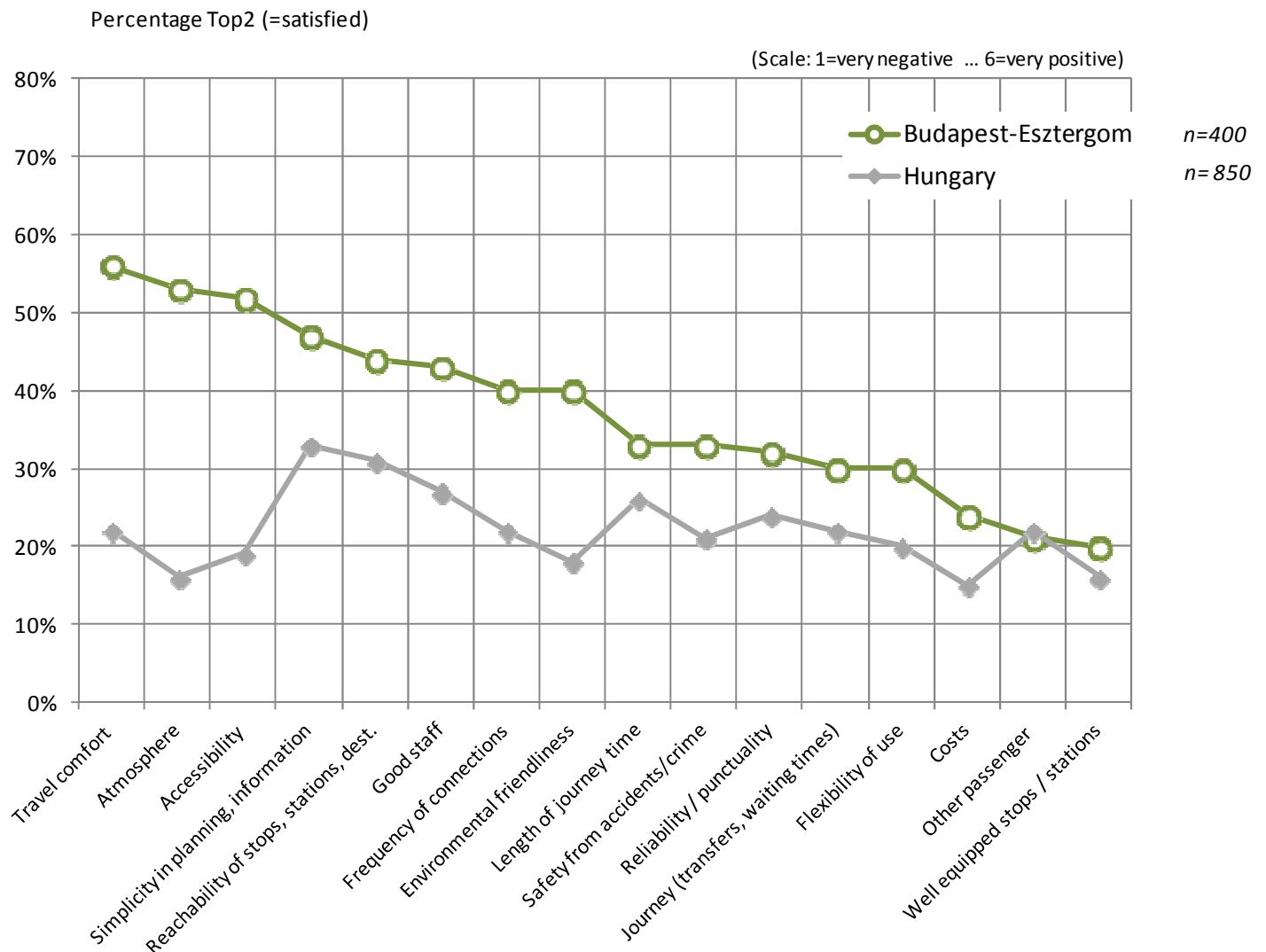
Since the MAV is successful in gaining new passengers on the *Budapest-Esztergom line*, USEmobility asked users for current evaluations.

Figure 176 Overall satisfaction of swing users with the MAV Budapest-Esztergom offer



Only 28% of the MAV swing users are satisfied with the services offered to them. However, the satisfaction with the MAV is still higher than the overall satisfaction of swing users in Hungary with public transport. Two thirds of the users are indifferent and only 6% are dissatisfied, which is a good result compared to Hungarian average.

Figure 177 Current evaluation of the MAV BE Line in comparison with PUB in Hungary



The comparison between all swing users in Hungary and MAV swing users shows that in Budapest-Esztergom most primary factors are rated much better.

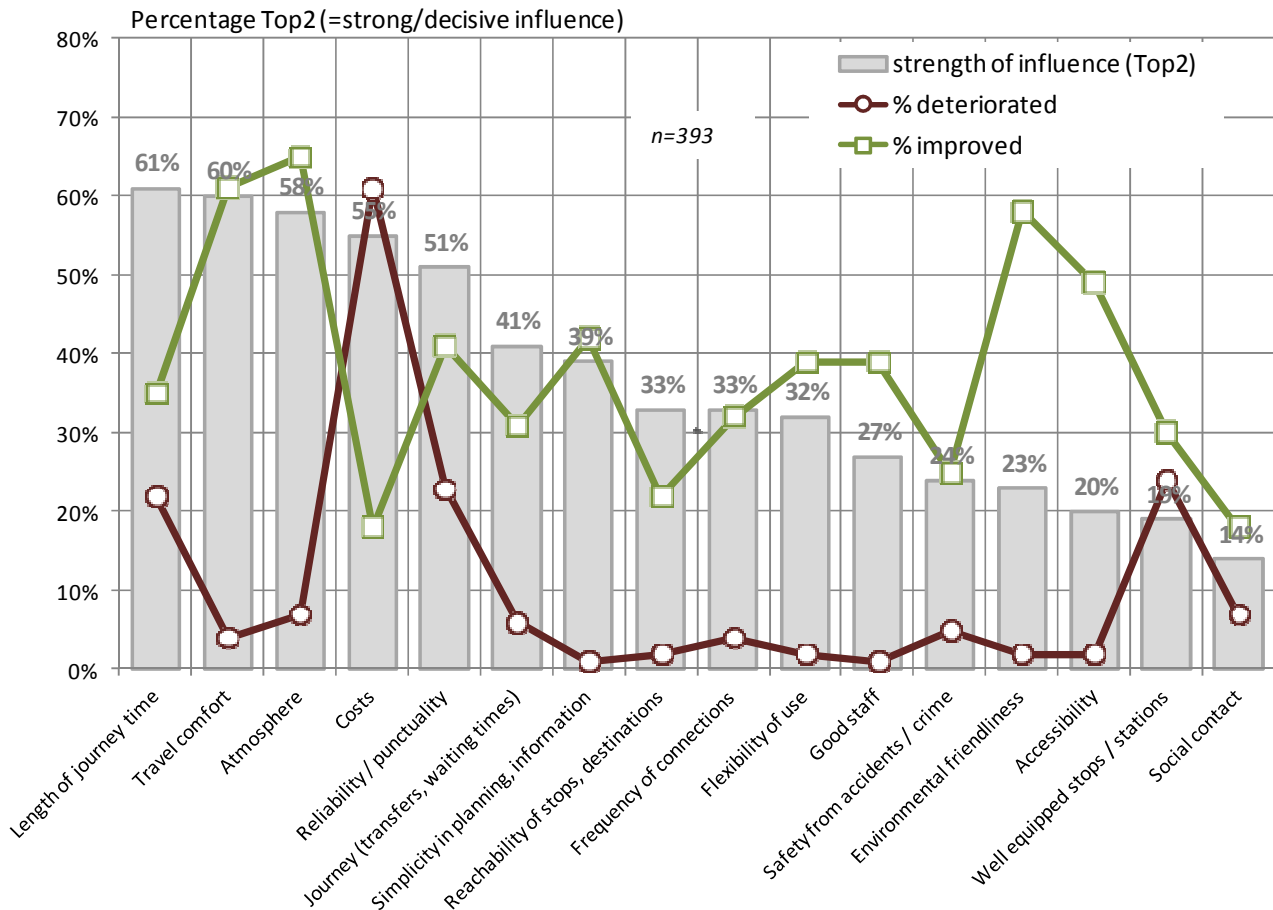
The 'soft' factors *high travel comfort*, *pleasant atmosphere* and the 'hard' factor *good accessibility* rate above 50% satisfaction and clearly exceeds the ratings of Hungarian swing users.

Document: USEmobility_WP3_D3.6_ V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 178 Perceived improvements and deteriorations of the MAV BE Line offer

Has anything changed for you since you started using **MAV Budapest-Esztergom**



How to read the figure: ca. 22% of the MAV swing users perceived deterioration regarding the journey time. Ca. 35% perceived an improvement of the journey time. For 61% of the swing users the primary factor length of journey time was highly influential to use MAV.

MAV swing users have reported more improvements than deteriorations over the primary factors since they started using MAV. The only clear deterioration is seen in the cost level, 60% of the MAV swing users have perceived cost deterioration.

Apart from costs, the *length of journey time*, the *reliability / punctuality* and the *equipment of bus stops and stations* have been reported of having deteriorated to a higher degree. However, generally the perception of deteriorations is on a low-level well below 10%.

Biggest improvements are seen regarding the soft factors *high travel comfort*, *pleasant atmosphere* and *environmental friendliness*.

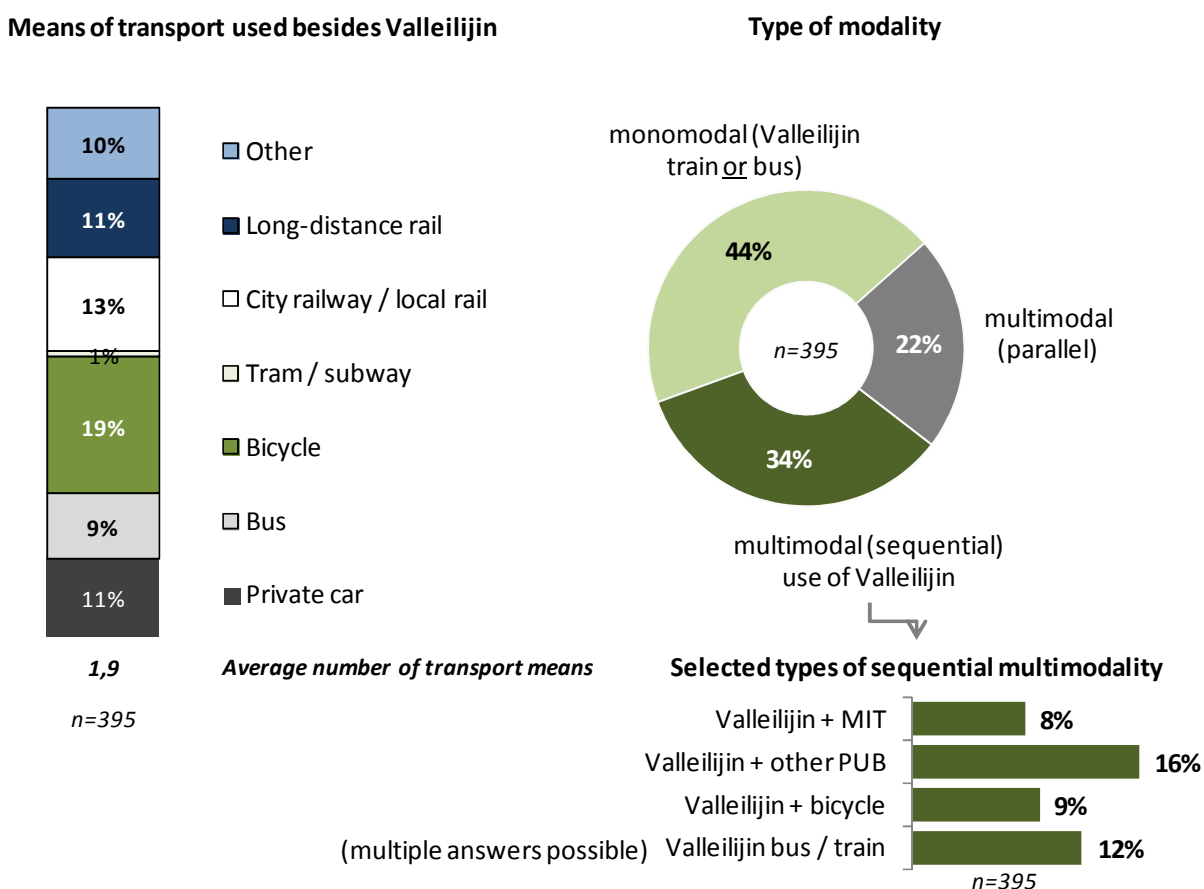
Region J CONNEXION VALLEILIJN (GELDERLAND REGION, THE NETHERLANDS)

J.1 CHARACTERISTICS OF VALLEILIJN SWING USERS

J.1.1 Monomodality / Multimodality

To start the analysis of the regional data, USEmobility looked at the current use of means-of-transport of the *Valleilijn* swing users in the Gelderland Region. These swing users, who have changed their mobility mix regarding public transport within the last five years, have access to different means of transport, private and public.

Figure 179 Multimodality / Monomodality of Valleilijn swing users



Besides Connexion, the Valleilijn train and bus operator, Valleilijn swing users use the bicycle (19%), but city and long distance rail are also used frequently (11%-13%).

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

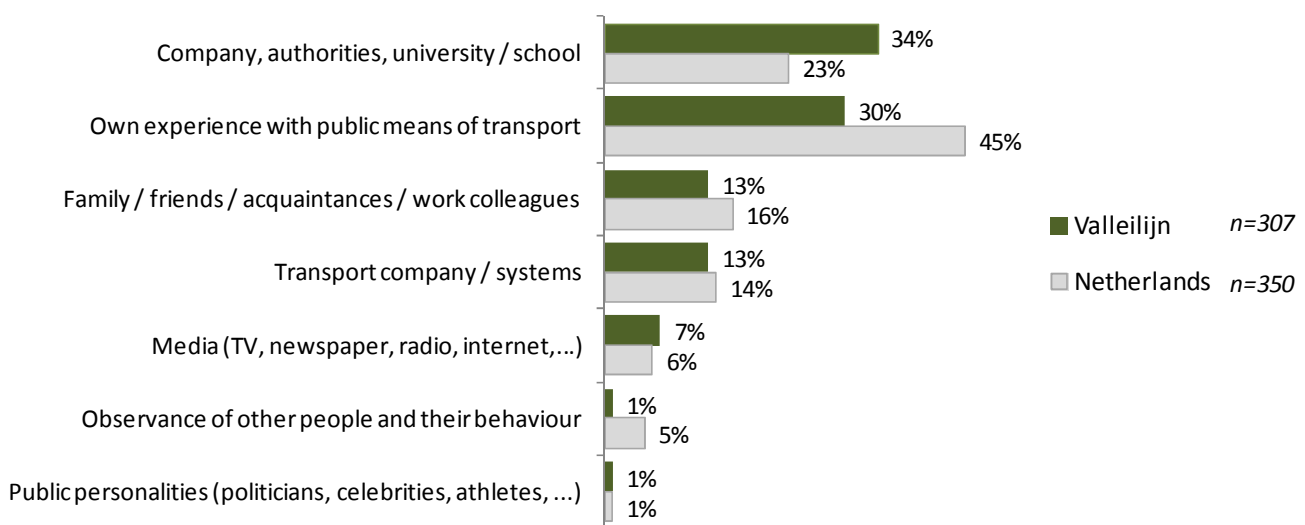
Monomodal use of Valleilijn train or bus is with 44% very common. Valleilijn swing users show a rather moderate percentage of 34% sequentially multimodal use, i.e. sequential multimodal combinations including the Valleilijn train or bus during the journey from the starting point to destination.

The most common combination with 16% in the mobility mix is Valleilijn train or bus with *other public transport* means (PUB). Other typical combinations are *Valleilijn train and Valleilijn bus* (internal combination, 12%), Valleilijn train or bus with *bicycle* (9%) and with *motorized individual transport* (MIT, 8%).

J.1.2 Information behaviour and influence

USEmobility looked at possible sources including own experience and information about transport services from other sources that might have informed or motivated swing users to change their mobility mix and compared them to swing users in the whole country.

Figure 180 Sources of information / motivation to use Connexion Valleilijn



In contrast to most other USEmobility regions, input from companies, authorities, universities or schools are the leading source of information to use Valleilijn. This input plays with 34% a considerably stronger role than on average in the Netherlands (23%).

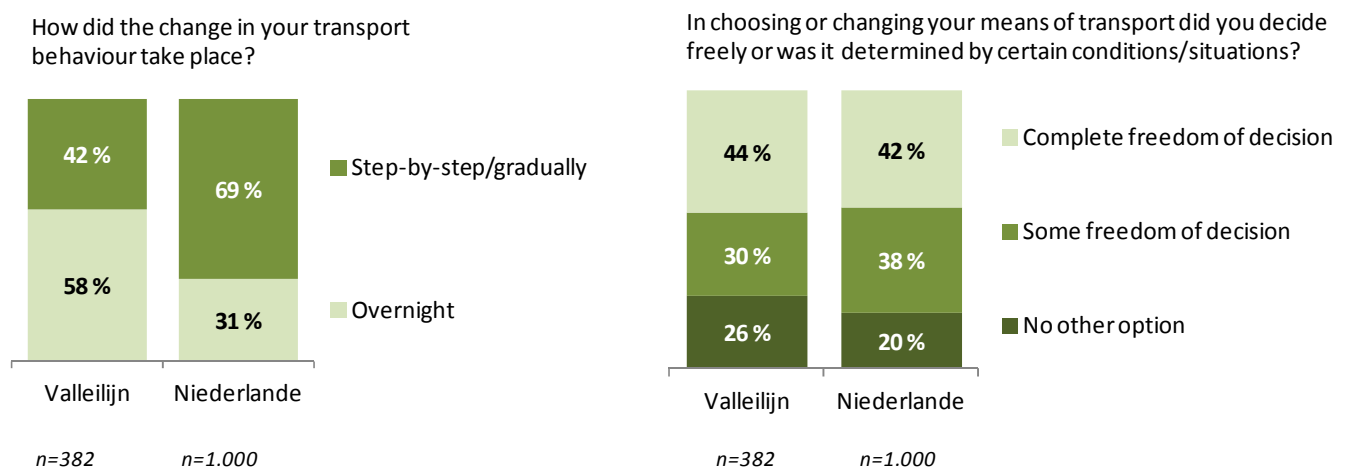
The own experience is another important source of information for the decision to increase the use of Valleilijn bus or train.

Information directly from the Connexion transport company was influential in 13% of the cases, in line with the situation of swing users in the Netherlands in general.

J.1.3 Type of change and perceived freedom of choice

Important characteristics of the change itself are how the change took place (step-by-step or overnight) and the perceived freedom of decision.

Figure 181 Type of change and perceived freedom of choice of Valleilijn swing users



Unlike most other USEmobility regions and the country average, the decision for an increased use of the Valleilijn mostly took place overnight.

With the Valleilijn swing users, the change is mostly connected to at least some freedom of decision (74%). 44% of the Valleilijn swing users even had complete freedom of choice.

26% of the Valleilijn swing users had no other option.

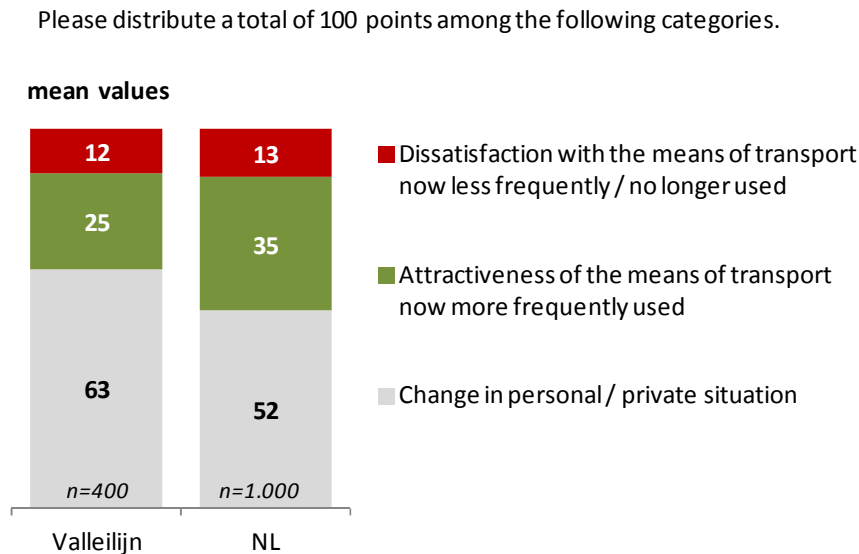
J.2 REASONS FOR CHANGES-IN-BEHAVIOUR

J.2.1 Types of reasons for the changes in behaviour

The USEmobility approach focuses on the reasons for the increased use of public transport in the region. Valleilijn swing users in Gelderland report three types of reason:

- Changes in personal / private situation
- Attractiveness of Connexion Valleilijn
- Dissatisfaction with the means of transport now less frequently / no longer used

Figure 182 Main types of reason for a change in use of Connexion Valleilijn



The USEmobility data shows that it is comparably often one type of reason alone, which drives the decision to use Valleilijn. 45% of the swing users selected only a change in personal / private situation.

Together with those swing users who report a mix of the three categories, the main type is again the change in personal situation with almost two thirds of the relevance, followed by the attractiveness of Valleilijn in one-quarter of the cases. Dissatisfaction with the means-of-transport formerly used has only half of the relevance of attractiveness.

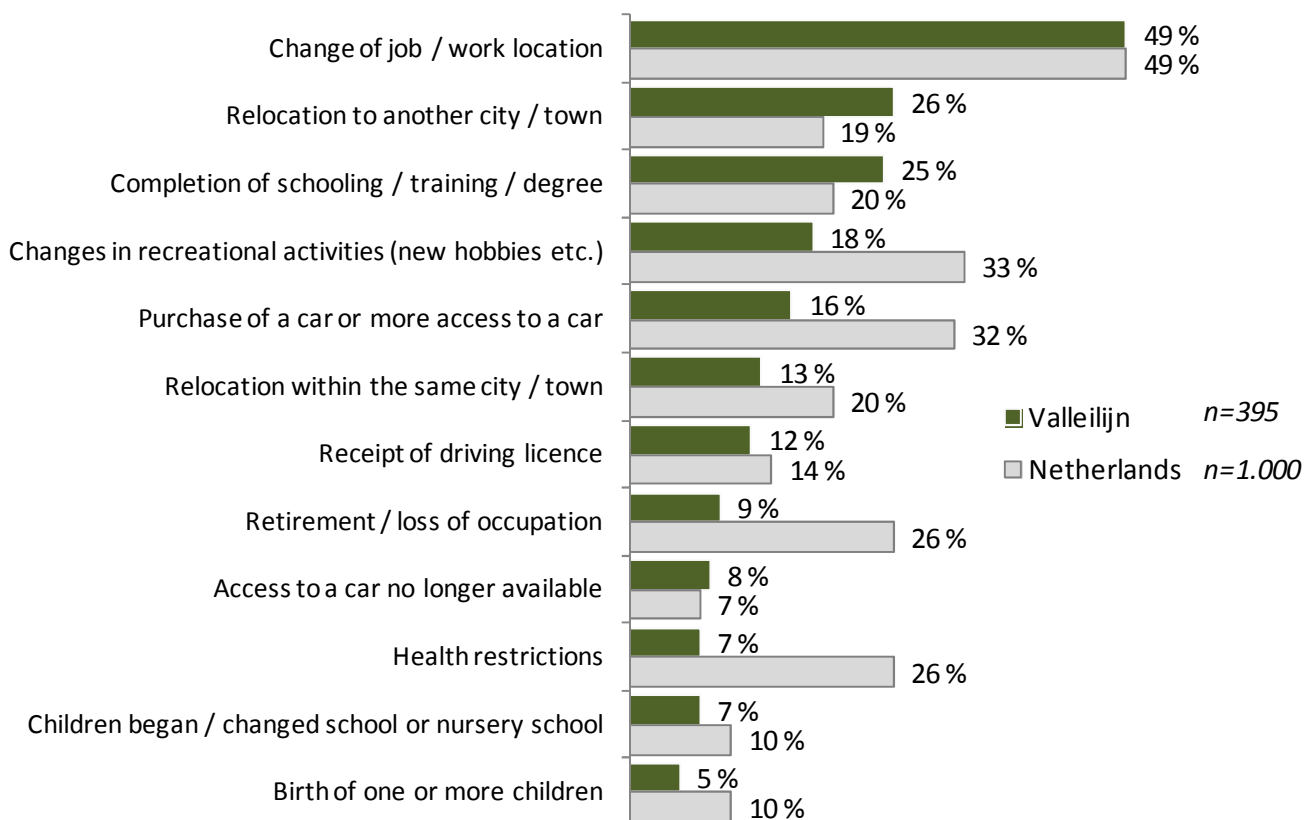
Concerning the pull-in factors (attractiveness), we see a clear difference to the average Dutch swing user. Attractiveness has 10% less relevance with Valleilijn swing users than with the average Dutch swing user.

J.2.2 Changes in the Personal / Private situation

Since the changes in the personal / private situation play such an important role in the reason-mix, we now look at them in more detail.

Figure 183 Changes in the personal situation of Valleilijn swing users

Has anything changed in your personal/private situation in the last five years?



Almost half of the Valleilijn swing users had a change of job / work location in the last five years. As with the Dutch swing users, this was the most common type of personal change. Most other types of personal change do not even have half of its occurrence.

Further changes of Valleilijn swing users, albeit on a lower level are the *relocation from another town* (26%) and the *completion of schooling or training* (25%), both to a higher degree than among the general Dutch swing user (19-20%).

Another stated issue is a *change in the recreational activities* (18%), although on a much lower level as in the total Netherlands (33%).

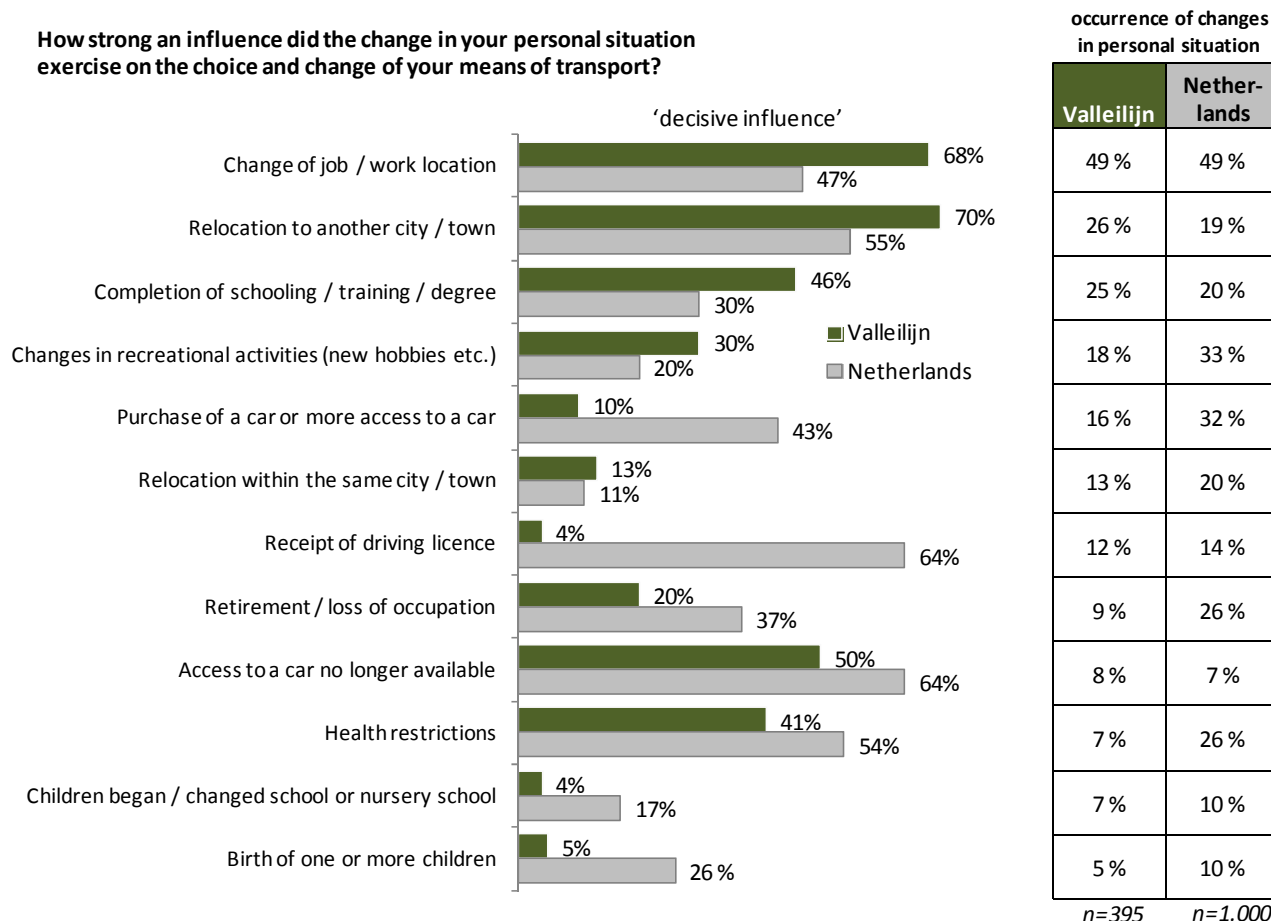
In total, we find fewer changes in the personal situation among Valleilijn swing users than among Dutch swing users.

Even more than the occurrence, the importance of these types of change has to be analysed. Types of change that have a high leverage on the decision to use more public transport, combine high occurrence and high importance for the decision to change (see next figure).

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Figure 184 Importance of certain changes in the personal situation on the decision to use the Connexion Valleilijn



The highest influence on the decision to change has a

- Relocation to another town (70% decisive influence) and / or
- Change in the job / work location (68% decisive influence)

Changes in the job or relocation to another city / town both have a high influence and a high frequency of occurrence and therefore a high leverage.

The influence of *lost of access to a car* and *health restrictions* is often on a high level as well, but they are quite rare among Valleilijn swing users.

In comparison with their Dutch counterparts, *change of job* (68%), relocation to another town (70%) and the *completion of schooling and training* (46%) have a more decisive influence.

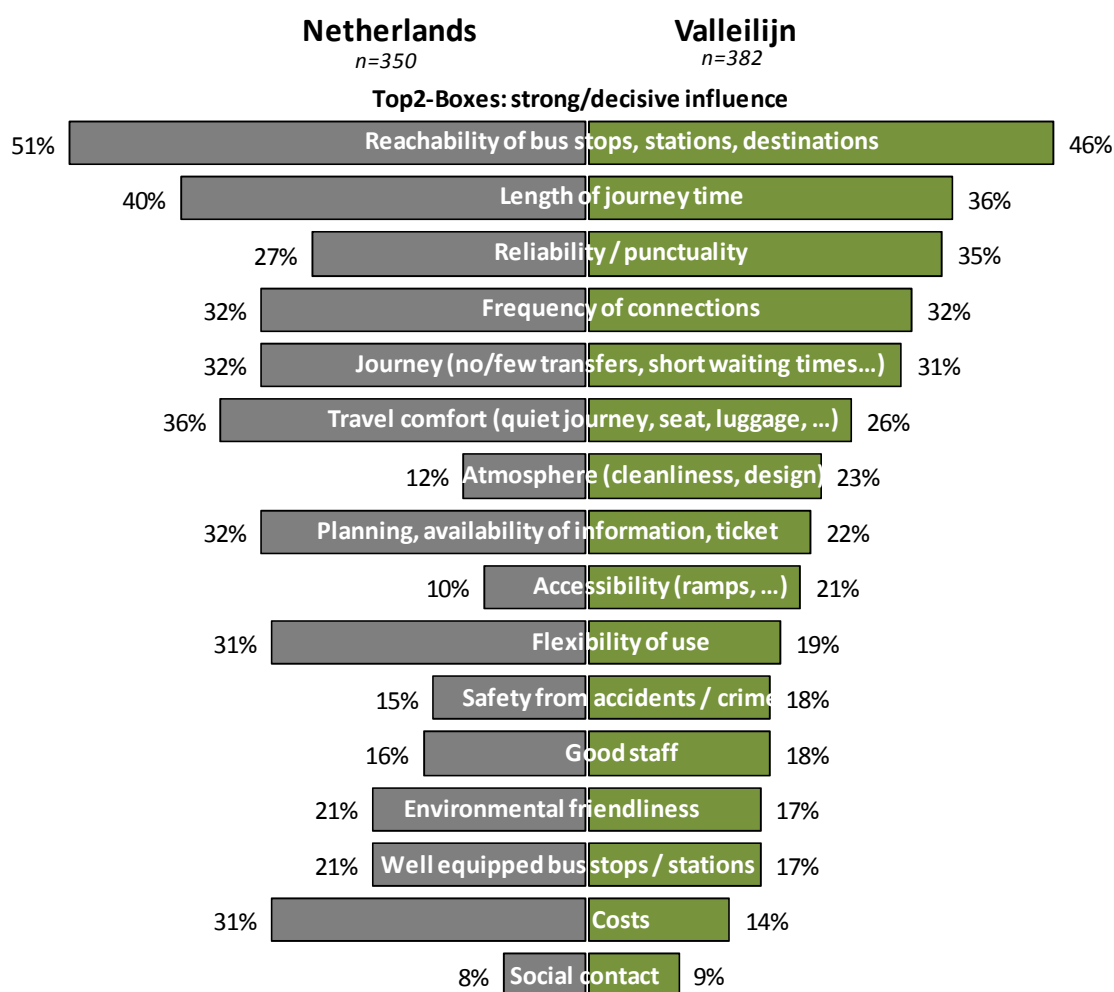
J.2.3 Reasons for the increase of the Valleilijn

USEmobility has put its central focus on the reasons for an increase of public transport, which are rooted in the public transport system itself. As we have seen in J.2.1, factors connected to the transport offer can act as *pull-in factors attracting citizens* into the public transport system or increasing their use.

The next figure shows the proportion of cases, which have reported a strong or decisive influence on the primary factors. We see a comparison between swing users of Connexion Valleilijn (right) and the average Dutch swing user (left).

Figure 185 Influence of primary pull-factors to use more PUB (Netherlands & Valleilijn)

Which characteristics have convinced you to use PUB more often



Regarding primary pull-in factors, predominantly the 'hard' factors *high reachability* (46%), *short journey time* (36%) and *high reliability / punctuality* (35%) lead to an increased use of Valleilijn. The only 'soft' factor with a higher pull-in potential is *high travel comfort*.

Other soft factors like a *good staff*, *environmental friendliness* or the opportunity for *social contact* have all a rather low relevance for the change. They have to be considered as supplemental factors supporting the effect of the hard factors.

In comparison with the average Dutch swing-user, hard factors like *low costs* and soft factors like *high travel comfort*, *easy planning* and *high flexibility of use* are less influential for Valleilijn users. *Good accessibility* of stations and the soft factor *pleasant atmosphere* on the other hand get a higher rating from Connexion Valleilijn users.

Figure 186 Influence of secondary pull-in aspects concerning the Valleilijn transport offer (I)

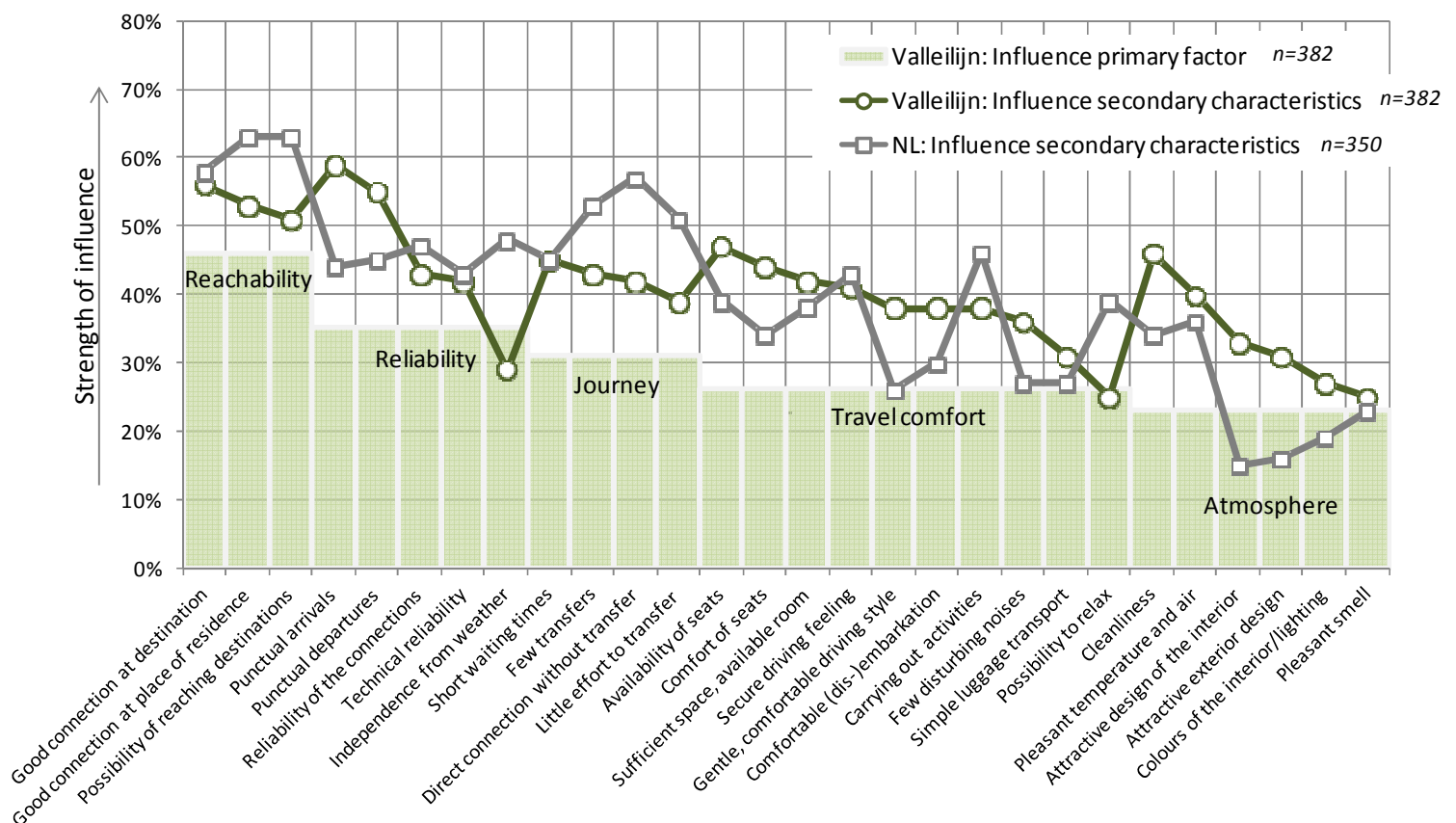


Figure 186 and Figure 187 give an overview over secondary characteristics, which can be seen as specifications of the primary factors mentioned above. Figure 186 shows:

- The strongest secondary pull-in characteristics with Valleilijn swing users are connected to the primary factors *reachability* and *punctuality*.
- In general, there are no huge differences in relevance-evaluation between Valleilijn swing users and their Dutch counterparts.
- Several secondary characteristics like *availability* and *comfort of seats* are relevant pull-in aspects for Valleilijn users, some of the clearly higher than with the average Dutch swing user.
- The same is true for secondary 'soft' aspects responsible for a good atmosphere including *cleanliness* and an *attractive interior design*.

Figure 187 Influence of secondary pull-in concerning the Valleilijn transport offer (II)

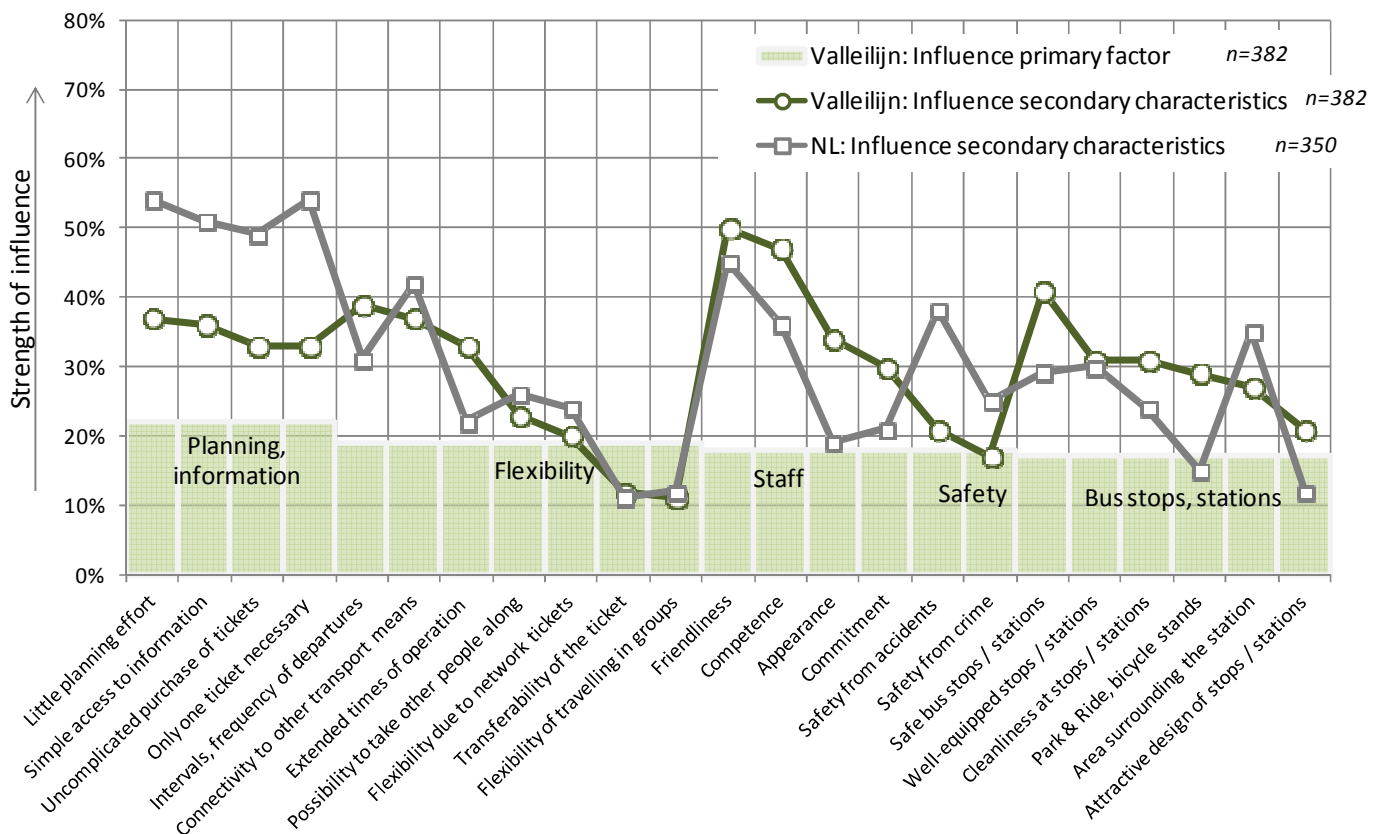


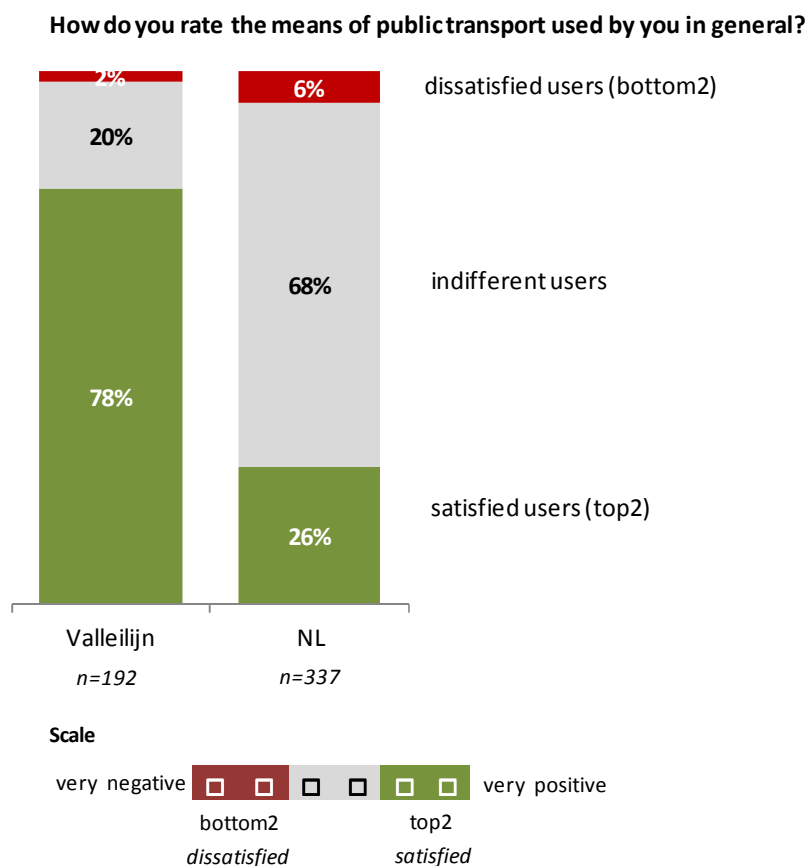
Figure 187 shows for the second part of the secondary characteristics:

- Staff-related factors like *friendliness* and *competence* are rated more influential by Valleilijn swing users than by their Dutch counterparts.
- *Cleanliness*, *park & ride* and *bicycle stands* at the bus stops / stations are attributes of moderate relevance for an increased use, but they are rated higher by Valleilijn swing users than by their Dutch counterparts.
- Issues connected to the planning of the journey only have minor relevance compared to the Dutch average swing users.

J.3 PUBLIC TRANSPORT TODAY SEEN BY CONNEXION VALLEILIJN USERS

Since the Valleilijn is successful in gaining new passengers, USEmobility asked users for current evaluations.

Figure 188 Overall satisfaction of swing users with the Connexion Valleilijn offer



Document: USEmobility_WP3_D3.6_V2B

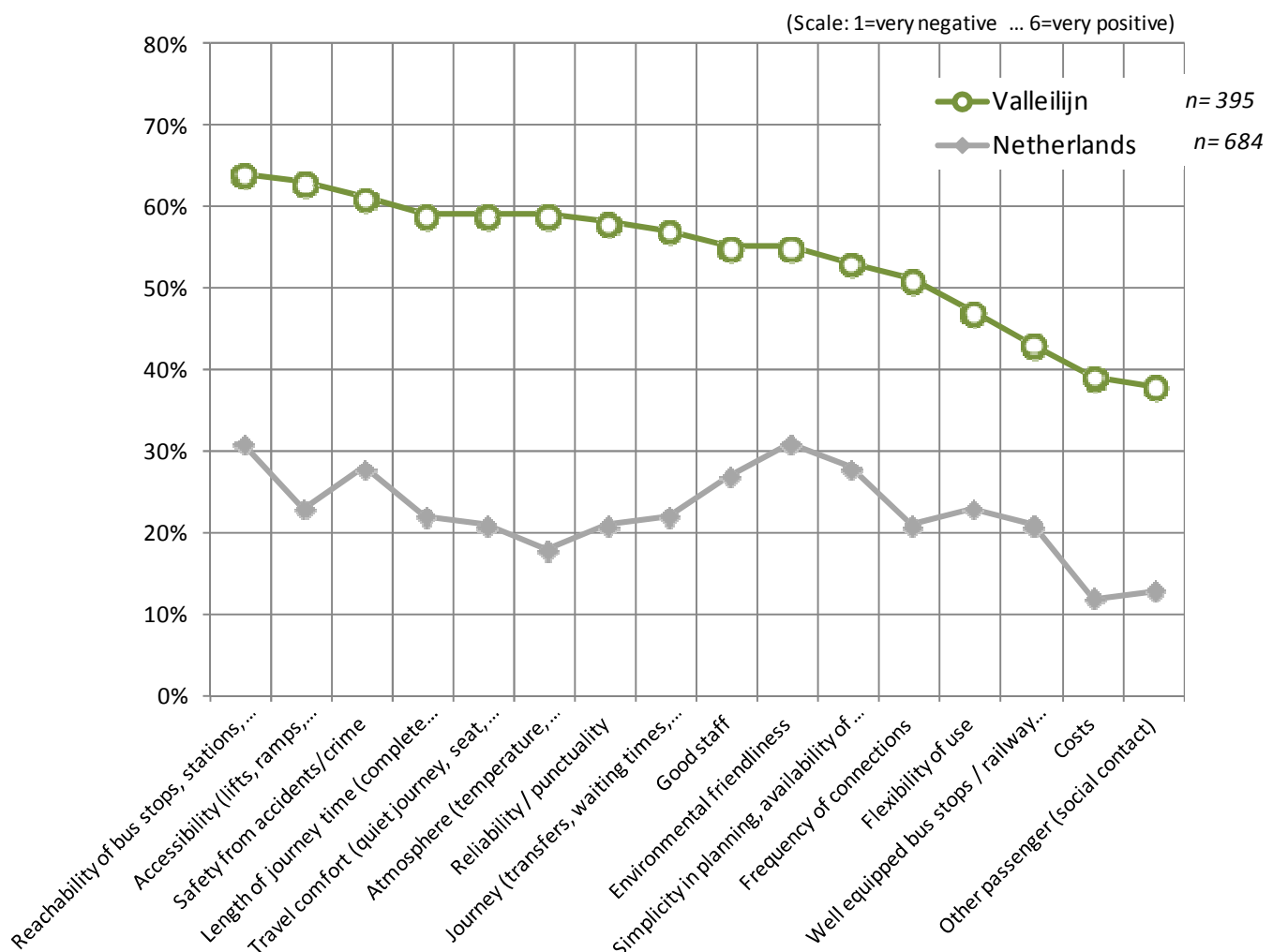
Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

78% of the Valleilijn swing users are satisfied with the services offered to them. The satisfaction with the Valleilijn is considerably higher than the overall satisfaction of swing users in the Netherlands with public transport.

The proportion of dissatisfied Valleilijn swing users is with 2% not to be considered.

Figure 189 Current evaluation of Connexion service in comparison with PUB in the Netherlands

Percentage Top2 (=satisfied)

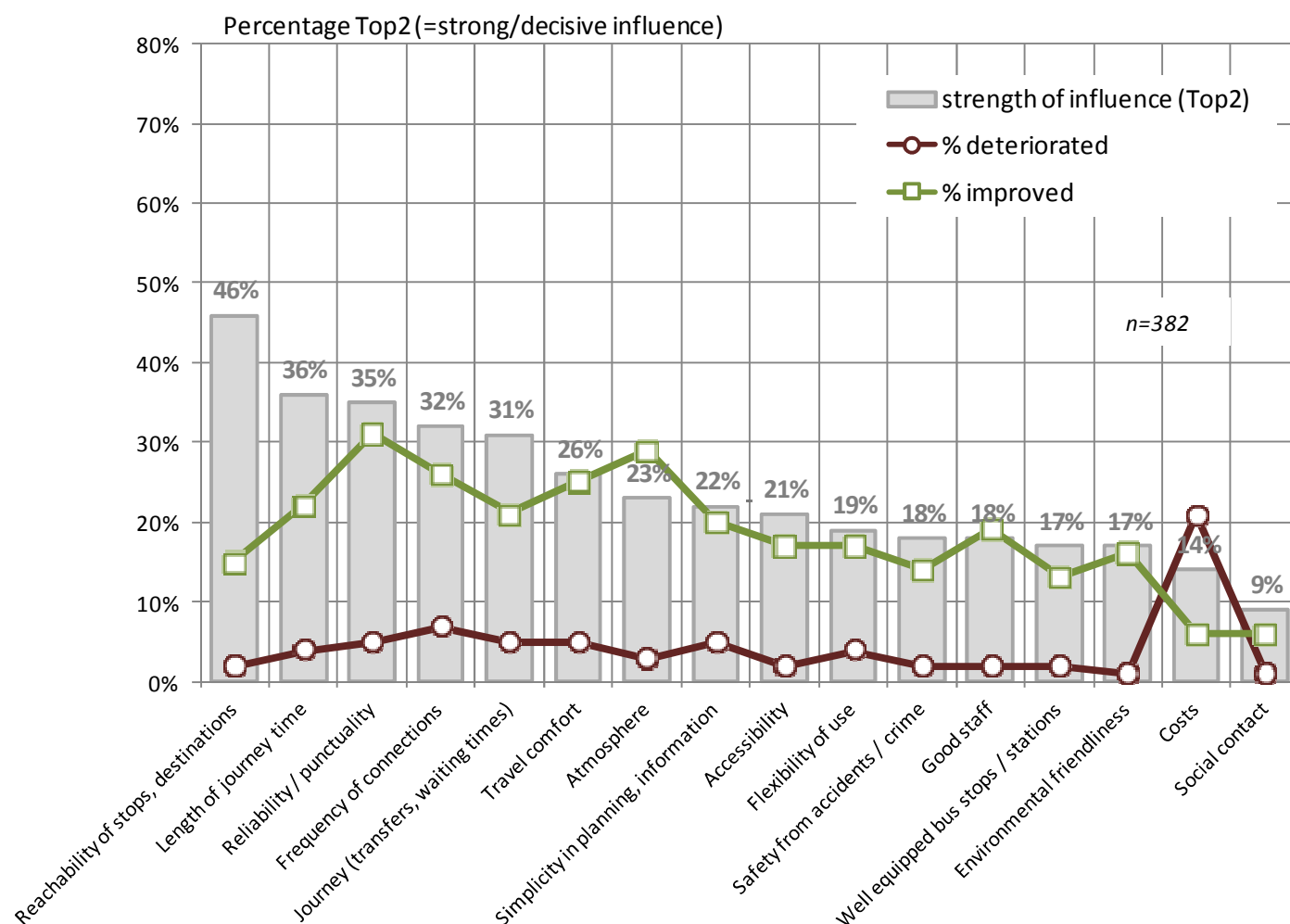


The comparison between all swing users in the Netherlands and Valleilijn swing users shows all primary factors concerning the transport offer are rated exceptionally better for Valleilijn.

Good reachability of bus stops / stations, good accessibility and safety from accidents / crime achieve a share of 60% satisfied users.

Figure 190 Perceived improvements and deteriorations of the Valleilijn offer

Has anything changed for you since you started using **Valleilijn**



How to read the figure: Almost none of the Valleilijn swing users perceived deterioration for reachability. Ca. 15% perceived an improvement for reachability. For 46% of the swing users the primary factor reachability was highly influential to use Valleilijn.

The level of change of the Valleilijn service is seen generally rather low.

Valleilijn swing users have reported more improvements than deteriorations over the primary factors; the only clear deterioration is seen in the cost level. Generally, the recognition of deteriorations is on a very low-level well below 10%.

Strong improvements are seen regarding *reliability / punctuality*, *the frequency of connections* and the atmosphere, all being quite relevant factors for the use of Valleilijn.

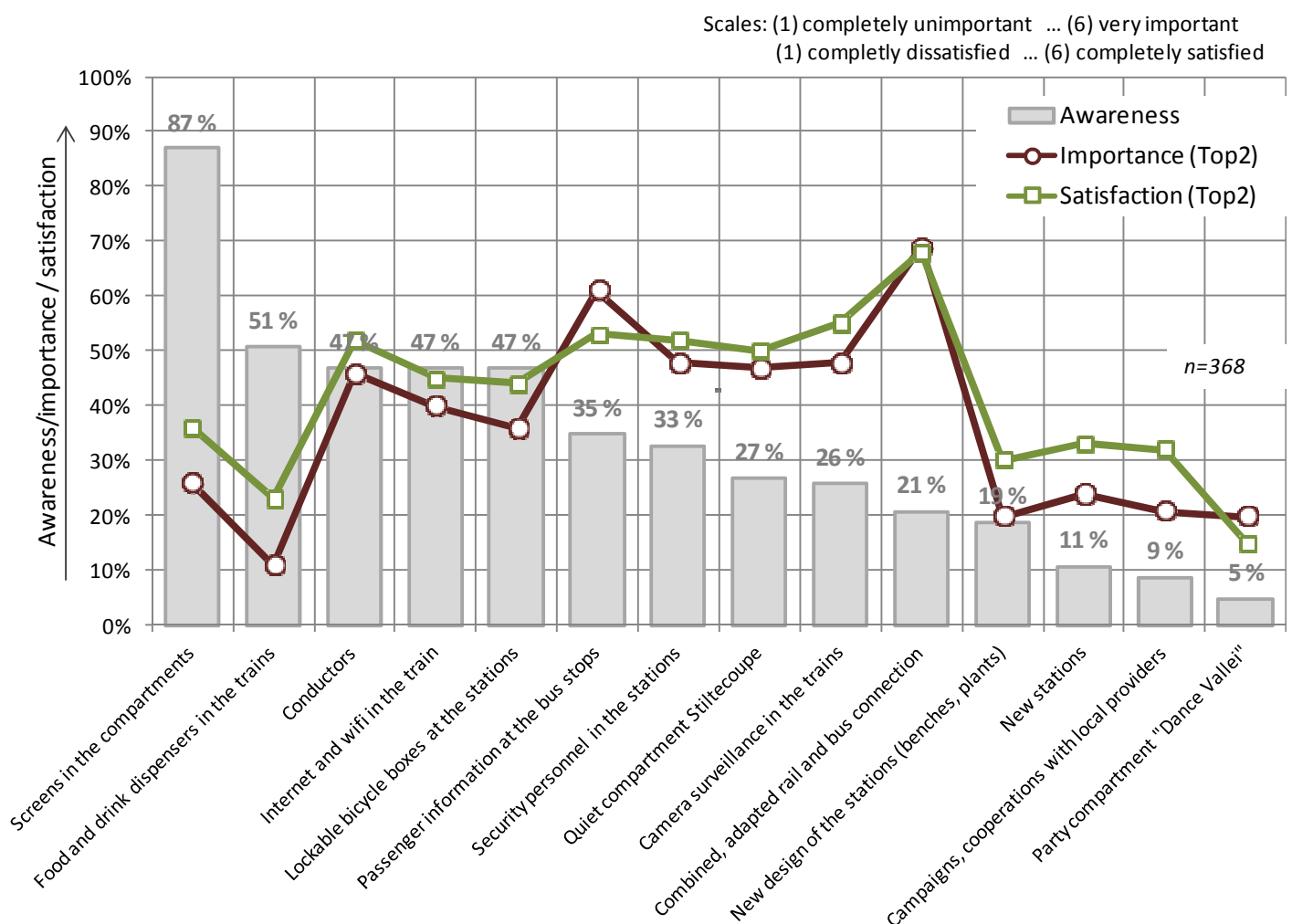
Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

J.4 SPECIFIC CHARACTERISTICS OF CONNEXION VALLEILIJN

In this chapter, USEmobility reports on specific aspects of the Connexion Valleilijn transport offer that have been improved or established in the last five years. It is interesting to see if users have noticed and appreciated these changes and measures.

Figure 191 Selected aspects of the Valleilijn offer



The figure shows that, for example, 51% of the swing users were aware of food and drink dispensers in the trains. Only slightly more than 10% of the swing users who are aware of food and drink dispensers in the trains think that food and drink dispensers in the trains are important or very important, and only ca. 22% are satisfied or very satisfied with the current offer of food and drink dispensers in the trains.

Document: USEmobility_WP3_D3.6_V2B

Title: D3.6 'Factors influencing behavioural change towards eco-friendly multimodal mobility'

Especially the *screens in the compartments* are well known from 87% of the Valleilijn users. Awareness is on the low side with *combined rail & bus connection*, *new (design of) stations*, *campaigns / corporations* and the *party compartment "Dance Vallei"* (all below 25%)

We have recorded the highest importance for *combined rail and bus connections* (almost 70%importance) and for *passenger information at the bus stops*.

We find the highest satisfaction with combined rail and bus connections.

Screens in the compartments and *food and drink dispensers* have a high awareness, but importance and satisfaction are on the lower side with an importance well below 30%.

A good balance between awareness, importance and satisfaction one finds with the *conductors*, the *wireless connection possibilities* and the *lockable bicycle boxes at the stations* with ratings between 40% and 50%.

Annex A STATISTICAL BACKGROUND

A.1 SEGMENTATION BY ATTITUDE

A.1.1 Introduction

This annex gives an in depth explanation of the statistical background behind the process that has lead to the *Segmentation by Attitude*.

Main target of the attitude-based segmentation is to identify and describe segments of swing users, which are among themselves as homogenous as possible and against each other as heterogeneous as possible.

The approach uses the results of question A.2.K of the *USEmobility National Questionnaire* (see deliverable D.3.5), where multiple statements on mobility and means of transport were presented to the interviewees. The attitudes of the swing users towards these statements were recorded. They form the basis of the segmentation.

The segmentation process is divided into two parts, a *factor analysis* and a *cluster analysis*.

A.1.2 Factor Analysis

The segments of attitude are based on the swing users' agreement with 19 statements about different means of transport and mobility in general.

In the first step, the 19 attitude statements were concentrated into a manageable number of aggregated *factors*, classifying statements of similar nature into describing factors (*factor analysis*). These factors have the additional advantage, that they are statistically independent from each other and therefore ideal for the second step of the approach, the *classification of the respondents by cluster analysis*.

The factor analysis is based on the whole sample of 6.000 respondents of the national surveys. The sample is perfectly suitable for a factor analysis (*Kaiser-Meyer-Olkin* criterion for sample adequacy = 0,87). All 19 single statements show an *Anti-Image-Correlation (MSA)* above 0.7, which confirms the adequacy of the statements and the data.

The analysis suggests a *four-factor solution*, which statistically explains 46% of the variation in the data.

The following table shows the four factors and the corresponding *factor loading*. A high factor loading (>0.5) indicates that the statement is essential for the characterisation of the factor.

Figure 192 Segmentation by Attitude – factors and factor loadings

	Factors			
	1	2	3	4
The future lies in public transport	0,73	0,24	-0,21	0,07
Generally I like using public transport	0,70	0,14	-0,26	0,09
For society, public transport is cheap compared to the car	0,65	0,11	-0,14	0,24
Public transport should be extended further	0,63	0,13	0,12	-0,16
The future lies in the combination of means of transport	0,62	0,19	0,19	-0,13
I decide pragmatically between PUB and MIT, based on costs and journey time	0,44	0,05	0,31	-0,07
It is easy to manage without a car in large cities	0,42	0,33	-0,11	-0,07
Car-free city centres are desirable	0,40	0,51	-0,10	-0,02
Driving a car is irresponsible towards the environment and coming generations	0,25	0,49	-0,29	0,32
I cycle or walk as often as possible in order to stay fit/healthy	0,17	0,70	0,02	-0,14
The future lies with the bicycle	0,11	0,77	-0,05	-0,03
For me, car sharing is a good alternative to private car use	0,11	0,51	0,06	0,05
Driving a car nowadays is a luxury	0,10	0,39	-0,02	0,31
The road network needs to be expanded in order to avoid congestion	0,09	-0,06	0,66	0,08
A great car shows that you've made something of your life	0,01	-0,05	0,25	0,68
A great advantage of the car is that one can choose one's own passengers	-0,03	0,08	0,66	0,00
Cars are more than a means of transport	-0,07	-0,03	0,64	0,25
Public transport is for people who can't afford a car	-0,09	0,04	0,14	0,69
The future lies with the car	-0,30	-0,19	0,53	0,26

After the factors have been calculated, they require an interpretation. The factors could be described as follows.

Factor 1 *Attitude pro public transport*

Factor 2 *Attitude pro bicycle and sustainable mobility*

Factor 3 *Attitude pro-motorized individual transport*

Factor 4 *Status orientated attitude when choosing means-of-transport*

Each respondent has – per calculation – an individual factor value for the four factors. A high factor value for *factor 1* for example shows a positive attitude towards public transport for this respondent.

The factor values are the input for the following *cluster analysis*.

A.1.3 Cluster Analysis

The cluster analysis is a collective statistical term for several methods to group responses into segments that are highly homogeneous within and highly heterogeneous between each other. Swing users within a segment behave in a similar manner and differ significantly from users in other segments

Preliminary considerations and an comparative analysis based on tests of a number of methods / options lead to the following approach:

- *Method:* Hierarchical cluster analysis (Complete linkage)
- *Proximity measure* Correlation

A *six-cluster* solution fitted the data adequately and provided intuitively interpretable results.

Figure 193 Segmentation by Attitude – clusters including average factor values

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6
1. Factor pro public transport	0,5	-1,0	0,2	0,8	-0,2	-1,0
2. Factor pro bicycle/sustainability	-0,8	-0,2	0,9	0,3	-0,2	1,0
3. Factor pro car	0,5	0,8	0,1	-1,0	-0,6	-0,2
4. Factor status orientation	-0,1	0,1	-1,0	-0,2	1,2	0,1

Interpretation

A high, positive value shows that the factor is positively represented in the corresponding cluster. A high negative value indicates an opposite attitude.

A.1.4 The segmentation

Figure 193 can be summed up in the following description of the cluster:

- **Cluster 1: PUB / MIT Pragmatics**
Swing Users that choose pragmatically between car and public transport.
They are critical towards using the bicycle and other sustainable modes of transport.
- **Cluster 2: MIT orientated users**
Swing Users who have a strong car / MIT orientation and a rather negative attitude towards any form of public transport.

- **Cluster 3: Bicycle / Sustainability focused users**
Swing Users that focus strongly on sustainable aspects of transport and therefore prefer bicycles. Status thoughts regarding means of transport are irrelevant for them.
- **Cluster 4: PUB Aficionados reserved towards MIT**
Swing Users who strongly support public transport, with a negative attitude towards MIT
- **Cluster 5: Status focused, w/o commitment to one MoT**
Swing Users who don't show a distinct commitment to any means-of-transport but strongly agree with status aspects of mobility.
- **Cluster 6: Bicycle / Sustainability focused, reserved towards PUB**
Swing Users who focus strongly on sustainable aspects of transport and therefore prefer bicycles. In comparison to Segment 3, members of this Segment are clearly opposed to public transport.

In-depth information regarding the attitudes towards mobility and modes of transport is shown for each of the six clusters in the following table (scale: 1 = 'disagree completely' up to 6 = 'agree completely'; 3.5 = neutral position):

Figure 194 Segmentation by Attitude – results of question A.2.K for the six clusters

	Cluster					
	1	2	3	4	5	6
It is easy to manage without a car in large cities	4,2	3,5	5,0	5,2	4,0	4,3
A great car shows that you've made something of your life	2,5	2,6	1,4	1,6	3,3	2,1
Public transport is for people who can't afford a car	2,5	3,1	1,5	2,1	3,8	2,9
The future lies in public transport	3,9	2,5	4,2	5,0	3,8	3,2
Driving a car nowadays is a luxury	3,2	3,6	3,9	4,1	4,1	4,1
The future lies in the combination of means of transport	4,6	3,6	5,0	4,7	3,7	3,7
Generally I like using public transport	3,4	1,9	3,6	4,7	3,5	2,4
Public transport should be extended further	5,3	4,2	5,4	5,5	4,2	4,1
Driving a car is irresponsible towards the environment and coming generations	2,4	2,2	3,2	3,9	3,6	3,5
Cars are more than a means of transport	4,4	4,9	3,6	2,8	3,7	3,7
I decide pragmatically between PUB and MIT, based on costs and journey time	4,4	3,5	4,3	4,0	3,5	3,2
I cycle or walk as often as possible in order to stay fit/healthy	3,3	3,7	5,3	4,7	3,6	5,0
For me, car sharing is a good alternative to private car use	2,9	3,2	4,2	3,6	3,4	4,0
The future lies with the bicycle	2,6	3,1	4,7	4,0	3,3	4,5
The future lies with the car	3,6	4,4	2,5	2,1	3,3	3,1
The road network needs to be expanded in order to avoid congestion	4,9	4,9	4,1	3,2	3,6	3,7
Car-free city centres are desirable	3,6	3,2	5,0	5,0	3,8	4,3
A great advantage of the car is that one can choose one's own passengers	4,9	5,3	4,7	3,5	3,7	4,3
For society, public transport is cheap compared to the car	4,1	2,7	3,8	4,9	4,0	3,1

Scale: 1 = disagree completely, 6=agree completely

A.2 REGIONAL SURVEYS – SOCIO DEMOGRAPHICS OF RESPONDENTS

The following table provides an overview over the *distribution of selected characteristics* of swing users in the 10 regions including *travel purpose, socio-demographics* and *car availability*.

Figure 195 Distribution of selected swing user characteristics in the ten regions

	S-Bahn-Salzburg	S-Bahn-Steiermark	Breisgau S-Bahn	Metro-nom	S-Bahn Rhein-Neckar	STIB MIVB	Connexon Valleijin	HZ Varaz.-Medim.	HZ/ZET Zagreb	MAV Budapest-Eszterg.
<i>n</i> =	420	400	400	400	400	460	395	400	400	400
Travel purpose										
Way to Work	60%	70%	68%	47%	71%	48%	61%	77%	55%	49%
Shopping	12%	12%	12%	16%	10%	21%	0%	2%	27%	12%
Leisure Activies	27%	19%	20%	37%	20%	30%	39%	21%	18%	39%
Gender										
Female	50%	53%	57%	48%	40%	44%	53%	66%	76%	59%
Male	50%	47%	43%	53%	60%	56%	47%	35%	24%	41%
Age group										
<25	13%	25%	29%	13%	8%	17%	27%	74%	16%	39%
25-34	25%	22%	17%	13%	29%	21%	15%	13%	14%	18%
35-44	28%	20%	23%	6%	23%	16%	13%	5%	11%	16%
45-54	24%	17%	18%	7%	25%	18%	19%	7%	17%	10%
55-64	7%	9%	8%	55%	10%	17%	14%	2%	22%	12%
65+	2%	8%	5%	6%	5%	12%	12%	1%	22%	5%
Current occupation										
Pupil	3%	10%	14%	8%	2%	0%	3%	25%	5%	3%
Student	5%	9%	7%	9%	1%	11%	21%	44%	12%	33%
Trainee/apprentice	2%	8%	8%	6%	5%	1%	0%	0%	0%	0%
Housewife/-man	1%	4%	5%	6%	1%	1%	2%	0%	4%	1%
Retired	3%	10%	8%	12%	7%	16%	13%	3%	36%	12%
Employed	79%	53%	51%	49%	75%	58%	54%	22%	37%	42%
Self-employed	6%	5%	4%	8%	4%	3%	5%	1%	1%	7%
Other	2%	3%	3%	3%	7%	10%	3%	5%	6%	3%
Car availability										
No	13%	23%	22%	31%	17%	29%	30%	16%	32%	48%
Yes	87%	78%	79%	69%	83%	71%	70%	84%	68%	52%

Column percentages